



health

Department:
Health

REPUBLIC OF SOUTH AFRICA

SOUTH AFRICA DEMOGRAPHIC AND HEALTH SURVEY 2003

Full Report



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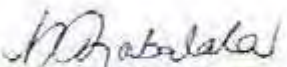
PREFACE

The 2003 South African Demographic and Health Survey (SADHS) is the second survey of its kind in South Africa. The findings of the survey enable us to track the changes in the health status of our population, identify risk factors, access and utilisation of key health services for the five year period since the 1998 survey.

The results of the SADHS provide valuable information for addressing important areas such as antenatal care for mothers during pregnancy and assistance at the time of delivery, child health, infant feeding practices, and the prevalence and treatment of diarrhoeal disease among children. Information on adult health conditions, women's reproductive intentions, fertility levels, knowledge about contraception and use thereof are also included in the findings.

We are pleased to note that this survey has shown that there have been a number of areas where some advances have been made in health development. In the area of adult health the rate of smoking among men has dropped from 42 percent in 1998 to 35 percent in 2003 and for women from 11 percent to 10 percent. The proportion of women who reported that their last live birth occurred in a health facility increased to 89 percent from the 83 percent reported in the 1998 survey. A few other areas, such as the fact that less than 30 percent of children were reported to have received vitamin A supplement in the last 6 months, point us to areas that will require special attention in the current and coming strategic period.

The successful completion of a project of this nature was dependant on the collaboration of a number of dedicated people and organisations. I would like to extend a special word of appreciation to collaborating Departments, Science Councils, the research teams and the communities whom so gracefully participated in the survey.


DR M E TSIABALALA-MSIMANG
MINISTER OF HEALTH

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I am pleased to present the results of South African Demographic and Health Survey (SADHS) that was initiated in 2003.

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I would also like to thank staff at the National Department of Health: Dr L Makubalo: Chief Director: Health Information, Evaluation and Research, Ms P Netshidzivani, Project Manager; Ms R du Plessis, Project co-ordinator and Mr P Sekwati. Thank you to Dr Debbie Bradshaw of the Medical Research Council for technical support throughout the project and Mr Johan van Zyl from the Human Sciences Research Council's for the data processing and analysis.

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The Department would like to further acknowledge efforts of all members of the project management committee, in particular representatives from the Departments of Social Development and Statistics South Africa, University of the Witwatersrand (Reproductive Health Research Unit), Medical Research Council, University of Stellenbosch, ORC MACRO International, Maryland, USA for providing technical assistance to the project as part of its international Demographic and Health Surveys programme, and the United States Agency for International Development (USAID)/South Africa for technical assistance to the project.

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MR. THAMSANQA MSELEKU
DIRECTOR-GENERAL: HEALTH

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ACRONYMS AND ABBREVIATIONS

| | |
|-------------------|---|
| ACT | Artemisinin combination therapy |
| AIDS | Acquired Immune Deficiency Syndrome |
| ANC | Antenatal care |
| ANHMRC | Australian National Health and Medical Research Council |
| ARI | Acute respiratory infections |
| ART | Anti-retroviral therapy |
| ASRC | Africa Strategic Research Corporation |
| ASSA | Actuarial Society of South Africa |
| AsGISA | Accelerated and shared Growth Initiative of South Africa |
| ATC | Anatomical therapeutic chemical classification |
| AUDIT | Alcohol Use Disorders Identification Test |
| BP | Blood pressure |
| BMI | Body mass index |
| CAGE | Cut down, Annoy, Guilt, Eye-opener (Alcohol dependence) |
| CARe | Centre for Actuarial Research |
| CMR | Child mortality rate |
| CDAW | Convention for the elimination of All Forms of Discrimination Against Women |
| COPD | Chronic obstructive pulmonary disease |
| CSPro | Census and Survey Processing System |
| DALY | Disability adjusted life year |
| DDT | Dichlorodiphenyltrichloroethane |
| DHIS | District Health Information System |
| DoH | Department of Health |
| DPT | Diphtheria-pertussis-tetanus |
| EAs | Enumeration areas |
| EC | Emergency contraception |
| EDL | Essential drug list |
| ETS | Environmental tobacco smoke |
| FFQ | Food frequency questionnaire |
| GEAR | Growth, Employment and Redistribution |
| GOLD | Global Initiative for Chronic Obstructive Lung Disease |
| GPAQ | Global Physical Activity Questionnaire |
| GPS | Global positioning system |
| HBV | Hepatitis B |
| HGOI | Health Goals, Objective and Indicators |
| HIV | Human immunodeficiency virus |
| HSRC | Human Sciences Research Council |
| HS | Home solution |
| ICPD | International Conference on Population and Development |
| IHD | Ischaemic heart disease |
| IMCI | Integrated Management of Childhood Illnesses |
| IMR | Infant mortality rate |
| IPAQ | International Physical Activity Questionnaire |
| IUD | Intra-uterine device |
| kg/m ² | Kilogram per metre squared |
| Kg | Kilogram |
| m | Metre |
| METs | Multiples of resting metabolic rate |
| mmHg | Millimeters of mercury |
| MOS | Measure of size |
| MRC | Medical Research Council |
| MTCT | Mother-to-child transmission |
| NDoH | National Department of Health |
| N-Index | Nutrition Index |
| NHIS/SA | National Health Information System of South Africa |
| ORS | Oral Rehydration Solution |
| ORT | Oral Rehydration Therapy |
| PEFR | Peak expiratory flow rate |
| PHC | Primary health care |

| | |
|----------|--|
| PMTCT | Prevention of mother-to-child transmission programme |
| RDA | Recommended dietary allowance |
| RDP | Reconstructive and development programme |
| PPS | Probability proportional to size |
| SADC | Southern African Development Community |
| SADHS | South African Demographic and Health Survey |
| SD | Standard deviation |
| SE | Standard error |
| Stats SA | Statistics South Africa |
| STI | Sexually transmitted infection |
| TB | Tuberculosis |
| TBA | Traditional birth attendant |
| TFR | Total fertility rate |
| U-5MR | Under-five mortality rate |
| UN | United Nations |
| UNAIDS | Joint United Nations Programme on HIV/AIDS |
| USAID | United States Agency for International Development |
| VCT | Voluntary counseling and testing |
| WHO | World Health Organisation |
| WHR | Waist/hip ratio |
| YRBS | Youth Risk Behaviour Survey |

REPUBLIC OF SOUTH AFRICA
Provinces



KEY FINDINGS OF THE SURVEY

| Maternal and child health indicators | 1998 | 2003 |
|--|-------------------|-----------------|
| Infant and child mortality (preceding 5 years) | | |
| Infant mortality rate per 1 000 live births | 45 (37; 48) | 43* (29; 57) |
| Under-5 mortality rate per 1 000 live births | 59 (51; 63) | 58* (43; 73) |
| Child mortality rate per 1 000 live births | 15 (12; 19) | 16* (10; 22) |
| Fertility of women 15-49 yrs (preceding 3 years) | | |
| Total fertility rate: children per woman | 2.9 (2.7; 3.1) | 2.1* (1.9; 2.3) |
| Ideal number of children | 2.9 (2.8; 2.9) | 2.5* (2.4; 2.5) |
| Percent women who want no more children | 44 (42; 45) | 61 (58; 64) |
| Modern contraceptive-use prevalence rate: Sexually active women | | |
| Percent currently using a modern method | 61 (60; 63) | 65 (63; 67) |
| Attended antenatal care: % of births in last 5 years | | |
| Mothers attended antenatal care during pregnancy | 94 (93 – 95) | 92 (90 – 93) |
| Assistance during delivery: % of births in last 5 years | | |
| Mothers received medical care at delivery | 84 (82; 86) | 91 (89; 93) |
| Vaccination and supplementation in children 12-23 months old | | |
| Percent of children with vaccination cards, seen | 75 (71; 78) | 71 (65; 77) |
| Percent children fully immunized | 63 (59; 68) | 52 (45; 59) |
| Percent children received Vitamin A supplementation | | 29 (24; 34) |
| Exclusive breastfeeding: % of infants | | |
| < 6 months | 6.8 (4.1; 9.5) | 8.3 (3.1; 13.4) |
| 6-9 months | 0.2 (0.0; 0.4) | 0.4 (0.0; 1.2) |
| Diarrhoea in children | | |
| Child had diarrhoea in last two weeks | 13.2 (12.0; 14.4) | 7.9 (6.5; 9.4) |

* Data quality checks suggest that fertility and childhood mortality estimates are not reliable. See report text for details.

KEY FINDINGS OF THE SURVEY

| Sexual behaviour and HIV related indicators | 1998 | 2003 |
|---|----------------|----------------|
| Sexual activity: % of men 15-59 and women 15-49 yrs | | |
| Had two or more sexual partners in last 12 months: Men (not in union) | - | 19 (16; 21) |
| Had two or more sexual partners in last 12 months: Women (not in union) | 3.9 (3.3; 4.5) | 3.1 (2.4; 3.8) |
| Had higher-risk sex in last 12 months: Men | - | 65 (62; 68) |
| Had higher-risk sex in last 12 months: Women | - | 58 (56; 60) |
| Had first sex before age 18: Men | - | 45 (43; 48) |
| Had first sex before age 18: Women | 46 (45; 48) | 42 (40; 44) |
| Abstinence among youth 15-24 yrs never in union | | |
| Percent never had sex: Men 15-24 | - | 38 (34; 42) |
| Percent never had sex: Women 15-24 | 40 (37; 42) | 42 (39; 44) |
| Condom use: % of sexually active men and women | | |
| Condom use at last higher-risk sex: Men 15-59 | - | 69 (66; 72) |
| Condom use at last higher-risk sex: Men 15-24 | - | 72 (66; 77) |
| Condom use at last higher-risk sex: Women 15-49 | - | 46 (44; 49) |
| Condom use at last higher-risk sex: Women 15-24 | - | 52 (48; 56) |
| HIV: % of men 15-59 and women 15-49 yrs | | |
| Had HIV test and received results in last 12 months: Women | - | 8.5 (7.5; 9.5) |
| Ever had HIV test and received results: Men | - | 20 (18; 22) |
| Accepting attitudes towards people with HIV: Women | - | 38 (37; 40) |
| Never had HIV test : % men and women 15-24 yrs | | |
| Never tested: Men 15-19 | - | 87 (83; 90) |
| Never tested: Women 15-19 | - | 81 (79; 84) |
| Never tested: Men 20-24 | - | 77 (72; 83) |
| Never tested: Women 20-24 | - | 60 (56; 63) |
| Knowledge and beliefs about HIV: % men and women 15-24 yrs | | |
| Have heard of AIDS: Men 15-19 | - | 93 (91; 96) |
| Have heard of AIDS: Women 15-19 | 95 (94; 96) | 93 (91; 95) |
| Have heard of AIDS: Men 20-24 | - | 94 (91; 97) |
| Have heard of AIDS: Women 20-24 | 98 (97; 98) | 93 (92; 95) |
| Using condoms prevents HIV infection: Men 15-19 | - | 80 (76; 84) |
| Using condoms prevents HIV infection: Women 15-19 | 79 (76; 81) | 70 (67; 73) |
| Using condoms prevents HIV infection: Men 20-24 | - | 87 (83; 90) |
| Using condoms prevents HIV infection: Women 20-24 | 87 (85; 89) | 72 (69; 75) |
| A healthy-looking person can have the HI virus: Women 15-19 | 28 (26; 31) | 76 (73; 79) |
| A healthy-looking person can have the HI virus: Women 20-24 | 30 (28; 33) | 77 (74; 80) |
| A person cannot become infected by sharing food with HIV infected person: Women 15-19 | 67 (64; 69) | 74 (71; 77) |
| A person cannot become infected by sharing food with HIV infected person: Women 20-24 | 74 (71; 76) | 75 (72; 78) |
| Circumcision: % of men 15-59 yrs | | |
| Percent circumcised | - | 45 (42; 48) |

KEY FINDINGS OF THE SURVEY

| Adult health indicators | 1998 | 2003 |
|---|----------------|-------------------|
| Smoking prevalence: % of adults 15+ and of adolescents 15-19 yrs | | |
| Currently smoking: Adult men | 42 (41; 44) | 35 (33; 38) |
| Currently smoking: Adolescent men | 14 (12; 17) | 16 (12; 20) |
| Currently smoking: Adult women | 11 (9; 12) | 10 (9; 12) |
| Currently smoking: Adolescent women | 5.8 (3.6; 8.0) | 5.4 (2.8; 8.0) |
| Abstinence of alcohol intake: % of adults 15+ yrs and of adolescents 15-19 yrs | | |
| Never consumed alcohol: Adult men | 42 (40; 44) | 52 (49; 54) |
| Never consumed alcohol: Adolescent men | 75 (71; 78) | 68 (64; 73) |
| Never consumed alcohol: Adult women | 74 (73; 76) | 78 (76; 81) |
| Never consumed alcohol: Adolescent women | 85 (82; 88) | 83 (79; 87) |
| Micro-nutrient intake: % of adults 15+ yrs | | |
| Adequate micro nutrient intake: Adult men | - | 33 (30; 36) |
| Adequate micro nutrient intake: Adult women | - | 35 (32; 38) |
| Overweight and obesity: % of adults 15+ yrs | | |
| Overweight: Adult men | 20 (19; 22) | 21 (19; 23) |
| Overweight: Adult women | 27 (26; 28) | 28 (26; 29) |
| Obesity: Adult men | 6.9 (6.1; 7.8) | 8.8 (7.2; 10.3) |
| Obesity: Adult women | 29 (28; 31) | 27 (26; 29) |
| Physical inactivity: % of adults 15+ yrs | | |
| Insufficiently active: Adult men | - | 76 (75; 79) |
| Insufficiently active: Adult women | - | 86 (85; 87) |
| Hypertension (blood pressure \geq 140/90 mmHg and/or medication): % of adults 15+ yrs | | |
| Prevalence of hypertension: Adult men | 13 (12; 14) | 8.7* (7.0; 10.4) |
| Prevalence of hypertension: Adult women | 16 (15; 17) | 14* (12; 15) |
| Respiratory conditions: % of adults 15+ yrs | | |
| Prevalence of symptoms of asthma: Adult men | 6.7 (5.7; 7.6) | 7.2 (6.1; 8.3) |
| Prevalence of symptoms of asthma: Adult women | 8.6 (7.8; 9.4) | 8.1 (7.1; 9.0) |
| Prevalence of symptoms associated with chronic bronchitis: Adult men | 2.3 (1.8; 2.8) | 2.3 (1.7; 3.0) |
| Prevalence of symptoms associated with chronic bronchitis: Adult women | 2.8 (2.3; 3.2) | 2.0 (1.5; 2.4) |
| Prevalence of abnormal peak flow: Adult men | 4.0 (3.4; 4.7) | 7.9 (6.7; 9.2) |
| Prevalence of abnormal peak flow: Adult women | 4.1 (3.5; 4.7) | 10.9 (9.5; 12.3) |
| Violence: % of adults 15+ yrs | | |
| At least one physical attack in past 12 months: Adult men | - | 12.8 (10.5; 15.0) |
| At least one physical attack in past 12 months: Adult women | - | 7.2 (5.7; 8.7) |

* Data quality checks suggest that prevalence of hypertension estimate is not reliable. See report text for details.

SUMMARY

S.1 Characteristics of the survey

The 2003 South African Demographic and Health Survey is the second national health survey to be conducted by the Department of Health, following the first in 1998. Compared with the first survey, the new survey has more extensive questions around sexual behaviour and for the first time included such questions to a sample of men. Anthropometric measurements were taken on children under five years, and the adult health module has been enhanced with questions relating to physical activity and micro-nutrient intake, important risk factors associated with chronic diseases. The 2003 SADHS has introduced a chapter reporting on the health, health service utilisation and living conditions of South Africa's older population (60 years or older) and how they have changed since 1998. This has been introduced because this component of the population is growing at a much higher rate than the other age groups. The chapter on adolescent health in 1998 focussed on health risk-taking behaviours of people aged 15-19 years. The chapter has been extended in the 2003 SADHS to include indicators of sexual behaviour of youth aged 15-24 years.

A total of 10 214 households were targeted for inclusion in the survey and 7 756 were interviewed, reflecting an 85 percent response rate. The survey comprised a household schedule to capture basic information about all the members of the household, comprehensive questionnaires to all women aged 15-49, as well as anthropometry of all children five years and younger. In every second household, interviews of all men 15-59 were conducted and in the alternate households, interviews and measurements of all adults 15 years and older were done including heights, weights, waist circumference, blood pressure and peak pulmonary flow. The overall response rate was 75 percent for women, 67 percent for men, 71 percent for adults, and 84 percent for children. This is slightly lower than the overall response rate for the 1998 SADHS, but varied substantially between provinces with a particularly low response rate in the Western Cape.

Over the past decade, South Africa has initiated several activities to extend and improve the population-based health and demographic data in the country. The SADHS makes an important contribution towards these endeavours. The SADHS is a central element of monitoring coverage of government programmes and evaluating their outcomes on population health and forms a part of the national statistical system.

S.2 Mortality and fertility

Comparison with other data sources shows that both the estimates of the fertility rates and the child mortality rates are implausibly low, and there is no obvious way in which these estimates could be reliably adjusted to allow for the data inadequacies in a consistent manner. The data from KwaZulu-Natal consistently show up as being problematic which then leads to a distortion of the national estimates of many indicators. However, these inadequacies in the data are not confined to this province alone.

Child mortality rates are a key health indicator, measuring not only mortality in children, but also the level of development and well-being of a community or country. While the overall level does not appear correct, the historical trend in this survey points to an increasing trend to an under-five mortality rate of 58 per 1 000 live births in 5 years preceding the survey. This highlights the importance and urgency to identify the determinants contributing to the increase in child mortality

so that efforts can be directed towards reaching the Millennium Development Goal of reducing child mortality.

S.3 Reproductive and sexual health

Teenage pregnancy rates, sexual behaviour and contraception use are also key indicators in Demographic and Health Surveys. Careful interpretation of these results is needed as some of these indicators are affected by the low number of births reported, and by poor data from KwaZulu-Natal. In addition, the results are also influenced to some extent by the over-representation of urban areas and Africans.

Teenage pregnancy

Compared to the 1998 SADHS, teenage pregnancy and motherhood rates decreased. By the age of 19 years, 27 percent of women had begun childbearing in 2003 compared with 35 percent in the 1998 SADHS. Rates dropped particularly in non-urban areas: currently 14 percent compared with 21 percent in 1998. The figure in KwaZulu-Natal of 2 percent--compared with 17 percent in 1998—is implausible.

Contraceptive use

Modern contraceptive use is still high, and appears to have increased since the last survey. Sexually active women report a noticeable increase in the use of the male condom as a contraceptive. The proportion of women using this method has increased from 2 percent in the 1998 SADHS to 8 percent in 2003. A more than four-fold increase from 4 percent to 18 percent in the 15-19 age group indicates a particular improvement in acceptance, accessibility or availability of the method in younger people, pointing additionally to possible promising behaviour change regarding the risk of HIV-transmission. The female condom has gained some usage with 53 percent of all women 15-49 years knowing about the method and 3 percent reporting ever using it. Oral contraceptive use has decreased slightly while injectable contraceptive use has increased slightly from 30 percent to 33 percent, with young women preferring the 2-monthly, and older women the 3-monthly injectables. The shift to the two-monthly method has some cost implications in the public health sector in terms of product cost and increase in the number of client visits per year of use.

There is an increase in the use of dual protection, but emergency contraceptive use is very low. It is also of concern that despite the relatively high levels of contraceptive prevalence, the proportion of women who have knowledge about the fertile period in their cycle is very low (12 percent) and has not improved since the last survey. Family planning visit programmes should use the opportunity to educate women about conception, fertility, pregnancy and the risks of HIV and other STIs.

HIV and AIDS

Knowledge of HIV and AIDS is almost universal in South Africa. However, it is disconcerting that the proportion of young women who have ever heard of AIDS has declined since 1998. Among women aged 20-24 years, an extremely high risk age category, the proportion of women who respond that they had heard of AIDS declined from 97 percent in 1998 to 93 percent in 2003.

The survey included questions on beliefs about transmission of HIV and attitudes towards those infected with HIV as these can affect behaviour. The survey shows that there are reasonably good levels of awareness, but identifies some gaps in knowledge that need to be addressed in future awareness campaigns. Knowledge of condom use and having sex with an uninfected partner as HIV prevention methods are known by approximately three-quarters of men (76 percent) and slightly

less women. Around three-quarters of women (77 percent) believe a healthy looking person can be infected with the HIV virus, a considerable increase compared to the 1998 survey where only 55 percent agreed that a healthy looking person could be infected. Although there has been an increase in understanding that infection is not possible through mosquito bites, it was only rejected by 57 percent of women. Knowledge that HIV can be transmitted from mother to child was known by less than half of men (48 percent) and slightly more women (57 percent).

There is a willingness to care for family members with HIV and AIDS (85 percent among women), however at the same time only 60 percent of female respondents reported that they would not necessarily want the HIV positive status of a family member to remain a secret. This indicates that families are facing up to HIV, but have reservations about disclosing. Reasons for this need to be investigated.

Voluntary counseling and testing (VCT) has been identified as an important strategy to reduce the spread of HIV. In 2003, 19 percent of women and 20 percent of men reported they had been tested for HIV and had received the results. Testing rates were in fact higher, but a proportion of men and women who had been tested had never received the test results. In 2003, HIV testing in the voluntary counseling and testing (VCT) and Prevention of Mother-to-Child Transmission (PMTCT) programmes was not yet universally available. While this may partly explain why the overall rates for testing observed in the survey were low, the results do indicate that there is a need to ensure that counseling and follow-up systems are adequate to ensure that those tested go on to receive their results. Fear of being found HIV positive may mean that people do not come back for results or deny that they received their results. This raises the need to address fear and stigmatisation as key components of the HIV related programmes. Discussion of HIV and AIDS prevention was reported by 80 percent of women during antenatal visits for the births in the 3 years preceding the survey. In the context of the extensive epidemic in South Africa and the risks of infecting the baby, this opportunity should always be utilized.

Circumcision as a strategy to reduce transmission of STIs and HIV has received a great deal of interest internationally with increasing evidence that circumcision reduces the risk of STIs and HIV among men, including a trial conducted in South Africa (Auvert *et al.*, 2006). In 2003 almost half of men (45 percent) reported being circumcised. The scope for introducing a programme to promote safe circumcision needs to be considered urgently. Such a programme must be accompanied by a strong awareness campaign to ensure that people understand that circumcision confers partial protection and must be used only in conjunction with other proven prevention measures such as abstinence, mutual monogamy, reduced number of sexual partners, and correct and consistent condom use.

Sexual behaviour

The median age of first intercourse appears to have remained fairly consistent across the age groups in women aged 20 to 44 ranging from 18.4 to 18.6 years. In the 25-29 age group the median age is 18.3 years; for the same age group in the 1998 survey the figure was 18.1. In 2003, 42 percent of women reported that they had sex before the age of 18 years compared with 46 percent in 1998, and indicating a slight increase in women delaying age of first intercourse which is important for prevention of STIs or HIV and teenage pregnancy.

Reducing the number of sexual partners is an important HIV prevention strategy. In 2003, few women in a union (2 percent) and slightly more women not in a union (3 percent) report more than one partner in the last year. There has been little change since the 1998 survey, with a slight reduction in two or more partners among sexually active women not in a union. In 2003, men were also asked about how many partners they had had in the past year. In total, 7 percent of married and

cohabiting men report two or more partners in the last year. Among men who are not in a union, this figure rises to 19 percent and men aged 20-34 years who are not in a union report rates of around 25 percent. The proportion of men with two or more partners follows a U-shape with education, being highest among the unmarried men with no education and those with an education beyond matric. Educated men probably have greater employment opportunities and disposable incomes which may affect their behaviour. In contrast, this pattern is not seen among educated women. Prevention strategies need to ensure that men of all educational backgrounds are targeted.

S.4 Maternal and child health

Maternal health

The survey reflects good coverage of antenatal care with women reporting such care for 92 percent of births in the preceding 5 years. Delivery in a health facility has increased to 89 percent compared to the 84 percent observed in the previous survey. Much of this increase has occurred in the non-urban areas with an increase from 74 percent in 1998 to 89 percent in 2003. In addition, efforts are needed to provide a post-natal check-up to women who did not deliver in a health facility. Amongst women who delivered their last baby outside of a health facility, 80 percent report receiving no post-natal check-up, and only 13 percent received a check-up within 2 days.

Maternal mortality rates are very difficult to measure as extremely large surveys are required to obtain sufficient numbers of events through a household survey; even using the sibling methodology. This survey failed to measure the level of maternal mortality due to data quality concerns as more than half of the sibling death data had missing details. This is unfortunate as routine cause of death statistics also fail to measure this important indicator because maternal causes are often unrecorded on the death notification. The confidential enquiry of maternal deaths that occur in health facilities provides valuable information and ideally such data should be linked to vital statistics. However, this system fails to provide a reliable estimate of the maternal mortality ratio as deaths that occur outside of the facilities are under-represented. Given the lack of reliable data on the maternal mortality rate, it is important that the elements of the maternal health programme be monitored closely and suitable programme indicators such as access to health services be used.

Child health

Exclusive breastfeeding for the first six months of life and regular supplementation with Vitamin A are two effective interventions to improve child survival but the survey shows that the coverage of these two interventions is still sub-optimal. While the Prevention of Mother to Child Transmission form the backbone of the child health programmes, the Expanded Programme for Immunisation, the Integrated Management of Childhood Illnesses, the Integrated Nutrition Programme and, the results of the 2003 SADHS suggest that there is much scope, to improve the health programmes for child health. Only 8 percent of infants under six months are exclusively breastfed, and only 19 percent are fully breastfed (i.e., supplemented with water only)—indicating no change since 1998. Furthermore, a significant minority of babies (29 percent) is still being given pre-lacteal feeds and 39 percent are not initiating breastfeeding immediately after birth. Both of these behaviors have important negative impacts on child survival.

Breastfeeding in the context of HIV infection is not straight-forward. The National Department of Health guidelines, adapted from WHO/UNICEF guidelines, indicate that women known to be HIV positive should avoid all breastfeeding if replacement feeding is acceptable, feasible, affordable, sustainable and safe. Otherwise exclusive breastfeeding for the first months of life is recommended, followed by early breastfeeding cessation as soon as feasible and conditions for safe

replacement feeding can be met. Breastfeeding should be actively promoted among women who are known to be HIV negative. The low rates of exclusive breastfeeding observed in both the 1998 and the 2003 SADHS show that there is an urgent need to strengthen programmes to promote and support breastfeeding.

With respect to vitamin A supplementation, less than 40 percent of children are reported to have received such supplementation in the last six months. This intervention has been shown to reduce mortality by about 25 percent in children. The fortification of key cereals and foods will go a long way towards addressing the challenge of micronutrient deficiency in South Africa, but significant numbers of children remain vulnerable to micronutrient deficiencies and the vitamin A supplementation programme needs to be strengthened.

Immunisation rates show a marked drop since 1998. This survey found that only 55 percent of 1-year old children were fully immunised compared to 63 percent in 1998. These results, however, do not tally with other data sources and need further investigation. Nonetheless, they do point to concerns about the child health programmes.

The reported prevalence of diarrhoea and respiratory infections among children are generally unexpectedly lower than in 1998. The particularly low rates observed in KwaZulu-Natal raise questions about data quality.

Nutritional status of children has been included for the first time into the SADHS. The results show that the proportion of children who are underweight is 12 percent, and the proportion stunted is 27 percent. The prevalence of undernutrition is slightly higher than the levels observed in earlier surveys such as the Vitamin A survey.

S.5 Adult health

A recent Lancet series acknowledges that developing countries with stressed health systems may be faced with a difficult task to address the escalating demands of chronic disease and their risk factors, but also argues that every country, regardless of the level of its resources, has the potential to make improvements in preventing and controlling chronic disease (Epping-Jordon *et al.*, 2005). South Africa, like several other developing countries, has been highlighted as experiencing a unique demographic moment to focus on introducing policies that will reduce the future impact of chronic disease, and to minimise the rise in cardiovascular disease in particular (Leeder *et al.*, 2004). Steps towards this have been initiated in South Africa, including the incorporation of an adult health module in the SADHS.

The SADHS includes information on risk factors for chronic diseases, utilisation of health services, use of medication and selected adult health outcomes. The survey was designed to use hypertension and chronic respiratory disease as indicator conditions to monitor the programmes for managing and preventing chronic diseases.

Risk factors for chronic diseases

The data show that smoking has declined in men age 15 and above (42 percent in 1998 compared to 35 percent in 2003) but not in women (11 percent in 1998 compared to 10 percent in 2003). The overall decline in prevalence of smoking is supported by other data and may reflect government's strong tobacco control initiatives. Disturbingly, the prevalence has not changed among young people.

The survey also collected data on consumption of alcohol. Alcohol consumption is difficult to measure accurately in household surveys and these results should probably be considered a minimum level. Although large proportions of the population report no drinking, as in 1998, the drinking pattern shows high proportion of drinkers who drink excessively, particularly over weekends. Rates of alcohol use in the seven days before the survey are slightly lower than reported in 1998; in the case of men it was 30 percent in 2003 compared to 45 percent in 1998 and in the case of women it was 10 percent in 2003 compared to 17 percent in 1998. The proportion with signs of alcohol problems has gone down (28 percent to 21 percent for men, and 10 percent to 7 percent for women). However no change is evident in the younger adults. There is a clear need to encourage people who do drink alcohol, to consume moderate amounts in a regular pattern and not a risky pattern.

Overweight and obesity has not changed since 1998 and remains particularly high for women. Fifty-five percent of women and 30 percent of men age 15 and above are overweight or obese. The prevalence of obesity among white women has declined slightly, and the extent of underweight among Indian women has declined slightly. There is considerable evidence of health problems associated with excess bodyweight. There is a need to promote healthier environments and lifestyles among all ages.

Physical activity has been measured for the first time in the SADHS, and, compared to other countries, shows very high levels of inactivity. The survey found that 48 percent of men and 63 percent of women are inactive. The prevalence of inactivity is higher in the urban setting than in the non-urban. Urgent attention is needed to understand and change these behaviours and avoid the consequential burden of disease.

Questions concerning the micro-nutrient intake of adults were introduced into this survey for the first time. The results show that there are marked variations according to particular nutrients. There is a generally low calcium intake which is reflected across all groups of adults. Vitamin A intake in adults is generally good, whereas intakes of Vitamin E, Folic acid, Magnesium, Thiamine and Zinc tend to be low. In terms of micro-nutrients, whites and urban Africans have the best quality diet. Food fortification can be expected to influence the micro-nutrient intake in the future and the questionnaire for the next SADHS will have to be adapted to capture the improved intake.

The survey had limited information about dietary intake. However, it found that fat intake varied by population group, being lowest among whites and Indians. African women and coloured people eat salty foods the most often.

Respiratory conditions and hypertension

The data on respiratory conditions are difficult to interpret, and will require additional data to confirm morbidity trends:

- The proportion of adults who reported that they have ever had TB has gone down. While TB registration data suggest that TB has increased, in keeping with the HIV and AIDS epidemic, it is not clear whether the prevalence has decreased due to increased mortality from TB.
- Chronic bronchitis has declined markedly among older women, but there has been little change in the prevalence of smoking; yet abnormal peak flow has gone up significantly. A difference in the measurement procedures for peak flow may have reduced some errors in the previous survey and contributed to this apparent increase.
- The lower prevalence of chronic respiratory disease with improved education is also striking. Detailed analysis of the 1998 data has shown that the protective effect of education was independent of other risk factors such as smoking, occupational exposure and past

tuberculosis. If it is assumed that education level reflects the cumulative effect of one's social position throughout life, the implication is that public health action to produce optimal lung health in adulthood is needed across the whole life course.

Hypertension results in the 2003 SADHS are puzzling. Prevalence of hypertension based on medication remains the same as in 1998 for all ages and sex groups. The diastolic blood pressure is systematically too low for men and older women in this survey, resulting in much lower proportions of people with hypertension, yet investigation into changes in risk factors can offer no explanation.

The survey does show that the lifestyle risk factors for hypertension (obesity, high salt and alcohol intake) are still very common in those persons with hypertension, and emphasizes the urgency to implement the planned national policy to promote a healthy lifestyle and the national guidelines for managing hypertension in primary health care facilities. In addition, consideration needs to be given to recent research that has shown benefit of lowering salt in commonly used foods in reducing blood pressure levels.

Health service utilisation and satisfaction

The proportion of adults who attended health services in the previous 30 days increased slightly between 1998 and 2003, but was higher for women than men. The most frequently attended health care facility type was public health services (20 percent) followed by the private health care services (15 percent).

Generally the survey showed that adult patients are not happy with the services rendered, both in the private and public sector. Dissatisfaction with public hospitals and community health centres is highest in the provinces of Gauteng and Eastern Cape. It is more frequently expressed by people living in urban areas than those in non-urban areas. The major reason for dissatisfaction in the public sector hospitals and community health centres are long waiting times, staff attitudes, prescription medication not available and staff shortages. Long waiting times, staff attitude, and doctors and pharmacists being too expensive were the main reasons for dissatisfaction with private sector facilities and short consultations and cost were the most common reasons cited in the case of private doctors. Women aged 15-49 years living in non-urban areas experienced more problems with costs, distance and transport in reaching health services than those in urban settings. This was reported most frequently in Limpopo.

Medical aid was available only to 14 percent of adults. Non-urban Africans and people with low levels of education had the least access to medical aid. Medical aid schemes expenditure on men's chronic drugs (23 percent) was higher than for women's drugs (12 percent). However, fewer men (7 percent) than women (12 percent) had regularly prescribed drugs for one of the following conditions: tuberculosis, asthma or chronic bronchitis, diabetes, hypertension, hyperlipidaemia, arthritis, osteoporosis, epilepsy or other atherosclerosis or stroke related conditions. Of the respondents who were taking drugs at the time of the survey, about two-thirds were taking two or more different drugs for their chronic conditions. Approximately a third of men and almost half of the women using chronic disease drugs received their drugs from the public sector facilities, and only about a quarter paid for their drugs by themselves. Patients who received their drugs from the public sector were more likely to report using two or more drugs than private sector patients, suggesting either that fewer drugs are used if the patient or their medical aid scheme has to pay for the drugs or that patients are forced to get public assistance if they require many drugs.

Of the people taking chronic disease drugs, the most frequent condition being treated was hypertension (6.6 percent), followed by arthritis (2.3 percent), diabetes (1.7 percent) and asthma and

chronic bronchitis (1.5 percent). The rate of reported drug use for tuberculosis was low. Although patients would only take such medication for a 6-month period, the low rates are of concern as routine facility data sources show marked increase in tuberculosis cases, caseloads and mortality in the country. Estimated treatment of diabetes based on drugs identified during the survey, has remained the same between 1998 and 2003 despite the fact that increased prevalence of diabetes is predicted for the South African population. The rate of treatment of hyperlipidaemia remains extremely worrying as it is estimated that there are 5.7 million people in this country with an abnormal lipid profile. A marked reduction in the use of inhaled steroids, which is the first line treatment recommended for asthma and chronic bronchitis was reported in the survey.

Utilization of drugs to treat hypertension was slightly higher in 2003 (7 percent) compared to 1998 (6 percent). The data collected on the levels of hypertension control in the 2003 data base were inadequate to establish if this emerging trend was indicative of better disease control mechanisms or not. Further analysis shows that in 2003 ACE inhibitors had replaced diuretics among men as the most frequently used anti hypertensive drug compared to 1998 and that use of methyldopa and reserpine had decreased dramatically among women. The increased use of ACE inhibitors, especially among men may be due to the increased availability of generic and cheaper ACE inhibitors. However, diuretics are still the recommended first line treatment. Finally, prescription of aspirin for patients after suffering a heart attack or stroke or for those having angina is known to reduce the chances of further attacks, however, the 2003 SADHS shows that prevalence of this prescription practice is still very low.

The additional three conditions for which data were collected in 2003 are arthritis, osteoporosis and epilepsy. Arthritis drugs were taken more frequently by women (3 percent) than men (1 percent) and consisted almost exclusively of non-steroidal anti-inflammatory agents. For osteoporosis mostly calcium supplements were recorded. For epilepsy, hydantoin and carboxamide derivatives were mostly used.

The findings about prescribed medications in the 2003 SADHS are similar to those in the 1998 SADHS. The public sector continues to be the main provider of chronic medicine, especially for the disadvantaged. Strengthening the public health system remains a critical prerequisite to achieve health for all in South Africa and in the management of chronic conditions.

Violence and injuries

Self-reported injury rates for adult men were similar in 2003 to those observed in 1998, but injury rates for women increased from about 800 per 100 000 population to about 1 100 per 100 000 population based on reported injuries in the preceding 30 days. The increase has occurred particularly among women living in the non-urban areas. Injury rates among men were generally higher than those among women especially in the 35-44 year age group for whom the rate reached nearly 3 000 injuries per 100 000 men. In this age group, the unintentional injury rate was four times higher among men than women.

Questions about physical violence were included in the SADHS because the prevention of violence has become a national priority. The survey shows that 13 percent of men and 7 percent of women experienced a physical attack in the preceding 12 months. While the majority of men were attacked in a public road (53 percent), for women, the most attacks occurred at home (48 percent).

Questions about rape and other forms of intimate partner violence were not repeated in the 2003 SADHS as they are not suitable for multi-faceted household questionnaire.

Oral health

The adult health questionnaire included questions on perceptions of oral health problems, utilisation of oral health services, satisfaction of services, loss of natural teeth and oral health practices. As the questions have been reviewed it is difficult to compare the results between the 1998 and 2003 surveys. However, this survey finds 16 percent of adults reporting oral problems (10 percent are related to teeth, and 4 percent to the gums). Twenty five percent and 28 percent of the respondents reported brushing and rinsing respectively, this was low, particularly in Free State. Overall, 65 percent reported visiting a dentist/dental therapist or oral hygienist at least once a year. The proportion of adults reporting satisfaction with the overall quality of a dentist visit was relatively high.

The findings suggest that there is a need to strengthen the Department of Health's programme that promotes healthy lifestyles and aims to reduce the common risk factors (such as sugar, alcohol and tobacco) that arise from environmental, economic, social and behavioural causes. This must be accompanied by the development of oral health systems that equitably improve oral health outcomes.

S.6 Adolescent (15-19 years) and Youth (15-24 years) Health

Monitoring the health related behaviours of young people and the extent to which they have adopted unhealthy lifestyles is extremely important in relation to the spread of HIV and other STIs on the one hand and the emergence of chronic diseases such as cardiovascular and respiratory conditions on the other.

The 2003 SADHS shows that 12 percent of men and 6 percent of women aged 15-24 years had experienced their sexual debut by age 15. Although low proportions of young people are married, more than half of the unmarried young men and 49 percent of unmarried young women had sex in the last 12 months. There has been a significant shift towards the acceptance of condom use in relationships with 75 percent of men and 53 percent of women reporting that they used a condom at last sex. This represents a huge increase compared to the 1998 SADHS, which observed that 20 percent of unmarried women aged 15-24 years used a condom at last sex. In six of the nine provinces, the proportions of teenage women who have ever been pregnant are lower in the 2003

survey than in the 1998 survey. Overall, 27 percent of 19 year old women had begun childbearing compared to 35 percent found in the 1998 SADHS.

Among sexually active women, 18 percent in the 15-19 age group and 15 percent in the 20-24 age group were currently using male condoms as their contraceptive method. In the 1998 SADHS only 4 percent of sexually active women (15-19) used condoms as a form of contraception. Use of oral contraceptives among sexually active women (15-19) has dropped from 9 percent in 1998 to 5 percent in 2003.

Although the majority of young men and women (93 percent) have heard of AIDS, less know about HIV prevention methods. Just under 70 percent of young women and just over 70 percent of young men know that using condoms and limiting sex to one uninfected partner can reduce the chances of HIV infection. When questioned about the beliefs about AIDS, there was some uncertainty about mosquito bites with only around 60 percent agreeing with the statement that HIV cannot be transmitted by mosquito bites and around 75 percent agreeing that a person with HIV can look healthy. Only 50 percent of young women rejected both misconceptions about the transmission of HIV. Approximately half of young women and men are aware that HIV can be transmitted through breast-feeding.

Few young people in the 15-19 age groups have had an HIV test and received the results, probably due to the high proportion that had not had sex in this age group. Although the testing rates increased in the 20-24 age group to 16 percent for women and 13 percent for men, there is clearly a need to find ways to encourage young people who are sexually active to be tested.

The report includes the prevalence of risk factors for chronic diseases among adolescents aged 15-19 years. It is essential to monitor this age group as it is during this period that life-long habits are initiated. Trends in these indicators serve as an early warning of future health impacts and can assist in directing the efforts to intervene with health promotion activities.

Tobacco smoking in adolescents has increased slightly. Twenty percent of boys and 10 percent of girls have ever used tobacco products in the 2003 survey, compared to 17 and 9 percent respectively for boys and girls in the 1998 survey. The increase in this age group contrasts sharply with the general decrease observed across the other age groups of men, and highlights the public health importance of countering the consumer promotion efforts that target young people. As in the case of adult smokers, the proportion of smokers who use manufactured cigarettes in 2003 is lower than in 1998 and may indicate that the increase in prices and taxing of manufactured cigarettes has partially resulted in a move towards young smokers buying loose tobacco and rolling their own cigarettes.

Twenty-eight percent of male adolescents and 14 percent of female adolescents (15-19 years old) acknowledge that they have consumed alcohol in the past 12 months, a finding which is comparable with the prevalence observed in 1998. This is substantially less than for adult men but only two percent less than for adult females, and may be indicative of a trend towards higher alcohol use by the younger generation. Despite these relatively low reported drinking rates, the data indicate high levels of risky drinking (especially over weekends) by both males and females who are current drinkers of alcohol, and interventions are especially needed to reduce high levels of drinking over weekends.

The anthropometry of young people does not appear to have changed between 1998 and 2003. The mean weight, height and BMI of men and women in the two surveys are very similar. Both surveys show marked gender differences in anthropometric status. Underweight is a concern among young men with 29 percent having a BMI below 18.5 compared to 12 percent of young women. In

contrast, young women have much higher levels of overweight and obesity than young men. In 2003, 24 percent of adolescent women are overweight or obese compared to 9 percent of adolescent men. Urban women are more prone to being overweight or obese than non-urban women and African urban women have the highest average BMI (24 kg/m²) while African non-urban women have the lowest average BMI (22 kg/m²). Young urban women have larger waist circumferences than their non-urban counterparts.

Overall, 32 percent of adolescent men and 47 percent of women reported they were physically inactive. The gender difference in inactivity appears to increase with age and is higher for women older than 15 years old. The high levels of physical inactivity could in part explain patterns of overweight and obesity among adolescent men and women. The data highlight the need for interventions to increase opportunities for physical activity for adolescents and school leavers, with a view to increasing lifetime participation in physical activity, and with special recognition for vulnerable groups such as girls and young women.

Micro-nutrient intake has been measured for the first time in the 2003 SADHS. There are no major differences in nutrient intake between age groups for young men and women, but there are large variations within the country. For all nutrients, African young people show a higher prevalence of deficiency than white youth. Calcium intake, however, is deficient in all population groups. Urban respondents have significantly better micronutrient scores, 21 in men and 20 in women compared with non-urban respondents (25 in men and 25 in women). The mean micronutrient scores are significantly better in Gauteng and in KwaZulu-Natal and poorest in Mpumalanga, the Northern Cape, and Limpopo. The introduction of food fortification in 2003 can be expected to improve the micro-nutrient intake in all areas.

The indicators related to respiratory conditions and hypertension need to be interpreted carefully as a result of the small sample size and concerns about the quality of field work. However, the results do suggest that between 1998 and 2003 there may have been an increase in the prevalence of asthma related conditions among youth in urban areas. Chronic bronchitis is not a common condition in this age group. However, both surveys suggest that African women, particularly those living in non-urban areas experience a higher prevalence of this condition than other sub-groups, suggesting that this group of young women may have higher exposures to indoor air smoke.

S.7 Health of Older Persons

A new chapter on the health of older persons (defined as those age 60 years or older) has been introduced into the SADHS report. An ageing population is usually associated with growing health care needs, contributing to a rise in health care costs, making it very important to monitor the health and service utilization patterns of this age group.

Living conditions of older persons have generally improved between 1998 and 2003. However, several findings highlight remaining barriers that prevent optimal health status, living conditions and health service delivery, particularly in the non-urban areas. About 40 percent of older persons have no education, with non-urban levels being double the urban levels, and extremely high levels of approximately 70 percent in older women in Limpopo and Mpumalanga. The low levels of education among older persons have several implications, including scope to fully participate in community life. Older persons' level of education may also present particular challenges to effective health promotion and disease management. Health education materials developed for these purposes need to take the low levels of formal education into account when targeting the older population.

Access to piped water for drinking continues to be limited for non-urban (11 percent) and urban (64 percent) older persons. There has been limited improvement in terms of all types of sanitation facilities but no change in access to a flush toilet. Similar to 1998, 15 percent of urban and 95 percent of non-urban older persons had no access to a flush toilet in 2003. The limitations in access to piped water and sanitation facilities pose a number of challenges to older persons whose mobility and physical strength generally decline with increasing age. The urban/non-urban gap in access to electricity has been reduced since 1998, but nearly half of the non-urban older persons still have no access to electricity.

Urban access to an own phone (51 percent) is considerably higher than non-urban access (6 percent). Between the two surveys, no improvement in access to a phone is shown in either urban or non-urban areas. Access to a phone can be useful in participating in various domains of societal life and so contribute to the maintenance of personal well-being. It can also be critical in sickness, emergency or loneliness. Having a radio or television facilitates access to information and some form of leisure or recreation. Given the large proportion of older persons without formal education, these media have an important purpose in disseminating visual and audio health information. Increased access to a phone, radio and television, and the promotion of reduced costs and rates for older persons may therefore indirectly promote health and well-being in the older population.

The 2003 results indicate that, similar to 1998, high blood pressure is by far the most commonly reported chronic condition among older persons, with a large differential between men (24 percent) and women (44 percent). Arthritis presents in both men (14 percent) and women (18 percent) as the second-most commonly reported chronic condition. Chronic illness prevalence in the older population is generally considerably higher than in the total adult population, and co-morbidities are more prevalent in older persons than younger members of the adult population. This illustrates the need to ensure that health care services explicitly address and manage chronic conditions in older persons, and the need for chronic care services to plan and prioritize for increased numbers of older clients. It also points to the need for geriatric services to be strengthened.

The data suggest that medical aid coverage over age 45 declines with increasing age, dropping from 18 percent among persons 35-44 years, to 13 percent among those ≥ 60 years, to 8 percent of those ≥ 80 years. This means that, at a time when a person is likely to have increasing medical expenses, access to medical aid is declining, and on the other hand, this implies that the state will have to bear increasing costs.

Of people 60 years and older, about 5 percent report being physically attacked in the past 12 months. The protection of older persons is prominent in the recently-passed Older Persons Act, but the safety of older persons needs insistent attention and a strong political will at all levels of governance, spread over different sectors, as well as a community sensitive to the particular needs and vulnerabilities of the older population.

S.8 Population policy

Sustainable human development is now the central theme and organizing principle of South Africa's population policy. This policy is implemented by integrating population factors into all policies, plans, programmes and strategies aimed at enhancing the quality of life of people, and promoting multi-sectoral interventions to address major national population concerns. The seven national strategies in the area of population and human development include: poverty reduction; environmental sustainability; health, mortality and fertility; gender, women, youth and children; education; employment; migration and urbanisation. The SADHS provides useful data to monitor trends in aspects of population policy, most noticeably around the intersection of health, mortality

and fertility with gender, women, youth and children. It also provides information regarding South Africa's progress towards meeting the Millennium Development Goals.

The current lack of reliable national estimates of key demographic indicators such as total fertility and child mortality requires urgent attention as these are crucial to monitor the progress of national population policies. Although the 2003 SADHS has not provided reliable estimates for some key indicators, some interesting trends can be discerned that indicate progress in the implementation of the population policy.

There are indications of improvements in living conditions with higher proportions of people having access to electricity. Currently, three-quarters of South African households have access to electricity compared to less than two-thirds in the previous survey. Three-quarters of households use electricity as their main source of energy for cooking compared to just over half in 1998. However, the survey indicates that there are still high proportions of people without access to piped water and sanitation in the residence. This is particularly marked in non-urban areas where households are about five times less likely than urban households to have piped water in the dwelling, and about a quarter of non-urban households still rely on an open, outside water source for drinking water.

A key indicator of poverty is the nutritional status of children, particularly child stunting. Historical data on child anthropometry are sparse, making it difficult to assess trends. However, the effects of undernutrition displayed by underweight and stunting of children do not show signs of improvement over the last decade. Recent research conducted in KwaZulu-Natal has demonstrated that access to the child grant reduced the extent of stunting among young children who receive it. In addition, the data from SADHS show that mother's education is strongly associated with children's nutritional status. These emphasise the importance of government programmes in reducing undernutrition.

Orphans are known to be a particularly vulnerable group of any population. The survey shows that the proportion of orphans has grown. The proportion of children under 15 years who had lost both their parents increased from 0.8 to 2.4 percent while the proportion of children who had lost a father only, increased from 8 to 11 percent.

Social security plays a vital role in the alleviation of poverty for children, women, older persons and people with disabilities and their families. The survey shows that social support grants are widely received. Government has committed itself to ensuring that this vital source of income for the most vulnerable sector of the community continues to contribute to development and a more equitable distribution of resources. The Government's continued social grant support is reflected by the high proportion of older persons who receive a grant. This is commendable, but also reflects the magnitude of monetary poverty among the older population, and points to the enormous challenge to eradicate poverty in older age as envisaged in both the International Plan of Action on Ageing and the African Union Policy Framework and Plan of Action on Ageing.

Decision making, an indicator of empowerment, shows interesting trends. Compared with 1998, there has been a polarisation in women's decision making around use of earnings. While the proportion of women who make their own decision has remained fairly high (71 percent), the proportion who make these decision jointly with their partner has declined from 21 to 2 percent. The proportion whose partner makes these decisions increased from 3 to 13 percent. In a decision making index spanning health care, purchases, cooking and visiting, it was found that 43 percent of women have a say in all four domains while 18 percent have no say in any domain. In contrast only 2 percent of men reported that they were excluded from decision making in (finances, purchases, visiting, number of children). Gender relations are a fundamental issue to population policy. There

is a need for further analysis of the trends in decision making and the influence that this has on population dynamics.

S9. Study Limitations and Recommendations

Comparison of the socio-demographic characteristics of the sample with the 2001 Population Census shows an over-representation of urban areas and the African population group, and an under-representation of whites and Indian females. It also highlights many anomalies in the ages of the sample respondents, indicating problems in the quality of the data of the 2003 survey. Careful analysis has therefore been required to distinguish the findings that can be considered more robust and can be used for decision making. This has involved considering the internal consistency in the data, and the extent to which the results are consistent with other studies.

Some of the key demographic and adult health indicators show signs of data quality problems. In particular, the prevalence of hypertension, and the related indicators of quality of care are clearly problematic and difficult to interpret. In addition, the fertility levels and the child mortality estimates are not consistent with other data sources. The data problems appear to arise from poor fieldwork, suggesting that there was inadequate training, supervision and quality control during the implementation of the survey. It is imperative that the next SADHS is implemented with stronger quality control mechanisms in place. Moreover, consideration should be given to the frequency of future surveys. It is possible that the SADHS has become overloaded – with a complex implementation required in the field. Thus it may be appropriate to consider a more frequent survey with a rotation of modules as has been suggested by the WHO.

CHAPTER 1

INTRODUCTION

1.1 History, Society and the Economy

Ten years of democracy

At the time of this survey South Africa had enjoyed 10 years of democracy following the historic break from its past of racial discrimination and social disruption. The first decade of democracy has resulted in pervasive institutional transformation in line with the new democratic constitution. Efforts to deal with the legacy of Apartheid have been instituted in all sectors of society. Sound fiscal management has resulted in steady real economic growth for a record six straight years and the country's economy is now seen as one of largest and most popular emerging economies of the world. However, the tight fiscal policies have not led to an increase in the number of jobs and the high rates of unemployment continue to create a major social and economic challenge. A range of government programmes have been introduced to redress the imbalances between the rich and the poor including access to free basic health services to pregnant women and children under six, education, shelter and clean water. Much has been achieved during the first ten years of democracy but there are many areas in which service delivery needs to be improved. Establishing efficient local government is critical in this regard.

The People of South Africa

The people of South Africa have diverse origins. For thousands of years, the ancestors of the Khoisan lived in the southern African region as hunter-gatherers. Bantu-speaking people moved from West Africa to southern Africa in about 300-500 AD, bringing the Iron Age to the region. European explorers came to South Africa during the 15th century and an outpost was established in the Cape, providing fresh provisions to the passing sea trade. As European settlers in the Cape moved inland, a series of wars followed which led to the invasion of the Xhosa and Zulu peoples and a dispossession of land. The great small-pox epidemic of 1713 decimated the Khoikoi who had little resistance to this disease that was imported by the settlers.

South Africa's economic and socio-political path was changed forever by the discovery of diamonds in 1867 and gold in 1871. The development of the rail system, electricity, urban concentrations, commercial farming and manufacturing interests followed from the interests in mining. Labourers were recruited in India when it became clear that local people were not interested to work under difficult and unrewarding conditions of the sugar plantations of Natal. Agreement was reached with labourers from Calcutta and given the option of a passage to India or a small donation of land at the end of the contract. In addition to indentured labourers, merchants, known as "passenger" Indians also came to South Africa. Currently, people of Indian descent account for just under 2 percent of the South African population.

Apartheid and political changes

Policies of racial separation go back as far as the Act of Union in 1910 which was negotiated without involving Africans. The "Native Land Act" of 1913, set aside only 7.3 percent of South African territory as reservations for Africans and barred them from buying land outside these areas. This act divided South Africa into "White" and "Black" areas forming the cornerstone of Apartheid.

The Black population was deprived of the right to vote or strike and they had no means of political influence. The political power of the Afrikaners grew and in 1948, Afrikaner nationalism was born and a series of restrictive laws were introduced to benefit the White minority. The Population Registration Act of 1950 classified people according to race and the Group Areas Act determined where people could or could not live. "Homelands" were formed out of non-urban "black" areas and created separate "nation states" for the different ethnic groups. A resistance movement spearheaded by South Africans living in exile culminated in a negotiated settlement which led to the first national election in South Africa on 27 April 1994. Today, South Africa is a democratic nation divided into 9 provinces under a semi-federal system. Pretoria is the administrative capital; Cape Town the legislative capital and Bloemfontein the judicial capital.

Population groups

The Population Registration Act identified groups as White, Indian, Black and Coloured. The Coloured group included people of Khoisan, Malaysian, Griqua, Indian and Chinese origin and was sometimes described as people of mixed decent. Classification of the population on the basis of race has had profound economic and social impacts under Apartheid. Although the Population Registration Act was repealed in 1991 and people are no longer registered by population group, it is necessary to collect selected statistical data according to self-reported classification of these population groups in order to monitor the progress that has been made in reducing the social and economic inequalities between population groups. In this report, African is used for African/Black.

Culture and religion

South Africa's rich social heritage has resulted in huge cultural diversity. Under the new constitution, everyone has the right to foster their own religion and culture. South Africa is a religiously pluralistic society with Christianity as the majority religion. In addition to Christianity, Hinduism, Islam and Judaism, a "traditionalist" belief system is also practiced. There are 11 official languages, with English generally being used in business and public official activities.

Gender

The experiences of men and women in South African society differ significantly resulting in many gender based inequalities. Since the first democratically elected government came to power in 1994, gender equality has been placed higher on the development agenda through a range of government policies, and gender equality is guaranteed under the South African Constitution. Mechanisms to promote women's rights and monitor the impact of government spending on women's lives were among a wide range of initiatives that were initiated. In 1995, the government signed the international Convention for the elimination of All Forms of Discrimination Against Women (CDAW). The Gender Commission was set up as an independent body to promote gender equity in society. An Office of the Status of Women was established by the President's Office to ensure that gender issues are incorporated in policy and programmes. While much has been achieved, gender inequalities are pervasive and rural African women remain the poorest and most disadvantaged people in South Africa.

Economy

South Africa is a middle income country with a modern infrastructure and has the largest economy in Africa. The formal sector is well developed and is based on mining, manufacturing, services, and agriculture. There is a growing informal economy. Economic growth has reached levels of about 4 percent per annum. However, there are high levels of unemployment and wealth inequalities. In

1996, the Growth, Employment and Redistribution (GEAR) policy was introduced and stressed the country's commitment to open markets. This new policy extended the Reconstruction and Development Programme (RDP) that had focused on development and redistribution. In February 2006, plans to foster economic development through funding selected programmes were launched as the Accelerated and Shared Growth Initiative of South Africa (AsgiSA). These plans promise to create more jobs and address the Millennium Development Goal to halve poverty by 2014 (Bell 2006).

1.2 Geography

South Africa, situated in the sub-tropical region at the southern tip of the African continent, covers 1.2 million sq. km. Most of the country is on a plateau that rises above the 1000 m sea level. Most parts of the country experience rainfall during the summer months but this is unreliable and water remains scarce excepting along the east coast. The country experiences long periods of drought and the western part has encroaching desert and semi-desert regions. One tenth of the land can be described as arable. Agriculture has been supported with irrigation schemes. The south western Cape has a Mediterranean climate with winter rainfall which supports the production of wheat, fruit and wine. Durban and Cape Town house the main seaports. The mining and industrial hinterland is served by these ports together with five other ports and a well-developed rail and road transport system. All nine provinces have an airport and an extensive highway system.

Swaziland and Lesotho are two land-locked countries encompassed by South Africa. They are also economically dependent on South Africa. Mozambique, Zimbabwe, Botswana and Namibia are South Africa's neighbours and share a long and diverse history of violation and dependence. A new period of cooperation within the region has emerged and the Southern African Development Community (SADC) was formed in 1992 to promote development and alleviate poverty in the region (IDASA, 2006). Member states are Angola, Botswana, Democratic Republic of Congo, Lesotho, Malawi, Mauritius, Mozambique, Namibia, Seychelles, South Africa, Swaziland, Tanzania, Zambia and Zimbabwe.

1.3 Demographic Data and Population Policies

The availability and quality of population data have improved enormously since 1994. The first census of 1996 and the 1998 South African Demographic and Health Survey (SADHS) laid an important foundation. The findings of these have been amplified by data from Census 2001, and the introduction of a number of new studies by Statistics South Africa, including the General Household Survey and the Labour Force Survey. Much has been done during this period to improve the quality of vital statistics data and there has been an increase in the registration of births and deaths.

South Africa's population policy was adopted by parliament in April 1998 and expresses South Africa's commitment to the Programme of Action of the International Conference on Population and Development (ICPD) adopted in Cairo in 1994. The ICPD Programme of Action emphasises linkages between population trends and development objectives, and focuses on realizing the rights of individual women and men. A strong element of the ICPD approach is to empower women by providing them with more choices, through expanded access to education and health services, and by promoting skills, development and employment. Its inception represents a radical move away from previous programme intention to meet set demographic targets to a policy that prioritises individual human needs (Department of Social Development, 2006).

Sustainable human development is now the central theme and organizing principle of South Africa's population policy. The needs of the present generation and improving their quality of life is to be done without destroying the environment or depleting non-renewable natural resources so as to avoid compromising the ability of future generations to meet their own needs. The policy forms

an integral part of national strategies aimed at reducing past inequities and enhancing the quality of life of the population and is compatible with the Millennium Development Goals adopted by the United Nations in 2000.

The objectives of the South African population policy are:

- to promote the systematic integration of population factors into all policies, plans, programmes and strategies aimed at enhancing the quality of life of people,
- to promote a coordinated, multi-sectoral, interdisciplinary and integrated approach in designing and implementing programmes and interventions that affect major national population concerns, and
- to underpin the above two objectives with reliable and up-to-date information on population and human development, to inform policy-making and programme design, implementation, monitoring and evaluation.

The policy outlines 7 national strategies in the area of population and human development including:

- poverty reduction
- environmental sustainability
- health, mortality and fertility
- gender, women, youth and children
- education
- employment
- migration and urbanisation.

The policy also outlines strategies for developing policy implementation capacity that include:

- co-ordination and capacity building for integrating population and development planning,
- advocacy and population information, education and communication (IEC), and
- data collection and research.

The policy has been evaluated twice since its inception, and results have shown that awareness of population issues have improved markedly and that population matters are increasingly integrated across government programmes. It is also evident that the greater availability of data is increasingly making it possible to base policy decisions on facts rather than guesswork or ideological preconceptions, as was the case ten years ago. The provision of reliable up to date data, at all levels, as well as the integration thereof into policies, plans, programmes and strategies, however, remains incomplete and a number of challenges remain, not least being the assessment of the impact of HIV and AIDS on the size and structure of the South African population.

1.4 Health Policy Goals, Priorities and Programmes

The South African Government has made strides to address the fragmentation and gross inequalities in health infrastructure and health services since 1994. The Department of Health continuously aims to ensure that the health status of all the citizens of South Africa is improved. In this regard several pieces of legislation have been passed since 1994. The Health Act (Act No 63 of 1977) outlined the priority programmes that needed to be focussed on e.g. HIV and AIDS, tuberculosis, maternal

health, child health, nutrition, improvement of access to public health facilities and health care, increasing access to medicines, provision of free primary health care for pregnant women and children under the age of six, improvement of childhood nutrition and the management of communicable diseases. The Health Act has subsequently been replaced by the National Health Act, 2003 (Act No 61 of 2003) that provides a legal framework for the new health system that has been put in place since 1994.

The mission of the national Department of Health is “to improve health status through prevention of illness and the promotion of healthy lifestyles and to consistently improve the health care delivery system by focusing on access, equity, efficiency, quality and sustainability.” In the five years between the first SADHS in 1998 and the second SADHS in 2003, the Department of Health continued with an extended programme of legislative and policy development to address health priorities. To ensure that services are rendered in previously neglected areas the Pharmacy Amendment Act (Act No. 1 of 2000) for instance makes provision for the performance of community service by persons registering for the first time as pharmacists. In an attempt to limit the use of tobacco, the Tobacco Products Control Amendment Act of 1999 (Act 12 of 1999) amongst others, prohibits the free distribution of tobacco products. In 2000, a comprehensive plan for HIV and AIDS was launched. This provided a framework for a multi-sectoral response and included several priority areas: (1) prevention, (2) treatment, care and support, (3) research, monitoring and surveillance and (4) human and legal rights. In 2003, an operational plan for comprehensive HIV and AIDS care, management and treatment was developed.

The review of several acts was undertaken and the following amendment acts were passed: Medical Schemes Amendment Act (Act 62 of 2002), Medicines and Related Substances Amendment Act (Act 59 of 2002), Dental Technicians Amendment Act (Act 24 of 2004), Choice on Termination of Pregnancy Amendment Act (Act 38 of 2004) and the Sterilisation Amendment Act (Act 3 of 2005). Legislation that is currently being processed includes the following: Nursing Amendment Act 2004, Health Professions Amendment Act, 2004, South African Medical Research Council Amendment Act 2004, Pharmacy Amendment Act, 2003, Medicines and Related Substances Control Amendment Act 2004 and Tobacco Products Control Amendment Act 2004. The purpose of reviewing legislation is to ensure that all the legislation contributes to the promotion of health of all South Africans.

A Strategic Framework for 2004-2009 has been adopted that includes to promote healthy lifestyles, to contribute towards human dignity by improving quality of care, to improve management of communicable diseases and non-communicable illnesses, to strengthen primary health care, Emergency Medical Services and hospital service delivery systems. Planning, budgeting and monitoring and evaluation are also included in the strategic framework.

1.5 Objectives and Organisation of the 2003 South Africa Demographic and Health Survey

In 1995 the National Health Information System of South Africa (NHIS/SA) committee identified the need for improved health information for planning services and monitoring programmes. The first South African Demographic and Health Survey (SADHS) was planned and implemented in 1998. At the time of the survey it was agreed that the survey had to be conducted every five years to enable the Department of Health to monitor trends in health services.

Information on a variety of demographic and health indicators were collected. The results of these surveys are intended to assist policy makers and programme managers in evaluating and designing

programmes and strategies for improving health services in the country. In addition to the aspects covered in the 1998 SADHS, information on the following additional aspects was included in the 2003 SADHS:

- Information on children living in households where the biological mother is not staying in the household i.e. mother is dead, etc.
- Child anthropometric data
- Information on reproductive health and sexual behaviour of men
- Information on malaria
- Information on pensions/grants received by members of the household.

The primary objective of the 2003 SADHS was to provide up-to-date information on:

- Characteristics of households and respondents
- Fertility
- Contraception and fertility preferences
- Sexual behaviour, HIV and AIDS
- Infant and child mortality
- Maternal and child health
- Infant and child feeding
- Adolescent health
- Mortality and morbidity in adults
- Utilisation of health services
- Adult health: hypertension, chronic pulmonary disease and Asthma
- Risk factors for chronic diseases
- Oral health
- Health of older persons

Organisation of survey

A project of the magnitude of the SADHS involves a large number of players. The Department of Health (DOH) commissioned, co-ordinated and funded the study together with the financial contribution from the Department of Social Development. The fieldwork was commissioned to a research company: Africa Strategic Research Cooperation and they appointed the fieldwork personnel who conducted the interviews. The Human Sciences Research Council (HSRC) provided technical input throughout the survey, and was responsible for quality control of the survey. They were also responsible for the capturing, processing and preliminary analysis of the data. The Medical Research Council (MRC) also provided technical input and did further analysis of the data and co-ordinated the compilation of the final report. ORCMACRO, funded by USAID, provided technical support in questionnaire design, sample design, field staff training, data processing and analysis. Statistics South Africa (Stats SA) provided the sampling frame and drew the sample of households for inclusion in the survey. Apart from USAID, representatives from each of the organisations mentioned in this paragraph served in a management committee responsible for the overall management of this study.

Sample design and implementation

The SADHS sample was designed to be a nationally representative probability sample of approximately 10 000 households. The country was stratified into the nine provinces and each province was further stratified into urban and non-urban areas. The sampling frame for the SADHS was provided by Statistics South Africa (Stats SA) based on the enumeration areas (EAs) list of

approximately 86 000 EAs created during the 2001 census. Since the Indian population constitutes a very small fraction of the South African population, the Census 2001 EAs were stratified into Indian and non-Indian. An EA was classified as Indian if the proportion of persons who classified themselves as Indian during Census 2001 enumeration in that EA was 80 percent or more, otherwise it was classified as Non-Indian. Within the Indian stratum, EAs were sorted descending by the proportion of persons classified as Indian. It should be noted that some provinces and non-urban areas have a very small proportion of the Indian population hence the Indian stratum could not be further stratified by province or urban/non-urban. A sample of 1 000 households was allocated to the stratum. Probability proportional to size (PPS) systematic sampling was used to sample EAs and the proportion of Indian persons in an EA was the measure of size. The non-Indian stratum was stratified explicitly by province and within province by the four geo types, i.e. urban formal, urban informal, rural formal and tribal. Each province was allocated a sample of 1 000 households and within province the sample was proportionally allocated to the secondary strata, i.e. geo type. For both the Indian and Non-Indian strata the sample take of households within an EA was sixteen households. The number of visited households in an EA as recorded in the Census 2001, 09 Books was used as the measure of size (MOS) in the Non-Indian stratum.

The second stage of selection involved the systematic sampling of households/stands from the selected EAs. Funds were insufficient to allow implementation of a household listing operation in selected EAs. Fortunately, most of the country is covered by aerial photographs, which Statistics SA has used to create EA-specific photos. Using these photos, ASRC identified the global positioning system (GPS) coordinates of all the stands located within the boundaries of the selected EAs and selected 16 in each EA, for a total of 10 080 selected. The GPS coordinates provided a means of uniquely identifying the selected stand. As a result of the differing sample proportions, the SADHS sample is not self-weighting at the national level and weighting factors have been applied to the data in this report. A total of 630 Primary Sampling Units (PSUs) were selected for the 2003 SADHS (368 in urban areas and 262 in non-urban areas). This resulted in a total of 10 214 households being selected throughout the country¹. Every second household was selected for the adult health survey. In this second household, in addition to interviewing all women aged 15-49, all adults aged 15 and over were eligible to be interviewed with the adult health questionnaire. In every alternate household selected for the survey, not interviewed with the adult health questionnaire, all men aged 15-59 years were also eligible to be interviewed. It was expected that the sample would yield interviews with approximately 10 000 households, 12 500 women aged 15-49, 5 000 adults and 5 000 men. The final sample results are shown in Table 1.1.

Questionnaires

The survey utilised five questionnaires: a Household Questionnaire, a Women's Questionnaire, a Men's Questionnaire, an Adult Health Questionnaire and an Additional Children Questionnaire. The contents of the first three questionnaires were based on the DHS Model Questionnaires. These model questionnaires were adapted for use in South Africa during a series of meetings with a Project Team that consisted of representatives from the National Department of Health, the Medical Research Council, the Human Sciences Research Council, Statistics South Africa, National Department of Social Development and ORCMacro. Draft questionnaires were circulated to other interested groups, e.g. such as academic institutions. The Additional Children and Men's

¹ Interviewers were instructed to include any second household residing on the selected stand.

Questionnaires were developed to address information needs identified by stakeholders, e.g. information on children who were not staying with their biological mothers. All questionnaires were developed in English and then translated in all 11 official languages in South Africa (English, Afrikaans, isiXhosa, isiZulu, Sesotho, Setswana, Sepedi, SiSwati, Tshivenda, Xitsonga and isiNdebele).

The Household Questionnaire was used to list all the usual members and visitors in the selected households. Basic information was collected on the characteristics of each person listed, including age, sex, education and relationship to the head of the household. Information was collected about social grants, work status and injuries experienced in the last month. An important purpose of the Household Questionnaire was to identify women, men and adults who were eligible for individual interviews. In addition information was collected about the dwelling itself, such as the source of water, type of toilet facilities, material used to construct the house and ownership of various consumer goods.

The Women's Questionnaire was used to collect information from women aged 15-49 in all households. These women were asked questions on the following topics:

- Background characteristics (age, education, race, residence, marital status, etc.)
- Reproductive history
- Knowledge and use of contraceptive methods
- Antenatal, delivery, and postnatal care
- Breastfeeding and weaning practices
- Child health and immunisation
- Marriage and recent sexual activity
- Fertility preferences
- Adult and maternal mortality
- Knowledge of HIV and AIDS
- Husband's background and respondent's work

In every second household, all men and women aged 15 and above were eligible to be interviewed with the Adult Health Questionnaire. The respondents were asked questions on:

- Recent utilisation of health services, family medical history,
- Clinical conditions
- Dental health
- Occupational health
- Medications taken
- Habits and lifestyles
- Anthropometric measurements, and
- Blood pressure and lung function test.

In every second household in addition to the women, all men aged 15-59 were eligible to be interviewed. The Men's Questionnaire collected similar information contained in the Woman's Questionnaire but was shorter because it did not contain questions on reproductive history, maternal and child health, nutrition, and maternal mortality.

In households in which there was a child under six years of age whose biological mother was either not alive or did not live in the household, information about the child was collected from a guardian using the Additional Child's Questionnaire. The level of child fostering is relatively high in South Africa and data on children's health collected only from biological mothers might be incomplete.

The SADHS questionnaires were pre-tested (in two languages) in July 2003, using the “behind the glass”² technique. The questionnaires were then adapted to take into account the suggested changes for questions that were misunderstood or were not clear. Subsequently four teams of interviewers (one for each of four main language groups) were formed; the household, male, female and adult health questionnaires were tested in 4 identified areas. The lessons learnt from the two exercises were used to finalise the survey instruments. The questions were translated and produced in all official languages in South Africa (English, Afrikaans, isiXhosa, isiZulu, Sesotho, Setswana, Sepedi, SiSwati, TshiVenda, Xitsonga and isiNdebele).

Training and Fieldwork

A tender for the implementation of the field work for the survey was issued by the National Department of Health. The contract for the field work was awarded to Africa Strategic Research Corporation (ASRC), a private firm based in Johannesburg. ASRC organised a 2-week training course from September 15-30, 2003 at a centre outside of Pretoria. The training of field workers was conducted by personnel from the MRC, the HSRC, National Department of Health and ORC Macro as well as staff and consultants appointed by ASRC. Training consisted of plenary sessions on more general issues like interviewing techniques, survey administration, and explaining the questionnaire and how to complete it, as well as smaller sessions to practice the anthropometric measurements and interviewing in local languages. The training included mock interviews between participants and two written tests. A practice session was arranged one Saturday to give trainees experience with interviewing actual households living around Pretoria and Johannesburg. ASRC was unable to recruit a sufficient number of interviewers of the required racial and gender groups for the first training. Consequently, a second training for an additional 49 trainees was arranged for October 6-11. In order to further balance the ethnic group and gender composition of the teams as well as to make up for attrition of field staff, some additional fieldworkers were trained in February 2004. 192 candidates were recruited for field work. The fieldworkers were organised into teams consisting of varying numbers of female and male interviewers and headed by a supervisor. Each province had 1 or 2 fieldwork supervisors and at least one editor who were responsible for the logistics and first round of checking of questionnaires. Each province had at least one team of interviewers consisting of different numbers of female and male members. This allowed for the teams to interview different members in households simultaneously, e.g. whilst the woman was interviewed by the female team member, the male team member interviewed the men. Due to political sensitivity and language problems teams were constructed in such a manner to be sensitive for the demographics of a specific area. This resulted in a team of white interviewers who where circulated between different provinces to do interviews in predominantly white areas. In each province there was a provincial manager who was an overall supervisor of the fieldwork operations. Staff from HSRC and the DoH conducted periodic quality control visits during fieldwork. Fieldwork commenced in mid-October 2003 and was completed in August 2004.

² This refers to a process in which interviewers’ interview respondents using the questionnaires, being observed by a team of experts, from behind a one-way window. The experts are not visible to the interviewer/interviewee. Once the interview is finalised, it is discussed by the interviewer, respondent, and the team of experts to determine if any questions were not clear, etc. Changes to the questions are then suggested.

Quality control

In the course of the fieldwork quality control measures were instituted at three levels. Firstly, field team leaders and editors were trained to identify the enumerator areas included in the sample and guide interviewers in the selection of dwellings for interviews. Secondly, a team consisting of staff from the HSRC carried out independent quality control visits to check questionnaires for errors, quality of identification and interviews at the enumerator area and dwelling levels. A team of staff members from the NDoH also carried out independent quality control visits to check questionnaires for errors, quality of identification and interviews at the enumerator area and dwelling levels. An independent consultant was appointed by the NDoH in January 2004 to assist ASRC with the implementation and fieldwork management after problems in this regard were identified.

Data processing

A preliminary round of data processing of the SADHS questionnaires was started in November 2003 so as to provide some feedback to field teams. The actual data processing did not start until January 2004, after a contract was arranged with the HSRC in Pretoria. Completed questionnaires were returned periodically from the field to ASRC, which in turn submitted them to HSRC, where they were entered and edited by data processing personnel specially trained for this task. Data were entered using programmes written in CSpPro by ORC Macro. All data were entered twice (100 percent verification). The data processing of the survey was completed in October 2004.

Response rate

Of the total 630 PSUs that were selected, fieldwork was not implemented in nine PSUs. The data file contained information for a total of 621 PSUs. A total of 10 214 households were selected for the sample and 7 756 were successfully interviewed.

| | |
|------------------------------|--------|
| Households | |
| Households selected | 10 214 |
| Households occupied | 9 181 |
| Households interviewed | 7 756 |
| Household response rate | 84.5 |
| Women's interviews | |
| Number of eligible women | 7 966 |
| Number of women interviewed | 7 041 |
| Eligible women response rate | 88.4 |
| Men's interviews | |
| Number of eligible men | 3 930 |
| Number of men interviewed | 3 118 |
| Eligible men response rate | 79.3 |
| Adults' interviews | |
| Number of eligible adults | 9 614 |
| Number of adults interviewed | 8 115 |
| Eligible adult response rate | 84.4 |

The shortfall was primarily due to refusals and to dwellings that were vacant or in which the inhabitants had left for an extended period at the time they were visited by interviewing teams. Of the 9 181 households occupied 85 percent were successfully interviewed. In these households, 7 966 women were identified as eligible for the individual women's interview (15-49) and interviews were completed with 7 041 or 88 percent of them. In the one half of the households that were selected for inclusion in the adult health survey 9 614 eligible adults age 15 and over were identified of which 8 115 or 84 percent were interviewed. In the other half of the households that were selected for the men's questionnaire to be completed 3 930 eligible men aged 15-59 were identified of which 3 118 or 79 percent were interviewed. The principal reason for non-response among eligible women and men was the failure to find them at home despite repeated visits to the household.

CHAPTER 2

CHARACTERISTICS OF HOUSEHOLDS AND RESPONDENTS

2.1 Distribution of Household Population by Age and Sex

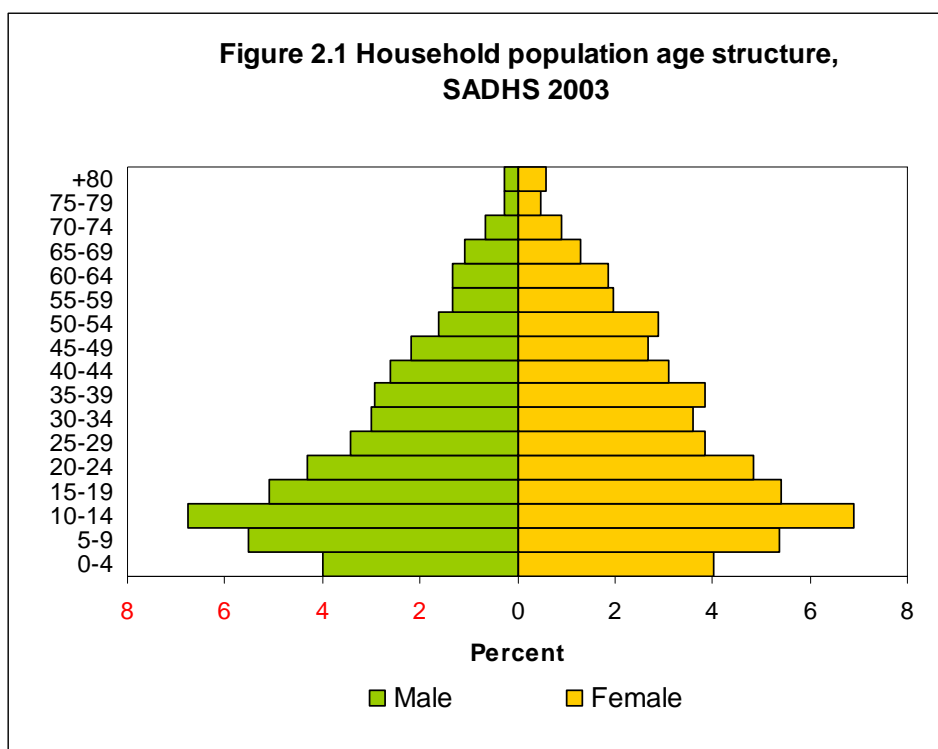
The 2003 SADHS collected information on the demographic and social characteristics of the *de jure* residents (persons who usually live in the selected household), as well as the *de facto* residents (persons who do not usually live at the selected residence, but who have spent the night preceding the interview there).

Table 2.1 indicates the distribution of the SADHS *de facto* household population by five-year age groups according to sex, and urban/non-urban residence. A third (33 percent) of the household population are younger than 15 years, 62 percent are 16-64 years, and 5.6 percent are 65 years or older. Non-urban households report higher proportions of younger (38 percent) and older persons (6.7 percent) than the urban households (29 and 4.8 percent, respectively). Fifty-four percent of the household population are females and 46 percent are males, showing some deviation from the 2001 Population Census proportions of 52 percent female and 48 percent male.

| Age group | Urban | | | Non-urban | | | Total | | |
|-----------|-------|--------|--------|-----------|--------|--------|--------|--------|--------|
| | Male | Female | Total | Male | Female | Total | Male | Female | Total |
| 0-4 | 8.4 | 7.7 | 8.0 | 8.9 | 7.0 | 7.9 | 8.6 | 7.5 | 8.0 |
| 5-9 | 10.5 | 8.9 | 9.6 | 14.2 | 11.8 | 12.9 | 11.9 | 10.0 | 10.9 |
| 10-14 | 11.8 | 11.3 | 11.6 | 19.2 | 15.4 | 17.1 | 14.6 | 12.9 | 13.7 |
| 15-19 | 10.1 | 9.7 | 9.9 | 12.4 | 10.8 | 11.5 | 11.0 | 10.1 | 10.5 |
| 20-24 | 10.2 | 9.5 | 9.9 | 7.8 | 8.0 | 7.9 | 9.3 | 9.0 | 9.1 |
| 25-29 | 8.0 | 7.6 | 7.8 | 6.3 | 6.6 | 6.5 | 7.4 | 7.2 | 7.3 |
| 30-34 | 7.9 | 7.6 | 7.8 | 4.1 | 5.1 | 4.7 | 6.5 | 6.7 | 6.6 |
| 35-39 | 7.4 | 8.0 | 7.7 | 4.3 | 5.9 | 5.2 | 6.3 | 7.2 | 6.8 |
| 40-44 | 6.7 | 6.7 | 6.7 | 3.9 | 4.2 | 4.1 | 5.6 | 5.8 | 5.7 |
| 45-49 | 5.2 | 5.6 | 5.4 | 3.8 | 4.0 | 3.9 | 4.7 | 5.0 | 4.8 |
| 50-54 | 3.9 | 5.2 | 4.6 | 2.8 | 5.6 | 4.3 | 3.5 | 5.4 | 4.5 |
| 55-59 | 3.0 | 3.4 | 3.2 | 2.8 | 4.1 | 3.5 | 2.9 | 3.7 | 3.3 |
| 60-64 | 2.4 | 3.3 | 2.9 | 3.7 | 3.9 | 3.8 | 2.9 | 3.5 | 3.3 |
| 65-69 | 2.1 | 2.1 | 2.1 | 2.6 | 2.9 | 2.7 | 2.3 | 2.4 | 2.3 |
| 70-74 | 1.3 | 1.3 | 1.3 | 1.7 | 2.2 | 2.0 | 1.4 | 1.7 | 1.6 |
| 75-79 | 0.4 | 0.8 | 0.6 | 1.0 | 1.1 | 1.0 | 0.6 | 0.9 | 0.8 |
| 80+ | 0.6 | 1.0 | 0.8 | 0.6 | 1.3 | 1.0 | 0.6 | 1.1 | 0.9 |
| Missing | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| Number | 8 590 | 9 741 | 18 333 | 5 060 | 6 075 | 11 140 | 13 651 | 15 816 | 29 473 |

Note: Total includes six persons for whom sex is missing.

Figure 2.1 shows the age-sex structure of the 2003 SADHS household population, reflecting a relatively young population with large youth cohorts as typically found in developing nations. However, the structure shows markedly erratic or rugged side edges, with a particularly heavy load of females in the cohorts 50-54 to 60-69 years, and a particular over-representation of males in the cohorts 60-64 to 70-74 years. Both male and female cohorts aged 10-14 years seem extraordinary large, while both male and female cohorts aged 0-4 years seem surprisingly small. While some of this can be explained by sampling variation, indications of age heaping are observed.



The broad age structure of the 1998 SADHS and the 2003 SADHS are compared with the 1996 and 2001 censuses in Table 2.2. The population living in institutions are excluded from both census and SADHS counts. With respect to the broad age groups, there seems to be better consistency between the 2003 survey and the recent census, compared to the 1998 survey and the 1996 census. However, Figure 2.1 shows clearly how misleading aggregate figures can be, and one needs to keep in mind the inconsistencies between the 2001 census and the 2003 SADHS as seen in the difference in single five-year cohorts.

| Broad age groups | Comparative Surveys (%) | | | |
|------------------|-------------------------|--------------|------------|--------------|
| | SADHS 1998 | Census 1996* | SADHS 2003 | Census 2001* |
| Less than 15 | 37.9 | 33.9 | 32.4 | 32.0 |
| 15-64 | 56.3 | 60.2 | 62.0 | 63.0 |
| 65+ | 5.7 | 4.7 | 5.6 | 5.0 |
| Missing | 0.2 | 1.2 | 0.0 | 0.0 |
| Total | 100.0 | 100.0 | 100.0 | 100.0 |
| Median age | 21.2 | - | 23.7 | - |

* Source: Statistics South Africa.

The median age of the sample is 23.7 years, showing a substantial increase from 21.2 years in 1998 (Table 2.2). Further analysis is needed to get clarity whether this is a true effect of an ageing population, or whether the higher median is a consequence of the way individuals were selected into the sample, or possibly both.

2.2 Household Composition

Similar to the situation in the 1998 survey, women head 42 percent of South African households (Table 2.3). In non-urban areas women head almost half of households, compared to 39 percent of households in the urban areas. This higher proportion in the non-urban areas may partly relate to the absence of males within the family due to labour migration to urban areas. However, urban areas also show a general trend towards women headed households.

| Characteristic | Urban | Non-urban | Total |
|---|-------|-----------|-------|
| Household headship | | | |
| Male | 61.2 | 51.3 | 57.6 |
| Female | 38.8 | 48.7 | 42.4 |
| Number of usual members | | | |
| 0 | 0.4 | 0.3 | 0.3 |
| 1 | 11.4 | 11.6 | 11.5 |
| 2 | 20.4 | 15.4 | 18.6 |
| 3 | 19.3 | 17.5 | 18.7 |
| 4 | 19.4 | 20.6 | 19.8 |
| 5 | 12.0 | 13.3 | 12.5 |
| 6 | 7.9 | 9.9 | 8.6 |
| 7 | 3.9 | 4.9 | 4.2 |
| 8 | 2.2 | 2.9 | 2.4 |
| 9+ | 3.3 | 3.6 | 3.4 |
| Total | 100.0 | 100.0 | 100.0 |
| Number of households | 4 952 | 2 804 | 7 756 |
| Mean size | 3.7 | 4.0 | 3.8 |
| Percent with foster children¹ | 13.4 | 28.7 | 19.0 |

Note: This table is based on the *de jure* household members, i.e. the usual residents.
¹ "Foster children" are children under the age of 15 years living in households with neither their biological mother or father present.

The average number of persons per household is 3.8, compared to 4.2 persons in the 1998 SADHS. The modal household size in non-urban areas is 4.0 persons per household, compared to an urban mode of 2.0 persons per household. In non-urban households, the average household size is 4.0 persons, noticeably smaller than 4.7 persons found in the 1998 SADHS. This decline between the two SADHS surveys is probably related to the increase in the number of houses that has been observed between the two censuses.

Table 2.4 provides information about fosterhood and orphanhood of children under the age of 15. It can be seen that about one-third of children live with both parents while just over one-third live with their mother but not father, while only 2.3 percent live with their father and not mother. Just over 21 percent of children live in households with neither parent. This pattern is fairly similar to that observed in 1998, reflecting a high proportion of children living with adults other

than their parents. One of the possible reasons for this high rate of fosterhood could relate to the practice among some mothers of sending their children to the children's grandmother for care to enable the mothers to engage in the formal labour market. It may also relate to the increased numbers of deaths of young men and women over the past few years, as may be indicated by the finding that of those children living with neither parent, 0.8 percent in 1998 versus 2.4 percent in 2003 have lost both parents to death. However, this needs further analyses as the data also indicate that the proportion living with neither parent has declined somewhat since 1998 from 25 percent to 21 percent in 2003.

Table 2.4 shows that 2.4 percent of children are dual orphans, with high levels shown in KwaZulu-Natal (4.9 percent), Gauteng (2.7 percent), and Free State (2.6 percent). Just less than 2 percent have lost their mother only, and 11.2 percent have lost their father only. Taking into account the dual orphans 4.3 percent are maternal orphans and 14 percent are paternal orphans. A relatively high proportion of children have missing information about the vital status of their parents (7.7 percent) and thus the proportion of children who are orphans may be higher as there is likely to be a bias towards orphanhood amongst those children with missing information. Similar percentages of orphans were found in the Statistics South Africa analysis of household survey and census data that they have collected. Anderson and Phillips (2006) found that in 2003, 4.4 - 4.5 percent of children under 15 years were maternal orphans and 11.6-12.8 percent were paternal orphans.

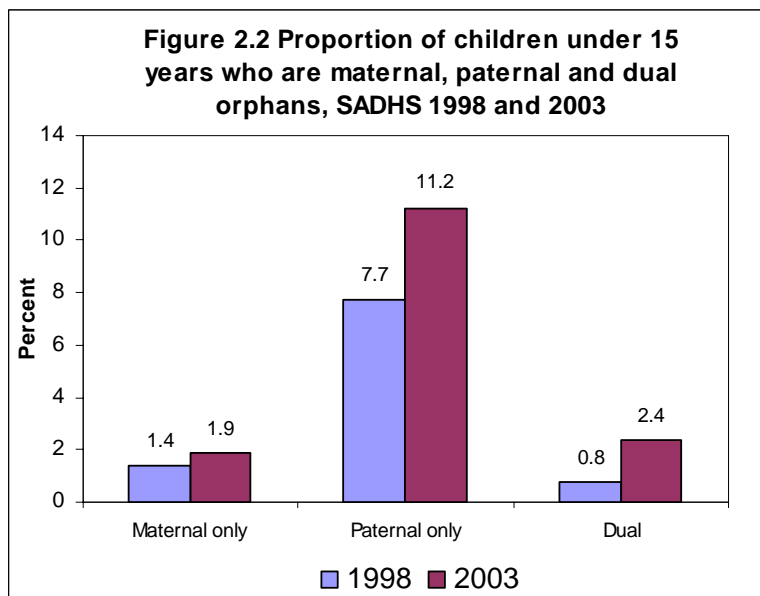
Table 2.4 Fosterhood and orphanhood

Percentage distribution of *de jure* children under age 15, by survival status of parents and children's living arrangements, according to child's age, sex, residence and province, South Africa 2003

| Background characteristic | Living with both parents | | | | Living with mother but not father | | | | Living with father but not mother | | | | Not living with either parent | | | | Total | Number of children |
|---------------------------|--------------------------|--------------|--------------|--------------|-----------------------------------|--------------|--------------|--------------|-----------------------------------|--------------|--------------|--------------|-------------------------------|--|--------------------------------------|--|-------|--------------------|
| | Father alive | | Mother alive | | Father alive | | Mother alive | | Father alive | | Mother alive | | Both dead | | Missing information on father/mother | | | |
| | Father alive | Mother alive | Father alive | Mother alive | Father alive | Mother alive | Father alive | Mother alive | Father alive | Mother alive | Father alive | Mother alive | Both dead | | | | | |
| Age | | | | | | | | | | | | | | | | | | |
| <=2 | 34.0 | 44.8 | 6.3 | 0.7 | 0.1 | 6.9 | 0.6 | 0.3 | 0.3 | 0.3 | 6.1 | 100.0 | 1 379 | | | | | |
| 3-5 | 35.8 | 32.8 | 6.0 | 1.4 | 0.2 | 13.2 | 1.1 | 1.8 | 1.3 | 6.4 | 100.0 | 1 451 | | | | | | |
| 6-9 | 33.5 | 25.7 | 8.6 | 2.1 | 0.6 | 15.4 | 1.2 | 3.0 | 1.7 | 8.3 | 100.0 | 2 715 | | | | | | |
| 10-14 | 33.1 | 20.1 | 9.0 | 1.6 | 1.2 | 16.4 | 1.5 | 4.7 | 4.0 | 8.4 | 100.0 | 4 037 | | | | | | |
| Sex | | | | | | | | | | | | | | | | | | |
| Male | 33.6 | 26.3 | 8.4 | 1.9 | 0.7 | 14.4 | 1.3 | 3.0 | 2.2 | 8.1 | 100.0 | 4 781 | | | | | | |
| Female | 33.9 | 28.1 | 7.7 | 1.3 | 0.7 | 14.2 | 1.1 | 3.3 | 2.5 | 7.3 | 100.0 | 4 799 | | | | | | |
| Residence | | | | | | | | | | | | | | | | | | |
| Urban | 41.4 | 25.7 | 8.6 | 1.5 | 0.3 | 10.3 | 1.1 | 2.3 | 2.4 | 6.4 | 100.0 | 4 781 | | | | | | |
| Non-urban | 24.0 | 29.0 | 7.3 | 1.7 | 1.2 | 19.4 | 1.4 | 4.2 | 2.4 | 9.4 | 100.0 | 4 799 | | | | | | |
| Province | | | | | | | | | | | | | | | | | | |
| Western Cape | 57.9 | 22.8 | 4.9 | 0.8 | 0.1 | 7.2 | 0.5 | 1.0 | 1.9 | 3.0 | 100.0 | 1 011 | | | | | | |
| Eastern Cape | 20.3 | 25.8 | 10.1 | 1.7 | 1.3 | 19.9 | 1.4 | 5.0 | 1.5 | 13.0 | 100.0 | 1 439 | | | | | | |
| Northern Cape | 33.0 | 29.8 | 6.5 | 2.8 | 1.2 | 16.5 | 2.3 | 3.2 | 1.8 | 3.0 | 100.0 | 1 179 | | | | | | |
| Free State | 28.9 | 24.9 | 6.8 | 2.2 | 0.6 | 13.7 | 2.0 | 3.5 | 2.6 | 14.9 | 100.0 | 594 | | | | | | |
| KwaZulu-Natal | 35.7 | 17.9 | 8.7 | 3.0 | 2.3 | 15.4 | 1.2 | 4.0 | 4.9 | 6.9 | 100.0 | 1 521 | | | | | | |
| North West | 19.7 | 37.1 | 6.8 | 1.5 | 0.0 | 22.6 | 1.1 | 2.6 | 1.8 | 7.0 | 100.0 | 824 | | | | | | |
| Gauteng | 48.9 | 23.7 | 10.9 | 0.7 | 0.1 | 6.2 | 1.1 | 1.5 | 2.7 | 4.2 | 100.0 | 1 973 | | | | | | |
| Mpumalanga | 22.9 | 39.2 | 5.6 | 1.4 | 0.4 | 18.0 | 1.9 | 4.1 | 1.7 | 4.8 | 100.0 | 712 | | | | | | |
| Limpopo | 21.9 | 36.0 | 6.0 | 1.6 | 0.1 | 17.2 | 1.0 | 3.9 | 1.1 | 11.3 | 100.0 | 1 328 | | | | | | |
| Total | 33.7 | 27.2 | 8.0 | 1.6 | 0.7 | 14.3 | 1.2 | 3.2 | 2.4 | 7.7 | 100.0 | 9 582 | | | | | | |

Note: By convention, foster children are those who are not living with either biological parent. This includes orphans, i.e. children with both parents dead. Total includes two children for whom sex is missing.

The high level of paternal orphans has been observed in other studies too, including the previous SADHS and the recent South African National HIV/AIDS Survey (Shisana *et al.*, 2005). Compared to the 1998 SADHS, there has been a rapid growth (from 0.8 to 2.4 percent) in the percentage of dual orphans. Figure 2.2 shows that there has also been a consistent growth in all mentioned categories of orphans, a matter affecting the lives and well being of thousands of children, and requiring sustained policy attention and action. Anderson and Phillips (2006) show that the increase in the proportion of children who are orphans occurred among African children, and is particularly marked in KwaZulu-Natal.



2.3 Educational Level of Household Members

Table 2.5 shows the highest education level of the household population six years and older, and the median number of years of education completed. Males' education level is on average higher than females' education level. About ten percent of males have never been to school, compared to 12 percent of females. A slight improvement is suggested compared to SADHS 1998, which showed that 11 percent of males and 14 percent of females had never been to school. Slightly more men (16 percent) than women (15 percent) completed Grade 12, and slightly more men (7 percent) than women (6 percent) have a tertiary qualification. SADHS 2003 shows that people who reside in urban areas have about three times the level of achieved tertiary qualifications compared to those living in non-urban areas. This may be a reflection of residential differences related to access to tertiary institutions, affordability, post-study employment opportunity, and possibly also reflects the higher proportions of older persons living in the non-urban areas, as well as the fact that older persons have considerably lower levels of education.

Figure 2.3 shows the proportion of men and women who have Grade 12 or a higher qualification in the 2003 SADHS, compared with the 1998 SADHS. There has been a consistent increase in these proportions, indicating a cohort effect as the younger people get higher levels of education. However, in some categories, such as women 35-39 years, the increase from the early age group in the previous survey is greater than the cohort effect that is seen in other groups. It is not clear whether this increase is a result of adult learning, selective mortality, or bias in the samples.

Figure 2.3 Proportion of adult men and women with Grade 12 or higher education, SADHS 1998 and 2003

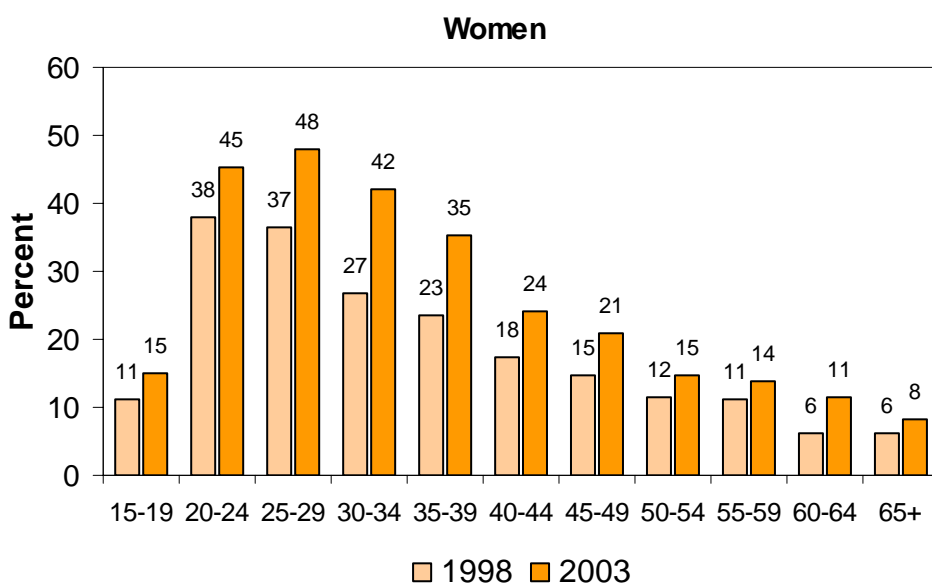
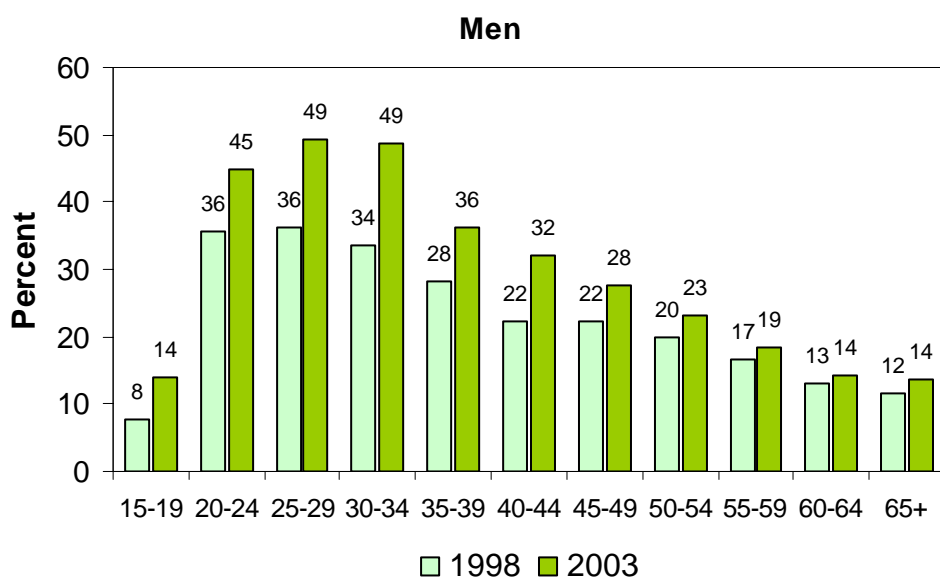


Table 2.5 Educational level of male and female household population

Percentage distribution of the *de facto* female and male household population age six and over by highest level of education completed, and median number of years of schooling, according to selected background characteristics, South Africa 2003

| Background characteristic | Level of Education | | | | | | | Total | Number of males/ females | Median number of years of schooling |
|---------------------------|--------------------|------------|------------|-------------|----------|--------|---------|-------|--------------------------|-------------------------------------|
| | No education | Grades 1-5 | Grades 6-7 | Grades 8-11 | Grade 12 | Higher | Unknown | | | |
| MALE | | | | | | | | | | |
| Age | | | | | | | | | | |
| 6-9 | 23.8 | 74.3 | 1.3 | 0.1 | 0.0 | 0.0 | 0.5 | 100.0 | 1 368 | 0.9 |
| 10-14 | 2.6 | 48.6 | 30.8 | 17.6 | 0.0 | 0.0 | 0.4 | 100.0 | 1 986 | 4.9 |
| 15-19 | 1.5 | 6.7 | 12.2 | 65.3 | 11.1 | 3.0 | 0.4 | 100.0 | 1 499 | 8.9 |
| 20-24 | 1.4 | 3.3 | 5.9 | 44.3 | 34.0 | 10.8 | 0.4 | 100.0 | 1 274 | 10.7 |
| 25-29 | 5.6 | 4.3 | 6.6 | 33.6 | 37.5 | 11.9 | 0.5 | 100.0 | 1 008 | 11.0 |
| 30-34 | 4.1 | 5.5 | 9.9 | 30.1 | 34.2 | 14.5 | 1.7 | 100.0 | 891 | 11.0 |
| 35-39 | 6.3 | 7.5 | 13.1 | 36.2 | 27.6 | 8.6 | 0.7 | 100.0 | 855 | 9.6 |
| 40-44 | 8.5 | 12.9 | 13.5 | 32.0 | 19.1 | 13.1 | 1.1 | 100.0 | 769 | 9.1 |
| 45-49 | 7.8 | 14.6 | 14.0 | 34.3 | 17.1 | 10.4 | 1.7 | 100.0 | 638 | 8.1 |
| 50-54 | 13.2 | 14.5 | 14.9 | 33.0 | 15.3 | 8.0 | 1.1 | 100.0 | 471 | 7.5 |
| 55-59 | 17.0 | 15.3 | 9.3 | 38.9 | 11.7 | 6.8 | 1.0 | 100.0 | 399 | 7.4 |
| 60-64 | 24.1 | 21.5 | 13.5 | 24.9 | 6.8 | 7.4 | 1.8 | 100.0 | 399 | 5.5 |
| 65+ | 42.4 | 18.0 | 7.1 | 17.1 | 6.7 | 7.1 | 1.6 | 100.0 | 673 | 2.7 |
| Residence | | | | | | | | | | |
| Urban | 7.5 | 18.6 | 11.2 | 33.2 | 19.6 | 9.1 | 0.9 | 100.0 | 7 709 | 8.5 |
| Non-urban | 13.6 | 30.4 | 15.3 | 27.5 | 10.1 | 2.6 | 0.6 | 100.0 | 4 520 | 5.7 |
| Province | | | | | | | | | | |
| Western Cape | 5.6 | 20.6 | 13.8 | 35.3 | 17.1 | 6.5 | 1.1 | 100.0 | 1 321 | 7.9 |
| Eastern Cape | 11.9 | 33.7 | 14.3 | 25.0 | 9.0 | 4.5 | 1.7 | 100.0 | 1 490 | 5.5 |
| Northern Cape | 14.3 | 21.7 | 14.7 | 33.1 | 10.3 | 5.5 | 0.5 | 100.0 | 211 | 6.9 |
| Free State | 11.8 | 25.4 | 14.2 | 29.6 | 13.0 | 5.1 | 0.9 | 100.0 | 726 | 6.8 |
| KwaZulu-Natal | 6.9 | 18.4 | 11.1 | 33.4 | 23.7 | 6.4 | 0.1 | 100.0 | 2 609 | 9.0 |
| North West | 14.5 | 27.5 | 14.1 | 27.3 | 11.8 | 4.8 | 0.1 | 100.0 | 878 | 6.1 |
| Gauteng | 7.9 | 17.4 | 10.2 | 33.9 | 19.3 | 10.2 | 1.1 | 100.0 | 3 044 | 8.8 |
| Mpumalanga | 13.2 | 25.8 | 14.9 | 29.1 | 11.1 | 5.6 | 0.4 | 100.0 | 777 | 6.5 |
| Limpopo | 14.7 | 30.2 | 15.8 | 26.3 | 7.9 | 4.2 | 0.9 | 100.0 | 1 172 | 5.6 |
| Total | 9.7 | 23.0 | 12.7 | 31.1 | 16.1 | 6.7 | 0.8 | 100.0 | 12 229 | 7.5 |
| FEMALE | | | | | | | | | | |
| Age | | | | | | | | | | |
| 6-9 | 23.9 | 75.0 | 1.0 | 0.0 | 0.0 | 0.0 | 0.2 | 100.0 | 1 361 | 1.0 |
| 10-14 | 1.8 | 40.7 | 37.5 | 19.8 | 0.1 | 0.0 | 0.2 | 100.0 | 2 039 | 5.4 |
| 15-19 | 1.5 | 2.5 | 9.0 | 72.1 | 13.0 | 1.9 | 0.0 | 100.0 | 1 604 | 9.3 |
| 20-24 | 2.3 | 2.8 | 4.0 | 45.4 | 34.3 | 11.1 | 0.0 | 100.0 | 1 416 | 10.7 |
| 25-29 | 3.0 | 3.2 | 7.1 | 39.0 | 35.5 | 12.3 | 0.0 | 100.0 | 1 143 | 10.9 |
| 30-34 | 6.2 | 6.3 | 9.4 | 35.8 | 29.9 | 12.3 | 0.2 | 100.0 | 1 056 | 10.3 |
| 35-39 | 5.9 | 8.6 | 13.7 | 35.8 | 25.5 | 9.7 | 0.8 | 100.0 | 1 143 | 9.4 |
| 40-44 | 11.8 | 11.3 | 16.8 | 35.2 | 15.3 | 8.8 | 0.7 | 100.0 | 913 | 7.9 |
| 45-49 | 11.3 | 15.0 | 15.8 | 36.2 | 13.9 | 7.1 | 0.7 | 100.0 | 784 | 7.6 |
| 50-54 | 22.4 | 18.4 | 13.2 | 28.7 | 9.6 | 5.1 | 2.6 | 100.0 | 848 | 6.2 |
| 55-59 | 25.5 | 17.7 | 14.4 | 25.6 | 7.7 | 6.2 | 3.0 | 100.0 | 580 | 5.8 |
| 60-64 | 33.8 | 18.4 | 11.9 | 23.6 | 6.5 | 4.9 | 1.0 | 100.0 | 560 | 4.4 |
| 65+ | 46.8 | 16.7 | 11.9 | 15.1 | 4.4 | 3.7 | 1.4 | 100.0 | 963 | 1.3 |
| Residence | | | | | | | | | | |
| Urban | 8.9 | 16.8 | 12.8 | 35.1 | 17.7 | 8.0 | 0.8 | 100.0 | 8 860 | 8.3 |
| Non-urban | 17.6 | 25.0 | 15.0 | 28.8 | 10.8 | 2.5 | 0.3 | 100.0 | 5 556 | 6.1 |
| Province | | | | | | | | | | |
| Western Cape | 5.6 | 16.3 | 13.6 | 41.0 | 17.2 | 5.7 | 0.6 | 100.0 | 1 572 | 8.2 |
| Eastern Cape | 15.0 | 25.2 | 14.9 | 32.7 | 7.2 | 4.6 | 0.4 | 100.0 | 1 962 | 6.4 |
| Northern Cape | 15.1 | 21.3 | 16.0 | 32.0 | 10.2 | 4.8 | 0.7 | 100.0 | 256 | 6.7 |
| Free State | 12.2 | 24.6 | 15.9 | 29.6 | 12.0 | 5.6 | 0.2 | 100.0 | 908 | 6.7 |
| KwaZulu-Natal | 8.7 | 19.9 | 14.0 | 31.6 | 21.1 | 4.6 | 0.1 | 100.0 | 2 698 | 7.8 |
| North West | 15.3 | 25.0 | 16.5 | 28.0 | 11.5 | 3.7 | 0.1 | 100.0 | 1 131 | 6.2 |
| Gauteng | 9.4 | 13.4 | 11.3 | 34.1 | 20.5 | 9.7 | 1.6 | 100.0 | 3 294 | 9.1 |
| Mpumalanga | 18.3 | 23.5 | 12.0 | 30.3 | 10.7 | 5.0 | 0.1 | 100.0 | 921 | 6.5 |
| Limpopo | 20.6 | 22.0 | 13.9 | 30.1 | 8.6 | 4.3 | 0.5 | 100.0 | 1 673 | 6.1 |
| Total | 12.2 | 19.9 | 13.7 | 32.7 | 15.0 | 5.9 | 0.6 | 100.0 | 14 416 | 7.4 |

Note: Total includes one man and five women for whom age is missing.

2.4 School Attendance

Table 2.6 presents school attendance by age group, sex, and residence for the population aged 6-24 years. There has been a decrease in the proportions of older children attending school compared with 1998 SADHS. Almost 90 percent of children aged 6-15 years are currently attending school, which is slightly lower than the 92 percent observed in SADHS 1998. School attendance in the age group 16-20 years has dropped from 71 percent in 1998 to 65 percent in 2003, and attendance in the age group 21-24 years has dropped from 27 to 20 percent. The percentage of children aged 6-10 years attending school in urban areas is slightly lower than the percentage in non-urban areas. Nearly 65 percent of the 16-20 year age group and 20 percent of the 21-24 year age group are attending school with slightly higher proportions of males than females, but similar proportions of urban and non-urban respondents in school.

| Age | Male | | | Female | | | Total | | |
|-------|-------|-----------|-------|--------|-----------|-------|-------|-----------|-------|
| | Urban | Non-urban | Total | Urban | Non-urban | Total | Urban | Non-urban | Total |
| 6-10 | 86.5 | 87.3 | 86.9 | 85.3 | 89.7 | 87.3 | 85.9 | 88.4 | 87.1 |
| 11-15 | 90.3 | 92.6 | 91.4 | 93.8 | 92.4 | 93.2 | 92.2 | 92.5 | 92.3 |
| 6-15 | 88.5 | 90.0 | 89.2 | 90.0 | 91.1 | 90.5 | 89.3 | 90.6 | 89.9 |
| 16-20 | 65.3 | 68.6 | 66.6 | 64.0 | 60.5 | 62.6 | 64.7 | 64.5 | 64.6 |
| 21-24 | 20.1 | 24.0 | 21.2 | 19.1 | 17.9 | 18.7 | 19.6 | 20.6 | 19.9 |

2.5 Grants and Pensions, Injuries and Disabilities

The percentage of males and females receiving a government grant or pension is indicated in Table 2.7. Grants are defined as alimony, compensation for injuries, and state pensions. The proportion of the girl population aged 6-9 years that receives a grant has increased significantly from 2 percent in 1998 to 27 percent in 2003. Increases of a similar magnitude are reported for boys of the same age group. These increases can be ascribed to the higher uptake of the Child Support Grant for children under the age of 9, with slight increases in the uptake in the age group 10-14 years. The proportion receiving some kind of grant increases rapidly after age 50. Of women aged 65 year or older, the proportion receiving a grant has increased from 81 percent in 1998 to 87 percent in 2003. Among men 65 years or older, the proportion has increased from 66 percent to 71 percent. The magnitude of increase between the 1998 and 2003 SADHS are hence much smaller in older persons than in young children. It is clear that a larger proportion of the population receives grants in non-urban areas. It is therefore not surprising to note that the largest proportional uptake of social grants or pensions take place in the more rural provinces, i.e. Eastern Cape, Northern Cape, North West and Limpopo.

The injury data as included in Table 2.7 are described separately for children and adults in Chapters 7 and 10, respectively. Readers are referred to Sections 7.9 and 10.5 for a short discussion of the data.

The percentage of male and female household members with reported sight, hearing, physical, intellectual or emotional disability is shown in Table 2.8. The proportion of the population with some kind of disability increases with age. The increase is particularly pronounced from age 55 where about one-tenth of the population indicated some kind of disability. This proportion increases to about 16 percent for the age group 80 years and over. The proportion is relatively stable across provinces and population groups, and compared to other education groups, only slightly higher for people with no education.

Table 2.7 Grants and pensions, and recent injuries

Percentage distribution of the *de facto* male and female household population, by whether receiving a government grant or pension, and whether injured in the 30 days preceding the survey, South Africa 2003

| Background characteristic | Receiving grant/pension | | | Had any injury | | | Total | Number of women/men |
|---------------------------|-------------------------|------|---------|----------------|------|---------|-------|---------------------|
| | Yes | No | Missing | Yes | No | Missing | | |
| MALE | | | | | | | | |
| Age | | | | | | | | |
| 6-9 | 26.3 | 71.6 | 2.1 | 1.6 | 97.2 | 1.2 | 100.0 | 1 368 |
| 10-14 | 2.6 | 96.0 | 1.4 | 1.8 | 97.2 | 1.1 | 100.0 | 1 986 |
| 15-19 | 1.4 | 96.9 | 1.7 | 0.9 | 98.0 | 1.1 | 100.0 | 1 499 |
| 20-24 | 1.4 | 97.6 | 1.0 | 1.3 | 97.9 | 0.9 | 100.0 | 1 274 |
| 25-29 | 3.5 | 95.8 | 0.8 | 1.5 | 98.3 | 0.2 | 100.0 | 1 008 |
| 30-34 | 3.6 | 95.5 | 0.9 | 2.1 | 97.5 | 0.4 | 100.0 | 891 |
| 35-39 | 3.0 | 96.3 | 0.6 | 3.9 | 95.9 | 0.2 | 100.0 | 855 |
| 40-44 | 5.3 | 93.4 | 1.3 | 2.7 | 96.3 | 1.0 | 100.0 | 769 |
| 45-49 | 4.9 | 94.4 | 0.7 | 2.2 | 97.1 | 0.6 | 100.0 | 638 |
| 50-54 | 10.7 | 89.1 | 0.1 | 0.7 | 99.2 | 0.1 | 100.0 | 471 |
| 55-59 | 14.1 | 84.5 | 1.4 | 3.4 | 95.4 | 1.2 | 100.0 | 399 |
| 60-64 | 33.7 | 65.1 | 1.2 | 1.5 | 97.3 | 1.3 | 100.0 | 399 |
| 65+ | 70.7 | 29.2 | 0.1 | 2.1 | 97.4 | 0.5 | 100.0 | 673 |
| Residence | | | | | | | | |
| Urban | 9.1 | 90.0 | 0.9 | 2.0 | 97.3 | 0.6 | 100.0 | 7 709 |
| Non-urban | 14.0 | 84.5 | 1.6 | 1.5 | 97.4 | 1.0 | 100.0 | 4 520 |
| Province | | | | | | | | |
| Western Cape | 8.4 | 90.5 | 1.0 | 1.7 | 97.4 | 0.9 | 100.0 | 1 321 |
| Eastern Cape | 16.5 | 82.7 | 0.8 | 1.6 | 97.6 | 0.8 | 100.0 | 1 490 |
| Northern Cape | 16.7 | 82.0 | 1.3 | 2.0 | 97.5 | 0.5 | 100.0 | 211 |
| Free State | 14.1 | 84.4 | 1.5 | 1.9 | 97.6 | 0.5 | 100.0 | 726 |
| KwaZulu-Natal | 8.8 | 90.3 | 0.9 | 0.9 | 98.6 | 0.4 | 100.0 | 2 609 |
| North West | 14.1 | 85.2 | 0.7 | 1.4 | 98.2 | 0.4 | 100.0 | 878 |
| Gauteng | 7.2 | 91.5 | 1.4 | 2.9 | 95.7 | 1.4 | 100.0 | 3 044 |
| Mpumalanga | 11.0 | 87.8 | 1.2 | 1.5 | 98.2 | 0.3 | 100.0 | 777 |
| Limpopo | 15.3 | 82.8 | 1.9 | 2.2 | 97.3 | 0.5 | 100.0 | 1 172 |
| Total | 10.9 | 88.0 | 1.2 | 1.9 | 97.4 | 0.8 | 100.0 | 12 229 |
| FEMALE | | | | | | | | |
| Age | | | | | | | | |
| 6-9 | 27.4 | 71.3 | 1.3 | 0.3 | 98.9 | 0.7 | 100.0 | 1 361 |
| 10-14 | 2.7 | 95.9 | 1.5 | 0.8 | 98.7 | 0.5 | 100.0 | 2 039 |
| 15-19 | 1.1 | 97.6 | 1.3 | 0.3 | 98.9 | 0.7 | 100.0 | 1 604 |
| 20-24 | 2.6 | 95.8 | 1.6 | 1.1 | 98.3 | 0.6 | 100.0 | 1 416 |
| 25-29 | 2.8 | 95.6 | 1.6 | 0.6 | 99.0 | 0.3 | 100.0 | 1 143 |
| 30-34 | 2.9 | 95.7 | 1.3 | 1.3 | 97.6 | 1.1 | 100.0 | 1 056 |
| 35-39 | 3.7 | 94.6 | 1.7 | 0.9 | 98.0 | 1.1 | 100.0 | 1 143 |
| 40-44 | 6.2 | 92.9 | 0.8 | 0.9 | 98.9 | 0.3 | 100.0 | 913 |
| 45-49 | 7.5 | 91.7 | 0.8 | 1.3 | 98.3 | 0.4 | 100.0 | 784 |
| 50-54 | 13.8 | 85.5 | 0.7 | 1.8 | 97.8 | 0.3 | 100.0 | 848 |
| 55-59 | 22.8 | 77.1 | 0.1 | 2.3 | 97.1 | 0.6 | 100.0 | 580 |
| 60-64 | 64.9 | 35.1 | 0.0 | 1.5 | 98.5 | 0.0 | 100.0 | 560 |
| 65+ | 87.4 | 12.3 | 0.4 | 2.5 | 96.4 | 1.1 | 100.0 | 963 |
| Residence | | | | | | | | |
| Urban | 13.0 | 85.9 | 1.2 | 1.1 | 98.3 | 0.6 | 100.0 | 8 860 |
| Non-urban | 18.2 | 80.7 | 1.2 | 1.1 | 98.3 | 0.7 | 100.0 | 5 556 |
| Province | | | | | | | | |
| Western Cape | 11.6 | 86.8 | 1.6 | 1.1 | 97.7 | 1.2 | 100.0 | 1 572 |
| Eastern Cape | 22.8 | 76.7 | 0.5 | 1.0 | 98.8 | 0.3 | 100.0 | 1 962 |
| Northern Cape | 19.6 | 79.2 | 1.2 | 1.3 | 98.3 | 0.3 | 100.0 | 256 |
| Free State | 17.5 | 80.4 | 2.1 | 1.5 | 98.0 | 0.5 | 100.0 | 908 |
| KwaZulu-Natal | 13.6 | 85.7 | 0.7 | 0.9 | 98.8 | 0.3 | 100.0 | 2 698 |
| North West | 18.3 | 81.1 | 0.6 | 0.8 | 98.8 | 0.4 | 100.0 | 1 131 |
| Gauteng | 9.2 | 89.2 | 1.6 | 1.2 | 97.5 | 1.3 | 100.0 | 3 294 |
| Mpumalanga | 15.6 | 83.2 | 1.3 | 0.6 | 99.2 | 0.2 | 100.0 | 921 |
| Limpopo | 18.0 | 80.8 | 1.2 | 1.3 | 98.3 | 0.5 | 100.0 | 1 673 |
| Total | 15.0 | 83.9 | 1.2 | 1.1 | 98.3 | 0.6 | 100.0 | 14 416 |

Note: Total includes four men and five women for whom age is missing.

2.6 Housing Characteristics

Type of housing

Table 2.9 Housing Characteristic

Percentage distribution of households by housing characteristic, according to residence, South Africa, 2003

| Characteristic | Residence | | Total |
|------------------------------------|-----------|-----------|-------|
| | Urban | Non-urban | |
| Electricity | | | |
| Yes | 87.7 | 57.4 | 76.7 |
| No | 12.3 | 42.6 | 23.3 |
| Total | 100.0 | 100.0 | 100.0 |
| Fuel used for cooking | | | |
| Electricity | 87.2 | 56.8 | 76.2 |
| LPG, natural gas | 0.2 | 0.5 | 0.3 |
| Biogas | 0.0 | 0.0 | 0.0 |
| Kerosene | 3.7 | 11.4 | 6.5 |
| Charcoal | 0.5 | 0.5 | 0.5 |
| Firewood, straw | 0.1 | 0.4 | 0.2 |
| Dung | 0.1 | 0.0 | 0.0 |
| Other | 0.0 | 0.2 | 0.1 |
| Missing | 8.3 | 30.2 | 16.3 |
| Total | 100.0 | 100.0 | 100.0 |
| Source of drinking water | | | |
| Piped into dwelling | 58.2 | 11.0 | 41.2 |
| Piped into yard/plot | 30.5 | 16.6 | 25.5 |
| Public tap | 9.5 | 36.5 | 19.3 |
| Open well in dwelling | 0.1 | 3.3 | 1.3 |
| Protected well in dwelling | 0.2 | 4.8 | 1.9 |
| Spring | 0.0 | 1.6 | 0.6 |
| River, stream | 0.1 | 17.6 | 6.4 |
| Pond, lake | 0.0 | 0.8 | 0.3 |
| Pool/stagnant water | 0.1 | 0.2 | 0.1 |
| Dam | 0.0 | 1.8 | 0.7 |
| Rainwater | 0.0 | 1.1 | 0.4 |
| Tanker truck | 0.7 | 3.4 | 1.7 |
| Bottled water | 0.0 | 0.7 | 0.3 |
| Other | 0.1 | 0.2 | 0.1 |
| Missing | 0.5 | 0.5 | 0.5 |
| Total | 100.0 | 100.0 | 100.0 |
| Time to water source | | | |
| <15 minutes | 95.7 | 51.0 | 79.6 |
| Sanitation facility | | | |
| Flush toilet (connected to sewage) | 74.8 | 5.5 | 49.7 |
| Flush toilet (with septic tank) | 6.3 | 1.5 | 4.6 |
| Traditional pit toilet | 14.7 | 70.0 | 34.7 |
| Ventilated improved pit latrine | 0.9 | 3.8 | 2.0 |
| No facility, bush, field | 2.3 | 18.5 | 8.1 |
| Other | 0.0 | 0.0 | 0.0 |
| Missing | 1.0 | 0.7 | 0.9 |
| Total | 100.0 | 100.0 | 100.0 |
| Main floor material | | | |
| Earth, sand | 8.1 | 28.1 | 15.3 |
| Wood planks | 1.3 | 0.3 | 0.9 |
| Parquet, polished wood | 4.3 | 2.3 | 3.6 |
| Vinyl, linoleum | 7.8 | 4.0 | 6.4 |
| Ceramic tiles | 22.8 | 3.9 | 15.9 |
| Cement | 31.1 | 53.5 | 39.2 |
| Carpet | 23.9 | 7.3 | 17.9 |
| Other | 0.0 | 0.0 | 0.0 |
| Missing | 0.7 | 0.7 | 0.7 |
| Total | 100.0 | 100.0 | 100.0 |

| | Urban | Non-urban | Total |
|----------------------------|-------|-----------|-------|
| Main wall material | | | |
| Plastic/cardboard | 4.9 | 1.3 | 3.6 |
| Mud | 1.8 | 21.2 | 8.8 |
| Mud and cement | 7.7 | 19.5 | 11.9 |
| Corrugated iron/zinc | 10.9 | 4.0 | 8.4 |
| Prefab | 0.4 | 0.2 | 0.3 |
| Bare brick or cement block | 16.3 | 19.0 | 17.3 |
| Plaster/finished | 56.1 | 33.7 | 48.0 |
| Other | 0.5 | 0.3 | 0.4 |
| Missing | 1.5 | 0.9 | 1.3 |
| Total | 100.0 | 100.0 | 100.0 |
| Persons per room | | | |
| 1-2 | 90.9 | 93.4 | 91.8 |
| 3-4 | 6.4 | 4.4 | 5.7 |
| 5-6 | 1.5 | 1.1 | 1.4 |
| 7+ | 0.4 | 0.2 | 0.3 |
| Missing | 0.8 | 0.9 | 0.8 |
| Total | 100.0 | 100.0 | 100.0 |
| Mean | 1.3 | 1.2 | 1.2 |
| Total | 4 952 | 2 804 | 7 756 |

The household characteristics of the sample are shown in Table 2.9. Not only do these characteristics reflect the socio-economic status of the households but they also have environmental health implications. There are currently 77 percent of South African households with access to electricity. This is 12 percentage points more than the 1998 SADHS. It is also higher than the 2001 census (71 percent). Although there is still a significant difference in access to electricity between urban and non-urban households, the gap has narrowed when compared to the 1998 SADHS. In 1998, 84 percent of urban and 37 percent of non-urban households had access to electricity, compared now to 88 and 57 percent, respectively.

Three-quarters (76 percent) of households use electricity as their main source of energy for cooking compared to 52 percent in 1998. The proportion of households using electricity for cooking has grown particularly in the non-urban areas where it has more than doubled to 57 percent compared to 23 percent in 1998. There has been a general drop in other fuels used for cooking in both non-urban and urban areas.

The main flooring material in South Africa is cement followed by ceramic tiles and earth/sand. Thirty nine percent of households have cement as the main flooring material compared to 33 percent in 1998. Households using ceramic tiles as main flooring material have more than doubled from 7 percent in 1998 to 16 percent in 2003. The increases occurred in both urban and non-urban areas. Other than cement and ceramic tiles, there has been little change compared to 1998.

Forty-eight percent of South African households have plaster as the main wall material, compared to 51 percent in 1998. The proportion with mud walls decreased from 14 percent to 9 percent.

Most households (92 percent) reported a population density of one to two people per room. This figure cannot be compared to the 1998 data in which an assessment was made of the number of persons per room that is used for sleeping.

2.7 Water and Sanitation

Compared with access to electricity, there has been less change in access to piped water when compared to the 1998 SADHS. Two-thirds of households have access to piped water, 41 percent in the dwelling and a further 26 percent in the yard (Table 2.9). Given that the censuses show that there has been a growth in the number of households between 1996 and 2001, this would suggest that the actual number of households with access to piped water has grown. In addition, there has been a drop in dependence on dams, rivers, streams and springs (8 percent in 2003 compared with 12 percent in 1998). It is noticed that non-urban households still need time to catch up with their urban counterparts. Non-urban households are about five times less likely than urban households to have piped water in the dwelling, and about a quarter of non-urban households still rely on an open, outside water source for drinking water.

Almost 80 percent of the households take less than 15 minutes to a water source, compared to 79 percent in the 1998 survey. Fifty-one percent of rural households take less than 15 minutes to a water source, compared to 55 percent in 1998, implying that in 2003 there were more rural households than in 1998 that take more than 15 minutes to a water source.

The majority of urban households (75 percent) have flush toilets connected to sewage and a further 6 percent have flush toilets connected to a septic tank. In contrast, the majority of the non-urban households (70 percent) depend on traditional pit latrines. The profile with regard to sanitation has not changed much compared to the 1998 SADHS. Given that the number of households has grown, this likely indicates an increase in the number of households with access to sanitation. However, there are still 8 percent of households with no sanitation facility, which has dropped from 12 percent in 1998. The decrease is more marked in the non-urban areas where 19 percent have no toilet facility compared to 26 percent in 1998. Given the importance of clean, safe water and proper sanitation in health—in particular child and infant health—improvements from the previous survey are commendable, but non-urban households are in particular need of improvements.

2.8 Household Durable Goods

Table 2.10 shows the distribution of durable goods among households. A radio is owned by 76.4 percent of households, and a television by 62.3 percent. Compared with 1998, there has been an increase in both urban and non-urban households owning a television. There has also been an increase from 50 to 59 percent of households owning a refrigerator. Households owning a computer have increased from 6 to 11 percent. The increase of computer ownership is mostly in urban households.

Ownership of goods such as a refrigerator, a computer, a motor vehicle, as well as a telephone, sets the households in urban areas apart from those in non-urban areas. In contrast, the live-stock assets are mostly in non-urban areas.

With regard to telephone access, 24 percent of South African households have their own telephone, and 27 percent have access to a public telephone nearby. Cell phones are owned by 55 percent of households. In the urban areas, 34 percent of households have their own phone and 63 percent have a cell phone. In contrast, in the non-urban areas, 6 percent have their own phone and 41 percent have a cell phone. About 40 percent of households have no access to a phone.

Table 2.10 Household durable goods

Percentage of households possessing selected durable goods, by residence, South Africa 2003

| Household goods | Residence | | Total |
|------------------------------|-----------|-----------|-------|
| | Urban | Non-urban | |
| Durable goods | | | |
| Radio | 80.3 | 69.4 | 76.4 |
| Television | 74.6 | 40.6 | 62.3 |
| Refrigerator | 71.2 | 37.1 | 58.9 |
| Bicycle | 15.6 | 14.8 | 15.3 |
| Motorcycle/scooter | 3.9 | 1.2 | 2.9 |
| Car/truck | 31.8 | 12.2 | 24.7 |
| Computer | 15.9 | 2.0 | 10.9 |
| Donkey/Horse | 0.3 | 4.1 | 1.7 |
| Sheep/Cattle | 1.1 | 22.4 | 8.8 |
| Telephone | 34.0 | 5.7 | 23.8 |
| Cell phone | 63.4 | 41.3 | 55.4 |
| None of above | 6.4 | 13.5 | 8.9 |
| Phone access | | | |
| Own phone | 34.0 | 5.7 | 23.8 |
| At a neighbour nearby | 3.0 | 5.4 | 3.9 |
| At a public telephone nearby | 23.2 | 33.8 | 27.0 |
| Somewhere else nearby | 1.1 | 13.5 | 5.6 |
| No access | 38.6 | 41.5 | 39.7 |
| Number of households | 4 952 | 2 804 | 7 756 |

2.9 Characteristics of Men Aged 15-59 and Women Aged 15-49 Years

Age distribution

Table 2.11 presents the age distribution by five-year age groups of women aged 15-49 according to the 1996 and 2001 censuses and the 1998 and 2003 SADHS. Additionally, it reflects the age distribution of men aged 15-59 years according to the 2001 census and the 2003 SADHS. During the SADHS 2003, a total of 7 041 women aged 15-49 and 3 118 men aged 15-59 were interviewed. Table 2.11 shows consistency between the two censuses and surveys in terms of growth and decline of age cohorts within these age ranges.

Table 2.11 Age distribution of women and men

Percentage distribution of women aged 15-49 years and men aged 15-59 years, South Africa, 1996, 1998, 2001 and 2003

| Age group | WOMEN 15-49 | | | | MEN 15-59 | |
|-----------|-------------|-------|---------|-------|-----------|-------|
| | 1996 | 1998 | 2001 | 2003 | 2001 | 2003 |
| | Census* | SADHS | Census* | SADHS | Census* | SADHS |
| 15-19 | 19.5 | 19.2 | 20.0 | 19.8 | 18.9 | 19.3 |
| 20-24 | 18.9 | 17.7 | 17.3 | 17.6 | 16.2 | 16.9 |
| 25-29 | 16.9 | 15.8 | 16.1 | 14.4 | 14.6 | 13.3 |
| 30-34 | 14.7 | 14.1 | 13.8 | 13.0 | 12.3 | 11.2 |
| 35-39 | 12.5 | 13.9 | 13.0 | 14.1 | 11.1 | 10.9 |
| 40-44 | 10.1 | 11.0 | 10.9 | 11.5 | 9.5 | 10.4 |
| 45-49 | 7.1 | 8.3 | 8.9 | 9.5 | 7.4 | 7.2 |
| 50-54 | NA | NA | NA | NA | 5.9 | 5.9 |
| 55-59 | NA | NA | NA | NA | 4.2 | 5.0 |
| Total | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |

Note: NA = not applicable.

*Source: Statistics South Africa.

Background characteristics

The percent distribution, weighted and unweighted numbers of women aged 15-49 and men aged 15-59, and weighted proportions from the 2001 census, are presented in Table 2.12 by selected background characteristics. The proportions in each age group decline more rapidly in men than in women, with increasing age, probably due to higher mortality among males than females across the age groups. While there is general consistency in the comparability between the age distributions of the 2001 census and the 2003 survey regarding these age ranges, a rather large decline is seen in the 2003 survey in both men and women from the age group 20-24 to 25-29, as well as an unusually larger proportion of women 35-39 than those 30-34.

| Percentage distribution of women aged 15-49 and men aged 15-59, by selected background characteristics, South Africa 2003 | | | | | | |
|---|------------------|----------|------------|------------------|----------|------------|
| Background characteristic | WOMEN 15-49 | | | MEN 15-59 | | |
| | Weighted percent | Weighted | Unweighted | Weighted percent | Weighted | Unweighted |
| Age | | | | | | |
| 15-19 | 19.8 | 1 395 | 1 450 | 19.3 | 603 | 649 |
| 20-24 | 17.6 | 1 242 | 1 227 | 16.8 | 527 | 517 |
| 25-29 | 14.4 | 1 015 | 1 019 | 13.3 | 416 | 397 |
| 30-34 | 13.0 | 918 | 901 | 11.2 | 348 | 334 |
| 35-39 | 14.1 | 991 | 972 | 10.9 | 340 | 338 |
| 40-44 | 11.5 | 812 | 782 | 10.4 | 323 | 292 |
| 45-49 | 9.5 | 668 | 690 | 7.2 | 224 | 233 |
| 50-54 | - | - | - | 5.9 | 184 | 197 |
| 55-59 | - | - | - | 5.0 | 155 | 161 |
| Residence | | | | | | |
| Urban | 66.4 | 4 678 | 4 095 | 69.0 | 2 151 | 1 874 |
| Non-urban | 33.6 | 2 363 | 2 946 | 31.0 | 967 | 1 244 |
| Province | | | | | | |
| Western Cape | 12.7 | 892 | 715 | 12.2 | 379 | 237 |
| Eastern Cape | 11.4 | 804 | 505 | 10.0 | 313 | 192 |
| Northern Cape | 1.8 | 125 | 777 | 1.9 | 59 | 374 |
| Free State | 6.3 | 443 | 796 | 6.4 | 199 | 361 |
| KwaZulu-Natal | 16.7 | 1 177 | 1 219 | 22.5 | 701 | 702 |
| North West | 7.4 | 523 | 749 | 6.9 | 216 | 330 |
| Gauteng | 26.3 | 1 854 | 722 | 26.1 | 815 | 346 |
| Mpumalanga | 6.4 | 451 | 776 | 6.7 | 208 | 346 |
| Limpopo | 11.0 | 772 | 782 | 7.3 | 228 | 230 |
| Marital status | | | | | | |
| Never married | 54.3 | 3 821 | 3 701 | 55.7 | 1 738 | 1 704 |
| Married | 27.9 | 1 966 | 2 115 | 29.9 | 931 | 951 |
| Living together | 9.8 | 692 | 655 | 9.1 | 284 | 274 |
| Widowed | 2.5 | 175 | 167 | 1.0 | 32 | 38 |
| Divorced | 1.7 | 121 | 118 | 1.7 | 54 | 70 |
| Not living together | 3.8 | 266 | 285 | 2.0 | 62 | 66 |
| Missing | - | - | - | 0.5 | 17 | 15 |
| Education | | | | | | |
| No education | 4.3 | 302 | 337 | 4.5 | 141 | 170 |
| Grades 1-5 | 6.2 | 438 | 497 | 7.3 | 227 | 252 |
| Grades 6-7 | 10.2 | 721 | 790 | 10.2 | 316 | 349 |
| Grades 8-11 | 46.7 | 3 285 | 3 263 | 43.8 | 1 367 | 1 358 |
| Grade 12 | 23.9 | 1 683 | 1 555 | 25.2 | 787 | 699 |
| Higher | 8.7 | 609 | 598 | 9.0 | 279 | 290 |
| Unknown | 0.0 | 3 | 1 | - | 0 | 0 |
| Population group | | | | | | |
| African | 82.8 | 5 831 | 5 234 | 81.5 | 2 540 | 2 327 |
| African urban | 61.5 | 3 586 | 2 553 | 63.5 | 1 613 | 1 188 |
| African non-urban | 38.5 | 2 246 | 2 681 | 36.5 | 927 | 1 139 |
| Coloured | 9.4 | 665 | 933 | 8.5 | 264 | 348 |
| White | 5.7 | 402 | 274 | 7.4 | 229 | 156 |
| Indian | 2.0 | 141 | 596 | 2.6 | 79 | 282 |
| Other/missing | 0.0 | 2 | 4 | 0.2 | 5 | 5 |
| Total | 100.0 | 7 041 | 7 041 | 100.0 | 3 118 | 3 118 |

Similar to the 2001 census, a sex difference is reflected in the urban proportions interviewed in the SADHS 2003, both datasets showing a higher proportion of men than women living in urban areas. However, considering the SADHS 2003 data on its own, an urban bias is reflected for both men and women. Provincial proportions, too, vary according to sex. While it is expected that the economically less developed provinces would house relatively more women than men, and vice versa, resulting from more male than female labour migration to economically more developed provinces with better employment prospects, the distribution for the Western Cape, KwaZulu-Natal in particular, Gauteng, and Mpumalanga diverge from the expected pattern.

It is believed that provincial populations are experiencing considerable circular migration patterns and are therefore not static. However, it needs mentioning that the Western Cape and Gauteng had higher proportions of men and women in 2003 than reported in 2001, particularly higher for women in Gauteng. Whereas Table 2.12 reflects a considerable decrease of women from the time of the 2001 census to the 2003 survey in KwaZulu-Natal, it reflects a large increase of men in the same period, a situation seeming unusual and needing further investigation.

Small sex differentials are generally observed regarding educational attainment, population group, and marital status, except for widowhood that is reported to be more than twice as high among women compared to men. However, when comparing the SADHS 2003 percentage distributions of these characteristics with those of the 2001 census, some larger differences are clear, including that the proportions of men and women married are lower in the SADHS 2003 than in the 2001 census; the percentage of men and women with no education are to a large extent lower in the 2003 SADHS than reported in the 2001 census; the percentage of men and women with primary school education are to some extent lower in 2003 than reported in the 2001 census, whereas the percentage of men and women with secondary school education are considerably higher in 2003 compared to 2001; in the 2003 SADHS, African men and women as a proportion of the total population, are considerably larger compared to the 2001 census, whereas the proportion of white men and women is noticeably smaller; and for both men and women, the urban/non-urban distribution of the African population group reflects a very large over-sample of urban Africans, and a large under-sample of non-urban Africans.

Educational level

Table 2.13 shows that about one-third of women and men have completed Grade 12 or higher, men having a slightly higher proportion than women. The women's data reflect a considerable increase from the 1998 SADHS when it was reported that 24 percent had similar qualifications. Some caution needs to be exercised regarding this observed increase, as the reported 130 percent increase in the matriculated women of the most populous province, KwaZulu-Natal, (from 17 percent in 1998 to 39 percent in 2003) seems unlikely.

Similar to the situation in the 1998 SADHS, the proportion of women with no education increases with age in the 2003 survey. The 2003 SADHS shows a similar but disrupted pattern for men. Similar proportions of men (4.5 percent) and women (4.3 percent) had received no education. The proportion of all women with no education dropped from 7 percent in 1998 to 4 percent in 2003, reflecting a sizeable decline. Again some caution is called for, taking into account that the proportion of women with no education in KwaZulu-Natal reflects a 400 percent decrease from 1998 (11 percent) to 2003 (2 percent).

Table 2.13 Level of education

Percentage distribution of women aged 15-49 years and men 15-59 years by the highest level of education completed and population group, according to selected background characteristics, South Africa 2003

| Background characteristic | Highest level of education completed | | | | | Population group | | | | | Total | Number | |
|---------------------------|--------------------------------------|------------|------------|-------------|-----------|------------------|---------|----------|-------|--------|-------|--------|-------|
| | No education | Grades 1-5 | Grades 6-7 | Grades 8-11 | Grades 12 | Higher | African | Coloured | White | Indian | | | Other |
| WOMEN 15-49 | | | | | | | | | | | | | |
| Age | | | | | | | | | | | | | |
| 15-19 | 0.6 | 2.3 | 8.6 | 73.9 | 12.8 | 1.9 | 87.0 | 8.0 | 3.5 | 1.5 | 0.0 | 100.0 | 1 395 |
| 20-24 | 1.0 | 2.4 | 4.1 | 45.8 | 34.9 | 11.5 | 85.2 | 10.1 | 3.4 | 1.3 | 0.0 | 100.0 | 1 242 |
| 25-29 | 1.9 | 3.1 | 6.8 | 39.7 | 36.5 | 12.0 | 83.1 | 9.0 | 5.8 | 2.1 | 0.1 | 100.0 | 1 015 |
| 30-34 | 4.1 | 5.9 | 8.9 | 39.4 | 30.3 | 11.5 | 80.8 | 10.0 | 7.6 | 1.6 | 0.0 | 100.0 | 918 |
| 35-39 | 5.9 | 9.7 | 14.7 | 36.8 | 23.6 | 9.4 | 82.8 | 8.7 | 5.4 | 3.0 | 0.1 | 100.0 | 991 |
| 40-44 | 11.8 | 11.0 | 17.5 | 36.0 | 14.3 | 9.4 | 77.9 | 10.4 | 9.6 | 2.0 | 0.0 | 100.0 | 812 |
| 45-49 | 10.6 | 15.6 | 16.8 | 39.6 | 10.9 | 6.5 | 77.9 | 11.2 | 7.6 | 3.5 | 0.0 | 100.0 | 668 |
| Residence | | | | | | | | | | | | | |
| Urban | 3.7 | 4.3 | 9.1 | 46.9 | 25.3 | 10.6 | 76.7 | 12.2 | 8.1 | 3.0 | 0.0 | 100.0 | 4 678 |
| Non-urban | 5.5 | 10.0 | 12.4 | 46.3 | 21.1 | 4.8 | 95.0 | 4.0 | 0.9 | 0.1 | 0.0 | 100.0 | 2 363 |
| Province | | | | | | | | | | | | | |
| Western Cape | 1.7 | 6.1 | 8.6 | 54.0 | 23.0 | 6.7 | 38.5 | 53.0 | 7.2 | 1.2 | 0.1 | 100.0 | 892 |
| Eastern Cape | 3.1 | 9.7 | 12.3 | 52.5 | 14.0 | 8.4 | 94.6 | 3.2 | 1.8 | 0.4 | 0.0 | 100.0 | 804 |
| Northern Cape | 8.5 | 7.1 | 13.7 | 48.0 | 15.3 | 7.5 | 32.2 | 60.7 | 6.3 | 0.6 | 0.3 | 100.0 | 125 |
| Free State | 4.4 | 8.2 | 16.6 | 44.7 | 18.9 | 7.3 | 92.7 | 3.1 | 3.8 | 0.4 | 0.0 | 100.0 | 443 |
| KwaZulu-Natal | 2.0 | 5.6 | 7.4 | 37.9 | 39.4 | 7.7 | 82.4 | 3.9 | 5.1 | 8.7 | 0.0 | 100.0 | 1 177 |
| North West | 6.9 | 9.3 | 14.7 | 42.3 | 19.7 | 7.1 | 98.1 | 0.2 | 1.7 | 0.0 | 0.0 | 100.0 | 523 |
| Gauteng | 5.5 | 2.3 | 8.1 | 45.9 | 26.4 | 11.7 | 86.6 | 1.4 | 10.8 | 1.2 | 0.0 | 100.0 | 1 854 |
| Mpumalanga | 5.8 | 8.5 | 10.9 | 48.3 | 18.0 | 8.5 | 95.1 | 0.9 | 3.7 | 0.2 | 0.1 | 100.0 | 451 |
| Limpopo | 5.7 | 8.4 | 11.9 | 50.2 | 16.3 | 7.5 | 98.3 | 0.0 | 1.7 | 0.0 | 0.0 | 100.0 | 772 |
| Total | 4.3 | 6.2 | 10.2 | 46.7 | 23.9 | 8.7 | 82.8 | 9.4 | 5.7 | 2.0 | 0.0 | 100.0 | 7 041 |
| MEN 15-59 | | | | | | | | | | | | | |
| Age | | | | | | | | | | | | | |
| 15-19 | 1.2 | 4.7 | 11.2 | 69.0 | 10.9 | 3.0 | 83.8 | 8.0 | 6.2 | 2.0 | 0.0 | 100.0 | 603 |
| 20-24 | 1.2 | 2.5 | 4.7 | 47.3 | 33.9 | 10.5 | 87.8 | 7.2 | 3.8 | 1.2 | 0.0 | 100.0 | 527 |
| 25-29 | 4.8 | 3.8 | 7.4 | 31.5 | 38.8 | 13.7 | 84.8 | 5.2 | 7.8 | 2.3 | 0.0 | 100.0 | 416 |
| 30-34 | 2.1 | 3.6 | 10.0 | 35.0 | 36.8 | 12.6 | 83.8 | 6.9 | 6.9 | 2.4 | 0.0 | 100.0 | 348 |
| 35-39 | 4.8 | 7.7 | 14.0 | 37.3 | 28.3 | 8.0 | 79.1 | 12.2 | 6.1 | 2.6 | 0.0 | 100.0 | 340 |
| 40-44 | 8.1 | 15.7 | 10.5 | 34.2 | 21.3 | 10.3 | 75.8 | 10.9 | 9.9 | 2.2 | 1.2 | 100.0 | 323 |
| 45-49 | 8.3 | 12.2 | 11.7 | 38.0 | 20.0 | 9.9 | 73.6 | 13.3 | 7.8 | 5.4 | 0.0 | 100.0 | 224 |
| 50-54 | 12.7 | 19.6 | 17.5 | 30.8 | 13.6 | 5.9 | 75.7 | 6.9 | 12.2 | 5.3 | 0.0 | 100.0 | 184 |
| 55-59 | 10.8 | 11.2 | 12.6 | 45.8 | 12.2 | 7.4 | 72.0 | 8.4 | 14.9 | 3.7 | 1.1 | 100.0 | 155 |
| Residence | | | | | | | | | | | | | |
| Urban | 4.0 | 5.6 | 8.9 | 43.1 | 27.8 | 10.7 | 75.0 | 10.9 | 10.2 | 3.7 | 0.3 | 100.0 | 2 151 |
| Non-urban | 5.8 | 11.0 | 13.0 | 45.6 | 19.6 | 5.0 | 95.8 | 3.1 | 1.0 | 0.1 | 0.0 | 100.0 | 967 |
| Province | | | | | | | | | | | | | |
| Eastern Cape | 2.1 | 9.1 | 10.1 | 46.1 | 21.7 | 11.0 | 41.6 | 46.3 | 8.6 | 2.3 | 1.3 | 100.0 | 379 |
| Free State | 3.9 | 9.3 | 12.7 | 46.4 | 18.7 | 8.9 | 88.5 | 2.6 | 8.9 | 0.0 | 0.0 | 100.0 | 313 |
| Gauteng | 7.7 | 7.3 | 13.1 | 49.3 | 14.6 | 7.9 | 37.5 | 52.5 | 9.4 | 0.3 | 0.3 | 100.0 | 59 |
| KwaZulu-Natal | 7.5 | 12.8 | 14.8 | 39.6 | 17.0 | 8.3 | 90.7 | 2.8 | 5.3 | 1.2 | 0.0 | 100.0 | 199 |
| Mpumalanga | 2.1 | 4.2 | 5.1 | 42.3 | 37.2 | 9.2 | 79.8 | 3.8 | 7.9 | 8.5 | 0.0 | 100.0 | 701 |
| Northern Cape | 9.2 | 9.2 | 13.7 | 37.2 | 21.8 | 9.0 | 100.0 | 0.0 | 0.0 | 0.0 | 0.0 | 100.0 | 216 |
| Limpopo | 5.6 | 4.9 | 9.1 | 44.3 | 28.0 | 8.2 | 86.9 | 1.7 | 10.4 | 1.1 | 0.0 | 100.0 | 815 |
| Northwest | 5.7 | 9.3 | 15.1 | 43.3 | 17.4 | 9.3 | 95.4 | 1.7 | 2.6 | 0.0 | 0.3 | 100.0 | 208 |
| Western Cape | 4.4 | 11.2 | 13.4 | 48.9 | 14.2 | 8.0 | 97.0 | 0.0 | 3.1 | 0.0 | 0.0 | 100.0 | 228 |
| Total | 4.5 | 7.3 | 10.1 | 43.8 | 25.2 | 8.9 | 81.5 | 8.5 | 7.4 | 2.5 | 0.2 | 100.0 | 3 118 |

Given that only about one-third of women 15-49 and men 15-59 had completed their secondary school education, it is important to consider the reasons provided by respondents for leaving school. Table 2.14 presents such reasons for respondents aged 15-24 years who stopped attending school. As in 1998, two reasons predominate among women 15-24, viz financial reasons and falling pregnant. The proportion of all young women who left school due to pregnancy declined from 10 percent in 1998 to 7 percent in 2003, but the proportion who left school due to financial reasons, increased from 13 to 19 percent. “Could not pay school fees” is reported by one in three women (33 percent) who failed to complete their primary education, and by 10 percent who failed to complete their secondary education. Overall, 1.6 percent of young women indicate that getting married is the reason for not completing their education, down from 2.1 percent in 1998. Compared to 1998, more than double the proportion of women reported in 2003 that they left school because they needed to take care of younger children, and the situation seems to have worsened particularly among women with incomplete primary education among whom the proportion increased over three times from 1998 (0.9 percent) to 2003 (3.2 percent). It is interesting to note that “Did not like school” increased slightly overall from 2 percent in 1998 to 2.4 percent in 2003, but among women who failed to complete their primary school education, it almost tripled from 4.3 to 12.3 percent.

| Table 2.14 Reasons for leaving school | | | | | | | |
|--|----------------------------|--------------------|------------------|----------------------|--------------------|--------|-------|
| Percentage distribution of men and women aged 15-24 years by school attendance and reason for leaving school, according to highest level of education completed, South Africa 2003 | | | | | | | |
| Reason stopped attending school | Highest level of education | | | | | | Total |
| | No education | Incomplete primary | Complete primary | Incomplete secondary | Complete secondary | Higher | |
| WOMEN 15-24 | | | | | | | |
| Currently attending | 11.2 | 27.6 | 57.7 | 64.9 | 26.7 | 57.8 | 53.3 |
| Got married | 0.0 | 2.9 | 1.2 | 1.7 | 1.5 | 0.4 | 1.6 |
| Care for younger children | 0.0 | 3.2 | 1.7 | 2.4 | 0.7 | 0.9 | 1.9 |
| Family needed help | 0.0 | 0.5 | 0.0 | 0.1 | 0.0 | 0.0 | 0.1 |
| Could not pay school fees | 0.0 | 32.7 | 19.6 | 9.7 | 24.4 | 3.3 | 14.0 |
| Needed to earn money | 0.0 | 1.8 | 0.5 | 2.1 | 15.3 | 5.8 | 5.3 |
| Graduated/had enough school | 0.0 | 0.0 | 1.2 | 0.6 | 17.8 | 22.2 | 5.9 |
| Did not pass entrance exam | 0.0 | 1.6 | 0.1 | 1.8 | 0.7 | 0.0 | 1.3 |
| Did not like school | 0.0 | 12.3 | 2.2 | 2.8 | 0.3 | 0.0 | 2.4 |
| School not accessible | 0.0 | 0.1 | 0.0 | 0.1 | 0.5 | 0.0 | 0.2 |
| Got pregnant | 0.0 | 5.0 | 10.4 | 9.7 | 2.7 | 3.0 | 7.4 |
| Other | 0.0 | 11.2 | 2.2 | 3.0 | 2.6 | 0.5 | 3.0 |
| Don't know | 0.0 | 1.2 | 1.7 | 0.9 | 1.7 | 1.1 | 1.1 |
| Missing | 88.8 | 0.0 | 1.6 | 0.3 | 5.1 | 5.0 | 2.5 |
| Total | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| Number | 21 | 111 | 122 | 1 599 | 612 | 169 | 2 637 |
| MEN 15-24 | | | | | | | |
| Currently attending | 0.0 | 59.4 | 56.0 | 69.7 | 24.8 | 67.5 | 57.6 |
| Care for younger children | 0.0 | 3.7 | 0.0 | 0.1 | 0.5 | 0.0 | 0.4 |
| Family needed help | 0.0 | 0.5 | 0.0 | 0.6 | 0.5 | 0.0 | 0.5 |
| Could not pay school fees | 0.0 | 17.8 | 14.6 | 11.8 | 23.1 | 4.8 | 14.1 |
| Needed to earn money | 0.0 | 9.0 | 10.7 | 7.4 | 14.8 | 4.0 | 9.0 |
| Graduated/had enough school | 0.0 | 0.0 | 0.0 | 0.2 | 17.9 | 16.6 | 5.1 |
| Did not pass entrance exam | 0.0 | 0.8 | 0.0 | 1.3 | 1.8 | 1.5 | 1.3 |
| Did not like school | 0.0 | 3.0 | 4.4 | 3.9 | 2.9 | 0.0 | 3.3 |
| School not accessible | 0.0 | 0.0 | 0.9 | 0.5 | 1.1 | 0.0 | 0.6 |
| Other | 0.0 | 0.7 | 8.4 | 2.4 | 2.4 | 0.6 | 2.5 |
| Don't know | 0.0 | 0.2 | 1.7 | 0.3 | 1.9 | 0.0 | 0.7 |
| Missing | 100.0 | 4.9 | 3.3 | 2.0 | 8.3 | 4.9 | 4.9 |
| Total | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| Number | 13 | 70 | 64 | 665 | 244 | 73 | 1 130 |

Note: 3 women and 1 man with unknown highest level of education have been omitted.

Table 2.15 Literacy

Percentage distribution of women and men by level of schooling and by level of literacy, and percent literate, according to selected background characteristics, South Africa 2003

| Background characteristic | WOMEN 15-49 | | | | | | | | | | MEN 15-59 | | | | | | | | | |
|---------------------------|--|--------------------------------|-----------------------------|--------------------------------|---------|--|--------|--|--------------------|--------------------------------|--|--------------------------------|---------|-------|--------|--|--|--|--|--|
| | Percentage with secondary school or higher | | | | | Percentage with secondary school or higher | | | | | Percentage with secondary school or higher | | | | | Percentage with secondary school or higher | | | | |
| | Cannot read at all | Able to read parts of sentence | Able to read whole sentence | No card with required language | Missing | Total | Number | Percentage with secondary school or higher | Cannot read at all | Able to read parts of sentence | Able to read whole sentence | No card with required language | Missing | Total | Number | | | | | |
| Age | | | | | | | | | | | | | | | | | | | | |
| 15-19 | 0.8 | 1.0 | 97.3 | 0.0 | 0.9 | 100.0 | 1 395 | 82.9 | 2.4 | 2.0 | 94.8 | 0.0 | 0.8 | 100.0 | 603 | | | | | |
| 20-24 | 1.7 | 1.2 | 96.7 | 0.0 | 0.4 | 100.0 | 1 242 | 91.7 | 1.7 | 1.5 | 96.4 | 0.1 | 0.3 | 100.0 | 527 | | | | | |
| 25-29 | 2.4 | 1.4 | 95.2 | 0.0 | 1.1 | 100.0 | 1 015 | 84.0 | 5.2 | 2.6 | 92.0 | 0.2 | 0.0 | 100.0 | 416 | | | | | |
| 30-34 | 4.4 | 2.9 | 90.8 | 0.8 | 1.1 | 100.0 | 918 | 84.3 | 2.7 | 1.1 | 94.4 | 0.2 | 1.6 | 100.0 | 348 | | | | | |
| 35-39 | 7.3 | 4.7 | 85.6 | 0.2 | 2.1 | 100.0 | 991 | 73.5 | 6.2 | 5.3 | 87.3 | 0.0 | 1.3 | 100.0 | 340 | | | | | |
| 40-44 | 12.9 | 6.5 | 77.8 | 0.6 | 2.2 | 100.0 | 812 | 65.8 | 11.0 | 7.0 | 81.4 | 0.0 | 0.6 | 100.0 | 323 | | | | | |
| 45-49 | 14.2 | 5.3 | 76.5 | 0.3 | 3.7 | 100.0 | 668 | 67.8 | 6.7 | 4.9 | 87.4 | 0.0 | 1.0 | 100.0 | 224 | | | | | |
| 50-54 | - | - | - | - | - | - | - | 50.3 | 14.7 | 14.6 | 69.5 | 0.0 | 1.1 | 100.0 | 184 | | | | | |
| 55-59 | - | - | - | - | - | - | - | 65.4 | 14.3 | 9.2 | 75.6 | 0.0 | 0.9 | 100.0 | 155 | | | | | |
| Residence | | | | | | | | | | | | | | | | | | | | |
| Urban | 3.9 | 2.0 | 92.7 | 0.1 | 1.3 | 100.0 | 4 678 | 81.6 | 5.1 | 3.2 | 90.9 | 0.0 | 0.8 | 100.0 | 2 151 | | | | | |
| Non-urban | 7.9 | 4.7 | 85.2 | 0.4 | 1.9 | 100.0 | 2 363 | 70.2 | 6.8 | 6.1 | 86.3 | 0.1 | 0.6 | 100.0 | 967 | | | | | |
| Province | | | | | | | | | | | | | | | | | | | | |
| Western Cape | 2.3 | 2.4 | 94.3 | 0.0 | 1.0 | 100.0 | 892 | 78.7 | 5.7 | 2.3 | 92.1 | 0.0 | 0.0 | 100.0 | 379 | | | | | |
| Eastern Cape | 6.0 | 2.5 | 90.5 | 0.0 | 0.9 | 100.0 | 804 | 74.1 | 4.5 | 4.5 | 90.1 | 0.0 | 0.9 | 100.0 | 313 | | | | | |
| Northern Cape | 9.0 | 4.3 | 86.1 | 0.0 | 0.6 | 100.0 | 1 255 | 71.8 | 9.5 | 3.5 | 86.3 | 0.0 | 0.8 | 100.0 | 59 | | | | | |
| Free State | 6.0 | 6.1 | 85.3 | 0.5 | 2.1 | 100.0 | 443 | 64.9 | 10.0 | 7.3 | 82.4 | 0.0 | 0.3 | 100.0 | 199 | | | | | |
| KwaZulu-Natal | 3.7 | 3.3 | 91.1 | 0.2 | 1.7 | 100.0 | 1 177 | 88.6 | 1.8 | 3.0 | 94.4 | 0.0 | 0.8 | 100.0 | 701 | | | | | |
| Northwest | 8.1 | 5.0 | 85.3 | 0.5 | 1.1 | 100.0 | 523 | 67.9 | 9.6 | 5.2 | 84.9 | 0.3 | 0.0 | 100.0 | 216 | | | | | |
| Gauteng | 5.0 | 1.3 | 92.2 | 0.3 | 1.1 | 100.0 | 1 854 | 80.5 | 6.3 | 4.1 | 88.3 | 0.0 | 1.3 | 100.0 | 815 | | | | | |
| Mpumalanga | 6.5 | 3.7 | 87.8 | 0.0 | 2.0 | 100.0 | 451 | 70.0 | 9.1 | 4.7 | 84.9 | 0.3 | 1.0 | 100.0 | 208 | | | | | |
| Limpopo | 7.2 | 3.0 | 86.8 | 0.3 | 2.7 | 100.0 | 772 | 71.0 | 4.7 | 5.3 | 88.5 | 0.3 | 1.1 | 100.0 | 228 | | | | | |
| Total | 5.2 | 2.9 | 90.2 | 0.2 | 1.5 | 100.0 | 7 041 | 78.0 | 5.6 | 4.1 | 89.4 | 0.1 | 0.8 | 100.0 | 3 118 | | | | | |

In the case of men, financial reasons were the main concern for stopping education. Almost one-quarter (23 percent) of men could not pay their school fees, or needed to earn money. It is interesting to note that “Got married” was not included as a potential reason in the men’s questionnaire. Fifty eight percent of men aged 15-24 years and 53 percent of women aged 15-24 were still attending school at the time of interview.

Literacy

Table 2.15 presents literacy levels of women 15-49 and men 15-59. The adult population of South Africa is mostly able to read with about 90 percent being able to read a sentence presented during the interview. The proportions of adults who are able to read a complete sentence decreases with age to 70 percent of men 50-54 years, and 77 percent of women 45-49 years. A higher proportion of adults in the non-urban areas are unable to read a complete sentence.

Marital status

Current marital status is reflected in Figure 2.4 and by age group in Table 2.16. About 55 percent of men and women in the respective age range report that they were never married. The proportion of women in the never married category has increased from 48.3 percent in the 1998 survey to 54.3 percent in 2003. Correspondingly, the proportion of women who report being married declined from 33.7 percent in 1998 to 27.9 percent in 2003, possibly pointing to a considerable change in female marriage patterns, or change in reporting on the subject over the five year period in between, or other influencing factors like those described below. These changes among women, when analysed by five-year age groups, are generally consistent between the surveys. Fifty six percent of men aged 15-59 years have never married with 29.9 percent who are currently married. Less than 2 percent of men and women, respectively, are divorced, but more than double the proportion of women (2.5 percent) compared to men (1 percent) are widowed.

Budlender *et al.* (2004) highlight the challenges of collecting and interpreting statistical data regarding marital status in South Africa, resulting from the cultural and religious diversity in the forms of marriage, as well as the language issues around translation of questionnaires. They note that surveys and censuses reflect perceptions of marriage, and point out that the customary practice of *lobola* (bridewealth) could introduce complexity to the perceptions of marriage as such marriage takes place over an extended period of time. It is therefore possible that the two parties may perceive the timing of marriage differently. Budlender *et al.* (2004) furthermore highlight that changes in legislation in 1998 with the passing of the Recognition of Customary Marriage Act, giving new legal status to customary marriages, may affect perceptions differently from before. While this Act would improve the property rights of African women in particular, it is difficult to assess what impact it would have on reporting of marital status. Budlender *et al.* (2004) demonstrate gender differences in reporting of marriage, with more men reporting to be married than women. They also suggest that cohabitation is also likely to be reported differently by different people. It is important to keep these issues in mind when interpreting the findings.

Figure 2.4 Current marital status of women and men, South Africa 2003

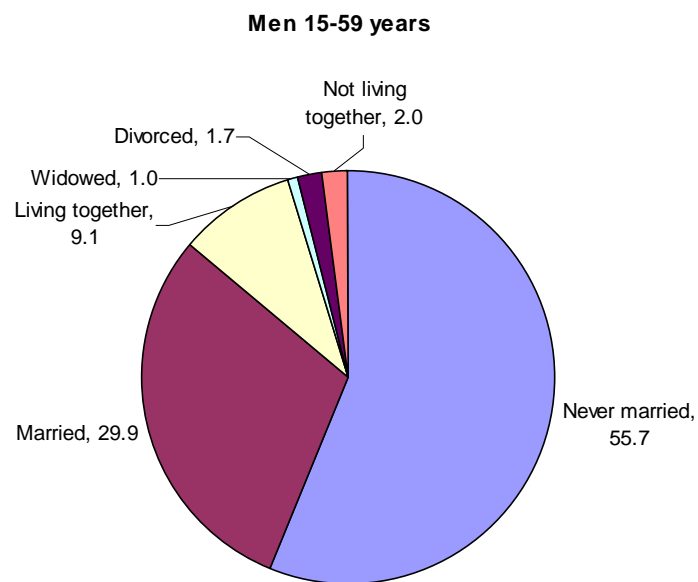
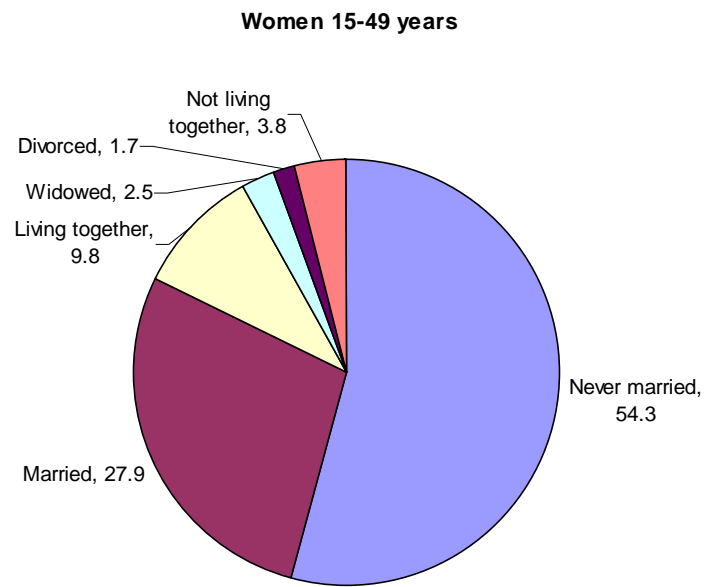


Table 2.16 Current marital status

| Percent distribution of women 15-49 years and men 15-59 years, by current marital status by age, South Africa 2003 | | | | | | | | | |
|--|---------------|---------|-----------------|---------|----------|---------------------|---------|-------|--------|
| Age groups | Never married | Married | Living together | Widowed | Divorced | Not living together | Missing | Total | Number |
| WOMEN 15-49 | | | | | | | | | |
| 15-19 | 95.6 | 1.3 | 2.3 | 0.0 | 0.0 | 0.8 | 0.0 | 100.0 | 1 395 |
| 20-24 | 79.4 | 8.3 | 10.8 | 0.0 | 0.2 | 1.3 | 0.0 | 100.0 | 1 242 |
| 25-29 | 55.4 | 25.3 | 13.4 | 0.7 | 0.6 | 4.7 | 0.0 | 100.0 | 1 015 |
| 30-34 | 36.8 | 40.1 | 14.6 | 1.7 | 2.1 | 4.7 | 0.0 | 100.0 | 918 |
| 35-39 | 31.0 | 47.1 | 9.7 | 4.0 | 2.7 | 5.4 | 0.0 | 100.0 | 991 |
| 40-44 | 21.7 | 49.9 | 12.4 | 5.5 | 4.3 | 6.2 | 0.0 | 100.0 | 812 |
| 45-49 | 17.7 | 52.0 | 8.6 | 10.3 | 4.7 | 6.7 | 0.0 | 100.0 | 668 |
| Total | 54.3 | 27.9 | 9.8 | 2.5 | 1.7 | 3.8 | 0.0 | 100.0 | 7 041 |
| MEN 15-59 | | | | | | | | | |
| 15-19 | 97.6 | 0.2 | 1.8 | 0.0 | 0.0 | 0.2 | 0.2 | 100.0 | 603 |
| 20-24 | 88.2 | 2.8 | 7.6 | 0.0 | 0.0 | 1.2 | 0.2 | 100.0 | 527 |
| 25-29 | 72.7 | 10.3 | 13.6 | 0.0 | 0.7 | 2.6 | 0.0 | 100.0 | 416 |
| 30-34 | 44.9 | 33.6 | 15.6 | 0.1 | 0.9 | 4.0 | 0.9 | 100.0 | 348 |
| 35-39 | 32.9 | 46.7 | 14.9 | 0.3 | 2.6 | 2.0 | 0.8 | 100.0 | 340 |
| 40-44 | 10.7 | 66.5 | 10.3 | 2.7 | 6.7 | 2.3 | 0.8 | 100.0 | 323 |
| 45-49 | 17.8 | 66.1 | 6.7 | 3.3 | 3.7 | 1.6 | 0.8 | 100.0 | 224 |
| 50-54 | 9.4 | 68.4 | 8.7 | 3.6 | 2.6 | 5.1 | 2.2 | 100.0 | 184 |
| 55-59 | 14.8 | 70.3 | 5.0 | 5.1 | 3.1 | 1.5 | 0.2 | 100.0 | 155 |
| Total | 55.7 | 29.9 | 9.1 | 1.0 | 1.7 | 2.0 | 0.5 | 100.0 | 3 118 |

Age at first marriage

In the 2003 SADHS, the median age at first marriage for women 25-49 has increased considerably to 27.0 years from 24.2 years in the 1998 SADHS (Table 2.17). Data presented by Budlender *et al.* (2004) suggest that in the late 1990's the mean age at marriage for South Africans was around 25 years; higher than the ages reported for most other African countries. The observed extreme increase between the two SADHS surveys however, needs to be interpreted carefully. It can be noticed that the 1998 median age at first marriage ranged from 22.6 for women aged 45-49 to 24.7 for women 30-34, while the 2003 median ranges from 25.7 years to 27.0 for women of the same age groups—showing a full year's difference between 1998's highest and 2003's lowest median age. This suggests either unusual dynamics in South African marriage patterns, or peculiarities in reporting such data. The constant decline from 1998 to 2003 in the proportion of women 15-49 who were first married by each of the indicated exact ages given in Table 2.17, suggest that women from all age groups are either waiting longer to marry (which may correlate in part to findings in other sections indicating that more women report to stay longer in school and enter the work force in larger numbers), or that issues of measurement of marital status mentioned by Budlender *et al.* (2004) influence the findings. For women aged 20-49 and 25-49, the proportion who had never married has increased considerably from the previous survey till the current, with 19 percent more and 30 percent more, respectively, who had never married. Further investigation into changes over time in the proportion of cohabiting, divorced, widowed or never-in-union women could shed light on contributing reasons for such dramatic change in these social patterns. Age at first marriage was not asked in the men's questionnaire.

Data on contraception are often reported only for men and women who are married. Given the late age of marriage in South Africa and the relatively high proportions of cohabitation, such statistics are not likely to be meaningful. For this reason, the data on fertility and contraception will generally be presented for people who are in union (married or cohabiting) or for people who are sexually active.

Table 2.17 Age at first marriage

Percentage of women aged 15-49 years who were first married by exact ages, and median age at first marriage, by current age, South Africa 2003

| Current age | Percent who were first married by exact age | | | | | Percentage who had never married | Number of women | Median age at first marriage |
|------------------------|---|------|------|------|------|----------------------------------|-----------------|------------------------------|
| | 15 | 18 | 20 | 22 | 25 | | | |
| 15-19 | 0.4 | NA | NA | NA | NA | 95.6 | 1 395 | a |
| 20-24 | 0.8 | 5.6 | 12.6 | NA | NA | 79.4 | 1 242 | a |
| 25-29 | 2.1 | 8.0 | 14.9 | 23.0 | 34.7 | 55.4 | 1 015 | a |
| 30-34 | 2.6 | 10.6 | 21.3 | 30.5 | 42.6 | 36.8 | 918 | 27.0 |
| 35-39 | 1.5 | 12.0 | 24.1 | 32.1 | 46.5 | 31.0 | 991 | 26.6 |
| 40-44 | 1.9 | 11.8 | 26.7 | 37.8 | 50.2 | 21.7 | 812 | 24.9 |
| 45-49 | 4.1 | 14.5 | 25.6 | 35.4 | 46.5 | 17.7 | 668 | 25.7 |
| Median for women 20-49 | 2.0 | 9.9 | 20.0 | NA | NA | 44.1 | 5 646 | b |
| Median for women 25-49 | 2.3 | 11.1 | 22.1 | 31.2 | 43.7 | 34.1 | 4 404 | 27.0 |

Note: NA = Not applicable

a = less than 50 percent of respondents in age group x to x+4 were married by age x

b = not calculated due to censoring

Table 2.18 Median age at first marriage

Median age at first marriage among women age 25-49, by current age and selected background characteristic, South Africa 2003

| Background characteristic | Current age | | | | | Women aged 25-49 |
|---------------------------|-------------|-------|-------|-------|-------|------------------|
| | 25-29 | 30-34 | 35-39 | 40-44 | 45-49 | |
| Residence | | | | | | |
| Urban | a | 26.4 | 27.4 | 25.8 | 25.8 | 27.0 |
| Non-urban | a | 32.4 | 24.3 | 23.0 | 25.3 | 26.9 |
| Province | | | | | | |
| Western Cape | 27.0 | 24.7 | 24.4 | 24.0 | 26.7 | 25.1 |
| Eastern Cape | a | a | 27.8 | 25.2 | 25.2 | 26.9 |
| Northern Cape | 25.7 | 26.6 | 26.9 | 26.5 | 26.7 | 26.4 |
| Free State | 28.8 | 25.7 | 24.1 | 21.7 | 23.9 | 25.2 |
| KwaZulu-Natal | a | a | 33.7 | 23.6 | 26.7 | 32.0 |
| North West | a | a | 29.3 | 26.7 | 25.6 | 37.7 |
| Gauteng | a | 26.4 | 27.7 | 27.4 | 26.4 | 27.5 |
| Mpumalanga | 27.7 | 28.5 | 21.2 | 26.2 | 25.9 | 25.8 |
| Limpopo | 26.6 | 24.1 | 21.6 | 22.1 | 19.2 | 23.0 |
| Education | | | | | | |
| No education | a | 28.6 | 23.9 | 26.7 | 21.5 | 25.1 |
| Grades 1-5 | 27.4 | 24.1 | 23.7 | 26.9 | 24.4 | 25.0 |
| Grades 6-7 | 28.0 | 26.6 | 24.2 | 22.7 | 26.9 | 24.8 |
| Grades 8-11 | a | 26.6 | 25.4 | 25.6 | 25.4 | 26.5 |
| Grade 12 | a | 27.8 | 28.6 | 24.6 | 27.4 | 29.7 |
| Higher | 27.4 | 27.5 | 26.7 | 25.8 | 27.3 | 27.0 |
| Population group | | | | | | |
| African | a | 28.2 | 28.1 | 26.1 | 25.8 | 28.5 |
| African urban | a | 27.7 | 30.3 | 28.4 | 26.2 | 28.9 |
| African non-urban | a | a | 24.4 | 22.9 | 25.2 | 27.2 |
| Coloured | 28.2 | 24.1 | 25.0 | 24.2 | 27.5 | 25.8 |
| White | 23.3 | 22.1 | 21.5 | 20.6 | 21.5 | 21.6 |
| Indian | 23.2 | 23.1 | 23.2 | 21.1 | 23.7 | 22.9 |
| Total | a | 27.0 | 26.6 | 24.9 | 25.7 | 27.0 |

Note: a = less than 50 percent of respondents in age group x to x + 4 were first married by age x.

The median age at first marriage differs by population group, being youngest for white and Indian women and oldest for African women (Table 2.18). The median age at first marriage for each of the population groups is 21.6, 22.9 and 28.5 years respectively. This population group pattern was also observed in the 1998 SADHS, albeit at slightly younger ages for African women. Women from North West and KwaZulu-Natal report the oldest ages at first marriage while Limpopo women report the youngest. Age at first marriage tends to increase with higher levels of education, but is very similar for urban and non-urban residence.

Polygyny

Table 2.19 shows the percentage of in-union men and women who currently are in a polygynous union by selected background characteristics. Approximately four percent of in-union women and men are in polygynous relationships. While considering the remarks of Budlender *et al.* (2004) elsewhere in this chapter, it is noted that the women's proportion has declined drastically over the five-year period from 6.8 percent in 1998 to 3.9 percent in 2003. As in 1998, polygyny is more prominent among women in the non-urban areas. The non-urban proportion has declined more (10 percent in 1998 to 5 percent in 2003) than the urban proportion (4.4 percent to 3.5 percent). Polygyny generally increases with increasing age for both men and women. Among women, Limpopo and Mpumalanga, and among men, Northern Cape and KwaZulu-Natal are leading in the levels of polygyny. Polygyny is more common among Africans with 6 percent of non-urban African in-union men and 5 percent of non-urban African in-union women in polygynous marriages.

| Percentage of women 15-49 and men 20-59 currently in a polygynous union, by age and selected background characteristics, South Africa 2003 | | | | |
|--|---------------------|-----------------|---------------------|---------------|
| Background characteristic | Percentage polygyny | Number of women | Percentage polygyny | Number of men |
| Age | | | | |
| 15-19 | 2.5 | 51 | * | 12 |
| 20-24 | 3.9 | 238 | (0.0) | 54 |
| 25-29 | 3.6 | 393 | 3.6 | 99 |
| 30-34 | 2.5 | 503 | 3.1 | 171 |
| 35-39 | 2.9 | 563 | 3.4 | 209 |
| 40-44 | 5.7 | 506 | 3.2 | 248 |
| 45-49 | 5.5 | 405 | 5.2 | 163 |
| 50-54 | - | - | 8.5 | 142 |
| 55-59 | - | - | 5.9 | 116 |
| Residence | | | | |
| Urban | 3.5 | 1 852 | 3.7 | 899 |
| Non-urban | 5.0 | 806 | 5.8 | 316 |
| Province | | | | |
| Western Cape | 1.7 | 404 | 3.5 | 106 |
| Eastern Cape | 4.0 | 236 | 2.4 | 207 |
| Northern Cape | 1.3 | 51 | 10.8 | 56 |
| Free State | 2.7 | 167 | 1.4 | 78 |
| KwaZulu-Natal | 2.1 | 387 | 9.1 | 78 |
| North West | 2.6 | 146 | 7.9 | 61 |
| Gauteng | 4.1 | 788 | 0.0 | 25 |
| Mpumalanga | 6.1 | 178 | 4.3 | 228 |
| Limpopo | 9.3 | 300 | 3.9 | 376 |
| Education | | | | |
| None - Grade 7 | 8.0 | 727 | 8.4 | 350 |
| Grades 8-11 | 2.9 | 1 065 | 2.3 | 439 |
| Grade 12+ | 1.8 | 862 | 3.0 | 426 |
| Population group | | | | |
| African | 4.8 | 1 976 | 5.0 | 879 |
| African urban | 4.4 | 1 234 | 4.4 | 582 |
| African non-urban | 5.4 | 742 | 6.2 | 297 |
| Coloured | 1.3 | 315 | 2.3 | 142 |
| White | 1.7 | 275 | 1.9 | 140 |
| Indian | 1.8 | 90 | 1.6 | 48 |
| Total | 3.9 | 2 658 | 4.3 | 1 215 |

A negative relationship between polygynous unions and educational level is generally shown for both women and men. For women, the only province that does not show a prominent decline since 1998 in this practice, is the Eastern Cape. A particularly large decline over the five years is seen in KwaZulu-Natal women, from 12 percent to 2 percent. Cultural and demographic change in a population usually occur at a slow pace. While the extreme decline observed in KwaZulu-Natal may reflect data problems, there are consistent indications across the background variables that polygyny is declining in South Africa.

Employment

Information was collected from women regarding their current employment status and their current employer. Table 2.20 shows the findings by the usual background characteristics. Overall, 36 percent of women were employed at the time of the survey, which is somewhat higher than the 32 percent employed at the time of the 1998 survey. These proportions are an average over the different age groups, which are lowered by the small proportions of employed women in the age groups 15-19 and 20-24, which in part is due to the fact that

many of the younger respondents are still attending school or are furthering their education at tertiary institutions. Generally, a positive relationship is seen between employment and age. The level of employment among urban women (42 percent) is considerably higher than among non-urban women (25 percent). The level of employment among Western Cape women (55 percent) is considerably higher than that of the remaining provinces, followed by Gauteng (41 percent), while the lowest levels are in Limpopo and the Eastern Cape where about a quarter of women are employed.

| Background characteristic | Percentage women currently employed | Number of women | Currently employed | | | | Total | Number of women employed |
|---------------------------|-------------------------------------|-----------------|--------------------|----------------------------|------------------------|---------|-------|--------------------------|
| | | | Self-employed | Employed by a non-relative | Employed by a relative | Missing | | |
| Age | | | | | | | | |
| 15-19 | 6.2 | 1 395 | 10.5 | 72.9 | 13.7 | 3.0 | 100.0 | 86 |
| 20-24 | 22.6 | 1 242 | 10.5 | 79.0 | 9.2 | 1.3 | 100.0 | 281 |
| 25-29 | 39.4 | 1 015 | 17.7 | 75.9 | 5.0 | 1.3 | 100.0 | 400 |
| 30-34 | 47.6 | 918 | 16.4 | 77.9 | 4.5 | 1.2 | 100.0 | 437 |
| 35-39 | 50.9 | 991 | 15.1 | 79.3 | 4.6 | 1.0 | 100.0 | 504 |
| 40-44 | 56.0 | 812 | 16.4 | 75.9 | 6.8 | 0.8 | 100.0 | 455 |
| 45-49 | 53.3 | 668 | 18.8 | 75.2 | 4.3 | 1.6 | 100.0 | 356 |
| Residence | | | | | | | | |
| Urban | 41.5 | 4 678 | 15.5 | 77.3 | 5.8 | 1.3 | 100.0 | 1 940 |
| Non-urban | 24.5 | 2 363 | 16.8 | 76.3 | 5.7 | 1.1 | 100.0 | 580 |
| Province | | | | | | | | |
| Western Cape | 55.2 | 892 | 17.3 | 73.3 | 8.6 | 0.8 | 100.0 | 492 |
| Eastern Cape | 25.0 | 804 | 20.3 | 75.5 | 4.1 | 0.0 | 100.0 | 201 |
| Northern Cape | 36.1 | 125 | 8.3 | 88.6 | 2.3 | 0.8 | 100.0 | 45 |
| Free State | 33.6 | 443 | 17.5 | 75.4 | 5.1 | 2.0 | 100.0 | 149 |
| KwaZulu-Natal | 34.4 | 1 177 | 11.5 | 84.1 | 4.0 | 0.4 | 100.0 | 405 |
| North West | 29.8 | 523 | 19.0 | 77.2 | 3.5 | 0.4 | 100.0 | 156 |
| Gauteng | 40.5 | 1 854 | 14.2 | 77.0 | 6.6 | 2.2 | 100.0 | 751 |
| Mpumalanga | 31.7 | 451 | 10.3 | 85.2 | 3.3 | 1.2 | 100.0 | 143 |
| Limpopo | 23.2 | 772 | 25.7 | 65.8 | 6.5 | 2.1 | 100.0 | 179 |
| Education | | | | | | | | |
| No education | 32.8 | 302 | 18.0 | 73.7 | 7.3 | 0.9 | 100.0 | 99 |
| Grades 1-5 | 34.2 | 438 | 10.4 | 79.8 | 6.9 | 2.9 | 100.0 | 150 |
| Grades 6-7 | 33.0 | 721 | 15.1 | 77.5 | 4.9 | 2.4 | 100.0 | 238 |
| Grades 8-11 | 26.7 | 3 285 | 19.4 | 73.9 | 6.2 | 0.5 | 100.0 | 877 |
| Grade 12 | 44.2 | 1 683 | 15.7 | 77.8 | 4.9 | 1.6 | 100.0 | 744 |
| Higher | 67.8 | 609 | 10.4 | 82.0 | 6.5 | 1.1 | 100.0 | 413 |
| Population group | | | | | | | | |
| African | 30.9 | 5 831 | 17.4 | 76.3 | 4.8 | 1.6 | 100.0 | 1 804 |
| Afr. urban | 35.8 | 3 586 | 17.3 | 76.5 | 4.5 | 1.8 | 100.0 | 1 284 |
| Afr. non-urban | 23.2 | 2 246 | 17.7 | 75.6 | 5.6 | 1.2 | 100.0 | 520 |
| Coloured | 56.1 | 665 | 11.1 | 79.7 | 8.7 | 0.5 | 100.0 | 373 |
| White | 65.5 | 402 | 14.1 | 77.3 | 8.6 | 0.0 | 100.0 | 263 |
| Indian | 54.5 | 141 | 7.8 | 84.8 | 7.0 | 0.4 | 100.0 | 77 |
| Total | 35.8 | 7 041 | 15.8 | 77.1 | 5.8 | 1.3 | 100.0 | 2 520 |

No clear pattern overall shows up regarding women's employment and their education. Considerably less African women (31 percent) are employed than women of other population groups of whom more than half are employed. Of the women who are currently employed, the majority (77 percent) are employed by a non-relative, 16 percent are self-employed, and a small proportion is employed by a relative. Compared to other provinces, self-employment is more prominent among women from Limpopo and the Eastern Cape, and compared to other population groups, this is more prominent among African women.

Occupation

Table 2.21 shows the percent distribution of employed women 15 to 49 years and employed men 15 to 59 years by occupation. There are about equally large proportions of women who work in professional/technical/management (19 percent), clerical (20 percent), household/domestic (23 percent), and manual occupations (20 percent). Much smaller proportions are involved in sales, services and agricultural occupations. Among women with no education, the household/domestic field dominates, followed by agricultural and unskilled manual occupations. Among women with Grade 12 or higher, the largest proportions are in professional/technical/management and clerical jobs. It is noted that 13 percent of the women with Grade 12, and just over 1 percent with higher education, are working in the household/domestic field. Among African women, the household/domestic sector dominates; among coloured women, the clerical and household/domestic sectors; among white and Indian women, the clerical and professional/technical/management sectors. The 1998 and 2003 surveys' occupation data do not allow much comparison, but an improvement in women's occupational status is seen with the overall proportion engaged in professional/technical/management jobs having increased from 14 percent in 1998 to 19 percent in 2003. In non-urban areas this increase is even more prominent, from 9 percent in 1998 to 16 percent in 2003. Except for coloured women, the proportions of women holding such positions have increased for all population groups from the 1998 to the 2003 SADHS, with particularly steep increases among Indian and non-urban African women.

The second part of Table 2.21 presents the distribution of men aged 15 to 59 years by occupation by selected background characteristics. Almost 45 percent of men are employed in manual occupations, the majority of these in skilled manual occupations. Almost one-fifth are in the professional/technical/management sector, and much smaller proportions are involved in the sales, agricultural and household/domestic fields. The great majority of men with a post-school qualification are in professional/technical/management and skilled manual posts. These posts dominate too among those with Grade 12, followed by posts in the clerical and services sectors. Men with no education are mainly employed in the agricultural and household/domestic sector, and a surprisingly high proportion of such men (35 percent) work as skilled manual workers. The largest urban/non-urban differences are seen among men in the professional/technical/management and agricultural fields. Among men of all population groups, the skilled manual field dominates, followed by the professional/technical/management field. Among white and Indian men, these fields hold more or less equally large weight. Among African men, the proportions in the skilled manual field are about twice as common as the professional/technical/management field, and among coloured men, the skilled manual field are over three times more commonly reported as the professional/technical/management field.

Comparing the occupation data by gender, the findings show that similar proportions of men and women are employed in professional/technical/management occupations. Proportionally, moderately more men than women are employed in the agricultural and services fields; significantly more men than women are employed in skilled manual occupations; slightly more women than men are employed in unskilled manual posts; and significantly more women than men are employed in sales, clerical and household/domestic occupations. The largest gender differences are seen in the skilled manual and household/domestic occupations.

Table 2.21 Occupation

Percentage distribution of women aged 15-49 and men aged 15-59 by occupation, by selected background characteristics, South Africa 2003

| Background characteristic | Prof/tech Management | Clerical | Sales | Agriculture | Household/ Domestic | Services | Skilled manual | Unskilled manual | Total | Number of women |
|---------------------------|----------------------|-------------|------------|-------------|------------------------|------------|----------------|------------------|--------------|-----------------|
| WOMEN 15-49 | | | | | | | | | | |
| Age | | | | | | | | | | |
| 15-19 | 6.0 | 20.6 | 12.9 | 8.3 | 6.7 | 14.5 | 12.0 | 19.0 | 100.0 | 86 |
| 20-24 | 11.5 | 25.9 | 10.0 | 6.6 | 17.1 | 9.1 | 8.2 | 11.7 | 100.0 | 281 |
| 25-29 | 21.1 | 27.8 | 7.3 | 3.0 | 15.0 | 8.2 | 5.7 | 11.7 | 100.0 | 400 |
| 30-34 | 20.6 | 23.1 | 7.8 | 2.8 | 20.7 | 4.8 | 7.4 | 12.9 | 100.0 | 437 |
| 35-39 | 22.2 | 16.5 | 7.7 | 5.2 | 25.3 | 5.5 | 6.4 | 10.5 | 100.0 | 504 |
| 40-44 | 22.3 | 12.8 | 8.4 | 3.2 | 29.7 | 3.9 | 7.7 | 11.8 | 100.0 | 455 |
| 45-49 | 16.7 | 14.0 | 6.2 | 5.5 | 31.1 | 5.1 | 10.9 | 10.5 | 100.0 | 356 |
| Residence | | | | | | | | | | |
| Urban | 20.1 | 21.3 | 8.7 | 1.6 | 22.1 | 6.5 | 8.5 | 11.1 | 100.0 | 1 940 |
| Non-urban | 16.4 | 13.9 | 5.8 | 13.6 | 25.7 | 5.1 | 5.2 | 14.1 | 100.0 | 580 |
| Province | | | | | | | | | | |
| Western Cape | 13.2 | 18.7 | 10.1 | 7.2 | 23.3 | 8.6 | 10.4 | 8.3 | 100.0 | 492 |
| Eastern Cape | 23.7 | 18.0 | 5.9 | 1.4 | 23.7 | 6.9 | 7.7 | 12.9 | 100.0 | 201 |
| Northern Cape | 19.6 | 21.5 | 4.3 | 6.5 | 25.0 | 8.0 | 7.0 | 8.0 | 100.0 | 45 |
| Free State | 12.1 | 10.0 | 4.3 | 5.2 | 34.3 | 2.4 | 10.7 | 21.0 | 100.0 | 149 |
| KwaZulu-Natal | 26.8 | 26.5 | 7.2 | 3.4 | 18.2 | 2.6 | 7.2 | 8.1 | 100.0 | 405 |
| North West | 16.4 | 11.8 | 3.9 | 9.7 | 25.3 | 8.3 | 7.5 | 16.7 | 100.0 | 156 |
| Gauteng | 20.1 | 23.5 | 9.2 | 0.8 | 22.1 | 7.3 | 6.5 | 10.2 | 100.0 | 751 |
| Mpumalanga | 22.6 | 10.6 | 9.5 | 10.3 | 27.2 | 5.2 | 6.4 | 8.2 | 100.0 | 143 |
| Limpopo | 15.9 | 13.2 | 7.7 | 6.4 | 20.0 | 4.0 | 6.0 | 26.8 | 100.0 | 179 |
| Education | | | | | | | | | | |
| No education | 4.1 | 3.7 | 6.4 | 18.5 | 44.0 | 0.7 | 8.1 | 14.6 | 100.0 | 99 |
| Grades 1-5 | 4.2 | 3.7 | 0.0 | 16.0 | 51.2 | 2.0 | 8.0 | 14.9 | 100.0 | 150 |
| Grades 6-7 | 2.6 | 9.6 | 3.8 | 7.1 | 47.9 | 5.4 | 8.6 | 15.0 | 100.0 | 238 |
| Grades 8-11 | 6.0 | 14.9 | 9.0 | 5.1 | 27.4 | 9.6 | 10.4 | 17.2 | 100.0 | 877 |
| Grade 12 | 21.2 | 32.2 | 11.0 | 0.8 | 13.2 | 6.2 | 6.6 | 8.4 | 100.0 | 744 |
| Higher | 62.3 | 22.2 | 6.2 | 0.0 | 1.4 | 2.0 | 3.3 | 2.5 | 100.0 | 413 |
| Population group | | | | | | | | | | |
| African | 17.9 | 15.9 | 7.3 | 4.4 | 27.2 | 5.9 | 7.4 | 14.0 | 100.0 | 1 804 |
| African urban | 18.0 | 16.7 | 8.2 | 1.7 | 27.3 | 6.2 | 8.2 | 13.5 | 100.0 | 1 284 |
| African non-urban | 17.6 | 13.8 | 5.0 | 11.1 | 26.7 | 5.2 | 5.2 | 15.2 | 100.0 | 520 |
| Coloured | 11.2 | 21.8 | 9.5 | 7.7 | 20.7 | 10.8 | 10.2 | 7.7 | 100.0 | 373 |
| White | 35.1 | 38.3 | 10.4 | 0.7 | 3.6 | 2.1 | 6.1 | 3.6 | 100.0 | 263 |
| Indian | 36.1 | 31.5 | 9.6 | 0.0 | 1.0 | 5.0 | 10.4 | 6.5 | 100.0 | 77 |
| Total | 19.2 | 19.6 | 8.0 | 4.4 | 22.9 | 6.2 | 7.7 | 11.8 | 100.0 | 2 520 |

| Background characteristic | Prof/tech Management | Clerical | Sales | Agriculture | Household/ Domestic | Services | Skilled manual | Unskilled manual | Total | Number of men |
|---------------------------|----------------------|------------|------------|-------------|------------------------|------------|----------------|------------------|--------------|---------------|
| MEN 15-59 | | | | | | | | | | |
| Age | | | | | | | | | | |
| 15-19 | 0.0 | 0.8 | 0.8 | 4.3 | 18.9 | 38.8 | 33.3 | 3.1 | 100.0 | 23 |
| 20-24 | 17.3 | 10.4 | 1.2 | 8.1 | 6.6 | 13.4 | 30.0 | 12.9 | 100.0 | 138 |
| 25-29 | 15.2 | 10.1 | 3.3 | 8.2 | 8.1 | 11.6 | 38.0 | 5.5 | 100.0 | 197 |
| 30-34 | 25.4 | 9.4 | 5.8 | 5.2 | 5.5 | 11.3 | 30.3 | 7.1 | 100.0 | 213 |
| 35-39 | 19.9 | 11.7 | 2.7 | 6.5 | 4.4 | 8.6 | 39.3 | 6.9 | 100.0 | 199 |
| 40-44 | 23.1 | 8.0 | 6.0 | 4.0 | 8.4 | 3.5 | 42.0 | 4.9 | 100.0 | 220 |
| 45-49 | 18.6 | 4.6 | 4.8 | 6.4 | 4.6 | 9.3 | 43.8 | 7.9 | 100.0 | 160 |
| 50-54 | 17.3 | 9.3 | 4.5 | 3.2 | 5.6 | 6.3 | 42.4 | 11.4 | 100.0 | 99 |
| 55-59 | 23.9 | 15.6 | 2.7 | 7.6 | 5.5 | 6.6 | 28.2 | 9.9 | 100.0 | 87 |
| Residence | | | | | | | | | | |
| Urban | 21.9 | 10.1 | 4.2 | 2.4 | 6.6 | 9.5 | 37.2 | 8.1 | 100.0 | 1 052 |
| Non-urban | 12.6 | 6.8 | 3.4 | 19.6 | 5.9 | 9.2 | 36.8 | 5.6 | 100.0 | 285 |
| Province | | | | | | | | | | |
| Western Cape | 14.9 | 5.5 | 3.0 | 8.9 | 12.0 | 9.3 | 40.2 | 6.2 | 100.0 | 237 |
| Eastern Cape | 33.4 | 3.1 | 8.5 | 5.1 | 6.5 | 10.4 | 27.1 | 5.8 | 100.0 | 91 |
| Northern Cape | 20.2 | 5.0 | 2.2 | 16.9 | 8.0 | 7.6 | 29.7 | 10.4 | 100.0 | 25 |
| Free State | 17.1 | 8.0 | 5.2 | 14.5 | 9.7 | 4.7 | 31.6 | 9.2 | 100.0 | 89 |
| KwaZulu-Natal | 20.6 | 10.9 | 4.6 | 3.2 | 2.0 | 10.7 | 42.0 | 6.0 | 100.0 | 307 |
| North West | 19.3 | 5.0 | 4.4 | 15.3 | 5.8 | 2.7 | 36.2 | 11.3 | 100.0 | 71 |
| Gauteng | 19.7 | 15.1 | 3.4 | 0.7 | 6.2 | 10.4 | 35.2 | 9.3 | 100.0 | 392 |
| Mpumalanga | 17.3 | 4.6 | 2.5 | 11.5 | 7.7 | 9.1 | 39.8 | 7.4 | 100.0 | 74 |
| Limpopo | 25.1 | 3.5 | 2.8 | 12.9 | 1.8 | 12.7 | 36.0 | 5.3 | 100.0 | 50 |
| Education | | | | | | | | | | |
| No education | 8.3 | 2.2 | 6.7 | 25.0 | 14.7 | 1.0 | 34.9 | 7.3 | 100.0 | 59 |
| Grades 1-5 | 0.6 | 2.6 | 2.7 | 13.2 | 15.4 | 8.3 | 46.2 | 11.1 | 100.0 | 95 |
| Grades 6-7 | 0.8 | 5.7 | 3.1 | 11.8 | 14.0 | 7.1 | 39.8 | 17.8 | 100.0 | 131 |
| Grades 8-11 | 8.7 | 7.4 | 4.4 | 6.0 | 6.2 | 9.4 | 48.1 | 9.9 | 100.0 | 449 |
| Grade 12 | 25.4 | 14.4 | 4.1 | 2.8 | 4.1 | 14.3 | 30.5 | 4.3 | 100.0 | 415 |
| Higher | 61.2 | 11.3 | 3.4 | 0.1 | 0.0 | 3.8 | 19.6 | 0.6 | 100.0 | 188 |
| Population group | | | | | | | | | | |
| African | 17.2 | 9.3 | 3.8 | 7.3 | 7.7 | 9.9 | 35.9 | 8.9 | 100.0 | 931 |
| Afr. urban | 19.3 | 10.1 | 4.0 | 3.1 | 8.2 | 9.8 | 35.4 | 10.1 | 100.0 | 673 |
| Afr. non-urban | 11.9 | 7.4 | 3.4 | 18.2 | 6.3 | 10.0 | 37.2 | 5.6 | 100.0 | 259 |
| Coloured | 13.1 | 10.4 | 2.0 | 7.0 | 8.2 | 7.4 | 46.3 | 5.6 | 100.0 | 166 |
| White | 36.4 | 7.2 | 4.5 | 0.8 | 0.4 | 11.4 | 36.6 | 2.6 | 100.0 | 178 |
| Indian | 30.1 | 12.6 | 12.2 | 0.4 | 1.3 | 3.0 | 34.5 | 6.0 | 100.0 | 55 |
| Total | 19.9 | 9.4 | 4.0 | 6.1 | 6.5 | 9.4 | 37.1 | 7.6 | 100.0 | 1 336 |

Note: Total includes six men and two women for whom population group is missing. Five women have missing information on occupation.

Decision on use of earning

The percent distribution of currently employed women aged 15-49 by person who decides on the use of earnings, is presented in Table 2.22. Seventy-one percent of women make the decision themselves, while the partners of 13 percent of them make such decisions. It is noted that there is a very small difference in the proportion of urban and non-urban women who make these decisions themselves. Over three-quarters of African women reported that these decisions are made by themselves, compared to 61 percent of coloured, 63 percent of Indian, and 54 percent of white women. From the previous to the 2003 SADHS, there has been a slight increase from 67 to 71 percent in the proportion of women who make the decision themselves, but a considerable increase from just under 3 to 13 percent of women whose husband/partner make these decisions, and a considerable decrease from 21 percent to 2 percent of women who make these decisions jointly with their husband/partner. These questions were not included in the men's questionnaire.

Table 2.22 Decision on use of woman's earnings

Percentage distribution of women aged 15-49 who are currently employed, by person who decides on use of earnings, according to selected background characteristics, South Africa 2003

| Background characteristic | Self only | Husband/partner | Jointly with husband/partner | Someone else | Jointly with Someone else | Missing | Total | Number of women |
|---------------------------|-------------|-----------------|------------------------------|--------------|---------------------------|------------|--------------|-----------------|
| Age | | | | | | | | |
| 15-19 | 70.4 | 3.8 | 3.0 | 0.0 | 9.4 | 13.4 | 100.0 | 86 |
| 20-24 | 80.4 | 3.9 | 5.0 | 0.8 | 3.6 | 6.3 | 100.0 | 281 |
| 25-29 | 70.7 | 12.0 | 1.5 | 7.3 | 2.8 | 5.7 | 100.0 | 400 |
| 30-34 | 64.5 | 15.2 | 1.7 | 9.3 | 2.3 | 7.1 | 100.0 | 437 |
| 35-39 | 70.6 | 13.8 | 1.6 | 9.8 | 0.5 | 3.7 | 100.0 | 504 |
| 40-44 | 66.6 | 18.1 | 1.3 | 8.1 | 0.0 | 5.8 | 100.0 | 455 |
| 45-49 | 75.9 | 12.0 | 1.9 | 5.0 | 0.0 | 5.3 | 100.0 | 356 |
| Residence | | | | | | | | |
| Urban | 70.5 | 13.4 | 2.1 | 6.9 | 1.6 | 5.5 | 100.0 | 1 940 |
| Non-urban | 71.3 | 11.0 | 1.7 | 7.2 | 1.9 | 6.9 | 100.0 | 580 |
| Province | | | | | | | | |
| Western Cape | 64.5 | 16.1 | 1.9 | 11.0 | 2.1 | 4.4 | 100.0 | 492 |
| Eastern Cape | 68.4 | 15.3 | 2.8 | 2.9 | 9.4 | 1.2 | 100.0 | 201 |
| Northern Cape | 74.7 | 13.6 | 1.7 | 2.9 | 3.9 | 3.2 | 100.0 | 45 |
| Free State | 76.2 | 8.1 | 3.0 | 2.5 | 0.7 | 9.6 | 100.0 | 149 |
| KwaZulu-Natal | 70.8 | 15.0 | 1.2 | 10.6 | 0.0 | 2.3 | 100.0 | 405 |
| North West | 76.4 | 8.7 | 1.4 | 8.5 | 0.0 | 5.1 | 100.0 | 156 |
| Gauteng | 73.9 | 12.7 | 2.3 | 4.6 | 0.8 | 5.7 | 100.0 | 751 |
| Mpumalanga | 77.1 | 4.7 | 1.2 | 10.5 | 0.5 | 6.1 | 100.0 | 143 |
| Limpopo | 61.0 | 10.2 | 2.7 | 2.7 | 2.1 | 21.3 | 100.0 | 179 |
| Education | | | | | | | | |
| No education | 80.8 | 7.3 | 0.7 | 4.1 | 0.0 | 7.2 | 100.0 | 99 |
| Grades 1-5 | 68.1 | 7.7 | 4.5 | 8.1 | 4.7 | 7.0 | 100.0 | 150 |
| Grades 6-7 | 71.4 | 9.0 | 0.6 | 8.5 | 1.6 | 8.9 | 100.0 | 238 |
| Grades 8-11 | 71.4 | 12.4 | 1.6 | 6.4 | 2.4 | 5.9 | 100.0 | 877 |
| Grade 12 | 73.2 | 11.5 | 1.7 | 7.4 | 0.6 | 5.7 | 100.0 | 744 |
| Higher | 62.8 | 21.5 | 3.8 | 7.0 | 1.4 | 3.5 | 100.0 | 413 |
| Population group | | | | | | | | |
| African | 75.4 | 7.5 | 1.7 | 6.8 | 1.6 | 7.1 | 100.0 | 1 804 |
| African urban | 76.2 | 6.8 | 1.6 | 7.0 | 1.4 | 7.0 | 100.0 | 1 284 |
| African non-urban | 73.5 | 9.2 | 1.9 | 6.3 | 1.9 | 7.3 | 100.0 | 520 |
| Coloured | 61.3 | 19.2 | 2.1 | 10.7 | 3.8 | 3.0 | 100.0 | 373 |
| White | 54.2 | 37.9 | 2.2 | 4.4 | 0.0 | 1.4 | 100.0 | 263 |
| Indian | 63.3 | 21.2 | 8.1 | 2.9 | 0.2 | 4.3 | 100.0 | 77 |
| Total | 70.7 | 12.8 | 2.0 | 7.0 | 1.7 | 5.8 | 100.0 | 2 520 |

Note: Total includes two women for whom population group is missing.

Participation in decision-making

Table 2.23 hosts findings on women's and men's decision-making status in terms of having alone or jointly the final say in specified issues. The domains for women and men are not exactly the same. For women, questions were asked about health care, purchases, visiting and cooking. Overall 43 percent of women have a final say in all these domains while 18 percent have no say at all. Autonomy increased with age and is higher in urban than non-urban areas. Never-married women have the least autonomy compared with those who are married or widowed/separated/divorced. The data show that women with no education and those with the highest levels of education, as well as those who are employed have the most autonomy. Nearly three quarters of women have a say in their own health care. Only in three provinces, i.e. Western Cape, Northern Cape and KwaZulu-Natal, has over 80 percent of women a final say about their own health care, this proportion decreasing to just over half in Limpopo and the Eastern Cape. A large difference is visible between unemployed (66 percent) and employed (85 percent) women regarding health care decisions. A smaller differential applies to urban (76 percent) and non-urban (66 percent) women, though still a considerable difference. About half of women have a say in making large and daily purchases, with increased autonomy as age increases, and with higher autonomy in urban than non-urban areas. Women's autonomy in making purchases increases with parity, up to four children, where after autonomy shows a decrease. This decrease in autonomy at parity "5" is also reflected in own health care and family visitation issues. The generally erratic relationship with educational status, and the relative small differentials according to 'no education' and 'higher' educational status, is surprising.

The domains for men include finances (large scale and day-to-day purchases), visiting and how many children to have. Very few men, only 2 percent, feel excluded from decision-making. For every specified decision, making decisions alone or jointly increases with age. There are few differences between men in urban and non-urban areas. There are also no clear differences associated with level of education and employment status. Whereas about 90 percent of men indicate autonomy in making large purchases and family visitation, about half of women indicate autonomy in these two issues.

Table 2.23 Participation in decision making

Percentage of women 15-49 years and men 15-59 years who say that they alone or jointly have the final say in specific decisions, by selected background characteristics, South Africa, 2003

| Background characteristic | Women alone or jointly have final say in: | | | | | Men alone or jointly have final say in: | | | | | | | | | | |
|----------------------------------|---|------------------------|------------------------|-------------------------------|----------------------------|---|---------------------------------|-----------------|------------------------|------------------------|-------------------------------|--------------------------------|----------------------------|-------------------------|---------------------------------|---------------|
| | Own health care | Making large purchases | Making daily purchases | Visits to family or relatives | What food to cook each day | All specified decisions | None of the specified decisions | Number of women | Making large purchases | Making daily purchases | Visits to family or relatives | Deciding what to do with money | Deciding how many children | All specified decisions | None of the specified decisions | Number of men |
| Age | | | | | | | | | | | | | | | | |
| 15-19 | 46.2 | 18.2 | 19.4 | 29.2 | 35.4 | 15.4 | 43.1 | 1 395 | 88.3 | 50.5 | 87.0 | 73.6 | 88.5 | 39.3 | 3.4 | 603 |
| 20-24 | 67.0 | 32.6 | 38.2 | 51.0 | 59.5 | 29.5 | 20.0 | 1 242 | 88.9 | 55.4 | 91.1 | 78.2 | 91.5 | 41.7 | 2.6 | 527 |
| 25-29 | 77.3 | 49.8 | 55.3 | 63.5 | 75.1 | 44.4 | 11.2 | 1 015 | 91.7 | 58.1 | 93.6 | 82.2 | 96.0 | 49.2 | 1.0 | 416 |
| 30-34 | 81.2 | 58.8 | 66.5 | 68.1 | 77.5 | 52.2 | 11.4 | 918 | 93.3 | 51.1 | 95.2 | 72.8 | 96.1 | 41.8 | 1.3 | 348 |
| 35-39 | 86.1 | 66.0 | 70.7 | 71.0 | 83.7 | 59.4 | 7.8 | 991 | 92.0 | 48.8 | 95.3 | 80.7 | 94.2 | 41.8 | 1.8 | 340 |
| 40-44 | 83.2 | 67.8 | 75.5 | 74.0 | 85.5 | 63.8 | 8.0 | 812 | 89.5 | 57.2 | 92.0 | 79.8 | 93.8 | 48.0 | 1.1 | 323 |
| 45-49 | 85.2 | 71.9 | 76.8 | 77.7 | 87.0 | 65.8 | 7.7 | 668 | 95.5 | 58.0 | 93.5 | 83.9 | 95.0 | 47.9 | 0.3 | 224 |
| | | | | | | | | | 91.8 | 51.1 | 92.0 | 84.6 | 96.8 | 42.3 | 0.4 | 155 |
| Marital status | | | | | | | | | | | | | | | | |
| Never married | 66.4 | 39.1 | 41.1 | 51.4 | 57.3 | 35.4 | 24.9 | 3 821 | 89.9 | 53.9 | 91.0 | 77.5 | 92.1 | 43.5 | 2.5 | 1 738 |
| Married/Living together | 77.6 | 54.9 | 64.5 | 63.6 | 79.9 | 48.7 | 11.6 | 2 658 | 92.3 | 53.8 | 92.2 | 80.0 | 93.9 | 44.0 | 1.3 | 1 215 |
| Divorced/separated/widowed | 90.0 | 77.8 | 80.9 | 85.1 | 88.7 | 73.0 | 5.4 | 562 | 86.4 | 51.6 | 92.2 | 79.4 | 91.8 | 44.1 | 1.7 | 148 |
| Residence | | | | | | | | | | | | | | | | |
| Urban | 75.8 | 51.5 | 56.7 | 62.4 | 71.0 | 46.3 | 15.7 | 4 678 | 91.4 | 52.3 | 91.9 | 75.4 | 93.0 | 40.6 | 1.5 | 2 151 |
| Non-urban | 66.0 | 41.4 | 46.0 | 51.5 | 63.1 | 37.6 | 22.4 | 2 363 | 89.3 | 57.3 | 90.8 | 85.6 | 92.2 | 50.7 | 3.0 | 967 |
| Number of living children | | | | | | | | | | | | | | | | |
| 0 | 59.3 | 28.6 | 31.5 | 41.3 | 48.1 | 25.1 | 30.0 | 2 539 | - | - | - | - | - | - | - | - |
| 1-2 | 79.3 | 54.4 | 61.0 | 66.0 | 77.3 | 49.3 | 11.6 | 2 771 | - | - | - | - | - | - | - | - |
| 3-4 | 82.2 | 68.1 | 72.8 | 73.2 | 82.5 | 62.1 | 10.7 | 1 326 | - | - | - | - | - | - | - | - |
| 5+ | 76.5 | 62.7 | 71.2 | 70.6 | 87.7 | 57.2 | 8.7 | 404 | - | - | - | - | - | - | - | - |
| Province | | | | | | | | | | | | | | | | |
| Western Cape | 86.1 | 52.2 | 58.2 | 65.0 | 75.1 | 47.6 | 7.4 | 892 | 84.6 | 60.1 | 91.9 | 77.7 | 90.5 | 47.5 | 2.2 | 379 |
| Eastern Cape | 54.7 | 43.7 | 46.6 | 50.2 | 65.2 | 39.8 | 29.0 | 804 | 83.4 | 41.5 | 86.9 | 74.1 | 91.8 | 31.0 | 1.5 | 313 |
| Northern Cape | 82.1 | 53.0 | 58.1 | 69.2 | 68.4 | 46.6 | 11.9 | 125 | 89.3 | 50.5 | 93.1 | 84.9 | 93.2 | 43.2 | 0.3 | 59 |
| Free State | 68.0 | 49.1 | 54.7 | 58.5 | 68.8 | 42.9 | 21.1 | 443 | 87.2 | 54.4 | 87.6 | 76.1 | 90.8 | 45.1 | 4.2 | 199 |
| KwaZulu-Natal | 81.6 | 49.3 | 52.3 | 53.5 | 58.7 | 45.0 | 16.1 | 1 177 | 97.2 | 72.5 | 95.9 | 88.1 | 96.5 | 69.9 | 2.1 | 701 |
| North West | 79.2 | 46.6 | 52.1 | 58.5 | 73.7 | 42.3 | 13.6 | 523 | 91.5 | 64.3 | 92.7 | 91.0 | 94.8 | 59.0 | 1.9 | 216 |
| Gauteng | 73.9 | 51.5 | 57.6 | 63.9 | 72.1 | 46.3 | 16.9 | 1 854 | 93.2 | 39.5 | 92.1 | 67.9 | 93.0 | 24.1 | 1.6 | 815 |
| Mpumalanga | 63.9 | 41.3 | 44.8 | 50.9 | 63.6 | 39.0 | 24.0 | 451 | 90.3 | 34.2 | 84.0 | 76.9 | 87.9 | 23.7 | 2.1 | 208 |
| Limpopo | 59.7 | 41.9 | 48.8 | 59.4 | 68.1 | 36.2 | 22.4 | 772 | 85.1 | 62.7 | 90.5 | 85.1 | 89.8 | 47.3 | 1.8 | 228 |
| Education | | | | | | | | | | | | | | | | |
| No education | 80.3 | 62.9 | 67.7 | 67.6 | 85.7 | 56.6 | 9.2 | 302 | 93.8 | 46.7 | 91.1 | 74.6 | 92.0 | 42.7 | 3.4 | 141 |
| Grades 1-5 | 71.9 | 57.0 | 61.6 | 63.7 | 74.7 | 52.5 | 18.2 | 438 | 83.0 | 51.5 | 87.3 | 84.7 | 88.8 | 39.6 | 2.9 | 227 |
| Grades 6-7 | 72.1 | 53.8 | 58.2 | 60.3 | 74.7 | 48.5 | 17.6 | 721 | 87.0 | 47.2 | 88.1 | 78.6 | 86.3 | 36.5 | 3.0 | 316 |
| Grades 8-11 | 66.3 | 41.9 | 46.2 | 53.2 | 62.3 | 38.1 | 22.8 | 3 285 | 90.8 | 53.6 | 90.7 | 78.6 | 92.5 | 43.0 | 2.2 | 1 367 |
| Grade 12 | 78.3 | 47.6 | 53.4 | 61.1 | 68.2 | 42.6 | 14.0 | 1 683 | 93.0 | 58.3 | 95.1 | 80.4 | 95.5 | 49.4 | 1.3 | 787 |
| Higher | 86.6 | 62.7 | 70.3 | 71.9 | 80.3 | 55.4 | 6.9 | 609 | 92.9 | 55.7 | 93.0 | 70.1 | 97.1 | 43.2 | 0.2 | 279 |
| Employment | | | | | | | | | | | | | | | | |
| Unemployed | 65.8 | 39.9 | 44.2 | 51.8 | 62.0 | 36.3 | 23.5 | 4 578 | 90.0 | 53.4 | 91.0 | 78.6 | 91.8 | 43.4 | 2.6 | 1 779 |
| Employed | 85.0 | 63.4 | 69.7 | 71.7 | 80.1 | 56.7 | 7.6 | 2 463 | 91.6 | 54.4 | 92.2 | 78.5 | 94.1 | 44.1 | 1.2 | 1 336 |
| Total | 72.5 | 48.1 | 53.1 | 58.7 | 68.3 | 43.4 | 17.9 | 7 041 | 90.7 | 53.8 | 91.5 | 78.6 | 92.8 | 43.7 | 2.0 | 3 118 |

Note: Total includes three women's educational level, three men's employment status, and 17 men's marital status which are missing, but do participate in joint decision making.

2.10 Characteristics of Adults Aged 15 Years or Older

The background characteristics of the adult sample are shown in Table 2.24, which has the weighted percent as well as the weighted and unweighted numbers for each category. The table also presents the percent distribution of the background characteristics observed in the 2001 census. The adult sample displays the typical declining proportions with age. This is very smooth for the men, but more erratic in the case of the women with a marked heaping in the 35-39 and the 50-54 year age groups. About two thirds of the sample is urban with the proportion being higher for men than women (67 percent compared with 64 percent). Slightly more than a quarter have Grade 12 or higher (28 percent) while 11 percent have no education. This is higher for women (12 percent) than men (9 percent). The majority of the sample is African (83 percent), followed by coloured (8 percent) and white (6 percent). The Indian adult sample accounts for 2 percent.

As observed in the sample of women 15-49 years and the sample of men 15-59 years, the adult sample also over-represents the African urban group when compared with the census. Thus the adult sample also over-represents the urban areas as well as the African population group. The adult sample also has higher levels of education when compared with the census. In the case of adult men, KwaZulu-Natal and Gauteng appear to be over-represented while in the case of women; Western Cape and Gauteng appear to be over-represented.

2.11 Realization of Sample

The response rate of 85 percent for households, and the overall response rate of 75 percent for women 15-49 years, 68 percent for men 15-59 years, 73 percent for children under 5 years, and 71 percent for adults needs to be borne in mind when interpreting the findings of the survey (see details in Appendix A).

When compared with the 2001 census, there is clear evidence that age misreporting occurred in the field. The high proportion of household members who are 10-14 years suggests that there may have been a systematic attempt by field-workers to avoid the additional fieldwork required to conduct the individual questionnaires. The high proportion of women aged 50-54 may have been a result of this as well. The low number of children under 5 years may have been a systematic attempt by field-workers to avoid taking the anthropometric measurements. Most surveys are subject to such problems, which can be minimised through rigorous training and supervision as well as ensuring that the payment for fieldwork does not incentivise omissions.

Comparison of the realised sample against the census on basic characteristics shows that SADHS 2003 tends to over-represent urban Africans and under represent non-urban Africans, whites and coloureds. In addition, the resultant sample tends to have slightly higher education. However, it is difficult to assess the impact that these distortions in the sample might have.

Table 2.24 Background characteristics of adults

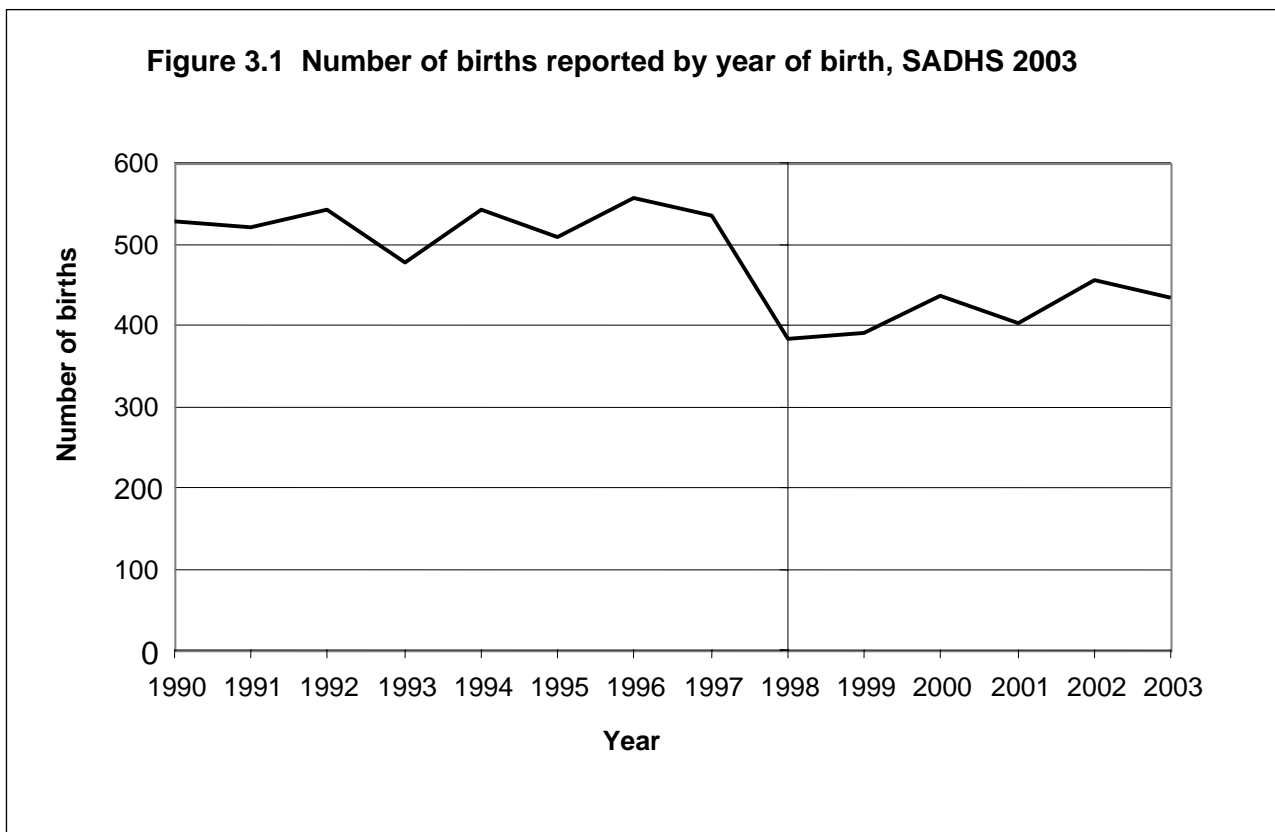
| Percentage distribution of adult men and women 15 years or older, according to selected background characteristics, South Africa 2003 | | | | | | | | | |
|---|------------------|----------|------------|------------------|----------|------------|------------------|----------|------------|
| Background characteristic | Men | | | Women | | | Total | | |
| | Weighted percent | Weighted | Unweighted | Weighted percent | Weighted | Unweighted | Weighted percent | Weighted | Unweighted |
| Age | | | | | | | | | |
| 15-19 | 18.8 | 642 | 651 | 14.0 | 657 | 684 | 16.0 | 1 299 | 1 335 |
| 20-24 | 14.0 | 479 | 439 | 12.8 | 599 | 602 | 13.3 | 1 078 | 1 041 |
| 25-29 | 11.7 | 400 | 381 | 10.5 | 491 | 495 | 11.0 | 891 | 876 |
| 30-34 | 9.8 | 335 | 316 | 10.4 | 488 | 475 | 10.1 | 823 | 791 |
| 35-39 | 9.4 | 323 | 308 | 10.9 | 512 | 481 | 10.3 | 836 | 789 |
| 40-44 | 7.9 | 269 | 253 | | 371 | 376 | 7.9 | 640 | 629 |
| | | | | 7.9 | | | | | |
| 45-49 | 7.5 | 256 | 236 | 7.1 | 334 | 352 | 7.3 | 590 | 588 |
| 50-54 | 5.3 | 182 | 191 | 8.1 | 380 | 406 | 6.9 | 562 | 597 |
| 55-59 | 4.7 | 162 | 165 | 5.4 | 254 | 245 | 5.1 | 416 | 410 |
| 60-64 | 3.9 | 135 | 132 | 4.9 | 229 | 251 | 4.5 | 364 | 383 |
| 65-69 | 3.0 | 104 | 104 | 3.4 | 159 | 154 | 3.2 | 263 | 258 |
| 70-74 | 2.3 | 78 | 84 | 2.3 | 109 | 136 | 2.3 | 186 | 220 |
| 75-79 | 1.0 | 33 | 39 | 1.1 | 54 | 62 | 1.1 | 87 | 101 |
| 80+ | 0.7 | 25 | 29 | 1.2 | 56 | 68 | 1.0 | 82 | 97 |
| Residence | | | | | | | | | |
| Urban | 66.9 | 2 289 | 1 947 | 63.8 | 2 995 | 2 694 | 65.1 | 5 285 | 4 641 |
| Non-urban | 33.1 | 1 133 | 1 381 | 36.2 | 1 697 | 2 093 | 34.9 | 2 830 | 3 474 |
| Province | | | | | | | | | |
| Western Cape | 9.9 | 337 | 243 | 12.2 | 573 | 405 | 11.2 | 910 | 648 |
| Eastern Cape | 10.7 | 367 | 251 | 12.0 | 562 | 393 | 11.5 | 929 | 644 |
| Northern Cape | 1.8 | 60 | 362 | 2.0 | 92 | 552 | 1.9 | 152 | 914 |
| Free State | 6.5 | 224 | 393 | 6.7 | 313 | 545 | 6.6 | 537 | 938 |
| KwaZulu-Natal | 22.8 | 781 | 731 | 18.9 | 888 | 909 | 20.6 | 1 669 | 1 640 |
| North West | 7.3 | 248 | 335 | 7.9 | 373 | 510 | 7.7 | 621 | 845 |
| Gauteng | 26.7 | 914 | 370 | 22.9 | 1 074 | 432 | 24.5 | 1 988 | 802 |
| Mpumalanga | 6.1 | 209 | 359 | 6.4 | 300 | 515 | 6.3 | 509 | 874 |
| Limpopo | 8.2 | 282 | 284 | 11.1 | 519 | 526 | 9.9 | 800 | 810 |
| Education | | | | | | | | | |
| No education | 8.7 | 296 | 340 | 12.3 | 578 | 677 | 10.8 | 874 | 1 017 |
| Grades 1-5 | 9.8 | 335 | 351 | 9.5 | 448 | 507 | 9.6 | 783 | 858 |
| Grades 6-7 | 11.2 | 384 | 424 | 10.7 | 501 | 570 | 10.9 | 884 | 994 |
| Grades 8-11 | 39.9 | 1 366 | 1 323 | 39.9 | 1 873 | 1 842 | 39.9 | 3 239 | 3 165 |
| Grade 12 | 20.5 | 703 | 613 | 19.7 | 923 | 842 | 20.0 | 1 626 | 1 455 |
| Higher | 9.0 | 309 | 255 | 7.3 | 344 | 332 | 8.0 | 653 | 587 |
| Unknown | 0.9 | 30 | 22 | 0.5 | 26 | 17 | 0.7 | 55 | 39 |
| Population group | | | | | | | | | |
| African | 82.9 | 2 838 | 2 543 | 82.2 | 3 857 | 3 538 | 82.5 | 6 695 | 6 081 |
| African urban | 61.6 | 1 747 | 1 251 | 58.3 | 2 250 | 1 625 | 59.7 | 3 997 | 2 876 |
| African non-urban | 38.4 | 1 091 | 1 292 | 41.7 | 1 607 | 1 913 | 40.3 | 2 698 | 3 205 |
| Coloured | 7.8 | 268 | 354 | 9.7 | 456 | 641 | 8.9 | 724 | 995 |
| Indian | 2.4 | 83 | 297 | 2.4 | 112 | 420 | 2.4 | 195 | 717 |
| White | 6.4 | 220 | 121 | 5.5 | 257 | 176 | 5.9 | 477 | 297 |
| Other/missing | 0.4 | 14 | 13 | 0.2 | 11 | 12 | (0.3) | 25 | 25 |
| Total | 100.0 | 3 422 | 3 328 | 100.0 | 4 693 | 4 787 | 100.0 | 8 115 | 8 115 |

CHAPTER 3

FERTILITY

3.1 Introduction

One of the most important objectives of the Demographic and Health Survey programme is to derive reliable and unbiased estimates of fertility using standardised questionnaires and to analyse the data following established procedures. Data quality issues in the 2003 SADHS appear to find particular expression in the fertility data collected, and in the rates and demographic trajectories implied by those data. Figure 3.1 shows that the number of births reported to women aged 15-49 in the years preceding the survey has a noticeable drop in the most recent five years. This suggests that there was a systematic bias in the reporting of births. Close inspection of the data suggests that the data on fertility (recent, or lifetime; levels, differentials or trends) collected in the 2003 SADHS should be read with caution.



Extensive and thorough efforts have been spent in assessing the data. In this regard, South Africa is fortunate: there is a wealth of demographic data that has been collected in the first ten years since its transition to democracy in 1994 – the 2003 SADHS is the second such survey to be conducted in that period – and two censuses have been conducted, in 1996 and 2001. Few other countries can draw on as extensive data against which to compare and contrast the results of a single DHS. In particular, the following analyses are drawn on extensively: analysis of the 1996 census and the 1998 SADHS, the published work by Moultrie and Timæus (2002; 2003), as well as the Final Report on the 1998 Demographic and Health Survey (Department of Health, 2002). In the case of the 2001 South Africa Census, results from that census presented here are drawn from the analysis prepared by Moultrie and Dorrington (2004) for Statistics South Africa.

3.2 Fertility Levels

The fertility rates presented in Table 3.1 refer to a three-year period before the survey so as to derive more robust estimates. As a consequence, the estimates apply to a period centred approximately 18 months before the survey date. Fieldwork for the 2003 SADHS was conducted between October 2003 and August 2004, with four fifths of the interviews conducted before March 2004, and the median and mean interview month was February of the same year. Thus, three-year fertility rates derived from this survey are centred, approximately, on August 2002. The 2001 census estimates are derived from births in the year preceding the census, conducted in October 2001. Hence, estimates of fertility derived from the 2001 census apply to April 2001. Taking the timing and reference periods of the 2001 census and the 2003 SADHS into consideration then leads to the observation that estimates from the two data sources refer to two points in time approximately sixteen months apart.

Table 3.1 Current fertility
Age-specific and cumulative fertility rates, the general fertility rate, and the crude birth rate for the three years preceding the survey, by urban – non-urban residence, South Africa 2003

| Age group | Residence | | Total |
|-----------|-----------|-----------|-------|
| | Urban | Non-urban | |
| 15-19 | 57 | 53 | 55 |
| 20-24 | 104 | 97 | 102 |
| 25-29 | 101 | 88 | 97 |
| 30-34 | 87 | 77 | 84 |
| 35-39 | 46 | 78 | 56 |
| 40-44 | 13 | 31 | 18 |
| 45-49 | 6 | 7 | 6 |
| TFR | 2.1 | 2.2 | 2.1 |
| GFR | 70 | 72 | 71 |
| CBR | 18.4 | 16.1 | 17.5 |

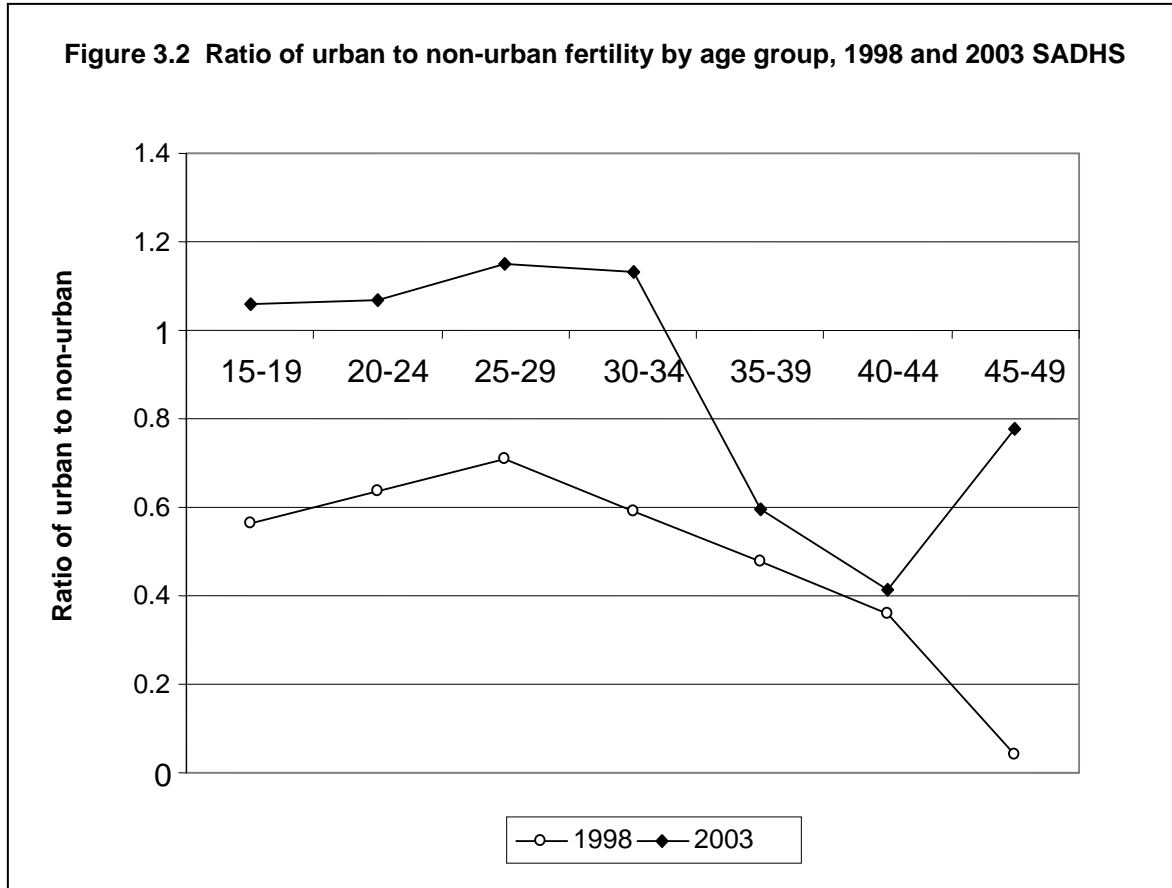
Note:
TFR-Total fertility rate for ages 15-49, expressed per woman
GFR-General fertility rate (births divided by the number of women aged 15-44), expressed per 1,000 women
CBR-Crude birth rate, expressed per 1,000 population.

Data should be read with caution. See text for detail

The fertility levels indicated by the 2003 SADHS are not plausible. Taken at face value, the 2003 SADHS data imply a generalised collapse in South African fertility, and particularly so in non-urban areas, that is at variance with estimates derived from either of the last two censuses (in 1996 or 2001), or the previous Demographic and Health Survey conducted in 1998. In the three previous post-apartheid demographic data collection exercises, national levels of fertility were estimated at 3.2 children per woman (1996 census), 2.9 children per woman (1998 SADHS) and 2.9 children per woman (2001 census). There are some indications that the 1998 SADHS estimate was probably too low; the study was known to have a slight bias towards urban, educated women, who typically have lower fertility than their non-urban, less-educated counterparts (Moultrie and Timæus, 2002). In any event, the decline in fertility registered over the five years between the 1996 and 2001 censuses was of the order of ten percent. By contrast, the 2003 SADHS suggests that – over little more than a year between the 2001 census and the 2003 SAHDS– fertility in the country fell by 27 percent.

Additionally, Table 3.1 suggests that fertility in urban areas of South Africa is now only marginally lower than in non-urban areas and that fertility levels in the country have declined to a level less than that required to sustain positive population growth in the long-term. Were these findings to be true, South Africa would be unique among developing countries on both counts. The report on the previous SADHS indicated urban fertility levels of 2.3 children per woman, and non-urban fertility levels of 3.9 children per woman. The data from the present survey suggest that urban fertility has fallen by 9 percent over the preceding five years while non-urban fertility is supposed to have fallen by a massive 44 percent over the same period.

The apparent precipitous fall in non-urban fertility over such a short period of time highlights a further anomaly in the 2003 SADHS data (Figure 3.2). In 1998, urban fertility was lower than non-urban fertility in all age groups, with the difference widening with increasing age beyond 30. In 2003, urban fertility was higher than non-urban fertility until age group 30-34. As will be discussed in the next section, given the concentration of the two lowest fertility population groups in urban areas, this finding is simply inconsistent with any semblance of South African reality.



3.3 Fertility Differentials

Estimates of fertility disaggregated by background characteristics are presented in Table 3.2.

| Table 3.2 Fertility by background characteristic | | | |
|--|----------------------|-------------------------------|--|
| Total fertility rate for the three years preceding the survey, percentage of women 15-49 currently pregnant, and mean number of children ever born to women age 40-49 years, by background characteristic, South Africa 2003 | | | |
| Background characteristic | Total fertility rate | Percentage currently pregnant | Mean number of children ever born to women age 40-49 |
| Urban | 2.1 | 2.8 | 3.0 |
| Non-Urban | 2.2 | 3.9 | 3.9 |
| Western Cape | 2.6 | 3.6 | 3.0 |
| Eastern Cape | 2.3 | 3.4 | 3.9 |
| Northern Cape | 2.8 | 3.5 | 3.2 |
| Free State | 2.0 | 3.6 | 3.3 |
| KwaZulu-Natal | 0.6 | 2.6 | 2.3 |
| North West | 2.5 | 3.9 | 3.5 |
| Gauteng | 2.3 | 2.8 | 3.1 |
| Mpumalanga | 2.3 | 2.5 | 3.8 |
| Limpopo | 2.7 | 3.9 | 4.5 |
| None | 2.4 | 3.0 | 4.4 |
| Grades 1-5 | 2.9 | 2.0 | 3.7 |
| Grades 6-7 | 2.5 | 3.1 | 3.6 |
| Grades 8-11 | 2.2 | 3.2 | 3.1 |
| Grade 12 | 1.6 | 3.8 | 2.3 |
| Higher | 1.8 | 2.6 | 2.6 |
| African | 2.1 | 3.4 | 3.5 |
| Coloured | 2.3 | 3.0 | 2.9 |
| Indian | 1.6 | 1.9 | 2.4 |
| White | 1.0 | 1.2 | 2.2 |
| Total | 2.1 | 3.2 | 3.3 |

Note: Data for white women 15-49 are derived from limited data, being based on a total of 401.6 person-years exposure across all age groups.

Data should be read with caution. See text for detail.

It is clear that particular problems were experienced with the fieldwork in KwaZulu-Natal. Nowhere are these problems more manifest than in the estimated level of fertility derived from the 2003 SADHS data. The reported total fertility rate in the province of 0.6 children per woman would, according to the United Nations' 2004 estimates, place the fertility in the province about 25 percent lower than that observed anywhere in the world, and more than half of that observed in any single country (United Nations 2004). While this observation points to significant flaws in the data for a single province, the ramifications for the interpretation of the 2003 SADHS data are far-reaching. In the first instance, not having data for one province makes the derivation from this survey of reliable national estimates of fertility – or indeed any other variable dependent directly or indirectly on the fertility data – impossible. Second, the data on fertility rates by province are not consistent with previous census and survey data collected in South Africa since 1996.

Table 3.3 presents Bonferroni-adjusted correlation coefficients between the total fertility rates observed among women of the African population group by province in the 1996 and 2001 censuses and the 1998 and 2003 Demographic and Health Surveys.

While there is a strong correspondence in the fertility rates observed by province in the two censuses and the 1998 SADHS, there is no evident correlation at all between the fertility levels observed by province in those three data collection exercises and the 2003 SADHS, and what correlation there is would appear to be negative. Correlation analysis based on Spearman's rank correlation method (i.e. examining the correlation between ordinal ranks, rather than observed fertility levels) leads to similar conclusions.

Further examination of the correlations indicates that the problem of poor data collection on fertility in the 2003 SADHS was not confined to KwaZulu-Natal. The second panel of Table 3.3 presents the correlation coefficients excluding the data for KwaZulu-Natal. The overall correlations between the three previous data series remain almost unchanged as a result of the exclusion of data from that province, while the correlations between the 2003 SADHS and those other studies evidently weakens (albeit towards a more typically positive relationship).

| Total Fertility Rates among African South Africans by province, various surveys | | | | |
|---|------------|-----------|-------------|-----------|
| | Census1996 | SADHS1998 | Census 2001 | SADHS2003 |
| All provinces | | | | |
| Census1996 | 1.000 | | | |
| SADHS1998 | 0.896* | 1.000 | | |
| Census2001 | 0.914* | 0.904* | 1.000 | |
| SADHS2003 | -0.203 | -0.336 | -0.154 | 1.000 |
| Excluding KwaZulu-Natal | | | | |
| Census1996 | 1.000 | | | |
| SADHS1998 | 0.902* | 1.000 | | |
| Census2001 | 0.910* | 0.916* | 1.000 | |
| SADHS2003 | 0.056 | 0.183 | 0.158 | 1.000 |

Note: * indicates significant correlation at the 1 percent level.

The fertility data by other background characteristics, as shown in Table 3.2, are also implausible: fertility rates among coloured women are seemingly higher than those among Africans (the opposite is strongly apparent in the two previous censuses and the previous SADHS), while fertility among whites too would indicate a world-record low.

3.4 Fertility Trends

Given that the estimated fertility rates are implausibly low (be they nationally, provincially or by population group) it is not possible to derive useful information on fertility trends in South Africa from these data. However, because this survey was conducted roughly five years after the previous survey, insights into the errors introduced into the data arising from poor fieldwork can be gained by comparing period fertility rates for quinquennial periods calculated from both the 1998 SADHS and the 2003 SADHS. Table 3.4 shows the quinquennial period age-specific fertility rates¹ calculated from the retrospective fertility histories collected in the 2003 SADHS.

| Fertility rates by age of mother at birth and five year periods before the survey, South African 2003 | | | | |
|---|-----|------|-------|-------|
| Age group | 0-4 | 5-9 | 10-14 | 15-19 |
| 15-19 | 55 | 73 | 88 | 75 |
| 20-24 | 101 | 129 | 167 | 165 |
| 25-29 | 103 | 139 | 163 | 161 |
| 30-34 | 77 | 107 | 120 | [122] |
| 35-39 | 56 | 67 | [110] | |
| 40-44 | 21 | [43] | | |
| 45-49 | [3] | | | |

Note: Age-specific fertility rates per 1 000 women. Figures in parentheses are based on truncated data.

Data should be read with caution. See text for detail.

It is interesting to note that the estimates of fertility among women of the African population group covering the period 1993-1998 (the period 0-4 years before the 1998 SADHS and the period 5-9 years before the present SADHS) are strongly congruent. Cumulated fertility among women of the African population group aged 15-44 is estimated as 3.0 children per woman in the 1998 SADHS, and 2.9 children per women in the 2003 survey. The age-pattern of fertility is strikingly similar (Figure 3.3) and, confirms the estimates produced from the previous SADHS.

¹ Data are presented for all South Africans, but there is significant heterogeneity in fertility in South Africa by population group, and the composition of the South African population by population group as evinced by the 2003 SADHS is quite different to that in the 1998 survey. Hence, apparent changes in fertility over time may reflect differences in the population group composition of the two samples rather than actual changes in the fertility rates of the constituent population groups.

Figure 3.3 Fertility rates by quinquennial period before the survey for equivalent aged women based on retrospective maternity histories, African South African women, 1998 SADHS and 2003 SADHS

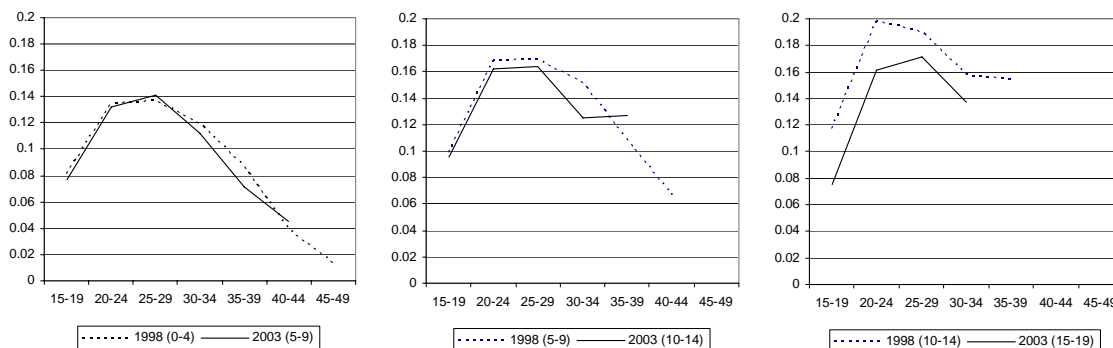


Figure 3.3 also explains why, by some metrics, the distribution of birth intervals in this SADHS do not look particularly odd in some time periods, despite the manifest problems with the data. Simply put, the problems with the data collection led particularly to the omission of births that occurred in the five years before the survey. This matter is discussed further in Section 3.6.

3.5 Children Ever Born and Living

Given the findings reported above, it is not surprising that average numbers of children ever born are not consistent between the current survey and the previous Demographic and Health Survey.

Typically, Demographic and Health Surveys present equivalent data for all women and currently married women separately. Fertility data are not analysed by marital status here since it is commonly accepted that marital status is a very weak predictor of childbearing in South Africa, not only because of the institutional legacies of apartheid in disrupting marriages and conjugal unions, but also because marriage in South Africa is not clear-cut, but processual (Budlender, Chobokoane and Simelane 2004).

Table 3.5 shows the distribution of women by age and parity, as well as the average numbers of children ever born and those still surviving by women's age.

Table 3.5 Children ever born and living

Percent distribution of all women by number of children ever born, and mean number of children ever born and mean number of living children, according to age group, South Africa 2003

| Age | Number of children ever born | | | | | | | | | | | Total | Number of women | Mean number of children ever born | Mean number of living children | |
|-------|------------------------------|------|------|------|------|------|-----|-----|-----|-----|-----|-------|-----------------|-----------------------------------|--------------------------------|------|
| | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10+ | | | | | |
| 15-19 | 90.4 | 9.6 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 100.0 | 1 395 | 0.10 | 0.09 |
| 20-24 | 54.4 | 35.6 | 9.3 | 0.6 | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 100.0 | 1 242 | 0.56 | 0.54 |
| 25-29 | 27.7 | 38.2 | 23.5 | 8.7 | 1.5 | 0.4 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 100.0 | 1 015 | 1.19 | 1.13 |
| 30-34 | 12.4 | 23.0 | 31.9 | 22.3 | 7.8 | 2.0 | 0.5 | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 | 100.0 | 918 | 1.99 | 1.89 |
| 35-39 | 6.0 | 16.8 | 26.2 | 25.7 | 15.1 | 6.2 | 2.2 | 0.9 | 0.4 | 0.4 | 0.0 | 0.0 | 100.0 | 991 | 2.64 | 2.52 |
| 40-44 | 5.9 | 12.5 | 20.8 | 26.8 | 14.3 | 9.3 | 4.4 | 2.7 | 2.0 | 0.6 | 0.6 | 0.6 | 100.0 | 812 | 3.12 | 2.95 |
| 45-49 | 4.8 | 11.8 | 20.7 | 19.1 | 15.1 | 11.6 | 7.8 | 5.4 | 1.3 | 1.4 | 0.9 | 0.9 | 100.0 | 668 | 3.46 | 3.20 |

Data should be read with caution. See text for detail.

The data from the 2003 SADHS indicate that just under five percent of women had not had children by the end of their reproductive years. However, further analysis of these data is probably spurious given the identified problem of underreporting of recent births. Amongst other things, this would have the effect of artificially depressing estimates of the extent of childbearing, particularly among younger women. Nonetheless, nearly one in ten women aged 15-19 are reported to have borne at least one child. This is most probably an underestimate: the equivalent figure in the 1998 SADHS was 13 percent, and adolescent fertility showed little evidence of decline between the 1996 and 2001 censuses.

The data on mean children ever borne and mean children still living in the last two columns of Table 3.5 are equally problematic for the same reasons.

Because the 1998 and 2003 SADHS surveys were almost exactly five years apart, it is possible to create synthetic cohorts, reflecting notionally the same group of women who would have been, for example, aged 40-44 in the more recent survey, and hence aged 35-39 in the 1998 study. As in Section 3.4, this correspondence can be used to examine the internal consistency of the parity data between the two surveys: the average parities of women in one age group in 1998 should not be higher than the average parities of the same cohort of women in the next age group in 2003².

For younger cohorts, women report more children ever born on average in 2003 than women of the same birth cohort did in 1998. However, the data from the 2003 survey suggest that among women aged 40-44 and 45-49 in the 2003 SADHS (aged 35-39 and 40-44 respectively in the previous SADHS) have had the same or fewer children on average now than they did five years previously. This would imply zero or negative fertility rates in these cohorts; something not supported out by the rates presented in Table 3.4. Evidently, many births born to particularly, older women in the 2003 SADHS were not recorded by fieldworkers.

² The average parities in a cohort of childbearing women could, theoretically, decline over time if it were observed that high-parity women suffered differentially extraordinarily high mortality over the period relative to lower-parity women, and if fertility among these lower parity women was very low. There are neither grounds nor evidence for asserting that this was the case in South Africa in the early years of the 21st century.

Furthermore, the proportion of children ever born who are still living is higher in 2003 at almost every age than in 1998 suggesting that it is probable that fieldworkers recorded dead children even less often than still living children in this survey, thereby biasing the number of children borne down and hence the proportion of children reported as still living upwards. This error is of particular significance because it is through a manipulation of this ratio that indirect estimates of child mortality can be derived. The conclusion drawn, then, is that reliable estimates of child mortality can not be derived using this approach from this survey, while the failure to accurately count either living or dead children under age five has severe implications for the ability to derive direct estimates of child mortality [see Chapter 6].

3.6 Birth Intervals

Data on birth intervals in previous South African studies have been comprehensively analysed by Moultrie and Timæus (2002). Using the retrospective birth history data from the 1987-9 unofficial SADHS and the 1998 SADHS, a pattern of increasing birth intervals over time was identified, with the trend in median birth intervals being, to a large measure, independent of women's age or parity. In very general terms, the data from the current SADHS corroborate these findings. Birth intervals appear to be long among both coloured and African South Africans.

However, strong caveats must be attached to the data presented in Table 3.6, as the data in this table refer only to births occurring in the five years before the survey. Given that a significant number of births occurring in the five years preceding the survey were omitted, this may consequently bias the results presented if these omissions are not proportionate across all variables studied.

Table 3.6 Birth intervals

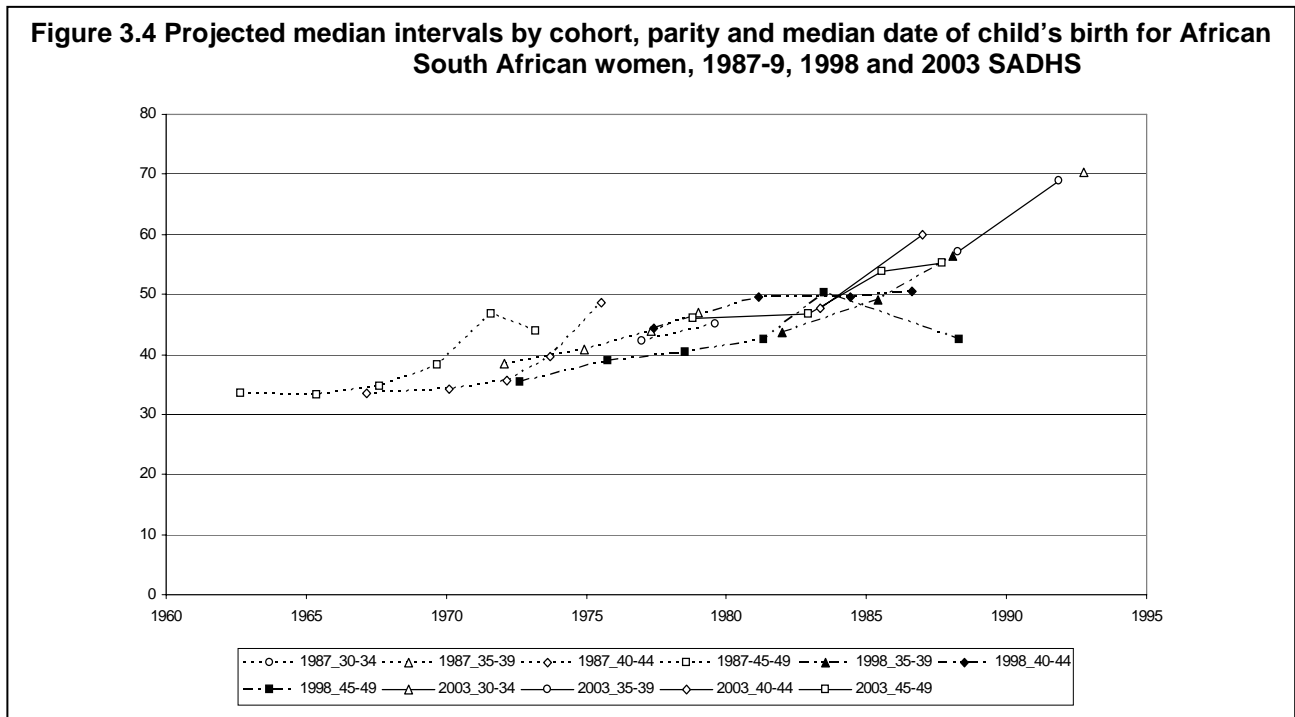
Percent distribution of non-first births in the five years preceding the survey by number of months since preceding birth, according to background characteristics, South Africa 2003

| Background characteristic | Months since preceding birth | | | | | Total | Number of non-first births | Median number of months since preceding birth |
|---------------------------|------------------------------|-------|-------|-------|------|-------|----------------------------|---|
| | 7-17 | 18-23 | 24-35 | 36-47 | 48+ | | | |
| 15-19 | NA | NA | NA | NA | NA | NA | 0 | NA |
| 20-29 | 7.2 | 6.1 | 18.7 | 21.8 | 46.2 | 100.0 | 409 | 44.6 |
| 30-39 | 3.2 | 3.6 | 11.9 | 14.7 | 66.6 | 100.0 | 659 | 60.8 |
| 40-49 | 1.7 | 1.4 | 18.4 | 16.9 | 61.7 | 100.0 | 179 | 57.9 |
| 2-3 | 4.1 | 3.5 | 13.1 | 16.1 | 63.3 | 100.0 | 847 | 59.6 |
| 4-6 | 4.5 | 6.1 | 15.5 | 20.9 | 52.9 | 100.0 | 344 | 49.2 |
| 7+ | 6.4 | 2.2 | 41.9 | 15.1 | 34.3 | 100.0 | 55 | 34.3 |
| Female | 5.4 | 4.1 | 14.4 | 17.1 | 58.9 | 100.0 | 610 | 54.0 |
| Male | 3.2 | 4.2 | 15.6 | 17.6 | 59.4 | 100.0 | 636 | 55.8 |
| Living | 3.5 | 3.9 | 14.3 | 17.5 | 60.7 | 100.0 | 1 171 | 55.5 |
| Dead | 17.1 | 7.6 | 25.7 | 15.0 | 34.6 | 100.0 | 75 | 33.9 |
| Urban | 3.8 | 4.0 | 14.6 | 16.4 | 61.1 | 100.0 | 793 | 56.9 |
| Non-urban | 5.2 | 4.3 | 15.8 | 19.0 | 55.8 | 100.0 | 453 | 53.0 |
| Western Cape | 3.5 | 4.3 | 15.9 | 13.8 | 62.6 | 100.0 | 198 | 57.6 |
| Eastern Cape | 8.0 | 4.4 | 20.4 | 21.8 | 45.3 | 100.0 | 164 | 44.7 |
| Northern Cape | 3.5 | 4.5 | 12.8 | 16.7 | 62.5 | 100.0 | 27 | 55.4 |
| Free State | 5.2 | 4.3 | 12.9 | 20.0 | 57.6 | 100.0 | 66 | 56.3 |
| KwaZulu-Natal | 8.5 | 0.8 | 13.5 | 23.0 | 54.2 | 100.0 | 54 | 59.1 |
| North West | 4.4 | 3.1 | 9.8 | 15.8 | 66.9 | 100.0 | 108 | 63.2 |
| Gauteng | 2.4 | 3.9 | 13.8 | 16.8 | 63.2 | 100.0 | 343 | 59.6 |
| Mpumalanga | 4.1 | 5.3 | 18.2 | 18.2 | 54.2 | 100.0 | 110 | 52.1 |
| Limpopo | 4.1 | 4.9 | 14.3 | 16.4 | 60.4 | 100.0 | 175 | 54.0 |
| None | 0.9 | 4.7 | 11.7 | 21.7 | 61.0 | 100.0 | 80 | 53.8 |
| Gr.1-5 | 8.3 | 3.8 | 24.5 | 18.6 | 44.8 | 100.0 | 123 | 40.0 |
| Gr.6-7 | 3.0 | 3.1 | 14.8 | 18.0 | 61.1 | 100.0 | 166 | 54.0 |
| Gr.8-11 | 4.5 | 5.1 | 15.3 | 17.3 | 57.9 | 100.0 | 543 | 54.8 |
| Gr.12 | 4.5 | 3.0 | 11.7 | 17.5 | 63.3 | 100.0 | 242 | 59.6 |
| Higher | 2.9 | 3.3 | 12.9 | 11.0 | 70.0 | 100.0 | 92 | 62.0 |
| African | 4.5 | 3.7 | 13.8 | 17.9 | 60.2 | 100.0 | 1 036 | 55.4 |
| Coloured | 4.4 | 6.9 | 16.2 | 16.3 | 56.2 | 100.0 | 149 | 54.8 |
| Indian | 4.2 | 4.9 | 33.0 | 15.1 | 42.7 | 100.0 | 20 | 39.9 |
| White | 0.0 | 4.7 | 33.3 | 9.6 | 52.4 | 100.0 | 41 | 47.5 |
| Total | 4.3 | 4.1 | 15.0 | 17.4 | 59.2 | 100.0 | 1 246 | 55.1 |

Note: First-order births are excluded, as are all multiple births other than the first reported in each confinement.
NA=Not applicable.

Data should be read with caution. See text for detail.

Figure 3.3 showed that the reporting of births among African South Africans in the 5-9 years before the 2003 SADHS strongly correlated with that observed in the five years before the 1998 SADHS. Using Aoun's variant of the Brass-Juárez approach to birth interval analysis (Aoun 1989; Brass and Juárez 1983), projected median birth intervals from the 2003 SADHS for African South African women can be calculated similar to those presented by Moultrie and Timæus (2002) using the two previous Demographic and Health Surveys. These projected median birth intervals are shown in Figure 3.4



The consistency between all three surveys is clear for the years before 1990, although the consequences of having too few births reported in the most recent quinquennial period is indicated by it not being possible to calculate a median birth interval for several age and parity combinations, and the rapid indicated rise in median birth intervals after 1990.

3.7 Age at First Birth

The final investigation conducted in this chapter is on age of mother at the commencement of childbearing.

Table 3.7 Age at first birth

Percentage of all women who have given birth by exact age, and median age at first birth by current age, South Africa 2003-2004

| Current age | Percentage who gave birth by exact age | | | | | Percentage who have never given birth | Number of women | Median age at first birth |
|-------------|--|------|------|------|------|---------------------------------------|-----------------|---------------------------|
| | 15 | 18 | 20 | 22 | 25 | | | |
| 15-19 | 0.9 | na | na | na | na | 90.4 | 1 395 | a |
| 20-24 | 1.1 | 15.0 | 30.1 | na | na | 54.4 | 1 242 | a |
| 25-29 | 1.7 | 15.3 | 33.2 | 47.1 | 63.4 | 27.7 | 1 015 | 22.5 |
| 30-34 | 2.4 | 17.5 | 40.9 | 59.4 | 74.9 | 12.4 | 918 | 21.0 |
| 35-39 | 2.8 | 18.0 | 36.6 | 57.3 | 75.5 | 6.0 | 991 | 21.3 |
| 40-44 | 3.5 | 20.3 | 43.2 | 59.4 | 75.9 | 5.9 | 812 | 20.8 |
| 45-49 | 2.5 | 16.7 | 40.3 | 60.5 | 74.3 | 4.8 | 668 | 20.9 |

Note: na = Not applicable.

a = Omitted because fewer than 50 percent of women had a birth before reaching the beginning of the age group.

Data should be read with caution. See text for detail.

According to the findings, almost half of all women typically have their first birth before their 21st birthday (Table 3.7). Approximately one in seven South African women has a birth before her 18th birthday. Further analysis of fertility data, for example investigations into differentials in the median age at first birth by background characteristics or the correlates of teenage pregnancy and motherhood is futile given the problems identified in the data.

3.8 Conclusions

For all practical purposes, the data on children ever born, living or dead from the 2003 SADHS cannot be used to form a reliable opinion on childbearing, fertility, child survival or any of their correlates in the five years before the survey. There are, however, aspects of the data – for example, fertility rates estimated for more distant time periods, and the length of birth intervals – which strongly correlate with data from previous surveys. However, enthusiasm in this regard must be tempered by the almost certain knowledge that were these data to be disaggregated by province, residence, education, or population group inconsistencies would be found. At 60 per cent of the size of the previous DHS, the sample size in the 2003 SADHS is simply too small to pursue such investigations. It is of particular concern that, given the centrality of the fertility data to the SADHS as a whole, a failure to be able to derive adequate measures of reproduction from these data means that all other related investigations using data from the study are equally problematic. The failure to find and enumerate children under the age of five has repercussions for the calculations of contraceptive use and family planning metrics that are contingent on women's parity or the identification of a woman's last-born child. In this regard, metrics such as wantedness of last pregnancy; and the standard division of motives for contraceptive use into stopping and spacing behaviours are severely compromised.

CHAPTER 4

CONTRACEPTION AND FERTILITY PREFERENCES

4.1 Introduction

Contraception plays a key role in attaining women's health. Its strongest impact on reproductive health is when it is used to prevent pregnancies that are too early, too close, too late and too many. Contraceptive prevalence is an important reproductive health indicator for global monitoring and it is often used as an indicator for development (WHO, 2001), however, this indicator does not provide information on the appropriateness of the method used. In the Department of Health's Strategic Plans: Health Goals, Objectives and Indicators (HGOI) 2001-2005 one of the key objectives under the goal of reducing maternal mortality and morbidity is increasing the contraceptive prevalence rate (Department of Health, 2001). Barrier methods (male and female condoms) are also important in their dual role of pregnancy and STI/HIV prevention.

The SADHS collects information on knowledge and use of contraceptives among men and women. The survey also collects information on women's preferences for births (or for additional births for those who already have children) in the future. This enables the analysis of so-called fertility preferences by assessing the interrelatedness of fertility intentions (that is whether women desire more children or not) and actual fertility behaviour through the analysis of "needs met" and "needs not met" for contraceptive protection against unwanted or mistimed pregnancies. The notion "unmet need" therefore refers to a disconnection between a woman's fertility preferences and what she does about them. When this unmet need results in an unwanted or mistimed pregnancy, it is regarded as an unintended consequence of behaviour. Since preferences are essentially opinions, the reliability and validity of data on fertility intentions can be questioned. Nonetheless, they are used to indicate possible trends in fertility and assess health service gaps.

4.2 Knowledge of Contraceptive Methods

Women and men were asked about methods of contraception that they know could be used to delay or avoid pregnancy. Almost all women (94 percent) and men (96 percent) have heard of at least one modern method of contraception (Table 4.1). This level of knowledge is similar to that seen in the 1998 survey. The methods most commonly known among both men and women are; injectables, pills and the male condom. The best known method for men is the male condom (94 percent).

For the first time, in the 2003 SADHS, the female condom (FC) and emergency contraception (EC) have been added to the list of methods asked about. The female condom was introduced into pilot sites in the South African public health sector in 1998. The method has been available in limited sites between 1998 and 2001. By 2003, 204 official sites stocked the female condom and further expansion will result in an estimated 249 sites providing the FC by the end of 2006. Through sub distribution mechanisms and referrals, approximately 15 percent of primary health care (PHC) facilities reported distribution of female condoms in 2002 (Ramkissoo *et al.*, 2004) and this will have contributed to increased knowledge of the method. The survey reports that by 2003 over half of the women (53 percent) and slightly more men (56 percent) have heard of the FC, indicating the success of the programme. Emergency Contraception knowledge is low amongst both women and men (2.3 percent and 3.6 percent respectively). The method is technically widely available in the public sector as repackaged oral contraceptive pills at no cost to the client. It is also available over the counter as a dedicated branded product in pharmacies across South Africa. Despite this technical availability, knowledge about the method's availability is still poor and uptake even

poorer. There are many reasons for this, including provider concerns around women discontinuing more reliable methods of contraception in favour of using EC and some concern that EC is an abortifacient (Mc Fadyen *et al.*, 2004). In addition, few community-based educational programmes provide information about the availability of the method. Moreover, entrance to public sector clinics outside of working hours so that EC can be obtained within the critical timeframe post unprotected sex presents another access problem.

Traditional methods are far less known among women (30 percent) and higher in men (46 percent). The mean number of contraceptive methods known is 5 for women and 5.6 for men, including both modern and traditional.

Unmarried women who have never had sex have high knowledge of contraceptive methods, with 83 percent knowing at least one method and a mean knowledge of 3.8 methods. Unmarried men who have never had sex have slightly lower knowledge about contraceptive methods (93 percent), compared to the sexually active men (99 percent).

Table 4.1 Knowledge of contraceptive methods

Percentage of all women/men, of women/men currently in union, of sexually active women/men not in union, of sexually inactive women/men not in union, and of women/men with no sexual experience who know any contraceptive method, by specific method, South Africa 2003

| Method | WOMEN 15-49 | | | | | MEN 15-59 | | | | |
|---------------------------------------|--------------------|-------------------------------------|---|-------------------------------------|-----------------------------|--------------------|-------------------------------------|---|------|-----------------------------|
| | All women | | Not in union: | | Not in union: never had sex | All men | | Not in union: | | Not in union: never had sex |
| | Currently in union | sexually active in the past 4 weeks | not sexually active in the past 4 weeks | sexually active in the past 4 weeks | | Currently in union | sexually active in the past 4 weeks | not sexually active in the past 4 weeks | | |
| Any method | 93.4 | 95.6 | 96.8 | 93.7 | 83.1 | 96.3 | 95.9 | 99.1 | 95.5 | 92.9 |
| Any modern method | 93.4 | 95.6 | 96.8 | 93.7 | 83.1 | 96.3 | 95.9 | 99.1 | 95.5 | 92.8 |
| Female sterilization | 45.1 | 55.5 | 39.8 | 43.8 | 27.0 | 51.1 | 60.3 | 53.6 | 44.1 | 29.9 |
| Male sterilization | 28.1 | 36.2 | 23.8 | 24.9 | 18.6 | 42.6 | 51.0 | 46.5 | 31.6 | 26.4 |
| Pill | 78.1 | 82.0 | 79.2 | 77.6 | 67.1 | 67.1 | 70.4 | 74.1 | 58.0 | 56.2 |
| IUD | 39.7 | 49.4 | 39.8 | 36.7 | 20.1 | 35.8 | 40.7 | 43.8 | 24.1 | 22.1 |
| Injectables | 84.5 | 87.2 | 88.5 | 84.5 | 72.0 | 69.8 | 72.1 | 77.7 | 62.5 | 57.3 |
| Implants | 9.0 | 12.2 | 7.1 | 8.3 | 4.6 | 16.0 | 19.3 | 17.6 | 9.2 | 12.5 |
| Male condom | 79.9 | 79.7 | 84.4 | 79.3 | 76.0 | 94.4 | 93.4 | 98.3 | 93.9 | 89.6 |
| Female condom | 53.2 | 53.9 | 56.6 | 51.6 | 50.5 | 56.3 | 52.0 | 67.9 | 47.5 | 56.7 |
| Emergency contraception | 19.6 | 22.1 | 22.8 | 17.6 | 13.3 | 3.6 | 2.9 | 4.2 | 4.5 | 2.8 |
| Diaphragm/Foam/Jelly | 9.6 | 13.3 | 8.2 | 7.8 | 5.5 | 16.2 | 20.1 | 15.8 | 12.4 | 11.1 |
| Any traditional method | 26.4 | 32.4 | 28.7 | 24.1 | 12.7 | 45.5 | 51.8 | 52.5 | 38.4 | 23.4 |
| Periodic Abstinence | 15.4 | 19.7 | 15.2 | 13.6 | 8.3 | 25.7 | 32.0 | 25.3 | 22.1 | 13.3 |
| Lactational amenorrhea (LAM) | 9.9 | 13.3 | 7.7 | 9.4 | 4.2 | 14.3 | 16.9 | 15.5 | 10.5 | 9.1 |
| Withdrawal | 21.7 | 26.9 | 24.9 | 19.4 | 9.1 | 42.8 | 49.3 | 49.2 | 35.4 | 21.8 |
| Number of women/men | 7,041 | 2,658 | 1,253 | 2,127 | 1,003 | 3,118 | 1,215 | 882 | 567 | 442 |
| Mean number of methods known | 5.0 | 5.6 | 5.1 | 4.8 | 3.8 | 5.6 | 6.1 | 6.1 | 4.8 | 4.2 |
| In union: married or living together. | | | | | | | | | | |

4.3 Ever Use of Contraception

Table 4.2 shows the methods of contraception women and men have ever used. The sexually active women category includes all sexually active women/men who had sex in the 4 weeks preceding the survey regardless of marital status. The women currently in union category includes married and cohabiting women/men only. Ever use of contraception by sexually active women and women in unions (married and cohabiting) is high (85 percent and 83 percent respectively). These figures are similar to the finding in the 1998 SADHS where 85 percent of women in a union had ever used a method of contraception. Looking at the five-year age groups the proportion that has ever used contraception is highest in the 20–24 year age group of the sexually active women at 89 percent. The age pattern of ever use of contraception for women in unions in 2003 is similar to the pattern reported in the 1998 survey.

Over half of sexually active women (56 percent) have ever used injectables and almost a third (29 percent) have ever used the pill. The male condom has ever been used by 38 percent of sexually active women but this figure falls to 28 percent in women in a current union. This figure is however considerably higher than found among women in a union in 1998 when 19 percent of women had ever used a male condom. As indicated in the previous section, the female condom was not included as a specific method in the 1998 survey. Ever use of female condoms, since its phased introduction in 1998, is 3 percent in sexually active women. Ever use of female condoms peaks at 4.8 percent in the 25-29 age group and is lowest in the youngest age group at 0.5 percent. Ever use of the male condom however, is highest in the youngest age group at 52 percent and shows, as might be expected, that the use of the female condom appear not to be taken up in the same pattern as the male condom. The female condom is only available directly from a health service provider and is therefore not as accessible as the male condom. The method is primarily targeted at women and the responsibility falls on a woman to introduce the method into her relationship. The partner may never have seen this device before. It is possible that older women are more confident in introducing the method to their partner than younger women. This may indicate a need to strengthen counseling to younger age groups and to men who are key targets for condom promotion.

Men interviewed in the SADHS were only asked about ever use of methods that are male-oriented, namely, male sterilization, male condom, lactational amenorrhoea method, periodic abstinence, withdrawal, and emergency contraception. Ever use of contraception by sexually active men is 83 percent. The ever use rate in those men aged 15-34 years is considerably higher than among older men, indicating a major shift in male use of contraception. The rate is highest in men in the 30-34 age group (90 percent) and lowest in men aged 50-54 years (44 percent). The majority of sexually active men aged 15-59 years have ever used male condoms, except those in the 50-54 age group. Ever use of traditional methods is higher in sexually active men (14 percent) compared to women (9 percent). Ever use of EC is mentioned by 1.9 percent of sexually active men. This is much higher than the ever use of EC reported by sexually active women (0.5 percent). Compared to the sexually active men, men in a union have much lower levels of ever use of contraception (55 percent). This is also reflected in lower condom use in all age groups.

Table 4.2. Ever use of contraception

Percent distribution of all women, of women currently in union, and of sexually active women by contraceptive method currently used, according to age, South Africa 2003

| Age | ALL WOMEN | | | | | | | | | | | | | | | | |
|--------------------------|----------------|-------------------|----------------------|--------------------|------|------|-------------|----------|-------------|---------------|------------|------------------------------|---------------------|-------------------------|------------------------|------------|---------------|
| | Modern methods | | | | | | | | | | | Traditional Method | | | | | |
| | Any method | Any modern method | Female sterilization | Male sterilization | Pill | IUD | Injectables | Implants | Male condom | Female condom | Foam/Jelly | Lactational amenorrhea (LAM) | Periodic Abstinence | Emergency contraception | Any traditional method | Withdrawal | Other methods |
| 15-19 | 36.1 | 36.1 | 0.1 | 0.1 | 5.3 | 0.7 | 23.1 | 0.1 | 19.5 | 1.0 | 0.3 | 0.1 | 0.9 | 0.7 | 3.6 | 2.2 | 1.0 |
| 20-24 | 73.0 | 73.0 | 0.2 | 0.4 | 18.0 | 1.2 | 49.9 | 0.4 | 40.2 | 2.4 | 0.3 | 0.6 | 2.2 | 0.1 | 8.8 | 5.1 | 3.3 |
| 25-29 | 80.9 | 80.7 | 2.0 | 0.5 | 30.8 | 1.5 | 58.5 | 0.3 | 40.2 | 4.6 | 0.3 | 1.5 | 2.5 | 0.5 | 9.5 | 5.1 | 3.7 |
| 30-34 | 83.9 | 83.8 | 5.7 | 0.4 | 31.6 | 4.3 | 61.4 | 0.2 | 34.9 | 4.3 | 0.6 | 1.0 | 2.3 | 0.8 | 8.2 | 5.4 | 2.6 |
| 35-39 | 85.2 | 85.2 | 14.5 | 0.9 | 31.6 | 5.9 | 57.7 | 0.0 | 29.0 | 3.2 | 0.7 | 2.8 | 2.8 | 1.0 | 9.4 | 5.9 | 2.8 |
| 40-44 | 75.5 | 75.3 | 17.7 | 2.5 | 27.5 | 8.8 | 45.2 | 0.4 | 21.8 | 1.9 | 0.9 | 2.3 | 3.1 | 0.5 | 8.4 | 4.8 | 1.8 |
| 45-49 | 74.3 | 73.9 | 22.5 | 0.7 | 30.6 | 8.1 | 42.3 | 0.0 | 18.3 | 0.9 | 1.3 | 1.9 | 1.7 | 0.0 | 8.2 | 6.2 | 1.9 |
| 15-49 | 70.5 | 70.3 | 7.3 | 0.7 | 23.3 | 3.7 | 47.2 | 0.2 | 29.6 | 2.6 | 0.5 | 1.3 | 2.1 | 0.5 | 7.8 | 4.7 | 2.4 |
| WOMEN CURRENTLY IN UNION | | | | | | | | | | | | | | | | | |
| 15-19 | 71.2 | 71.2 | 0.0 | 1.2 | 15.0 | 2.3 | 41.8 | 0.0 | 45.9 | 0.0 | 0.0 | 0.0 | 1.5 | 2.4 | 6.1 | 4.6 | 0.0 |
| 20-24 | 84.4 | 84.4 | 0.5 | 0.0 | 13.5 | 0.2 | 61.1 | 0.0 | 39.4 | 0.6 | 0.2 | 1.0 | 2.9 | 0.2 | 8.3 | 5.3 | 0.9 |
| 25-29 | 84.9 | 84.8 | 3.7 | 1.4 | 37.0 | 1.8 | 59.5 | 0.0 | 37.4 | 2.1 | 0.0 | 1.0 | 1.6 | 1.0 | 8.3 | 3.7 | 3.9 |
| 30-34 | 85.9 | 85.7 | 8.0 | 0.3 | 35.7 | 5.0 | 60.6 | 0.2 | 32.8 | 3.8 | 0.9 | 1.3 | 3.0 | 0.6 | 9.4 | 7.0 | 2.4 |
| 35-39 | 86.7 | 86.7 | 18.4 | 0.9 | 30.9 | 6.1 | 56.5 | 0.0 | 23.9 | 2.3 | 1.1 | 4.0 | 3.1 | 1.3 | 9.3 | 6.6 | 2.2 |
| 40-44 | 78.9 | 78.7 | 21.6 | 3.8 | 31.6 | 10.9 | 43.0 | 0.6 | 21.1 | 0.7 | 0.6 | 2.6 | 2.8 | 0.1 | 8.7 | 5.7 | 1.5 |
| 45-49 | 76.2 | 75.8 | 27.4 | 1.2 | 29.7 | 9.2 | 40.4 | 0.0 | 18.3 | 1.1 | 2.2 | 1.6 | 0.7 | 0.0 | 9.0 | 7.3 | 1.7 |
| 15-49 | 82.7 | 82.4 | 14.3 | 1.4 | 30.8 | 6.0 | 52.8 | 0.1 | 28.0 | 1.8 | 0.8 | 2.1 | 2.4 | 0.6 | 8.8 | 6.0 | 2.1 |
| SEXUALLY ACTIVE WOMEN | | | | | | | | | | | | | | | | | |
| 15-19 | 84.2 | 84.2 | 0.0 | 0.2 | 9.7 | 2.4 | 56.0 | 0.0 | 51.9 | 0.5 | 1.2 | 0.2 | 1.2 | 0.2 | 8.4 | 6.5 | 3.2 |
| 20-24 | 89.4 | 89.3 | 0.5 | 0.1 | 22.4 | 1.2 | 60.6 | 0.5 | 50.9 | 2.4 | 0.6 | 1.0 | 2.6 | 0.0 | 10.5 | 7.4 | 4.7 |
| 25-29 | 85.3 | 85.1 | 1.8 | 0.5 | 35.8 | 1.5 | 60.6 | 0.0 | 44.4 | 4.8 | 0.0 | 1.5 | 2.3 | 0.8 | 9.6 | 5.9 | 4.9 |
| 30-34 | 86.7 | 86.7 | 7.3 | 0.4 | 34.6 | 5.2 | 62.5 | 0.2 | 39.2 | 3.8 | 0.6 | 0.8 | 3.1 | 0.4 | 8.3 | 6.6 | 3.1 |
| 35-39 | 87.7 | 87.2 | 14.9 | 1.3 | 32.5 | 7.0 | 57.4 | 0.0 | 32.1 | 4.4 | 1.0 | 3.6 | 3.2 | 0.9 | 9.1 | 6.7 | 3.5 |
| 40-44 | 80.9 | 80.9 | 20.7 | 3.8 | 30.2 | 8.7 | 45.4 | 0.6 | 26.0 | 1.9 | 0.3 | 2.7 | 3.6 | 0.6 | 6.7 | 4.9 | 2.7 |
| 45-49 | 79.2 | 78.9 | 29.2 | 1.6 | 28.2 | 9.8 | 42.1 | 0.0 | 24.7 | 0.9 | 0.9 | 1.3 | 0.8 | 0.0 | 8.6 | 7.9 | 1.1 |
| 15-49 | 85.4 | 85.2 | 10.1 | 1.1 | 29.2 | 5.0 | 56.0 | 0.2 | 38.4 | 3.0 | 0.6 | 1.8 | 2.6 | 0.5 | 8.9 | 6.5 | 3.5 |
| ALL MEN | | | | | | | | | | | | | | | | | |
| 15-19 | 35.7 | 35.1 | NA | 1.2 | NA | NA | NA | NA | 32.0 | NA | NA | 0.0 | 1.8 | 1.8 | 4.1 | 3.7 | 0.8 |
| 20-24 | 71.9 | 70.4 | NA | 1.2 | NA | NA | NA | NA | 68.0 | NA | NA | 0.1 | 5.0 | 1.4 | 13.7 | 12.1 | 3.8 |
| 25-29 | 76.8 | 76.4 | NA | 0.6 | NA | NA | NA | NA | 74.2 | NA | NA | 1.6 | 6.9 | 1.4 | 16.2 | 14.4 | 4.0 |
| 30-34 | 72.9 | 71.2 | NA | 1.2 | NA | NA | NA | NA | 68.7 | NA | NA | 2.7 | 8.0 | 1.2 | 17.1 | 14.6 | 4.5 |
| 35-39 | 64.7 | 63.2 | NA | 1.6 | NA | NA | NA | NA | 61.8 | NA | NA | 2.6 | 6.7 | 0.9 | 14.8 | 14.1 | 4.6 |
| 40-44 | 53.9 | 52.3 | NA | 3.8 | NA | NA | NA | NA | 49.0 | NA | NA | 4.3 | 7.1 | 1.4 | 14.3 | 14.3 | 2.3 |
| 45-49 | 45.6 | 43.6 | NA | 5.7 | NA | NA | NA | NA | 39.4 | NA | NA | 2.2 | 3.5 | 2.6 | 13.1 | 12.7 | 1.0 |
| 50-54 | 40.9 | 38.3 | NA | 1.7 | NA | NA | NA | NA | 35.5 | NA | NA | 2.9 | 3.3 | 1.4 | 12.4 | 11.1 | 1.8 |
| 55-59 | 35.4 | 32.1 | NA | 0.9 | NA | NA | NA | NA | 28.3 | NA | NA | 3.0 | 10.4 | 0.7 | 21.2 | 20.7 | 2.2 |
| 15-59 | 57.5 | 56.1 | NA | 1.8 | NA | NA | NA | NA | 53.4 | NA | NA | 1.8 | 5.4 | 1.4 | 13.0 | 11.9 | 2.8 |

TABLE 4.2 Continued/....

| MEN CURRENTLY IN UNION | | | | | | | | | | | | | | | |
|------------------------------------|------|------|----|-----|----|----|------|------|----|----|-----|------|------|------|-----|
| 15-19 | 61.5 | 53.8 | NA | 0.0 | NA | NA | NA | 46.2 | NA | NA | 0.0 | 7.7 | 15.4 | 7.7 | 7.7 |
| 20-24 | 66.5 | 62.3 | NA | 0.0 | NA | NA | 57.1 | NA | NA | NA | 0.0 | 10.8 | 13.7 | 12.0 | 3.4 |
| 25-29 | 69.5 | 68.2 | NA | 0.0 | NA | NA | 63.9 | NA | NA | NA | 3.2 | 6.3 | 19.0 | 15.3 | 5.2 |
| 30-34 | 68.5 | 66.2 | NA | 1.9 | NA | NA | 63.2 | NA | NA | NA | 3.0 | 7.5 | 17.4 | 14.8 | 2.9 |
| 35-39 | 63.3 | 62.1 | NA | 2.6 | NA | NA | 60.3 | NA | NA | NA | 3.7 | 8.9 | 20.2 | 18.9 | 6.7 |
| 40-44 | 51.0 | 49.7 | NA | 4.9 | NA | NA | 46.3 | NA | NA | NA | 4.2 | 6.7 | 13.9 | 13.9 | 1.8 |
| 45-49 | 44.4 | 41.8 | NA | 6.6 | NA | NA | 36.0 | NA | NA | NA | 2.5 | 3.7 | 15.3 | 14.9 | 0.8 |
| 50-54 | 43.0 | 40.6 | NA | 2.2 | NA | NA | 36.8 | NA | NA | NA | 3.3 | 4.2 | 12.4 | 10.6 | 2.4 |
| 55-59 | 37.6 | 33.4 | NA | 1.3 | NA | NA | 28.4 | NA | NA | NA | 3.9 | 13.4 | 27.0 | 26.3 | 3.0 |
| 15-59 | 54.8 | 52.6 | NA | 3.0 | NA | NA | 48.8 | NA | NA | NA | 3.3 | 7.3 | 17.2 | 15.8 | 3.2 |
| SEXUALLY ACTIVE MEN NOT IN A UNION | | | | | | | | | | | | | | | |
| 15-19 | 88.6 | 87.0 | NA | 0.0 | NA | NA | 84.9 | NA | NA | NA | 0.0 | 3.9 | 10.0 | 10.0 | 0.7 |
| 20-24 | 86.6 | 85.3 | NA | 0.7 | NA | NA | 83.6 | NA | NA | NA | 0.2 | 3.3 | 15.0 | 14.1 | 4.3 |
| 25-29 | 89.7 | 89.4 | NA | 0.9 | NA | NA | 88.4 | NA | NA | NA | 1.6 | 8.5 | 18.2 | 17.0 | 4.3 |
| 30-34 | 90.4 | 90.2 | NA | 0.7 | NA | NA | 88.6 | NA | NA | NA | 1.0 | 9.7 | 16.5 | 14.9 | 4.8 |
| 35-39 | 70.7 | 67.7 | NA | 0.0 | NA | NA | 67.7 | NA | NA | NA | 0.0 | 1.6 | 5.8 | 5.8 | 1.0 |
| 40-44 | 77.5 | 76.6 | NA | 0.0 | NA | NA | 72.0 | NA | NA | NA | 8.6 | 10.8 | 9.5 | 9.5 | 6.9 |
| 45-49 | 56.9 | 56.9 | NA | 4.9 | NA | NA | 56.9 | NA | NA | NA | 2.0 | 4.2 | 8.8 | 8.0 | 2.0 |
| 50-54 | 44.2 | 44.2 | NA | 0.0 | NA | NA | 44.2 | NA | NA | NA | 0.0 | 0.0 | 17.1 | 17.1 | 0.0 |
| 55-59 | 54.0 | 54.0 | NA | 0.0 | NA | NA | 54.0 | NA | NA | NA | 0.0 | 0.0 | 4.1 | 4.1 | 0.0 |
| 15-59 | 83.2 | 82.3 | NA | 0.7 | NA | NA | 80.9 | NA | NA | NA | 1.1 | 5.5 | 13.7 | 13.0 | 3.4 |

NA = Not applicable.

In union: married or living together.

Sexually active: had sex in last 4 weeks.

4.4 Current Use of Contraception

The target in the Department of Health’s Strategic Plans: Health Goals, Objectives and Indicators (HGOI) 2001-2005 is to increase the contraceptive prevalence from 62 percent to 65 percent in sexually active women by 2005. The definition of the contraceptive prevalence rate is the percentage of sexually active women of reproductive age (15-49 years) using contraceptive methods. The SADHS, which is carried out every 5 years, is one of the most accurate ways of measuring this indicator. Most of the current information on contraceptive use in South Africa was first collected in the 1998 SADHS. The contraceptive prevalence rate in all sexually active women in 2003 across all ages is approximately 65 percent, in line with the target set for 2005 (Table 4.3). This figure has risen from the 1998 SADHS where the comparable figure was 62 percent. Among sexually active women not in a union, the prevalence rate is even higher (68 percent, data not shown). The increase among sexually active women is seen across every age group except the 20-24 age group where it has remained stable at 68 percent. The HGOI target is clearly achievable.

Table 4.3 shows the prevalence of currently using different contraceptive methods. The female condom was added to the list of current use methods in the 2003 SADHS. However, EC was not included, as it is not advised as a regular method of contraception. The 2003 survey also introduced a breakdown of the hormonal injectable methods into the two brands used in South Africa: Depo-Provera® is a 3 monthly injection and Nuristerate is administered every 2 months. Figure 4.1 shows the prevalence of current contraceptive use among sexually active women aged 15-49 years in 1998 and 2003.

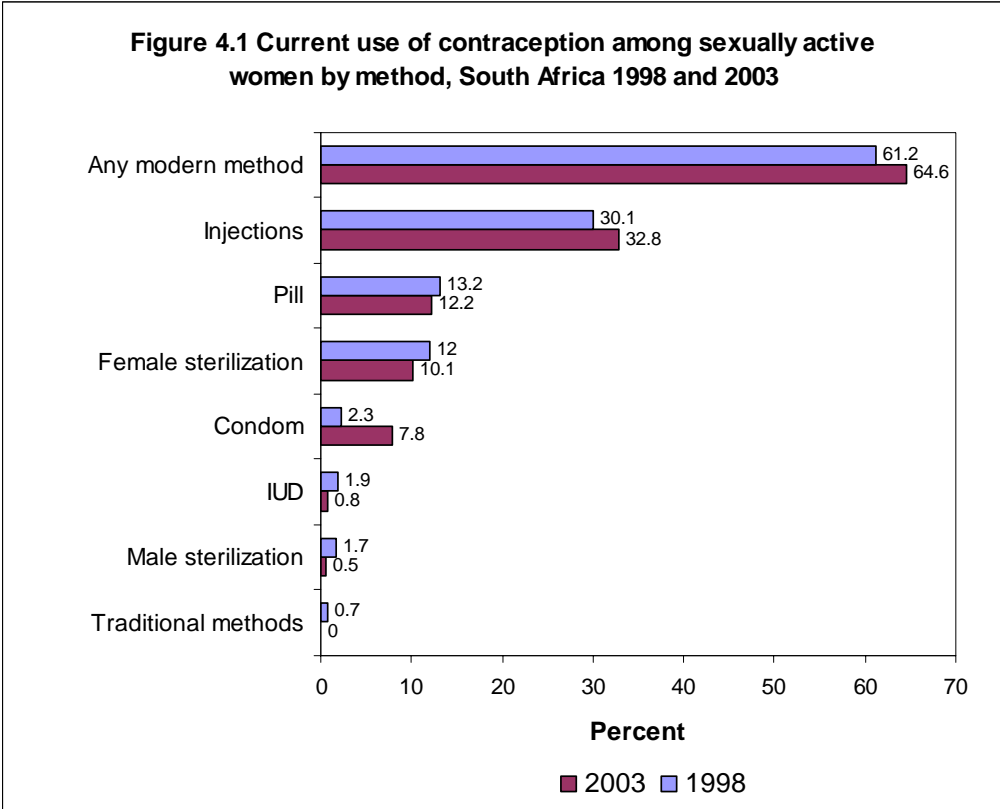


Table 4.3 Current use of contraception

Percent distribution of all women, of women currently in union, and of sexually active women by contraceptive method currently used, according to age, South Africa 2003

| Age | Modern Method | | | | | | | | | | Traditional Method | | | | | Number of women |
|--------------------------|---------------|-------------------|----------------------|--------------------|------|-----|----------------------|----------------------|-------------|---------------|------------------------|------------------------------|---------------------|-----------|-------|-----------------|
| | Any method | Any modern method | Female sterilization | Male sterilization | Pill | IUD | 2-monthly injectable | 3-monthly injectable | Male condom | Female condom | Any traditional method | Lactational amenorrhea (LAM) | Periodic abstinence | Not using | | |
| ALL WOMEN | | | | | | | | | | | | | | | | |
| 15-19 | 26.5 | 26.5 | 0.1 | 0.1 | 2.8 | 0.3 | 13.2 | 4.0 | 6.0 | 0.0 | 0.0 | 0.0 | 0.0 | 73.5 | 1 395 | |
| 20-24 | 54.0 | 54.0 | 0.2 | 0.0 | 8.6 | 0.1 | 19.2 | 14.6 | 10.9 | 0.3 | 0.0 | 0.0 | 0.0 | 46.0 | 1 242 | |
| 25-29 | 58.8 | 58.8 | 2.0 | 0.1 | 14.2 | 0.5 | 13.3 | 21.8 | 6.5 | 0.5 | 0.1 | 0.1 | 0.0 | 41.2 | 1 015 | |
| 30-34 | 58.2 | 58.1 | 5.7 | 0.0 | 15.0 | 0.3 | 11.0 | 21.9 | 4.1 | 0.1 | 0.2 | 0.1 | 0.1 | 41.8 | 918 | |
| 35-39 | 62.4 | 62.4 | 14.5 | 0.5 | 12.4 | 0.9 | 6.8 | 23.2 | 3.6 | 0.4 | 0.0 | 0.0 | 0.0 | 37.6 | 991 | |
| 40-44 | 53.7 | 53.3 | 17.7 | 1.0 | 6.0 | 1.9 | 4.1 | 17.9 | 4.5 | 0.4 | 0.4 | 0.4 | 0.0 | 46.3 | 812 | |
| 45-49 | 46.1 | 46.1 | 22.5 | 0.4 | 4.9 | 0.7 | 1.4 | 12.3 | 3.9 | 0.0 | 0.0 | 0.0 | 0.0 | 53.9 | 668 | |
| Total | 50.2 | 50.1 | 7.3 | 0.3 | 9.0 | 0.6 | 10.9 | 15.8 | 6.0 | 0.2 | 0.1 | 0.1 | 0.0 | 49.8 | 7 041 | |
| WOMEN CURRENTLY IN UNION | | | | | | | | | | | | | | | | |
| 15-19 | 47.0 | 47.0 | 0.0 | 1.2 | 11.9 | 1.1 | 12.5 | 10.6 | 9.7 | 0.0 | 0.0 | 0.0 | 0.0 | 53.0 | 51 | |
| 20-24 | 61.7 | 61.6 | 0.5 | 0.0 | 4.9 | 0.1 | 22.9 | 20.8 | 12.3 | 0.0 | 0.1 | 0.1 | 0.0 | 38.3 | 238 | |
| 25-29 | 60.2 | 60.1 | 3.7 | 0.2 | 15.5 | 0.5 | 11.0 | 23.9 | 5.4 | 0.0 | 0.1 | 0.1 | 0.0 | 39.8 | 393 | |
| 30-34 | 62.8 | 62.7 | 8.0 | 0.0 | 18.4 | 0.4 | 10.8 | 22.1 | 3.1 | 0.0 | 0.1 | 0.1 | 0.0 | 37.2 | 503 | |
| 35-39 | 65.4 | 65.4 | 18.4 | 0.9 | 11.9 | 1.0 | 7.0 | 23.6 | 2.6 | 0.0 | 0.0 | 0.0 | 0.0 | 34.6 | 563 | |
| 40-44 | 58.2 | 58.2 | 21.6 | 1.7 | 6.5 | 2.7 | 4.8 | 16.2 | 4.6 | 0.0 | 0.0 | 0.0 | 0.0 | 41.8 | 506 | |
| 45-49 | 51.0 | 51.0 | 27.4 | 0.7 | 4.9 | 0.8 | 0.8 | 13.2 | 3.3 | 0.0 | 0.0 | 0.0 | 0.0 | 49.0 | 405 | |
| Total | 59.9 | 59.8 | 14.3 | 0.7 | 10.9 | 1.0 | 8.5 | 19.9 | 4.6 | 0.0 | 0.0 | 0.0 | 0.0 | 40.1 | 2 658 | |
| SEXUALLY ACTIVE WOMEN | | | | | | | | | | | | | | | | |
| 15-19 | 68.7 | 68.7 | 0.0 | 0.2 | 5.1 | 1.4 | 36.0 | 8.2 | 17.7 | 0.0 | 0.0 | 0.0 | 0.0 | 31.3 | 247 | |
| 20-24 | 68.2 | 68.2 | 0.5 | 0.0 | 12.1 | 0.1 | 26.2 | 14.8 | 14.5 | 0.2 | 0.0 | 0.0 | 0.0 | 31.8 | 542 | |
| 25-29 | 65.8 | 65.7 | 1.8 | 0.1 | 18.0 | 0.6 | 14.9 | 22.3 | 7.6 | 0.4 | 0.1 | 0.0 | 0.1 | 34.2 | 536 | |
| 30-34 | 64.1 | 64.1 | 7.3 | 0.0 | 18.5 | 0.5 | 12.7 | 20.9 | 4.0 | 0.2 | 0.0 | 0.0 | 0.0 | 35.9 | 552 | |
| 35-39 | 64.4 | 64.4 | 14.9 | 0.9 | 11.9 | 1.2 | 7.6 | 23.2 | 4.4 | 0.4 | 0.0 | 0.0 | 0.0 | 35.6 | 604 | |
| 40-44 | 63.1 | 63.1 | 20.7 | 1.8 | 6.9 | 2.1 | 4.7 | 20.5 | 5.7 | 0.6 | 0.0 | 0.0 | 0.0 | 36.9 | 465 | |
| 45-49 | 57.2 | 57.2 | 29.2 | 0.9 | 5.8 | 0.0 | 0.4 | 15.8 | 5.1 | 0.0 | 0.0 | 0.0 | 0.0 | 42.8 | 310 | |
| Total | 64.7 | 64.6 | 10.1 | 0.5 | 12.2 | 0.8 | 13.8 | 19.0 | 7.8 | 0.3 | 0.0 | 0.0 | 0.0 | 35.3 | 3 256 | |

Note: Zero reported current use of Diaphragm Foam/Jelly or Implants.
 In union: married or living together.
 Sexually active: had sex in last 4 weeks.

Injectable methods remain a common contraceptive. From Table 4.3 it can be seen that among sexually active women the two injectable methods combined are used by 33 percent of women and account for half of the total method use among women using contraception. Injectables accounted for 48 percent of method use among sexually active women in 1998. In the younger age groups, however, the injectable use as a proportion of total contraceptive use has dropped since 1998 and the reduction appears to have been replaced by male condom use. Contraceptive pill use among sexually active women is 12 percent, which is slightly lower than the 13 percent observed in the 1998 survey. Male condom use has more than trebled in sexually active women, increasing from 2.3 percent in 1998 to 8 percent in 2003. The proportion among sexually active women not in a union is even higher (12 percent data not shown). Among married or cohabiting women, the proportion drops to 5 percent, suggesting that condom use is influenced by the stability of a relationship as reflected in the cohabitation status. The increase in male condom use can be seen across all age groups of sexually active women with a peak use of 18 percent in the youngest age group (15-19). This is double the male condom utilization rate reported in the 1998 survey and indicates a positive shift towards condom use among adolescents and young women.

While more than half of all women (53 percent) have knowledge of female condoms (Table 4.1), current use among sexually active women is very much lower at 0.3 percent (Table 4.3). This figure is highest among sexually active women aged 40-44 not in a union (3.3 percent, data not shown). Other surveys have also found that more women over the age of 20 use the female condom compared to younger women (Sly *et al.*, 1997). For the male condom this trend is reversed with the highest proportion of women currently using male condoms found in the 15-19 year age group (18 percent).

The three monthly injectable Depo-Provera[®] is overall more commonly used than Nuristerate. Nuristerate was introduced into South African family planning services later than Depo-Provera. It is predominantly offered to younger women by providers, related to the incorrect concern that giving younger women the 3 monthly Depo-Provera[®] injection may negatively impinge their return to fecundity when the method is discontinued. This method has increased in prevalence as these younger women have moved into their twenties and continued to choose Nuristerate. This is borne out by the pattern of use of these two methods in the different age groups (Table 4.3). Among the youngest age group over one-third of sexually active women are using Nuristerate (36 percent) compared to Depo-Provera[®] (8 percent). Among older women aged 45-49 years, this pattern is completely reversed with 16 percent of women using Depo-Provera[®] compared to less than 1 percent using Nuristerate. Should this shift in use of one brand over the other result in the proportion of women using Depo-Provera[®] declining further, there will be resource implications for the health service in terms of costs and human resources. The 2-monthly Nuristerate is not only more expensive but requires more family planning visits per year compared to Depo-Provera[®] (6 visits versus 4). In human resource constrained family planning services, family planning visits will have increased considerably as Nuristerate is now the most commonly used method in women aged 15-24 years.

IUD use in South Africa has always been low and has dropped further from 1.9 percent in sexually active women in 1998 to 0.8 percent in 2003. Female sterilization has also dropped slightly from 16 percent of currently in union women in 1998 to 14 percent in 2003. Traditional methods were only used by 1 percent of the sexually active women in 1998 and this has now dropped to almost zero.

4.5 Current Use of Contraception by Background Characteristics

Contraceptive use by background characteristics is shown in Table 4.4. There have been some interesting changes since the 1998 survey. In 1998 there was a considerable difference in contraceptive prevalence between urban and non-urban women overall. The urban contraceptive prevalence of 67 percent was higher than the non-urban prevalence of 54 percent. It can be seen that in the 2003 survey, the difference in prevalence found in 1998 has almost disappeared, with the urban prevalence remaining stable over the two surveys and the gains seen entirely in the uptake of contraception in the non-urban population. In 2003 the urban and rural disparities in contraceptive prevalence have been reduced significantly with urban prevalence of 66 percent only 4 percent higher than the non-urban figure (62 percent). This can be seen among African women, as this population group had large enough numbers for analysis. The urban prevalence among African women was 63 percent in both surveys. However, the non-urban prevalence among African women has increased from 52 percent to 61 percent between the two surveys.

The urban and non-urban differences can also be seen operating at provincial level where some of the more predominantly rural provinces such as Limpopo, Mpumalanga and KwaZulu-Natal had contraceptive prevalence rates below 60 percent in 1998. In this survey only two provinces (Limpopo and Free State) have a prevalence rate below 60 percent. Limpopo province has increased from 55 percent in 1998 to 59 percent and therefore has made good progress in contraceptive uptake. Free State, however, had a prevalence of 69 percent in the 1998 survey but appears to have lost ground with prevalence falling to just under 60 percent in this survey. This large decrease in prevalence needs to be investigated further. Of all the provinces KwaZulu-Natal has seen the greatest increase in contraceptive prevalence with an increase of 19 percentage points across the two surveys and has the highest contraceptive prevalence of all the provinces in South Africa. Western Cape, Northern Cape, North West and Free State have all decreased since 1998. In two instances (Western Cape and North West) this decrease has been a difference of approximately 10 percent.

Education revealed the greatest disparities in contraceptive prevalence of all the background characteristics in the 1998 survey. This has continued to be the case in 2003 although there has been a narrowing of the gap over time. The contraceptive prevalence among women with no education increased from 35 percent to 38 percent but the prevalence among women with post-matric qualifications is still about twice as high (75 percent).

Table 4.4 Current use of contraception by background characteristics

Percent distribution of sexually active women (had sex in last 4 weeks) by contraceptive method currently used, according to background characteristics, South Africa 2003

| Background Characteristic | Modern method | | | | | | | | | | Traditional method | | | Total | Number of women | |
|----------------------------------|---------------|-------------------|----------------------|--------------------|------|-----|----------------------|----------------------|-------------|---------------|------------------------|---------------------|---------------------|-------|-----------------|--|
| | Any method | Any modern method | Female sterilization | Male sterilization | Pill | IUD | 2-monthly injectable | 3-monthly injectable | Male condom | Female condom | Any traditional method | Periodic abstinence | Not currently using | | | |
| Residence | | | | | | | | | | | | | | | | |
| Urban | 65.8 | 65.8 | 12.0 | 0.7 | 13.0 | 1.1 | 12.9 | 17.9 | 7.8 | 0.4 | 0.0 | 0.0 | 34.2 | 100.0 | 2 299 | |
| Non-urban | 61.9 | 61.8 | 5.5 | 0.1 | 10.3 | 0.2 | 16.0 | 21.7 | 8.0 | 0.1 | 0.1 | 0.1 | 38.2 | 100.0 | 957 | |
| Province | | | | | | | | | | | | | | | | |
| Western | | | | | | | | | | | | | | | | |
| Cape | 63.4 | 63.4 | 21.6 | 1.9 | 13.5 | 0.3 | 9.2 | 14.1 | 3.0 | 0.0 | 0.0 | 0.0 | 36.6 | 100.0 | 413 | |
| Eastern Cape | 62.4 | 62.4 | 6.9 | 0.0 | 8.5 | 0.0 | 20.8 | 18.3 | 6.5 | 1.5 | 0.0 | 0.0 | 37.6 | 100.0 | 305 | |
| Northern | | | | | | | | | | | | | | | | |
| Cape | 60.1 | 60.1 | 15.0 | 0.0 | 9.1 | 0.4 | 5.0 | 23.8 | 6.8 | 0.0 | 0.0 | 0.0 | 39.9 | 100.0 | 49 | |
| Free State | 59.7 | 59.7 | 8.1 | 0.0 | 13.1 | 0.7 | 6.9 | 24.0 | 6.9 | 0.0 | 0.0 | 0.0 | 40.3 | 100.0 | 167 | |
| KwaZulu-Natal | 76.8 | 76.8 | 7.6 | 0.5 | 14.0 | 0.9 | 13.4 | 29.3 | 11.1 | 0.0 | 0.0 | 0.0 | 23.2 | 100.0 | 583 | |
| North West | 60.5 | 60.5 | 7.0 | 0.0 | 13.4 | 0.4 | 12.6 | 18.6 | 8.5 | 0.0 | 0.0 | 0.0 | 39.5 | 100.0 | 227 | |
| Gauteng | 63.1 | 63.1 | 10.5 | 0.6 | 12.9 | 1.2 | 13.1 | 16.7 | 7.8 | 0.3 | 0.0 | 0.0 | 36.9 | 100.0 | 973 | |
| Mpumalanga | 62.3 | 62.1 | 8.8 | 0.6 | 11.6 | 0.7 | 15.6 | 16.0 | 8.6 | 0.3 | 0.2 | 0.2 | 37.7 | 100.0 | 229 | |
| Limpopo | 58.6 | 58.6 | 5.1 | 0.0 | 8.6 | 1.4 | 20.9 | 13.5 | 8.9 | 0.3 | 0.0 | 0.0 | 41.4 | 100.0 | 309 | |
| Education | | | | | | | | | | | | | | | | |
| No education | 38.0 | 37.9 | 9.7 | 0.0 | 4.7 | 0.0 | 2.2 | 16.9 | 3.9 | 0.6 | 0.0 | 0.0 | 62.1 | 100.0 | 167 | |
| Grades 1-5 | 49.6 | 49.6 | 11.3 | 0.0 | 4.0 | 1.5 | 6.0 | 25.3 | 1.5 | 0.0 | 0.0 | 0.0 | 50.4 | 100.0 | 188 | |
| Grades 6-7 | 59.2 | 59.2 | 12.3 | 0.0 | 8.0 | 0.3 | 6.6 | 29.4 | 2.6 | 0.0 | 0.0 | 0.0 | 40.9 | 100.0 | 325 | |
| Grades 8-11 | 63.1 | 63.1 | 9.1 | 0.5 | 8.4 | 0.4 | 16.9 | 19.2 | 8.1 | 0.5 | 0.0 | 0.0 | 37.0 | 100.0 | 1 364 | |
| Grade 12 | 73.5 | 73.4 | 9.6 | 0.6 | 18.4 | 1.3 | 16.0 | 18.0 | 9.5 | 0.1 | 0.1 | 0.1 | 26.5 | 100.0 | 861 | |
| Higher | 74.8 | 74.8 | 12.9 | 1.7 | 24.3 | 1.8 | 13.2 | 9.2 | 11.9 | 0.0 | 0.0 | 0.0 | 25.2 | 100.0 | 349 | |
| Population Group | | | | | | | | | | | | | | | | |
| African | 62.2 | 62.2 | 6.3 | 0.0 | 9.9 | 0.7 | 16.0 | 20.4 | 8.5 | 0.3 | 0.0 | 0.0 | 37.8 | 100.0 | 2 631 | |
| Afr. Urban | 62.7 | 62.7 | 7.4 | 0.0 | 9.5 | 0.9 | 15.6 | 19.9 | 8.8 | 0.5 | 0.0 | 0.0 | 37.3 | 100.0 | 1 721 | |
| Afr. non-urban | 61.1 | 61.1 | 4.3 | 0.0 | 10.5 | 0.2 | 16.8 | 21.3 | 7.9 | 0.1 | 0.1 | 0.1 | 38.9 | 100.0 | 910 | |
| Coloured | 70.0 | 69.9 | 21.6 | 2.2 | 15.6 | 0.7 | 7.2 | 21.0 | 1.8 | 0.0 | 0.0 | 0.0 | 30.0 | 100.0 | 288 | |
| White | 80.9 | 80.9 | 30.7 | 3.4 | 27.4 | 2.0 | 3.2 | 6.0 | 8.3 | 0.0 | 0.0 | 0.0 | 19.1 | 100.0 | 251 | |
| Indian | 75.2 | 75.2 | 27.9 | 1.2 | 30.4 | 1.8 | 0.5 | 8.8 | 4.4 | 0.2 | 0.0 | 0.0 | 24.8 | 100.0 | 84 | |
| Number of living children | | | | | | | | | | | | | | | | |
| 0 | 58.2 | 58.2 | 0.5 | 0.1 | 10.8 | 0.4 | 20.3 | 9.7 | 15.8 | 0.5 | 0.0 | 0.0 | 41.8 | 100.0 | 788 | |
| 1-2 | 66.9 | 66.9 | 7.4 | 0.5 | 14.2 | 1.2 | 14.9 | 21.4 | 7.1 | 0.4 | 0.0 | 0.0 | 33.1 | 100.0 | 1 505 | |
| 3-4 | 68.6 | 68.6 | 21.7 | 1.2 | 11.7 | 0.8 | 7.6 | 23.2 | 2.5 | 0.0 | 0.0 | 0.0 | 31.4 | 100.0 | 771 | |
| 5+ | 57.4 | 57.4 | 24.2 | 0.0 | 4.9 | 0.0 | 4.0 | 22.2 | 2.1 | 0.0 | 0.0 | 0.0 | 42.6 | 100.0 | 193 | |
| Total | 64.7 | 64.6 | 10.1 | 0.5 | 12.2 | 0.8 | 13.8 | 19.0 | 7.8 | 0.3 | 0.0 | 0.0 | 35.3 | 100.0 | 3 256 | |

Note: If more than one method is used, only the most effective method is considered in this tabulation.

2 women had unknown population group and 3 women had unknown education.

4.6 Current Use of Contraception by Woman's Status

Table 4.5 shows current contraceptive prevalence among sexually active women according to indicators of women's status. Each interviewed woman was asked for the number of decisions between herself and her partner in which she participated in the final say. These included decisions on healthcare, household purchases, choice of food cooked and visiting relatives. It is interesting to see that women who reported they had no decision making powers in a relationship, have a contraceptive prevalence slightly higher than women who report greater decision making powers. This indicates that women may still have areas of decision-making power, in particular in family planning decisions, a finding that has been reported in other studies (Orji *et al.*, 2007). In the 1998 SADHS these questions were not asked but there were questions on attitudes of couples to family planning. Over two-thirds of sexually active women reported there was joint approval of family planning with their partner.

The actual method of choice may be affected by decision making as the proportion of women using injectable methods of hormonal contraception is much higher in the group reporting lower decision making power (40 percent). This prevalence is higher than for women who reported the highest levels of decision-making (31 percent). This may indicate that women are choosing an "invisible" method of contraception where there is no evidence of method use at home such as taking a contraceptive pill. Male condom use was slightly higher in women who had higher decision-making powers (11 percent).

Women were also asked in which particular situations a woman is justified in refusing to have sex with her partner. These reasons included: if the husband/partner had other partners, if the husband/partner had sex with other wives/partners, if the husband/partner had a sexually transmitted infection, if the woman had recently delivered and if the woman was tired or did not feel in the mood for sex. In this question, women who gave more reasons for refusing to have sex were more likely to have a higher contraceptive prevalence. Women who reported the maximum of 5 reasons for refusing to have sex for the circumstances given in the questionnaire have the highest contraceptive prevalence of 68 percent compared to 57 percent among those who gave no reasons for refusal.

Women were given a number of circumstances where a partner may be angered by his wife and asked whether they considered it acceptable. These included arguing with their partner, neglecting children, refusing sex, burning food and going out without informing the partner. Women were asked if it was acceptable for a husband to beat, kick or push his wife in these circumstances. Women who agreed that it was acceptable for a man to beat his wife for every reason given reported a lower contraceptive prevalence (59 percent) compared to those who said there was no reason, in any of the circumstances mentioned, for a man to beat his wife (65 percent).

Table 4.5 Current use of contraception by women's status

Percent distribution of sexually active (had sex in last 4 weeks) women by contraceptive method currently used, according to selected indicators of women's status, South Africa 2003

| Women's status indicators | Any method | Any modern method | Modern method | | | | | | Traditional method | | | Not currently using | Total | Number of women | |
|---|------------|-------------------|----------------------|--------------------|------|-----|----------------------|----------------------|--------------------|------------------------|---------------------|---------------------|-------|-----------------|-------|
| | | | Female sterilization | Male sterilization | Pill | IUD | 2-monthly injectable | 3-monthly injectable | Male condom | Any traditional method | Periodic abstinence | | | | |
| Number of decisions in which woman has final say¹ | | | | | | | | | | | | | | | |
| 0 | 64.3 | 64.3 | 7.6 | 0.0 | 9.3 | 0.8 | | 18.7 | 20.3 | 7.3 | 0.0 | 0.0 | 35.7 | 100 | 652 |
| 1-2 | 62.9 | 62.9 | 9.7 | 0.5 | 12.8 | 0.6 | | 15.0 | 17.6 | 6.6 | 0.0 | 0.0 | 37.1 | 100 | 1 255 |
| 3-4 | 70.6 | 70.6 | 15.4 | 1.8 | 15.1 | 0.5 | | 11.6 | 18.3 | 7.7 | 0.0 | 0.0 | 29.4 | 100 | 671 |
| 5 | 62.3 | 62.3 | 8.1 | 0.0 | 11.2 | 1.5 | | 9.3 | 21.2 | 10.6 | 0.0 | 0.0 | 37.7 | 100 | 679 |
| Number of reasons where it justified to refuse sex | | | | | | | | | | | | | | | |
| 0 | 56.9 | 56.9 | 6.9 | 0.0 | 8.3 | 0.6 | | 15.9 | 18.0 | 7.3 | 0.0 | 0.0 | 43.1 | 100 | 755 |
| 1-2 | 66.1 | 66.1 | 9.1 | 0.0 | 17.2 | 0.7 | | 14.0 | 21.8 | 1.5 | 0.0 | 0.0 | 33.9 | 100 | 139 |
| 3-4 | 60.7 | 60.7 | 6.9 | 0.4 | 10.7 | 1.5 | | 13.3 | 17.4 | 10.5 | 0.0 | 0.0 | 39.3 | 100 | 341 |
| 5 | 68.1 | 68.1 | 11.9 | 0.8 | 13.6 | 0.8 | | 13.1 | 19.5 | 8.0 | 0.0 | 0.0 | 31.9 | 100 | 2 021 |
| Number of reasons wife beating is justified | | | | | | | | | | | | | | | |
| 0 | 64.7 | 64.7 | 10.6 | 0.6 | 12.8 | 0.9 | | 13.3 | 18.6 | 7.8 | 0.0 | 0.0 | 35.3 | 100 | 2 729 |
| 1-2 | 66.6 | 66.5 | 8.2 | 0.5 | 11.0 | 0.9 | | 18.0 | 19.2 | 8.5 | 0.0 | 0.0 | 33.5 | 100 | 359 |
| 3-4 | 59.4 | 59.4 | 5.2 | 0.0 | 4.5 | 0.0 | | 15.4 | 26.2 | 8.2 | 0.0 | 0.0 | 40.6 | 100 | 131 |
| 5 | 59.4 | 59.4 | 11.1 | 0.0 | 13.3 | 0.0 | | 9.9 | 23.2 | 1.9 | 0.0 | 0.0 | 40.6 | 100 | 38 |
| Total | 64.7 | 64.6 | 10.1 | 0.5 | 12.2 | 0.8 | | 13.8 | 19.0 | 7.8 | 0.0 | 0.0 | 35.3 | 100 | 3 256 |

Note: If more than one method is used, only the most effective method is considered in this tabulation.

Of modern methods there was no reported use of diaphragm/foam/jelly, female condoms or implants.

Of traditional methods, there was no reported use of lactational, amenorrhea, withdrawal or other methods.

¹ Either by herself or jointly with others.

4.7 Number of Children at First Use

Use of contraception prior to childbearing indicates whether a woman has chosen to delay her first birth. Table 4.6 includes all women who have ever used contraception by the point in their fertility history at which they started using a method of contraception. It can be clearly seen that younger women are far more likely to have used a method prior to the birth of their first child compared to women in the older age groups. The majority of women in the 15-19 age group who have ever used contraception (86 percent) have used a method of contraception before their first birth. This figure decreases in every increasing five-year age group. In this regard, in the oldest age category of women (45-49) less than a quarter (23 percent) reported using a method prior to their first child. A similar pattern can be seen in the men with a similar decrease in proportion of contraceptive users with increasing age. The 1998 survey only reported on ever-married women for the same variable and in the youngest age group the figure for those having used contraception before their first birth was 52 percent and also decreased in every increasing age group. As the 2003 data include all women and not only the ever-married women, we would expect this figure to be higher. Nonetheless, it may also show that more women are using a method of contraception prior to child bearing.

| Table 4.6 Number of children at first use of contraception | | | | | | | | | | |
|---|--------------------------|---|------|------|------|------|---------|-------|---------------------|--|
| Percentage of all women/men who have never used contraception and the percentage distribution of all women/men who have ever used contraception by number of living children at the time of first use of contraception, according to current age, South Africa 2003 | | | | | | | | | | |
| Current age | Never used contraception | Number of living children at time of first use of contraception | | | | | | Total | Number of women/men | Median number of children at first use |
| | | 0 | 1 | 2 | 3 | 4+ | Missing | | | |
| WOMEN | | | | | | | | | | |
| 15-19 | 33.8 | 86.3 | 11.2 | 1.3 | 0.0 | 0.0 | 1.3 | 100.0 | 504 | 0.0 |
| 20-24 | 15.8 | 70.3 | 25.2 | 4.1 | 0.0 | 0.0 | 0.4 | 100.0 | 907 | 0.0 |
| 25-29 | 15.8 | 48.0 | 36.8 | 11.2 | 2.7 | 0.1 | 1.2 | 100.0 | 821 | 0.3 |
| 30-34 | 14.6 | 41.9 | 33.0 | 12.0 | 7.4 | 3.6 | 2.1 | 100.0 | 770 | 0.3 |
| 35-39 | 12.8 | 31.7 | 32.5 | 17.9 | 9.1 | 8.4 | 0.4 | 100.0 | 851 | 0.6 |
| 40-44 | 22.2 | 27.4 | 31.8 | 17.8 | 11.4 | 11.6 | 0.0 | 100.0 | 613 | 0.8 |
| 45-49 | 24.4 | 22.6 | 33.5 | 19.0 | 9.6 | 14.7 | 0.6 | 100.0 | 496 | 0.9 |
| Total | 18.0 | 47.1 | 29.8 | 11.8 | 5.5 | 4.9 | 0.8 | 100.0 | 4 962 | 0.5 |
| MEN | | | | | | | | | | |
| 15-19 | 37.9 | 69.8 | 0.0 | 0.0 | 0.0 | 0.0 | 30.2 | 100.0 | 215 | 0.0 |
| 20-24 | 30.2 | 73.4 | 3.9 | 0.3 | 0.0 | 0.3 | 22.0 | 100.0 | 379 | 0.0 |
| 25-29 | 31.7 | 71.3 | 12.6 | 0.5 | 0.2 | 0.2 | 15.2 | 100.0 | 319 | 0.0 |
| 30-34 | 29.5 | 52.5 | 18.2 | 8.3 | 2.6 | 0.0 | 18.4 | 100.0 | 253 | 0.0 |
| 35-39 | 37.9 | 42.2 | 20.6 | 19.2 | 1.7 | 1.1 | 15.2 | 100.0 | 220 | 0.3 |
| 40-44 | 47.4 | 30.1 | 17.8 | 13.3 | 13.5 | 4.7 | 20.6 | 100.0 | 174 | 0.8 |
| 45-49 | 54.0 | 28.5 | 16.4 | 15.8 | 8.8 | 7.9 | 22.6 | 100.0 | 102 | 1.1 |
| 50-54 | 56.8 | 19.5 | 4.5 | 17.0 | 13.5 | 10.2 | 35.3 | 100.0 | 75 | 2.9 |
| 55-59 | 64.8 | 26.9 | 20.6 | 17.4 | 2.1 | 9.7 | 23.3 | 100.0 | 55 | 0.9 |
| Total | 44.9 | 55.4 | 11.7 | 7.1 | 3.1 | 1.9 | 20.9 | 100.0 | 1 793 | 0.3 |

4.8 Knowledge of Fertile Period

Women were asked at what time in the ovulatory (menstrual) cycle they perceived they were fertile or most likely to fall pregnant. This information can be used should a woman practice periodic abstinence as a natural method of contraception. Only a small proportion of women (12 percent) know the correct answer, which was halfway between two menstrual periods. The proportion of women who know this has not changed since the 1998 survey when 11 percent knew the correct answer. Thirty percent of women did not know when this time was and almost another thirty percent (27 percent) said there was no specific time in the cycle when women are fertile. Only 4 women reported the use of periodic abstinence as a method of contraception and only 2 of these women were able to name the correct timing of the fertile period. Lack of knowledge about the ovulatory cycle is a matter of concern as a third of women are sexually active and not using a method of contraception.

4.9 Postpartum Amenorrhea, Abstinence and Insusceptibility

Women who had given birth in the 3 years preceding the survey were asked for how many months they were amenorrheic post delivery (Table 4.7). They were also asked about postpartum abstinence. It can be seen that almost half of women (46 percent) remained amenorrheic for between 2-3 months post partum, a third (34 percent) for a year and a small proportion (16 percent) reported still being amenorrheic at 34-35 months. These findings are similar to those observed in the 1998 SADHS.

The majority of women (79 percent) reported abstinence for at least 2-3 months postpartum. A third (35 percent) continued to abstain for a year and just over a quarter (27 percent) for 2 years. Some women (14 percent) reported abstinence for almost 3 years. The mean length of abstinence is 13.3 months. The overall insusceptibility at one year was 49 percent, which falls to just over a quarter (29 percent) after two years post partum. The median length of abstinence has increased from 4.9 months in 1998 to 7.2 months in the 2003 survey.

Insusceptibility has increased very slightly from 12.2 months to 13.3 months between surveys. Although insusceptibility has positive implications for birth spacing, the abstinence component may be a concern in the context of the high HIV prevalence in South Africa. Long-term abstinence can lead to potential risky sexual behaviour in a relationship where the male partner may engage in other sexual relationships (Ali et al., 2001 and Cleland et al., 1999).

| Months since birth | Percentage of births for which the mother is: | | | Number of births |
|--------------------|---|------------|---------------|------------------|
| | Amenorrheic | Abstaining | Insusceptible | |
| < 2 | 60.5 | 80.1 | 80.1 | 53 |
| 2-3 | 46.4 | 78.9 | 85.7 | 74 |
| 4-5 | 40.6 | 62.5 | 67.5 | 70 |
| 6-7 | 49.1 | 48.2 | 66.8 | 79 |
| 8-9 | 35.5 | 47.1 | 57.1 | 75 |
| 10-11 | 43.6 | 42.9 | 56.8 | 78 |
| 12-13 | 33.8 | 34.8 | 49.3 | 64 |
| 14-15 | 33.7 | 29.1 | 52.7 | 80 |
| 16-17 | 24.0 | 17.4 | 32.9 | 63 |
| 18-19 | 25.1 | 15.1 | 35.2 | 67 |
| 20-21 | 24.5 | 22.3 | 38.1 | 99 |
| 22-23 | 21.6 | 24.4 | 38.1 | 61 |
| 24-25 | 8.4 | 26.7 | 28.7 | 77 |
| 26-27 | 15.8 | 32.1 | 37.6 | 79 |
| 28-29 | 15.8 | 24.5 | 30.4 | 57 |
| 30-31 | 18.4 | 18.1 | 24.4 | 55 |
| 32-33 | 10.2 | 29.2 | 30.5 | 59 |
| 34-35 | 16.2 | 13.8 | 23.0 | 76 |
| Total | 29.1 | 35.7 | 46.6 | 1 267 |
| Median | 2.2 | 7.2 | 13.3 | NA |
| Mean | 10.9 | 13.3 | 17.0 | NA |

Note: Estimates are based on status at the time of the survey.
NA = Not applicable.

Information about postpartum amenorrhoea, abstinence and insusceptibility by background characteristics is shown in Table 4.8. Women aged between 15-29 years report a slightly shorter length of postpartum amenorrhoea (2.2 months) compared to women older than 29 years (2.4 months). The duration of postpartum amenorrhoea in non-urban women is over twice as long as in urban women (5.2 months and 2.1 months respectively). The length of amenorrhoea is related to duration of breastfeeding. The difference between urban and non-urban settings in length of postpartum amenorrhoea has reduced since the 1998 survey where the non-urban duration was 6.3 months compared to only 0.7 months in the urban areas. There are also large differences by province with the Northern Cape reporting the longest duration of postpartum amenorrhoea (12.9 months).

Postpartum abstinence is higher in younger women aged 15-29 years compared to those over 29 years. The length of postpartum abstinence in younger women has increased from 5.3 months in the 1998 survey to 9.1 months in the 2003 survey. In 2003 the provinces of Eastern Cape, North West and Limpopo report the highest lengths of postpartum abstinence. This was the same situation in the 1998 survey with the exception of the Free State that had reported one of the highest rates of postpartum abstinence in 1998 (7.1 months) and this fell to 0.4 months in 2003 and was lower than any other province. There were minimal differences between urban and non-urban sites in length of abstinence in 2003, however these figures have both risen compared to 1998.

Table 4.8 Median duration of postpartum insusceptibility by background characteristics

Median number of months of postpartum amenorrhoea, postpartum abstinence, and postpartum insusceptibility following births in the three years preceding the survey, by background characteristics, South Africa 2003

| Background characteristic | Postpartum amenorrhoea | Postpartum abstinence | Postpartum insusceptibility | Number of births |
|---------------------------|------------------------|-----------------------|-----------------------------|------------------|
| Age | | | | |
| 15-29 | 2.2 | 9.1 | 13.4 | 790 |
| 30-49 | 2.4 | 5.6 | 9.3 | 478 |
| Residence | | | | |
| Urban | 2.1 | 6.9 | 13.0 | 839 |
| Non-urban | 5.2 | 7.6 | 14.5 | 428 |
| Region | | | | |
| Western Cape | 0.5 | 0.6 | 0.6 | 188 |
| Eastern Cape | 2.1 | 10.0 | 10.2 | 154 |
| Northern Cape | 12.9 | 6.9 | 22.0 | 29 |
| Free State | 0.4 | 0.4 | 0.4 | 84 |
| KwaZulu-Natal | 2.4 | 2.3 | 9.3 | 65 |
| North West | 6.9 | 8.9 | 20.7 | 118 |
| Gauteng | 1.9 | 4.1 | 6.2 | 360 |
| Mpumalanga | 0.7 | 4.1 | 8.3 | 90 |
| Limpopo | 4.8 | 9.1 | 17.5 | 178 |
| Education | | | | |
| No education | 2.1 | 13.8 | 17.7 | 42 |
| Grades 1-5 | 0.5 | 0.5 | 0.5 | 76 |
| Grades 6-7 | 7.3 | 9.3 | 9.7 | 134 |
| Grades 8-11 | 0.7 | 8.3 | 13.7 | 607 |
| Grade 12 | 3.2 | 4.0 | 12.1 | 296 |
| Higher | 1.4 | 3.4 | 7.3 | 111 |
| Population group | | | | |
| African | 3.0 | 8.2 | 13.2 | 1 090 |
| Afr. urban | 2.7 | 8.1 | 12.5 | 689 |
| Afr. non-urban | 5.7 | 8.3 | 15.0 | 401 |
| Coloured | 0.6 | 3.3 | 16.7 | 125 |
| Indian | 0.4 | 1.9 | 4.9 | 19 |
| White | 1.7 | 1.9 | 2.1 | 33 |
| Total | 2.2 | 7.2 | 13.3 | 1 267 |

Note: Medians are based on current status.

4.10 Timing of Sterilisation

In 2003 almost a quarter (23 percent) of all women aged 45-49 and 18 percent of all women aged 40-44 years have been sterilized (Table 4.2 and Table 4.3). Women who had been sterilized were asked at what age they had undergone the surgical procedure (Table 4.9). It appears that women are choosing to be sterilized later in their reproductive lives, evident in the increase in the age of timing of sterilization observed between the 1998 and 2003 survey. In 1998, 64 percent of women who had been sterilized had undergone the procedure by the age of 34 years. In the 2003 survey, this figure has dropped slightly to 61 percent. However the median age of sterilization at just over 32 years has not changed between surveys.

| Years since operation | Age at time of sterilization | | | | | | Total | Number of women | Median age ¹ |
|-----------------------|------------------------------|-------|-------|-------|-------|-------|-------|-----------------|-------------------------|
| | <25 | 25-29 | 30-34 | 35-39 | 40-44 | 45-49 | | | |
| <2 | 1.8 | 13.2 | 21.9 | 40.0 | 5.7 | 17.5 | 100.0 | 82 | 35.4 |
| 2-3 | 9.6 | 16.4 | 14.5 | 40.7 | 17.0 | 2.0 | 100.0 | 71 | 35.0 |
| 4-5 | 3.1 | 16.9 | 39.1 | 21.0 | 19.9 | 0.0 | 100.0 | 80 | 32.1 |
| 6-7 | 6.5 | 21.4 | 39.0 | 29.4 | 3.7 | 0.0 | 100.0 | 65 | 32.5 |
| 8-9 | 0.2 | 27.1 | 23.2 | 49.5 | 0.0 | 0.0 | 100.0 | 51 | 35.0 |
| 10+ | 17.6 | 30.3 | 36.1 | 16.0 | 0.0 | 0.0 | 100.0 | 164 | a |
| Total | 8.6 | 22.1 | 30.4 | 29.0 | 6.8 | 3.1 | 100.0 | 514 | 32.4 |

¹ Median ages are calculated only for women sterilized at less than 40 years of age to avoid problems of censoring.
a = Not calculated due to censoring.

4.11 Source of Contraception

Table 4.10 shows where women access their contraceptive method. The majority (83 percent) obtain their methods from the public health sector. Contraceptive services in the public sector are free to clients and they are an essential component of PHC services. Within the public health sector the most commonly mentioned source is the government primary health care centre (41 percent). Women also get contraceptives from hospitals and family planning clinics. The family planning clinics are normally based within a government health centre. Although family planning services have been integrated into PHC services, they often remain as stand-alone services within a health centre.

The private health sector is less utilized as a source of contraceptives (13 percent). In South Africa private medical aids generally do not pay for contraception and therefore women usually have to pay for a consultation with a doctor who will write a prescription. The method can then be purchased from a pharmacy. The private health sector accounts for about a quarter (24 percent) of female sterilization and one-fifth of pill users. It also accounts for more than half of male sterilization. The IUD is accessed in the private health sector in a similar proportion as the public health sector. IUDs are accessed from both pharmacy and private doctor. Those accessed from a pharmacy will still have to be inserted by a doctor.

| Table 4.10 Source of contraception | | | | | | | | |
|--|-------|------|-------------|---------------|----------------------|--------------------|--------------|-------|
| Percent distribution of current users of modern contraceptive methods by most recent source of method, according to specific method, South Africa 2003 | | | | | | | | |
| Source of supply | Pill | IUD | Injectables | Female condom | Female sterilization | Male sterilization | Male condoms | Total |
| Public sector | 73.9 | 46.1 | 92.3 | 70.4 | 71.1 | 40.6 | 72.4 | 82.6 |
| Government hospital | 12.3 | 14.1 | 17.4 | 16.2 | 66.0 | 34.9 | 14.4 | 23.2 |
| Government health center | 39.1 | 22.2 | 51.7 | 37.0 | 5.1 | 5.8 | 41.1 | 40.7 |
| Family planning clinic | 16.6 | 8.4 | 14.2 | 17.2 | 0.0 | 0.0 | 12.2 | 12.2 |
| Mobile clinic | 6.0 | 1.4 | 9.0 | 0.0 | 0.0 | 0.0 | 4.7 | 6.5 |
| Private health sector | 21.7 | 50.4 | 6.2 | 18.0 | 23.6 | 59.4 | 13.9 | 13.3 |
| Private doctor | 4.5 | 9.3 | 1.2 | 0.0 | 21.1 | 59.4 | 4.3 | 5.4 |
| Pharmacy | 10.6 | 0.0 | 0.0 | 18.0 | 0.0 | 0.0 | 6.6 | 2.8 |
| Private hospital or clinic | 6.5 | 41.1 | 5.0 | 0.0 | 2.6 | 0.0 | 3.0 | 5.1 |
| Other source | 1.4 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 7.9 | 1.2 |
| Shop | 1.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.8 | 0.4 |
| Church | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Friends relatives | 0.3 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 6.1 | 0.8 |
| Other | 0.0 | 0.0 | 0.0 | 0.0 | 0.3 | 0.0 | 0.1 | 0.1 |
| Missing | 3.0 | 0.5 | 1.5 | 11.7 | 4.3 | 0.0 | 3.2 | 2.5 |
| Total | 100.0 | 97.0 | 100.0 | 100.0 | 100.0 | 100.0 | 97.6 | 99.7 |
| Number of women | 632 | 42 | 1 884 | 17 | 514 | 18 | 421 | 3 527 |

Note: Table excluded lactational amenorrhoea method (LAM) but includes 17 users of female condoms and 18 users of male sterilization.

4.12 Fertility Preferences

In this section, the fertility preferences of South African women are presented. The ability of women to express a preferred family size and to act on those preferences and achieve them is an important indicator of women's empowerment. Fertility preferences are measured as indices of future fertility trends for three reasons:

- The underlying rationale for the provision of family planning counselling and methods within the context of reproductive health in a post-apartheid South Africa is based on egalitarian principles which aim at enabling individuals and couples to freely and responsibly decide on their ideal number of children and on the spacing of the births of their offspring. From this principle follows the need to quantify preferences as benchmarks for measuring the enactment of these rights.
- Fertility preferences are measurements of the norms regarding ideal family sizes. Norms regarding family size are closely linked to the economic organisation of a society, its cultural setting, power relationships in unions and the dominant family structure system.
- Of particular interest to those concerned about female autonomy in fertility decision-making is that fertility preferences are reflective of the status of women in a society.

Table 4.11 shows fertility preferences for women in unions according to their number of living children. Almost 23 percent of South African women in unions would like to have another child, with 12 percent of these women wanting another child soon, 8 percent wanting

another child after two or more years and 3 percent undecided about the timing of their next birth. Almost 46 percent of South African women in unions do not want additional children.

Table 4.11 Fertility preferences by number of living children

Percent distribution of women currently in union by desire for children, according to number of living children, South Africa 2003

| Desire for children | Number of living children ¹ | | | | | | | Total |
|---------------------------------|--|-------|-------|-------|-------|-------|-------|-------|
| | 0 | 1 | 2 | 3 | 4 | 5 | 6+ | |
| Have another soon ² | 37.3 | 16.9 | 10.6 | 4.1 | 3.1 | 3.3 | 0.8 | 11.6 |
| Have another later ³ | 12.7 | 17.9 | 7.1 | 5.4 | 2.4 | 1.0 | 0.5 | 8.4 |
| Have another, undecided when | 4.6 | 5.4 | 3.3 | 0.8 | 1.2 | 0.9 | 0.0 | 2.8 |
| Undecided | 14.7 | 7.8 | 6.1 | 5.3 | 6.8 | 5.5 | 4.1 | 7.1 |
| Wants no more | 13.1 | 34.7 | 49.7 | 53.2 | 56.6 | 63.4 | 65.8 | 45.8 |
| Sterilized | 2.3 | 4.1 | 14.4 | 23.7 | 24.2 | 22.7 | 21.4 | 14.9 |
| Declared infecund | 10.1 | 9.4 | 7.2 | 4.6 | 2.8 | 1.5 | 4.7 | 6.5 |
| Missing | 5.3 | 4.0 | 1.6 | 3.0 | 2.9 | 1.7 | 2.7 | 3.0 |
| Total | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| Number of women | 282 | 539 | 690 | 590 | 292 | 144 | 121 | 2 658 |

¹Includes current pregnancy.

²Want next birth within two years.

³Want to delay next birth for two or more years.

In union: married or living together.

Mothers with higher numbers of living children are more likely to desire to discontinue childbearing (see Table 4.11). Almost one in every eight (13 percent) women in unions with no living children expressed the wish not to have children, whereas 66 percent of respondents (almost two out of three) with six or more living children wanted no more. If we regard women who have been sterilized as having expressed (and acted on) a desire to stop childbearing and add them to those who expressed a wish to cease childbearing, then the percentage of women with six or more living children who wanted no more children increases to 87 percent.

Figure 4.12 shows a comparison of findings on fertility preferences for women in union in the 1998 SADHS and the 2003 SADHS. The percentage of respondents expressing clear views on having a next birth at a given time (that is, having a [next] birth within two years or after two or more years) and the percentage of respondents expressing a clear desire not to have (more) children are similar for the two surveys. Small fluctuations between the two surveys occur in respect of the percentage of respondents who are undecided about their future childbearing: almost 5 percent was undecided in the 1998 survey, whereas 7 percent was undecided in 2003. In addition, whereas only 3 percent of respondents indicated that they were infecund in the 1998 survey, 7 percent of respondents indicated that they were infecund in the 2003 survey. Overall, a trend of a transition towards fewer births can be observed between the two surveys.

Table 4.12 presents the percent distribution of women in unions by desire for children and age of respondents. More than a quarter (26 percent) of women in the age group 15-19 reported that they wanted to delay childbearing by at least two years compared to almost a quarter (22 percent) of women in the age group 20-24. Yet more than a third of the women in the age group 20-24 (35 percent) indicated that they wanted no more children. The percentage of women in unions who wanted no more children increased steadily with age, so that for each of the age groups older than 34 years, more than half the women in each group wanted no more children and one-quarter to one-fifth were sterilized.

Figure 4.2 Fertility preferences of women in union aged 15-49 years, SADHS 1998 and 2003

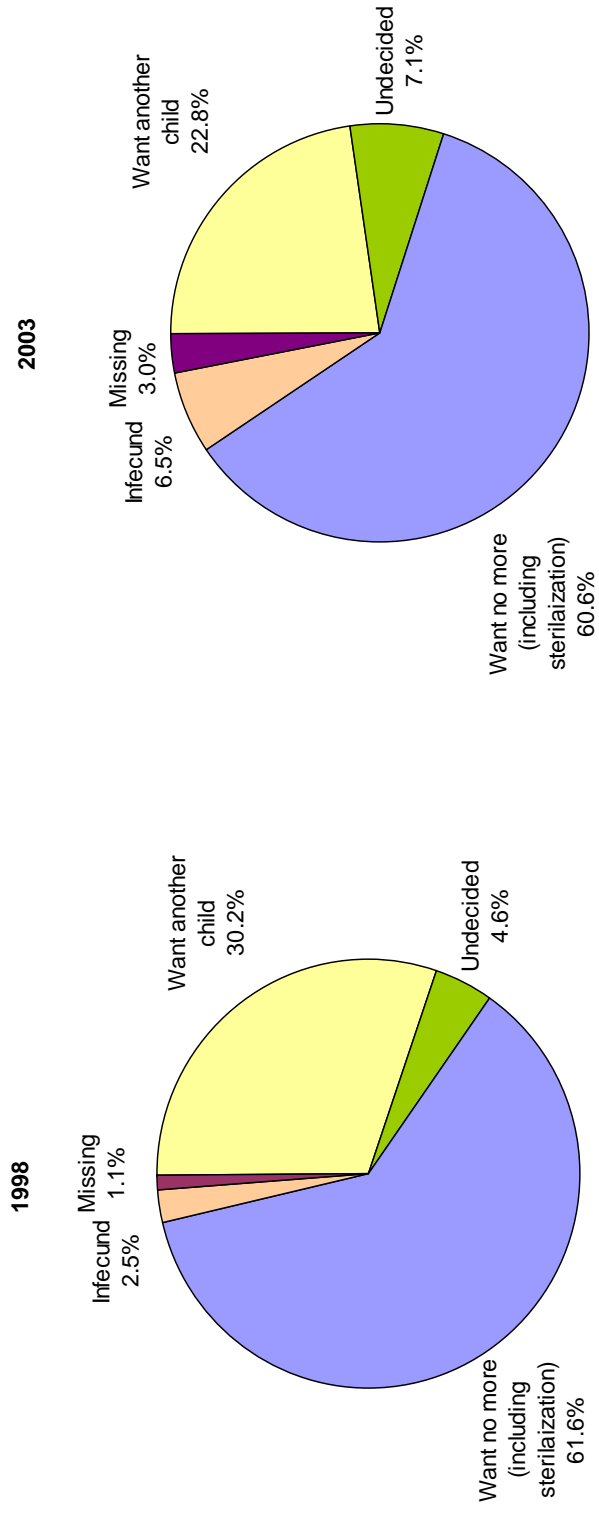


Table 4.12 Fertility preferences by age

Percent distribution of women currently in union by desire for children, according to age of woman, South Africa 2003

| Desire for children | Age of woman | | | | | | | Total |
|---------------------------------|--------------|-------|-------|-------|-------|-------|-------|-------|
| | 15-19 | 20-24 | 25-29 | 30-34 | 35-39 | 40-44 | 45-49 | |
| Have another soon ¹ | 21.9 | 11.4 | 17.9 | 19.7 | 10.0 | 6.5 | 2.8 | 11.6 |
| Have another later ² | 26.3 | 21.8 | 19.3 | 9.9 | 4.5 | 1.1 | 0.5 | 8.4 |
| Have another, undecided when | 5.6 | 3.7 | 6.5 | 3.8 | 0.9 | 1.5 | 0.8 | 2.7 |
| Undecided | 12.4 | 19.2 | 6.7 | 7.8 | 5.7 | 4.4 | 4.2 | 7.1 |
| Wants no more | 16.6 | 35.4 | 37.2 | 40.9 | 51.6 | 53.5 | 52.1 | 45.8 |
| Sterilized | 1.2 | 0.5 | 3.9 | 8.0 | 19.3 | 23.3 | 28.1 | 14.9 |
| Declared infecund | 6.7 | 6.7 | 3.5 | 6.5 | 6.6 | 6.0 | 9.5 | 6.5 |
| Missing | 9.4 | 1.3 | 4.9 | 3.5 | 1.3 | 3.8 | 2.0 | 3.0 |
| Total | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| Number of women | 51 | 238 | 393 | 503 | 563 | 506 | 405 | 2 658 |

¹ Want next birth within two years.

² Want to delay next birth for two or more years.

In union: married or living together.

The desire to stop childbearing varies according to the background characteristics of respondents (see Table 4.13). The pattern of increased desire to cease childbearing with higher numbers of living children is maintained in the urban/non-urban variable, with only slightly larger percentages of women living in urban areas than women living in non-urban areas expressing a desire for no more children. Overall, 61 percent of married urban women and 59 percent of married non-urban women wished to cease childbearing.

The variation in the desire to cease childbearing according to province is not very pronounced. KwaZulu-Natal has the lowest proportion of women wanting no more children (55 percent). However, almost two thirds of women in this province expressed the desire to cease childbearing once they have reached a parity of two. Of particular note was the high percentage of married women (29 percent) who said that they wanted no more children among women who had no children in the Northern Cape. The pattern of preferences for no more children in Limpopo also deserves mention. Whereas for most provinces more than half of married women expressed a desire for no more children at a parity of two, only 46 percent of women in Limpopo with two living children wanted no more children and only 57 percent with three living children wanted no more children.

The percentage of women wanting no more children is positively associated with education. This trend is revealed when looking at the different categories of living children, especially at the categories for three and four living children. In the category of two living children, more than half the women with some level of education wanted no more children.

Table 4.13 Desire to limit childbearing

Percentage of currently married women who want no more children, by number of living children and background characteristics, South Africa 2003

| Background characteristic | Number of living children ¹ | | | | | | | Total |
|---------------------------|--|------|------|------|-------|-------|-------|-------|
| | 0 | 1 | 2 | 3 | 4 | 5 | 6+ | |
| Residence | | | | | | | | |
| Urban | 16.0 | 37.9 | 70.6 | 77.2 | 80.2 | 84.4 | 86.9 | 61.4 |
| Non-urban | 11.5 | 29.1 | 53.3 | 70.6 | 81.0 | 89.1 | 85.8 | 59.1 |
| Province | | | | | | | | |
| Western Cape | 17.9 | 28.9 | 69.8 | 77.1 | 74.3 | 86.4 | 90.6 | 63.4 |
| Eastern Cape | 6.1 | 35.0 | 63.5 | 84.5 | 87.3 | 100.0 | 83.1 | 64.8 |
| Northern Cape | 29.1 | 37.1 | 77.6 | 86.9 | 85.3 | 100.0 | 91.4 | 69.4 |
| Free State | 7.5 | 39.9 | 78.3 | 86.4 | 87.1 | 85.0 | 93.9 | 67.4 |
| KwaZulu-Natal | 15.8 | 33.4 | 66.0 | 69.0 | 71.8 | 60.2 | 53.4 | 54.5 |
| North West | 7.3 | 37.4 | 61.5 | 87.0 | 95.9 | 92.4 | 92.9 | 68.6 |
| Gauteng | 18.7 | 41.7 | 69.7 | 73.5 | 78.2 | 84.1 | 81.7 | 59.7 |
| Mpumalanga | 11.8 | 28.3 | 55.6 | 77.4 | 79.6 | 90.5 | 82.7 | 58.5 |
| Limpopo | 8.7 | 30.1 | 45.7 | 56.5 | 85.3 | 87.1 | 89.9 | 57.0 |
| Education | | | | | | | | |
| No education | 6.5 | 32.7 | 39.4 | 60.9 | 70.5 | 67.0 | 91.9 | 60.4 |
| Grades 1-5 | 8.9 | 40.0 | 66.6 | 66.1 | 79.5 | 96.2 | 84.2 | 68.9 |
| Grades 6-7 | 13.5 | 51.0 | 59.3 | 83.9 | 79.7 | 85.1 | 66.2 | 69.9 |
| Grades 8-11 | 18.1 | 33.8 | 68.6 | 77.7 | 79.2 | 85.2 | 92.9 | 60.4 |
| Grade 12 | 8.0 | 38.0 | 69.4 | 66.2 | 84.8 | 100.0 | 100.0 | 55.5 |
| Higher | 25.1 | 21.8 | 58.4 | 89.3 | 100.0 | 100.0 | 100.0 | 56.5 |
| Population group | | | | | | | | |
| African | 11.2 | 34.2 | 58.4 | 70.2 | 79.3 | 86.5 | 86.5 | 57.9 |
| Afr. urban | 11.9 | 37.8 | 64.0 | 71.7 | 78.3 | 84.7 | 88.2 | 58.3 |
| Afr. non-urban | 9.3 | 27.2 | 49.5 | 67.5 | 81.2 | 88.5 | 85.5 | 57.1 |
| Coloured | 3.8 | 42.6 | 79.8 | 81.0 | 75.2 | 84.3 | 82.2 | 67.1 |
| Indian | 4.9 | 34.2 | 85.8 | 96.2 | 90.3 | 100.0 | 100.0 | 75.4 |
| White | 33.7 | 37.0 | 80.3 | 97.0 | 100.0 | 100.0 | - | 68.8 |
| Total | 15.1 | 35.4 | 65.7 | 75.3 | 80.5 | 86.5 | 86.3 | 60.7 |

Note: Women who have been sterilized are considered to want no more children.

¹ woman has education unknown and 2 women have population group unknown.

¹ Includes current pregnancy.

4.13 Need for Family Planning Services

Women who are currently married, and who indicated that they either wanted no more children or wanted to wait for two or more years before having (another) child, but who were not using contraception at the time of the interview, are considered to have “an unmet need for family planning.” Women with an unmet need and current users of contraception (those women with a “met need for family planning”) constitute the “total demand for family planning.” Table 4.14 shows the percentages of currently married women with an unmet need, a met need for family planning as well as the total demand for family planning by background characteristics. The data make special reference to the need status according to a need for spacing or a need for limiting (that is ceasing) births.

Table 4.14 Need for family planning

Percentage of in union women with unmet need for family planning, and with met need for family planning, and the total demand for family planning, by background characteristics, South Africa 2003

| Background Characteristic | Unmet need for family planning ¹ | | | Met need for family planning (currently using) ² | | | Total demand for family planning ³ | | | Percentage of demand satisfied | Number of women |
|---------------------------|---|--------------|-------------|---|--------------|-------------|---|--------------|-------------|--------------------------------|-----------------|
| | For spacing | For limiting | Total | For spacing | For limiting | Total | For spacing | For limiting | Total | | |
| Age | | | | | | | | | | | |
| 15-19 | 14.8 | 2.9 | 17.7 | 37.7 | 9.3 | 47.0 | 52.5 | 12.2 | 64.7 | 72.6 | 51 |
| 20-24 | 12.6 | 4.2 | 16.8 | 31.9 | 29.8 | 61.7 | 44.5 | 34.1 | 78.5 | 78.6 | 238 |
| 25-29 | 8.6 | 5.7 | 14.3 | 27.8 | 32.4 | 60.2 | 36.3 | 38.1 | 74.4 | 80.8 | 393 |
| 30-34 | 4.8 | 6.9 | 11.7 | 22.7 | 40.1 | 62.8 | 27.6 | 47.0 | 74.6 | 84.3 | 503 |
| 35-39 | 2.7 | 9.5 | 12.2 | 7.7 | 57.7 | 65.4 | 10.4 | 67.2 | 77.6 | 84.3 | 563 |
| 40-44 | 1.4 | 12.4 | 13.8 | 3.6 | 54.6 | 58.2 | 5.0 | 67.0 | 72.0 | 80.8 | 506 |
| 45-49 | 1.7 | 14.2 | 15.9 | 1.5 | 49.5 | 51.0 | 3.2 | 63.7 | 66.9 | 76.3 | 405 |
| Residence | | | | | | | | | | | |
| Urban | 4.3 | 8.3 | 12.6 | 14.6 | 47.3 | 61.9 | 18.9 | 55.6 | 74.5 | 83.1 | 1 852 |
| Non-urban | 5.6 | 11.0 | 16.7 | 14.4 | 40.9 | 55.3 | 20.0 | 51.9 | 71.9 | 76.8 | 806 |
| Province | | | | | | | | | | | |
| Western Cape | 3.9 | 7.9 | 11.8 | 13.8 | 49.3 | 63.0 | 17.7 | 57.1 | 74.8 | 84.3 | 404 |
| Eastern Cape | 7.5 | 16.2 | 23.7 | 13.0 | 37.1 | 50.2 | 20.5 | 53.3 | 73.8 | 67.9 | 236 |
| Northern Cape | 4.8 | 8.8 | 13.6 | 11.7 | 48.8 | 60.5 | 16.5 | 57.6 | 74.1 | 81.7 | 51 |
| Free State | 8.9 | 8.9 | 17.8 | 8.5 | 43.8 | 52.3 | 17.3 | 52.7 | 70.0 | 74.6 | 167 |
| KwaZulu-Natal | 1.4 | 5.4 | 6.8 | 12.8 | 59.7 | 72.5 | 14.2 | 65.1 | 79.2 | 91.5 | 387 |
| North West | 3.1 | 13.4 | 16.5 | 12.8 | 42.1 | 54.9 | 15.9 | 55.5 | 71.4 | 76.9 | 146 |
| Gauteng | 3.8 | 8.3 | 12.1 | 17.0 | 44.9 | 61.9 | 20.7 | 53.2 | 74.0 | 83.6 | 788 |
| Mpumalanga | 2.3 | 9.1 | 11.4 | 15.7 | 41.9 | 57.6 | 18.0 | 51.0 | 68.9 | 83.5 | 178 |
| Limpopo | 10.1 | 10.2 | 20.3 | 16.6 | 33.3 | 49.9 | 26.7 | 43.5 | 70.2 | 71.1 | 300 |
| Education | | | | | | | | | | | |
| No education | 2.3 | 15.6 | 17.8 | 7.2 | 31.5 | 38.7 | 9.5 | 47.1 | 56.6 | 68.5 | 176 |
| Grades 1-5 | 4.5 | 14.5 | 19.0 | 7.6 | 41.8 | 49.4 | 12.0 | 56.3 | 68.4 | 72.2 | 228 |
| Grades 6-7 | 4.1 | 11.7 | 15.8 | 8.2 | 45.8 | 54.0 | 12.3 | 57.5 | 69.8 | 77.4 | 323 |
| Grades 8-11 | 6.6 | 8.9 | 15.4 | 13.9 | 43.6 | 57.5 | 20.5 | 52.5 | 72.9 | 78.9 | 1 065 |
| Grade 12 | 3.4 | 6.2 | 9.6 | 20.8 | 49.3 | 70.1 | 24.2 | 55.5 | 79.7 | 88.0 | 590 |
| Higher | 2.7 | 4.8 | 7.5 | 21.4 | 54.6 | 76.0 | 24.1 | 59.4 | 83.5 | 91.0 | 273 |
| Population group | | | | | | | | | | | |
| African | 5.1 | 9.9 | 15.0 | 14.6 | 41.6 | 56.2 | 19.7 | 51.5 | 71.2 | 78.9 | 1 976 |
| Afr. urban | 4.6 | 9.4 | 14.0 | 14.6 | 43.0 | 57.7 | 19.2 | 52.5 | 71.7 | 80.5 | 1 234 |
| Afr. non-urban | 6.1 | 10.7 | 16.8 | 14.5 | 39.2 | 53.8 | 20.6 | 49.9 | 70.5 | 76.2 | 742 |
| Coloured | 3.9 | 7.4 | 11.3 | 13.6 | 51.2 | 64.8 | 17.5 | 58.6 | 76.1 | 85.1 | 315 |
| Indian | 1.4 | 7.4 | 8.8 | 13.8 | 61.2 | 75.0 | 15.2 | 68.6 | 83.8 | 89.5 | 90 |
| White | 3.4 | 6.1 | 9.5 | 15.3 | 60.4 | 75.7 | 18.7 | 66.5 | 85.2 | 88.8 | 275 |
| Total | 4.7 | 9.1 | 13.8 | 14.5 | 45.4 | 59.9 | 19.2 | 54.5 | 73.7 | 81.3 | 2 658 |

¹ Unmet need for spacing includes pregnant women whose pregnancy was mistimed, amenorrhic women who are not using family planning and whose last birth was mistimed, and fecund women who are neither pregnant nor amenorrhic and who are not using any method of family planning and say they want to wait 2 or more years for their next birth. Also included in unmet need for spacing are fecund women who are not using any method of family planning and say they are unsure whether they want another child or who want another child but are unsure when to have the birth unless they say it would not be a problem if they discovered they were pregnant in the next few weeks. Unmet need for limiting refers to pregnant women whose pregnancy was unwanted, amenorrhic women whose last child was unwanted, and fecund women who are neither pregnant nor amenorrhic and who are not using any method of family planning and who want no more children. Excluded from the unmet need category are pregnant and amenorrhic women who became pregnant while using a method (these women are in need of a better method of contraception).

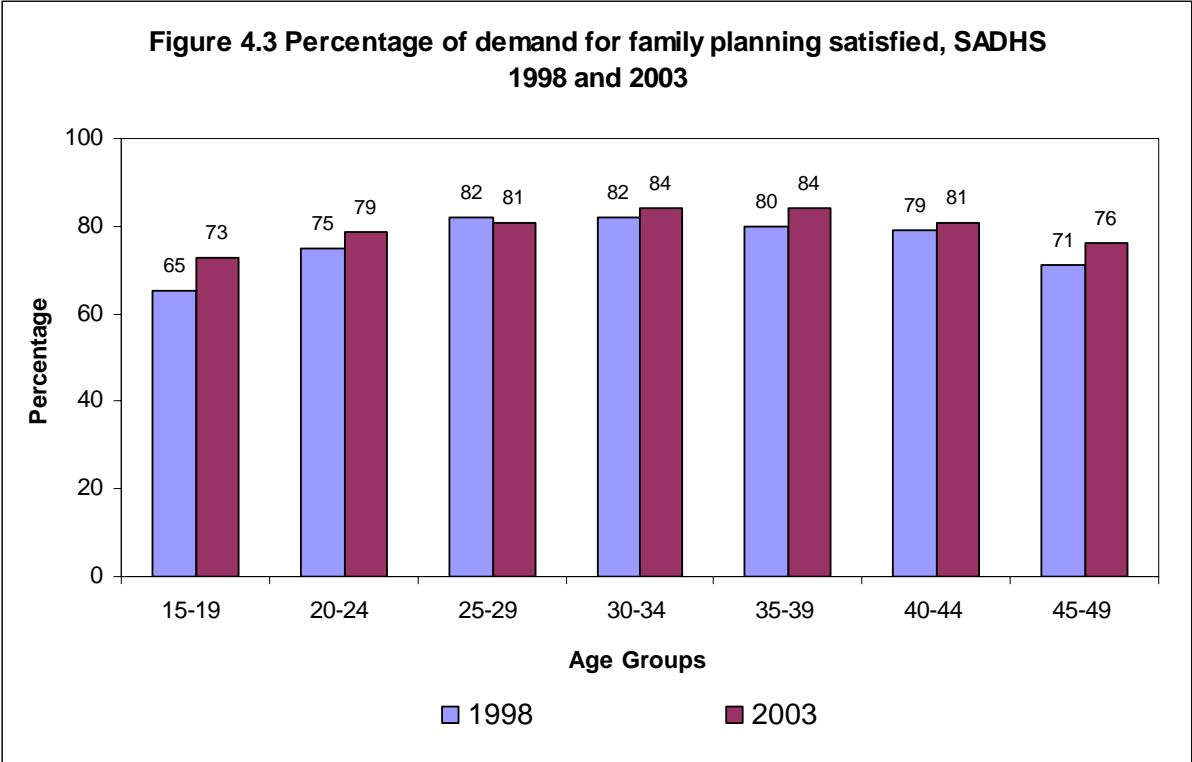
² Using for spacing is defined as women who are using some method of family planning and say they want to have another child or are undecided whether to have another. Using for limiting is defined as women who are using and who want no more children. Note that the specific methods used are not taken into account here.

³ Nonusers who are pregnant or amenorrhic and women whose pregnancy was the result of a contraceptive failure are not included in the category of unmet need, but are included in total demand for contraception (since they would have been using had their method not failed).

1 woman has education unknown and 2 women have population group unknown.
In union: married or living together.

Just under three quarters (74 percent) of currently married women can be considered to constitute the total demand for family planning in South Africa, of which more than half (55 percent) is a demand for limiting purposes and 19 percent is a demand for spacing purposes. Contraceptive practice is the main component of the total demand for family planning with more than half (60 percent) of women currently in union women using family planning methods to space or limit births.

Almost 14 percent of South African women in union have an unmet need for family planning. This is just below the percentage of women with unmet need found in the 1998 SADHS, which was 15 percent. As in 1998, the percentage of women with an unmet need for limiting is larger than the percentage of women with an unmet need for spacing – in fact the unmet need for limiting (9 percent of currently married women) is almost twice as large as the unmet need for spacing (only 5 percent of currently married women). If all currently married South African women who have an unmet need for family planning (whether a need for spacing or limiting) were to start using a family planning method, the contraceptive prevalence rate will increase from almost sixty percent of married women to reach a level of almost 74 percent of married women. A very high percentage (81 percent) of the potential demand for family planning in South Africa was being satisfied in 2003, an increase from 79 percent observed in the 1998 SADHS (see Figure 4.3)



The pattern in unmet need for family planning follows a U-shaped pattern according to age group with the greatest unmet need observable for the under 30-year age groups and the age group at the end of their reproductive years (45-49). As can be expected, the unmet need for spacing is the greatest at the younger age groups and the unmet need for limiting increases with age.

The unmet need for family planning in the non-urban areas (17 percent) is higher than the unmet need in the urban areas (13 percent). Of interest is the convergence of total demand in

terms of limiting and spacing for urban and non-urban women: the demand for spacing is 19 percent for urban and 20 percent for non-urban women and the demand for limiting is 56 percent for urban and 52 percent for non-urban women.

The unmet need for family planning is different for various provinces of South Africa. Provinces with a higher percentage of unmet need for family planning than the national average are the Eastern Cape (24 percent), Limpopo (20 percent), the Free State (18 percent) and North West (17 percent). An interesting pattern can be seen in Limpopo where the unmet need for spacing and the unmet need for limiting are almost equal at 10 percent.

Unmet need is inversely related to level of education, with higher percentages of unmet need for family planning among women with no education or primary education (19 percent for women with Grade 1-5 and 16 percent for women with Grade 6-7). Satisfied demand for family planning satisfied was lowest among women:

- in their teenage years (73 percent of the demand satisfied),
- at the end of their reproductive years (76 percent of the demand satisfied),
- in non-urban areas (77 percent of the demand satisfied),
- in the Eastern Cape (68 percent of the demand satisfied),
- in Limpopo (71 percent of the demand satisfied),
- in the Free State (75 percent of the demand satisfied),
- in the North West (77 percent of the demand satisfied) and
- with no education (69.5 percent of the demand satisfied) and with primary education (72 percent of the demand satisfied for women with Grade 1-5 and 77 percent for women with Grade 6-7).

4.14 Ideal Number of Children

In order to quantify and measure what South African women consider to be the ideal number of children, women with no children were asked: *“If you could choose exactly the number of children to have in your whole life, how many would that be?”* Respondents with children were asked: *“If you could go back to the time you did not have any children and could choose exactly the number of children to have in your whole life, how many would that be?”* Analyses of the responses to these questions are useful in ascertaining the desired levels of completed fertility for South African women under the idealized circumstances that they are able to perfectly control their fertility.

Table 4.15 shows the percentage distribution of all women by ideal number of children, according to number of living children. A small percentage of women (3 percent) gave a non-numerical response to questions on ideal number of children. More than half (58 percent) of all women say they would ideally like to have two children or less. In addition, 8 percent of all childless women regarded this as their ideal. Another striking feature of the figures in Table 4.15 is the similarity in the mean ideal number of children for all women and currently married women (2.5 and 2.9 respectively). South African women seem to regard a small number of children as the ideal number to have, a trend that has continued since the 1998 SADHS in which a mean ideal number of children of 2.9 for all women and 3.3 for married women was found.

Table 4.15 Ideal number of children

Percent distribution of all women by ideal number of children, and mean ideal number of children for all women and for women currently in union, according to number of living children, South Africa 2003

| Desire for children | Number of living children ¹ | | | | | | | Total |
|--|--|-------|-------|-------|-------|-------|-------|-------|
| | 0 | 1 | 2 | 3 | 4 | 5 | 6+ | |
| Number desired children | | | | | | | | |
| 0 | 7.8 | 3.5 | 2.3 | 2.3 | 3.5 | 2.5 | 1.7 | 4.6 |
| 1 | 12.2 | 24.7 | 4.0 | 5.9 | 1.9 | 1.3 | 1.2 | 11.5 |
| 2 | 51.1 | 40.2 | 54.7 | 21.7 | 22.7 | 17.8 | 8.9 | 41.5 |
| 3 | 16.2 | 20.1 | 20.0 | 41.7 | 12.4 | 23.8 | 14.2 | 21.1 |
| 4 | 7.9 | 6.5 | 15.1 | 20.4 | 43.3 | 15.2 | 31.8 | 13.5 |
| 5 | 1.3 | 1.2 | 1.6 | 3.2 | 9.4 | 25.8 | 8.4 | 3.0 |
| 6+ | 0.5 | 1.1 | 0.9 | 2.5 | 4.7 | 10.3 | 26.8 | 2.2 |
| Non-numeric responses | 3.0 | 2.7 | 1.4 | 2.4 | 2.0 | 3.3 | 7.1 | 2.6 |
| Total | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| Number of women | 2 437 | 1 594 | 1 244 | 930 | 430 | 227 | 179 | 7 041 |
| Mean ideal number children for: | | | | | | | | |
| All women | 2.1 | 2.1 | 2.5 | 3.0 | 3.4 | 3.8 | 4.5 | 2.5 |
| Number | 2 365 | 1 551 | 1 227 | 908 | 421 | 219 | 167 | 6 857 |
| Currently in union | 2.2 | 2.3 | 2.6 | 3.0 | 3.5 | 3.9 | 4.7 | 2.9 |
| Number | 248 | 507 | 682 | 589 | 298 | 138 | 118 | 2 581 |

Note: Means are calculated excluding the women giving non-numeric responses.
¹ Includes current pregnancy.
 In union: married or living together.

An association between the ideal number of children and the number of living children can be seen in Table 4.15. The mean ideal number of children increases from 2.1 for childless women to 4.5 for women with six or more living children. An association between ideal and actual number of children can be expected. The reasons for this trend can be twofold: first, some women can successfully attain their desired number of children and second, some women may rationalize and adjust their ideal number to match their actual number of children. However, when looking at the mean ideal number of children for women with a parity of 4 and more living children, a surprising finding emerges. South African women with four or more living children expressed a lower mean ideal number of that what they actually had (those with four children regarded 3.4 as the ideal; those with five regarded 3.8 as the ideal and those with six or more regarded 4.5 as the ideal). In fact, 61 percent of women with five children and 66 percent of women with six or more children reported ideal numbers of children that were less than the actual number of children they have.

Table 4.16 presents the mean ideal number of children for all women by age and selected background characteristics. It also shows the mean ideal number of children for all men by the same background characteristics. On average, women in South Africa considered 2.5 children ideal, whilst men favour a family size of 2.7 children. The slightly higher ideal family size among South African men holds true for most of the background characteristics in Table 4.16 with the exception of men in urban areas, in KwaZulu-Natal and men in Gauteng.

The mean ideal number of children for women in Mpumalanga was 3 and for women in Limpopo was 3.2 (which is higher than the national average), whilst for men in Mpumalanga it was 3.1 and for men in Limpopo it was 3.5. Whereas the relative sizes of the number of respondents in these categories can account for these observed differences, and South African men on average do not idealize very large families, the general trend of higher ideal family sizes among men than among women warrants attention.

Table 4.16 Mean ideal number of children by background characteristics

| Mean ideal number of children for all women by age and all men by background characteristics, South Africa 2003 | | | | | | | | | |
|---|-------|-------|-------|-------|-------|-------|-------|-----------|---------|
| Background characteristics | Age | | | | | | | All women | All Men |
| | 15-19 | 20-24 | 25-29 | 30-34 | 35-39 | 40-44 | 45-49 | | |
| Residence | | | | | | | | | |
| Urban | 2.0 | 2.0 | 2.2 | 2.5 | 2.6 | 2.7 | 2.9 | 2.4 | 2.5 |
| Non-urban | 2.3 | 2.3 | 2.6 | 2.8 | 3.2 | 3.6 | 3.5 | 2.8 | 2.9 |
| Province | | | | | | | | | |
| Western Cape | 1.9 | 1.8 | 1.9 | 2.3 | 2.5 | 2.7 | 2.8 | 2.2 | 2.9 |
| Eastern Cape | 1.9 | 2.1 | 2.3 | 2.7 | 2.7 | 2.9 | 3.3 | 2.4 | 2.8 |
| Northern Cape | 1.9 | 2.0 | 2.2 | 2.5 | 2.8 | 3.1 | 3.3 | 2.5 | 2.8 |
| Free State | 1.6 | 1.8 | 2.3 | 2.4 | 2.6 | 2.7 | 2.9 | 2.2 | 2.6 |
| Kwazulu-Natal | 2.2 | 1.9 | 2.4 | 2.6 | 2.3 | 2.8 | 2.7 | 2.4 | 2.4 |
| Northwest | 2.0 | 2.1 | 2.2 | 2.7 | 2.9 | 3.4 | 3.3 | 2.5 | 2.7 |
| Gauteng | 2.0 | 2.1 | 2.1 | 2.4 | 2.8 | 2.8 | 2.9 | 2.4 | 2.3 |
| Mpumalanga | 2.3 | 2.4 | 2.7 | 3.1 | 3.5 | 3.9 | 3.9 | 3.0 | 3.1 |
| Limpopo | 2.7 | 2.8 | 2.8 | 3.4 | 4.0 | 3.8 | 4.0 | 3.2 | 3.5 |
| Education | | | | | | | | | |
| No education | 2.5 | 2.2 | 2.6 | 3.0 | 2.9 | 3.7 | 3.9 | 3.3 | 3.2 |
| Grades 1-5 | 1.6 | 2.3 | 2.6 | 3.0 | 3.3 | 3.1 | 3.5 | 3.0 | 3.5 |
| Grades 6-7 | 1.9 | 2.1 | 2.6 | 2.9 | 3.1 | 3.4 | 3.0 | 2.8 | 2.9 |
| Grades 8-11 | 2.1 | 2.1 | 2.3 | 2.7 | 2.9 | 2.7 | 2.9 | 2.4 | 2.5 |
| Grade 12 | 2.1 | 2.0 | 2.2 | 2.4 | 2.5 | 2.7 | 2.8 | 2.3 | 2.4 |
| Higher | 2.1 | 2.1 | 2.2 | 2.1 | 2.6 | 2.6 | 2.7 | 2.3 | 2.7 |
| Total | 2.1 | 2.1 | 2.3 | 2.6 | 2.8 | 3.0 | 3.1 | 2.5 | 2.7 |

Overall, non-urban residents preferred larger numbers of children than those in urban areas. The ideal number was higher among women and men with no education or with primary or secondary education than for those with higher levels of education, with men's ideal remaining slightly higher than women's in all categories.

4.15 Fertility Planning

In the SADHS, women were asked questions for each child born in the preceding five years, including current pregnancies, to determine whether the pregnancy was planned (wanted then), wanted but at a later time (mistimed), or unwanted (wanted no more). The responses to these questions indicate the degree to which women are successful in controlling their fertility and implementing their reproductive preferences and goals.

Table 4.17 shows the percent distribution of births in the five years preceding the survey by the status of the pregnancy, according to the birth order and the mother's age at the time of the birth. Half of the births in the last five years were wanted at the time they were conceived, 24 percent were wanted at a later time, and 23 percent were not wanted at all. Almost 30 percent of recent first births were mistimed and a surprising 25 percent of recent first births were unwanted. The percentage of unwanted births varies with birth order so that just 30 percent of all fourth and higher order births were reported as unwanted.

Table 4.17 Fertility planning status

Percent distribution of births in the five years preceding the survey (including current pregnancies), by fertility planning status, according to birth order and mother's age at birth, South Africa 2003

| Birth order and mother's age at birth | Planning status of birth | | | | Total | Number of births ¹ |
|---------------------------------------|--------------------------|--------------|----------------|---------|-------|-------------------------------|
| | Wanted then | Wanted later | Wanted no more | Missing | | |
| Birth order | | | | | | |
| 1 | 43.4 | 29.5 | 24.7 | 2.4 | 100.0 | 946 |
| 2 | 60.4 | 21.1 | 17.6 | 0.9 | 100.0 | 544 |
| 3 | 56.3 | 21.5 | 19.9 | 2.4 | 100.0 | 403 |
| 4+ | 45.9 | 18.8 | 29.8 | 5.5 | 100.0 | 452 |
| Age at birth | | | | | | |
| <20 | 20.8 | 42.6 | 34.4 | 2.2 | 100.0 | 412 |
| 20-24 | 48.2 | 26.3 | 23.8 | 1.7 | 100.0 | 585 |
| 25-29 | 65.5 | 18.0 | 15.0 | 1.5 | 100.0 | 570 |
| 30-34 | 57.2 | 22.3 | 18.6 | 1.9 | 100.0 | 391 |
| 35-39 | 57.4 | 11.8 | 25.1 | 5.7 | 100.0 | 290 |
| 40-44 | 47.8 | 12.0 | 34.9 | 5.2 | 100.0 | 87 |
| 45-49 | 1.1 | 19.7 | 19.6 | 59.6 | 100.0 | 11 |
| Total | 50.0 | 24.1 | 23.2 | 2.7 | 100.0 | 2 345 |

¹ Includes current pregnancies.

The percentage of unwanted recent births is highest amongst women under twenty years of age (34 percent) and women aged 40-44 years (35 percent). The dissatisfaction among South African women regarding early commencement of childbearing is reflected in the fact that almost 43 percent of all births to women under the age of twenty years were reported as mistimed.

The potential demographic impact of avoiding unwanted births can be estimated by calculating the wanted fertility rate. The wanted fertility rate is calculated in the same manner as the conventional total fertility rate, except that the unwanted births are excluded from the numerator when calculating the age-specific fertility rates. For the purposes of this calculation, unwanted births are defined as births that exceeded the number considered as ideal by the respondent. For those women who did not report an ideal family size, it was assumed that all their births were wanted. The wanted rate should be interpreted as a hypothetical measure of what the total fertility rate would have been in the three years preceding the survey, under the condition that all unwanted births had been prevented. A comparison of the total wanted fertility rate and the actual total fertility rate indicates the potential demographic impact of eliminating unwanted births. It is indicative of the extent to which observed fertility exceeds wanted fertility, the potential demand for family planning services and for future decline.

Table 4.18 shows the wanted total fertility rate and the actual total fertility rate for the three years preceding the survey by selected background characteristics. A very striking feature is that the wanted fertility rate amongst South African women is below replacement level. It should be noted at the onset, however, that the reported fertility rates in this table, in particular the figures for KwaZulu-Natal, are not plausible. In the light of the data problems, the reader can only look at broad trends and patterns in the data.

Table 4.18 Wanted fertility rates

Total wanted fertility rates and total fertility rates for the three years preceding the survey, by background characteristics, South Africa 2003

| Background characteristic | Total wanted fertility rates | Total fertility rate |
|---------------------------|------------------------------|----------------------|
| Residence | | |
| Urban | 1.6 | 2.1 |
| Non-urban | 1.6 | 2.2 |
| Province | | |
| Western Cape | 1.8 | 2.6 |
| Eastern Cape | 1.7 | 2.3 |
| Northern Cape | 2.3 | 2.8 |
| Free State | 1.7 | 2.0 |
| KwaZulu-Natal | 0.5 | 0.6 |
| North West | 2.0 | 2.5 |
| Gauteng | 1.7 | 2.3 |
| Mpumalanga | 2.0 | 2.3 |
| Limpopo | 2.1 | 2.7 |
| Education | | |
| No education | 1.7 | 2.4 |
| Grades 1-5 | 2.1 | 2.9 |
| Grades 6-7 | 2.0 | 2.5 |
| Grades 8-11 | 1.7 | 2.2 |
| Grade 12 | 1.3 | 1.6 |
| Higher | 1.5 | 1.8 |
| Population group | | |
| African | 1.7 | 2.1 |
| Coloured | 1.6 | 2.3 |
| Indian | 1.3 | 1.6 |
| White | 0.8 | * |
| Total | 1.6 | 2.1 |

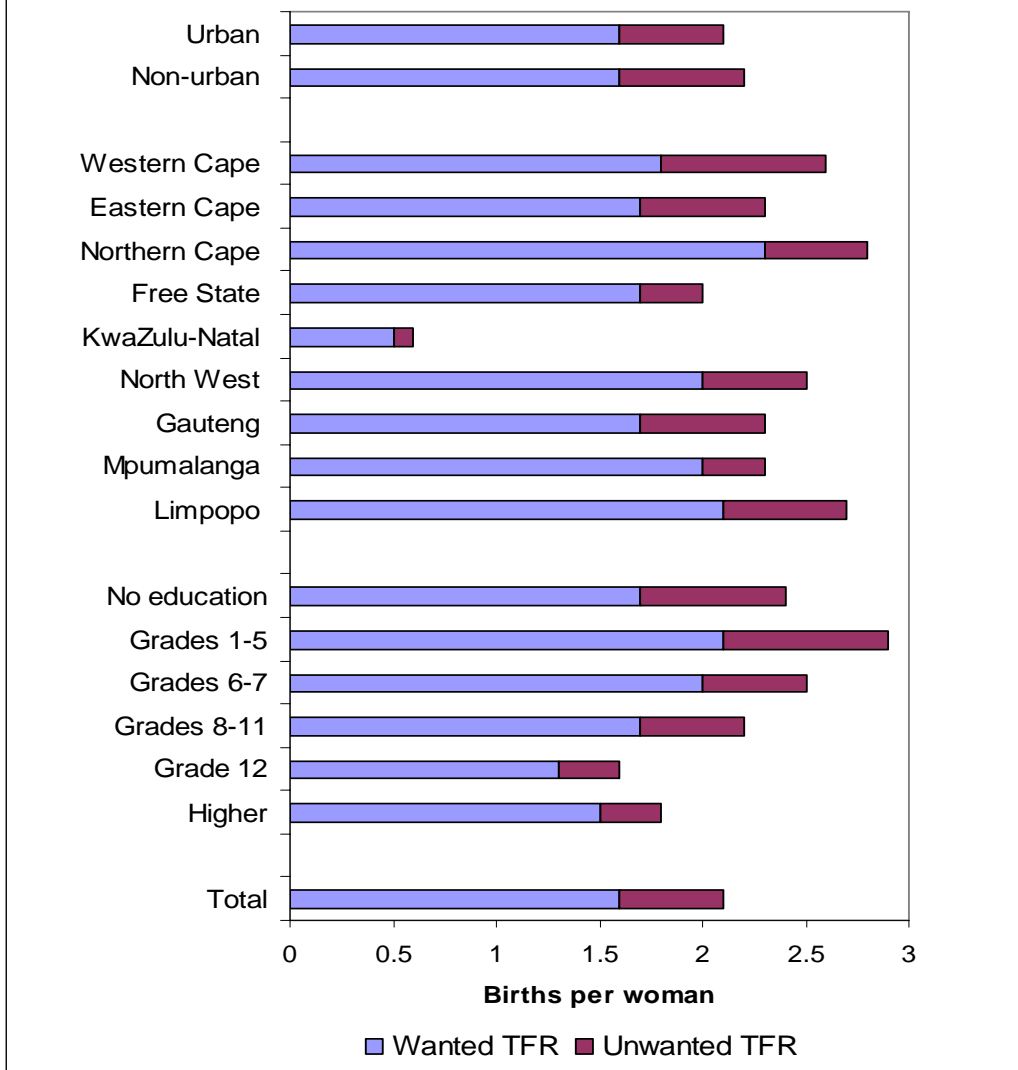
Note: Rates are calculated based on births to women age 15-49 in the period 1-36 months preceding the survey. The total fertility rates are the same as those presented in Table 3.2.

* indicates data based on fewer than 50 reported births.

The total rate is not to be relied upon as a measure of fertility levels in South Africa. See chapter 3 for details.

Overall, the difference between the wanted fertility rate and the total fertility rate is about half a child (0.5 child that is, 2.1 versus 1.6). Thus, if unwanted births were eliminated, the total fertility rate in South Africa would be 1.6 children born per woman – a rate comparable with low fertility countries. The transition towards lower fertility preferences that emerged in 1998, when the wanted total fertility rate was found to be 2.3, is confirmed in this data. Table 4.18 shows the convergence in fertility preferences for women in urban and non-urban areas. Women in the Northern Cape expressed a wanted fertility rate slightly higher than the replacement level of 2.3. The largest gap between wanted and actual fertility rates was observed for women in the Western Cape (actual TFR 2.6 and wanted TFR 1.8) and women with no education (actual TFR 2.4 and wanted TFR 1.7). Figure 4.4 shows the total fertility rate in terms of its wanted and unwanted components by background variables.

Figure 4.4 Total fertility rate and its wanted and unwanted components, South Africa 2003



Bongaarts (2003:5), commenting on the fertility transition in developing countries, suggest that trends in total fertility rates can be categorized as follows:

| <i>Category</i> | <i>TFR</i> |
|------------------------|------------|
| Pre-transitional | 7+ |
| Early transitional | 6.0-6.9 |
| Early mid-transitional | 5.0-5.9 |
| Mid-transitional | 4.0-4.9 |
| Mid-late transitional | 3.0-3.9 |
| Late transitional | 2.1-2.9 |
| Post transitional | <2 |

According to the results of the 2003 SADHS, actual fertility trends suggest that South Africa is in the late transitional phase of the fertility transition with preferences already suggesting post-transitional features.

CHAPTER 5

SEXUAL BEHAVIOUR, HIV AND AIDS

5.1 Introduction

It is estimated that more than 5 million South Africans were infected with HIV at the end of 2003, the year in which this survey was conducted (Department of Health, 2004). In response to the HIV and AIDS epidemic, South Africa is implementing the recently reviewed comprehensive HIV and AIDS prevention and treatment plan across the country.

A striking finding in the 1998 SADHS was almost universal knowledge of HIV and AIDS; however, it was combined with an extremely low prevalence of condom use – even among young women who had sex with a non-regular partner. A low proportion of sexually active women reported that they had more than one partner in the 12 months preceding the survey. However, it was considered that this was an underestimate of the extent of multiple sexual partners as a result of the sensitivity of the questions.

The findings of the 2003 SADHS inform the government on a range of HIV and AIDS related issues. The information in this chapter is particularly relevant to monitor changes in awareness of HIV and sexual behaviour and to inform mass communication campaigns and interventions that aim to reduce HIV transmission rates. A range of information on knowledge, beliefs and attitudes around HIV and AIDS for both men and women is described in this chapter and for the first time issues of stigma and acceptance of people living with HIV and AIDS are explored. This chapter also reports on sexual behaviour for both men and women including experience of symptoms and treatment seeking behaviour for STIs, types and numbers of sexual partnerships, condom use and negotiation issues around safer sex. Since the last survey, the Voluntary Counseling and Testing (VCT) programme and the Prevention of Mother-to-Child Transmission (PMTCT) programme have been introduced into the public health sector. In this survey, questions were asked about these programmes including uptake of VCT and PMTCT services. As UNAIDS has identified the age group 15-24 years as a key target group for HIV prevention, additional indicators are reported for this age group.

5.2 AIDS Knowledge and Awareness

Table 5.1 shows that almost all men (95 percent) and women (93 percent) have heard of AIDS. In the 1998 SADHS this question was only asked of women and the total was slightly higher at 97 percent. Table 5.1 presents knowledge of AIDS by background characteristics. There appears to be no difference in knowledge by either age or marital status. Urban women are slightly more likely (95 percent) compared to non-urban women (90 percent) to have heard of AIDS. The background characteristic that shows the strongest relationship with knowledge of AIDS is education. Women with no education report the lowest level of knowledge (81 percent) compared to women with higher education, almost all of whom have heard of AIDS (99 percent). The same pattern is seen in men with the lowest knowledge reported by men with no education (89 percent). Differences in knowledge of AIDS did not show such wide variation for education level of women in 1998 when 90 percent of women with no education had heard of AIDS. Table 5.1 shows that in 2003 there are minimal differences in knowledge between population groups. However, the lowest reported knowledge is found among non-urban African women (90 percent).

Table 5.1 Knowledge of AIDS

Percentage of women and men 15-49 years who have heard of AIDS by background characteristics, South Africa 2003

| Background characteristic | WOMEN | | MEN | |
|----------------------------|-------------------|-----------------------|-------------------|-----------------------|
| | Has heard of AIDS | Number of respondents | Has heard of AIDS | Number of respondents |
| Age 5-year groups | | | | |
| 15-19 | 93.0 | 1 395 | 93.1 | 603 |
| 20-24 | 93.3 | 1 242 | 93.7 | 527 |
| 25-29 | 93.5 | 1 015 | 94.4 | 416 |
| 30-39 | 94.7 | 1 909 | 95.5 | 688 |
| 40-49 | 92.2 | 1 480 | 95.5 | 547 |
| Marital status | | | | |
| Never in union | 93.1 | 3 821 | 94.4 | 1 710 |
| Ever had sex | 93.7 | 2 818 | 96.3 | 1 273 |
| Never had sex | 91.4 | 1 003 | 89.0 | 437 |
| Married/Living together | 93.9 | 2 658 | 94.5 | 957 |
| Divorced/Separated/Widowed | 93.8 | 562 | 95.1 | 113 |
| Residence | | | | |
| Urban | 95.1 | 4 678 | 95.2 | 1 919 |
| Non-urban | 90.1 | 2 363 | 92.9 | 861 |
| Province | | | | |
| Western Cape | 94.2 | 892 | 96.9 | 344 |
| Eastern Cape | 93.8 | 804 | 84.8 | 268 |
| Northern Cape | 92.0 | 125 | 97.5 | 52 |
| Free State | 95.6 | 443 | 90.9 | 174 |
| KwaZulu-Natal | 90.8 | 1 177 | 98.0 | 612 |
| North West | 90.8 | 523 | 96.1 | 196 |
| Gauteng | 94.0 | 1 854 | 92.7 | 730 |
| Mpumalanga | 97.0 | 451 | 98.1 | 194 |
| Limpopo | 93.6 | 772 | 96.0 | 208 |
| Education | | | | |
| No education | 80.9 | 302 | 88.7 | 101 |
| Grades 1-5 | 88.1 | 438 | 90.1 | 174 |
| Grades 6-7 | 91.1 | 721 | 89.8 | 265 |
| Grades 8-11 | 93.1 | 3 285 | 94.2 | 1 240 |
| Grade 12 | 97.0 | 1 683 | 96.9 | 743 |
| Higher | 98.6 | 609 | 98.7 | 257 |
| Population group | | | | |
| African | 92.6 | 5 831 | 93.6 | 2 290 |
| Afr. urban | 94.3 | 3 586 | 94.1 | 1 466 |
| Afr. non-urban | 90.0 | 2 246 | 92.7 | 824 |
| Coloured | 96.0 | 665 | 98.4 | 238 |
| Indian | 99.3 | 141 | 100.0 | 64 |
| White | 99.2 | 402 | 98.2 | 184 |
| Total | 93.4 | 7 041 | 94.5 | 2 780 |

Note: 4 women and 4 men had population group Other/missing.

5.3 Sources of Knowledge about HIV and AIDS

Although knowledge of AIDS is almost universal in South Africa, it is important for people to know how to prevent HIV infection. Men and women were asked to respond to a prompted list of prevention methods and asked if they agree that these methods could prevent HIV infection (Table 5.2). The majority of men (85 percent) agree that condoms reduce the risk of HIV infection but fewer women agree with this statement (71 percent). In 1998 this question was only asked to women and a somewhat higher proportion of women (87 percent) believed that using condoms prevents HIV. This reduction of over 16 percent between surveys is a concern. Older men and women (aged 40-49 years) and younger men and women (15-19 years) are less likely to agree with the statement that condom use prevents HIV infection.

Limiting sex to one uninfected partner is seen as a method to prevent HIV by 82 percent of men and 75 percent of women. A slightly higher proportion of men (76 percent) know that using condoms and having sex with one uninfected partner, prevents HIV, compared to 68 percent of women who agree with this statement.

For all prevention methods, knowledge of the correct prevention methods is lowest in the youngest age group (15-19 years) and in the oldest age group, in both men and women. Non-urban residents reported lower knowledge of methods to reduce the risk of acquiring HIV for all prevention methods. Provincial differences are marked with women in several provinces indicating a far lower recognition of the three risk factors given. Limpopo, KwaZulu-Natal and Eastern Cape reported the lowest proportion of women that know that HIV infection can be reduced by using condoms, having sex with just one partner or both. These data cannot be compared to the 1998 survey as this is the first time this information has been solicited. The HIV antenatal prevalence in 2003 (Department of Health, 2004), the same year as the second SADHS, shows that the provinces in which recognition of ways of acquiring HIV infection is lowest are actually the provinces with the highest rates of HIV infection (Limpopo 18 percent, KwaZulu-Natal 38 percent and Eastern Cape 27 percent). In men the provincial pattern is similar to women with Eastern Cape and Limpopo showing lower knowledge of prevention methods. Men in KwaZulu-Natal however, unlike the female respondents in the same province, were more knowledgeable about ways of acquiring HIV infection than all other provinces for all three indicators.

Education level showed the greatest differences in knowledge of risk reduction strategies. This is particularly marked in women, where less than half of women with no education report that risk of HIV infection could be reduced with either of the two risk reduction strategies. In men, although having had no education resulted in the lowest knowledge of ways of risk reduction, it is still reasonably high for use of condoms and for limiting sex to one uninfected partner (71 percent in both cases). African non-urban men and women showed the lowest recognition of risk factors compared to other population groups and women reported lower responses than men across all population groups.

Table 5.2 Knowledge of HIV prevention methods

Percentage of women and men (15-49 years) who, in response to a prompted question, say that people can reduce the risk of getting HIV by using condoms and by having sex with just one partner who is not infected and who has no other partners, by background characteristics, South Africa 2003

| Background characteristic | WOMEN | | | | MEN | | | |
|----------------------------|---------------|--|---|-----------------------|---------------|--|---|-----------------------|
| | Using condoms | Limiting sex to one uninfected partner | Using condoms and limiting sex to one uninfected partner ¹ | Number of respondents | Using condoms | Limiting sex to one uninfected partner | Using condoms and limiting sex to one uninfected partner ¹ | Number of respondents |
| Age | | | | | | | | |
| 15-19 | 70.1 | 72.5 | 66.1 | 1 395 | 80.2 | 77.8 | 69.6 | 603 |
| 20-24 | 72.2 | 76.4 | 68.7 | 1 242 | 86.5 | 80.3 | 76.3 | 527 |
| 25-29 | 72.9 | 78.0 | 70.8 | 1 015 | 87.9 | 83.6 | 80.1 | 416 |
| 30-39 | 73.2 | 77.0 | 70.6 | 1 909 | 87.1 | 86.0 | 80.4 | 688 |
| 40-49 | 66.3 | 70.2 | 63.0 | 1 480 | 84.8 | 81.9 | 74.5 | 547 |
| Marital status | | | | | | | | |
| Never in union | 71.3 | 74.6 | 67.6 | 3 821 | 85.0 | 81.9 | 76.3 | 1 710 |
| Ever had sex | 71.5 | 74.4 | 67.6 | 2 818 | 88.7 | 84.0 | 79.9 | 1 273 |
| Never had sex | 70.6 | 75.2 | 67.7 | 1 003 | 74.4 | 75.8 | 66.1 | 437 |
| Married/Living together | 70.2 | 74.7 | 67.9 | 2 658 | 85.3 | 82.3 | 76.0 | 957 |
| Divorced/Separated/Widowed | 71.7 | 75.6 | 68.7 | 562 | 85.9 | 80.1 | 72.9 | 113 |
| Residence | | | | | | | | |
| Urban | 74.8 | 79.0 | 71.8 | 4 678 | 86.3 | 83.6 | 77.9 | 1 919 |
| Non-urban | 63.2 | 66.2 | 59.9 | 2 363 | 82.7 | 78.3 | 72.0 | 861 |
| Province | | | | | | | | |
| Western Cape | 73.5 | 76.3 | 71.0 | 892 | 87.4 | 83.4 | 76.2 | 344 |
| Eastern Cape | 66.6 | 71.2 | 61.2 | 804 | 74.0 | 65.9 | 60.3 | 268 |
| Northern Cape | 74.3 | 78.9 | 72.5 | 125 | 85.0 | 82.1 | 73.9 | 52 |
| Free State | 73.8 | 77.7 | 72.5 | 443 | 80.3 | 79.1 | 71.7 | 174 |
| KwaZulu-Natal | 66.4 | 71.7 | 65.1 | 1 177 | 90.6 | 89.6 | 83.9 | 612 |
| North West | 75.0 | 76.9 | 72.4 | 523 | 87.9 | 87.0 | 81.6 | 196 |
| Gauteng | 74.0 | 79.4 | 70.3 | 1 854 | 83.4 | 81.9 | 76.7 | 730 |
| Mpumalanga | 79.9 | 82.4 | 78.3 | 451 | 87.9 | 79.3 | 75.0 | 194 |
| Limpopo | 61.7 | 61.3 | 56.3 | 772 | 85.0 | 78.1 | 70.6 | 208 |
| Education | | | | | | | | |
| No education | 43.7 | 46.5 | 40.1 | 302 | 71.4 | 70.7 | 59.8 | 101 |
| Grades 1-5 | 52.7 | 55.9 | 51.4 | 438 | 75.0 | 69.1 | 59.9 | 174 |
| Grades 6-7 | 62.3 | 65.1 | 58.7 | 721 | 78.4 | 75.9 | 69.9 | 265 |
| Grades 8-11 | 71.3 | 74.5 | 67.6 | 3 285 | 85.1 | 80.6 | 74.8 | 1 240 |
| Grade 12 | 78.6 | 83.6 | 75.9 | 1 683 | 88.2 | 87.5 | 81.7 | 743 |
| Higher | 85.0 | 90.4 | 82.8 | 609 | 95.9 | 92.0 | 89.4 | 257 |
| Population group | | | | | | | | |
| African | 69.3 | 73.0 | 65.8 | 5 831 | 83.8 | 80.7 | 74.6 | 2 290 |
| Afr. urban | 73.2 | 77.4 | 59.6 | 3 586 | 84.7 | 82.2 | 76.4 | 1 466 |
| Afr. non-urban | 63.0 | 66.0 | 69.8 | 2 246 | 82.1 | 78.0 | 71.5 | 824 |
| Coloured | 70.4 | 73.6 | 68.6 | 665 | 86.2 | 82.8 | 73.9 | 238 |
| Indian | 87.4 | 93.5 | 88.7 | 141 | 97.9 | 98.7 | 97.1 | 64 |
| White | 90.1 | 94.3 | 84.8 | 402 | 96.4 | 91.1 | 89.2 | 184 |
| Total | 70.9 | 74.7 | 67.8 | 7 041 | 85.2 | 82.0 | 76.1 | 2 780 |

¹ Corresponds to UNAIDS Knowledge indicator 1 "Knowledge of HIV prevention methods".

Note: 4 women and 4 men had population group as Other/missing.

5.4 Perceptions of the Risk of Getting HIV

There was misinformation about HIV and how it can be transmitted. In addition there is misinformation that a healthy looking person cannot be carrying HIV, the virus that causes AIDS. Women, but not men, were asked whether they agree with certain statements about the transmission of HIV. Table 5.3 shows that over three-quarters (78 percent) of women agreed with the statement that a healthy looking person could be carrying HIV and similar proportions agree that HIV cannot be transmitted by witchcraft (76 percent) or agree with the statement that a person cannot be infected with HIV by sharing food with an HIV infected person (73 percent). Just over half (57 percent) of women rejected the statement that HIV cannot be transmitted by mosquito bites that indicates a need for more information in this area. While the overwhelming majority of women do not hold common misconceptions about the transmission of HIV, about a quarter of women do. Half of women (51 percent) rejected misconception about transmission via mosquito bites and that a healthy looking person cannot have HIV.

Table 5.3 shows how the responses to these questions vary across selected background characteristics. It can be seen that age and marital status have little influence on responses. Overall, non-urban women report lower proportions (42 percent) of rejecting misinformation about HIV than urban women. Provinces with the lowest proportions of rejecting misinformation are Eastern Cape, Free State, Northern Cape and Limpopo. Education plays the greatest role in responses to this question with only a quarter of women with no education (28 percent) rejecting the two most common misconceptions that a healthy looking person can have HIV and HIV can be transmitted by mosquito bites. This is almost three times higher (75 percent) among women with higher education.

The most common misconception in South Africa is the association between mosquito bites and HIV transmission and by sharing food with an infected person. Although the misinformation question asked in the 2003 survey was not asked in exactly the same way in 1998, the data from 2003 can be compared to a similar question in the 1998 SADHS, which asked about misinformation on knowledge of ways to avoid AIDS. A similar percentage of women in 1998 (71 percent) reported that they disagreed with the statement that to avoid AIDS one must avoid sharing food with an infected person. Regarding mosquito bites, almost half (44 percent) of women rejected this as a mode of transmission, however, another 18 percent said they did not know. There has been an increase in the rejection of misinformation for this particular mode of transmission between the two surveys. These data suggest that there remains a need to reach all women with information about the risks of HIV transmission. In particular, women in non-urban areas need to be informed about the transmission routes of HIV.

Table 5.3 Beliefs about AIDS

Percentage of women 15-49 years who, in response to a prompted question, correctly reject local misconceptions about transmission or prevention, and who know that a healthy-looking person can have the HIV virus by background characteristics, South Africa 2003

| Background characteristic | Percentage of respondents who know that: | | | | A healthy-looking persons cannot have HIV and HIV cannot be transmitted by mosquito bites ¹ | Number of respondents |
|----------------------------|--|---|---|---|--|-----------------------|
| | A healthy-looking person can have HIV | HIV cannot be transmitted by mosquito bites | HIV cannot be transmitted by witchcraft | A person cannot become infected by sharing food with an HIV infected person | | |
| Age | | | | | | |
| 15-19 | 75.8 | 58.8 | 76.8 | 73.7 | 50.8 | 1 395 |
| 20-24 | 77.3 | 58.3 | 77.2 | 74.9 | 51.2 | 1 242 |
| 25-29 | 80.4 | 60.2 | 76.1 | 75.1 | 55.0 | 1 015 |
| 30-39 | 80.4 | 58.1 | 78.3 | 74.4 | 52.3 | 1 909 |
| 40-49 | 75.0 | 50.3 | 72.3 | 66.0 | 44.5 | 1 480 |
| Marital status | | | | | | |
| Never in union | 78.0 | 59.6 | 77.0 | 74.9 | 52.6 | 3 821 |
| Ever had sex | 78.5 | 58.0 | 77.7 | 74.2 | 51.2 | 2 818 |
| Never had sex | 76.5 | 64.1 | 75.2 | 76.8 | 56.5 | 1 003 |
| Married/Living together | 77.2 | 54.2 | 75.6 | 70.2 | 48.3 | 2 658 |
| Divorced/Separated/Widowed | 79.5 | 51.7 | 73.6 | 69.3 | 47.3 | 562 |
| Residence | | | | | | |
| Urban | 80.4 | 61.7 | 79.0 | 77.9 | 55.1 | 4 678 |
| Non-urban | 72.7 | 47.6 | 70.7 | 62.3 | 41.5 | 2 363 |
| Province | | | | | | |
| Western Cape | 81.0 | 60.1 | 69.7 | 73.4 | 55.6 | 892 |
| Eastern Cape | 72.8 | 36.2 | 56.3 | 66.9 | 31.5 | 804 |
| Northern Cape | 72.8 | 55.6 | 70.8 | 69.7 | 47.2 | 125 |
| Free State | 71.7 | 57.4 | 84.6 | 70.0 | 47.7 | 443 |
| KwaZulu-Natal | 82.6 | 64.2 | 81.4 | 70.8 | 59.4 | 1 177 |
| North West | 80.8 | 59.5 | 82.2 | 75.0 | 55.4 | 523 |
| Gauteng | 78.6 | 63.4 | 79.7 | 80.3 | 55.4 | 1 854 |
| Mpumalanga | 77.1 | 59.0 | 84.8 | 75.4 | 51.0 | 451 |
| Limpopo | 72.7 | 45.2 | 75.2 | 61.3 | 38.1 | 772 |
| Education | | | | | | |
| No education | 52.2 | 33.1 | 55.2 | 41.5 | 27.7 | 302 |
| Grades 1-5 | 62.4 | 29.1 | 57.6 | 46.2 | 24.6 | 438 |
| Grades 6-7 | 68.8 | 43.3 | 68.6 | 60.1 | 35.3 | 721 |
| Grades 8-11 | 76.9 | 54.6 | 75.7 | 73.1 | 48.0 | 3 285 |
| Grade 12 | 86.6 | 70.6 | 84.6 | 83.2 | 64.3 | 1 683 |
| Higher | 92.6 | 80.1 | 88.7 | 91.1 | 74.9 | 609 |
| Population group | | | | | | |
| African | 76.1 | 55.3 | 75.9 | 71.6 | 48.5 | 5831 |
| Afr. urban | 78.4 | 60.1 | 78.7 | 77.3 | 52.9 | 3586 |
| Afr. non-urban | 72.5 | 47.6 | 71.4 | 62.4 | 41.5 | 2246 |
| Coloured | 81.8 | 56.0 | 71.0 | 69.9 | 51.1 | 665 |
| Indian | 92.5 | 74.0 | 89.2 | 91.4 | 70.0 | 141 |
| White | 90.1 | 76.3 | 84.9 | 87.0 | 71.8 | 402 |
| Total | 77.8 | 56.9 | 76.2 | 72.7 | 50.5 | 7041 |

¹ Corresponds to UNAIDS Knowledge indicator 2 "No incorrect beliefs about AIDS".
Note: 4 women had population group as Other/missing.

5.5 Accepting Attitudes towards those Living with HIV/AIDS

For the first time in the 2003 SADHS survey a question was asked which explored acceptance towards people living with HIV or AIDS in a number of particularly sensitive areas. As HIV prevalence has been increasing, the number of people living with HIV or AIDS has increased and so there is a need to understand how strong the stigma of the infection and disease is in the population. Accepting attitudes may indicate better knowledge and understanding of HIV and AIDS. It may also be a result of more people being affected by family members disclosing their status or a result of caring for those living with HIV or AIDS. A number of statements were presented to women respondents around interaction with and attitudes towards those infected with HIV.

The majority of women (85 percent) reported that they would be willing to care for a family member with HIV or AIDS at home (Table 5.4). Differences were observed across selected characteristics of women willing to do this. Across the provinces, KwaZulu-Natal shows the lowest proportion of women (71 percent) reporting that they would care for family members. As the province with one of the highest rates of HIV infection, this is of some concern. Women with no education also reported a lower level of agreement to this response (79 percent).

Women were asked if they would be prepared to buy fresh vegetables from a vendor they knew to be infected with HIV; overall almost three-quarters (73 percent) said yes. Significantly fewer women with no education (49 percent) compared to 83 percent of those with higher education were comfortable with buying fresh vegetables from an infected person. Non-urban women were also less likely to report preparedness to buy fresh vegetables from an HIV positive vendor reported lower levels of agreement (62 percent) compared to urban women (78 percent).

Most women (82 percent) believe an HIV positive teacher should be able to continue teaching. Again this measure of acceptance is affected by education with increasing acceptance as women's education increase (61 percent – 89 percent). The lowest level of accepting attitudes is in the disclosure of the HIV status of a family member. However, nearly two-thirds of women (60 percent) indicate they would not necessarily want an HIV positive family member's HIV status to remain a secret. More educated women were more likely to have accepting attitudes of positive status increases with education. There is also considerable variation across the provinces with only half (51 percent) of women in KwaZulu-Natal accepting a family member's HIV positive status to be known compared to 79 percent in the Eastern Cape. Overall, more than one-third of women (38 percent) express acceptance on all four measures, with education playing the most significant role on all four measures. Only 22 percent of women with no education compared to 51 percent of those with higher education express acceptance on all four measures.

Table 5.4 Accepting attitudes towards those living with HIV or AIDS

Percentage of women who have heard about HIV or AIDS expressing accepting attitudes toward people with HIV, by background characteristics, South Africa 2003

| Background characteristic | Percentage of respondents who: | | | | Percentage expressing acceptance on all 4 measures ¹ | Number of respondents who have heard of HIV/AIDS |
|----------------------------|---|--|--|--|---|--|
| | Willing to care for family member with HIV/AIDS at home | Would buy fresh vegetables from shopkeeper with HIV/AIDS | Believe HIV/AIDS positive teacher should be allowed to teach | Would not want HIV+ status of family member to remain secret | | |
| Age | | | | | | |
| 15-19 | 81.2 | 73.3 | 81.3 | 59.4 | 36.7 | 1 297 |
| 20-24 | 86.8 | 75.6 | 85.6 | 58.5 | 39.8 | 1 159 |
| 25-29 | 85.1 | 72.2 | 83.3 | 61.5 | 39.3 | 950 |
| 30-39 | 84.6 | 72.7 | 82.3 | 58.4 | 38.2 | 1 809 |
| 40-49 | 86.2 | 69.1 | 79.5 | 61.4 | 38.1 | 1 365 |
| Marital status | | | | | | |
| Never in union | 84.0 | 73.8 | 84.2 | 58.4 | 38.3 | 3 557 |
| Ever had sex | 85.2 | 73.4 | 85.0 | 58.4 | 39.1 | 2 640 |
| Never had sex | 80.6 | 75.0 | 81.6 | 58.5 | 36.0 | 916 |
| Married/Living together | 85.1 | 70.5 | 80.5 | 60.9 | 38.0 | 2 496 |
| Divorced/Separated/Widowed | 87.8 | 73.1 | 77.7 | 62.4 | 39.5 | 527 |
| Residence | | | | | | |
| Urban | 86.3 | 77.7 | 85.0 | 59.9 | 41.7 | 4 450 |
| Non-urban | 81.4 | 61.6 | 76.5 | 59.2 | 31.3 | 2 130 |
| Province | | | | | | |
| Western Cape | 88.5 | 72.1 | 76.5 | 55.5 | 33.4 | 841 |
| Eastern Cape | 88.5 | 70.8 | 75.9 | 78.6 | 49.2 | 754 |
| Northern Cape | 88.8 | 68.0 | 72.2 | 70.7 | 42.0 | 115 |
| Free State | 82.8 | 69.7 | 81.0 | 66.6 | 41.9 | 424 |
| KwaZulu-Natal | 70.5 | 72.6 | 88.0 | 50.9 | 28.6 | 1 069 |
| North West | 92.3 | 72.9 | 88.7 | 74.9 | 54.9 | 475 |
| Gauteng | 87.2 | 82.5 | 87.7 | 54.1 | 40.9 | 1 742 |
| Mpumalanga | 82.6 | 63.9 | 82.5 | 56.2 | 35.5 | 437 |
| Limpopo | 88.3 | 57.8 | 71.9 | 57.5 | 28.9 | 722 |
| Education | | | | | | |
| No education | 78.5 | 49.0 | 61.4 | 49.5 | 21.6 | 244 |
| Grades 1-5 | 79.9 | 54.5 | 67.4 | 58.7 | 27.8 | 386 |
| Grades 6-7 | 83.3 | 62.4 | 75.4 | 57.3 | 29.7 | 657 |
| Grades 8-11 | 85.4 | 73.4 | 81.6 | 60.3 | 38.9 | 3 057 |
| Grade 12 | 84.8 | 78.9 | 90.3 | 59.2 | 41.2 | 1 632 |
| Higher | 88.4 | 82.8 | 89.0 | 65.0 | 50.5 | 601 |
| Population group | | | | | | |
| African | 84.8 | 73.1 | 83.8 | 59.7 | 38.8 | 5 400 |
| Afr. urban | 86.8 | 80.0 | 87.9 | 59.8 | 43.2 | 3 380 |
| Afr. non-urban | 81.4 | 61.5 | 76.9 | 59.6 | 31.5 | 2 021 |
| Coloured | 85.1 | 67.9 | 72.5 | 55.9 | 29.2 | 638 |
| Indian | 83.2 | 76.6 | 83.8 | 62.1 | 43.3 | 140 |
| White | 83.9 | 70.6 | 76.8 | 63.9 | 44.0 | 399 |
| Total | 84.7 | 72.5 | 82.3 | 59.7 | 38.3 | 6 580 |

¹ Corresponds to UNAIDS Stigma and Discrimination indicator 1 "Accepting attitudes towards those living with HIV".

Note: 4 women had population group as Other/missing.

5.6 Knowledge of Prevention of Mother-to-Child Transmission of HIV

For the first time in the 2003 survey, both men and women were asked if HIV could be transmitted by breastfeeding (Table 5.5). Fifty-six percent of women and 51 percent of men know that this is a mode of HIV transmission. Both men and women with no education (41 percent and 35 percent respectively) are least likely to know about mother-to-child transmission (MTCT) via breast milk. Women's knowledge increased slightly with education, with women with higher education being twice as likely to know about MTCT with no education (73 percent and 35 percent respectively). In men, although there is an increase in knowledge with education, the effect of education is not as strong as in women. Women in Limpopo and men in Gauteng have the least knowledge of MTCT via breastfeeding (49 percent and 53 percent respectively).

| Background characteristic | WOMEN | | MEN | |
|----------------------------|---|-----------------------|---|-----------------------|
| | HIV can be transmitted by breastfeeding | Number of respondents | HIV can be transmitted by breastfeeding | Number of respondents |
| Age | | | | |
| 15-19 | 48.9 | 1 395 | 47.5 | 603 |
| 20-24 | 57.4 | 1 242 | 48.6 | 527 |
| 25-29 | 60.8 | 1 015 | 57.1 | 416 |
| 30-39 | 58.3 | 1 909 | 53.2 | 688 |
| 40-49 | 53.3 | 1 480 | 51.7 | 547 |
| Marital status | | | | |
| Never in union | 55.5 | 3 821 | 50.9 | 1 710 |
| Ever had sex | 58.2 | 2 818 | 54.1 | 1 273 |
| Never had sex | 47.7 | 1 003 | 41.6 | 437 |
| Married/Living together | 55.5 | 2 658 | 52.8 | 957 |
| Divorced/Separated/Widowed | 56.9 | 562 | 45.7 | 113 |
| Residence | | | | |
| Urban | 56.9 | 4 678 | 50.1 | 1 919 |
| Non-urban | 53.0 | 2 363 | 54.1 | 861 |
| Province | | | | |
| Western Cape | 57.3 | 892 | 59.6 | 344 |
| Eastern Cape | 57.2 | 804 | 48.1 | 268 |
| Northern Cape | 60.5 | 125 | 59.5 | 52 |
| Free State | 50.2 | 443 | 52.7 | 174 |
| KwaZulu-Natal | 61.9 | 1 177 | 60.0 | 612 |
| North West | 62.3 | 523 | 59.4 | 196 |
| Gauteng | 50.0 | 1 854 | 35.0 | 730 |
| Mpumalanga | 64.3 | 451 | 59.0 | 194 |
| Limpopo | 48.6 | 772 | 56.0 | 208 |
| Education | | | | |
| No education | 35.0 | 302 | 40.5 | 101 |
| Grades 1-5 | 40.4 | 438 | 51.1 | 174 |
| Grades 6-7 | 53.3 | 721 | 46.4 | 265 |
| Grades 8-11 | 53.0 | 3 285 | 51.0 | 1 240 |
| Grade 12 | 63.0 | 1 683 | 53.1 | 743 |
| Higher | 73.3 | 609 | 57.7 | 257 |
| Population group | | | | |
| African | 55.2 | 5 831 | 51.7 | 2 290 |
| Afr. urban | 56.5 | 3 586 | 50.3 | 1 466 |
| Afr. non-urban | 53.1 | 2 246 | 54.3 | 824 |
| Coloured | 58.3 | 665 | 55.5 | 238 |
| Indian | 59.4 | 141 | 56.9 | 64 |
| White | 55.7 | 402 | 39.0 | 184 |
| Total | 55.6 | 7 041 | 51.4 | 2 780 |

Note: 4 women and 4 men had population group as Other/missing.

5.7 HIV Testing

At the time of the survey, voluntary counseling and testing (VCT) was available in the public and private sector. In 2003, in the public sector the Prevention of Mother-to-Child Transmission (PMTCT) programme was being expanded throughout all the provinces. In total, 30 percent of women report that they have been tested for HIV (Table 5.6), however, around a third of women tested report that they did not get the results of their test. Although fewer men (23 percent) report they had been tested for HIV, a far higher proportion reported that they had received their results. Despite the fact that more women have been tested, this gender difference in getting HIV test results has resulted in similar proportions, approximately 20 percent, of both men and women knowing their HIV status.

A small proportion of men (6 percent) and women (8 percent) do not know if they had been tested for HIV. Both men and women in urban areas were twice as likely to have been tested as those living in non-urban areas. There are marked provincial differences in testing, with Western Cape reporting the highest level for both men and women. Rates are lowest in KwaZulu-Natal and among men and women in Limpopo. As seen in previous tables, education played a strong role in testing status with increasing levels of HIV testing reported with increasing education level. The proportion of men who were tested and had received their result ranged from 8 percent to 43 percent, and the proportion of women ranged from 9 percent to 37 percent. HIV testing rates were highest in the white and Indian population groups and lowest in the non-urban African population. Among those who were tested, differences were noted in the proportions of men and women who received their results. The proportions of women not receiving the results of their test varied from around a quarter in the Western Cape to over a half in Limpopo. Women in urban areas were more likely to receive their results compared to non-urban areas. The likelihood of getting results of an HIV test also increased with educational status, with approximately half the women with no education not getting their test results compared to less than third in the highest education level.

Table 5.6 HIV tests and receiving results

Percentage of women and men by status of HIV testing in the last 12 months by background characteristics, South Africa 2003

| Background characteristic | WOMEN | | | | | Number of respondents | MEN | | | | | Number of respondents |
|----------------------------|--------------------------|-----------------------------|--------------|-------------|-------|-----------------------|-------------------------|-----------------------------|--------------|-------------|-------|-----------------------|
| | Tested: received results | Tested: no results received | Never tested | DK/ Missing | Total | | Tested: received result | Tested: no results received | Never tested | DK/ Missing | Total | |
| Age | | | | | | | | | | | | |
| 15-19 | 6.7 | 4.1 | 81.1 | 8.2 | 100.0 | 1 395 | 5.1 | 0.9 | 86.5 | 7.6 | 100.0 | 603 |
| 20-24 | 16.1 | 16.4 | 59.4 | 8.1 | 100.0 | 1 242 | 13.3 | 3.0 | 77.3 | 6.3 | 100.0 | 527 |
| 25-29 | 22.8 | 17.4 | 51.6 | 8.2 | 100.0 | 1 015 | 23.9 | 2.4 | 68.1 | 5.6 | 100.0 | 416 |
| 30-39 | 24.7 | 13.7 | 54.2 | 7.3 | 100.0 | 1 909 | 28.7 | 4.0 | 62.9 | 4.5 | 100.0 | 688 |
| 40-49 | 23.5 | 6.0 | 61.5 | 8.9 | 100.0 | 1 480 | 29.7 | 1.6 | 64.0 | 4.8 | 100.0 | 547 |
| Marital status | | | | | | | | | | | | |
| Never in union | 14.0 | 8.9 | 69.1 | 8.1 | 100.0 | 3 821 | 13.4 | 2.3 | 78.5 | 5.8 | 100.0 | 1 710 |
| Ever had sex | 18.0 | 11.8 | 62.9 | 7.4 | 100.0 | 2 818 | 15.6 | 2.8 | 77.9 | 3.7 | 100.0 | 1 273 |
| Never had sex | 2.8 | 0.7 | 86.4 | 10.0 | 100.0 | 1 003 | 6.9 | 1.0 | 80.5 | 11.7 | 100.0 | 437 |
| Married/Living together | 24.5 | 15.0 | 52.2 | 8.3 | 100.0 | 2 658 | 31.1 | 2.8 | 60.4 | 5.7 | 100.0 | 957 |
| Divorced/Separated/Widowed | 28.2 | 9.0 | 55.2 | 7.6 | 100.0 | 562 | 29.3 | 0.6 | 64.3 | 5.8 | 100.0 | 113 |
| Residence | | | | | | | | | | | | |
| Urban | 23.5 | 12.2 | 57.6 | 6.7 | 100.0 | 4 678 | 24.1 | 2.8 | 68.1 | 5.0 | 100.0 | 1 919 |
| Non-urban | 10.3 | 9.2 | 69.6 | 10.9 | 100.0 | 2 363 | 11.2 | 1.7 | 79.7 | 7.4 | 100.0 | 861 |
| Province | | | | | | | | | | | | |
| Western Cape | 31.7 | 11.3 | 50.7 | 6.3 | 100.0 | 892 | 40.4 | 4.7 | 51.8 | 3.1 | 100.0 | 344 |
| Eastern Cape | 17.9 | 9.7 | 65.2 | 7.3 | 100.0 | 804 | 19.6 | 2.2 | 63.0 | 15.2 | 100.0 | 268 |
| Northern Cape | 23.1 | 13.4 | 54.9 | 8.6 | 100.0 | 125 | 25.8 | 3.0 | 68.7 | 2.5 | 100.0 | 52 |
| Free State | 15.3 | 9.3 | 68.6 | 6.8 | 100.0 | 443 | 14.2 | 2.1 | 74.3 | 9.5 | 100.0 | 174 |
| KwaZulu-Natal | 12.0 | 5.7 | 72.9 | 9.4 | 100.0 | 1 177 | 17.5 | 2.2 | 77.7 | 2.6 | 100.0 | 612 |
| North West | 13.9 | 8.2 | 67.8 | 10.1 | 100.0 | 523 | 16.2 | 1.4 | 78.5 | 3.9 | 100.0 | 196 |
| Gauteng | 23.8 | 14.8 | 52.3 | 9.1 | 100.0 | 1 854 | 17.2 | 2.4 | 73.1 | 7.3 | 100.0 | 730 |
| Mpumalanga | 17.0 | 13.9 | 64.8 | 4.3 | 100.0 | 451 | 20.5 | 3.0 | 74.7 | 1.9 | 100.0 | 194 |
| Limpopo | 11.5 | 13.5 | 66.8 | 8.3 | 100.0 | 772 | 12.5 | 0.4 | 82.7 | 4.4 | 100.0 | 208 |
| Education | | | | | | | | | | | | |
| No education | 8.5 | 8.0 | 61.7 | 21.8 | 100.0 | 302 | 8.4 | 2.6 | 77.7 | 11.3 | 100.0 | 101 |
| Grades 1-5 | 8.2 | 10.2 | 68.4 | 13.3 | 100.0 | 438 | 7.8 | 2.2 | 80.1 | 9.9 | 100.0 | 174 |
| Grades 6-7 | 14.2 | 7.6 | 67.7 | 10.6 | 100.0 | 721 | 15.9 | 0.8 | 72.3 | 11.0 | 100.0 | 265 |
| Grades 8-11 | 16.8 | 11.0 | 64.0 | 8.2 | 100.0 | 3 285 | 14.5 | 2.5 | 77.0 | 6.0 | 100.0 | 1 240 |
| Grade 12 | 23.9 | 12.2 | 58.8 | 5.1 | 100.0 | 1 683 | 27.6 | 2.5 | 66.8 | 3.1 | 100.0 | 743 |
| Higher | 37.2 | 16.0 | 44.5 | 2.3 | 100.0 | 609 | 43.0 | 3.5 | 51.9 | 1.5 | 100.0 | 257 |
| Population group | | | | | | | | | | | | |
| African | 15.9 | 11.0 | 64.0 | 9.2 | 100.0 | 5 831 | 15.9 | 2.0 | 75.5 | 6.6 | 100.0 | 2 290 |
| Afr. urban | 19.9 | 12.1 | 60.0 | 7.9 | 100.0 | 3 586 | 18.9 | 2.2 | 72.8 | 6.0 | 100.0 | 1 466 |
| Afr. non-urban | 9.5 | 9.2 | 70.2 | 11.1 | 100.0 | 2 246 | 10.4 | 1.5 | 80.4 | 7.7 | 100.0 | 824 |
| Coloured | 28.2 | 10.6 | 56.9 | 4.4 | 100.0 | 665 | 29.0 | 6.0 | 63.4 | 1.6 | 100.0 | 238 |
| Indian | 34.4 | 11.7 | 51.7 | 2.2 | 100.0 | 141 | 55.9 | 1.7 | 42.4 | 0.0 | 100.0 | 64 |
| White | 44.8 | 15.2 | 38.8 | 1.3 | 100.0 | 402 | 48.7 | 3.6 | 45.9 | 1.8 | 100.0 | 184 |
| Total | 19.1 | 11.2 | 61.6 | 8.1 | 100.0 | 7 041 | 20.1 | 2.4 | 71.7 | 5.7 | 100.0 | 2 780 |

Note: 4 women and 4 men had population as Other/missing.

5.8 Attitudes toward Negotiating Safer Sex

Safer sex needs to be negotiated between partners and communication about sex can be awkward and embarrassing for some women. For the first time in the 2003 SADHS attitudes towards women's ability to negotiate safer sex with their husbands/boyfriends were explored. Women were asked *Please tell me if you think it is OK for a wife/girlfriend to refuse to have sex with her husband/boyfriend when she knows he has a disease that can be transmitted through sexual contact?* and similarly: *When a wife/girlfriend knows her husband/boyfriend has a disease that can be transmitted through sexual contact, is it OK for her to ask that they use a condom?* For men the information was only collected on women being able to propose condom use.

The majority of women (79 percent) believe that a wife/girlfriend can refuse to have sex with her husband/boyfriend and 83 percent say she can propose condom use if her husband has a sexually transmitted infection (STI) (Table 5.7). A similar proportion of men (84 percent) agree that a woman can propose condom use if her husband/boyfriend has an STI. Background characteristics showed minimal variation in responses between women and men by age group and marital status. Divorced, separated and widowed men and women reported the highest levels of agreement with the statement that a woman can refuse sex and propose condom use.

Table 5.7 also shows that a lower proportion of non-urban women (73 percent) believe that a woman can refuse sex compared to 82 percent of women resident in urban areas. There were marked differences by province with almost all women in both the Western and Northern Cape reporting that a woman could refuse sex. Provinces with the lowest proportion of women who believe that a woman can refuse sex when her husband/boyfriend has an STI are North West (71 percent), Eastern Cape (71 percent) and Mpumalanga (67 percent). North West had the lowest proportion of men (62 percent) who said a woman could propose condom use. Education played a strong role in agreement to the two statements with 71 percent of both men and woman who had no education saying a woman could propose condom use compared to 90 percent of men and 92 percent of women with higher education. The greatest difference was found between women with no education (67 percent) and the most educated group (90 percent) who said a woman could refuse sex with her partner if he had an STI. This information points to a wide gap in negotiation skills between poorly educated women and those who have attained a high educational level.

Table 5.7 Attitudes toward negotiating safer sex with husband/boyfriend

Percentage of women 15-49 years and men 15-59 years who believe that, if a husband/boyfriend has an STI, his wife/girlfriend can either refuse to have sex with him or propose condom use, by background characteristics, South Africa 2003

| Background characteristic | WOMEN | | | MEN | | |
|----------------------------|------------|--------------------|-----------------------|------------|--------------------|-----------------------|
| | Refuse sex | Propose condom use | Number of respondents | Refuse sex | Propose condom use | Number of respondents |
| Age | | | | | | |
| 15-19 | 73.8 | 77.2 | 1395 | - | 80.1 | 603 |
| 20-24 | 78.3 | 84.2 | 1242 | - | 85.2 | 527 |
| 25-29 | 78.8 | 85.1 | 1015 | - | 85.0 | 416 |
| 30-34 | 80.8 | 85.7 | 918 | - | 89.1 | 348 |
| 35-39 | 83.6 | 87.9 | 991 | - | 85.7 | 340 |
| 40-44 | 81.5 | 86.5 | 812 | - | 84.5 | 232 |
| 45-49 | 82.3 | 82.3 | 668 | - | 84.7 | 224 |
| 50-54 | | | | - | 73.8 | 184 |
| 55-59 | | | | - | 80.1 | 155 |
| Marital status | | | | | | |
| Never in union | 76.2 | 81.6 | 3 821 | - | 83.1 | 1 738 |
| Ever had sex | 77.3 | 83.4 | 2 818 | - | 85.2 | 1 297 |
| Never had sex | 73.0 | 76.4 | 1 003 | - | 77.0 | 441 |
| Married/Living together | 82.6 | 86.0 | 2 658 | - | 84.2 | 1 215 |
| Divorced/Separated/Widowed | 84.8 | 88.1 | 562 | - | 87.2 | 148 |
| Residence | | | | | | |
| Urban | 82.3 | 85.5 | 4 678 | - | 85.6 | 2 151 |
| Non-Urban | 73.3 | 80.4 | 2 363 | - | 79.3 | 667 |
| Province | | | | | | |
| Western Cape | 93.4 | 94.4 | 892 | - | 82.7 | 379 |
| Eastern Cape | 70.6 | 80.2 | 804 | - | 91.5 | 313 |
| Northern Cape | 91.0 | 81.9 | 125 | - | 89.8 | 59 |
| Free State | 82.0 | 87.0 | 443 | - | 78.7 | 199 |
| KwaZulu-Natal | 86.6 | 88.9 | 1 177 | - | 83.9 | 701 |
| North West | 70.6 | 73.9 | 523 | - | 62.1 | 216 |
| Gauteng | 77.4 | 79.1 | 1 854 | -- | 86.3 | 815 |
| Mpumalanga | 66.6 | 77.3 | 451 | - | 83.5 | 208 |
| Limpopo | 75.3 | 87.4 | 772 | - | 85.9 | 228 |
| Education | | | | | | |
| No education | 67.3 | 70.9 | 302 | - | 70.6 | 141 |
| Grades 1-5 | 74.7 | 80.6 | 438 | - | 72.4 | 227 |
| Grades 6-7 | 73.7 | 80.5 | 721 | - | 83.7 | 316 |
| Grades 8-11 | 79.1 | 82.7 | 3 285 | - | 83.8 | 1 367 |
| Grade 12 | 81.8 | 87.6 | 1 683 | - | 86.8 | 787 |
| Higher | 89.6 | 92.0 | 609 | - | 89.7 | 279 |
| Population group | | | | | | |
| African | 76.3 | 81.7 | 5 831 | - | 82.7 | 2 540 |
| Afr. urban | 78.8 | 83.0 | 3 586 | - | | 1 613 |
| Afr. non-urban | 72.2 | 79.7 | 2 246 | - | | 927 |
| Coloured | 91.4 | 91.4 | 665 | - | 89.5 | 264 |
| Indian | 98.0 | 96.6 | 141 | - | 83.2 | 79 |
| White | 96.6 | 96.2 | 402 | - | 94.9 | 229 |
| | | | | - | | |
| Total | 79.3 | 83.4 | 7 041 | - | 83.6 | 3 118 |

¹ Corresponds to UNAIDS Sexual Negotiation Indicator 1 "Women's ability to negotiate safer sex with husband."

- Question not included in men's questionnaire.

Note: 4 women and 5 men had population group as Other/missing.

5.9 Age at First Sexual Intercourse

Table 5.8 shows that there have been some changes over time in age at first sexual intercourse. In the oldest age group, 31 percent reported that they had had sex by the age of 18. In the 20-24 age group 5.5 percent report first sex by age of 15 and 42 percent by age of 18. Less than six percent of women report they had had sex by the age of 15 years. The median age of first intercourse is highest in the oldest age group (19.2 years), however, it remains relatively steady across the age groups, indicating that the age of first sex continues to remain fairly stable. The median age of first intercourse in the 25-29 age groups is 18.3 years; for the same age group in the 1998 survey the figure was 18.1. This may indicate an increase in women delaying age of first intercourse, which is important for prevention of STI/HIV and teenage pregnancy.

| Current age | Percentage who had first sexual intercourse by exact age: | | | | | Percentage who never had intercourse | Number of women | Median age at first intercourse |
|-------------|---|------|------|------|------|--------------------------------------|-----------------|---------------------------------|
| | 15 | 18 | 20 | 22 | 25 | | | |
| Age | | | | | | | | |
| 15-19 | 7.2 | na | na | na | na | 57.0 | 1 395 | a |
| 20-24 | 5.5 | 42.2 | 73.1 | na | na | 13.6 | 1 242 | 18.4 |
| 25-29 | 5.1 | 44.8 | 71.8 | 84.7 | 88.7 | 2.8 | 1 015 | 18.3 |
| 30-34 | 6.4 | 45.5 | 71.5 | 83.2 | 87.8 | 0.7 | 918 | 18.2 |
| 35-39 | 5.9 | 43.9 | 71.0 | 82.9 | 87.9 | 0.1 | 991 | 18.4 |
| 40-44 | 5.2 | 39.5 | 67.1 | 80.2 | 84.4 | 0.2 | 812 | 18.6 |
| 45-49 | 5.2 | 31.0 | 56.7 | 73.5 | 79.8 | 0.1 | 668 | 19.2 |
| 20-49 | 5.6 | 41.8 | 69.4 | na | na | 3.7 | 5 646 | 18.4 |
| 25-49 | 5.6 | 41.7 | 68.4 | 81.5 | 86.2 | 0.9 | 4 404 | 18.5 |

na = Not applicable.
a - omitted because less than 50 percent of the women had intercourse for the first time before reaching the beginning of the age group.
Note: Figure in parenthesis is based on 25-49 observations.

The data in Table 5.9 show the median age at first intercourse by current age group and broken down by background characteristics. Education has an important role to play. Age of sexual debut increases with education. There is a difference of 1-3 years between the highest and lowest education categories, depending on the age group. Interestingly the largest difference of 3 years is seen in the 20-24 age group. This is a concern as it appears that having no education is now playing a more important role in its influence in median age at first sex. If we look at women with no education in the older age groups we find that the median age of first sex is higher by approximately 2 years. In the 1998 SADHS the data showed a very similar pattern across the age groups. The provinces reporting the lowest age for first sexual intercourse in both surveys are Eastern Cape and Mpumalanga.

Table 5.9 Median age at first intercourse

Median age at first sexual intercourse among women age 20(25)-49, by current age and background characteristics, South Africa 2003

| Background characteristic | Current age | | | | | | Women age | Women age |
|---------------------------|-------------|-------|-------|-------|-------|-------|-----------|-----------|
| | 20-24 | 25-29 | 30-34 | 35-39 | 40-44 | 45-49 | 20-49 | 25-49 |
| Residence | | | | | | | | |
| Urban | 18.5 | 18.6 | 18.5 | 18.5 | 18.5 | 19.3 | 18.6 | 18.6 |
| Non-urban | 18.6 | 18.2 | 18.1 | 18.3 | 18.7 | 19.1 | 18.4 | 18.4 |
| Province | | | | | | | | |
| Western Cape | 18.6 | 18.7 | 18.6 | 18.8 | 19.5 | 19.5 | 18.8 | 18.9 |
| Eastern Cape | 17.8 | 18.6 | 18.4 | 18.2 | 18.3 | 19.9 | 18.3 | 18.5 |
| Northern Cape | 19.1 | 19.5 | 19.4 | 19.3 | 20.0 | 19.2 | 19.4 | 19.5 |
| Free State | 18.9 | 18.1 | 18.4 | 18.4 | 18.3 | 18.7 | 18.5 | 18.4 |
| KwaZulu-Natal | a | 19.0 | 18.4 | 18.8 | 18.9 | 20.2 | 19.0 | 18.9 |
| North West | 18.9 | 18.2 | 18.4 | 18.3 | 18.2 | 18.3 | 18.4 | 18.3 |
| Gauteng | 18.3 | 18.3 | 18.3 | 18.0 | 18.3 | 19.3 | 18.4 | 18.4 |
| Mpumalanga | 17.9 | 17.9 | 18.1 | 17.8 | 17.9 | 18.6 | 18.0 | 18.0 |
| Limpopo | 18.3 | 18.3 | 18.2 | 18.4 | 19.2 | 18.9 | 18.4 | 18.4 |
| Education | | | | | | | | |
| No education | 16.0 | 17.8 | 16.9 | 18.8 | 18.5 | 18.2 | 17.9 | 18.1 |
| Grades 1-5 | 16.6 | 18.4 | 16.7 | 18.3 | 18.4 | 19.0 | 18.2 | 18.3 |
| Grades 6-7 | 16.5 | 16.7 | 16.8 | 17.4 | 17.8 | 19.0 | 17.6 | 17.7 |
| Grades 8-11 | 18.0 | 17.9 | 18.2 | 18.2 | 18.5 | 19.0 | 18.3 | 18.3 |
| Grade 12 | 18.9 | 18.6 | 18.7 | 18.8 | 19.1 | 20.6 | 18.8 | 18.8 |
| Higher | 18.9 | 18.6 | 18.9 | 18.7 | 19.3 | 20.4 | 18.9 | 18.9 |
| Total | 18.5 | 18.5 | 18.4 | 18.4 | 18.6 | 19.2 | 18.5 | 18.6 |

a - omitted because less than 50 percent of the women had intercourse for the first time before reaching the beginning of the age group.

5.10 Recent Sexual Activity

Almost half of all women (47 percent) had sexual intercourse within the four weeks preceding the time of data collection (Table 5.10). This varied by age with over half of the youngest age group (57 percent) having not yet commenced sexual activity. In this age group only 18 percent report sexual intercourse in the last four weeks. Only one-quarter of the never in union women have never had sex. One-fifth of married women have also not had sex in the last 4 weeks.

Table 5.10 Recent sexual activity

Percent distribution of women by timing of last sexual intercourse, according to background characteristics, South Africa 2003

| Background characteristic | Timing of last sexual intercourse | | | | Never had sexual intercourse | Total | Number of women |
|-------------------------------------|-----------------------------------|----------------------------|-------------------|---------|------------------------------|-------|-----------------|
| | Within the last 4 weeks | Within 1 year ¹ | One or more years | Missing | | | |
| Current age | | | | | | | |
| 15-19 | 17.7 | 18.9 | 5.6 | 0.8 | 57.0 | 100.0 | 1395 |
| 20-24 | 43.7 | 30.2 | 11.8 | 0.8 | 13.6 | 100.0 | 1242 |
| 25-29 | 52.7 | 29.2 | 13.5 | 1.7 | 2.8 | 100.0 | 1015 |
| 30-39 | 60.7 | 21.8 | 15.2 | 1.9 | 0.4 | 100.0 | 1909 |
| 40-49 | 52.4 | 19.8 | 25.7 | 1.9 | 0.2 | 100.0 | 1480 |
| Marital status | | | | | | | |
| Never in union | 28.1 | 27.9 | 16.8 | 0.9 | 26.2 | 100.0 | 3821 |
| Married or living together | 76.5 | 16.9 | 4.3 | 2.3 | 0.0 | 100.0 | 2658 |
| Divorced/separated/widowed | 27.0 | 22.7 | 48.5 | 1.7 | 0.0 | 100.0 | 562 |
| Marital duration² | | | | | | | |
| Married only once: | | | | | | | |
| 0-4 years | 80.3 | 15.3 | 2.2 | 2.1 | 0.0 | 100.0 | 585 |
| 5-9 years | 77.1 | 17.5 | 3.4 | 2.0 | 0.0 | 100.0 | 454 |
| 10-14 years | 79.3 | 16.3 | 1.3 | 3.1 | 0.0 | 100.0 | 471 |
| 15-19 years | 74.5 | 18.8 | 3.6 | 3.0 | 0.0 | 100.0 | 400 |
| 20-24 years | 73.2 | 17.5 | 7.2 | 2.1 | 0.0 | 100.0 | 349 |
| 25+ years | 67.4 | 17.8 | 12.0 | 2.8 | 0.0 | 100.0 | 197 |
| Married more than once | 75.5 | 16.4 | 8.2 | 0.0 | 0.0 | 100.0 | 202 |
| Residence | | | | | | | |
| Urban | 49.2 | 21.5 | 14.9 | 1.8 | 12.7 | 100.0 | 4678 |
| Non-urban | 40.5 | 27.1 | 14.2 | 0.9 | 17.3 | 100.0 | 2363 |
| Province | | | | | | | |
| Western Cape | 46.6 | 20.6 | 12.7 | 6.5 | 13.6 | 100.0 | 892 |
| Eastern Cape | 38.0 | 26.8 | 23.5 | 0.2 | 11.6 | 100.0 | 804 |
| Northern Cape | 39.7 | 24.4 | 21.0 | 0.8 | 14.0 | 100.0 | 125 |
| Free State | 37.8 | 25.4 | 22.9 | 0.5 | 13.4 | 100.0 | 443 |
| KwaZulu-Natal | 49.5 | 18.2 | 7.7 | 1.5 | 23.0 | 100.0 | 1177 |
| North West | 43.3 | 25.6 | 19.3 | 0.3 | 11.5 | 100.0 | 523 |
| Gauteng | 52.5 | 21.9 | 13.6 | 0.9 | 11.1 | 100.0 | 1854 |
| Mpumalanga | 50.8 | 23.7 | 12.6 | 0.5 | 12.5 | 100.0 | 451 |
| Limpopo | 40.1 | 31.4 | 12.9 | 0.4 | 15.2 | 100.0 | 772 |
| Education | | | | | | | |
| No education | 55.1 | 19.9 | 23.3 | 0.0 | 1.7 | 100.0 | 302 |
| Grades 1-5 | 43.0 | 27.6 | 23.2 | 1.9 | 4.4 | 100.0 | 438 |
| Grades 6-7 | 45.3 | 23.4 | 18.8 | 1.6 | 10.9 | 100.0 | 721 |
| Grades 8-11 | 41.6 | 23.6 | 13.6 | 1.3 | 19.9 | 100.0 | 3285 |
| Grade 12 | 51.1 | 22.8 | 11.8 | 1.8 | 12.5 | 100.0 | 1683 |
| Higher | 57.2 | 22.3 | 12.7 | 1.7 | 6.1 | 100.0 | 609 |
| Current contraceptive method | | | | | | | |
| Female sterilization | 64.3 | 16.1 | 15.9 | 3.5 | 0.2 | 100.0 | 514 |
| Pill | 63.0 | 24.1 | 8.1 | 2.3 | 2.6 | 100.0 | 632 |
| IUD | 64.0 | 28.2 | 4.8 | 0.0 | 3.0 | 100.0 | 42 |
| Injection | 58.6 | 26.5 | 10.5 | 0.9 | 3.5 | 100.0 | 769 |
| No method | 32.8 | 21.0 | 18.0 | 1.3 | 26.9 | 100.0 | 3509 |
| Other | 57.2 | 29.2 | 11.6 | 1.2 | 0.8 | 100.0 | 1576 |
| Total | 46.3 | 23.4 | 14.6 | 1.5 | 14.2 | 100.0 | 7041 |

¹ Excludes women who had sexual intercourse within the last 4 weeks.² Excludes women who are not currently married.

5.11 Self Reporting of Sexually-Transmitted Infections

Sexually transmitted infections (STIs) are a major public health concern in South Africa. STIs are associated with transmission and acquisition of HIV infection and control of STIs can reduce HIV transmission (Gilson *et al.*, 1997). Many STIs are asymptomatic and therefore self reported symptoms are an underestimate of the total burden of STIs in a population. In the 2003 survey both men and women were asked whether they knew if they had had an STI in the last 12 months. In addition, they were asked if they had experienced symptoms that are indicative of STIs including an abnormal discharge or a genital ulcer or sore.

Table 5.11 shows that in total 2.9 percent of women and 2.1 percent of men reported an STI in the last year. The proportion for individual symptoms is higher in women for abnormal discharge (5.4 percent) and genital ulcers (3.5 percent). The figures for men were slightly lower than for women for both symptoms. Women in the 15-29 age groups report the highest rates for STI/discharge/genital ulcer (9.2 percent). Prevalence rates are lowest in the oldest age group (5.3 percent). Similar rates were reported for urban and non-urban women. Provinces showed considerable differences in STIs and symptoms reported. Eastern Cape, Free State and Limpopo showed rates almost twice as high as some of the other provinces. No obvious pattern was observed with education and rates were highest in the African urban population. In men, the youngest age group (15-19 years) reported the highest prevalence rates of STIs and related symptoms. A similar pattern is observed among women particularly those residing in Eastern Cape, Free State, North West and Limpopo provinces. Limpopo reports the highest prevalence rate for both men and women. Among men, African urban men report the highest prevalence rates of STIs and symptoms. In the 1998 SADHS, men only were asked about history of STI symptoms but not if they knew they had had an STI in the three months preceding the survey. In the 2003 SADHS the reference period for reporting STI symptoms is 12 months. We would therefore expect that the 2003 data could show higher reporting because of the longer period for reporting symptoms. However, in 1998, 12 percent of men reported symptoms of painful urination, discharge or genital sore over the previous three months. In 2003 the proportion of men reporting a discharge, genital sore or known STI had decreased to 3.8 percent over a 12 month period. Although this shows a considerable decrease between surveys, the reduction is mainly due to some provinces, in particular KwaZulu-Natal showing markedly reduced rates of STI reporting. KwaZulu-Natal reported the highest rates in 1998 (20 percent) and now the rate has dropped to less than one percent. It is not clear whether this drop may be due in part to fieldwork problems noted in this province in particular.

Table 5.11 Self-reporting of sexually-transmitted infection (STI) and STI symptoms

Among women and men (15-49 years) who ever had sex, percentage self-reporting an STI and/or symptoms of an STI in the 12 last months by background characteristics, South Africa 2003

| Background characteristic | WOMEN | | | | | MEN | | | | |
|----------------------------|---------------------|--|------------------------------------|---|-------------------------|---------------------|--|------------------------------------|---|-------------------------|
| | Percentage with STI | Percentage with abnormal genital discharge | Percentage with genital sore/ulcer | Percentage with STI/discharge /genital sore/ulcer | Number who ever had sex | Percentage with STI | Percentage with abnormal genital discharge | Percentage with genital sore/ulcer | Percentage with STI/discharge /genital sore/ulcer | Number who ever had sex |
| Age | | | | | | | | | | |
| 15-19 | 2.3 | 7.4 | 3.7 | 9.2 | 600 | 3.5 | 3.7 | 5.3 | 8.1 | 256 |
| 20-24 | 3.5 | 6.1 | 4.4 | 9.3 | 1 072 | 2.3 | 2.3 | 3.3 | 4.4 | 470 |
| 25-29 | 3.8 | 5.5 | 5.4 | 9.2 | 987 | 4.3 | 3.7 | 3.1 | 6.0 | 394 |
| 30-39 | 2.8 | 5.4 | 2.9 | 7.3 | 1 902 | 0.9 | 1.4 | 0.6 | 2.0 | 679 |
| 40-49 | 2.3 | 4.0 | 2.2 | 5.3 | 1 477 | 1.3 | 1.1 | 1.2 | 1.7 | 542 |
| Marital status | | | | | | | | | | |
| Married or living together | 3.2 | 4.8 | 3.3 | 7.4 | 2 830 | 2.5 | 2.5 | 2.9 | 4.4 | 1 273 |
| Residence | | | | | | | | | | |
| Urban | 2.7 | 5.6 | 3.7 | 7.8 | 4 084 | 1.7 | 1.8 | 1.7 | 3.3 | 1 675 |
| Non-urban | 3.5 | 5.0 | 3.1 | 7.4 | 1 954 | 3.2 | 3.1 | 3.5 | 5.0 | 667 |
| Province | | | | | | | | | | |
| Western Cape | 2.3 | 4.4 | 1.1 | 5.4 | 771 | 1.2 | 2.0 | 0.9 | 3.7 | 309 |
| Eastern Cape | 5.3 | 8.5 | 3.6 | 11.5 | 711 | 3.7 | 3.7 | 1.9 | 5.0 | 214 |
| Northern Cape | 2.2 | 3.6 | 0.7 | 5.2 | 107 | 0.7 | 0.0 | 1.2 | 1.8 | 43 |
| Free State | 2.7 | 5.3 | 9.4 | 11.5 | 384 | 1.6 | 2.4 | 2.5 | 4.9 | 145 |
| KwaZulu-Natal | 2.9 | 1.9 | 0.6 | 4.0 | 906 | 0.3 | 0.3 | 0.3 | 0.3 | 478 |
| North West | 2.8 | 4.1 | 3.6 | 5.5 | 463 | 3.3 | 3.3 | 6.1 | 6.4 | 166 |
| Gauteng | 2.1 | 6.0 | 3.3 | 7.3 | 1 647 | 1.6 | 1.5 | 1.6 | 2.8 | 654 |
| Mpumalanga | 3.8 | 5.3 | 3.6 | 6.4 | 394 | 3.5 | 3.0 | 3.3 | 4.5 | 160 |
| Limpopo | 3.2 | 8.0 | 7.2 | 12.5 | 654 | 7.5 | 6.4 | 7.5 | 11.8 | 173 |
| Education | | | | | | | | | | |
| No education | 1.8 | 5.1 | 2.2 | 5.8 | 297 | 0.7 | 0.7 | 2.2 | 2.2 | 93 |
| Grades 1-5 | 4.0 | 6.1 | 3.0 | 8.5 | 419 | 3.5 | 2.9 | 3.0 | 5.2 | 147 |
| Grades 6-7 | 3.1 | 3.1 | 3.1 | 5.3 | 643 | 0.7 | 1.4 | 0.8 | 1.9 | 213 |
| Grades 8-11 | 2.9 | 7.2 | 4.0 | 9.5 | 2 632 | 2.8 | 3.1 | 3.3 | 5.6 | 979 |
| Grade 12 | 3.1 | 3.3 | 2.7 | 6.1 | 1 473 | 2.1 | 1.7 | 1.4 | 2.6 | 675 |
| Higher | 2.1 | 4.8 | 4.7 | 6.2 | 572 | 0.7 | 0.6 | 0.6 | 0.7 | 234 |
| Population group | | | | | | | | | | |
| African | 3.2 | 5.9 | 3.9 | 8.3 | 5 006 | 2.6 | 2.4 | 2.6 | 4.3 | 1 929 |
| .Afr. urban | 3.0 | 6.2 | 4.3 | 8.6 | 3 152 | 2.2 | 2.0 | 2.2 | 3.9 | 1 290 |
| .Afr. non-urban | 3.6 | 5.3 | 3.2 | 7.8 | 1 854 | 3.3 | 3.1 | 3.5 | 5.0 | 639 |
| Coloured | 1.8 | 3.7 | 1.5 | 5.2 | 559 | 0.1 | 2.2 | 0.8 | 2.5 | 203 |
| Indian | 0.7 | 1.6 | 0.4 | 1.9 | 110 | 0.7 | 0.3 | 0.3 | 0.7 | 52 |
| White | 1.3 | 2.8 | 1.8 | 4.4 | 361 | 0.0 | 0.0 | 0.0 | 0.0 | 154 |
| Number | 2.9 | 5.4 | 3.5 | 7.7 | 6 038 | 2.1 | 2.2 | 2.2 | 3.8 | 2 342 |

Note: 4 woman and 4 men had population group as Other/missing.

5.12 Seeking Treatment for STIs

Table 5.12 shows that approximately two-thirds of women (64 percent) but only just over half of men (55 percent) sought advice or treatment for an STI or symptom of an STI. We can also see that men and women choose slightly different sources for treatment for STIs. Men and women predominantly choose to go to a clinic/hospital or health professional but the proportion of men is lower than that of women (83 percent and 96 percent respectively). Few women seek care from a traditional healer, shop/pharmacy, friends or the church. In contrast, 10 percent of men seek advice from a traditional healer and under 5 percent seek advice from relatives or friends.

| Background characteristic | Women | Men |
|---|-------|-------|
| Sought advice or treatment¹ | | |
| Advice or treatment from any source | 64.1 | 54.6 |
| No advice or treatment | 35.9 | 45.4 |
| Total | 100.0 | 100.0 |
| Number with STI and/or symptoms of STI | 462 | 97 |
| Source of advice or treatment | | |
| Clinic/hospital/health professional | 95.6 | 83.3 |
| Traditional healer | 1.2 | 9.6 |
| Advice or medicine from shop/pharmacy | 2.8 | 2.5 |
| Advice from friends/relatives | 0.2 | 4.5 |
| Advice from church | 0.2 | 0.0 |
| Total | 100.0 | 100.0 |
| Number seeking treatment | 297 | 53 |

5.13 Higher Risk Sex and Condom Use

Table 5.13 shows the proportion of sexually active women and men engaged in high risk sex in the last 12 months. This is a UNAIDS indicator which defines high risk sex as sex with a non-marital partner. In South Africa marriage rates are low and sexual partnerships outside marital and cohabiting relationships are common. The effect of this can be seen clearly in the 15-19 year age group where it appears that almost all sexually active women (95 percent) and men (99 percent) are engaging in high risk sex. Many of these men and women may be in stable relationships. However, as they are not married, their behaviour has been categorized as high risk.

The proportion of sexually active men and women engaging in high risk sex decreases with age as marital rates increase. However, a third (34 percent) of the oldest women and one-quarter of the oldest men (25 percent) are still classified as engaging in high risk sex (Table 5.13). Condom use at last higher risk sex was reported at higher levels among women (46 percent) than men (30 percent). However, in non-urban areas, condom use at last higher risk sex was comparable for men and women (39 percent and 35 percent respectively). In urban areas it was much higher among women (49 percent) than among men (27 percent). The association of condom use at last higher risk sex with education was striking in women, with only 16 percent of women with no education using a condom compared with 63 percent of women with higher education. The pattern was completely reversed in the case of men, Condom use at last higher risk sex was higher for men with less education (42 percent) and lowest for men with higher education (18 percent). Condom use was highest for women in Gauteng (51 percent) and in KwaZulu-Natal (57 percent) and was highest for men in Western Cape (51 percent) and Gauteng (39 percent).

Table 5.13 Higher risk sex and condom use at last higher risk sex in the last year

Among women and men reporting sexual activity in the last 12 months, percentage of women and men who have had sex with a non-marital/non-cohabiting partner in the last 12 months and among women and men who have had higher risk sex in the last 12 months, percentage who say they used a condom the last time they had sex with a non-marital/non-cohabiting, by background characteristics, South Africa 2003

| Background characteristic | WOMEN | | | | MEN | | | |
|----------------------------|---|---|---|--|---|---|---|--|
| | Percentage engaging in higher risk sex in the last 12 months ¹ | Number of respondents sexually active in the last 12 months | Percentage used condom at last higher risk sex ² | Number of respondents with higher risk sex in last 12 months | Percentage engaging in higher risk sex in the last 12 months ¹ | Number of respondents sexually active in the last 12 months | Percentage used condom at last higher risk sex ² | Number of respondents with higher risk sex in last 12 months |
| Age | | | | | | | | |
| 15-19 | 94.8 | 511 | 49.2 | 484 | 99.1 | 214 | 25.0 | 213 |
| 20-24 | 84.6 | 917 | 53.0 | 776 | 94.6 | 421 | 27.7 | 399 |
| 25-29 | 64.2 | 832 | 45.5 | 535 | 83.6 | 380 | 30.5 | 318 |
| 30-39 | 42.1 | 1 575 | 39.1 | 663 | 51.6 | 633 | 29.9 | 326 |
| 40-49 | 33.8 | 1 068 | 38.0 | 361 | 25.2 | 485 | 40.8 | 122 |
| Marital status | | | | | | | | |
| Never in union | 98.9 | 2 142 | 52.2 | 2 118 | 98.6 | 1 112 | 25.5 | 1 096 |
| Married or living together | 18.7 | 2 483 | 23.3 | 465 | 21.0 | 920 | 52.2 | 193 |
| Divorced/separated/widowed | 84.5 | 280 | 31.6 | 236 | 89.4 | 92 | 30.9 | 82 |
| Residence | | | | | | | | |
| Urban | 56.9 | 3 306 | 48.9 | 1 882 | 62.3 | 1 537 | 27.3 | 957 |
| Non-urban | 58.7 | 1 598 | 39.4 | 938 | 70.6 | 596 | 34.9 | 421 |
| Province | | | | | | | | |
| Western Cape | 47.9 | 600 | 37.7 | 287 | 66.3 | 143 | 51.0 | 95 |
| Eastern Cape | 60.9 | 521 | 39.9 | 317 | 49.9 | 278 | 35.9 | 139 |
| Northern Cape | 46.8 | 80 | 35.4 | 37 | 76.3 | 150 | 21.5 | 115 |
| Free State | 49.8 | 280 | 43.5 | 140 | 82.2 | 198 | 28.8 | 163 |
| KwaZulu-Natal | 61.7 | 797 | 57.4 | 491 | 60.5 | 131 | 35.2 | 79 |
| North West | 66.4 | 361 | 43.0 | 239 | 65.5 | 144 | 27.0 | 94 |
| Gauteng | 58.2 | 1 378 | 50.6 | 802 | 60.5 | 38 | 39.3 | 23 |
| Mpumalanga | 56.2 | 336 | 40.1 | 188 | 68.3 | 448 | 19.1 | 306 |
| Limpopo | 57.5 | 552 | 36.2 | 317 | 60.4 | 603 | 32.2 | 364 |
| Education | | | | | | | | |
| No education | 40.2 | 226 | 16.4 | 91 | 55.2 | 84 | 41.9 | 46 |
| Grades 1-5 | 44.1 | 309 | 26.1 | 136 | 42.7 | 123 | 57.0 | 52 |
| Grades 6-7 | 48.8 | 495 | 29.5 | 242 | 56.6 | 192 | 44.7 | 108 |
| Grades 8-11 | 62.2 | 2 141 | 43.6 | 1 332 | 71.2 | 881 | 31.2 | 628 |
| Grade 12 | 61.7 | 1 244 | 55.8 | 768 | 66.6 | 635 | 21.9 | 423 |
| Higher | 51.2 | 484 | 62.8 | 248 | 54.6 | 218 | 18.2 | 119 |
| Population group | | | | | | | | |
| African | 62.5 | 4 081 | 46.2 | 2 552 | 70.3 | 1 754 | 30.0 | 1 233 |
| Afr. urban | 64.1 | 2 558 | 49.6 | 1 640 | 69.5 | 1 185 | 27.6 | 823 |
| Afr. non-urban | 59.9 | 1 522 | 40.1 | 912 | 72.0 | 569 | 34.8 | 410 |
| Coloured | 43.7 | 418 | 34.8 | 183 | 42.3 | 184 | 37.8 | 78 |
| Indian | 10.6 | 95 | 42.8 | 10 | 31.3 | 49 | 13.0 | 15 |
| White | 24.2 | 308 | 58.2 | 75 | 35.9 | 144 | 12.3 | 52 |
| Total | 57.5 | 4 904 | 45.7 | 2 820 | 64.6 | 2 133 | 29.6 | 1 378 |

¹ Corresponds to UNAIDS Sexual Behaviour indicator 1 "Higher risk sex in the last year".

² Corresponds to UNAIDS Sexual Behaviour indicator 2 "Condom use at last higher risk sex".

Note: 3 women and 3 men had population group as Other/missing, 7 Men had marital status missing.

5.14 HIV Prevention during Antenatal Period

The implementation of the Prevention of Mother-to-Child Transmission (PMTCT) Programme through antenatal HIV testing in the public sector in South Africa commenced in May 2001 in 18 national sites and 260 access points (clinics and hospitals) which offered antenatal and perinatal services. The number of access points increased from 153 in July 2001 to 260 in December in 2001. In July 2002 approximately 29 percent of PHC facilities were PMTCT sites (Ramkissoo *et al.*, 2004). In the 2003 SADHS, information on testing in the PMTCT programme was collected for the first time (Table 5.14). Women were included in the analysis if they had given birth since January 2002 which means they would have potentially been exposed to the programme in that latter half of 2001. In total 56 percent of women reported that they were tested for HIV during their antenatal visit. This is high considering that the programme was not widely available prior to the data collection for the 2003 survey.

HIV testing rates are considerably lower in non-urban areas with less than half of women (43 percent) being tested compared to two-thirds (63 percent) in urban areas. Provinces varied considerably in level of testing with only 34 percent of women in the North West receiving HIV testing compared to 61 percent in the Western Cape and 70 percent in Gauteng. Education plays a strong role in testing status with an increase in HIV testing with increasing educational level. Women with only grade 1-5 education have the lowest testing rates (44 percent) compared to 75 percent in the highest education group.

The HIV testing in the public sector PMTCT programme is voluntary. Women are normally given group counseling in which they are told the benefits of testing after which they choose whether they wish to be tested. In the 2003 SADHS, women were asked how the test was offered to them or if they themselves asked for the test. Two-thirds said they were offered the test and they accepted, while some women asked for the test (18 percent) and 15 percent felt it had been a requirement. There are differences by province in the way the test was offered with a third (36 percent) of women in Mpumalanga stating the test was required compared to only 3 percent in Gauteng.

To ensure continuous participation in the PMTCT programme it is important that women who are tested receive their results. In the survey, most women who said they had been tested reported receiving the results of their HIV test (84 percent). Women in urban areas were more likely to know their HIV status (90 percent) compared to (70 percent) of non-urban women. At least 90 percent of women received their results in four provinces while several other provinces performed poorly in this regard.

The PMTCT programme encompasses three key components: Primary prevention of HIV, prevention of unplanned and or unwanted pregnancy and prevention of mother-to-child transmission during pregnancy. From Table 5.15, it can be seen that most women (80 percent) said the health provider discussed prevention of HIV during their antenatal care visit. Some provinces performed better than others with a number of provinces reporting rates over 80 percent. Eastern Cape showed the lowest level of client-provider discussion (63 percent). Discussion of HIV prevention increased with level of education. White women were the least likely to have talked to a health provider about means of prevention (60 percent).

Table 5.14 Tested for HIV during antenatal visit

Percentage distribution of women aged 15-49 who was tested for HIV during any antenatal visit of last birth in the 2 years preceding the survey, whether test was asked for, offered or required and whether respondents were given the test result according to selected background characteristics, South Africa 2003

| | Tested for HIV during Antenatal visits | | | | | | How test was offered | | | | | | Given Results of test | | | | | | | |
|-------------------------|--|--------|--------|-------|-------|--------|----------------------|--------|---------|-------|----------|------|-----------------------|-------|-------|-----|----|---------|-------|--------|
| | Yes | | No | | Total | Number | Asked for | | Offered | | Required | | Missing | | Total | Yes | No | Missing | Total | Number |
| | | | | | | | | | | | | | | | | | | | | |
| Age | | | | | | | | | | | | | | | | | | | | |
| 15-19 | 49.3 | 24.5 | 26.2 | 100.0 | 90 | 9.1 | 62.8 | 26.0 | 2.1 | 100.0 | 79.2 | 18.5 | 2.3 | 100.0 | 45 | | | | | |
| 20-24 | 57.1 | 26.2 | 16.7 | 100.0 | 242 | 19.1 | 69.6 | 11.3 | 0.0 | 100.0 | 83.0 | 14.3 | 2.7 | 100.0 | 138 | | | | | |
| 25-29 | 55.7 | 25.3 | 19.1 | 100.0 | 219 | 17.9 | 62.4 | 17.0 | 2.8 | 100.0 | 81.7 | 16.2 | 2.1 | 100.0 | 122 | | | | | |
| 30-34 | 61.6 | 21.9 | 16.5 | 100.0 | 148 | 22.7 | 60.1 | 17.3 | 0.0 | 100.0 | 87.7 | 10.4 | 1.9 | 100.0 | 91 | | | | | |
| 35-39 | (54.7) | (26.1) | (19.2) | 100.0 | 100 | 15.7 | 74.8 | 9.5 | 0.0 | 100.0 | 92.0 | 6.0 | 2.0 | 100.0 | 55 | | | | | |
| 40-44 | 58.8 | 21.9 | 19.3 | 100.0 | 38 | * | * | * | * | 100.0 | * | * | * | 100.0 | 22 | | | | | |
| 45-49 | * | * | * | 100.0 | 6 | - | - | - | - | - | - | - | - | - | 0 | | | | | |
| Residence | | | | | | | | | | | | | | | | | | | | |
| Urban | 63.1 | 19.2 | 17.7 | 100.0 | 544 | 18.8 | 69.1 | 11.5 | 0.6 | 100.0 | 90.2 | 8.0 | 1.8 | 100.0 | 343 | | | | | |
| Non-urban | 43.4 | 35.1 | 21.5 | 100.0 | 299 | 16.6 | 57.2 | 24.5 | 1.8 | 100.0 | 68.9 | 28.0 | 3.1 | 100.0 | 130 | | | | | |
| Province | | | | | | | | | | | | | | | | | | | | |
| Western Cape | 61.7 | 10.2 | 28.1 | 100.0 | 116 | 14.6 | 71.6 | 13.9 | 0.0 | 100.0 | 96.1 | 3.9 | 0.0 | 100.0 | 72 | | | | | |
| Eastern Cape | 50.3 | 38.4 | 11.3 | 100.0 | 107 | (19.9) | (54.2) | (25.9) | 0.0 | 100.0 | 66.9 | 33.1 | 0.0 | 100.0 | 54 | | | | | |
| Northern Cape | 59.9 | 23.5 | 16.6 | 100.0 | 20 | 27.7 | 48.0 | 24.2 | 0.0 | 100.0 | 78.4 | 16.7 | 4.9 | 100.0 | 12 | | | | | |
| Free State | 48.4 | 37.3 | 14.2 | 100.0 | 60 | (21.6) | (52.2) | (26.1) | 0.0 | 100.0 | 94.0 | 6.0 | 0.0 | 100.0 | 29 | | | | | |
| KwaZulu-Natal | 57.0 | 9.4 | 33.6 | 100.0 | 45 | (8.2) | (68.3) | (15.8) | (7.6) | 100.0 | 89.6 | 9.0 | 1.4 | 100.0 | 26 | | | | | |
| North West | 34.0 | 40.8 | 25.1 | 100.0 | 81 | (38.1) | (54.5) | (7.5) | 0.0 | 100.0 | 71.4 | 17.1 | 11.4 | 100.0 | 27 | | | | | |
| Gauteng | 68.4 | 16.3 | 15.2 | 100.0 | 229 | 15.9 | 80.8 | 3.3 | 0.0 | 100.0 | 93.0 | 5.2 | 1.9 | 100.0 | 157 | | | | | |
| Mpumalanga | 51.6 | 28.6 | 19.8 | 100.0 | 61 | 11.1 | 53.7 | 35.2 | 0.0 | 100.0 | 81.1 | 18.9 | 0.0 | 100.0 | 31 | | | | | |
| Limpopo | 52.3 | 30.3 | 17.4 | 100.0 | 124 | 21.9 | 51.9 | 22.5 | 3.6 | 100.0 | 66.7 | 28.3 | 5.0 | 100.0 | 65 | | | | | |
| Education | | | | | | | | | | | | | | | | | | | | |
| No education | (25.1) | (30.0) | (44.9) | 100.0 | 28 | * | * | * | * | 100.0 | * | * | * | 100.0 | 7 | | | | | |
| Grades 1-5 | 40.2 | 31.1 | 28.6 | 100.0 | 45 | * | * | * | * | 100.0 | * | * | * | 100.0 | 18 | | | | | |
| Grades 6-7 | 55.0 | 26.1 | 19.0 | 100.0 | 80 | (12.0) | (67.3) | (20.8) | 0.0 | 100.0 | 88.1 | 10.8 | 1.1 | 100.0 | 44 | | | | | |
| Grades 8-11 | 53.5 | 26.0 | 20.5 | 100.0 | 418 | 16.7 | 69.8 | 12.4 | 1.0 | 100.0 | 80.5 | 16.0 | 3.5 | 100.0 | 224 | | | | | |
| Grade 12 | 62.5 | 22.5 | 15.0 | 100.0 | 188 | 15.9 | 70.5 | 13.6 | 0.0 | 100.0 | 91.8 | 7.3 | 1.0 | 100.0 | 117 | | | | | |
| Higher | 74.9 | 18.1 | 7.0 | 100.0 | 83 | 24.3 | 49.4 | 23.1 | 3.2 | 100.0 | 83.9 | 14.7 | 1.4 | 100.0 | 62 | | | | | |
| Population group | | | | | | | | | | | | | | | | | | | | |
| African | 55.1 | 26.5 | 18.4 | 100.0 | 722 | 19.0 | 66.5 | 13.4 | 1.1 | 100.0 | 83.3 | 14.6 | 2.1 | 100.0 | 398 | | | | | |
| Afr. Urban | 62.1 | 20.9 | 17.0 | 100.0 | 447 | 20.3 | 70.7 | 8.3 | 0.7 | 100.0 | 90.2 | 8.1 | 1.7 | 100.0 | 277 | | | | | |
| Afr. Non-urban | 43.8 | 35.5 | 20.7 | 100.0 | 276 | 16.0 | 57.0 | 25.1 | 1.9 | 100.0 | 67.3 | 29.5 | 3.2 | 100.0 | 121 | | | | | |
| Coloured | 57.3 | 15.2 | 27.6 | 100.0 | 86 | 20.6 | 64.6 | 14.8 | 0.0 | 100.0 | 90.6 | 8.2 | 1.2 | 100.0 | 49 | | | | | |
| Indian | 76.5 | 16.3 | 7.2 | 100.0 | 13 | (1.5) | (67.6) | (30.9) | 0.0 | 100.0 | 94.7 | 1.8 | 3.5 | 100.0 | 10 | | | | | |
| White | * | * | * | 100.0 | 21 | * | * | * | * | 100.0 | * | * | * | 100.0 | 15 | | | | | |
| Total | 56.1 | 24.9 | 19.1 | 100.0 | 842 | 18.2 | 65.8 | 15.1 | 0.9 | 100.0 | 84.4 | 13.5 | 2.2 | 100.0 | 472 | | | | | |

Note: An asterisk indicates that a figure is based on fewer than 25 unweighted cases and has been suppressed while a figure in parentheses is based on 25-49 cases. A hyphen indicates that there were no women who were tested.

Table 5.15 Discussion of HIV/AIDS prevention and use family planning during antenatal visit

Percentage distribution of women aged 15-49 who had discussions about preventing HIV/AIDS and the use of family planning with health care provider during antenatal visit of last birth in the 3 years preceding the survey (from Jan 2000), according to selected background characteristics, South Africa 2003

| Background characteristic | Discussed ways to prevent HIV/AIDS | | | | | Discussed using Family Planning | | | | | Number |
|---------------------------|------------------------------------|------|------------|---------|-------|---------------------------------|------|------------|---------|-------|--------|
| | Yes | No | Don't know | Missing | Total | Yes | No | Don't know | Missing | Total | |
| Age | | | | | | | | | | | |
| 15-24 | 84.0 | 14.7 | 1.1 | 0.2 | 100.0 | 89.1 | 10.1 | 0.4 | 0.4 | 100.0 | 443 |
| 25+ | 78.6 | 17.6 | 0.8 | 3.0 | 100.0 | 85.7 | 10.4 | 1.1 | 2.7 | 100.0 | 859 |
| Residence | | | | | | | | | | | |
| Urban | 83.6 | 13.3 | 0.8 | 2.3 | 100.0 | 88.9 | 8.6 | 0.7 | 1.8 | 100.0 | 865 |
| Non-urban | 74.2 | 23.1 | 1.1 | 1.6 | 100.0 | 82.8 | 13.7 | 1.3 | 2.2 | 100.0 | 437 |
| Province | | | | | | | | | | | |
| Western Cape | 82.1 | 13.5 | 1.5 | 2.9 | 100.0 | 89.4 | 6.9 | 0.8 | 2.9 | 100.0 | 173 |
| Eastern Cape | 63.9 | 34.1 | 1.3 | 0.7 | 100.0 | 74.7 | 21.9 | 2.0 | 1.4 | 100.0 | 168 |
| Northern Cape | 82.6 | 16.2 | 0.6 | 0.6 | 100.0 | 86.1 | 12.7 | 0.6 | 0.6 | 100.0 | 29 |
| Free State | 78.8 | 17.8 | 1.6 | 1.8 | 100.0 | 83.8 | 12.8 | 1.6 | 1.8 | 100.0 | 84 |
| KwaZulu-Natal | 74.0 | 14.3 | 4.5 | 7.2 | 100.0 | 85.9 | 2.7 | 1.8 | 9.7 | 100.0 | 72 |
| North West | 89.3 | 9.0 | 0.6 | 1.1 | 100.0 | 93.6 | 4.7 | 0.0 | 1.7 | 100.0 | 107 |
| Gauteng | 88.4 | 9.5 | 0.0 | 2.1 | 100.0 | 91.6 | 7.0 | 0.8 | 0.6 | 100.0 | 379 |
| Mpumalanga | 85.8 | 12.3 | 0.7 | 1.3 | 100.0 | 93.1 | 5.6 | 0.0 | 1.3 | 100.0 | 104 |
| Limpopo | 72.6 | 25.4 | 0.5 | 1.5 | 100.0 | 80.4 | 17.1 | 0.5 | 2.0 | 100.0 | 186 |
| Education | | | | | | | | | | | |
| No education | 78.6 | 18.3 | 0.5 | 2.6 | 100.0 | 80.3 | 15.2 | 0.5 | 4.1 | 100.0 | 40 |
| Grades 1-5 | 75.7 | 22.3 | 1.7 | 0.3 | 100.0 | 84.0 | 12.4 | 1.7 | 1.9 | 100.0 | 73 |
| Grades 6-7 | 78.7 | 20.8 | 0.0 | 0.5 | 100.0 | 88.0 | 11.5 | 0.0 | 0.5 | 100.0 | 127 |
| Grades 8-11 | 79.9 | 16.9 | 1.7 | 1.6 | 100.0 | 86.8 | 9.8 | 1.4 | 2.0 | 100.0 | 617 |
| Grade 12 | 83.4 | 12.7 | 0.0 | 4.0 | 100.0 | 88.8 | 8.7 | 0.4 | 2.2 | 100.0 | 324 |
| Higher | 80.9 | 17.4 | 0.0 | 1.8 | 100.0 | 84.8 | 13.5 | 0.0 | 1.8 | 100.0 | 121 |
| Population group | | | | | | | | | | | |
| African | 81.5 | 15.7 | 0.8 | 2.0 | 100.0 | 87.1 | 10.1 | 0.9 | 1.9 | 100.0 | 1 108 |
| Afr. urban | 86.0 | 11.0 | 0.7 | 2.3 | 100.0 | 89.7 | 7.8 | 0.8 | 1.7 | 100.0 | 696 |
| Afr. non-urban | 73.8 | 23.7 | 0.9 | 1.7 | 100.0 | 82.6 | 14.0 | 1.0 | 2.3 | 100.0 | 411 |
| Coloured | 85.3 | 11.3 | 2.3 | 1.0 | 100.0 | 95.0 | 2.7 | 1.3 | 1.0 | 100.0 | 122 |
| White | 73.2 | 25.1 | 1.0 | 0.7 | 100.0 | 85.9 | 13.4 | 0.0 | 0.7 | 100.0 | 51 |
| Indian | 49.8 | 45.4 | 0.0 | 4.9 | 100.0 | 63.6 | 31.5 | 0.0 | 4.9 | 100.0 | 21 |
| Total | 80.4 | 16.6 | 0.9 | 2.0 | 100.0 | 86.9 | 10.3 | 0.9 | 1.9 | 100.0 | 1 302 |

1 woman has population group unknown

Discussion around family planning was high (87 percent) and showed few differences by age and residence. There were some differences by province the lowest level of 75 percent found in the Eastern Cape. There were generally high levels of family planning discussion in all population groups with the exception of white women where only 67 percent talked of family planning with a provider.

5.15 Number of Sexual Partners

Both men and women were asked how many sexual partners they had in the 12 months prior to the survey. For women in a union (married or cohabiting) almost all reported one sexual partner in the previous 12 months (92 percent) and a small percentage (4.3 percent) say they had no sexual partner during this time. Only 1.6 percent of women mention that they had more than one partner (Table 5.16). Women in a union and in the oldest age group (45-49) were more likely to mention no sexual partner in the past year (12 percent) as were women in the Eastern Cape (11 percent). Women not in a union include those who have never had sex and therefore the proportion that had no sexual partner was considerably higher (44 percent). Just over half of this group (52 percent) report one

Table 5.16 Number of sexual partners

Percent distribution of men and women by number of persons with whom they had sexual intercourse in the last 12 months according to background characteristics, South Africa 2003

| Background characteristic | WOMEN 15-49 | | | | | | | | | | | | | |
|---------------------------|--------------------|------|-----|---------|-------|------------------------|--------|------|------|-----|-----------|-------|------|--------|
| | Currently in union | | | | | Currently not in union | | | | | All women | | | |
| | 0 | 1 | 2+ | Missing | Total | Mean | Number | 0 | 1 | 2+ | Missing | Total | Mean | Number |
| Age | | | | | | | | | | | | | | |
| 15-19 | 0.2 | 98.0 | 0.0 | 1.8 | 100.0 | 1.0 | 51 | 64.9 | 31.1 | 3.1 | 0.9 | 100.0 | 1.1 | 1 344 |
| 20-24 | 2.7 | 93.7 | 1.7 | 1.9 | 100.0 | 1.1 | 238 | 30.7 | 64.3 | 4.3 | 0.7 | 100.0 | 1.1 | 1 004 |
| 25-29 | 2.0 | 91.1 | 3.1 | 3.8 | 100.0 | 1.0 | 393 | 25.3 | 69.1 | 4.6 | 1.0 | 100.0 | 1.1 | 623 |
| 30-34 | 1.7 | 96.3 | 0.8 | 1.2 | 100.0 | 1.0 | 503 | 33.5 | 60.5 | 4.2 | 1.7 | 100.0 | 1.1 | 416 |
| 35-39 | 3.0 | 92.6 | 1.5 | 2.9 | 100.0 | 1.0 | 563 | 30.9 | 65.6 | 1.3 | 2.2 | 100.0 | 1.0 | 428 |
| 40-44 | 5.2 | 90.1 | 1.9 | 2.8 | 100.0 | 1.0 | 506 | 41.2 | 57.4 | 0.2 | 1.2 | 100.0 | 1.0 | 306 |
| 45-49 | 11.9 | 84.6 | 0.9 | 2.5 | 100.0 | 1.0 | 405 | 69.5 | 29.3 | 0.1 | 1.1 | 100.0 | 1.0 | 263 |
| Residence | | | | | | | | | | | | | | |
| Urban | 4.4 | 91.2 | 1.5 | 2.9 | 100.0 | 1.0 | 1 852 | 42.7 | 53.0 | 3.0 | 1.3 | 100.0 | 1.1 | 2 826 |
| Non-urban | 4.0 | 92.5 | 1.7 | 1.7 | 100.0 | 1.0 | 806 | 45.7 | 50.2 | 3.3 | 0.8 | 100.0 | 1.1 | 1 557 |
| Province | | | | | | | | | | | | | | |
| Western Cape | 4.7 | 85.4 | 0.6 | 9.3 | 100.0 | 1.0 | 404 | 44.1 | 48.5 | 2.9 | 4.5 | 100.0 | 1.1 | 488 |
| Eastern Cape | 10.8 | 86.8 | 2.4 | 0.0 | 100.0 | 1.0 | 236 | 45.1 | 49.6 | 5.0 | 0.2 | 100.0 | 1.1 | 568 |
| Northern Cape | 5.9 | 93.5 | 0.0 | 0.6 | 100.0 | 1.0 | 51 | 55.1 | 43.3 | 0.5 | 1.0 | 100.0 | 1.0 | 74 |
| Free State | 6.5 | 91.3 | 0.9 | 1.3 | 100.0 | 1.0 | 167 | 54.3 | 42.9 | 2.1 | 0.7 | 100.0 | 1.1 | 276 |
| KwaZulu-Natal | 2.3 | 93.6 | 1.0 | 3.1 | 100.0 | 1.0 | 387 | 44.7 | 52.8 | 0.8 | 1.6 | 100.0 | 1.0 | 790 |
| North West | 2.4 | 96.8 | 0.8 | 0.0 | 100.0 | 1.0 | 146 | 41.8 | 53.7 | 4.0 | 0.5 | 100.0 | 1.1 | 377 |
| Gauteng | 3.1 | 93.8 | 1.8 | 1.4 | 100.0 | 1.0 | 788 | 40.8 | 56.0 | 2.6 | 0.5 | 100.0 | 1.1 | 1 066 |
| Mpumalanga | 1.5 | 96.7 | 1.1 | 0.7 | 100.0 | 1.0 | 178 | 40.5 | 57.3 | 1.8 | 0.4 | 100.0 | 1.0 | 273 |
| Limpopo | 5.5 | 89.6 | 3.7 | 1.2 | 100.0 | 1.1 | 300 | 42.5 | 50.1 | 7.0 | 0.4 | 100.0 | 1.2 | 472 |
| Education | | | | | | | | | | | | | | |
| No education | 7.0 | 91.8 | 1.2 | 0.0 | 100.0 | 1.0 | 176 | 50.1 | 49.2 | 0.8 | 0.0 | 100.0 | 1.0 | 126 |
| Grades 1-5 | 7.0 | 88.2 | 1.4 | 3.5 | 100.0 | 1.0 | 228 | 50.0 | 46.6 | 2.8 | 0.6 | 100.0 | 1.1 | 210 |
| Grades 6-7 | 6.8 | 89.6 | 1.2 | 2.4 | 100.0 | 1.0 | 323 | 48.3 | 48.8 | 1.6 | 1.4 | 100.0 | 1.0 | 398 |
| Grades 8-11 | 4.4 | 91.2 | 2.2 | 2.2 | 100.0 | 1.0 | 1 065 | 47.4 | 48.2 | 3.3 | 1.0 | 100.0 | 1.1 | 2 220 |
| Grade 12 | 2.2 | 93.4 | 1.1 | 3.2 | 100.0 | 1.0 | 590 | 36.2 | 58.6 | 3.8 | 1.4 | 100.0 | 1.1 | 1 093 |
| Higher | 1.4 | 94.0 | 1.1 | 3.5 | 100.0 | 1.0 | 273 | 32.8 | 63.3 | 2.3 | 1.5 | 100.0 | 1.1 | 337 |
| Population group | | | | | | | | | | | | | | |
| African | 4.0 | 92.3 | 2.1 | 1.6 | 100.0 | 1.0 | 1 976 | 42.1 | 54.0 | 3.2 | 0.8 | 100.0 | 1.1 | 3 855 |
| Afr. urban | 3.8 | 92.1 | 2.3 | 1.8 | 100.0 | 1.0 | 1 234 | 40.2 | 56.0 | 3.0 | 0.8 | 100.0 | 1.2 | 2 352 |
| Afr. non-urban | 4.3 | 92.7 | 1.9 | 1.1 | 100.0 | 1.0 | 742 | 45.1 | 50.8 | 3.4 | 0.7 | 100.0 | 1.1 | 1 504 |
| Coloured | 6.1 | 87.4 | 0.0 | 6.4 | 100.0 | 1.0 | 315 | 54.3 | 37.9 | 2.7 | 5.1 | 100.0 | 1.1 | 349 |
| Indian | 2.1 | 94.8 | 0.2 | 2.9 | 100.0 | 1.0 | 90 | 80.0 | 18.7 | 1.0 | 0.4 | 100.0 | 1.1 | 51 |
| White | 5.0 | 90.0 | 0.0 | 4.9 | 100.0 | 1.0 | 275 | 51.3 | 44.0 | 3.8 | 1.0 | 100.0 | 1.1 | 126 |
| Total | 4.3 | 91.6 | 1.6 | 2.5 | 100.0 | 1.07 | 2 658 | 43.8 | 52.0 | 3.1 | 1.1 | 100.0 | 1.02 | 4 383 |

Note: 1 woman has education unknown, 4 women have population group as Other/missing.

MEN 15-59

Currently not in union

Currently in union

All men

| Background characteristic | Currently in union | | | | | Currently not in union | | | | | All men | | | | |
|---------------------------|--------------------|------|------|---------|-------|------------------------|--------|------|------|------|---------|-------|-------|--------|--|
| | 0 | 1 | 2+ | missing | Total | Mean | Number | 0 | 1 | 2+ | missing | Total | Mean | Number | |
| Age | | | | | | | | | | | | | | | |
| 15-19 | 30.8 | 38.5 | 30.8 | 0 | 1.2 | 100 | 12 | 64.7 | 26.4 | 7.7 | 1.1 | 0.5 | 100.0 | 590 | |
| 20-24 | 1.7 | 78.0 | 20.3 | 0.0 | 1.3 | 100.0 | 54 | 21.2 | 53.2 | 24.4 | 1.2 | 1.3 | 100.0 | 472 | |
| 25-29 | 0.2 | 87.3 | 10.9 | 1.6 | 1.2 | 100.0 | 99 | 10.7 | 61.5 | 27.8 | 0.0 | 1.4 | 100.0 | 316 | |
| 30-34 | 1.3 | 89.0 | 9.5 | 0.1 | 1.2 | 100.0 | 171 | 15.5 | 55.6 | 28.4 | 0.4 | 1.4 | 100.0 | 177 | |
| 35-39 | 0.0 | 92.1 | 6.4 | 1.6 | 1.1 | 100.0 | 209 | 13.8 | 64.2 | 19.3 | 2.7 | 1.1 | 100.0 | 131 | |
| 40-44 | 2.3 | 89.1 | 4.4 | 4.2 | 1.1 | 100.0 | 248 | 27.8 | 54.7 | 16.7 | 0.8 | 0.9 | 100.0 | 75 | |
| 45-49 | 2.0 | 86.9 | 6.6 | 4.5 | 1.1 | 100.0 | 163 | 23.3 | 59.2 | 14.8 | 2.7 | 0.9 | 100.0 | 61 | |
| 50-54 | 11.7 | 79.8 | 6.7 | 1.7 | 1.0 | 100.0 | 142 | 39.6 | 49.3 | 11.1 | 0.0 | 0.8 | 100.0 | 42 | |
| 55-59 | 10.2 | 83.0 | 2.1 | 4.7 | 0.9 | 100.0 | 116 | 43.5 | 51.4 | 4.7 | 0.5 | 0.6 | 100.0 | 38 | |
| Residence | | | | | | | | | | | | | | | |
| Urban | 2.9 | 87.1 | 6.9 | 3.1 | 1.1 | 100.0 | 899 | 29.3 | 49.2 | 20.6 | 0.9 | 1.1 | 100.0 | 1 252 | |
| Non-urban | 5.8 | 84.8 | 8.6 | 0.8 | 1.1 | 100.0 | 316 | 40.4 | 44.0 | 14.4 | 1.2 | 0.8 | 100.0 | 651 | |
| Province | | | | | | | | | | | | | | | |
| Western Cape | 11.4 | 70.5 | 18.1 | 0.0 | 1.1 | 100.0 | 106 | 43.9 | 37.7 | 15.4 | 3.0 | 1.0 | 100.0 | 122 | |
| Eastern Cape | 5.7 | 76.6 | 8.1 | 9.6 | 1.0 | 100.0 | 207 | 28.1 | 51.3 | 18.9 | 1.7 | 1.1 | 100.0 | 172 | |
| Northern Cape | 0.0 | 89.1 | 9.5 | 1.4 | 1.0 | 100.0 | 56 | 31.5 | 44.0 | 23.7 | 0.8 | 1.1 | 100.0 | 161 | |
| Free State | 6.3 | 90.1 | 3.5 | 0.0 | 1.0 | 100.0 | 78 | 31.2 | 48.0 | 19.6 | 1.2 | 1.1 | 100.0 | 234 | |
| KwaZulu-Natal | 2.7 | 93.8 | 2.7 | 0.8 | 1.0 | 100.0 | 78 | 35.9 | 45.9 | 17.7 | 0.5 | 0.9 | 100.0 | 121 | |
| North West | 1.0 | 85.1 | 12.8 | 1.1 | 1.1 | 100.0 | 61 | 35.5 | 43.9 | 20.1 | 0.5 | 1.1 | 100.0 | 146 | |
| Gauteng | 5.8 | 89.1 | 3.1 | 1.9 | 1.1 | 100.0 | 25 | 40.8 | 41.4 | 17.8 | 0.0 | 1.2 | 100.0 | 34 | |
| Mpumalanga | 2.7 | 91.6 | 4.4 | 1.2 | 1.2 | 100.0 | 228 | 35.7 | 49.1 | 14.4 | 0.9 | 0.9 | 100.0 | 472 | |
| Limpoopo | 1.4 | 90.7 | 6.5 | 1.4 | 1.3 | 100.0 | 376 | 28.8 | 49.7 | 20.9 | 0.6 | 0.8 | 100.0 | 439 | |
| Education | | | | | | | | | | | | | | | |
| No education | 9.4 | 85.1 | 4.5 | 1.0 | 1.0 | 100.0 | 82 | 32.8 | 39.5 | 27.7 | 0.0 | 1.0 | 100.0 | 59 | |
| Grades 1-5 | 8.1 | 80.4 | 7.7 | 3.7 | 1.0 | 100.0 | 129 | 49.9 | 33.6 | 15.5 | 0.9 | 0.7 | 100.0 | 98 | |
| Grades 6-7 | 2.3 | 89.4 | 4.8 | 3.5 | 1.0 | 100.0 | 139 | 44.2 | 40.8 | 13.3 | 1.7 | 0.7 | 100.0 | 178 | |
| Grades 8-11 | 4.2 | 86.1 | 7.6 | 2.1 | 1.1 | 100.0 | 439 | 37.6 | 46.5 | 15.1 | 0.8 | 0.9 | 100.0 | 928 | |
| Grade 12 | 1.7 | 88.0 | 8.8 | 1.6 | 1.1 | 100.0 | 290 | 20.5 | 55.2 | 23.5 | 0.7 | 1.3 | 100.0 | 497 | |
| Higher | 0.0 | 88.3 | 7.1 | 4.6 | 1.1 | 100.0 | 136 | 22.4 | 46.6 | 28.0 | 3.0 | 1.3 | 100.0 | 143 | |
| Population group | | | | | | | | | | | | | | | |
| African | 4.5 | 85.4 | 8.9 | 1.3 | 1.1 | 100.0 | 879 | 31.9 | 47.5 | 19.5 | 1.1 | 1.0 | 100.0 | 1 661 | |
| Afr. urban | 3.6 | 86.1 | 8.8 | 1.5 | 1.1 | 100.0 | 582 | 27.0 | 49.5 | 22.4 | 1.0 | 1.2 | 100.0 | 1 032 | |
| Afr. non-urban | 6.1 | 84.0 | 9.2 | 0.8 | 1.1 | 100.0 | 297 | 40.1 | 44.1 | 14.6 | 1.2 | 0.8 | 100.0 | 630 | |
| Coloured | 1.9 | 84.7 | 6.5 | 6.9 | 1.1 | 100.0 | 142 | 37.6 | 52.7 | 9.7 | 0.0 | 0.8 | 100.0 | 121 | |
| Indian | 1.2 | 94.6 | 0.0 | 4.3 | 1.0 | 100.0 | 140 | 43.9 | 43.8 | 12.3 | 0.0 | 0.8 | 100.0 | 89 | |
| White | 2.0 | 91.0 | 2.6 | 4.4 | 1.1 | 100.0 | 48 | 47.7 | 32.6 | 19.1 | 0.6 | 0.9 | 100.0 | 31 | |
| Total | 3.7 | 86.5 | 7.3 | 2.5 | 1.1 | 100.0 | 1 215 | 33.1 | 47.4 | 18.5 | 1.0 | 1.0 | 100.0 | 1 903 | |

Note: 5 men have population group as Other/missing.

partner in the last year. A small proportion (3 percent) report two or more partners. The number of partners in the last year is highest in Limpopo (7 percent) and Eastern Cape (5 percent) and lowest rates are seen in Northern Cape and KwaZulu-Natal where less than one percent report more than one partner. Women who have primary education or lower report lower levels of having two or more partners in the last year compared with women with senior school education and higher.

In 1998 less than two percent of women in a union and almost 4 percent of women not in a union reported 2 or more sexual partners in the past year. The prevalence of multiple partners reported by women has decreased very slightly between the first and second survey. White women reported higher rates of two or more partners (3.8 percent) compared to other population groups in this survey in 2003, with Indian women reporting the lowest rate of 1 percent. In 1998 African women reported higher rates of partnerships (4.4 percent) and this has decreased to 3.2 percent. In 2003 SADHS approximately two-thirds of the youngest and oldest groups of women not in a union had no sexual partner in the past year. Within the population groups 80 percent of Indian women not in a union had no sexual partner and this may be because it is less acceptable for an Indian woman to have sexual partners outside a marital or cohabiting relationship.

The question on number of sexual partners was only asked to women in the 1998 survey and in 2003 the same question was asked to men. The majority of men in a union (87 percent) report that they had one sexual partner in the last 12 months and 7 percent report 2 or more partners. There was however striking differences by age group with the younger age groups reporting higher levels of two or more partners. For men not in a union the number with more than one partner in the last year rose to 19 percent. The percentage of men with no sexual partner in the last year was highest (65 percent) in the youngest age group (15-19) and this is primarily because this group includes over 40 percent who had never had sex. Men in the younger age groups (15-35 years) had much higher rates of two or more partnerships. Several provinces (North West, Limpopo and Northern Cape) had rates of over 20 percent for 2 or more sexual partners for men not in a union. Education level plays a similar role in men as it does in women and shows that partners in the last year increased with increasing level of education for men not in a union except for men with no education (28 percent), which was similar to men with the highest education level. This is important information as it indicates that men with higher education who are more likely to be employed and have more disposable income may be putting themselves at risk of acquiring STIs/HIV. Although the higher educated groups report higher condom use (Table 5.13) compared to those with lower education they are still engaging in higher risk sexual behaviour. Looking at population groups, over 19 percent of both white and African men (combined urban and non-urban) and not in a union, reported the highest levels of two or more partners with coloured men reporting the lowest figure (10 percent).

5.16 Male Circumcision

Almost half of men (45 percent) reported in the 2003 survey that they had been circumcised (Table 5.17). Circumcision is usually performed in babies in some cultures and in teenage men in some African cultures. Circumcision as a strategy to reduce transmission for STIs and HIV has received a great deal of interest internationally with increasing evidence that circumcision reduces the risk of STIs and HIV among men, including a trial conducted in South Africa (Auvert *et al.*, 2005). The 2003 SADHS found that the proportion of circumcised men is highest among men over 30 years where the prevalence is 53 percent. The

Western Cape (68 percent) and Free State (71 percent) reported the highest proportion of men circumcised with Gauteng and KwaZulu-Natal reporting the least proportion of circumcised men (25 percent and 27 percent respectively). Almost half (49 percent) of men from non-urban residential areas had been circumcised.

| Table 5.17 Male circumcision | | |
|--|---------|--------|
| Percentage of men 15-59 years who have been circumcised by background characteristics, South Africa 2003 | | |
| Background characteristics | Percent | Number |
| Age | | |
| 15-19 | 25.5 | 603 |
| 20-24 | 42.4 | 527 |
| 25-29 | 43.5 | 416 |
| 30-34 | 51.7 | 348 |
| 35-39 | 55.0 | 340 |
| 40-44 | 53.1 | 323 |
| 45-49 | 52.6 | 224 |
| 50-54 | 56.2 | 184 |
| 55-59 | 48.9 | 155 |
| Residence | | |
| Urban | 42.8 | 2 151 |
| Non-urban | 48.7 | 967 |
| Province | | |
| Western Cape | 67.5 | 228 |
| Eastern Cape | 43.8 | 379 |
| Northern Cape | 34.1 | 216 |
| Free State | 70.7 | 313 |
| KwaZulu-Natal | 26.8 | 199 |
| North West | 32.8 | 208 |
| Gauteng | 25.2 | 59 |
| Mpumalanga | 36.3 | 701 |
| Limpopo | 47.5 | 815 |
| Education | | |
| No education | 43.8 | 141 |
| Grades 1-5 | 52.8 | 227 |
| Grades 6-7 | 45.9 | 316 |
| Grades 8-11 | 43.0 | 1 367 |
| Grade 12 | 43.8 | 787 |
| Higher | 47.3 | 279 |
| Population group | | |
| African | 50.4 | 2 540 |
| Afr. urban | 50.6 | 1 613 |
| Afr. non-urban | 50.1 | 927 |
| Coloured | 15.8 | 264 |
| Indian | 18.8 | 79 |
| White | 21.7 | 229 |
| Total | 44.7 | 3 118 |

Note: 5 men had population group missing or unknown.

CHAPTER 6

INFANT AND CHILD MORTALITY

6.1 Introduction

One of the most important indicators of health for any developing country is the number of children who die within the first year of life. The infant mortality rate and other indices of early childhood mortality also play a role in reflecting health status in general and community development. Given the wealth disparities within the South African society, monitoring the infant mortality rate is critical to track inequalities in child health and progress in social development, central to government's long term policy objectives.

This chapter presents the estimates of levels and trends of child mortality and assesses the plausibility of the results by contrasting them with the previous surveys. It will also focus on socioeconomic factors related to the family and demographic factors related to the mother and child, because they are both important components of child survival.

The mortality rates are calculated from information obtained in the birth history section of the women's questionnaire. In the absence of a complete vital registration system, this information is regarded as being capable of giving reliable estimates of child mortality. Common errors that occur in the collection of retrospective data such as omission of births and deaths would bias the estimates only slightly downwards (Sullivan, 1990). Such omissions are especially common for infants who die shortly after birth. Other problems may include misreporting of date of birth and age at death which can distort both the level and trends in child mortality. It is also possible perverse incentives in completing the questionnaire lead to the poor completion of the birth history questions as discussed in the Chapter 3 on fertility.

The child mortality rates (per thousand) presented in this chapter are defined as follows:

Neonatal mortality (NN): the probability of dying within the first month of life

Post neonatal mortality (PNN): the difference between infant and neonatal mortality

Infant mortality (${}_1q_0$): the probability of dying in the first year of life

Child mortality (${}_4q_1$): the probability of dying between exact age one and five

Under-five mortality (${}_5q_0$): the probability of dying between birth and exact age five.

Overall, levels of child mortality in sub-Saharan Africa have been declining, albeit at a slow pace. However, countries affected by AIDS have shown a reversal in the trend (Garenne and Gakusi, 2006; Hill and Amouzou, 2006; Nannan, Bradshaw and Timœus, 2001). The AIDS epidemic in South Africa would be expected to increase child mortality rates over recent years but it may also create a bias in the estimate. The increased mortality among adult women from AIDS may result in an underestimate of child mortality as a result of the association between the mortality of the mother and the risk of mortality of the child, either directly through the transmission of HIV to the child, or indirectly through increased mortality risk among orphans. Thus the children of women who have died and are missing from the survey are likely to have higher mortality than the children of those who participate in the survey. Mady (2003) has reviewed and reported on the extent of this potential bias and concludes that direct methods of estimating child mortality, as applied here, would underestimate the rate slightly, on the order of 5-7 percent.

6.2 Levels and Trends in Infant and Child Mortality

Table 6.1 shows neonatal, post-neonatal, infant, child and under-five mortality rates for the three five-year periods before the survey. The most recent estimates centre around 2001 and show that the under-5 mortality rate is 58 per 1000 live-births and the infant mortality rate is 43 per 1000 live-births. Figure 6.1 presents the child mortality trends from the 1970's from previous surveys. The graph shows 5 year retrospective estimates of infant, child and under-five mortality obtained from 3 separate surveys: the 1988-1992 Human Science Research Council (HSRC) Survey, the 1998 and the 2003 South Africa Demographic and Health Surveys. While the previous 2 surveys show absolute congruency between all the age-specific estimates, the most recent 2003 survey shows considerably lower infant, child and under-five mortality levels corresponding to the same period in the 1998 SADHS. The 2003 survey estimates are lower than would be expected in the context of the AIDS epidemic in South Africa, even recognizing that the measurement of child mortality may be biased as a result of the epidemic. The estimate for the recent period is also somewhat lower than the illustrative estimate of under-five mortality derived from the 2001 census of 65-75 per 1000 live births (Dorrington, Moultrie and Timœus, 2004).

Table 6.1 Early childhood mortality rates

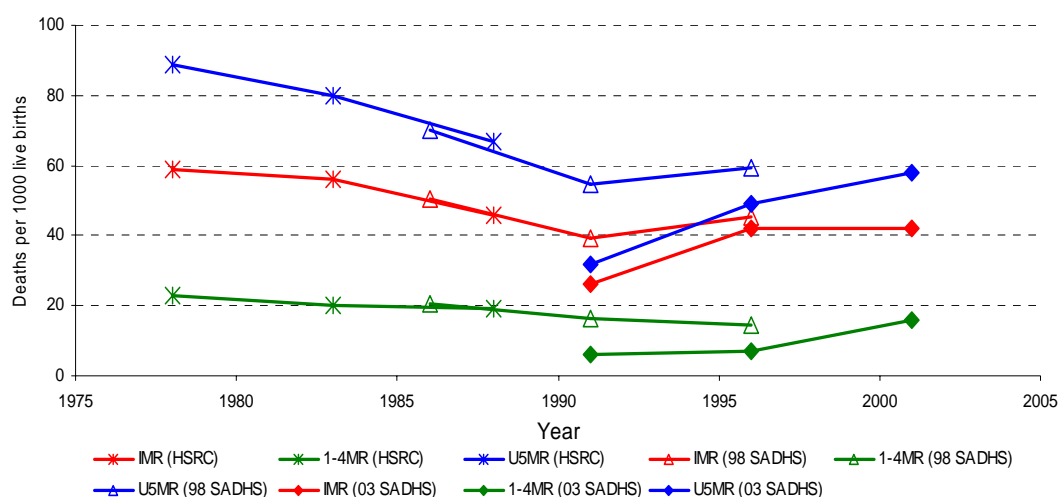
Neonatal, postneonatal, infant, child, and under-five mortality rates for five-year periods preceding the survey, South Africa 2003

| Years preceding the survey | Neonatal mortality (NN) | Postneonatal mortality (PNN) | Infant mortality (${}_1q_0$) | Child mortality (${}_4q_1$) | Under-five mortality (${}_5q_0$) |
|----------------------------|-------------------------|------------------------------|--------------------------------|-------------------------------|------------------------------------|
| 0-4 | 15 | 28 | 43 | 16 | 58 |
| 5-9 | 24 | 19 | 42 | 7 | 49 |
| 10-14 | 17 | 10 | 27 | 7 | 33 |

¹ Computed as the difference between the infant and neonatal mortality rates.

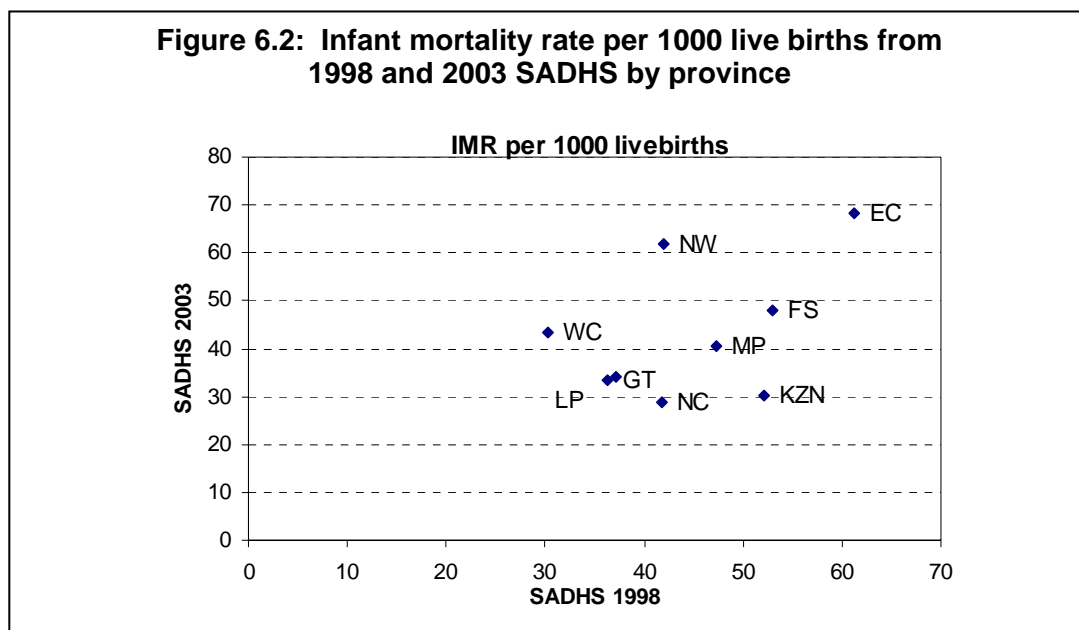
These data should be read with caution. See text for details.

Figure 6.1: Child mortality trends: HSRC 1988-1992, SADHS 1998 and SADHS 2003



A summary of the birth history data (Table C.7) shows that there has been a substantial drop in the number of births reported in the last five years, suggesting that incentives to omit births in the preceding 5 years by simply not completing the questionnaire played a role in this survey. Furthermore, the proportion of child deaths for whom an exact age at death was unknown was high at 21 percent. In these cases, a standard imputation procedure was used with a random allocation of the date of death within a logically plausible time range. In addition, the number of live-births for each woman shows a very unusual age pattern (Table C.8). Unlike the pattern in the 1998 SADHS which displays a steady increase in the number of children born to women associated with increasing age, the number does not increase with the age of women 30 years and older in the 2003 SADHS.

Furthermore, it can be seen from Figure 6.2 that there is poor correlation between the provincial estimates for child mortality from 2003 SADHS¹ with the 1998 SADHS ($R^2= 0.2044$ for the infant mortality rate and $R^2= 0.0877$ for the under-5 mortality rate). Given the inconsistencies of findings of this survey with the 1998 SADHS and the context of the HIV epidemic with the impact that it has on child mortality, the estimates of the level of child mortality from this survey are not plausible. These data quality concerns make it extremely difficult to interpret what the trend and indeed what the true level of child mortality is. The overall child mortality levels as well as the differentials between sub-groups should be used cautiously.



Although the actual level of child mortality may be high, Table 6.1 shows that the infant, child and under-five mortality have all increased over the 15-year period preceding the survey. Table 6.1 also shows that in the most recent period about three-quarters of all deaths under-five occur in the first year of life and one quarter occur in the first month of life. It is difficult to explain why the infant deaths may account for a much higher proportion of all under-five deaths in the earlier periods. Interestingly, the neonatal mortality rates observed in the most recent period of this survey are a similar order of magnitude to those in the previous survey. However, the post neonatal rates are somewhat lower for the earlier periods.

¹It should be noted that the childhood mortality rates from the 1998 SADHS were low for some provinces; consequently, the rates were adjusted for three provinces.

6.3 Socio-economic Differentials in Childhood Mortality

For purposes of examining differentials in childhood mortality, the estimates of child mortality are based on averages over the 10 year period preceding the survey. Differentials in the various mortality rates by selected socioeconomic characteristics are presented in Table 6.2. The table focuses on basic geographic and socioeconomic characteristics including residence, province, mother's education, and population group. A general observation would be that while the levels of mortality are clearly too low, the data reflect differentials in the expected direction. Attention is drawn to the fact that many of the estimates in this table are based on between only 250-500 births making the mortality estimate considerably less robust. In the case that the estimate is based on less than 250 births, the estimate has not been presented.

Table 6.2 Early childhood mortality rates by socioeconomic characteristics

Neonatal, postneonatal, infant, child, and under-five mortality rates for the 10-year period preceding the survey, by background characteristic, South Africa 2003

| Background characteristic | Neonatal mortality (NN) | ¹ Postneonatal mortality (PNN) | Infant mortality (₁ q ₀) | Child mortality (₄ q ₁) | Under-five mortality (₅ q ₀) |
|---------------------------|-------------------------|---|--|---|--|
| Residence | | | | | |
| Urban | 20 | 21 | 41 | 10 | 51 |
| Non-urban | 18 | 26 | 45 | 12 | 57 |
| Province | | | | | |
| Western Cape | 5 | 40 | 45 | 14 | 58 |
| Eastern Cape | 12 | 55 | 67 | 12 | 78 |
| Northern Cape | * | * | * | * | * |
| Free State | * | * | * | * | * |
| KwaZulu-Natal | (33) | (15) | (48) | (21) | 68 |
| North West | (27) | (35) | (62) | (16) | (76) |
| Gauteng | 24 | 9 | 33 | 9 | 43 |
| Mpumalanga | (21) | (19) | (40) | (13) | (52) |
| Limpopo | (20) | (14) | (34) | (10) | (44) |
| Education | | | | | |
| No education | (26) | (30) | (56) | (4) | (60) |
| Grades 1-5 | (19) | (62) | (81) | (17) | (97) |
| Grades 6-7 | (14) | (25) | (38) | (11) | (49) |
| Grades 8-11 | 26 | 21 | 47 | 13 | 59 |
| Grades 12 | 15 | 15 | 30 | 11 | 41 |
| Higher | * | * | * | * | * |
| Population | | | | | |
| African | 22 | 22 | 45 | 10 | 54 |
| Afr. urban | 24 | 22 | 47 | 9 | 55 |
| Afr. non-urban | 19 | 23 | 42 | 12 | 53 |
| Coloured | (6) | (38) | (44) | (19) | (62) |
| Indian | * | * | * | * | * |
| White | * | * | * | * | * |
| Total² | 15 | 28 | 43 | 16 | 58 |

¹ Computed as the difference between the infant and neonatal mortality rates.

² Rates for the five year period before the survey.

Note: Figures in parenthesis are based on 250-500 while an asterisk denotes a figure based on fewer than 250 births that has been suppressed.

These data should be read with caution. See text for details.

Table 6.2 shows mortality is consistently higher in non-urban than urban areas except for neonatal mortality. This pattern of higher non-urban than urban mortality was also observed in the 1998 SADHS, although the difference has decreased. The provincial levels of childhood mortality are clearly not a true reflection of South African reality and can not be relied upon particularly given the weak statistical correlation of the infant mortality rate as seen in Figure 6.1, the most obvious outlier being KwaZulu-Natal. The well understood relationship of child mortality with maternal education and population group differences do not follow the expected patterns either. Child

mortality for coloured children is higher than child mortality for African children in this survey. All other surveys and censuses have found mortality risk by population group to be consistently higher for Africans than it is for coloureds, Indians and whites respectively (HSRC, Census 1996, SADHS 1998). The results from this survey are inconsistent with these strong established relationships and are clearly not a reflection of South African reality.

6.4 Demographic Differentials in Childhood Mortality

It is well established that bio-demographic factors of the mother and child influence childhood mortality (Hobcraft, McDonald and Rutstein, 1983). Table 6.3 examines the relationship between childhood mortality and bio-demographic variables for the 10 year period preceding the survey. Given the inconsistencies in the data, the estimates should be treated with caution. However, many of the expected patterns in child mortality are also displayed in these data. The overall pattern of heavier mortality for boys than girls also holds true for South Africa. The pattern of increasing mortality with increasing maternal age follows the international consensus of higher mortality risk at the extreme ends of the reproductive cycle (15-49). Birth order also shows the typical pattern of higher mortality with the first child and the higher parities of over four children. This is not surprising as birth order and parity are very closely linked to the age of the mother. The mortality pattern associated with length of the previous birth interval also follows the expected direction. It would be useful to assess the difference in child mortality rates for births that were small compared with average weight or larger births. However, too high a proportion of mother's did not have a recording of the birth weight of the child (21 percent).

Table 6.3 Early childhood mortality rates by demographic characteristics

Neonatal, postneonatal, infant, child, and under-five mortality rates for the 10-year period preceding the survey, by demographic characteristics, South Africa 2003

| Demographic characteristic | Neonatal mortality (NN) | Postneonatal mortality (PNN) ¹ | Infant mortality (₁ q ₀) | Child mortality (₄ q ₁) | Under-five mortality (₅ q ₀) |
|--------------------------------|-------------------------|---|--|---|--|
| Child's sex | | | | | |
| Male | 26 | 22 | 48 | 13 | 61 |
| Female | 14 | 24 | 37 | 9 | 46 |
| Mother's age at birth | | | | | |
| <20 | 16 | 15 | 31 | 9 | 40 |
| 20-29 | 18 | 20 | 38 | 10 | 48 |
| 30-39 | 25 | 26 | 51 | 14 | 65 |
| 40-49 | * | * | * | * | * |
| Birth order | | | | | |
| 1 | 20 | 15 | 35 | 13 | 47 |
| 2-3 | 14 | 21 | 35 | 9 | 43 |
| 4-6 | 33 | 26 | 59 | 11 | 70 |
| 7+ | * | * | * | * | * |
| Previous birth interval | | | | | |
| <2 years | 17 | 70 | 87 | 23 | 108 |
| 2 years | 27 | 19 | 45 | 11 | 56 |
| 3 years | 17 | 38 | 54 | 6 | 60 |
| 4+ years | 18 | 17 | 35 | 8 | 43 |

¹ Computed as the difference between the infant and neonatal mortality rates.

Note: Figures in parenthesis are based on 250-500 births.

These data should be read with caution. See text for details.

The relationship between maternal age and child mortality shows the expected U-shape with women younger than 20 years having higher infant and under five mortality rates than women between 20 and 40 years of age. Mortality by birth order also shows a U-shaped pattern that is consistent with international findings. In general first order children have slightly higher mortality risks than children of birth orders 2-3, after which mortality increases as birth order increases. The time interval between births also has a substantial impact on child survival chances. The data show that when the previous birth interval is less than two years, both infant and under-five mortality

increases two-fold. This is also a finding consistent with international research and highlights the importance of birth spacing as a means of reducing childhood mortality.

6.5 High-Risk Fertility Behavior

It is well established that the fertility pattern of mothers is strongly related to child survival status. Higher risks of infant and early age mortality are associated with very young or older maternal ages, short birth intervals and high parities. The following analysis uses these factors and groups the mother's characteristics according to higher or lower risk. Mothers considered to be at higher risk are under 18 years of age at the time of the birth or age 35 years or more at the time of birth. A short birth interval is defined as less than 24 months, and a high order birth is one occurring after three or more previous births. A birth therefore, may have from zero to three potentially high-risk factors. Although first births are considered high risk, they are placed in a separate category due to the fact that they are not *avoidable* risks in the same sense as the other factors.

The results are based on births in the previous 5 years before the survey and are presented as risk ratios in Table 6.4. The first column shows the percentage of births that fall into each of the risk categories. Thirty-six percent of births are in at least one high risk category, while twelve percent have multiple high risk characteristics. The second column represents risk ratios which are the ratios of the proportion of children in a particular risk category who have died to the proportion in the reference category who have died. The reference category has no high risk births. The results confirm that babies born to women at the extreme ends of their reproductive years have a higher mortality risk, as do babies born after short birth intervals. Higher parity births have a somewhat increased mortality risk (1.4); when this risk is coupled with a short birth interval, the babies have a 3 times greater mortality risk. In South Africa this category of multiple risk represents less than 2 percent of all births in the last 5 years and is not of major public health importance.

Table 6.4 High-risk fertility behaviour

Percentage distribution of children born in the five years preceding the survey by category of elevated risk of mortality and the risk ratio, and percent distribution of currently married women by category of risk if they were to conceive a child at the time of the survey, South Africa 2003

| Risk category | Births in the 5 years preceding the survey | | Percentage of currently married women |
|--|--|------------|---------------------------------------|
| | Percentage of births | Risk ratio | |
| Not in any high risk category | 32.6 | 1.00 | 34.0 |
| Unavoidable risk category | | | |
| First order births between ages 18 and 34 years | 31.8 | 0.83 | 7.8 |
| Single high-risk category | | | |
| Mothers's age <18 | 7.3 | 0.95 | 0.3 |
| Mothers's age >34 | 5.6 | 0.98 | 17.8 |
| Birth interval <24 months | 2.9 | 1.91 | 4.4 |
| Birth order >3 | 7.7 | 1.40 | 6.2 |
| Subtotal | 23.4 | 1.22 | 28.7 |
| Multiple high-risk category | | | |
| Age >34 & birth interval <24 months | 0.2 | 0.00 | 0.2 |
| Age >34 & birth order >3 | 9.7 | 1.33 | 26.0 |
| Age >34 & birth interval <24 months & birth order >3 | 0.6 | 11.39 | 1.7 |
| Birth interval <24 months & birth order >3 | 1.6 | 2.79 | 1.5 |
| Subtotal | 12.1 | 1.99 | 29.4 |
| In any avoidable high-risk category | 35.6 | 1.49 | 58.2 |
| Total | 100.0 | - | 100.0 |
| Number of births | 2 120 | - | 2 658 |

Note: Risk ratio is the ratio of the proportion dead among births in a specific high-risk category to the proportion dead among births not in any high-risk category.

na = Not applicable.

¹ Women are assigned to risk categories according to the status they would have at the birth of a child if they were to conceive at the time of the survey: current age less than 17 years and 3 months or older than 34 years and 2 months, latest birth less than 15 months ago, or latest birth being of order 3 or higher.

² Includes the category age <18 and birth order >3.

a Includes sterilized women.

The third column shows the distribution of currently married women by risk category into which a currently conceived child would fall. Comparing this percentage with the distribution of births in the last five years, gives an indication that without birth control, the percentage of births that would be high risk because of maternal age greater than 34 would rise significantly as would the percentage of births with multiple high risk characteristics.

6.6 Early Childhood Mortality and Women's Status

The results of child mortality and women's status are shown in Table 6.5. The inclusion of these questions into the Women's Questionnaire is an attempt to understand the relationship that child mortality has with the autonomy of women. The indices represent estimates for the 10 year period preceding the survey. The results from this table should be viewed cautiously. While the question relating to the justification of wife beating follows the expected direction, the results of the questions relating to the number of final decisions a woman makes and the number of reasons for refusing sex with husband, yield quite unlikely outcomes.

Table 6.5 Early childhood mortality rates by women's status

Neonatal, postneonatal, infant, child, and under-five mortality rates for the 10-year period preceding the survey, by women's status indicators, South Africa 2003

| Women's status Indicators | Neonatal mortality (NN) | Postneonatal mortality (PNN) | Infant mortality (1q0) | Child mortality (4q1) | Under-five mortality (5q0) |
|---|-------------------------|------------------------------|------------------------|-----------------------|----------------------------|
| Number of decisions in which woman has final say | | | | | |
| 0 | 17 | 50 | 67 | 5 | 71 |
| 1-2 | 12 | 29 | 41 | 13 | 53 |
| 3-4 | 17 | 9 | 26 | 20 | 46 |
| 5 | 25 | 19 | 43 | 9 | 52 |
| Number of reasons to refuse sex with husband | | | | | |
| 0 | 16 | 19 | 34 | 13 | 47 |
| 1-2 | 32 | 59 | 91 | 6 | 97 |
| 3-4 | 20 | 22 | 42 | 11 | 52 |
| Number of reasons wife beating is justified | | | | | |
| 0 | 19 | 22 | 41 | 11 | 52 |
| 1-2 | 20 | 28 | 47 | 10 | 57 |
| 3-4 | 23 | 19 | 42 | 17 | 58 |
| 5 | 24 | 38 | 62 | 14 | 75 |

na = Not applicable.

¹ Computed as the difference between the infant and neonatal mortality rates.

² Either by herself or jointly with others.

These data should be read with caution. See text for details.

CHAPTER 7

MATERNAL AND CHILD HEALTH

7.1 Introduction

In the current rights-based dispensation of South Africa, mothers and children have been accorded special recognition given their importance in society and recognition of their special needs and vulnerabilities resulted in many interventions being targeted at mothers and children, including health-specific interventions.

As access to appropriate good quality health services is one of the many important factors that have a bearing on the health of mothers and children, the ongoing monitoring of health service accessibility, coverage, utilisation and quality, is necessary for ongoing planning and delivery of services to these groups that are particularly vulnerable in our current context of poverty and HIV.

This chapter deals with aspects of maternal and child health status, as well as health service coverage to mothers and children. The first few sections deal primarily with antenatal and obstetric care. The ensuing sections deal with aspects of child health that relate to preventive programme coverage (using immunisation coverage as an indicator), the prevalence and treatment of two acute childhood conditions covered by the Integrated Management of Childhood Illnesses (IMCI) and are particularly prevalent among children under five years of age, and concludes by looking at serious accidents and injuries - these being the most common cause of death and morbidity among older children.

In Section 2.12 it has already been noted that the number of children in the SADHS is relatively small. This means that most of the data presented by background characteristics for child health issues in this chapter may be problematic due to the small sample size. Furthermore, some of the results for KwaZulu-Natal are anomalous when compared with the 1998 SADHS and as that province has the largest child population in the country, this skews the national averages. Care must therefore be taken when interpreting and using the results for the child health indicators.

7.2 Antenatal Care

The results of the survey shown in Table 7.1 indicate continuing high levels of utilisation of antenatal care for births in the preceding five years (92 percent), only slightly lower than 94 percent utilisation observed in the 1998 SADHS. Mothers reported visiting antenatal care a median of seven times during their pregnancy (Table 7.2). For the majority of births (54 percent), the first antenatal care visit was before six months of gestation. However, for more than a fifth of pregnancies, women did not receive antenatal care until six or seven months of gestation and 2.6 percent did not receive antenatal care until eight months of gestation. The median time at which mothers started antenatal visits was 5.5 months of gestation, an increase from median of 5.2 in the last survey.

| Table 7.1 Antenatal care | | | | | | | |
|---|--------|-------------------|----------------------|--------|---------|-------|---------------------|
| Percentage distribution of most recent births in the five years preceding the survey by source of antenatal care during pregnancy, according to selected background characteristic, South Africa 2003 | | | | | | | |
| Background characteristic | Doctor | Nurse/ midwife | Auxillary midwife | No one | Missing | Total | Number of births |
| Mother's age at birth | | | | | | | |
| <20 | 19.0 | 71.7 | 0.4 | 6.5 | 2.3 | 100.0 | 333 |
| 20-34 | 30.0 | 63.0 | 0.3 | 4.5 | 2.2 | 100.0 | 1 231 |
| 35+ | 29.5 | 57.7 | 0.0 | 7.4 | 5.4 | 100.0 | 295 |
| Birth order | | | | | | | |
| 1 | 25.6 | 66.0 | 0.2 | 5.7 | 2.5 | 100.0 | 742 |
| 2-3 | 30.8 | 62.1 | 0.4 | 4.2 | 2.5 | 100.0 | 765 |
| 4-5 | 30.5 | 59.4 | 0.0 | 7.0 | 3.1 | 100.0 | 261 |
| 6+ | 16.1 | 71.8 | 0.0 | 7.2 | 5.0 | 100.0 | 90 |
| Residence | | | | | | | |
| Urban | 34.7 | 56.3 | 0.4 | 5.8 | 2.8 | 100.0 | 1 219 |
| Non-urban | 15.2 | 77.9 | 0.0 | 4.4 | 2.6 | 100.0 | 640 |
| Province | | | | | | | |
| Western Cape | 55.6 | 33.5 | 0.5 | 7.6 | 2.8 | 100.0 | 275 |
| Eastern Cape | 11.5 | 83.6 | 0.0 | 4.3 | 0.5 | 100.0 | 225 |
| Northern Cape | 20.2 | 69.9 | 0.4 | 8.7 | 0.7 | 100.0 | 41 |
| Free State | 14.1 | 76.8 | 0.0 | 3.4 | 5.7 | 100.0 | 117 |
| KwaZulu-Natal | 53.4 | 36.0 | 0.0 | 3.2 | 7.4 | 100.0 | 107 |
| North West | 17.2 | 77.9 | 0.0 | 2.7 | 2.2 | 100.0 | 173 |
| Gauteng | 31.2 | 58.7 | 0.6 | 6.5 | 3.0 | 100.0 | 515 |
| Mpumalanga | 16.1 | 77.6 | 0.0 | 5.5 | 0.8 | 100.0 | 144 |
| Limpopo | 17.4 | 75.9 | 0.0 | 4.2 | 2.4 | 100.0 | 261 |
| Education | | | | | | | |
| No education | 7.8 | 69.9 | 3.5 | 13.7 | 5.1 | 100.0 | 82 |
| Grades 1-5 | 10.4 | 79.9 | 0.0 | 8.6 | 1.1 | 100.0 | 116 |
| Grades 6-7 | 19.4 | 71.6 | 0.1 | 4.1 | 4.8 | 100.0 | 202 |
| Grades 8-11 | 25.4 | 66.2 | 0.1 | 5.2 | 3.0 | 100.0 | 866 |
| Grade 12 | 39.0 | 55.8 | 0.0 | 3.5 | 1.7 | 100.0 | 441 |
| Higher | 46.1 | 47.0 | 0.0 | 5.7 | 1.2 | 100.0 | 152 |
| Population group | | | | | | | |
| African | 24.0 | 68.6 | 0.2 | 4.6 | 2.7 | 100.0 | 1 566 |
| Afr. urban | 30.4 | 61.5 | 0.3 | 4.8 | 2.9 | 100.0 | 969 |
| Afr. non-urban | 13.5 | 80.1 | 0.0 | 4.1 | 2.2 | 100.0 | 597 |
| Coloured | 43.1 | 43.1 | 0.6 | 9.2 | 4.1 | 100.0 | 202 |
| White | 61.5 | 24.8 | 0.0 | 13.6 | 0.0 | 100.0 | 64 |
| Indian | 67.1 | 28.6 | 0.0 | 1.4 | 3.0 | 100.0 | 26 |
| Total | 28.0 | 63.7 | 0.2 | 5.3 | 2.7 | 100.0 | 1 859 |

Table 7.2 Number of antenatal care visits and timing of first visit

Percentage distribution of women who had a live birth in the five years preceding the survey by number of antenatal care (ANC) visits for the most recent birth, and by the timing of the first visit according to residence, South Africa 2003

| Number and timing of ANC visits | Residence | | Total |
|---|-----------|-----------|-------|
| | Urban | Non-urban | |
| Number of ANC visits | | | |
| None | 5.8 | 4.4 | 5.3 |
| 1 | 2.0 | 3.0 | 2.3 |
| 2-3 | 11.7 | 20.5 | 14.7 |
| 4+ | 54.2 | 59.7 | 56.1 |
| Don't know/missing | 26.3 | 12.4 | 21.5 |
| Total | 100.0 | 100.0 | 100.0 |
| Number of months pregnant at time of first ANC visit | | | |
| No antenatal care | 5.8 | 4.4 | 5.3 |
| <4 | 34.5 | 26.6 | 31.7 |
| 4-5 | 28.0 | 32.8 | 29.7 |
| 6-7 | 23.9 | 28.5 | 25.5 |
| 8+ | 2.8 | 3.2 | 2.9 |
| Don't know/missing | 5.0 | 4.6 | 4.9 |
| Total | 100.0 | 100.0 | 100.0 |
| Median months pregnant at first visit (for those with ANC) | 4.7 | 5.2 | 4.9 |
| Number of women | 1 219 | 640 | 1 859 |

Table 7.1 shows that nurses or midwives continue to provide the majority of the care (56 percent) followed by doctors (25 percent). The source of antenatal care varied slightly by women's age. Births to women who were younger than 20 years old were less likely to have had antenatal care provided by a doctor than older women. Doctors are more likely to provide antenatal care to women in urban areas than to women in non-urban areas (41 percent versus 17 percent). The highest proportions of pregnancies that were cared for by a doctor occurred in Gauteng, Western Cape and Northern Cape. The lowest proportions occurred in the Eastern Cape and the Northern Province. The differences in antenatal care provision by population group show that the highest proportion of pregnancies cared for by a doctor was among

white women (82 percent) and the lowest was amongst African women (23 percent). The percentage was even lower for African women living in non-urban areas (15 percent). Antenatal care was associated with levels of education. Table 7.2 shows that births to women with less education were more likely to receive antenatal care from a nurse or midwife than from a doctor. The proportion of births to women who obtained antenatal care from a doctor increased from 7 percent among women with no education to 42 percent among women with tertiary education.

As found in the previous survey a relatively high proportion of white women do not receive any antenatal care (11 percent). Overall, higher order births, those in the Western and Northern Cape and those whose mothers have no education, are more likely not to receive antenatal care.

Key components of antenatal care such as weight, height and blood pressure measurements were almost universally conducted across the whole sample (Table 7.3). Urine and blood samples were also taken from nearly all mothers attending antenatal care (Table 7.3). The coverage of interventions such as provision of iron tablets and informing mothers of danger signs was less uniform. Young mothers below the age of 20, living in rural areas and those with no education were less likely to be informed of complications. Of particular concern is the finding that a minority of mothers in the Eastern Cape (48 percent), Free State (38 percent) and Limpopo (25 percent) were informed of possible pregnancy complications. A majority (63 percent) of mothers received iron supplements. Once again mothers who were young or lived in non-urban areas or did not have any education were less likely to receive iron supplementation. However, there was fairly consistent coverage across all provinces.

Table 7.3 Components of antenatal care

Percentage of women with a live birth in the five years preceding the survey who received antenatal care for the most recent birth, by content of antenatal care, and percentage of women with a live birth in the five years preceding the survey who received iron tablets or syrup or anti-malarial drugs, according to selected background characteristic, South Africa 2003

| Background characteristic | Informed of signs of pregnancy complications | Among women who received antenatal care | | | | | Among women who gave birth | | | |
|---------------------------|--|---|-----------------|-------------------------|--------------------|--------------------|----------------------------|--------------------------------|------------------------------|-----------------|
| | | Weight measured | Height measured | Blood pressure measured | Urine sample taken | Blood sample taken | Number of women | Received iron tablets or syrup | Received anti-malarial drugs | Number of women |
| Age at birth | | | | | | | | | | |
| <20 | 45.9 | 94.8 | 72.4 | 92.0 | 94.6 | 91.2 | 303 | 60.4 | 1.1 | 333 |
| 20-24 | 57.8 | 97.4 | 77.3 | 97.2 | 97.0 | 95.2 | 1 147 | 63.1 | 0.6 | 1 231 |
| 25+ | 59.1 | 97.9 | 72.7 | 97.4 | 97.2 | 95.1 | 260 | 65.0 | 0.4 | 295 |
| Birth order | | | | | | | | | | |
| 1 | 54.5 | 96.3 | 75.1 | 94.7 | 95.9 | 93.3 | 683 | 62.4 | 0.6 | 742 |
| 2-3 | 60.7 | 97.2 | 79.4 | 98.2 | 97.4 | 96.2 | 715 | 64.7 | 0.7 | 765 |
| 4-5 | 51.2 | 98.0 | 73.6 | 96.6 | 96.4 | 94.0 | 233 | 60.9 | 0.8 | 261 |
| 6+ | 38.9 | 100.0 | 54.7 | 92.8 | 96.0 | 91.6 | 80 | 57.4 | 1.0 | 90 |
| Residence | | | | | | | | | | |
| Urban | 62.8 | 97.2 | 83.4 | 97.8 | 97.0 | 96.8 | 1 112 | 64.0 | 0.7 | 1 219 |
| Non-urban | 43.1 | 96.8 | 61.5 | 93.5 | 95.9 | 90.3 | 598 | 60.8 | 0.7 | 640 |
| Province | | | | | | | | | | |
| Western Cape | 74.4 | 97.3 | 90.4 | 98.3 | 97.3 | 96.2 | 242 | 53.3 | 0.0 | 275 |
| Eastern Cape | 47.5 | 92.5 | 46.3 | 92.9 | 93.1 | 86.7 | 216 | 64.0 | 0.0 | 225 |
| Northern Cape | 54.5 | 99.7 | 81.1 | 99.7 | 99.2 | 98.4 | 37 | 84.2 | 0.0 | 41 |
| Free State | 37.9 | 97.2 | 87.2 | 96.2 | 97.9 | 97.1 | 109 | 51.0 | 0.5 | 117 |
| KwaZulu-Natal | 73.8 | 99.7 | 81.2 | 100.0 | 97.9 | 98.1 | 98 | 69.5 | 0.0 | 107 |
| North West | 51.5 | 95.6 | 72.5 | 94.8 | 95.3 | 95.1 | 166 | 44.7 | 0.0 | 173 |
| Gauteng | 68.0 | 98.3 | 88.7 | 98.2 | 97.6 | 96.5 | 462 | 69.1 | 1.2 | 515 |
| Mpumalanga | 57.8 | 97.5 | 81.3 | 97.0 | 97.1 | 95.4 | 136 | 79.1 | 0.9 | 144 |
| Limpopo | 25.2 | 97.6 | 53.6 | 92.7 | 96.2 | 92.0 | 245 | 62.3 | 1.8 | 261 |
| Mother's education | | | | | | | | | | |
| No education | 44.2 | 95.4 | 76.3 | 87.8 | 92.4 | 88.7 | 66 | 56.4 | 0.0 | 82 |
| Grades 1-5 | 48.5 | 93.1 | 51.0 | 94.3 | 92.3 | 87.1 | 104 | 58.3 | 0.8 | 116 |
| Grades 6-7 | 49.1 | 94.7 | 76.8 | 92.7 | 94.2 | 91.8 | 187 | 61.3 | 0.9 | 202 |
| Grades 8-11 | 55.2 | 97.5 | 77.3 | 96.3 | 96.7 | 95.0 | 792 | 58.7 | 0.3 | 866 |
| Grade 12 | 60.6 | 98.8 | 80.3 | 99.1 | 98.2 | 96.3 | 422 | 69.1 | 1.7 | 441 |
| Higher | 65.9 | 96.1 | 70.0 | 98.7 | 100.0 | 98.2 | 140 | 78.0 | 0.0 | 152 |
| Total | 55.9 | 97.0 | 75.7 | 96.3 | 96.6 | 94.5 | 1 710 | 62.9 | 0.7 | 1 859 |

7.3 Tetanus Toxoid

To estimate the extent of tetanus toxoid vaccination coverage during pregnancy, women were asked to report if they received injections against tetanus during pregnancy for all births in the five year period preceding the survey. These results are presented in Table 7.4 and show that 39.5 percent of women received at least one dose of tetanus toxoid during pregnancy in the past five years. However there were a large number of don't know or missing in the responses (29 percent). Of those that had a response the coverage was 56 percent, similar to that found in the previous survey. As previously the coverage in the non-urban area was much higher than in the urban area (51 percent versus 34 percent). This could probably be explained by the very low coverage in the Western Cape (10 percent) and Gauteng (25 percent). Unlike other antenatal care indicators there was little variation with differing levels of education. As found in the previous survey, low proportions of coloured and white women received tetanus toxoid vaccinations during pregnancy.

Table 7.4 Tetanus toxoid injections

Percentage distribution of women who had a live birth in the five years preceding the survey by number of tetanus toxoid injections received during pregnancy for the most recent birth, according to background characteristics, South Africa 2003

| Background characteristic | None | One injection | Two or more injections | Don't know/missing | Total | Number of women |
|---------------------------|-------------|---------------|------------------------|--------------------|--------------|-----------------|
| Age at birth | | | | | | |
| <20 | 33.1 | 22.5 | 32.1 | 12.3 | 100.0 | 333 |
| 20-34 | 37.0 | 17.8 | 25.6 | 19.6 | 100.0 | 1 231 |
| 35-49 | 36.3 | 19.2 | 21.7 | 22.8 | 100.0 | 295 |
| Birth order | | | | | | |
| 1 | 35.5 | 19.0 | 28.3 | 17.2 | 100.0 | 742 |
| 2-3 | 37.1 | 17.7 | 26.3 | 19.0 | 100.0 | 765 |
| 4-5 | 35.4 | 20.9 | 21.2 | 22.5 | 100.0 | 261 |
| 6+ | 37.0 | 21.7 | 22.0 | 19.3 | 100.0 | 90 |
| Residence | | | | | | |
| Urban | 40.8 | 14.0 | 24.0 | 21.2 | 100.0 | 1 219 |
| Non-urban | 27.5 | 28.0 | 30.3 | 14.1 | 100.0 | 640 |
| Region | | | | | | |
| Western Cape | 76.8 | 5.9 | 5.9 | 11.4 | 100.0 | 275 |
| Eastern Cape | 24.5 | 27.7 | 35.7 | 12.0 | 100.0 | 225 |
| Northern Cape | 27.8 | 23.3 | 38.2 | 10.7 | 100.0 | 41 |
| Free State | 21.0 | 24.5 | 42.4 | 12.1 | 100.0 | 117 |
| KwaZulu-Natal | 18.9 | 19.3 | 36.1 | 25.7 | 100.0 | 107 |
| North West | 36.3 | 34.2 | 19.8 | 9.7 | 100.0 | 173 |
| Gauteng | 39.2 | 7.3 | 21.5 | 32.0 | 100.0 | 515 |
| Mpumalanga | 25.9 | 30.8 | 32.2 | 11.0 | 100.0 | 144 |
| Limpopo | 18.7 | 27.2 | 36.1 | 18.0 | 100.0 | 261 |
| Education | | | | | | |
| No education | 27.5 | 27.8 | 20.3 | 24.4 | 100.0 | 82 |
| Grades 1-5 | 34.7 | 31.2 | 21.0 | 13.1 | 100.0 | 116 |
| Grades 6-7 | 31.6 | 24.1 | 27.9 | 16.4 | 100.0 | 202 |
| Grades 8-11 | 37.6 | 17.0 | 26.7 | 18.7 | 100.0 | 866 |
| Grade 12 | 37.5 | 15.6 | 24.6 | 22.3 | 100.0 | 441 |
| Higher | 36.5 | 17.5 | 32.6 | 13.4 | 100.0 | 152 |
| Population | | | | | | |
| African | 31.4 | 20.3 | 27.7 | 20.5 | 100.0 | 1 566 |
| Afr. urban | 35.5 | 14.5 | 25.3 | 24.6 | 100.0 | 969 |
| Afr. non-urban | 24.7 | 29.8 | 31.6 | 13.9 | 100.0 | 597 |
| Coloured | 65.8 | 10.7 | 14.3 | 9.2 | 100.0 | 202 |
| Indian | 47.6 | 16.6 | 22.6 | 13.2 | 100.0 | 26 |
| White | 55.9 | 8.9 | 26.9 | 8.3 | 100.0 | 64 |
| Other | 100.0 | 0.0 | 0.0 | 0.0 | 100.0 | 0 |
| Total | 36.2 | 18.8 | 26.2 | 18.8 | 100.0 | 1 859 |

7.4 Assistance and Medical Care at Delivery

An important finding from this survey is that the proportion of women who reported that their last live birth occurred in a health facility increased to 89 percent from the 83 percent reported in the 1998 survey (Table 7.5). Much of this increase has occurred in the non-urban areas with an increase from the 74 percent reported in 1998 to 83 percent in 2003. Only 6.5 percent of deliveries were reported as having occurred at home. In particular there were sharp falls in proportion of home deliveries in Mpumalanga (23 to 7 percent), Eastern Cape (25 to 16 percent), Free State (13 to 3.5 percent), Northern Province (19 to 10 percent), KwaZulu-Natal (14 to 5 percent) and North West (12 to 5 percent). The proportion of women who delivered at home was related to the level of education with home deliveries for 20 percent of the women with no education compared to 2.5 percent of the women with higher education. The proportion of home deliveries was highest amongst the non-urban African women (13 percent) and lowest among Indian women (less than 1 percent). Amongst women who delivered their last newborn outside of a health facility 80 percent reported receiving no post-natal check-up and only 13 percent received a check-up within 2 days.

Table 7.5 Place of delivery

Percentage distribution of births in the five years preceding the survey by place of delivery, according to selected background characteristic, South Africa 2003

| Background characteristic | Health facility | | | | Total | Number of births |
|------------------------------|-----------------|----------------|---------|---------------|-------|------------------|
| | Public sector | Private sector | At home | Other/missing | | |
| Mother's age at birth | | | | | | |
| <20 | 86.8 | 1.61 | 4.31 | 7.28 | 100.0 | 374 |
| 20-34 | 85.3 | 6.43 | 5.47 | 2.77 | 100.0 | 1 405 |
| 35+ | 67.1 | 9.3 | 13.84 | 9.73 | 100.0 | 340 |
| Birth order | | | | | | |
| 1 | 86.5 | 5.5 | 3.5 | 4.5 | 8.0 | 844 |
| 2-3 | 83.5 | 7.7 | 5.7 | 3.1 | 8.8 | 860 |
| 4-5 | 78.8 | 4.0 | 11.5 | 5.7 | 17.2 | 303 |
| 6+ | 57.8 | 2.8 | 24.0 | 15.4 | 39.4 | 112 |
| Residence | | | | | | |
| Urban | 84.0 | 7.9 | 3.7 | 4.4 | 8.1 | 1 383 |
| Non-urban | 80.2 | 2.6 | 12.0 | 5.2 | 17.2 | 736 |
| Province | | | | | | |
| Western Cape | 82.7 | 7.9 | 1.6 | 7.8 | 9.4 | 323 |
| Eastern Cape | 77.2 | 4.5 | 15.6 | 2.7 | 18.3 | 266 |
| Northern Cape | 83.3 | 6.4 | 8.9 | 1.4 | 10.3 | 46 |
| Free State | 86.0 | 3.3 | 3.6 | 7.2 | 10.8 | 130 |
| KwaZulu-Natal | 68.7 | 20.2 | 5.0 | 6.1 | 11.1 | 117 |
| North West | 87.4 | 5.7 | 5.2 | 1.7 | 6.9 | 192 |
| Gauteng | 84.9 | 4.7 | 4.8 | 5.6 | 10.4 | 588 |
| Mpumalanga | 85.8 | 7.0 | 6.9 | 0.3 | 7.2 | 169 |
| Limpopo | 82.1 | 3.3 | 10.2 | 4.4 | 14.6 | 288 |
| Education | | | | | | |
| No education | 75.0 | 0.0 | 19.7 | 5.4 | 25.0 | 95 |
| Grades 1-5 | 67.2 | 2.7 | 25.6 | 4.5 | 30.1 | 150 |
| Grades 6-7 | 83.0 | 0.1 | 11.7 | 5.3 | 16.9 | 219 |
| Grades 8-11 | 87.5 | 1.9 | 4.6 | 6.0 | 10.6 | 990 |
| Grade 12 | 84.9 | 10.7 | 1.6 | 2.9 | 4.4 | 498 |
| Higher | 65.2 | 31.0 | 2.5 | 1.3 | 3.8 | 168 |
| Population group | | | | | | |
| African | 84.4 | 3.8 | 7.3 | 4.5 | 11.8 | 1 773 |
| Afr. urban | 86.3 | 4.9 | 3.9 | 4.9 | 8.7 | 1 094 |
| Afr. non-urban | 81.4 | 1.8 | 12.9 | 3.9 | 16.8 | 678 |
| Coloured | 86.0 | 4.3 | 2.5 | 7.3 | 9.8 | 240 |
| White | 41.5 | 51.3 | 5.5 | 1.7 | 7.2 | 75 |
| Indian | 57.1 | 40.1 | 0.6 | 2.2 | 2.9 | 32 |
| Total | 82.7 | 6.0 | 6.6 | 4.7 | 11.3 | 2 120 |

The type of assistance a woman receives during childbirth has important health consequences for both mother and child. Table 7.6 shows the percentage distribution of live births in the five years before the survey by type of assistance received during delivery, according to background characteristics. A high proportion of deliveries were attended by a medically trained person (91 percent) and this is higher than the 84 percent in the 1998 SADHS. More than half the deliveries were attended by a trained nurse or midwife and nearly a third of the deliveries were attended by a doctor. A very small proportion of deliveries were attended by a Traditional Birth Attendant (TBA) or not attended at all. There were strong urban/non-urban differences in the type of birth attendant. The proportion of deliveries assisted by a doctor was higher in the urban areas (34 percent) than in the non-urban areas (13 percent). More than two-thirds of white women (68 percent) were assisted by a doctor compared with 11 percent of non-urban African women.

Table 7.6 Assistance during delivery

Percentage distribution of births in the five years preceding the survey by type of assistance during delivery, according to selected background characteristic, South Africa 2003

| Background characteristic | Attendant assisting during delivery | | | | | | Total | Number of births | |
|------------------------------|-------------------------------------|-------------------|-----|---------------------|-------|--------|-------|------------------|---------|
| | Doctor | Nurse/ midwife | TBA | Relative/ friend | Other | No one | | | Missing |
| Mother's age at birth | | | | | | | | | |
| <20 | 21.1 | 72.0 | 1.4 | 1.8 | 0.0 | 0.7 | 2.9 | 100.0 | 374 |
| 20-34 | 26.4 | 67.1 | 0.4 | 2.9 | 0.2 | 1.0 | 2.0 | 100.0 | 1 405 |
| 35+ | 32.4 | 47.3 | 1.3 | 6.3 | 0.7 | 3.7 | 8.4 | 100.0 | 340 |
| Birth order | | | | | | | | | |
| 1 | 26.9 | 67.3 | 0.9 | 1.6 | 0.0 | 0.7 | 2.7 | 100.0 | 844 |
| 2-3 | 27.7 | 65.4 | 0.4 | 2.9 | 0.1 | 1.3 | 2.3 | 100.0 | 860 |
| 4-5 | 27.7 | 60.1 | 0.8 | 5.8 | 0.5 | 1.8 | 3.2 | 100.0 | 303 |
| 6+ | 10.4 | 53.9 | 2.3 | 11.4 | 2.2 | 6.4 | 13.4 | 100.0 | 112 |
| Residence | | | | | | | | | |
| Urban | 33.7 | 60.7 | 0.2 | 1.6 | 0.0 | 1.0 | 2.8 | 100.0 | 1 383 |
| Non-urban | 12.8 | 72.3 | 1.7 | 6.4 | 0.7 | 2.2 | 3.9 | 100.0 | 736 |
| Province | | | | | | | | | |
| Western Cape | 39.1 | 51.9 | 0.8 | 0.4 | 0.0 | 0.4 | 7.4 | 100.0 | 323 |
| Eastern Cape | 18.8 | 64.8 | 1.4 | 9.6 | 1.8 | 1.8 | 1.8 | 100.0 | 266 |
| Northern Cape | 30.7 | 63.6 | 1.7 | 2.0 | 0.4 | 0.7 | 1.1 | 100.0 | 46 |
| Free State | 15.2 | 76.5 | 0.0 | 1.0 | 0.0 | 0.0 | 7.4 | 100.0 | 130 |
| KwaZulu-Natal | 57.8 | 33.3 | 0.0 | 1.3 | 0.0 | 2.6 | 5.0 | 100.0 | 117 |
| North West | 13.9 | 79.4 | 0.8 | 2.0 | 0.0 | 1.5 | 2.5 | 100.0 | 192 |
| Gauteng | 33.9 | 61.3 | 0.0 | 1.8 | 0.0 | 1.2 | 1.9 | 100.0 | 588 |
| Mpumalanga | 18.1 | 74.4 | 1.4 | 3.4 | 0.0 | 2.7 | 0.0 | 100.0 | 169 |
| Limpopo | 9.0 | 78.6 | 1.8 | 6.3 | 0.0 | 2.1 | 2.2 | 100.0 | 288 |
| Education | | | | | | | | | |
| No education | 18.9 | 56.1 | 1.5 | 11.8 | 0.0 | 5.7 | 6.1 | 100.0 | 95 |
| Grades 1-5 | 10.9 | 62.8 | 2.1 | 12.3 | 1.6 | 6.7 | 3.7 | 100.0 | 150 |
| Grades 6-7 | 24.4 | 62.3 | 1.6 | 4.8 | 1.1 | 2.0 | 3.8 | 100.0 | 219 |
| Grades 8-11 | 21.0 | 71.9 | 0.7 | 2.4 | 0.0 | 0.9 | 3.1 | 100.0 | 990 |
| Grade 12 | 35.8 | 60.6 | 0.2 | 0.9 | 0.0 | 0.2 | 2.3 | 100.0 | 498 |
| Higher | 51.7 | 45.3 | 0.0 | 0.0 | 0.0 | 0.0 | 3.0 | 100.0 | 168 |
| Population group | | | | | | | | | |
| African | 22.5 | 68.3 | 0.8 | 3.8 | 0.3 | 1.7 | 2.7 | 100.0 | 1 773 |
| Afr. urban | 29.7 | 64.3 | 0.1 | 1.8 | 0.0 | 1.3 | 2.8 | 100.0 | 1 094 |
| Afr. non-urban | 10.9 | 74.8 | 1.8 | 6.9 | 0.7 | 2.4 | 2.5 | 100.0 | 678 |
| Coloured | 36.8 | 54.2 | 0.8 | 0.8 | 0.1 | 0.1 | 7.3 | 100.0 | 240 |
| White | 67.9 | 30.4 | 0.0 | 0.0 | 0.0 | 0.0 | 1.7 | 100.0 | 75 |
| Indian | 70.2 | 27.2 | 0.0 | 0.6 | 0.0 | 0.0 | 2.0 | 100.0 | 32 |
| Total | 26.4 | 64.8 | 0.8 | 3.2 | 0.2 | 1.4 | 3.2 | 100.0 | 2 120 |

Table 7.7 shows the trends in reproductive health care by 3 indicators of women's status: the number of decisions in which the woman has the final say, the number of reasons to refuse sex with husband, and the number of reasons for which wife beating is justified. As the reproductive health care indicators are all relatively high, there is not much scope for variations. However, there is a strong trend between the number of reasons that wife beating is justified and receiving post-natal care within 2 days of delivery.

Table 7.7 Reproductive health care by women's status

Percentage of women with a live birth in the five years preceding the survey who received antenatal and postnatal care from a health professional for the most recent birth, and percentage of births in the five years preceding the survey for which mothers received professional delivery care, by women's status indicators, South Africa 2003

| Women's status indicator | Antenatal care | Postnatal care within first two days | Number of women | Delivery care from doctor/nurse/midwife | Number of births |
|---|----------------|--------------------------------------|-----------------|---|------------------|
| Number of decisions in which woman has final say | | | | | |
| 0 | 92.7 | 91.1 | 406 | 91.3 | 450 |
| 1-2 | 90.0 | 91.3 | 685 | 89.1 | 795 |
| 3-4 | 90.0 | 94.2 | 320 | 94.9 | 363 |
| 5 | 93.4 | 90.0 | 448 | 91.8 | 512 |
| Number of reasons to refuse sex with husband | | | | | |
| 0 | 91.2 | 92.5 | 499 | 93.1 | 566 |
| 1-2 | 87.9 | 86.4 | 94 | 89.5 | 111 |
| 3-4 | 93.7 | 88.9 | 187 | 85.0 | 213 |
| 5 | 91.4 | 91.8 | 1 080 | 91.6 | 1 229 |
| Number of reasons wife beating is justified | | | | | |
| 0 | 91.3 | 92.2 | 1 491 | 92.6 | 1 701 |
| 1-2 | 90.5 | 89.3 | 249 | 85.8 | 285 |
| 3-4 | 91.9 | 89.0 | 80 | 82.7 | 88 |
| 5 | 98.1 | 81.5 | 39 | 88.1 | 46 |
| Total | 91.4 | 91.4 | 1 859 | 91.2 | 2 120 |

7.5 Characteristics of Delivery

The 2003 SADHS collected information on several other aspects relating to the delivery of babies, such as whether the delivery was by caesarean section. Questions on birth weight and size of baby at birth were included to estimate the proportion of low birth weight infants. The data show that 21 percent of women in the survey delivered by caesarean section. Eight percent of births weigh less than 2.5kg (Table 7.8). Urban women had more caesarean sections than non-urban women (24 percent versus 15 percent). Women who delivered in the provinces of Gauteng, Western Cape and North West had more caesarean sections and those in Northern Province had the least. As in the 1998 SADHS an extremely high rate of 43 percent was reported by white women (though in this instance it was based on a very small sample size). The proportion of caesarean sections varies from 9 percent in those with grade 1-5 education to 30 percent of women with post-matric levels of education. Information on birth weight was collected in the survey but was not known in one third of the deliveries. From the data that were reported, low birth weight was more common amongst the women who were younger than 20 compared with older women (20 years and above). A higher proportion of first births weigh less than 2.5 kg.

Table 7.8 Delivery characteristic: caesarean section and birth weight, and size of child

Among births in the five years preceding the survey, the percentage of deliveries by caesarean section, and the percentage distribution by birth weight, according to selected background characteristic, South Africa 2003

| Background characteristic | Delivery by C-section | Birth weight | | | Size of child at birth | | | | Total | Number of births |
|------------------------------|-----------------------|------------------|----------------|---------------------------|------------------------|----------------------|-------------------|--------------------|-------|------------------|
| | | Less than 2.5 kg | 2.5 kg or more | Birth weight not provided | Very small | Smaller than average | Average or larger | Don't know/missing | | |
| Mother's age at birth | | | | | | | | | | |
| <20 | 16.2 | 9.0 | 62.2 | 28.8 | 6.7 | 5.4 | 83.9 | 4.0 | 100.0 | 374 |
| 20-34 | 19.1 | 8.8 | 62.2 | 29.0 | 6.1 | 7.5 | 83.0 | 3.5 | 100.0 | 1 405 |
| 35+ | 22.6 | 3.8 | 57.3 | 38.8 | 5.9 | 5.2 | 77.6 | 11.4 | 100.0 | 340 |
| Birth order | | | | | | | | | | |
| 1 | 19.8 | 10.3 | 61.5 | 28.2 | 6.6 | 6.2 | 82.9 | 4.3 | 100.0 | 844 |
| 2-3 | 23.9 | 7.7 | 64.4 | 27.9 | 5.5 | 7.1 | 83.7 | 3.8 | 100.0 | 860 |
| 4-5 | 16.0 | 5.3 | 60.0 | 34.7 | 6.8 | 7.6 | 79.6 | 6.0 | 100.0 | 303 |
| 6+ | 13.9 | 0.7 | 42.3 | 57.0 | 5.8 | 6.0 | 74.0 | 14.2 | 100.0 | 112 |
| Residence | | | | | | | | | | |
| Urban | 23.7 | 9.0 | 59.5 | 31.5 | 6.7 | 6.3 | 82.7 | 4.3 | 100.0 | 1 383 |
| Non-urban | 14.8 | 6.2 | 65.1 | 28.7 | 5.1 | 7.5 | 81.6 | 5.8 | 100.0 | 736 |
| Province | | | | | | | | | | |
| Western Cape | 33.6 | 11.2 | 57.5 | 31.4 | 6.5 | 10.4 | 74.1 | 9.0 | 100.0 | 323 |
| Eastern Cape | 21.8 | 5.3 | 58.0 | 36.7 | 8.0 | 6.6 | 80.6 | 4.8 | 100.0 | 266 |
| Northern Cape | 18.9 | 14.6 | 67.2 | 18.2 | 10.4 | 10.9 | 75.1 | 3.6 | 100.0 | 46 |
| Free State | 15.4 | 6.8 | 61.0 | 32.2 | 4.1 | 7.3 | 78.7 | 9.9 | 100.0 | 130 |
| KwaZulu-Natal | 14.1 | 7.4 | 59.4 | 33.2 | 4.7 | 4.9 | 81.8 | 8.7 | 100.0 | 117 |
| North West | 21.9 | 7.9 | 67.0 | 25.2 | 8.2 | 6.7 | 80.3 | 4.9 | 100.0 | 192 |
| Gauteng | 20.5 | 8.2 | 57.0 | 34.8 | 6.5 | 2.7 | 88.5 | 2.4 | 100.0 | 588 |
| Mpumalanga | 20.4 | 4.8 | 67.0 | 28.2 | 7.1 | 5.9 | 86.3 | 0.7 | 100.0 | 169 |
| Limpopo | 9.7 | 8.4 | 71.3 | 20.4 | 2.4 | 11.3 | 82.3 | 4.0 | 100.0 | 288 |
| Education | | | | | | | | | | |
| No education | 13.3 | 6.2 | 50.1 | 43.7 | 6.2 | 8.9 | 75.1 | 9.7 | 100.0 | 95 |
| Grades 1-5 | 9.4 | 3.6 | 45.5 | 50.9 | 8.2 | 4.9 | 79.6 | 7.4 | 100.0 | 150 |
| Grades 6-7 | 18.7 | 8.7 | 60.6 | 30.8 | 4.2 | 6.4 | 83.3 | 6.1 | 100.0 | 219 |
| Grades 8-11 | 19.5 | 7.2 | 61.5 | 31.4 | 6.5 | 8.1 | 80.6 | 4.9 | 100.0 | 990 |
| Grade 12 | 25.1 | 11.6 | 65.3 | 23.1 | 6.2 | 5.4 | 84.7 | 3.7 | 100.0 | 498 |
| Higher | 30.4 | 6.6 | 71.8 | 21.6 | 5.1 | 3.2 | 90.4 | 1.3 | 100.0 | 168 |
| Population group | | | | | | | | | | |
| African | 18.1 | 7.8 | 60.3 | 31.9 | 6.4 | 5.7 | 83.5 | 4.5 | 100.0 | 1 773 |
| Afr. urban | 21.1 | 8.7 | 56.3 | 35.0 | 7.2 | 4.6 | 83.8 | 4.4 | 100.0 | 1 094 |
| Afr. non-urban | 13.4 | 6.5 | 66.6 | 26.9 | 5.0 | 7.5 | 83.0 | 4.5 | 100.0 | 678 |
| Coloured | 28.4 | 8.4 | 63.5 | 28.1 | 5.2 | 11.0 | 74.7 | 9.1 | 100.0 | 240 |
| Indian | 44.3 | 8.2 | 75.9 | 15.9 | 4.7 | 15.0 | 78.7 | 1.7 | 100.0 | 75 |
| White | 43.1 | 16.0 | 78.5 | 5.5 | 5.2 | 13.8 | 79.0 | 2.0 | 100.0 | 32 |
| Total | 20.6 | 8.0 | 61.4 | 30.5 | 6.2 | 6.7 | 82.3 | 4.8 | 100.0 | 2 120 |

7.6 Immunisation Coverage

Immunisation coverage is a very important indicator of children's access to preventive programmes. Given that the immunisation schedule is used to tag on a number of other preventive programmes and interventions, for example the developmental screening and vitamin A supplementation, immunisation coverage serves as a good proxy indicator of children's access to other preventive programmes. With an ever-increasing curative workload over the past few years, concerns around delivery of preventive programmes are escalating. This is especially in reference to the primary level staff and their ability to seek out and follow up children who should have had immunisations but for one or other reason did not access the programme as has been done by local authority clinics in the past.

The standard indicators for immunisation coverage are measured in the 1 year olds (12-23 months) and are based on a total of 408 children that were included in this age group, 63 percent in the urban

and 47 percent in the non-urban areas. Approximately 52 percent were girls and 48 percent were boys. As mentioned in the introduction, the relatively small number of children included in the survey means that many of the results are problematic when presented by background characteristic due to the small sample size. Furthermore, some of the results for KwaZulu-Natal are anomalous when compared to the 1998 SADHS and as that province has the largest child population in the country, this skews the national averages. Care must therefore be taken when interpreting and using the results on immunisation and other child health indicators.

Table 7.9 shows the vaccination status, based on the road to health card or reported by the mother. A 1 year old child is considered fully immunised if she/he has received a BCG, three doses of DPT and polio vaccine (excluding polio dose given at birth) and a measles vaccine. Of concern is that just more than half (55 percent) of the children in the overall sample have received all their vaccines, as compared to 63 percent in 1998. This significant drop in vaccination coverage compared to the 1998 SADHS occurred in all the vaccinations (Figure 7.1). Data from the Department of Health routine information in the District Health Information System (DHIS) reflects immunisation coverage of 84 percent in 2004 (Barron *et al.*, 2005). Routine immunisation data suggest that countrywide immunisation coverage in 2003 was 75 percent. As different service providers have different ways in which they chart doses, data errors could have occurred if interviewers had not been adequately informed of all the possibilities of charting vaccines administered. However, the discrepancy between the survey and the routine statistics is extremely large and cannot be explained by the methodological differences alone.

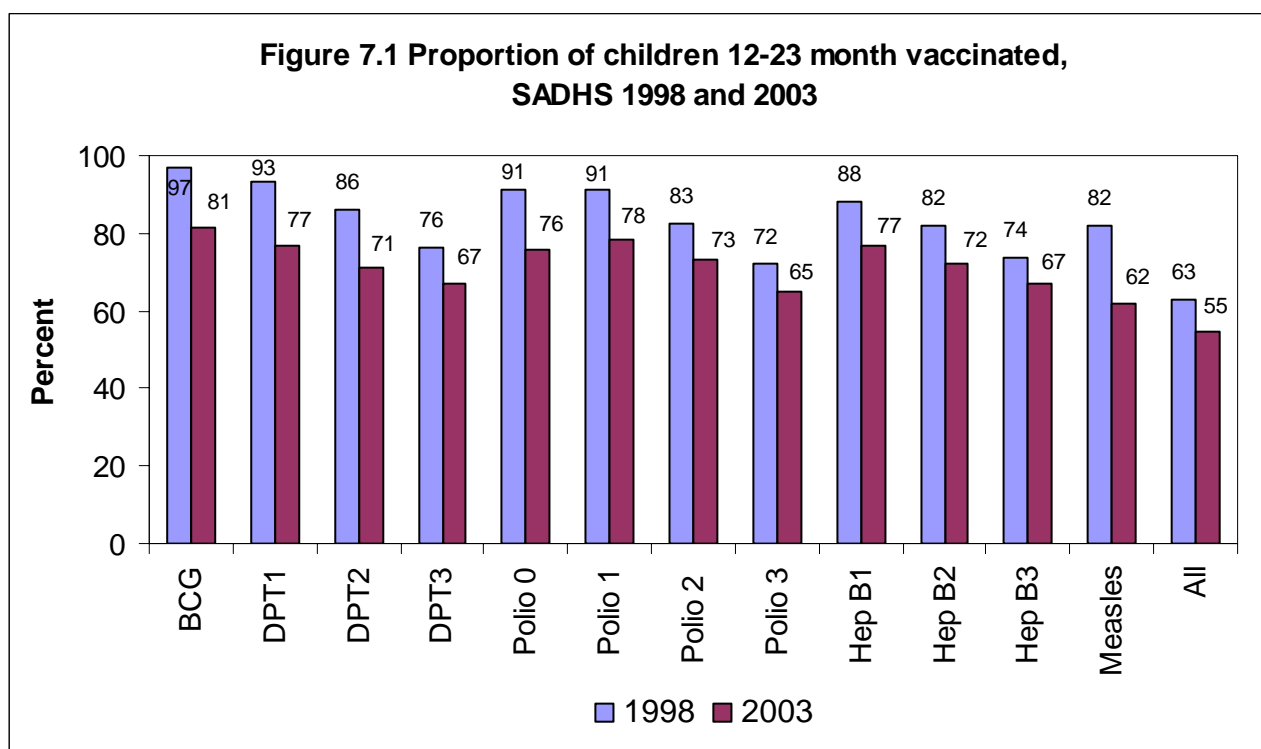


Table 7.9 Vaccination by background characteristics

Among children aged 12-23 months, percentage with health cards seen by interviewer and percentage who received each vaccine by the time of the survey (according to the vaccination card or mother), by selected background characteristic, South Africa 2003

| Background characteristic | DPT | | | Polio 0 ¹ | Polio 1 | Polio 2 | Polio 3 | Hep B1 | Hep B2 | Hep B3 | Measles | All ² | None | Vit A | Health card | Number of children | | |
|---------------------------|--------|--------|--------|----------------------|---------|---------|---------|--------|--------|--------|---------|------------------|--------|--------|-------------|--------------------|-------|----|
| | BCG | 1 | DPT 2 | | | | | | | | | | | | | | DPT 3 | |
| Sex | | | | | | | | | | | | | | | | | | |
| Male | 80.8 | 74.8 | 72.6 | 65.9 | 75.3 | 77.4 | 72.7 | 61.9 | 74.6 | 71.6 | 65.3 | 60.0 | 54.1 | 17.2 | 27.0 | 70.9 | 195 | |
| Female | 81.5 | 78.4 | 72.1 | 65.8 | 76.6 | 80.2 | 74.3 | 66.6 | 78.8 | 72.6 | 68.2 | 63.9 | 55.3 | 16.9 | 30.4 | 71.2 | 212 | |
| Birth order | | | | | | | | | | | | | | | | | | |
| 1 | 82.9 | 75.8 | 72.0 | 67.2 | 79.6 | 77.1 | 73.6 | 67.0 | 74.6 | 72.3 | 67.0 | 68.5 | 58.0 | 14.6 | 35.3 | 71.2 | 176 | |
| 2-3 | 80.7 | 77.9 | 70.3 | 69.2 | 74.3 | 79.9 | 73.9 | 67.7 | 79.5 | 74.7 | 71.4 | 61.2 | 56.2 | 17.6 | 22.0 | 71.8 | 166 | |
| 4-5 | 80.5 | 80.1 | 73.6 | 62.8 | 72.7 | 80.1 | 71.7 | 55.0 | 80.1 | 65.4 | 56.4 | 43.5 | 39.7 | 19.5 | 28.9 | 71.4 | 49 | |
| 6+ | 69.2 | 63.6 | 63.6 | 56.0 | 63.6 | 69.2 | 69.2 | 48.5 | 63.6 | 63.6 | 48.5 | 56.0 | 50.4 | 30.8 | 27.7 | 61.6 | 16 | |
| Residence | | | | | | | | | | | | | | | | | | |
| Urban | 78.1 | 73.9 | 68.9 | 62.5 | 71.6 | 75.2 | 69.8 | 59.7 | 73.9 | 68.5 | 62.5 | 58.8 | 50.9 | 19.3 | 25.0 | 66.5 | 258 | |
| Non-urban | 86.5 | 81.5 | 78.3 | 71.6 | 83.6 | 85.2 | 80.0 | 72.3 | 81.9 | 78.3 | 74.1 | 67.5 | 61.3 | 13.1 | 35.3 | 79.1 | 149 | |
| Province | | | | | | | | | | | | | | | | | | |
| Western Cape | (78.4) | (75.4) | (70.2) | (61.3) | (64.8) | (76.3) | (65.5) | (49.2) | (73.3) | (62.8) | (54.0) | (57.1) | (49.8) | (21.6) | (23.0) | (52.2) | 60 | |
| Eastern Cape | (79.6) | (77.0) | (74.4) | (64.1) | (74.4) | (79.6) | (79.6) | (61.7) | (77.0) | (74.4) | (66.7) | (69.3) | (56.5) | (20.4) | (45.4) | (74.4) | 47 | |
| Northern Cape | 93.4 | 93.4 | 93.4 | 86.8 | 92.1 | 93.4 | 93.4 | 85.5 | 93.4 | 93.4 | 88.8 | 80.6 | 77.3 | 4.6 | 30.4 | 84.7 | 9 | |
| Free State | (83.7) | (75.6) | (70.3) | (68.3) | (77.6) | (81.7) | (72.3) | (69.0) | (79.7) | (76.4) | (72.3) | (66.3) | (54.2) | (16.3) | (27.5) | (70.3) | 29 | |
| KwaZulu-Natal | (78.5) | (73.5) | (61.3) | (55.8) | (78.0) | (61.3) | (56.3) | (55.8) | (68.5) | (56.3) | (55.8) | (59.6) | (47.0) | (21.5) | (38.0) | (55.8) | 25 | |
| North West | 74.1 | 72.0 | 67.7 | 62.9 | 67.7 | 72.0 | 70.5 | 65.1 | 72.0 | 70.3 | 66.8 | 67.2 | 58.2 | 23.8 | 24.1 | 63.8 | 40 | |
| Gauteng | (73.0) | (67.2) | (62.1) | (53.4) | (70.1) | (70.1) | (65.0) | (56.3) | (67.2) | (62.1) | (56.3) | (48.4) | (42.6) | (21.2) | (11.5) | (72.7) | 101 | |
| Mpumalanga | 95.1 | 96.6 | 96.6 | 92.5 | 91.0 | 96.6 | 96.6 | 81.8 | 96.6 | 96.6 | 90.5 | 78.4 | 74.8 | 3.4 | 42.9 | 77.7 | 33 | |
| Limpopo | 92.9 | 84.4 | 81.5 | 78.7 | 90.1 | 92.9 | 84.4 | 81.5 | 87.2 | 84.4 | 81.5 | 67.3 | 64.5 | 7.1 | 41.3 | 88.9 | 65 | |
| Education | | | | | | | | | | | | | | | | | | |
| None - Grade 7 | 88.5 | 88.0 | 74.6 | 68.4 | 87.1 | 88.7 | 74.2 | 66.2 | 88.7 | 75.7 | 68.4 | 67.3 | 57.5 | 11.3 | 30.8 | 82.9 | 76 | |
| Grades 8-11 | 80.9 | 75.6 | 73.1 | 69.6 | 74.5 | 78.2 | 75.4 | 69.8 | 76.5 | 72.5 | 68.6 | 60.3 | 54.6 | 18.9 | 30.8 | 71.1 | 203 | |
| Grade 12+ | 77.3 | 71.7 | 66.2 | 62.2 | 71.8 | 72.2 | 69.6 | 57.0 | 70.3 | 69.4 | 62.9 | 61.7 | 53.4 | 17.6 | 24.4 | 64.0 | 129 | |
| Population group | | | | | | | | | | | | | | | | | | |
| African | 81.6 | 76.5 | 71.5 | 65.7 | 76.7 | 78.9 | 73.7 | 64.2 | 77.0 | 72.0 | 66.9 | 62.3 | 54.7 | 16.4 | 29.4 | 72.7 | 354 | |
| Afr. urban | 77.6 | 72.8 | 66.7 | 61.1 | 71.6 | 74.2 | 68.5 | 58.0 | 72.7 | 67.0 | 61.3 | 58.9 | 50.0 | 19.2 | 24.8 | 67.5 | 214 | |
| Afr. non-urban | 87.6 | 82.2 | 78.9 | 72.7 | 84.6 | 86.2 | 81.5 | 73.6 | 83.6 | 79.7 | 75.4 | 67.5 | 61.9 | 12.0 | 36.5 | 80.7 | 140 | |
| Coloured | 79.7 | 79.2 | 79.2 | 64.1 | 69.6 | 79.2 | 71.7 | 63.8 | 75.9 | 71.7 | 64.6 | 64.2 | 56.8 | 20.3 | 25.6 | 61.3 | 38 | |
| White | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * | 8 |
| Indian | (64.6) | (61.9) | (61.9) | (60.1) | (62.8) | (64.6) | (61.9) | (60.1) | (61.9) | (61.9) | (60.1) | (54.2) | (52.4) | (35.5) | (27.4) | (58.8) | 7 | |
| Live with whom | | | | | | | | | | | | | | | | | | |
| Respondent | 82.7 | 78.8 | 73.1 | 69.6 | 77.7 | 80.2 | 75.3 | 68.0 | 79.1 | 74.1 | 69.4 | 63.9 | 56.7 | 15.4 | 29.2 | 73.6 | 385 | |
| Elsewhere | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * | 23 |
| All children | 81.2 | 76.7 | 71.2 | 67.0 | 76.0 | 78.3 | 73.4 | 65.1 | 76.8 | 72.1 | 66.8 | 62.0 | 54.7 | 17.0 | 28.8 | 71.1 | 408 | |
| Additional children | (67.9) | (40.4) | (44.6) | (61.8) | (48.5) | (48.5) | (56.8) | (43.7) | (42.6) | (43.1) | (60.3) | (58.0) | (48.6) | (32.1) | (34.3) | (42.6) | 45 | |

¹ Polio 0 is the polio vaccination given at birth.

² BCG, measles and three doses each of DPT and polio vaccine (excluding polio vaccine given at birth).

Note: Figures in parentheses are based on 25-49 unweighted cases. An asterisk indicates a figure is based on fewer than 25 respondents, and has been suppressed.

Differentials may be difficult to interpret as a result of small sample of children

The percentage of children who received no vaccination at all has increased substantially from 2.6 percent in 1998, to 17 percent in 2003. It must be borne in mind that this survey included only 408 children. However, if correct, this statistic is most concerning, as it indicates that nearly a fifth of all children are unprotected from serious childhood infections. This is especially of concern in the context of large-scale child poverty and ever-increasing numbers of children infected and affected by the HIV-pandemic.

The BCG vaccine coverage, this being given at birth, has the highest coverage of 81 percent. This percentage was 97 percent in 1998. This decline is puzzling as there has been an increase in the proportion of births that occurred in facilities when compared with 1998. It would suggest that either the neonatal provision of BCG has declined substantially or that there is a problem in the quality of the collected data. It may suggest that children born outside of health facilities are not getting adequate neonatal follow-up care or children born in private sector facilities may not be getting the birth dose of the immunisation against BCG.

Table 7.9 shows that vaccine coverage drops very steadily from birth with DPT3 coverage being 67 percent, Polio 3 being 65 percent, measles being 62 percent. Hep B3, being one of the most recently introduced vaccines is at 67 percent. This is a typical pattern that was also observed in the 1998 SADHS.

Vitamin A supplementation was introduced in Primary Health Care Services in 2002. The survey shows that by 2003, the availability and implementation of Vitamin A supplementation was not yet adequate, given that only 28.8 percent of children received it. This finding is in keeping with results from a rapid assessment done by Giese and Hussey (2002) that found only 35 percent of clinics reported that they routinely administered Vitamin A supplementation to children.

Disaggregating the data by different characteristics of the child population is vital to identify particular sub-groups that may be at a greater disadvantage in terms of their ability to access the immunisation programme. Table 7.9 shows that the proportion of African children who received no immunisation coverage at all was higher in the urban areas (19 percent) compared to the non-urban areas (13 percent). This is contrary to the 1998 result where coverage in urban and non-urban areas was quite similar. This may be due to the burgeoning informal settlements on the fringes of urban areas, where health services are not adequately established and where population mobility is high. The sample size for children in other population groups was too small to comment on.

Immunisation coverage for girls and boys are roughly equal. Immunisation coverage between provinces differs quite significantly for the different vaccines. However, given the relatively small sample size, it is difficult to interpret these variations. Interestingly the group where mothers had no education had consistently higher levels of vaccine coverage for all vaccines except measles. This may point to the trend where middle and upper class families opt not to vaccinate, or start to vaccinate their children much later, for fear of vaccine side effects.

The data do not allow any differentiation in immunisation coverage between socio-economic groups to be made. Although the vaccine coverage of the children who did not live with the respondent is based on a very small group, the contrast of 22 percent fully immunised compared to 57 percent for children living with the respondent, suggests that children who do not live with their primary caregiver (the respondent in this instance) are at a greater disadvantage when it comes to having access to basic health care. This is a group worthy of special attention by primary level health services in particular and demands further exploration, especially in the light of high urban-rural mobility and growing number of children with ill and dying primary caregivers.

The proportion of children for whom a Road-to-Health card was seen was quite similar in both surveys (75 percent in 1998 and 71 percent in 2003). In 2003, a further 22 percent of children had a Road-to-Health card but it was not seen by the interviewer. About 30 percent of the information on vaccination status was obtained from the caregiver's report rather than by observing the Road-to-Health card. Nearly 5 percent had lost the card and just under 1 percent had never had a card. Table 7.10 shows the proportion of children 12-23 months old who received specific vaccinations according to the source of the information.

Only 4 percent of children for whom the card was not seen were reported to be fully immunised and this group also accounts for all the children who have no vaccinations at all. These results either indicate that mothers are not aware of their child's vaccination status or that this group of children, who did not access health care services and therefore do not have a card, are not accessing preventive services.

Figure 7.2 Proportion of children 12-23 months with health card, all vaccinations and none, SADHS 2003

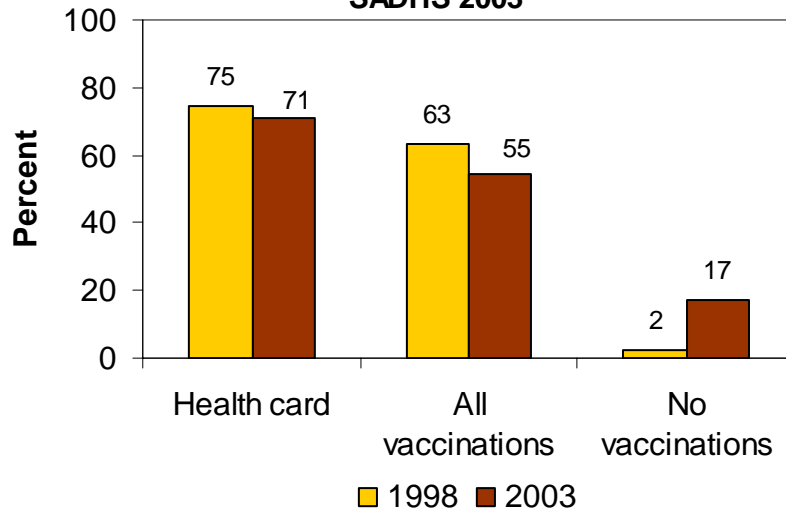


Table 7.10 Vaccinations by source of information

Percentage of children aged 12-23 months who received specific vaccines at any time before the survey, by source of information (vaccination card or mother's report), and percentage vaccinated by 12 months of age, South Africa 2003

| Source of information | BCG | DPT 1 | DPT 2 | DPT 3 | Polio 0 ¹ | Polio 1 | Polio 2 | Polio 3 | Hep B1 | Hep B2 | Hep B3 | Measles | All ² | None | Vit A | Number of children |
|---|------|-------|-------|-------|----------------------|---------|---------|---------|--------|--------|--------|---------|------------------|------|-------|--------------------|
| Vaccinated at any time before survey | | | | | | | | | | | | | | | | |
| Vaccination card | 71.0 | 67.6 | 63.6 | 61.1 | 69.5 | 69.5 | 67.0 | 63.0 | 68.4 | 66.3 | 62.7 | 55.6 | 50.8 | 0.0 | 22.2 | 290 |
| Mother's report ³ | 10.2 | 9.1 | 7.6 | 5.9 | 6.5 | 8.8 | 6.3 | 2.1 | 8.4 | 5.8 | 4.1 | 6.4 | 4.0 | 17.0 | 6.6 | 118 |
| Either source | 81.2 | 76.7 | 71.2 | 67.0 | 76.0 | 78.3 | 73.3 | 65.1 | 76.8 | 72.1 | 66.8 | 62.0 | 54.7 | 17.0 | 28.8 | 408 |
| Vaccinated by 12 months of age | 81.2 | 66.9 | 57.4 | 49.9 | 76.0 | 69.2 | 58.7 | 49.9 | 67.9 | 56.3 | 49.0 | 22.3 | 18.5 | 17.2 | 10.4 | 408 |

¹Polio 0 is the polio vaccination given at birth.

²BCG, measles and three doses each of DPT and polio vaccine (excluding polio vaccine given at birth).

³For children whose information was based on the mother's report, the proportion of vaccinations given during the first year of life was assumed to be the same as for children with a written record of vaccination.

7.7 Prevalence and Treatment of Diarrhoeal Disease

7.7.1 Prevalence

The diarrhoeal prevalence and treatment of children has been obtained through self-reporting by mothers and caregivers, with no further triangulation from health service providers. Perceptions of what diarrhoea is and how serious the illness is might thus be influenced by the mother's knowledge and experience with the disease. It also does not give an idea of what the aetiology of the diarrhoea might be.

| Table 7.11 Prevalence of diarrhoea | | |
|---|-----------|--------------------|
| Percentage of children under five years of age with diarrhoea during the two weeks preceding the survey, by selected background characteristic, South Africa 2003 | | |
| Background characteristic | Diarrhoea | Number of children |
| Child's age | | |
| <6 months | 6.7 | 194 |
| 6-11 months | 18.1 | 229 |
| 12-23 months | 12.6 | 408 |
| 24-35 months | 4.2 | 394 |
| 36-47 months | 6.5 | 392 |
| 48-59 months | 3.0 | 400 |
| Child's sex | | |
| Male | 8.4 | 992 |
| Female | 7.5 | 1 024 |
| Birth order | | |
| 1 | 9.6 | 725 |
| 2-3 | 7.8 | 741 |
| 4-5 | 8.4 | 262 |
| 6+ | 6.4 | 83 |
| Residence | | |
| Urban | 7.5 | 1 322 |
| Non-urban | 8.7 | 694 |
| Province | | |
| Western Cape | 13.2 | 306 |
| Eastern Cape | 8.8 | 246 |
| Northern Cape | 15.6 | 45 |
| Free State | 16.7 | 121 |
| KwaZulu-Natal | 0.9 | 114 |
| North West | 7.2 | 183 |
| Gauteng | 3.9 | 563 |
| Mpumalanga | 6.8 | 164 |
| Limpopo | 8.4 | 274 |
| Mothers's education | | |
| No education | 14.1 | 90 |
| Grades 1-5 | 3.2 | 135 |
| Grades 6-7 | 13.2 | 209 |
| Grades 8-11 | 7.7 | 936 |
| Grade 12 | 6.4 | 479 |
| Higher | 7.2 | 166 |
| Population group | | |
| African | 7.8 | 1 686 |
| Afr. urban | 7.6 | 1 041 |
| Afr. non-urban | 8.0 | 645 |
| Coloured | 10.4 | 223 |
| White | 5.4 | 75 |
| Indian | 4.1 | 31 |
| Total | 7.9 | 2 016 |

Results for KwaZulu-Natal are anomalous and may influence the other estimates. See text for details.

The prevalence of diarrhoea during the preceding two-week period is shown in Table 7.11. Comparisons cannot be made easily with the 1998 SADHS, as the two surveys were performed at very different times of the year. The 2003 survey was done just outside the peak diarrhoeal season, which generally starts in February. If the survey were done a month or two later, prevalence may have been quite different. Nevertheless, the results do yield some interesting findings. Overall the prevalence of diarrhoea is lower in 2003 than in 1998 (8 percent and 13 percent respectively). By age group, the highest prevalence reported for diarrhoeal disease in 2003 is 18 percent in the age group six to eleven months, followed by the age group 12 to 23 months with 13 percent (Table 7.11). In 1998, the prevalence showed a peak in the 12-23 month age group, suggesting that there may have been a shift in the age distribution towards younger ages. As in 1998, males and females have similar prevalences of 8.4 and 7.5 percent respectively. Prevalences in the urban and non-urban areas are similar with figures of 7.5 and 8.7 percent respectively while in 1998, the prevalence in the non-urban areas was somewhat higher than in the urban areas. The provincial breakdown for prevalence of diarrhoea is difficult to interpret. The pattern is very different from that observed in 1998. KwaZulu-Natal, the province with the highest prevalence of HIV among pregnant women, and with large numbers of children living in rural parts of the province, has an implausibly low prevalence. It should be noted that the data for this province, having the largest number of children would also influence the national estimate.

7.7.2 Knowledge and treatment of diarrhoea

Table 7.12, depicting the mother or care-giver's knowledge of diarrhoea treatment, shows that only a third of respondents whose child had diarrhoea in the preceding two weeks knew about the oral rehydration packet for the treatment of diarrhoea. This percentage is consistent between urban and non-urban areas, between different population groups and fluctuates between 20 and 45 percent across different age groups for children and across provinces.

| Table 7.12 Knowledge of diarrhoea care | | |
|---|---|-----------------|
| Percentage of women with births in the five years preceding the survey who know about oral rehydration packets for treatment of diarrhoea according to selected background characteristic South Africa 2003 | | |
| Background characteristic | Know about oral rehydration packet for treatment of diarrhoea | Number of women |
| Age | | |
| 15-19 | 25.9 | 133 |
| 20-24 | 34.3 | 473 |
| 25-29 | 32.8 | 441 |
| 30-34 | 30.6 | 373 |
| 35-49 | 36.5 | 438 |
| Residence | | |
| Urban | 33.4 | 1 219 |
| Non-urban | 32.5 | 640 |
| Province | | |
| Western Cape | 25.7 | 275 |
| Eastern Cape | 39.7 | 225 |
| Northern Cape | 51.2 | 41 |
| Free State | 39.7 | 117 |
| KwaZulu-Natal | 35.9 | 107 |
| North West | 44.8 | 173 |
| Gauteng | 27.9 | 515 |
| Mpumalanga | 45.8 | 144 |
| Limpopo | 23.9 | 261 |
| Education | | |
| No education | 19.3 | 82 |
| Grades 1-5 | 39.5 | 116 |
| Grades 6-7 | 33.8 | 202 |
| Grades 8-11 | 32.5 | 866 |
| Grade 12 | 32.0 | 441 |
| Higher | 41.4 | 152 |
| Population group | | |
| African | 33.4 | 1 566 |
| Afr. urban | 33.2 | 969 |
| Afr. non-urban | 33.7 | 597 |
| Coloured | 30.3 | 202 |
| White | 33.1 | 64 |
| Indian | 39.3 | 26 |
| Total | 33.1 | 1 859 |

Note: 1 case with population group unknown.

Although the survey did not include a question about knowledge of homemade sugar and salt solution, it can be seen from Table 7.13 that home solution is given more often in younger compared to older children, with the majority of children older than two years receiving the ORS packets. Children younger than 11 months of age are taken to health facilities more often (61 percent) compared to older children. This practise is more frequent in the urban (60 percent) versus the non-urban areas (48 percent) – the most likely explanation for this geographical variation being availability, distance and transport costs in getting to health facilities (Table 7.13). A significant finding, albeit an expected one, is the notable difference in knowledge between respondents with no education at all (19 percent) and those with education higher than grade 12 (41 percent). The global emphasis on educating women is especially valid in relation to improving child health.

Table 7.13 Treatment of diarrhoea

Among children under five years who had diarrhoea in the two weeks preceding the survey, the percentage taken for treatment to a health facility or provider, the percentage who received oral rehydration therapy (ORT) (either an oral rehydration solution (ORS) made form a packet, a home-made solution (HS), or increased fluids), the percentage received no form of ORT and the percentage given other treatments, according to selected background characteristic, South Africa 2003

| Background characteristic | Percentage taken to a health facility of provider | Oral rehydration therapy (ORT) | | | | | No oral rehydration therapy | | | | Number with diarrhoea | |
|---------------------------|---|--------------------------------|-------------|------------------|------------------|---------------------|-----------------------------|------------|------------------|-------------------|-----------------------|--------------|
| | | ORS packets | HS at home | Either ORS or HS | Increased fluids | Did not receive ORT | Pills/syrup | Injection | Intravenous drip | Home remedy/herbs | | No treatment |
| Child's age | | | | | | | | | | | | |
| 0-11 months | 61.4 | 28.4 | 38.1 | 54.6 | 21.6 | 35.7 | 25.6 | 3.5 | 1.1 | 4.1 | 63.8 | 54 |
| 12-23 months | 55.8 | 42.8 | 49.3 | 68.1 | 29.7 | 28.0 | 15.1 | 0.0 | 2.9 | 5.4 | 67.0 | 51 |
| 24+ months | 49.8 | 42.1 | 32.9 | 66.5 | 20.9 | 28.6 | 18.3 | 1.9 | 2.5 | 10.0 | 51.2 | 54 |
| Child's sex | | | | | | | | | | | | |
| Male | 54.7 | 38.4 | 41.3 | 65.1 | 23.6 | 26.3 | 15.7 | 0.0 | 2.3 | 4.0 | 66.0 | 83 |
| Female | 56.7 | 36.8 | 38.5 | 60.6 | 24.4 | 35.7 | 24.2 | 3.7 | 2.0 | 9.1 | 55.2 | 76 |
| Residence | | | | | | | | | | | | |
| Urban | 60.3 | 41.1 | 41.9 | 62.3 | 21.1 | 31.9 | 18.7 | 0.0 | 1.9 | 6.2 | 63.1 | 99 |
| Non-urban | 48.2 | 32.0 | 36.8 | 64.0 | 28.7 | 29.0 | 21.4 | 4.7 | 2.6 | 6.9 | 57.0 | 60 |
| Total | 55.7 | 40.0 | 37.6 | 63.0 | 24.0 | 30.8 | 19.8 | 1.8 | 2.2 | 6.4 | 60.8 | 159 |

Table 7.14 Feeding practices during diarrhoea

Percentage distribution of children under five years who had diarrhoea in the two weeks preceding the survey by amount of fluids and solid foods given compared with normal practices, South Africa 2003

| Feeding practice | Total |
|--------------------------------------|-------|
| Increase or decrease fluids | |
| Same as usual | 32.4 |
| More | 24.0 |
| Somewhat less | 8.9 |
| Much less | 18.9 |
| None | 10.8 |
| Missing/Don't know | 5.1 |
| Increase or decrease in foods | |
| Same as usual | 33.9 |
| More | 11.8 |
| Somewhat less | 11.4 |
| Much less | 23.6 |
| None | 8.6 |
| Never gave food | 4.2 |
| Missing/Don't know | 6.3 |
| Total | 100.0 |
| Number of children | 159 |

Table 7.14 shows the distribution of feeding practices for children who had diarrhoea in the preceding two weeks. Only a quarter of respondents indicated that an increased amount of fluid was given to the child. This is a worrying observation, as it is somewhat lower than the 57 percent in the 1998 SADHS. Similarly, 35 percent indicated that less food was given to the child compared to 53 percent in the previous survey.

7.8 Prevalence of Acute Respiratory Infections (ARI) and Fever

Prevalence of ARI was estimated in the 2003 survey by asking mothers if their children under age five had been coughing accompanied by short, rapid breathing during the two weeks preceding the survey. In addition, mothers were asked whether their child had a fever in the preceding two weeks. Mothers whose children had experienced these symptoms were asked what they had done to treat the illness. The results are presented in Table 7.15.

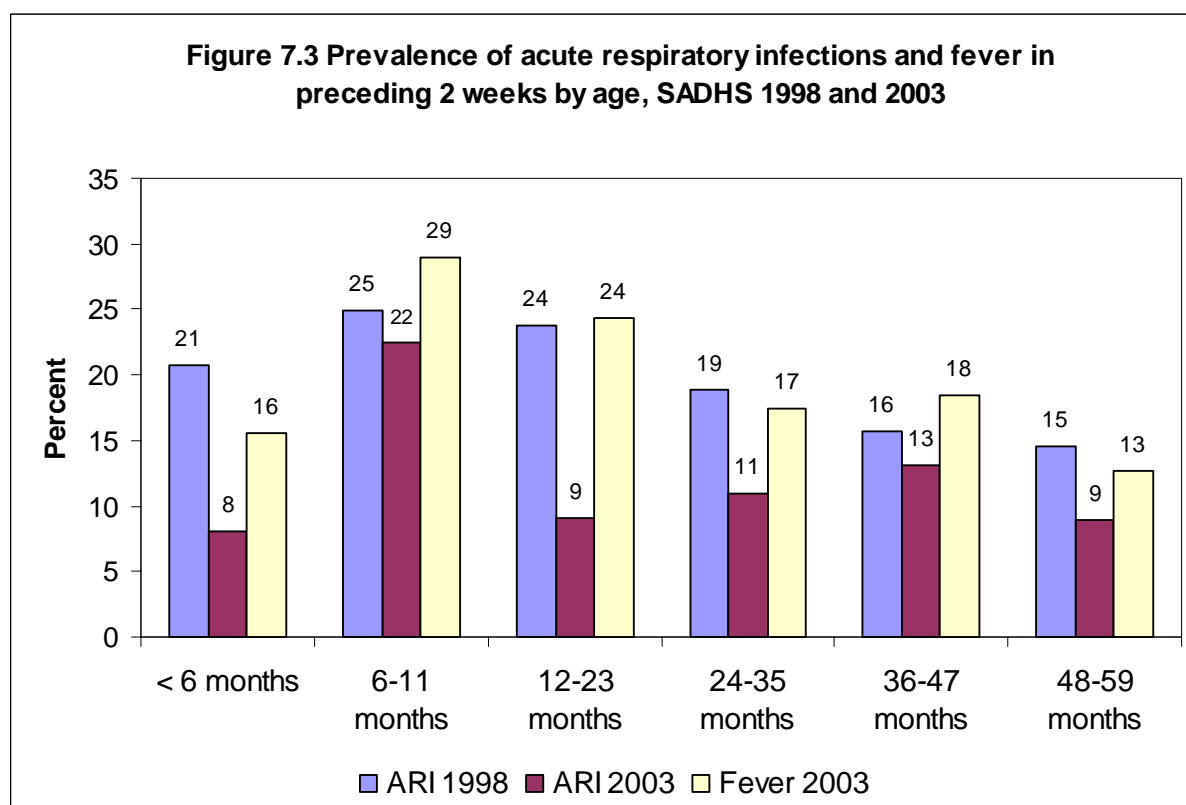
Table 7.15 Prevalence and treatment of symptoms of ARI and fever

Percentage of children under five years who were ill with a cough accompanied by short, rapid breathing (symptoms of ARI) and percentage who had a fever during the two weeks preceding the survey, the percentage with fever during the two weeks preceding the survey and the percentage ill children taken to a health facility or provider, according to socio-demographic characteristic, South Africa 2003

| Background characteristic | Percentage of children with cough accompanied by fast breathing (ARI) | Percentage of children with fever | Number of children | Percentage taken to a health facility/provider | Number of children with ARI or fever |
|---------------------------|---|-----------------------------------|--------------------|--|--------------------------------------|
| Child's age | | | | | |
| <6 months | 8.1 | 15.5 | 194 | 52.4 | 34 |
| 6-11 months | 22.4 | 28.9 | 229 | 70.9 | 79 |
| 12-23 months | 9.1 | 24.3 | 408 | 69.2 | 108 |
| 24-35 months | 11.0 | 17.4 | 394 | 63.3 | 84 |
| 36-47 months | 13.1 | 18.4 | 392 | 56.8 | 94 |
| 48-59 months | 9.0 | 12.7 | 400 | 69.8 | 66 |
| Child's sex | | | | | |
| Male | 11.4 | 19.6 | 992 | 63.8 | 235 |
| Female | 11.9 | 18.7 | 1 024 | 65.8 | 230 |
| Birth order | | | | | |
| 1 | 11.5 | 19.7 | 813 | 75.1 | 94 |
| 2-3 | 11.6 | 19.4 | 820 | 70.7 | 95 |
| 4-5 | 13.3 | 18.3 | 288 | 90.1 | 38 |
| 6+ | 8.2 | 15.7 | 95 | 54.7 | 8 |
| Residence | | | | | |
| Urban | 10.6 | 18.6 | 1 322 | 64.7 | 287 |
| Non-urban | 13.6 | 20.3 | 694 | 64.9 | 178 |
| Province | | | | | |
| Western Cape | 12.0 | 23.5 | 306 | 69.9 | 82 |
| Eastern Cape | 13.6 | 29.7 | 246 | 53.3 | 83 |
| Northern Cape | 6.3 | 18.1 | 45 | 69.5 | 9 |
| Free State | 15.0 | 19.9 | 121 | 62.4 | 30 |
| KwaZulu-Natal | 8.4 | 19.8 | 114 | 77.9 | 25 |
| North West | 9.0 | 19.2 | 183 | 61.0 | 42 |
| Gauteng | 10.4 | 12.3 | 563 | 56.5 | 88 |
| Mpumalanga | 14.1 | 16.8 | 164 | 83.8 | 38 |
| Limpopo | 13.1 | 20.0 | 274 | 70.9 | 67 |
| Education | | | | | |
| No education | 11.8 | 14.8 | 90 | 82.0 | 14 |
| Grades 1-5 | 10.0 | 13.5 | 135 | 74.8 | 26 |
| Grades 6-7 | 13.6 | 22.7 | 209 | 56.4 | 56 |
| Grades 8-11 | 11.3 | 18.9 | 936 | 62.9 | 208 |
| Grade 12 | 11.5 | 20.3 | 479 | 65.7 | 121 |
| Higher | 12.3 | 19.9 | 166 | 70.6 | 39 |
| Population group | | | | | |
| African | 11.7 | 19.7 | 1 686 | 66.1 | 393 |
| Afr. urban | 10.5 | 19.2 | 1 041 | 66.6 | 226 |
| Afr. non-urban | 13.7 | 20.6 | 645 | 65.4 | 167 |
| Coloured | 11.6 | 19.5 | 223 | 63.3 | 52 |
| White | 11.8 | 6.2 | 75 | 35.4 | 13 |
| Indian | 6.3 | 18.1 | 31 | 57.9 | 6 |
| Total | 11.6 | 19.2 | 2 016 | 64.8 | 465 |

Results show that a high proportion of children in the 6-11 month age group had a bout of ARI, i.e. 22 percent and the prevalence in this age group was significantly higher than in any other age group. This age group also had the highest prevalence of diarrhoeal disease, indicating the need to focus on the health of very young children within health services. Relatively low rates in subsequent four years were found, namely between 9 percent and 13 percent. The questions asked in the 2003 survey were slightly different from those in the 1998 survey, making direct comparison difficult. In the 1998 survey, the questions did not distinguish fever from coughing. However, the age pattern in 2003 displays a different picture to the 1998 survey where the relative difference in prevalence between age groups was very

small and a more gradual decrease in prevalence was noted from the younger age group to the four to five year olds (Figure 7.3).



There were no striking differentials in ARI prevalence rates by sex, birth order, urban versus non-urban residence or population group. Interestingly, the second lowest prevalence occurred in KwaZulu-Natal (8.4 percent) whilst this province had the highest prevalence rate in 1998 (26 percent). The decline in prevalence is more likely to be an error than a real decrease. Maternal educational status does not appear to be related to ARI prevalence rates.

From Table 7.13, it can be seen that health care was sought for two thirds of the children who were sick with a cough or fever, which was slightly lower than the 75 percent of children ill with ARI reported in 1998 SADHS. It is difficult to interpret these results as the difference may be a result of the change in questionnaire. Furthermore, it is also not necessarily appropriate that children with fever only be taken to the health facility. Additional information would be required to assess this.

7.9 Injuries

Injuries are the commonest causes of death in children after the age of 5. Understanding the underlying causes and contributory factors is essential in the planning of appropriate and effective interventions, many such interventions falling outside the domain of the health sector.

Intentional injuries in the form of inter-personal violence are commonest in adolescent boys between the ages of 5 and 19, firearms being the most common mechanism. Accidental injuries are commoner in the younger children and girls.

The data does not allow for any comment on the cause of injuries. A total of 21 injuries in the previous months were recorded among the 2 557 children aged 0-4 years, which is an overall

rate of 973 injuries per 100 000 population (95% CI: 572 – 1 355 per 100 000 population). The cause of injury was unspecified in 51 percent of these cases, making it difficult to assess the causes.

In the 5-14 year age group the annual injury rate for children requiring medical treatment was 1 611 per 100 000 population among male children (95% CI: 502 – 1 075 per 100 000 population) and 788 per 100 000 population among female children (95% CI: 502 – 1 075 per 100 000 population).

The rates for all the age groups have increased substantially compared to the 1998 survey as shown in Figure 7.4. It shows a near doubling of the injury rates in the 5-9 and 10-14 year old age groups. This disturbing trend concurs with the perceived increase in accidents and incidents of violence against children over the past few years.

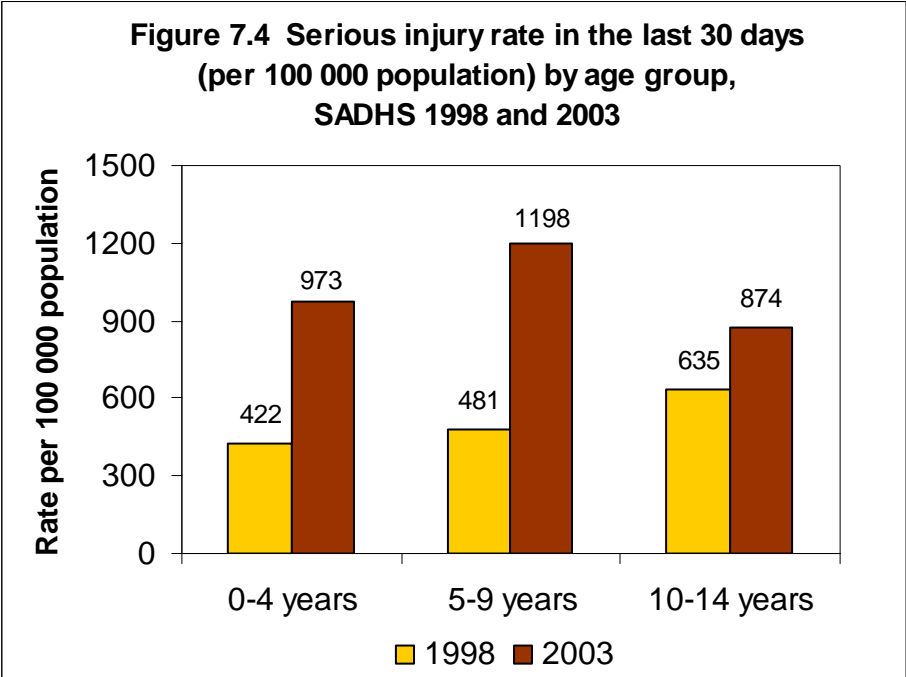
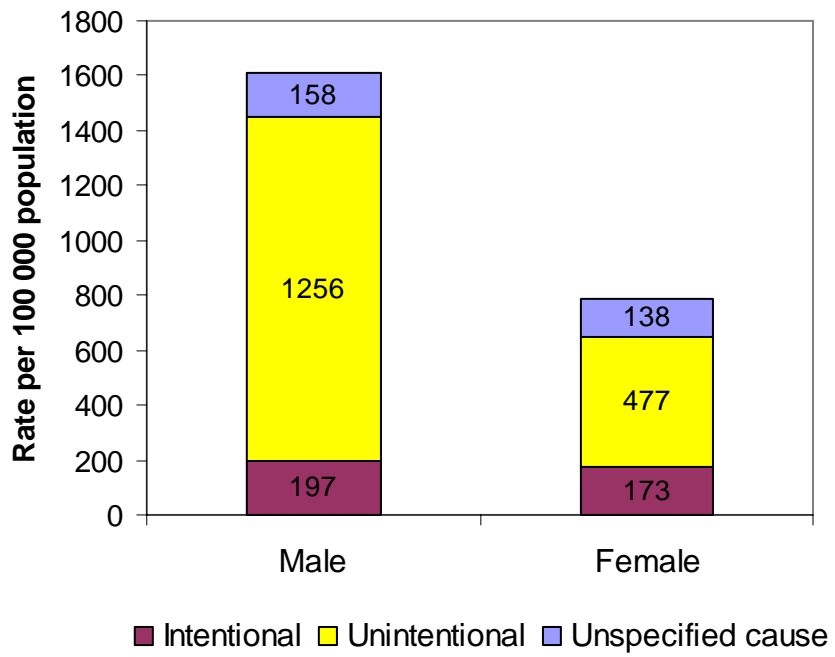


Figure 7.5 shows the rates for unintentional injuries (or accidents) such as burns, falls, motor collisions or sports injuries and for intentional injuries for children age 5-14 years. Unintentional injuries were the cause of most injuries and male children were particularly vulnerable. Falls and burns were important contributors to the younger children between 5 and 9 years of age, whereas sports and traffic-related injuries were more frequent among children aged 10 to 14 years.

**Figure 7.5 Serious injury rate in last 30 days
(per 100 000) by cause and sex
among children aged 5-14 years, SADHS 2003**



CHAPTER 8

INFANT AND CHILD FEEDING PRACTICES

8.1 Introduction

This chapter focuses upon infant feeding and nutritional status of children. Since breastfeeding remains one of the most important health interventions in child health, it is described in detail. Breastfeeding makes a major contribution to child health by protecting infants from morbidity and mortality associated with common infectious diseases. According to scientific evidence, exclusive breastfeeding reduced under-five mortality by 13 percent (Jones *et al.*, 2003). A WHO pooled analysis of studies found that compared with infants who are exclusively breastfed infants aged 0-5 months who are not breastfed have six-fold and two-and-a-half-fold increased risks of death from diarrhea and pneumonia respectively (WHO Collaborative Study Team, 2000). A recent study that assessed the impact of breastfeeding by women infected with HIV concluded that breastfeeding significantly reduced mortality among their children and was not associated with increased morbidity or mortality among the women (Taha *et al.*, 2006). This finding was based on the pooled analysis of 2000 HIV infected women enrolled in two trials conducted in Malawi.

Breastfeeding also provides a number of social, psychological, family spacing and economic benefits to both mother and baby. These advantages remain even in better off urban settings. Studies from urban settings in other middle-income countries such as Brazil (Victora *et al.*, 1996) and Malaysia (Habicht *et al.*, 1996) have found that breastfeeding provides a great deal of protection against infection and mortality of young children. Studies from Europe and the United States have found that even in very well resourced settings infants who are breastfed are less likely to have common infections such as ear infections and show better cognitive and motor development than infants who have not been breastfed.

It is important to stress that there is a dose response relationship between the amount of breastfeeding and the benefits. So exclusive breastfeeding (i.e. giving no other fluids or solids, not even water) has a significantly greater impact than mixed feeding. However, in some settings in South Africa, especially in hospitals, it is common practice to give babies other substances to drink within the first days of life. When such fluids are given before lactation is established, they are known as prelacteal feeds (PLF). PLF result in the baby receiving insufficient breast milk and may lead to lactation failure, diarrhoea and shortening of the duration of breast-feeding (Blomquist *et al.*, 1994; Hossain *et al.*, 1995). It is for these reasons that UNICEF/ WHO discourage the use of PLF unless medically indicated (WHO-UNICEF, 1990).

Results from a recent large study in Ghana found that late initiation (after day 1) of breastfeeding was associated with a 2.4-fold increase in risk of neonatal death. The authors calculate that 16 percent of neonatal deaths could be saved if all infants were breastfed from day 1 and 22 percent if breastfeeding started within the first hour (Edmond *et al.*, 2006).

The discovery that HIV is present in breastmilk and that HIV can be transmitted to the baby via breastfeeding has led to a modification of the previous message that all women should exclusively breastfeed. Further research has shown that, on average, about 7 percent of babies born to HIV-infected mothers will become infected if they are mixed breastfed for 12 months. High maternal HIV viral load, sero-conversion during lactation, evidence of immune suppression, increased viral load in breast milk, breast pathologies and pattern of feeding are all important risk factors for increased risk of transmission through breastfeeding. Recently, a study in Zimbabwe reported that the risk of postnatal transmission by mothers who exclusively breastfed for at least 3 months, i.e. gave no other fluids, milks or solids, was reduced by 61 percent compared with the risk associated

with mixed breastfeeding. This confirms the findings from an earlier study in Durban. The present National Department of Health guidelines are adapted from WHO/UNICEF guidelines that state that women known to be HIV positive should avoid all breastfeeding if replacement feeding is acceptable, feasible, affordable, sustainable and safe. Otherwise exclusive breastfeeding for the first months of life is recommended followed by early breastfeeding cessation as soon as feasible, when conditions for safe replacement feeding can be met.

8.2 Initiation of Breastfeeding

The majority of babies (82 percent) are breastfed for at least some period (Table 8.1). However this is lower than the 87 percent reported in the 1998 survey. On the other hand, the 2003 survey found a higher proportion of mothers had initiated breastfeeding within one hour of birth (61 percent compared with 45 percent).

Table 8.1 Initial breastfeeding

Percentage of children born in the five years preceding the survey who were ever breastfed, and among children ever breastfed, percentage who started breastfeeding within one hour and within one day of birth and percentage who received prelacteal feed, by selected background characteristics, South Africa 2003

| Background characteristic | Percentage ever breastfed | Number of children | Of those ever breastfed, percentage who started: | | | Number of children |
|-------------------------------|---------------------------|--------------------|--|-------------------------|----------------------------|--------------------|
| | | | Within one hour of birth | Within one day of birth | Received a prelacteal feed | |
| Sex | | | | | | |
| Male | 81.0 | 1 044 | 61.8 | 83.5 | 28.8 | 845 |
| Female | 81.9 | 1 076 | 60.5 | 82.0 | 29.0 | 882 |
| Residence | | | | | | |
| Urban | 80.7 | 1 383 | 60.9 | 81.8 | 29.8 | 1116 |
| Non-urban | 82.9 | 736 | 61.5 | 84.4 | 27.3 | 611 |
| Province | | | | | | |
| Western Cape | 87.1 | 323 | 69.26 | 84.97 | 11.5 | 281 |
| Eastern Cape | 77.4 | 266 | 66.78 | 81.76 | 39.6 | 206 |
| Northern Cape | 90.1 | 46 | 55.12 | 88.78 | 26.8 | 42 |
| Free State | 78.8 | 130 | 62.32 | 83.49 | 24.5 | 102 |
| KwaZulu-Natal | 76.7 | 117 | 45.57 | 81.45 | 29.7 | 90 |
| North West | 54.4 | 192 | 62.05 | 78.64 | 26.9 | 104 |
| Gauteng | 82.4 | 588 | 61.07 | 78.46 | 39.0 | 484 |
| Mpumalanga | 87.8 | 169 | 52.78 | 89.06 | 11.9 | 148 |
| Limpopo | 93.0 | 288 | 58.2 | 86.16 | 32.8 | 268 |
| Education | | | | | | |
| No education | 73.7 | 95 | 69.7 | 78.6 | 23.6 | 70 |
| Grades 1-5 | 78.4 | 150 | 53.8 | 71.4 | 42.7 | 118 |
| Grades 6-7 | 86.4 | 219 | 66.7 | 84.8 | 24.9 | 189 |
| Grades 8-11 | 80.2 | 990 | 61.5 | 83.4 | 26.6 | 794 |
| Grade 12 | 84.0 | 498 | 58.7 | 83.9 | 32.5 | 418 |
| Higher | 81.8 | 168 | 60.7 | 84.5 | 27.8 | 137 |
| Population group | | | | | | |
| African | 80.5 | 1 773 | 60.9 | 82.0 | 30.9 | 1 428 |
| Afr. urban | 79.5 | 1 094 | 60.1 | 79.9 | 32.5 | 870 |
| Afr. non-urban | 82.2 | 678 | 62.1 | 85.4 | 28.6 | 558 |
| Coloured | 89.0 | 240 | 64.0 | 84.8 | 15.8 | 213 |
| White | 76.6 | 75 | 57.2 | 88.8 | 21.9 | 57 |
| Indian | 86.9 | 32 | 57.9 | 90.7 | 40.8 | 28 |
| Assistance at delivery | | | | | | |
| Missing | 97.6 | 67 | 4.1 | 8.6 | 1.42 | 65 |
| Health professionals | 80.6 | 1 933 | 63.3 | 85.6 | 29.02 | 1 559 |
| Traditional midwife | 68.0 | 16 | 89.1 | 89.1 | 33.36 | 11 |
| Other/No one | 88.4 | 104 | 61.6 | 85.7 | 46.38 | 91 |
| Place of delivery | | | | | | |
| Homes | 86.2 | 140 | 67.7 | 86.6 | 47.1 | 68 |
| Health facility | 80.6 | 1 880 | 62.8 | 85.6 | 27.8 | 33 |
| Other/missing | 91.1 | 99 | 25.3 | 29.3 | 23.3 | 90 |
| Total | 81.5 | 2 120 | 61.1 | 82.7 | 28.9 | 1 727 |

1 case with missing population group.

There is substantial variation in breastfeeding across the provinces. In four provinces (Eastern Cape, Free State, KwaZulu-Natal and North West), the proportion of babies ever breastfed is below 80 percent and in the North West it is only 54 percent. This province also reported the lowest

proportion in the 1998 survey (62 percent). Newborns in Mpumalanga and KwaZulu-Natal are the least likely to be breastfed soon after birth (53 and 46 percent respectively), while those in Western Cape are the most likely (69 percent). Gauteng showed the greatest improvement in this indicator with a noticeable increase in proportion of infants receiving breast milk within the first hour (from 36 percent to 61 percent).

It can be seen from Table 8.1 that there is little variation in these indicators according to other characteristics such as area of residence, educational attainment or population group. One noticeable change from the 1998 SADHS is that the proportion of mothers with no education not giving breast milk to their babies increased from 9 percent in 1998 to 26 percent in 2003. This is a worrying trend especially as infant deaths are more likely in this group. There is now a reversal in the gradient of breastfeeding and education with the most highly educated category having a higher proportion of ever breastfeeding than most of the lower categories.

Whilst the proportion of ever breastfed remains relatively high, a significant minority (29 percent) of babies were given a prelacteal feed. This is known to have a negative influence on the optimal feeding of babies and seems to be particularly prevalent in the Eastern Cape, KwaZulu-Natal, Gauteng and Limpopo where 30 percent or more of babies were given a prelacteal feed.

8.3 Duration of Breastfeeding

As shown in Table 8.2, prevalence of exclusive breastfeeding (i.e. giving nothing but breast milk to the infant) is low in South Africa and there has been little change since 1998. Addition of other liquids whilst breastfeeding starts early in South Africa. Only 8 percent of infants under 6 months are exclusively breastfed and a further 19 percent are almost exclusively breastfed with the addition of water only. It should be noted that the proportion of babies being exclusively breastfed is probably even lower than this as breastfeeding patterns were established by 24 hour recall. This methodology is known to overestimate the amount of exclusive breastfeeding.

Table 8.2 Breastfeeding status by age

Percentage distribution of youngest children under three years living with the mother by breastfeeding status and percentage of children under three years using a bottle with a nipple, according to age in months, South Africa 2003-2004

| Age in months | Breastfeeding and consuming: | | | | | | Total | Number of children | Percentage using a bottle with a nipple | Number of children ¹ |
|---------------|------------------------------|-----------------------|------------------|----------------------------|------------|---------------------|-------|--------------------|---|---------------------------------|
| | Not breast-feeding | Exclusively breastfed | Plain water only | Water-based liquids/ juice | Other milk | Complementary foods | | | | |
| <2 | 16.9 | 11.2 | 26.8 | 8.7 | 27.7 | 8.8 | 100.0 | 54 | 49.9 | 55 |
| 2-3 | 22.4 | 12.2 | 14.1 | 5.0 | 19.5 | 26.8 | 100.0 | 72 | 48.5 | 73 |
| 4-5 | 39.7 | 1.3 | 16.8 | 3.1 | 11.4 | 27.8 | 100.0 | 64 | 58.8 | 66 |
| 6-7 | 31.7 | 0.7 | 6.4 | 1.7 | 8.3 | 51.2 | 100.0 | 78 | 53.3 | 78 |
| 8-9 | 28.3 | 0.0 | 3.3 | 10.5 | 10.4 | 47.5 | 100.0 | 72 | 49.6 | 74 |
| 10-11 | 37.8 | 4.1 | 5.7 | 0.9 | 5.9 | 45.6 | 100.0 | 76 | 49.4 | 77 |
| 12-15 | 33.9 | 0.5 | 4.2 | 0.4 | 1.5 | 59.5 | 100.0 | 129 | 40.0 | 133 |
| 16-19 | 48.9 | 1.1 | 1.5 | 1.0 | 3.5 | 44.0 | 100.0 | 112 | 27.1 | 120 |
| 20-23 | 69.4 | 0.0 | 0.6 | 0.9 | 0.6 | 28.4 | 100.0 | 144 | 37.6 | 155 |
| 24-27 | 79.0 | 0.0 | 0.0 | 2.0 | 0.0 | 19.0 | 100.0 | 114 | 23.3 | 152 |
| 28-31 | 86.6 | 0.0 | 0.0 | 0.8 | 0.0 | 12.6 | 100.0 | 99 | 28.5 | 111 |
| 32-35 | 89.1 | 0.0 | 2.6 | 0.0 | 0.0 | 8.2 | 100.0 | 110 | 20.0 | 131 |
| <6 | 26.7 | 8.3 | 18.6 | 5.4 | 19.1 | 22.0 | 100.0 | 190 | 52.4 | 194 |
| 6-9 | 30.1 | 0.4 | 4.9 | 5.9 | 9.3 | 49.4 | 100.0 | 150 | 51.5 | 152 |

Note: Breastfeeding status refers to a "24-hour" period (yesterday and last night). Children classified as breastfeeding and consuming plain water only consume no supplements. The categories of not breastfeeding, exclusively breastfed, breastfeeding and consuming plain water, water-based liquids/juice, other milk, and complementary foods (solids and semi-solids) are hierarchical and mutually exclusive, and their percentages add to 100 percent. Thus children who receive breast milk and water-based liquids and who do not receive complementary foods are classified in the water-based liquid category even though they may also get plain water. Any children who get complementary food are classified in that category as long as they are breastfeeding as well.

¹ Based on all children under three years.

There appears to have been a steep fall in the proportion of infants receiving complementary foods before the age of 6 months, falling from 70 percent in 1998 to 22.0 percent in 2003 (Table 8.2) but this can be explained by the changes in definition from the previous survey. The present survey only classifies semi-solid and solid foods as complementary food in contrast to the previous survey in which other liquids such as milk were included in the definition of complementary foods.

While the prevalence of exclusive breast feeding is very low, breastfeeding does tend to continue for extended periods. The median duration of breast feeding, based on the current status, is 16.6 months (data not shown). The median is highest in the Northern Cape (22.1 months) followed by Limpopo (19.9 months). The median duration is longer for non-urban children than for urban children (18.6 months compared to 14.3 months).

8.4 Vitamin A and Iron Supplementation

For the first time in the 2003 survey women were asked about the intake of micronutrient supplementation during pregnancy and shortly after birth (Table 8.3). National guidelines recommend that all mothers should be taking iron and folic acid supplementation during pregnancy and vitamin A shortly after birth. Approximately one third of women reported receiving vitamin A shortly after birth. There was little difference across age, urban or non-urban area and educational groups but women in Western Cape were much less likely to report vitamin A intake. Night blindness is a sign of vitamin A deficiency and it is of concern to note that just over 8 percent of respondents reported symptoms of night blindness, being highest in Mpumalanga and the Eastern Cape.

Table 8.3 Vitamin A supplementation to postpartum mothers

Percentage of women with a birth in the five years preceding the survey who received a vitamin A dose in the first two months after delivery, percentage who suffered from night blindness during pregnancy, percentage who took iron tablets or syrup for specific number of days, by selected background characteristics, South Africa 2003

| | Received vitamin A dose postpartum | Night blindness reported | Night blindness adjusted | Number of days iron tablets/syrup taken during pregnancy | | | | | Number of women |
|-------------------------------------|------------------------------------|--------------------------|--------------------------|--|------|-------|------|------------|-----------------|
| | | | | None | <60 | 60-89 | 90+ | DK/missing | |
| Age at birth | | | | | | | | | |
| 15-19 | 33.7 | 12.3 | 0.9 | 31.5 | 19.0 | 5.7 | 5.7 | 38.1 | 333 |
| 20-24 | 37.1 | 6.5 | 1.4 | 30.3 | 22.4 | 6.4 | 11.3 | 29.6 | 467 |
| 25-29 | 32.3 | 7.8 | 0.2 | 29.7 | 18.9 | 5.5 | 14.0 | 31.9 | 461 |
| 30-34 | 29.4 | 6.5 | 0.9 | 31.4 | 14.4 | 4.6 | 14.1 | 35.6 | 303 |
| 35-49 | 38.7 | 8.9 | 0.1 | 25.0 | 21.9 | 2.6 | 10.2 | 40.3 | 295 |
| Number of children ever born | | | | | | | | | |
| 1 | 36.5 | 8.6 | 1.0 | 29.0 | 20.1 | 5.8 | 10.6 | 34.4 | 742 |
| 2-3 | 33.1 | 7.2 | 0.5 | 29.0 | 18.3 | 5.0 | 12.0 | 35.8 | 765 |
| 4-5 | 31.7 | 10.6 | 0.8 | 32.5 | 20.2 | 4.1 | 13.8 | 29.3 | 261 |
| 6+ | 34.0 | 7.2 | 0.0 | 33.2 | 23.2 | 4.2 | 2.9 | 36.5 | 90 |
| Residence | | | | | | | | | |
| Urban | 32.7 | 8.7 | 0.8 | 28.8 | 17.8 | 5.7 | 13.2 | 34.5 | 1 219 |
| Non-urban | 37.3 | 7.4 | 0.6 | 31.5 | 22.8 | 4.0 | 7.6 | 34.1 | 640 |
| Province | | | | | | | | | |
| Western Cape | 21.3 | 3.4 | 0.5 | 41.5 | 20.2 | 4.6 | 18.7 | 15.0 | 275 |
| Eastern Cape | 55.5 | 15.6 | 0.9 | 27.5 | 32.2 | 2.1 | 8.9 | 29.3 | 225 |
| Northern Cape | 29.9 | 6.6 | 0.9 | 12.5 | 6.1 | 28.8 | 42.7 | 9.9 | 41 |
| Free State | 33.6 | 3.5 | 1.0 | 41.9 | 19.5 | 2.0 | 6.9 | 29.7 | 117 |
| KwaZulu-Natal | 46.3 | 5.5 | 0.2 | 22.3 | 25.4 | 2.0 | 22.0 | 28.3 | 107 |
| North West | 26.0 | 7.4 | 0.7 | 50.4 | 17.4 | 5.4 | 12.8 | 14.0 | 173 |
| Gauteng | 33.4 | 9.5 | 0.0 | 22.2 | 14.1 | 7.5 | 6.6 | 49.6 | 515 |
| Mpumalanga | 27.3 | 11.0 | 1.3 | 15.9 | 13.4 | 4.8 | 16.5 | 49.4 | 144 |
| Limpopo | 36.9 | 6.9 | 2.0 | 28.2 | 23.1 | 2.8 | 3.3 | 42.6 | 261 |
| Education | | | | | | | | | |
| No education | 33.8 | 10.9 | 0.8 | 35.5 | 20.4 | 0.4 | 6.4 | 37.3 | 82 |
| Grades 1-5 | 36.8 | 10.8 | 2.3 | 34.0 | 24.0 | 3.2 | 5.0 | 33.7 | 116 |
| Grades 6-7 | 31.8 | 8.4 | 0.8 | 32.7 | 23.8 | 4.6 | 7.1 | 31.7 | 202 |
| Grades 8-11 | 32.8 | 9.8 | 0.7 | 33.4 | 18.3 | 5.4 | 10.1 | 32.7 | 866 |
| Grade 12 | 34.4 | 5.3 | 0.3 | 24.1 | 16.7 | 6.7 | 13.9 | 38.6 | 441 |
| Higher | 43.9 | 4.5 | 0.6 | 14.7 | 24.8 | 4.0 | 22.8 | 33.7 | 152 |
| Total | 34.3 | 8.2 | 0.7 | 29.7 | 19.5 | 5.2 | 11.2 | 34.4 | 1 859 |

The type of supplementation women should receive is often not well communicated to women. One third of women had missing information about iron supplementation with the lowest proportions missing in the Western Cape, Northern Cape and the North West. Across all age groups and urban and non-urban areas about 30 percent of women reported not receiving any iron supplementation during pregnancy. Rates of non-iron supplementation were particularly high in the Western Cape (42 percent), Free State (42 percent) and North West (50 percent). There is a strong association with educational attainment; women with the least amount of education were twice as likely to report not receiving iron compared with the most educated.

8.5 Vitamin A Supplementation amongst Children

Randomised control trials have convincingly shown that vitamin A supplementation in children under 5 years can reduce mortality by an average of 25 percent (WHO/CHC Immunisation-Linked Vitamin A Supplementation Study Group, 1998). The SAVACG study conducted in 1994 found that nearly a third of children have sub-clinical vitamin A deficiency in South Africa (SAVACG Study Group, 1995). A national programme of vitamin A supplementation aimed at children 6 months to 5 years was introduced in 2002. It is disappointing to see that less than 40 percent of children were reported to have received vitamin A supplement in the last 6 months (Table 8.4). The

Eastern Cape scored the best with 58 percent of children receiving supplementation. In contrast, just under 30 percent of children in the Western Cape were reported as having received a supplement in the previous 6 months. At the time of the 2003 survey, the Western Cape had implemented a targeted programme compared to other provinces that had implemented a prophylactic programme to all children 6-60 months.

Table 8.4 Micronutrient intake among children

Percentage of children age 6-59 months who received vitamin A supplements in the six months preceding the survey, by background characteristics, South Africa 2003

| Background characteristic | Consumed vitamin A supplements | Number of children |
|------------------------------|--------------------------------|--------------------|
| Age in months | | |
| 6-9 | 36.3 | 152 |
| 10-11 | 34.2 | 77 |
| 12-23 | 46.3 | 408 |
| 24-35 | 38.9 | 394 |
| 36-47 | 38.4 | 392 |
| 48-59 | 35.9 | 400 |
| Sex | | |
| Male | 39.9 | 900 |
| Female | 38.9 | 922 |
| Birth order | | |
| 2-3 | 39.2 | 733 |
| 4-5 | 38.4 | 735 |
| 6+ | 41.1 | 269 |
| Breastfeeding status | | |
| Breastfeeding | 40.3 | 442 |
| Not breastfeeding | 40.3 | 1 294 |
| Missing | 21.3 | 86 |
| Residence | | |
| Urban | 36.0 | 1 198 |
| Non-urban | 45.9 | 624 |
| Region | | |
| Western Cape | 29.6 | 283 |
| Eastern Cape | 57.7 | 220 |
| Northern Cape | 49.4 | 41 |
| Free State | 45.8 | 110 |
| KwaZulu-Natal | 42.3 | 106 |
| North West | 30.2 | 160 |
| Gauteng | 32.3 | 505 |
| Mpumalanga | 46.6 | 155 |
| Limpopo | 44.6 | 241 |
| Mother's education | | |
| No education | 38.4 | 80 |
| Grades 1-5 | 39.8 | 124 |
| Grades 6-7 | 31.2 | 189 |
| Grades 8-11 | 41.4 | 839 |
| Grade 12 | 37.4 | 440 |
| Higher | 44.7 | 150 |
| Population group | | |
| African | 41.3 | 1 521 |
| Afr. urban | 38.0 | 944 |
| Afr. non-urban | 46.6 | 577 |
| Coloured | 31.3 | 207 |
| Indian | 30.5 | 27 |
| White | 25.3 | 67 |
| Mother's age at birth | | |
| <20 | 38.2 | 328 |
| 20-24 | 43.6 | 449 |
| 25-29 | 36.9 | 455 |
| 30-34 | 37.6 | 299 |
| 35-49 | 39.9 | 290 |
| Total | 39.4 | 1 822 |

Note: Information on vitamin A supplements is based on mother's recall.

8.6 Nutritional Status of Children

The weight of newborn baby is considered to be low when it is less than 2,500 grams or below minus 2 SD of the expected birth weight according to the NCHS/WHO growth charts developed in 1978 (Hamill *et al.*, 1979). Low birth weight carries a range of health risks for children, not only an increased risk of dying at young ages. Those who survive have an increased risk of infectious diseases, are likely to remain undernourished, with reduced muscle strength, throughout their lives, and suffer a higher incidence of diabetes and heart disease in later life (Fishman *et al.*, 2004). Long term social consequences of low birth weight result from a tendency to have a lower IQ and cognitive disabilities, which may result in poorer performance in school and their job opportunities as adults. Given the immediate and long term effects of fetal growth retardation, the birth weight of a child is a very important health indicator.

The birth weight of a baby is determined by the nutritional status and the health of the mother. While undernutrition and stunting of the mother and illness are the leading causes of low birth weight in developing countries, cigarette smoking during pregnancy is the leading cause of low birth weight in the industrialized countries. Teen pregnancy is associated with low birth weight. Weight gain during pregnancy should be carefully monitored and so as to ensure the optimal growth of the baby.

Table 8.5 shows the nutritional status of children at birth based on their weight relative to the WHO-NCHS standard birth-weights for boys and girls. It should be noted that nearly 30 percent of the children did not have records of birth weight, which may introduce a bias in the statistics. Blanc and Wardlaw (2005)

examined data from 62 surveys and conclude that the bias it likely to understate the prevalence of low birth weight. They also stress the importance of monitoring the proportion of birth weights that

are recorded. In the 1998 survey, a very similar proportion of children did not have a recorded birth weight (32 percent).

From Table 8.5, it can be seen that overall, 8.5 percent of the births are less than minus 2 SD from the expected value suggesting that this remains a problem in some sectors of population. The proportion is higher for coloured and Indian children (10 and 15 percent respectively) and consequently is more common in the Western Cape and Northern Cape where the prevalence is 15 percent and 13 percent respectively. Together with these two provinces, KwaZulu-Natal stands out as having a high proportion of extreme underweight children (below minus 3 SD).

| Table 8.5 Nutritional status of children at birth | | | | | | |
|--|---------------------------------------|------------------------|------------------------|--------------|--------------------|--------------------|
| Percentage of children classified as malnourished according to weight-for-age who were weighed at birth, by selected background characteristics, South Africa 2003 | | | | | | |
| | Proportion with birth weight recorded | Weight-for-age | | | Number of children | Birth weight in kg |
| | | Percentage Below -3 SD | Percentage Below -2 SD | Mean Z-score | | |
| Sex | | | | | | |
| Male | 68.3 | 4.8 | 11.1 | -0.43 | 713 | 3.12 |
| Female | 70.6 | 2.0 | 6.1 | -0.30 | 759 | 3.03 |
| Birth order | | | | | | |
| 1 | 71.8 | 4.0 | 10.5 | -0.52 | 606 | 3.01 |
| 2-3 | 72.1 | 2.4 | 7.7 | -0.28 | 621 | 3.11 |
| 4-5 | 65.3 | 5.0 | 7.1 | -0.25 | 198 | 3.12 |
| 6+ | 43.0 | 0.4 | 0.4 | 0.14 | 48 | 3.30 |
| Residence | | | | | | |
| Urban | 68.5 | 3.9 | 9.6 | -0.42 | 948 | 3.05 |
| Non-urban | 71.3 | 2.2 | 6.5 | -0.27 | 525 | 3.12 |
| Province | | | | | | |
| Western Cape | 68.6 | 7.3 | 14.6 | -0.42 | 222 | 3.05 |
| Eastern Cape | 63.3 | 3.6 | 7.6 | -0.22 | 169 | 3.15 |
| Northern Cape | 81.8 | 6.5 | 12.9 | -0.73 | 38 | 2.93 |
| Free State | 67.8 | 4.1 | 7.7 | -0.46 | 88 | 3.03 |
| KwaZulu-Natal | 66.8 | 5.9 | 10.2 | -0.29 | 78 | 3.13 |
| North West | 74.8 | 1.8 | 6.8 | -0.35 | 143 | 3.08 |
| Gauteng | 65.2 | 1.4 | 6.6 | -0.44 | 383 | 3.03 |
| Mpumalanga | 71.8 | 1.0 | 5.2 | -0.21 | 121 | 3.15 |
| Limpopo | 79.6 | 3.1 | 8.3 | -0.31 | 230 | 3.10 |
| Mother's Education | | | | | | |
| No education | 56.3 | 0.3 | 4.2 | -0.30 | 54 | 3.10 |
| Grades 1-5 | 49.1 | 0.0 | 4.8 | -0.18 | 74 | 3.16 |
| Grades 6-7 | 69.2 | 2.8 | 9.1 | -0.38 | 151 | 3.07 |
| Grades 8-11 | 68.6 | 3.5 | 8.8 | -0.41 | 679 | 3.05 |
| Grade 12 | 76.9 | 4.8 | 10.1 | -0.44 | 383 | 3.05 |
| Higher | 78.4 | 1.8 | 5.3 | -0.02 | 132 | 3.24 |
| Population group | | | | | | |
| African | 68.1 | 3.1 | 8.4 | -0.35 | 1 207 | 3.08 |
| Afr. urban | 65.0 | 3.7 | 9.6 | -0.42 | 711 | 3.05 |
| Afr. non-urban | 73.1 | 2.3 | 6.7 | -0.26 | 496 | 3.12 |
| Coloured | 71.9 | 6.2 | 10.1 | -0.42 | 172 | 3.05 |
| White | 84.1 | 0.0 | 2.9 | -0.33 | 63 | 3.10 |
| Indian | 94.5 | 2.7 | 14.7 | -0.63 | 30 | 2.97 |
| Mother's age | | | | | | |
| 15-19 | 74.8 | 1.3 | 10.1 | -0.37 | 100 | 3.08 |
| 20-24 | 73.7 | 3.4 | 9.3 | -0.52 | 390 | 3.01 |
| 25-29 | 69.4 | 4.1 | 11.7 | -0.40 | 352 | 3.06 |
| 30-34 | 71.2 | 2.5 | 6.7 | -0.27 | 310 | 3.12 |
| 35-39 | 67.2 | 2.8 | 4.5 | -0.18 | 214 | 3.14 |
| 40-44 | 59.3 | 6.9 | 7.4 | -0.38 | 90 | 3.06 |
| 45-49 | 38.2 | 0.0 | 4.2 | 0.20 | 16 | 3.39 |
| Total | 69.5 | 3.3 | 8.5 | -0.36 | 1 473 | 3.08 |

The proportion of children who have low birth weight differs by background characteristics. As would be expected, the proportion is highest for the first birth and decreases with increasing birth order. Low birth weight increases with mother's education. However, it is difficult to interpret the trends in the other characteristics because they are correlated.

In 1998, 12 percent of the children for whom birth-weight was recorded were less than 2.5 kg. As the criteria for low birth-weight differs between the 2 surveys, it is difficult to assess the changes. However, the 1998 survey also shows higher proportions among coloured and Indian children, a strong relationship with birth-order and mother's education.

The anthropometry of children under-5 years is presented in Table 8.6. Heights and weights have been compared with the NCHS/WHO growth charts and the prevalence of stunting (below minus 2 SD of the expected height for age), wasting (below minus 2 SD of the expected weight for height) and underweight (below minus 2 SD of the expected weight for age) are given according to selected background characteristics. Overall, 12 percent of children are underweight, 27 percent are stunted and 5 percent are wasted. The SAVACG survey conducted in 1994 on children aged 6-72 months found a prevalence of 9.3 percent for underweight, 22.9 percent for stunting and 2.6 percent for wasting (SAVACG Study Group, 1995). In 1999 the Department of Health conducted the National Food Consumption Survey on children aged 1-9 years and found a prevalence of 10.3 percent for underweight, 21.6 percent for stunting and 3.7 percent for wasting (Labadarios *et al.*, 2000). The anthropometric measurements in the 2003 survey were restricted to those children under-5 years whose mother was interviewed. Thus orphans and other children who do not live with their biological mother were excluded. It is therefore not possible to compare the studies precisely. However, there are no indications that the nutritional status of children has changed substantially over the past 10 years.

Table 8.6 shows that stunting correlates strongly with mother's level of education, ranging from 38 percent in the cases when the mother has no education to 13 percent when the mother has post-matric level education. This table also shows that the poor nutritional status of coloured children correlates with the high prevalence low birth weight seen in Table 8.5.

Table 8.6 Nutritional status of children

Percentage of children under five years classified as malnourished according to three anthropometric indices of nutritional status: height-for-age, weight-for-height, and weight-for-age, by selecting background characteristics, South Africa 2003

| Background characteristic | Height-for-age (Stunting) | | | Weight-for-height (Wasting) | | | Weight-for-age (Underweight) | | | Number of children | | | |
|---------------------------|---------------------------|------------------------|--------------|-----------------------------|------------------------|------------------------|------------------------------|-------|------------------------|--------------------|------------------------|--------------|-------|
| | Percentage below -3 SD | Percentage below -2 SD | Mean Z-score | SE | Percentage below -3 SD | Percentage below -2 SD | Mean Z-score | SE | Percentage below -3 SD | | Percentage below -2 SD | Mean Z-score | SE |
| Sex | | | | | | | | | | | | | |
| Male | 12.6 | 28.2 | -1.26 | 0.078 | 2.9 | 6.5 | 0.29 | 0.078 | 2.8 | 12.6 | -0.58 | 0.072 | 574 |
| Female | 11.2 | 26.6 | -1.06 | 0.078 | 0.7 | 4.0 | 0.38 | 0.083 | 3.0 | 10.5 | -0.41 | 0.075 | 585 |
| Birth order | | | | | | | | | | | | | |
| 1 | 10.4 | 23.9 | -1.13 | 0.088 | 2.4 | 6.3 | 0.27 | 0.082 | 3.3 | 12.7 | -0.52 | 0.074 | 439 |
| 2-3 | 12.3 | 29.0 | -1.17 | 0.086 | 1.8 | 5.1 | 0.35 | 0.091 | 2.7 | 11.1 | -0.50 | 0.079 | 474 |
| 4-5 | 11.1 | 26.3 | -1.12 | 0.140 | 0.9 | 2.8 | 0.42 | 0.128 | 1.9 | 10.6 | -0.42 | 0.116 | 191 |
| 6+ | 22.5 | 45.1 | -1.43 | 0.277 | 0.2 | 6.2 | 0.59 | 0.238 | 4.0 | 9.4 | -0.48 | 0.213 | 55 |
| Residence | | | | | | | | | | | | | |
| Urban | 12.3 | 26.9 | -1.15 | 0.075 | 2.5 | 5.6 | 0.37 | 0.081 | 2.9 | 11.6 | -0.47 | 0.072 | 737 |
| Non-urban | 11.1 | 28.1 | -1.19 | 0.077 | 0.5 | 4.5 | 0.29 | 0.065 | 2.9 | 11.4 | -0.54 | 0.068 | 422 |
| Province | | | | | | | | | | | | | |
| Western Cape | 12.1 | 34.7 | -1.28 | 0.182 | 2.0 | 6.2 | 0.40 | 0.137 | 4.6 | 10.9 | -0.54 | 0.150 | 149 |
| Eastern Cape | 12.4 | 28.5 | -1.24 | 0.164 | 0.0 | 0.8 | 0.82 | 0.179 | 0.8 | 7.1 | -0.14 | 0.172 | 149 |
| Northern Cape | 14.1 | 37.1 | -1.50 | 0.101 | 3.0 | 10.0 | -0.30 | 0.076 | 5.4 | 25.8 | -1.19 | 0.078 | 38 |
| Free State | 14.6 | 32.9 | -1.38 | 0.200 | 2.6 | 8.4 | 0.18 | 0.103 | 8.2 | 15.9 | -0.77 | 0.120 | 89 |
| KwaZulu-Natal | 11.2 | 13.3 | -0.97 | 0.321 | 6.8 | 7.5 | 0.66 | 0.383 | 10.9 | 11.3 | -0.15 | 0.364 | 51 |
| North West | 10.0 | 24.0 | -0.92 | 0.160 | 1.3 | 6.0 | 0.03 | 0.111 | 2.4 | 12.4 | -0.59 | 0.099 | 112 |
| Gauteng | 13.1 | 26.5 | -1.17 | 0.124 | 3.0 | 4.2 | 0.49 | 0.165 | 0.8 | 10.1 | -0.40 | 0.136 | 269 |
| Mpumalanga | 11.3 | 22.2 | -0.82 | 0.136 | 1.0 | 6.0 | 0.26 | 0.099 | 2.2 | 9.1 | -0.32 | 0.096 | 130 |
| Limpopo | 9.2 | 26.6 | -1.25 | 0.106 | 0.0 | 5.3 | 0.03 | 0.093 | 1.6 | 14.2 | -0.77 | 0.093 | 173 |
| Mother's Education | | | | | | | | | | | | | |
| No education | 15.8 | 38.4 | -1.43 | 0.332 | 0.0 | 4.6 | 0.11 | 0.199 | 3.0 | 17.0 | -0.84 | 0.176 | 60 |
| Grades 1-5 | 12.0 | 32.9 | -1.36 | 0.149 | 1.7 | 3.5 | 0.04 | 0.111 | 3.5 | 15.8 | -0.86 | 0.108 | 89 |
| Grades 6-7 | 13.6 | 31.7 | -1.24 | 0.158 | 0.3 | 4.2 | 0.50 | 0.128 | 1.9 | 8.7 | -0.39 | 0.120 | 135 |
| Grades 8-11 | 14.8 | 30.9 | -1.26 | 0.090 | 1.4 | 5.7 | 0.35 | 0.096 | 2.5 | 11.5 | -0.54 | 0.081 | 524 |
| Grade 12 | 7.0 | 18.6 | -0.94 | 0.112 | 2.1 | 4.5 | 0.38 | 0.118 | 3.6 | 10.4 | -0.33 | 0.106 | 262 |
| Higher | 3.6 | 12.6 | -0.74 | 0.169 | 6.4 | 8.4 | 0.36 | 0.204 | 3.8 | 11.6 | -0.25 | 0.180 | 89 |
| Population group | | | | | | | | | | | | | |
| African | 11.7 | 27.0 | -1.15 | 0.057 | 1.7 | 5.0 | 0.39 | 0.063 | 2.4 | 10.6 | -0.44 | 0.057 | 970 |
| Afr. urban | 12.1 | 26.4 | -1.12 | 0.081 | 2.5 | 5.3 | 0.44 | 0.098 | 2.3 | 10.4 | -0.39 | 0.084 | 567 |
| Afr. non-urban | 11.3 | 27.8 | -1.19 | 0.076 | 0.5 | 4.5 | 0.32 | 0.066 | 2.5 | 11.0 | -0.51 | 0.067 | 403 |
| Coloured | 15.2 | 37.4 | -1.43 | 0.140 | 2.7 | 7.5 | 0.01 | 0.125 | 6.6 | 18.1 | -0.92 | 0.101 | 134 |
| White | 7.0 | 7.0 | -0.73 | 0.346 | 2.2 | 2.2 | 0.34 | 0.234 | 3.3 | 12.6 | -0.27 | 0.271 | 39 |
| Indian | 4.6 | 13.1 | -0.81 | 0.262 | 1.5 | 9.1 | 0.18 | 0.282 | 2.1 | 8.7 | -0.40 | 0.217 | 16 |
| Mother's age | | | | | | | | | | | | | |
| 15-19 | 10.8 | 23.1 | -0.96 | 0.171 | 0.2 | 10.5 | 0.43 | 0.134 | 1.7 | 8.5 | -0.30 | 0.152 | 68 |
| 20-24 | 13.7 | 27.8 | -1.27 | 0.120 | 2.0 | 5.2 | 0.23 | 0.095 | 3.8 | 13.6 | -0.64 | 0.098 | 279 |
| 25-29 | 9.9 | 28.7 | -1.20 | 0.109 | 2.1 | 5.3 | 0.23 | 0.112 | 2.3 | 14.2 | -0.60 | 0.100 | 283 |
| 30-34 | 10.7 | 24.2 | -1.04 | 0.123 | 2.9 | 4.7 | 0.49 | 0.127 | 3.3 | 8.6 | -0.31 | 0.099 | 255 |
| 35-39 | 13.2 | 25.5 | -1.08 | 0.163 | 0.7 | 3.6 | 0.54 | 0.118 | 3.2 | 8.4 | -0.28 | 0.132 | 160 |
| 40-44 | 12.3 | 34.5 | -1.23 | 0.211 | 0.4 | 5.2 | 0.29 | 0.165 | 1.8 | 14.6 | -0.60 | 0.128 | 89 |
| 45-49 | 19.0 | 37.1 | -1.48 | 0.241 | 0.5 | 5.8 | -0.02 | 0.166 | 0.0 | 4.9 | -1.02 | 0.139 | 25 |
| Total | 11.9 | 27.4 | -1.16 | 0.055 | 1.8 | 5.2 | 0.34 | 0.057 | 2.9 | 11.5 | -0.49 | 0.052 | 1 159 |

CHAPTER 9

ADOLESCENT HEALTH

9.1 Introduction

Adolescence is an important transitional stage of human development from childhood to adulthood with many psycho-social challenges. During this phase there are significant biological, physical, social, hormonal and psychological changes. These changes influence behaviour and emotional stability that require a supportive and safe environment, particularly in the home and school settings. Adolescence is often marked with searching for a unique identity and adolescents may challenge authority or rules as a way to establish their own individuality. Without appropriate support, adolescents often need to “prove” to adults and peers that they are old enough to engage in activities that may endanger their lives. Driving, taking alcohol, drugs, smoking and experimenting with sex and guns are risky activities that may put their health and future in danger. Not only is adolescence a time of experimentation, but also a time when life-long habits that will affect their health in future are started. Unhealthy diets and insufficient physical activity are also habits that are initiated in this period. Young people's vulnerability to unhealthy behaviours is related to a range of individual, family and community practices that are closely related to economic and education opportunities. Measuring the health and risk-taking behaviours among adolescents including the magnitude of problems such as unprotected sex, teenage pregnancy, multiple sexual partners and substance abuse is therefore important.

Sexual activity among adolescents in the context of the HIV pandemic has high health risks. Aside from leading to teenage pregnancy which in turn is associated with health complications and poor infant health as well as social, psychological and economic problems, the risks of contracting HIV is high. The sexual behaviour of youth is a critical factor in the continued spread of the HIV pandemic. The UN has identified key indicators of risky sexual behaviour of youth aged 15-24 years to monitor progress in changing behaviours. These indicators are reported in this chapter in addition to the health and risk-taking behaviour among late adolescents aged 15-19 years.

9.2 Sexual Behaviour

Delaying age of sexual debut by encouraging sexual abstinence among young people is one of the major goals of the HIV prevention strategy. Table 9.1 shows the proportion of women and men aged 15-24 years who had had sexual intercourse by age of 15 and 18 years. This was the first time that men were asked this question. Overall, 12 percent of men and 6 percent of women aged 15-24 years had had their sexual debut by age 15 showing that men initiated sexual activity at an earlier age than women. Just under twelve percent of men aged 15-19 had had their first sexual intercourse by age 15 compared to 7 percent of women in the same age group. Just over twelve percent of men aged 20-24 years had had their sexual debut by age 15 and this rose to 63 percent by age 18. By comparison, 6 percent of women 20-24 years had had sex by 15 years and 42 percent by 18 years. In this survey the proportion of women aged 15-19 years who had sex by age 15 was slightly lower, 7 percent than 9 percent observed in 1998. A slight difference was also observed in women aged 20-24 years (6 percent in 2003 compared with 7 percent in 1998). These results indicate a slight increase in the age of sexual debut among young women.

Table 9.1 Age at first sex among young women and men

Percentage of young women and men age 15-24 who have had sex by exact age 15 and 18, by background characteristics, South Africa 2003

| Background characteristics | WOMEN | | | MEN | | |
|----------------------------|-------|------|-----------------------------|-------|--------|-----------------------------|
| | 15 | 18 | Number of respondents 15-24 | 15 | 18 | Number of respondents 15-24 |
| Age | | | | | | |
| 15-17 | 7.9 | na | 849 | 12.9 | na | 371 |
| 18-19 | 6.1 | 51.3 | 546 | 9.8 | 54.6 | 232 |
| 15-19 | 7.2 | na | 1 395 | 11.7 | na | 603 |
| 20-22 | 6.4 | 41.1 | 808 | 10.6 | 63.7 | 331 |
| 23-24 | 3.8 | 44.3 | 433 | 15.5 | 61.1 | 196 |
| 20-24 | 5.5 | 42.2 | 1 242 | 12.4 | 62.7 | 527 |
| Marital status | | | | | | |
| Never in union | 6.1 | 36.7 | 2 319 | 12.0 | 48.7 | 1 053 |
| Married/Living together | 9.0 | 56.8 | 317 | 12.1 | 68.6 | 76 |
| Residence | | | | | | |
| Urban | 5.8 | 38.5 | 1 634 | 13.4 | 54.7 | 708 |
| Non-urban | 7.4 | 40.3 | 1 003 | 9.8 | 42.2 | 421 |
| Region | | | | | | |
| Western Cape | 5.0 | 37.4 | 331 | 12.1 | 49.8 | 104 |
| Eastern Cape | 10.9 | 54.1 | 327 | 20.9 | 50.0 | 133 |
| Northern Cape | 6.3 | 38.0 | 45 | 8.7 | 43.1 | 20 |
| Free State | 5.9 | 38.8 | 179 | 15.2 | 50.0 | 75 |
| KwaZulu-Natal | 1.9 | 22.5 | 420 | 5.6 | 33.2 | 239 |
| North West | 5.7 | 42.9 | 203 | 12.1 | 54.9 | 98 |
| Gauteng | 6.4 | 37.4 | 607 | 12.8 | 61.6 | 252 |
| Mpumalanga | 8.5 | 47.2 | 168 | 9.8 | 48.4 | 93 |
| Limpopo | 8.6 | 44.0 | 357 | 13.8 | 58.3 | 114 |
| Education | | | | | | |
| No education | * | * | 21 | * | * | 13 |
| Grades 1-5 | 18.6 | 62.9 | 62 | 12.5 | 28.1 | 41 |
| Grades 6-7 | 14.5 | 44.7 | 171 | 13.6 | 37.3 | 92 |
| Grades 8-11 | 5.9 | 40.7 | 1 599 | 13.1 | 49.4 | 665 |
| Grades 12 | 4.5 | 32.4 | 612 | 9.1 | 57.6 | 244 |
| Higher | 3.5 | 29.4 | 169 | 4.5 | 55.9 | 73 |
| Population | | | | | | |
| African | 7.0 | 41.0 | 2 272 | 12.9 | 51.7 | 967 |
| Afr. urban | 6.5 | 41.0 | 1 313 | 15.2 | 58.4 | 561 |
| Afr. non-urban | 7.5 | 41.1 | 960 | 9.7 | 42.5 | 406 |
| Coloured | 4.1 | 31.4 | 236 | 6.9 | 47.5 | 86 |
| Indian | 1.2 | 7.0 | 37 | 4.9 | 30.3 | 19 |
| White | 0.8 | 24.8 | 91 | (7.6) | (31.4) | 57 |
| Total 15-24 | 6.4 | na | 2 637 | 12.0 | na | 1 129 |

Na=not applicable

Age at first sexual intercourse is shown by selected background characteristics in Table 9.1. Six percent of unmarried young women had their first sexual intercourse by age 15 compared to 9 percent of those who were married or cohabiting. A similar proportion of young married or cohabiting and unmarried men (12 percent) had had their first sexual intercourse at age 15. The proportion of women who had their first sexual intercourse by age 15 was almost identical among women resident in non-urban settings (7 percent) and those who were resident in urban settings (6 percent). In contrast, more men in urban settings (13 percent) compared to non-urban settings (10 percent) had had their first sexual intercourse by age 15.

Compared with other provinces, KwaZulu-Natal (2 percent) and the Western Cape (5 percent) had the lowest proportion of women who had had their first sexual intercourse by age 15. KwaZulu-Natal also had the lowest proportion of men (6 percent) who had had their first sexual intercourse by age 15 followed by the Northern Cape (9 percent) and Mpumalanga (10 percent). The province with the highest proportion of young men and women who had had their first sexual intercourse by age 15 was the Eastern Cape (21 percent and 11 percent respectively).

Education was found to play a role in age of first sexual debut with only 4 percent of women with more than secondary education reporting they had had sex by age 15, while 19% with grades 1-5 education had had their first sexual intercourse by age 15. Among both women and men, the proportion having had their first sexual intercourse by age 15 was lower among whites, Indians and coloureds than among Africans.

Table 9.2 shows the proportion of young unmarried men and women who had had sex in the last 12 months and who used a condom at last sex. Over half (54 percent) of unmarried men aged 15-24 years had had sex in the past 12 months and 75 percent of them had used a condom at last sex. In contrast, 49 percent of the young women reported having had sex in the last 12 months, and 53 percent of them reported condom use at last sex. Similar proportions of condom use were observed in the National HIV Prevalence Survey conducted by the HSRC in 2005, which found that 73 percent of sexually active young men and 56 percent of sexually active young women used a condom (Shisana *et al.* 2005). The 2003 SADHS shows that condom use among sexually active women aged 15-24 has increased considerably since the 1998 survey, when approximately 20 percent of young unmarried women reported condom use at last sex. There has been an increase of 30 percentage points over a five-year period, indicating a significant shift towards acceptance of condom use. The question in 1998 was not asked of men and therefore we cannot comment on changes in the male population.

From Table 9.2, it can be seen that condom use at last sex was higher among men and women resident in urban settings (77 percent and 60 percent respectively) compared to men and women resident in non-urban settings (69 percent and 41 percent respectively). Condom use at last sex among unmarried young women was lowest in the Eastern Cape (38 percent) followed by Limpopo (40 percent) and Mpumalanga (42 percent). The lowest proportion of men who used a condom at last sex was reported for Limpopo (61 percent). Condom use at last sex increased with level of education in both unmarried young women and young men. Differences were also seen in condom use at last sex by population group with fewer African non-urban and coloured women (42 percent) reporting use of condom at last sex. The highest condom use recorded was among unmarried Indian men where almost all (96 percent) had used a condom at last sex. African non-urban men reported the lowest rates of condom use (70 percent) among men. The 1998 survey reported similar effects of background characteristics on condom use at last sex for women.

Table 9.2 Young people having premarital sex in the last year and using a condom during premarital sex

Among never married women and men age 15-24, percentage who have had sex in the last 12 months, and, among those who had pre-marital sex in the last 12 months, percentage who used a condom at last sex by background characteristics, South Africa 2003

| Background characteristic | WOMEN | | | | MEN | | | |
|---------------------------|---------------------------|---|-------------------------|--|---------------------------|---|-------------------------|--|
| | Had sex in last 12 months | Number of never married respondents 15-24 | Used condom at last sex | Number of respondents 15-24 sexually active in last 12 month | Had sex in last 12 months | Number of never married respondents 15-24 | Used condom at last sex | Number of respondents 15-24 sexually active in last 12 month |
| Age | | | | | | | | |
| 15-19 | 34.0 | 1,334 | 50.4 | 454 | 34.9 | 588 | 73.8 | 205 |
| 20-24 | 68.6 | 986 | 55.1 | 676 | 77.6 | 465 | 75.0 | 360 |
| Residence | | | | | | | | |
| Urban | 50.2 | 1,428 | 60.4 | 717 | 58.3 | 669 | 77.1 | 390 |
| Non-urban | 46.3 | 891 | 40.7 | 413 | 45.7 | 384 | 68.9 | 176 |
| Region | | | | | | | | |
| Western Cape | 46.5 | 289 | 50.4 | 134 | 57.7 | 90 | (79.7) | (52) |
| Eastern Cape | 55.2 | 290 | 38.2 | 160 | 56.7 | 132 | (68.4) | (75) |
| Northern Cape | 43.3 | 38 | 47.5 | 17 | 45.1 | 19 | 72.7 | 9 |
| Free State | 40.9 | 157 | 56.9 | 64 | 53.0 | 74 | 70.3 | 39 |
| KwaZulu-Natal | 36.1 | 404 | 64.0 | 146 | 42.7 | 232 | 73.8 | 99 |
| North West | 55.5 | 190 | 56.3 | 105 | 63.2 | 97 | 85.1 | 61 |
| Gauteng | 52.3 | 499 | 67.4 | 261 | 58.9 | 233 | 76.7 | 137 |
| Mpumalanga | 53.6 | 144 | 42.3 | 77 | 56.9 | 92 | 75.6 | 52 |
| Limpopo | 53.6 | 308 | 40.4 | 165 | 49.0 | 84 | 60.7 | 41 |
| Education | | | | | | | | |
| No education | * | 10 | * | 3 | * | 11 | * | 5 |
| Grades 1-5 | 49.2 | 52 | (30.8) | 26 | 29.8 | 40 | * | 12 |
| Grades 6-7 | 39.0 | 155 | 33.7 | 61 | 36.4 | 85 | 60.3 | 31 |
| Grades 8-11 | 45.3 | 1 430 | 49.6 | 648 | 50.1 | 619 | 71.6 | 310 |
| Grades 12 | 55.0 | 526 | 63.2 | 289 | 70.4 | 230 | 84.4 | 162 |
| Higher | 70.3 | 146 | 65.8 | 103 | 66.8 | 68 | 80.2 | 45 |
| Population group | | | | | | | | |
| African | 50.8 | 2 014 | 53.4 | 1 024 | 55.2 | 906 | 73.8 | 500 |
| Afr. urban | 53.8 | 1 157 | 60.9 | 622 | 61.5 | 535 | 75.9 | 329 |
| Afr. non-urban | 46.9 | 857 | 41.7 | 402 | 46.0 | 370 | 69.7 | 171 |
| Coloured | 35.5 | 201 | 42.0 | 71 | 51.0 | 75 | 76.4 | 38 |
| Indian | * | * | * | 3 | 40.6 | 18 | (95.5) | 7 |
| White | * | * | * | 31 | (36.9) | 54 | * | 20 |
| Total 15-24 | 48.7 | 2 319 | 53.2 | 1 130 | 53.7 | 1 053 | 74.5 | 565 |

¹ Corresponds to UNAIDS Young People's Sexual Behavior Indicator 2 "Young people having premarital sex".

² Corresponds to UNAIDS Young People's Sexual Behavior Indicator 3 "Young people using a condom during premarital sex".

Sexual relations

The question on number of sexual partners in the previous 12 months was only asked of women in the 1998 survey, but in 2003 the question was also asked of men. However, the question on the number of sexual partners does not indicate whether the partnerships were concurrent or consecutive. Therefore we cannot say what proportion of these relationships are truly multiple partnerships i.e. where the respondent had relationships with more than one person at the same time. Table 9.3 shows that among women aged 15-19 years who had ever had sex, 3 percent had two or more sexual partners in the last year. Slightly more women in the 20-24 year age group (4 percent) reported two or more partners in the previous 12 months. In 1998 almost identical figures were seen in both age groups.

Compared to women, much higher proportions of men who had ever had sex reported two or more partners in the previous 12 months (8 percent and 24 percent in the respective age groups). Interestingly, married or cohabiting men reported two or more partners more often than men who were not in union (20 versus 15 percent).

| Table 9.3 Multiple sex partnerships among young women and men | | | | |
|--|--|-----------------------------|--|-----------------------------|
| Among all women and men age 15-24, percentage who have had sex with more than one partner in the last 12 months, by background characteristics South Africa 2003 | | | | |
| Background characteristic | WOMEN | | MEN | |
| | Percentage who had 2+ partners in the last 12 months | Number of respondents 15-24 | Percentage who had 2+ partners in the last 12 months | Number of respondents 15-24 |
| Age | | | | |
| 15-19 | 2.9 | 1 395 | 8.2 | 603 |
| 20-24 | 3.8 | 1 242 | 24.0 | 527 |
| Marital status | | | | |
| Not in union | 3.5 | 2 319 | 15.3 | 1053 |
| Currently married/Living together | 2.3 | 317 | 19.5 | 76 |
| Residence | | | | |
| Urban | 3.1 | 1 634 | 17.7 | 708 |
| Non-urban | 3.7 | 1 003 | 12.0 | 421 |
| Region | | | | |
| Western Cape | 3.1 | 331 | 19.2 | 104 |
| Eastern Cape | 6.9 | 327 | 18.1 | 133 |
| Northern Cape | 0.4 | 45 | 15.5 | 20 |
| Free State | 2.4 | 179 | 13.7 | 75 |
| KwaZulu-Natal | 0.8 | 420 | 8.7 | 239 |
| North West | 4.5 | 203 | 21.7 | 98 |
| Gauteng | 2.2 | 607 | 16.4 | 252 |
| Mpumalanga | 0.6 | 168 | 17.7 | 93 |
| Limpopo | 6.6 | 357 | 16.2 | 114 |
| Education | | | | |
| No education | * | 21 | * | 13 |
| Grades 1-5 | 2.2 | 62 | 13.3 | 41 |
| Grades 6-7 | 2.0 | 171 | 8.4 | 92 |
| Grades 8-11 | 3.3 | 1 599 | 14.0 | 665 |
| Grades 12 | 3.8 | 612 | 22.2 | 244 |
| Higher | 3.6 | 169 | 19.6 | 73 |
| Population group | | | | |
| African | 3.5 | 2 272 | 16.5 | 967 |
| Afr. urban | 3.3 | 1 313 | 19.7 | 561 |
| Afr. non-urban | 3.8 | 960 | 12.1 | 406 |
| Coloured | 2.7 | 236 | 12.6 | 86 |
| Indian | 0.8 | 37 | 15.1 | 19 |
| White | 2.0 | 91 | (4.3) | 57 |
| Total 15-24 | 3.3 | 2 637 | 15.6 | 1 129 |

¹ Corresponds to UNAIDS Young People's Sexual Behavior Indicator 4 "Young people having multiple partners in last year".

Young women in the Eastern Cape (7 percent) and Limpopo (7 percent) reported the highest figures for two or more partners in the last year, with the lowest proportions reported in Northern Cape, Mpumalanga and KwaZulu Natal, where less than one percent reported more than one partner. Number of partners increased with education, with women who had primary education reporting lower levels of two or more partners compared to women with senior school education and higher. Young white and Indian women reported the lowest rates of 2 or more partners in the last year (2.0 percent and 0.8 percent) compared to other population groups.

Among men, North West, Western Cape and Eastern Cape had the highest rates for 2 or more sexual partners in the last year. Young men with grade 12 or higher education had the highest proportion of partners in the last 12 months. African urban men reported the highest levels of two or more partners (20 percent) while African non-urban women reported the highest levels of two or more partners (4 percent).

Table 9.4 shows the proportion of young women and men engaging in high risk sex in the last 12 months. This UNAIDS indicator defines high risk sex as sex with a non-marital partner. However, in South Africa, marriage rates are low and sexual partnerships outside marital and cohabiting relationships are common. The effect of this can be seen clearly by the extremely high proportions in both the 15-19 and 20-24 year age groups who engage in higher risk sex according to this definition. Many of these men and women may be in stable partnerships; however, as they are not married their relationships have been categorized as higher risk. Table 9.4 shows that almost all sexually active women (95 percent) and men (99 percent) in the 15-19 year age group engage in higher risk sex. There are no significant differences seen in higher risk sex by urban or rural residence or by province for women or men. Higher risk sex increased to 94 percent in the highest education group in women and 99 percent in men. White women reported the lowest level of higher risk sex (37 percent) while among Indian women a higher proportion (69 percent) reported the higher risk. Higher levels of between 85 and 91 percent were seen among women in the other population groups. Coloured men reported lower levels of higher risk sex (86 percent) compared to the other population groups. Without additional information regarding the nature of the relationship, it is difficult to interpret this indicator.

Condom use at last higher risk sex is reported at much higher levels in men than women (Table 9.4). Almost three-quarters of men aged 15-24 (72 percent) reported condom use at the last higher risk sexual encounter compared to half (52 percent) of women. Condom use was higher in urban men and women and increased with education. The effect of education was greatest in women with a quarter (27 percent) of women with grade 1-5 education using a condom compared with 66 percent of women with higher education. Condom use was highest in Gauteng (62 percent) and KwaZulu-Natal (65 percent) for women and in men was highest in North West (84 percent) and Western Cape (77 percent).

Table 9.4 Higher risk sex and condom use at last higher risk sex in the last year among young women and men

Among sexually active young women and men age 15-24, percentage who have had sexual relations with non-marital, non-cohabiting partner in the last 12 months, and among women and men age 15-24 who have had higher risk sex in the last 12 months, percentage who say they used a condom the last time they had sex with a non-marital, non-cohabiting partner, by background characteristics, South Africa 2003

| Background characteristic | WOMEN | | | | MEN | | | |
|---------------------------|--|---|--|--|--|---|--|--|
| | Percentage engaging in higher risk sex in last 12 months | Number of respondents sexually active in last 12 months | Percentage used condom at last higher risk sex | Number of respondents 15-24 who had higher risk sex 12 month | Percentage engaging in higher risk sex in last 12 months | Number of respondents sexually active in last 12 months | Percentage used condom at last higher risk sex | Number of respondents 15-24 who had higher risk sex 12 month |
| Age | | | | | | | | |
| 15-19 | 94.6 | 511 | 49.3 | 483 | 98.7 | 214 | 73.3 | 212 |
| 20-24 | 84.7 | 917 | 53.2 | 777 | 94.4 | 421 | 70.6 | 398 |
| Marital status | | | | | | | | |
| Never in union | 98.8 | 1 130 | 53.7 | 1 116 | 99.1 | 565 | 74.8 | 560 |
| Married/Living together | 48.3 | 298 | 35.7 | 144 | 70.2 | 70 | (35.0) | (49) |
| Residence | | | | | | | | |
| Urban | 89.0 | 909 | 58.3 | 810 | 96.1 | 429 | 74.9 | 412 |
| Non-urban | 86.9 | 518 | 39.7 | 450 | 95.4 | 207 | 64.5 | 198 |
| Region | | | | | | | | |
| Western Cape | 86.3 | 172 | 47.3 | 149 | (89.4) | (66) | (76.5) | (59) |
| Eastern Cape | 85.8 | 194 | 40.4 | 166 | (100.0) | (76) | (67.5) | (76) |
| Northern Cape | 80.9 | 23 | 43.3 | 19 | 94.9 | 10 | 69.7 | 9 |
| Free State | 84.6 | 85 | 52.3 | 72 | 95.6 | 40 | 68.7 | 38 |
| KwaZulu-Natal | 90.9 | 160 | 65.4 | 146 | 96.1 | 106 | 72.9 | 102 |
| North West | 90.2 | 117 | 55.0 | 105 | 98.7 | 62 | 83.8 | 61 |
| Gauteng | 90.3 | 365 | 62.0 | 330 | 97.0 | 156 | 73.8 | 152 |
| Mpumalanga | 88.3 | 101 | 42.2 | 89 | 96.5 | 54 | 75.5 | 52 |
| Limpopo | 87.7 | 210 | 39.3 | 184 | 91.6 | 66 | 50.2 | 60 |
| Education | | | | | | | | |
| No education | * | 14 | * | 12 | * | 8 | * | 8 |
| Grades 1-5 | (89.9) | 33 | (26.8) | 29 | * | 13 | * | 12 |
| Grades 6-7 | 88.9 | 72 | 34.1 | 64 | (89.0) | 38 | (58.7) | 34 |
| Grades 8-11 | 88.5 | 811 | 46.9 | 717 | 96.0 | 353 | 69.4 | 339 |
| Grades 12 | 85.6 | 371 | 64.3 | 317 | 96.2 | 174 | 80.8 | 167 |
| Higher | 94.0 | 125 | 65.5 | 117 | 98.8 | 50 | 76.7 | 50 |
| Population group | | | | | | | | |
| African | 89.6 | 1266 | 152.1 | 1135 | 96.7 | 556 | 70.5 | 537 |
| Afr. urban | 91.4 | 767 | 59.3 | 701 | 97.1 | 355 | 73.5 | 345 |
| Afr. non-urban | 86.9 | 499 | 40.5 | 434 | 95.8 | 201 | 65.1 | 192 |
| Coloured | 84.6 | 104 | 38.2 | 88 | 85.7 | 49 | 73.7 | 42 |
| Indian | (69.3) | 9 | * | 3 | (100.0) | 7 | (95.5) | 7 |
| White | (36.5) | 49 | (68.3) | 34 | * | 23 | * | 23 |
| Total 15-24 | 88.2 | 1 428 | 51.7 | 1 260 | 95.9 | 636 | 71.5 | 609 |

* Corresponds to UNAIDS Young People's Sexual Behavior Indicator 5 "Young people using a condom at last higher risk sex."

Table 9.5 Age-mixing in sexual relationships

Among women age 15-19 who have had non-marital sex in the last 12 months, percentage who have had non-marital sex with a man 10 years or more older than themselves in the last 12 months, by background characteristics, South Africa 2003

| Background characteristic | Percentage who had non-marital sex with a man 10+ years older | Number of women 15-19 having non-marital sex in last 12 months |
|---------------------------|---|--|
| Age | | |
| 15-17 | 3.2 | 198 |
| 18-19 | 5.2 | 285 |
| Marital Status | | |
| Never in union | 3.7 | 448 |
| Married/Living together | (13.3) | 35 |
| Residence | | |
| Urban | 3.4 | 280 |
| Non-urban | 5.8 | 203 |
| Region | | |
| Western Cape | (3.2) | 48 |
| Eastern Cape | (8.9) | 77 |
| Northern Cape | 2.1 | 9 |
| Free State | 0.0 | 30 |
| KwaZulu-Natal | (4.6) | 56 |
| North West | 3.3 | 37 |
| Gauteng | 2.8 | 93 |
| Mpumalanga | (6.1) | 36 |
| Limpopo | 4.3 | 97 |
| Education | | |
| No education | * | 4 |
| Grades 1-5 | * | 14 |
| Grades 6-7 | (1.6) | 31 |
| Grades 8-11 | 5.4 | 357 |
| Grades 12 | 2.3 | 65 |
| Higher | * | 13 |
| Population | | |
| African | 4.2 | 440 |
| Afr. urban | 2.9 | 240 |
| Afr. non-urban | 5.6 | 200 |
| Coloured | (7.0) | 30 |
| Indian | * | 1 |
| White | * | 12 |
| Total 15-19 | 4.4 | 483 |

Corresponds to UNAIDS Young People's Sexual Behavior Indicator 7 "Age-mixing in sexual relationships" - among the last three partners in the last 12 months.

There are concerns that young women may be placing themselves at greater risk of acquiring STIs or HIV by engaging in relationships with older men. In the 2003 survey young women aged 15-19 were asked about the age of their sexual partners in the last year to indicate what proportion of women are placing themselves at risk in this type of relationship. A small percentage of women aged 15-17 years (3 percent) and 18-19 years (5 percent) reported having sex with a non-marital partner 10 years or older than them in the past year. This figure was higher in the non-urban areas (6 percent). Although the coloured population reported the highest rates for age-mixing (7 percent) this number was based on a small sample and should be interpreted with caution.

Table 9.6 Sexual activity and condom use in last 12 months

Percentage of young women and men who have never had sex and condom use according to number of partners in last 12 months, South Africa 2003

| | 15-19 | 20-24 | 15-24 |
|---|-------|-------|-------|
| WOMEN | | | |
| Never had sex | 57.0 | 13.6 | 36.6 |
| Had sex, but not in last 12 months | 5.6 | 11.8 | 8.5 |
| Sex with only 1 partner & used condom last time | 15.8 | 33.9 | 24.3 |
| Sex with only 1 partner & did not use condom last time | 17.9 | 36.2 | 26.5 |
| Sex with more than 1 partner & used condom last time | 1.4 | 2.2 | 1.8 |
| Sex with more than 1 partner & did not use condom last time | 1.5 | 1.6 | 1.6 |
| Not defined | 0.8 | 0.8 | 0.8 |
| Total | 100.0 | 100.0 | 100.0 |
| Number | 1 395 | 1 242 | 2 637 |
| MEN | | | |
| Never had sex | 57.4 | 10.8 | 35.7 |
| Had sex, but not in last 12 months | 6.6 | 8.5 | 7.5 |
| Sex with only 1 partner & used condom last time | 19.5 | 38.2 | 28.2 |
| Sex with only 1 partner & did not use condom last time | 7.9 | 17.9 | 12.6 |
| Sex with more than 1 partner & used condom last time | 6.4 | 16.8 | 11.3 |
| Sex with more than 1 partner & did not use condom last time | 1.8 | 7.1 | 4.3 |
| Not defined | 0.3 | 0.8 | 0.5 |
| Total | 100.0 | 100.0 | 100.0 |
| Number | 603 | 527 | 1 129 |

Table 9.6 gives information on sexual activity and condom use in partnerships within the last 12 months. The table is structured to show increasingly risky sexual behaviour. For both men and women who reported more than one partner in the last 12 months the question was not asked in such a way to indicate whether the partnerships were concurrent or consecutive.

Over half of both male and female 15-19 year olds (57 percent) have never had sex. A small proportion of adolescents have had sex but not in the last year (6 percent). For 15-19 year old women with only one partner in the last year similar proportions used a condom at

last sex (16 percent) compared with those who did not use a condom (18 percent). Women who reported more than one partner in the last year also had similar proportion using and not using condoms (1.4 and 1.5 percent respectively). The pattern of condom use in 15-19 year old women was different to the men. In instances where they had sex with one partner more men used a condom at last sex (20 percent) compared to 8 percent who did not use a condom. Among those men with two or more partners, a higher percentage of men report using a condom (6 percent) compared to those who did not (2 percent). In the 20-24 year olds, the proportions who have never had sex falls to 14 percent of women and 11 percent of men. There are similar percentages of men and women who have had sex previously but not in the last 12 months. This means that approximately a quarter of women and a fifth of men in the 20-24 age groups had not had sex in the last year. A similar gender pattern of condom use was found in the 20-24 age group as among the 15-19 year olds. A similar proportion of women who had one partner in last year said they did not use a condom at last sex (36 percent) and slightly less said they used a condom (34 percent). Among men who had only one partner, 38 percent report condom use compared to 18 percent who did not use a condom. Similarly in men reporting more than one partner in the last year, more men used a condom at last sex (17 percent) compared to those who did not (7 percent). The information in this table shows that a higher proportion of men report condom use where they have had one partner or more than one partner in the last year compared to women.

Table 9.7 Condom use at first sex among young women and men

Among women and men age 15-24 who have ever had sex, percentage who used a condom the first time they ever had sex, by background characteristics South Africa 2003

| Background characteristics | WOMEN | | MEN | |
|----------------------------|----------------------------|---|----------------------------|---|
| | Used a condom at first sex | Number of respondents 15-24 who have ever had sex | Used a condom at first sex | Number of respondents 15-24 who have ever had sex |
| Age | | | | |
| 15-19 | 51.0 | 600 | 42.8 | 256 |
| 20-24 | 38.6 | 1 072 | 37.1 | 470 |
| Marital Status | | | | |
| Never in union | 45.2 | 1 355 | 39.9 | 651 |
| Married/Living together | 33.7 | 317 | 32.4 | 75 |
| Residence | | | | |
| Urban | 48.4 | 1 060 | 43.1 | 486 |
| Non-urban | 33.8 | 612 | 31.1 | 241 |
| Region | | | | |
| Western Cape | 44.1 | 213 | (50.5) | 72 |
| Eastern Cape | 26.8 | 234 | (32.1) | 81 |
| Northern Cape | 50.0 | 29 | 54.8 | 12 |
| Free State | 43.5 | 120 | 45.9 | 47 |
| KwaZulu-Natal | 53.4 | 169 | 36.0 | 118 |
| North West | 51.6 | 143 | 42.5 | 70 |
| Gauteng | 49.3 | 407 | 41.4 | 184 |
| Mpumalanga | 31.3 | 114 | 30.4 | 60 |
| Limpopo | 39.4 | 242 | 32.6 | 82 |
| Education | | | | |
| No education | * | 16 | * | 8 |
| Grades 1-5 | (15.4) | 46 | * | 17 |
| Grades 6-7 | 16.9 | 93 | (32.1) | 43 |
| Grades 8-11 | 40.7 | 951 | 36.9 | 408 |
| Grades 12 | 51.5 | 422 | 47.8 | 194 |
| Higher | 64.8 | 140 | 43.6 | 56 |
| Population group | | | | |
| African | 41.7 | 1 450 | 35.9 | 637 |
| Afr. urban | 46.0 | 833 | 38.7 | 403 |
| Afr. non-urban | 36.0 | 617 | 31.1 | 234 |
| Coloured | 42.9 | 115 | 56.4 | 54 |
| Indian | 50.3 | 25 | 82.0 | 8 |
| White | 65.6 | 76 | * | 28 |
| Total 15-24 | 43.0 | 1 672 | 39.1 | 726 |

* Corresponds to UNAIDS Young People's Sexual Behavior Indicator 6 "Condom use at first sex."

Table 9.7 shows data concerning condom use at first sex among sexually experienced women and men aged 15-24 according to selected background characteristics. Condom use at first sex was higher among the 15-19 year olds than the 20-24 year olds who were sexually experienced. Fifty-one percent of 15-19 year old women and 43 percent of men in this age group used a condom at first sex. In the 20-24 year age range, condom use at first sex was similar among women and men, 39 percent and 37 percent respectively. Condom use at first sex was higher among urban young women and men than non-urban women and men (48 percent and 43 percent for urban women and men respectively; 34 percent and 31 percent for non-urban women and men). Condom use at first sex also varied by province with low condom use at first sex reported by young women in the Eastern Cape (27 percent) and by young women and men in Mpumalanga (31 percent and 30 percent respectively). The highest rates of condom use at first

sex were reported by young women in KwaZulu-Natal (53 percent) and young men in Northern Cape (55 percent). Condom use at first sex increased with increased education: 65 percent of young women (15-24 years) with higher education used a condom at first sex compared with only 17 percent of those with grade 6-7 education. This trend was also evident among young men although not to the same extent, with 44 percent of those with higher education using a condom at last sex versus 32 percent among those with grade 6-7 education.

Teenage Pregnancy

Table 9.8 Teenage pregnancy and motherhood

Percentage of women age 15-19 who are mothers or pregnant with their first child, by background characteristics, South Africa 2003

| Background characteristic | Percentage who are: | | | Number of women |
|---------------------------|---------------------|---------------------------|--|-----------------|
| | Mothers | Pregnant with first child | Percentage who have begun childbearing | |
| Age | | | | |
| 15 | 1.2 | 0.9 | 2.1 | 294 |
| 16 | 3.5 | 1.9 | 5.4 | 280 |
| 17 | 9.5 | 1.7 | 11.2 | 275 |
| 18 | 12.3 | 3.8 | 16.1 | 294 |
| 19 | 23.4 | 3.7 | 27.1 | 251 |
| Residence | | | | |
| Urban | 8.9 | 2.1 | 11.0 | 819 |
| Non-urban | 10.7 | 2.8 | 13.5 | 576 |
| Region | | | | |
| Western Cape | 10.5 | 3.0 | 13.6 | 163 |
| Eastern Cape | 7.5 | 6.4 | 13.9 | 188 |
| Northern Cape | 12.9 | 2.5 | 15.4 | 27 |
| Free State | 12.3 | 2.8 | 15.1 | 95 |
| KwaZulu-Natal | 1.8 | 0.0 | 1.8 | 235 |
| North West | 10.5 | 3.7 | 14.2 | 95 |
| Gauteng | 11.2 | 1.0 | 12.2 | 277 |
| Mpumalanga | 12.2 | 1.1 | 13.3 | 92 |
| Limpopo | 14.1 | 2.5 | 16.6 | 223 |
| Education | | | | |
| No education | * | * | * | 8 |
| Grades 1-5 | (5.0) | (3.8) | (8.8) | 32 |
| Grades 6-7 | 16.4 | 3.8 | 20.2 | 120 |
| Grades 8-11 | 9.1 | 2.4 | 11.4 | 1 031 |
| Grades 12 | 7.7 | 1.8 | 9.5 | 178 |
| Higher | (7.4) | (0.0) | (7.4) | 26 |
| Population group | | | | |
| African | 10.5 | 2.2 | 12.7 | 1 209 |
| Afr. urban | 10.1 | 1.6 | 11.8 | 653 |
| Afr. non-urban | 10.9 | 2.9 | 13.8 | 556 |
| Coloured | 6.4 | 3.7 | 10.1 | 114 |
| Indian | 2.0 | 0.0 | 2.0 | 24 |
| White | (0.0) | (2.4) | (2.4) | 49 |
| Total | 9.6 | 2.3 | 11.9 | 1 396 |

Table 9.8 shows that 12 percent of women 15-19 are mothers or are pregnant with their first child. This is a decline from 16 percent observed in the 1998 SADHS. The proportion of teenagers who have begun childbearing rises rapidly from 2 percent at age 15 to 27 percent at age 19. This proportion is lower than that found in the 1998 SADHS where 35 percent of the women aged 19 reported that they had ever been pregnant. In the 2003 SADHS, similar proportions of the young women living in urban and non-urban areas have begun childbearing (11 percent and 14 percent respectively). The highest proportions of women aged 15-19 years who have ever been pregnant is found in Limpopo (17 percent), Northern Cape (15 percent) and Free State (15 percent). KwaZulu-Natal has the lowest proportion of women aged 15-19 years who have ever been pregnant (2 percent). This figure is much lower than that reported for KwaZulu-Natal (17 percent) in the 1998 SADHS and may be due in part to fieldwork problems noted in this province in particular. While this could also partially explain the overall decrease in the level of teenage pregnancy in the 2003 SADHS, it should be noted that in six of the nine provinces, the proportion of young women who have ever been pregnant is

lower in the 2003 SADHS than in the 1998 SADHS. Levels have declined substantially in Mpumalanga since 1998. The proportion of those who have ever been pregnant decreased with increasing education level, with 7 percent of those with higher education reporting having ever been pregnant, compared with 20 percent of those with grade 6-7 education. African teenagers have the highest rates of teenage pregnancies (13 percent) and whites and Indians the lowest at 2 percent.

HIV/AIDS Awareness

Table 9.9 HIV and AIDS awareness among youth

Percentage of women and men age 15-24 years with knowledge of AIDS and HIV prevention methods, agreeing with stated beliefs about AIDS, attitudes towards people living with HIV or AIDS, attitudes towards negotiating sex with partners and the percentage distribution of HIV testing status by age group, South Africa 2003

| | WOMEN | | | MEN | | |
|--|-------|-------|-------|-------|-------|-------|
| | 15-19 | 20-24 | 15-24 | 15-19 | 20-24 | 15-24 |
| Knowledge about AIDS | | | | | | |
| Has heard of AIDS | 93.0 | 93.3 | 93.2 | 93.1 | 93.7 | 93.3 |
| Knowledge about HIV prevention methods | | | | | | |
| Using condoms | 70.1 | 72.2 | 71.0 | 80.2 | 86.5 | 83.1 |
| Limiting sex to one uninfected partner | 72.5 | 76.4 | 74.4 | 77.8 | 80.3 | 79.0 |
| Using condoms and limiting sex to one uninfected partner | 66.1 | 68.7 | 67.3 | 69.6 | 76.3 | 72.7 |
| Beliefs about AIDS | | | | | | |
| A healthy-looking person can have the HIV virus | 75.8 | 77.3 | 76.5 | 75.7 | 81.1 | 78.2 |
| HIV cannot be transmitted by mosquito bites | 58.8 | 58.3 | 58.5 | 59.9 | 64.3 | 62.0 |
| HIV cannot be transmitted by witchcraft | 76.8 | 77.1 | 76.9 | na | na | na |
| A person cannot become infected by sharing food with HIV infected person | 73.7 | 74.9 | 74.9 | 82.1 | 84.4 | 83.2 |
| A healthy looking person can have the HIV virus and HIV cannot be transmitted by mosquito bites ¹ | 50.8 | 51.2 | 52.6 | na | na | na |
| Accepting attitudes towards those living with HIV/AIDS³ | | | | | | |
| Willing to care for family member with HIV or AIDS at home | 81.2 | 86.8 | 83.8 | na | na | na |
| Would buy fresh vegetables from shopkeeper with HIV or AIDS | 73.3 | 75.6 | 74.4 | na | na | na |
| Believe HIV positive teacher should be allowed to teach | 81.3 | 85.6 | 83.3 | na | na | na |
| Would not want HIV+ status of family member to remain secret | 59.4 | 58.5 | 59.0 | na | na | na |
| Acceptance on all 4 measures ² | 36.7 | 39.8 | 38.2 | na | na | na |
| Knowledge of prevention of mother to child transmission of HIV | | | | | | |
| HIV can be transmitted by breastfeeding | 48.9 | 57.4 | 52.9 | 47.5 | 48.6 | 48.0 |
| Had HIV test and received test results | | | | | | |
| Received results | 6.7 | 16.1 | 11.1 | 5.1 | 13.3 | 8.8 |
| No results | 4.1 | 16.4 | 9.9 | 0.9 | 3.0 | 1.9 |
| Never tested | 81.1 | 59.4 | 70.9 | 86.5 | 77.3 | 82.3 |
| DK/Missing | 8.2 | 8.1 | 8.1 | 7.6 | 6.3 | 7.0 |
| Attitudes toward negotiating safer sex with partner | | | | | | |
| Refuse sex | 66.6 | 66.4 | 66.5 | 66.8 | 67.8 | 67.3 |
| Refuse sex or propose condom use | 77.2 | 84.2 | 80.5 | na | na | na |
| Total | 1 395 | 1 242 | 2 637 | 603 | 527 | 1 129 |

¹ Corresponds to UNAIDS Knowledge indicator 2 "No incorrect beliefs about AIDS".

² Corresponds to UNAIDS Stigma and Discrimination indicator 1 "Accepting attitudes towards those living with HIV".

³ Based on those who have heard of HIV/AIDS.

na = Not applicable.

Table 9.9 summarizes a number of questions asked about HIV and AIDS awareness, beliefs and attitudes in men and women aged 15-19 and 20-24 years. The majority of men and women in both age groups (93 percent) have heard of AIDS. However, less know about HIV prevention methods. Just fewer than three-quarters of women have knowledge that using condoms and limiting sex to one uninfected partner can prevent HIV infection. The knowledge is slightly higher for all three prevention strategies in the 20-24 year age group. Knowledge of prevention of HIV is slightly higher among men both age groups than among women. For both men and women, the 20-24 age groups is more knowledgeable than the younger group.

Beliefs about AIDS were asked of women and there were few differences between the two age groups. About three-quarters of women correctly identified that a healthy looking person can have the HIV virus, that it cannot be transmitted by witchcraft or that a person cannot become infected by sharing food with a HIV infected person. There was some uncertainty about mosquito bites with only just over half (58 percent) of women in both age groups agreeing with the statement that HIV

cannot be transmitted by mosquito bites. Half of women rejected this common misconception about mosquito bites and agreed that a healthy person could in fact be infected with HIV. This indicates that there is much scope to improve the knowledge about HIV and AIDS among young women.

Statements asking about accepting attitudes towards those living with HIV/AIDS were only asked of women. Acceptance was highest for willingness to care for HIV positive family members and HIV positive teachers being allowed to teach. Around three-quarters of both age groups said they would be prepared to buy fresh food from an HIV positive shopkeeper. Although there was high acceptance of those willing to care for family members with HIV, far less would like it to be known that there was an HIV positive member in the family. In total, just over a third of both age groups expressed acceptance on all four scenarios presented in this question. Acceptance was slightly higher in the 20-24 year age group for all statements except for not wanting the HIV positive status of a family member to remain a secret and in this case both age groups reported similar levels of agreement.

Knowledge of prevention of mother to child transmission (PMTCT) was highest in the 20-24 year age group of women. This is expected as many women will have heard about PMTCT in the 20-24 age group during antenatal care. Knowledge was similar for the youngest age group of women (49 percent) and both age groups of men.

Few women (7 percent) and fewer men (5 percent) in the 15-19 age groups have had an HIV test and received the results. This could be expected as over half of men and women have not had sex in this age group. Testing rates increased in the 20-24 age group for both men and women with slightly more women (16 percent) compared to men (13 percent). VCT services are now available in most PHC clinics and for pregnant women HIV testing is available in the PMTCT programme. Although the availability of this service has increased in recent years this survey shows that greater emphasis should be placed on utilization of this service.

Approximately two-thirds of men and women in the 15-24 age group believe that if the male partner has an STI his girlfriend/wife can refuse to have sex with him. Over three quarters of women aged 15-19 (77 percent) and more (84 percent) say a woman can refuse to have sex or propose condom use if her partner has an STI.

9.3 Contraception and Use of Condoms

Contraceptive use is high among young sexually active women aged 15-24 (68 percent) (Table 4.3 in Chapter 4), which is the same as in the 1998 SADHS (68 percent). Contraceptive use is much lower among women aged 15-19 years who were currently in a union (47 percent) and slightly lower among women in a union, aged 20-24 years (62 percent). The injectable contraceptive is still by far the most commonly used method (Table 4.3 in Chapter 4). The two-monthly injectable Nurlsterate is particularly popular, especially among women in the youngest age group, with 36 percent of sexually active unmarried women aged 15-19 years and 26 percent aged 20-24 using this method. In contrast, 8 percent of sexually active women aged 15-19 years and 15 percent aged 20-24 were using the three-monthly injectable Depo-Provera[®]. There has been a considerable increase in male condom use among young women since the 1998 SADHS. Among sexually active women, 18 percent in the 15-19 year age group and 15 percent aged 20-24 years are currently using condoms as their contraceptive method. In the 1998 DHS, only 4 percent of sexually active women aged 15-19 used condoms as a form of contraception. However, male condom use for contraception is lower among young women in a union, being used by 10 percent of those aged 15-19 and 12 percent of those aged 20-24 years. Few young women are using female condoms, only 0.2 percent of those aged 20-24 percent, and nil in the younger age group. Condom use at last sex among young people having premarital sex in the last year (Table 9.2), and condom use at last sex among sexually

active young women and men who had had sexual relations with a non-marital, non-cohabiting partner in the last twelve months are described earlier in this chapter (Table 9.4). Use of oral contraceptives among sexually active women aged 15-19 has dropped from 9 percent in the 1998 SADHS to 5 percent in the 2003 survey. Among women aged 15-19 years and currently in a union, oral contraceptive use was higher (12 percent).

9.4 Incidence of Intentional and Unintentional Injury

A total of 16 injuries in the month preceding the survey were reported by the 3 170 household members between the ages of 15 and 19 years (data not shown). There were 1.7 male injuries for every female injury reported and for both sexes unintentional injuries were more common than intentional injuries. There were 7 unintentional injuries recorded for every intentional injury. Urban injury rates were 50 percent higher than the rates in rural areas.

9.5 Patterns of Exposure to Tobacco

The use of tobacco products during adolescence usually leads to a lifelong addiction to nicotine. This has serious health consequences as tobacco will kill up to half of all smokers who start young and continue throughout their lives and half of those will die before the age of 69 years (Peto *et al.*, 1994). This section reports on the tobacco use patterns among adolescents aged 15-19 years. Some of the subgroups have insufficient numbers of participants to make meaningful deductions from the data in the subgroups.

Tables 9.10 and 9.11 shows the prevalence of the tobacco use among boys and girls and the age of initiation of the habit by age, residence and other background characteristics. Twice as many adolescent men than adolescent women have ever used tobacco products (20 percent and 10 percent respectively). In 1998 these figures were 17 and 9 percent respectively for males and females. The adolescents in urban areas use tobacco much more frequently than those in non-urban settings with the differences much larger among the females. For males the rates were highest in the Northern, Western and Eastern Cape provinces and for females in the Northern and Western Cape provinces. The African adolescents have much lower rates of having ever used any tobacco product than any other group.

Very few adolescents use smokeless tobacco while 14 percent of males report smoking daily and 16 percent daily or occasionally (fig 9.1). In 1998 these figures were 11 percent and 14 percent. For females just more than 5 percent smoked daily or occasionally while in 1998 6 percent did so. As in the case of the adult smokers, fewer adolescents use manufactured cigarettes in 2003 than in 1998, again emphasizing how the increase in prices and taxing of manufactured cigarettes may have partially resulted in a move towards young smokers buying loose tobacco and rolling their own cigarettes.

Table 9.10 Tobacco use by adolescent men

Percentage of males aged 15-19 years who ever used tobacco products, who currently smoked daily or occasionally, and of those who ever smoked daily, the percentage who smoke manufactured cigarettes and the mean starting age, according to background characteristics, South Africa 2003

| Background characteristics | Among men 15-19, percentage who: | | | | Among those who currently smoked daily | | | | Number who ever smoked cigarettes daily | | | | |
|----------------------------|----------------------------------|-----------------------------------|---------------------------|------------------------|--|-----------------------------|---------------|---|---|-----------------------------------|-----------|-------------------------------|-----------|
| | Ever used any tobacco products | Ever used smokeless tobacco daily | Ever smoked tobacco daily | Currently smoked daily | Currently smoked occasionally | Smoke daily or occasionally | Number of men | Percentage who smoked manufactured cigarettes | | Mean duration of smoking in years | Std error | Mean age when started smoking | Std error |
| Age | | | | | | | | | | | | | |
| 15 | 7.0 | 3.6 | 2.5 | 1.0 | 0.9 | 1.9 | 110 | * | * | * | * | * | 1 |
| 16 | 12.3 | 1.4 | 10.2 | 8.2 | 0.7 | 8.9 | 150 | * | * | * | * | * | 12 |
| 17 | 18.1 | 0.6 | 14.5 | 13.1 | 2.9 | 16.1 | 111 | * | * | * | * | * | 15 |
| 18 | 28.2 | 0.5 | 27.7 | 23.7 | 2.3 | 26.0 | 145 | (94.6) | (2.9) | (0.2) | (15.4) | (0.2) | 34 |
| 19 | 32.2 | 7.5 | 25.6 | 22.7 | 2.4 | 25.1 | 127 | (89.5) | (3.0) | (0.4) | (16.1) | (0.4) | 29 |
| Residence | | | | | | | | | | | | | |
| Urban | 22.6 | 2.4 | 19.8 | 17.5 | 1.3 | 18.8 | 381 | 91.5 | 2.6 | 0.2 | 15.5 | 0.3 | 67 |
| Non-urban | 16.0 | 3.0 | 12.0 | 9.3 | 2.6 | 11.9 | 261 | (92.3) | (3.3) | (0.4) | (14.6) | (0.4) | 24 |
| Province | | | | | | | | | | | | | |
| Western Cape | 37.1 | 0.0 | 37.1 | 32.5 | 0.0 | 32.5 | 60 | * | * | * | * | * | 20 |
| Eastern Cape | 25.7 | 3.3 | 20.8 | 19.2 | 3.3 | 22.5 | 66 | * | * | * | * | * | 13 |
| Northern Cape | 26.4 | 1.4 | 26.4 | 21.3 | 0.0 | 21.3 | 10 | * | * | * | * | * | 2 |
| Free State | 21.2 | 0.8 | 17.7 | 12.7 | 5.8 | 18.5 | 51 | * | * | * | * | * | 6 |
| KwaZulu-Natal | 17.0 | 2.5 | 16.1 | 14.8 | 1.2 | 15.9 | 131 | * | * | * | * | * | 19 |
| North West | 17.3 | 3.1 | 12.7 | 4.4 | 2.9 | 7.3 | 44 | * | * | * | * | * | 2 |
| Gauteng | 20.2 | 3.8 | 14.5 | 14.3 | 1.9 | 16.2 | 150 | * | * | * | * | * | 21 |
| Mpumalanga | 15.6 | 5.6 | 11.2 | 6.8 | 0.0 | 6.8 | 54 | * | * | * | * | * | 4 |
| Limpopo | 8.6 | 1.2 | 6.2 | 4.9 | 1.2 | 6.2 | 76 | * | * | * | * | * | 4 |
| Education | | | | | | | | | | | | | |
| No education | 40.8 | 10.2 | 30.6 | 30.6 | 0.0 | 30.6 | 7 | * | * | * | * | * | 2 |
| Grades 1-5 | 40.7 | 5.4 | 32.0 | 26.7 | 5.6 | 32.3 | 44 | * | * | * | * | * | 12 |
| Grades 6-7 | 13.0 | 0.8 | 10.8 | 10.8 | 1.6 | 12.3 | 79 | * | * | * | * | * | 8 |
| Grades 8-11 | 17.4 | 3.0 | 14.6 | 12.2 | 0.8 | 13.0 | 424 | 92.0 | 2.7 | 0.2 | 15.4 | 0.2 | 52 |
| Grade 12 | 25.7 | 1.0 | 21.4 | 16.8 | 6.6 | 23.4 | 67 | * | * | * | * | * | 11 |
| Higher | 28.9 | 0.0 | 28.9 | 28.9 | 0.0 | 28.9 | 20 | * | * | * | * | * | 6 |
| Population Group | | | | | | | | | | | | | |
| African | 15.8 | 2.5 | 13.2 | 10.6 | 1.5 | 12.1 | 572 | 88.0 | 2.9 | 0.3 | 15.0 | 0.3 | 61 |
| Afr. urban | 16.8 | 2.0 | 15.3 | 12.9 | 0.6 | 13.5 | 319 | (86.2) | (2.6) | (0.3) | (15.4) | (0.3) | 41 |
| Afr. non-urban | 14.6 | 3.1 | 10.4 | 7.7 | 2.7 | 10.3 | 253 | * | * | * | * | * | 19 |
| Coloured | 48.8 | 0.3 | 48.8 | 47.4 | 0.7 | 48.1 | 46 | * | * | * | * | * | 22 |
| White | 68.5 | 0.0 | 40.8 | 36.3 | 27.6 | 63.9 | 10 | * | * | * | * | * | 4 |
| Indian | 55.2 | 20.2 | 35.0 | 35.0 | 0.0 | 35.0 | 14 | * | * | * | * | * | 5 |
| Total | 19.9 | 2.7 | 16.6 | 14.2 | 1.8 | 16.0 | 642 | 91.7 | 2.8 | 0.2 | 15.2 | 0.2 | 91 |

Note: Std error = Standard deviation of the mean.

Parenthesis indicate that a figure is based on 25-49 respondents. An asterisk indicates that a figure is based on fewer than 25 unweighted cases and has been suppressed.

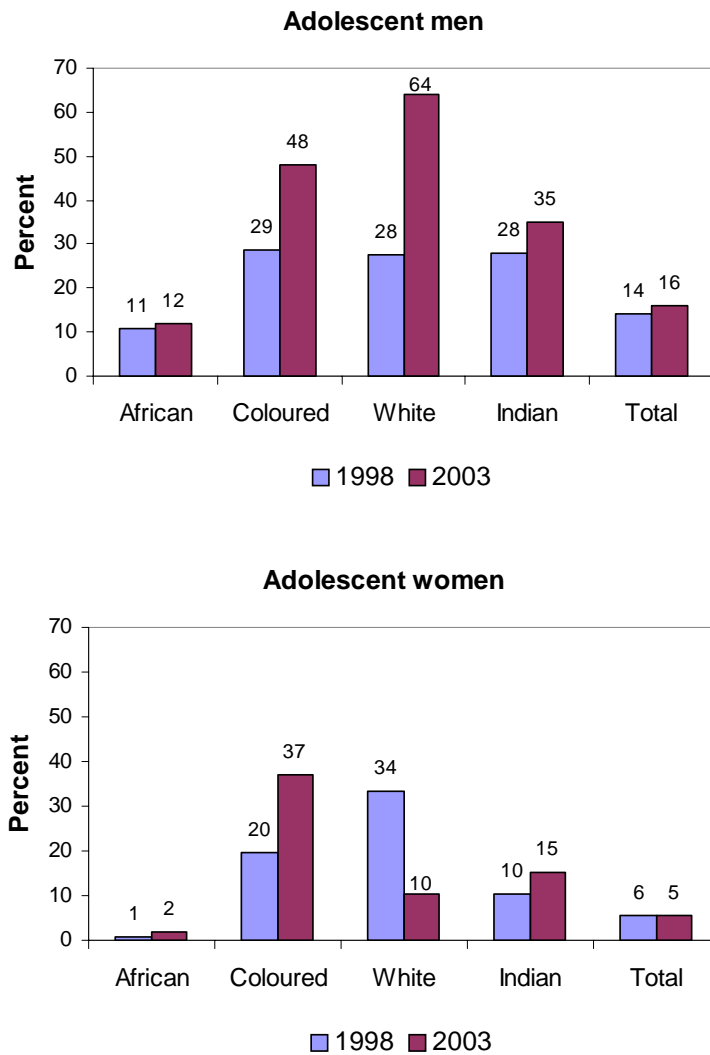
Table 9.11 Tobacco use by adolescent women

Percentage of females aged 15-19 years who ever used tobacco products, who ever smoked daily and who currently smoke daily or occasionally, and of those who currently smoked daily, the percentage who smoke manufactured cigarettes and the mean starting age, according to background characteristics, South Africa 2003

| Background characteristic | Among women 15-19, percentage who | | | | Among those who currently smoked daily | | | | | | | | | |
|---------------------------|-----------------------------------|-----------------------------------|---------------------------|--------------------------------|--|-------------------------------|-----------------------------|-----------------|---|-----------------------------------|-----------|-------------------------------|-----------|---|
| | Ever used any tobacco products | Ever used smokeless tobacco daily | Ever smoked tobacco daily | Ever used any tobacco products | Currently smoked daily | Currently smoked occasionally | Smoke daily or occasionally | Number of women | Percentage who smoked manufactured cigarettes | Mean duration of smoking in years | Std error | Mean age when started smoking | Std error | Number who ever smoked cigarettes daily |
| Age | | | | | | | | | | | | | | |
| 15 | 7.9 | 0.5 | 7.5 | 5.2 | 0.0 | 0.0 | 5.2 | 122 | * | * | * | * | * | 6 |
| 16 | 9.1 | 2.0 | 6.7 | 3.3 | 0.1 | 0.1 | 3.4 | 135 | * | * | * | * | * | 4 |
| 17 | 12.4 | 1.4 | 11.3 | 6.6 | 0.1 | 0.1 | 6.8 | 131 | * | * | * | * | * | 9 |
| 18 | 4.7 | 0.0 | 3.7 | 3.6 | 0.9 | 0.9 | 4.5 | 148 | * | * | * | * | * | 5 |
| 19 | 18.3 | 4.0 | 15.4 | 7.0 | 0.5 | 0.5 | 7.5 | 120 | * | * | * | * | * | 8 |
| Residence | | | | | | | | | | | | | | |
| Urban | 13.9 | 1.7 | 12.4 | 7.7 | 0.5 | 0.5 | 8.3 | 399 | (100.0) | (2.9) | (0.2) | (14.7) | (0.2) | 31 |
| Non-urban | 4.5 | 1.2 | 2.9 | 0.9 | 0.1 | 0.1 | 1.0 | 258 | * | * | * | * | * | 2 |
| Province | | | | | | | | | | | | | | |
| Western Cape | 30.6 | 0.0 | 28.8 | 17.2 | 1.7 | 1.7 | 18.9 | 80 | * | * | * | * | * | 14 |
| Eastern Cape | 8.5 | 0.0 | 8.5 | 8.5 | 0.0 | 0.0 | 8.5 | 87 | * | * | * | * | * | 7 |
| Northern Cape | 29.8 | 1.4 | 26.0 | 15.2 | 2.4 | 2.4 | 17.6 | 13 | * | * | * | * | * | 2 |
| Free State | 12.2 | 8.1 | 2.1 | 2.1 | 1.2 | 1.2 | 3.3 | 48 | * | * | * | * | * | 1 |
| KwaZulu-Natal | 6.0 | 0.0 | 6.0 | 2.3 | 0.0 | 0.0 | 2.3 | 130 | * | * | * | * | * | 3 |
| North West | 1.6 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 41 | * | * | * | * | * | 0 |
| Gauteng | 11.1 | 2.6 | 11.1 | 5.8 | 0.0 | 0.0 | 5.8 | 109 | * | * | * | * | * | 6 |
| Mpumalanga | 3.5 | 2.4 | 1.1 | 0.0 | 0.0 | 0.0 | 0.0 | 46 | * | * | * | * | * | 0 |
| Limpopo | 3.5 | 1.8 | 1.8 | 0.0 | 0.0 | 0.0 | 0.0 | 104 | * | * | * | * | * | 0 |
| Education | | | | | | | | | | | | | | |
| No education | 35.4 | 0.0 | 35.4 | 35.4 | 0.0 | 0.0 | 35.4 | 6 | * | * | * | * | * | 2 |
| Grades 1-5 | 21.8 | 6.5 | 3.8 | 2.7 | 11.5 | 11.5 | 14.1 | 12 | * | * | * | * | * | 0 |
| Grades 6-7 | 11.0 | 4.1 | 6.9 | 6.9 | 0.0 | 0.0 | 6.9 | 50 | * | * | * | * | * | 3 |
| Grades 8-11 | 9.2 | 1.4 | 8.0 | 3.7 | 0.2 | 0.2 | 3.9 | 486 | * | * | * | * | * | 18 |
| Grade 12 | 9.2 | 0.0 | 9.2 | 5.9 | 0.0 | 0.0 | 5.9 | 92 | * | * | * | * | * | 5 |
| Higher | 35.5 | 0.0 | 35.5 | 35.5 | 0.0 | 0.0 | 35.5 | 11 | * | * | * | * | * | 4 |
| Population Group | | | | | | | | | | | | | | |
| African | 5.8 | 1.7 | 4.3 | 1.6 | 0.1 | 0.1 | 1.7 | 568 | * | * | * | * | * | 9 |
| Afr. urban | 7.7 | 2.1 | 6.4 | 2.3 | 0.2 | 0.2 | 2.5 | 317 | * | * | * | * | * | 7 |
| Afr. non-urban | 3.2 | 1.3 | 1.6 | 0.6 | 0.0 | 0.0 | 0.6 | 250 | * | * | * | * | * | 2 |
| Coloured | 47.6 | 0.3 | 44.5 | 34.2 | 2.8 | 2.8 | 37.0 | 61 | * | * | * | * | * | 21 |
| White | 15.6 | 0.0 | 15.6 | 10.3 | 0.0 | 0.0 | 10.3 | 12 | * | * | * | * | * | 1 |
| Indian | 24.4 | 0.0 | 24.4 | 15.3 | 0.0 | 0.0 | 15.3 | 15 | * | * | * | * | * | 2 |
| Total | 10.2 | 1.5 | 8.7 | 5.1 | 0.3 | 0.3 | 5.4 | 657 | (99.6) | (2.9) | (0.2) | (14.8) | (0.2) | 33 |

Note: Std error = Standard deviation of the mean. Parenthesis indicate that a figure is based on 25-49 respondents. An asterisk indicates that a figure is based on fewer than 25 unweighted cases and has been suppressed.

Figure 9.1 Percentage of adolescent men and women who ever smoked cigarettes daily or occasionally



9.6 Alcohol Use/Misuse by Adolescents

By the time young people reach mid-adolescence many have begun to use alcohol, sometimes irresponsibly. Alcohol misuse by adolescents has been linked to several negative consequences including absenteeism from school, school failure, road-related injuries and sexual risk behaviour including teenage pregnancy. The SADHS included nine questions to assess lifetime, past 12 months and past seven days use of alcohol, amount consumed on average per day, frequency of drinking in the past 12 months and a four-item measure of symptoms of alcohol problems (Erwing, 1984). The findings based on the latter measure were not reported as this instrument was designed for the adult population.

Drinking patterns

Just under a third (32 percent) of adolescent males and just under a fifth (17 percent) of adolescent females reported that they have ever consumed alcohol during their lifetime (Tables 9.12 and 9.13). Twenty-eight percent of male adolescents and 14 percent of female adolescents acknowledge that they had consumed alcohol during the past 12 months. The proportion of adolescents indicating that they had drunk alcohol over the past seven days ('currently') is substantially less, at 15 percent for males and 8 percent for females. For both sexes combined, the proportion of adolescents currently consuming alcohol is 11 percent. This is the same percentage found in the 1998 SADHS (Department of Health, 1998) and translates into more than 550 000 adolescents countrywide (Statistics South Africa, 2003).

From Tables 9.12 and 9.13, it can also be seen that the proportion of current drinkers differs substantially by population group and sex, with the highest proportion of the population drinking being found among white males (45 percent) and the lowest proportion being found among African females (5 percent). These two demographic groups were also the highest and the lowest in 1998 SADHS, but the proportion of white males reporting currently drinking appears to have decreased (53 percent in 1998) and the proportion of African females has increased (from 3 percent to 5 percent). The numbers were too low to accurately assess current drinking rates among Indians. Interestingly, the proportion of adolescents who have ever drunk alcohol or who drank in the past 12 months, increased among the 18 and 19 year old males but remained constant over the adolescent ages in the case of females. In 1998 the current drinking levels appeared to be positively associated with age for both males and females.

The proportion of male and female adolescents reporting that they had ever consumed alcohol in 2003 SADHS (32 percent of men and 17 percent of women) is less than was found in the national Youth Risk Behaviour Survey (YRBS) of high school learners aged 11 to 20 conducted by the Department of Health in 2002 (Reddy *et al.*, 2003). In this study 56 percent of males and 44 percent of females reported lifetime use of alcohol. For both males and females, the proportion reporting lifetime use of alcohol was substantially higher in the YRBS for each age. The lower reported rates observed in the SADHS are likely to reflect different survey methodology used rather than any dramatic reduction in drinking rates over an 18-24 month period.

Table 9.12 Alcohol use among adolescent men

Percentage of men aged 15-19 years who ever drank alcohol, who drank alcohol in the past 12 months or past 7 days (current drinkers) and the percentage of drinkers with on average responsible (<2 drinks per day), hazardous drinking (2-5 drinks per day) and harmful drinking (6+ drinks per day) in the past 12 months and the past 7 days by background characteristics, South Africa 2003.

| Background characteristic | Ever drank alcohol | Drink past 12 months | Average in past 12 months | | | | Average in past 7 days | | | | Number | | | |
|---------------------------|--------------------|----------------------|---------------------------|-----------------------|----------------------|-------------------|------------------------|-------------------|------------|-----------------------|--------|----------------------|-------------------|--|
| | | | Abstainers | Responsible <2 drinks | Hazardous 2-5 drinks | Harmful 6+ drinks | Missing | Drink past 7 days | Abstainers | Responsible <2 drinks | | Hazardous 2-5 drinks | Harmful 6+ drinks | |
| Age | | | | | | | | | | | | | | |
| 15 | 22.8 | 20.8 | 79.2 | 20.8 | 0.0 | 0.0 | 0.0 | 8.9 | 91.1 | 8.9 | 0.0 | 0.0 | 110 | |
| 16 | 24.7 | 22.7 | 77.3 | 20.3 | 1.5 | 0.9 | 0.0 | 12.4 | 87.7 | 12.2 | 0.1 | 0.0 | 150 | |
| 17 | 24.3 | 17.0 | 83.0 | 13.6 | 1.4 | 1.2 | 0.8 | 8.7 | 91.3 | 7.2 | 1.5 | 0.0 | 111 | |
| 18 | 36.3 | 31.0 | 69.0 | 27.3 | 0.9 | 0.7 | 2.0 | 21.4 | 78.6 | 21.2 | 0.1 | 0.1 | 145 | |
| 19 | 50.0 | 45.1 | 54.9 | 41.2 | 1.5 | 2.4 | 0.0 | 22.4 | 77.6 | 17.7 | 1.7 | 3.1 | 127 | |
| Residence | | | | | | | | | | | | | | |
| Urban | 38.0 | 32.6 | 67.4 | 29.7 | 1.2 | 1.0 | 0.8 | 18.5 | 81.5 | 16.6 | 1.0 | 0.8 | 381 | |
| Non-urban | 23.1 | 20.5 | 79.5 | 17.9 | 1.0 | 1.2 | 0.4 | 10.3 | 89.7 | 9.9 | 0.1 | 0.4 | 261 | |
| Province | | | | | | | | | | | | | | |
| Western Cape | 52.6 | 45.8 | 54.2 | 39.0 | 2.3 | 4.5 | 0.0 | 23.6 | 76.4 | 21.3 | 2.3 | 0.0 | 60 | |
| Eastern Cape | 31.0 | 27.7 | 72.3 | 26.1 | 0.0 | 1.6 | 0.0 | 22.8 | 77.2 | 17.9 | 0.0 | 4.9 | 66 | |
| Northern Cape | 33.2 | 31.8 | 68.2 | 26.9 | 3.3 | 1.6 | 0.0 | 26.2 | 73.9 | 21.0 | 5.2 | 0.0 | 10 | |
| Free State | 24.3 | 21.6 | 78.4 | 20.5 | 0.0 | 0.0 | 1.2 | 9.3 | 90.7 | 9.3 | 0.0 | 0.0 | 51 | |
| KwaZulu-Natal | 16.1 | 11.7 | 88.3 | 11.5 | 0.0 | 0.1 | 0.0 | 5.2 | 94.9 | 3.3 | 1.7 | 0.1 | 131 | |
| North West | 40.7 | 37.1 | 62.9 | 34.0 | 0.0 | 3.1 | 0.0 | 27.6 | 72.4 | 27.6 | 0.0 | 0.0 | 44 | |
| Gauteng | 43.1 | 37.8 | 62.2 | 34.8 | 1.5 | 0.0 | 1.5 | 17.7 | 82.3 | 17.7 | 0.0 | 0.0 | 150 | |
| Mpumalanga | 24.4 | 23.2 | 76.8 | 17.6 | 3.1 | 2.5 | 0.0 | 17.2 | 82.8 | 16.0 | 0.0 | 1.2 | 54 | |
| Limpopo | 26.6 | 21.9 | 78.1 | 18.9 | 1.8 | 0.0 | 1.2 | 8.0 | 92.0 | 8.0 | 0.0 | 0.0 | 76 | |
| Education | | | | | | | | | | | | | | |
| No education | 52.2 | 52.2 | 47.8 | 52.2 | 0.0 | 0.0 | 0.0 | 32.9 | 67.1 | 32.9 | 0.0 | 0.0 | 7 | |
| Grades 1-5 | 46.4 | 42.6 | 57.4 | 32.0 | 8.2 | 2.4 | 0.0 | 24.2 | 75.8 | 21.4 | 0.4 | 2.4 | 44 | |
| Grades 6-7 | 23.6 | 20.1 | 79.9 | 18.6 | 0.4 | 1.2 | 0.0 | 12.5 | 87.5 | 12.1 | 0.2 | 0.2 | 79 | |
| Grades 8-11 | 29.7 | 25.6 | 74.4 | 23.0 | 0.6 | 1.2 | 0.9 | 13.7 | 86.3 | 13.1 | 0.4 | 0.2 | 424 | |
| Grade 12 | 35.5 | 31.0 | 69.0 | 31.0 | 0.0 | 0.0 | 0.0 | 18.0 | 82.0 | 14.8 | 0.0 | 3.2 | 67 | |
| Higher | 61.5 | 50.8 | 49.2 | 47.4 | 3.4 | 0.0 | 0.0 | 22.4 | 77.6 | 11.8 | 10.7 | 0.0 | 20 | |
| Population group | | | | | | | | | | | | | | |
| African | 28.5 | 24.3 | 75.7 | 21.5 | 1.2 | 0.9 | 0.7 | 13.6 | 86.4 | 12.6 | 0.3 | 0.7 | 572 | |
| Afr. urban | 33.1 | 27.7 | 72.3 | 24.8 | 1.3 | 0.7 | 0.9 | 16.1 | 83.9 | 14.7 | 0.5 | 0.9 | 319 | |
| Afr. non-urban | 22.7 | 20.0 | 80.0 | 17.4 | 1.0 | 1.2 | 0.4 | 10.3 | 89.7 | 9.9 | 0.0 | 0.4 | 253 | |
| Coloured | 56.1 | 50.1 | 49.9 | 46.1 | 0.7 | 3.3 | 0.0 | 19.8 | 80.2 | 18.7 | 1.1 | 0.0 | 46 | |
| White | 64.8 | 64.8 | 35.2 | 64.8 | 0.0 | 0.0 | 0.0 | 44.6 | 55.4 | 29.8 | 14.8 | 0.0 | 14 | |
| Indian | 68.3 | 63.1 | 36.9 | 63.1 | 0.0 | 0.0 | 0.0 | 40.9 | 59.1 | 40.9 | 0.0 | 0.0 | 10 | |
| Total | 31.9 | 27.7 | 72.3 | 24.9 | 1.1 | 1.1 | 0.6 | 15.2 | 84.8 | 13.9 | 0.6 | 0.6 | 642 | |

1 man had education unknown. 1 man had population group missing.

Table 9.13. Alcohol use among adolescent women

Percentage of women aged 15-19 years who ever drank alcohol, who drank alcohol in the past 12 months or past 7 days (current drinkers) and the percentage of drinkers with on average responsible (<2 drinks per day), hazardous drinking (2-3 drinks per day) and harmful drinking (4+ drinks per day) in the past 12 months and the past 7 days by background characteristics, South Africa 2003.

| Background characteristic | Ever drank alcohol | Drink past 12 months | Average in past 12 months | | | | Missing | Drink past 7 days | Average in past 7 days | | | | Number |
|---------------------------|--------------------|----------------------|---------------------------|-----------------------|----------------------|-------------------|---------|-------------------|------------------------|----------------------|-------------------|-----|--------|
| | | | Abstainers | Responsible <2 drinks | Hazardous 2-3 drinks | Harmful 4+ drinks | | | Responsible <2 drinks | Hazardous 2-3 drinks | Harmful 4+ drinks | | |
| Age | | | | | | | | | | | | | |
| 15 | 14.5 | 12.6 | 87.4 | 10.9 | 0.0 | 1.7 | 0.0 | 7.6 | 92.5 | 7.6 | 0.0 | 0.0 | 122 |
| 16 | 18.0 | 13.8 | 86.2 | 9.6 | 3.1 | 1.0 | 0.0 | 9.2 | 90.8 | 7.6 | 1.6 | 0.0 | 135 |
| 17 | 21.4 | 17.2 | 82.8 | 15.0 | 0.6 | 1.6 | 0.0 | 7.1 | 92.9 | 3.4 | 3.7 | 0.0 | 131 |
| 18 | 14.4 | 10.4 | 89.6 | 7.7 | 1.0 | 1.7 | 0.0 | 5.9 | 94.1 | 4.2 | 0.7 | 0.9 | 148 |
| 19 | 17.7 | 14.8 | 85.2 | 9.1 | 1.9 | 3.0 | 0.8 | 8.4 | 91.6 | 6.9 | 1.4 | 0.0 | 120 |
| Residence | | | | | | | | | | | | | |
| Urban | 23.3 | 18.6 | 81.4 | 14.8 | 1.8 | 2.1 | 0.0 | 10.0 | 90.0 | 7.5 | 2.2 | 0.3 | 399 |
| Non-urban | 7.8 | 6.0 | 94.0 | 3.7 | 0.7 | 1.3 | 0.4 | 3.9 | 96.1 | 3.4 | 0.4 | 0.0 | 258 |
| Province | | | | | | | | | | | | | |
| Western Cape | 39.6 | 37.4 | 62.6 | 27.9 | 3.4 | 6.1 | 0.0 | 25.4 | 74.6 | 20.3 | 3.4 | 1.7 | 80 |
| Eastern Cape | 17.2 | 9.7 | 90.3 | 6.2 | 0.0 | 3.5 | 0.0 | 4.7 | 95.3 | 3.5 | 1.3 | 0.0 | 87 |
| Northern Cape | 41.3 | 34.2 | 65.8 | 30.4 | 1.4 | 2.4 | 0.0 | 16.3 | 83.7 | 13.6 | 2.7 | 0.0 | 13 |
| Free State | 17.2 | 12.6 | 87.4 | 8.9 | 2.5 | 1.2 | 0.0 | 8.9 | 91.1 | 7.7 | 1.2 | 0.0 | 48 |
| KwaZulu-Natal | 7.4 | 3.4 | 96.6 | 3.4 | 0.0 | 0.0 | 0.0 | 2.1 | 97.9 | 0.5 | 1.6 | 0.0 | 130 |
| North West | 15.3 | 15.3 | 84.7 | 15.3 | 0.0 | 0.0 | 0.0 | 9.1 | 90.9 | 9.1 | 0.0 | 0.0 | 41 |
| Gauteng | 24.9 | 22.2 | 77.8 | 16.9 | 2.6 | 2.6 | 0.0 | 8.6 | 91.4 | 5.9 | 2.6 | 0.0 | 109 |
| Mpumalanga | 1.1 | 1.1 | 98.9 | 1.1 | 0.0 | 0.0 | 0.0 | 1.1 | 98.9 | 1.1 | 0.0 | 0.0 | 46 |
| Limpopo | 8.8 | 5.3 | 94.7 | 2.7 | 1.8 | 0.0 | 0.9 | 2.7 | 97.4 | 2.7 | 0.0 | 0.0 | 104 |
| Education | | | | | | | | | | | | | |
| No education | 35.4 | 0.0 | 100.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 100.0 | 0.0 | 0.0 | 0.0 | 6 |
| Grades 1-5 | 2.7 | 2.7 | 97.3 | 2.7 | 0.0 | 0.0 | 0.0 | 2.7 | 97.3 | 1.1 | 1.5 | 0.0 | 12 |
| Grades 6-7 | 9.7 | 9.7 | 90.3 | 9.7 | 0.0 | 0.0 | 0.0 | 9.7 | 90.3 | 7.0 | 2.7 | 0.0 | 50 |
| Grades 8-11 | 16.0 | 13.0 | 87.0 | 10.0 | 1.3 | 1.8 | 0.0 | 6.8 | 93.2 | 5.9 | 0.7 | 0.3 | 486 |
| Grade 12 | 23.8 | 16.9 | 83.1 | 11.1 | 1.5 | 3.3 | 1.0 | 9.4 | 90.6 | 4.8 | 4.6 | 0.0 | 92 |
| Higher | 53.0 | 53.0 | 47.0 | 42.0 | 11.0 | 0.0 | 0.0 | 24.6 | 75.4 | 17.4 | 7.2 | 0.0 | 11 |
| Population group | | | | | | | | | | | | | |
| African | 13.2 | 9.8 | 90.2 | 7.9 | 0.7 | 1.1 | 0.2 | 5.0 | 95.0 | 3.7 | 1.3 | 0.0 | 568 |
| Afr. urban | 18.4 | 13.6 | 86.5 | 11.4 | 0.6 | 1.6 | 0.0 | 6.5 | 93.5 | 4.5 | 2.0 | 0.0 | 317 |
| Afr. non-urban | 6.8 | 5.1 | 94.9 | 3.6 | 0.7 | 0.4 | 0.4 | 3.0 | 97.0 | 2.6 | 0.4 | 0.0 | 250 |
| Coloured | 42.3 | 37.8 | 62.2 | 25.2 | 3.5 | 9.1 | 0.0 | 28.3 | 71.7 | 22.2 | 3.8 | 2.2 | 61 |
| White | 32.2 | 32.2 | 67.8 | 32.2 | 0.0 | 0.0 | 0.0 | 3.9 | 96.1 | 3.9 | 0.0 | 0.0 | 15 |
| Indian | 58.4 | 50.1 | 49.9 | 26.1 | 23.9 | 0.0 | 0.0 | 31.9 | 68.1 | 31.9 | 0.0 | 0.0 | 12 |
| Total | 17.2 | 13.7 | 86.3 | 10.4 | 1.3 | 1.8 | 0.1 | 7.6 | 92.4 | 5.9 | 1.5 | 0.2 | 657 |

1 woman had population group missing.

For male adolescents aged 15-19, the highest current drinking levels were reported in the North West, Western Cape, Eastern Cape and Northern Cape (23 to 28 percent), and the lowest levels were reported in KwaZulu-Natal (5 percent). However, the levels of reported use of alcohol in KwaZulu-Natal for both male and female adolescents are so low as to make their accuracy highly questionable. For female adolescents aged 15-19, the highest current drinking levels are in the Western Cape (25 percent), and the lowest levels is in Mpumalanga (1 percent). There appears to have been some shifting in the ranking of provinces in terms of the proportion of current drinkers since 1998, but the Western Cape has been one province that has consistently had a high proportion of adolescent drinkers over both surveys. For males, the proportion of adolescents with no education reporting current drinking appears to be higher (33 percent) than for all other education categories. In contrast, for females, the proportion of current drinkers appears to be highest among females with tertiary education (25 percent). For both male and female adolescents, the proportion of current drinkers in urban areas appears to be higher than their non-urban counterparts.

The population group and urban/non-urban differences described above for current drinking rates are very similar for lifetime and past 12 month consumption of alcohol. The age, provincial and education differences, however, do not match exactly. With regard to lifetime consumption of alcohol there are a number of similarities between the findings of the 2003 SADHS and the findings of the YRBS reported by Reddy *et al.*, (2003). For example, for male adolescents in both studies the proportion of the population reporting lifetime drinking is high in the Western Cape and Gauteng (in highest three provinces) and low in KwaZulu-Natal (in lowest two provinces). Similarly for female adolescents in both studies the proportion of the population reporting lifetime drinking is high in the Western and Northern Cape provinces and low in KwaZulu-Natal. In both studies and for both male and female adolescents, the proportion of the population reporting having ever drunk alcohol was lowest among Africans. In addition for both studies, among females, the proportion of drinkers was highest among 17 year olds.

Using data on the average number of drinks consumed per day and drinking frequency over the past 12 months*, the proportion of persons drinking “responsibly” (less than four drinks per day for men and less than two drinks per day per women), drinking at “harmful levels” (four drinks to less than six drinks per day for men and two drinks to less than four drinks per day for women) and drinking at “hazardous levels” (six or more drinks per day for men and four or more drinks per day for women) was calculated. These levels were recommended by the Australian National Health and Medical Research Council in 1987 and were applied in the 1998 SADHS. For drinking during the past seven days this was calculated directly using information provided by respondents. Based on data over the past 12 months, roughly 90 percent of male adolescent drinkers and 77 percent of female adolescent drinkers on average drank at responsible levels.

* 5 or more days per week (category 1), 1-4 days per week (category 2), 1-3 days per month (category 3), and less than once a month (category 4). To calculate an average daily amount of alcohol consumed, the daily frequency of alcohol drinking was multiplied by the average daily amount, with persons in category 1 estimated as drinking every day, persons in category 2 at 2.5/7 times a day, category 3 at 1/15 times a day and category 4 at 1/30 times per day.

Risky drinking

Using the levels of hazardous and harmful drinking referred to in the previous section and the data based on the average over the past 12 months, it was found that 8 percent of male and 23 percent of female drinkers drink at “hazardous” or “harmful” levels. In terms of the total sample of drinkers and non-drinkers, just over 3 percent of adolescents drink at hazardous/harmful levels (Tables 9.12 and 9.13). Using the information provided on drinking practices during the seven days preceding the interview, it was found that 8 percent of male drinkers and 22 percent of female drinkers drink at hazardous/harmful levels.

Hazardous and harmful drinking appears to be particularly high over weekends. Using information on the amount of alcohol consumed over the seven days preceding the interview, 9 percent of male drinkers and 37 percent of female drinkers exceeded the recommended levels for responsible drinking on average over the weekend (Friday, Saturday and Sunday). For weekdays (Monday-Thursday) one percent of male drinkers and two percent of female drinkers drink at hazardous or harmful levels. Rates of hazardous/harmful drinking are therefore roughly 8 times higher for male adolescents over weekends as compared to weekdays and 21 times greater for female adolescent drinkers (Table 9.14). It is difficult to compare levels of hazardous/harmful drinking over weekdays and weekends with the 1998 SADHS as the same measures of “risky drinking” were not used in both surveys.

For male adolescents hazardous/harmful drinking at weekends appears to be highest among persons 19 years of age (16 percent), whereas for female adolescents the highest proportion is among those who are 18 years of age (50 percent). For male adolescents, hazardous/harmful drinking at weekends appears to be highest among persons residing in urban areas (10 percent), whereas for female adolescents the highest proportion is among those who live in non-urban settings (41 percent). Among male adolescents hazardous/harmful drinking is highest among whites (23 percent). The YRBS of high school learners (age 11-20) also found past month binge drinking to be highest among male learners who were 18 years of age (Reddy *et al.*, 2003). For females the highest level of binge drinking was noted among adolescents aged 15 and “19 and older”. The YRBS found that among males, levels of past month binge drinking were greatest among whites.

In the 2003 SADHS, 28 percent of male adolescents and 14 percent of female adolescents (15-19 years old) acknowledge that they have consumed alcohol in the past 12 months. This is substantially less than for adult men but only two percent less than for adult females. This is also less than would be expected based on the findings of previous research. Despite these low drinking rates, the data indicate very high levels of risky drinking (especially over weekends) by both males and females who are current drinkers of alcohol, and interventions are especially needed to reduce high levels of drinking over weekends.

9.7 Anthropometry of Adolescents

In the SADHS all women and men aged 15 years and above were eligible for four anthropometric measurements: weight, height, waist circumference and hip circumference. The SADHS fieldworkers were given a standard training programme based on a manual prepared for this purpose. Portable digital scales were used to measure weight to the nearest 0.1 kg with the respondent wearing light clothing. Height was measured in cm by means of a stadiometer. Waist measurement was measured at the narrowest point of the waist and hip measurement was taken at the broadest point of the buttocks.

Table 9.14 Hazardous and harmful drinking among adolescents

Hazardous and harmful drinking over weekdays and weekends among adolescent men and women, who drink alcohol by background characteristics, South Africa 2003

| Background characteristics | Weekdays (Monday-Thursday) | | Weekends (Friday-Sunday) | |
|----------------------------|-------------------------------|------------|-----------------------------|-------------|
| | Men | Women | Men | Women |
| Age | | | | |
| 15 | 0.0 | 0.0 | 3.2 | 40.1 |
| 16 | 0.0 | 0.0 | 3.1 | 25.6 |
| 17 | 0.0 | 0.0 | 8.9 | 37.6 |
| 18 | 0.7 | 8.9 | 8.4 | 49.5 |
| 19 | 3.1 | 1.0 | 16.1 | 32.8 |
| Residence | | | | |
| Urban | 0.8 | 2.1 | 10.2 | 35.8 |
| Non-urban | 2.0 | 0.0 | 7.0 | 40.9 |
| Province | | | | |
| Western Cape | 0.0 | 4.6 | 14.9 | 48.3 |
| Eastern Cape | 5.9 | 0.0 | 17.6 | 48.7 |
| Northern Cape | 0.0 | 4.0 | 41.9 | 25.9 |
| Free State | 0.0 | 0.0 | 0.0 | 41.0 |
| KwaZulu-Natal | 2.1 | 0.0 | 17.3 | 51.2 |
| North West | 0.0 | 0.0 | 9.3 | 13.8 |
| Gauteng | 0.0 | 0.0 | 0.0 | 23.8 |
| Mpumalanga | 5.3 | 0.0 | 16.0 | 0.0 |
| Limpopo | 0.0 | 0.0 | 9.9 | 33.3 |
| Education | | | | |
| No education | 0.0 | * | 0.0 | * |
| Grades 1-5 | 5.7 | 57.9 | 13.9 | 57.9 |
| Grades 6-7 | 1.2 | 0.0 | 9.4 | 86.3 |
| Grades 8-11 | 0.7 | 2.2 | 5.5 | 29.4 |
| Grade 12 | 0.0 | 0.0 | 17.0 | 53.5 |
| Higher | 0.0 | 0.0 | 27.6 | 27.0 |
| Population group | | | | |
| African | 1.5 | 0.0 | 9.2 | 31.4 |
| Afr. urban | 1.1 | 0.0 | 10.7 | 31.4 |
| Afr. non-urban | 2.1 | 0.0 | 6.6 | 31.3 |
| Coloured | 0.0 | 6.7 | 5.7 | 66.6 |
| White | 0.0 | 0.0 | 22.9 | 0.0 |
| Indian | 0.0 | 0.0 | 3.5 | 0.0 |
| Total | 1.2 | 1.7 | 9.3 | 36.6 |

No respondents in category.

Note: For men responsible drinking is defined as less than 4 standard drinks per day, hazardous levels as 4 to 5 and harmful drinking as 6 or more drinks per day. For women the comparable amounts are less than 2, 2 to 3 and 4 or more.

Weight and Height

Tables 9.15 and 9.16 show the mean values of weight and height of adolescent men and women. In both men and women the mean weight and height measurements increase from age 15 to 19 years. Mean weights are higher in urban areas for both men and women while height is only greater in adolescent men in urban areas. In men the lowest mean weight is found in Northern Cape (52.6 kg) and the highest in KwaZulu-Natal (59.6 kg). In women the lowest weight is also found in the Northern Cape (50.7 kg) and the highest in the Eastern Cape (61.8 kg). The lowest height in men is found in Eastern Cape (1.63 m) and the highest in Gauteng (1.69) and Limpopo, Western Cape and Mpumalanga (1.67 m). In women the lowest mean height was in Northern Cape (1.56 m) and the highest in Eastern Cape and Mpumalanga (1.59 m).

| Table 9.15 Anthropometric measurements for adolescent men | | | | | | |
|--|-------------|-------------|------------|-------------|-------------|------------|
| The mean and standard error of weight (kg) and height (m) of men aged 15-19 by background characteristics, South Africa 2003 | | | | | | |
| Background characteristic | Weight (kg) | | | Height (m) | | |
| | Mean | Std error | Number | Mean | Std error | Number |
| Age | | | | | | |
| 15 | 49.4 | 1.02 | 103 | 1.62 | 0.01 | 103 |
| 16 | 56.8 | 1.17 | 147 | 1.67 | 0.01 | 147 |
| 17 | 56.4 | 0.93 | 111 | 1.66 | 0.01 | 111 |
| 18 | 58.0 | 0.83 | 142 | 1.67 | 0.01 | 142 |
| 19 | 60.7 | 1.11 | 121 | 1.68 | 0.01 | 121 |
| Residence | | | | | | |
| Urban | 57.7 | 0.71 | 371 | 1.67 | 0.01 | 371 |
| Non-urban | 54.8 | 0.61 | 254 | 1.65 | 0.01 | 254 |
| Province | | | | | | |
| Western Cape | (56.9) | (1.58) | 60 | (1.67) | (0.01) | 60 |
| Eastern Cape | 54.3 | 1.48 | 66 | 1.63 | 0.01 | 66 |
| Northern Cape | 52.6 | 1.17 | 10 | 1.65 | 0.01 | 10 |
| Free State | 54.1 | 0.90 | 50 | 1.64 | 0.01 | 50 |
| KwaZulu-Natal | 59.6 | 1.12 | 121 | 1.65 | 0.01 | 121 |
| North West | 54.7 | 1.49 | 42 | 1.66 | 0.01 | 42 |
| Gauteng | 57.3 | 1.29 | 148 | 1.69 | 0.01 | 148 |
| Mpumalanga | 56.4 | 1.05 | 53 | 1.67 | 0.01 | 53 |
| Limpopo | 54.7 | 1.11 | 74 | 1.67 | 0.01 | 74 |
| Education | | | | | | |
| No education | * | * | 7 | * | * | 7 |
| Grades 1-5 | (52.2) | (1.12) | 44 | (1.62) | (0.01) | 44 |
| Grades 6-7 | 53.3 | 1.02 | 77 | 1.65 | 0.01 | 77 |
| Grades 8-11 | 56.3 | 0.55 | 413 | 1.66 | 0.01 | 413 |
| Grade 12 | (62.9) | (1.38) | 62 | (1.69) | (0.01) | 62 |
| Higher | * | * | 20 | * | * | 20 |
| Population group | | | | | | |
| African | 56.1 | 0.48 | 556 | 1.66 | 0.00 | 556 |
| Afr. urban | 57.2 | 0.70 | 310 | 1.67 | 0.01 | 310 |
| Afr. non-urban | 54.7 | 0.62 | 246 | 1.65 | 0.01 | 246 |
| Coloured | 55.9 | 2.07 | 44 | 1.64 | 0.02 | 44 |
| White | * | * | 14 | * | * | 14 |
| Indian | (60.9) | (3.16) | 10 | (1.70) | (0.02) | 10 |
| Total | 56.5 | 0.50 | 625 | 1.66 | 0.00 | 625 |

Note: Std error = Standard deviation of the mean.
 1 case had education unknown and 1 case reported population group as Other.
 Parenthesis indicates that a figure is based on 25-49 respondents. An asterisk indicates that a figure is based on fewer than 25 unweighted cases and has been suppressed.

| Table 9.16 Anthropometric measurements for adolescent women | | | | | | |
|--|------------|-----------|--------|------------|-----------|--------|
| The mean and standard error of weight (kg) and height (m) of women aged 15-19 by background characteristics, South Africa 2003 | | | | | | |
| Background characteristic | Weight(kg) | | | Height (m) | | |
| | Mean | Std error | Number | Mean | Std error | Number |
| Age | | | | | | |
| 15 | 54.4 | 1.44 | 119 | 1.55 | 0.01 | 119 |
| 16 | 53.1 | 1.07 | 129 | 1.56 | 0.01 | 129 |
| 17 | 56.5 | 1.15 | 127 | 1.58 | 0.01 | 127 |
| 18 | 58.8 | 1.19 | 141 | 1.59 | 0.01 | 141 |
| 19 | 60.3 | 1.25 | 118 | 1.59 | 0.01 | 118 |
| Residence | | | | | | |
| Urban | 57.8 | 0.85 | 387 | 1.58 | 0.00 | 387 |
| Non-urban | 54.8 | 0.72 | 247 | 1.58 | 0.00 | 247 |
| Province | | | | | | |
| Western Cape | 57.9 | 2.32 | 80 | 1.57 | 0.01 | 80 |
| Eastern Cape | 61.8 | 1.97 | 79 | 1.59 | 0.01 | 79 |
| Northern Cape | 50.7 | 0.96 | 13 | 1.56 | 0.01 | 13 |
| Free State | 54.3 | 0.96 | 47 | 1.57 | 0.01 | 47 |
| KwaZulu-Natal | 58.5 | 1.51 | 124 | 1.58 | 0.01 | 124 |
| North West | 54.5 | 1.28 | 40 | 1.58 | 0.01 | 40 |
| Gauteng | (55.1) | (1.38) | 105 | (1.57) | (0.01) | 105 |
| Mpumalanga | 56.5 | 1.27 | 45 | 1.59 | 0.01 | 45 |
| Limpopo | 53.6 | 0.98 | 100 | 1.57 | 0.01 | 100 |
| Education | | | | | | |
| No education | * | * | 4 | * | * | 4 |
| Grades 1-5 | * | * | 11 | * | * | 11 |
| Grades 6-7 | 52.9 | 2.03 | 48 | 1.57 | 0.01 | 48 |
| Grades 8-11 | 56.1 | 0.67 | 471 | 1.58 | 0.00 | 471 |
| Grade 12 | 62.5 | 1.49 | 89 | 1.59 | 0.01 | 89 |
| Higher | * | * | 11 | * | * | 11 |
| Population group | | | | | | |
| African | 57.1 | 0.60 | 547 | 1.58 | 0.00 | 547 |
| Afr. urban | 58.7 | 0.91 | 308 | 1.58 | 0.01 | 308 |
| Afr. non-urban | 55.2 | 0.74 | 239 | 1.58 | 0.00 | 239 |
| Coloured | 54.6 | 2.44 | 59 | 1.56 | 0.01 | 59 |
| White | * | * | 15 | * | * | 15 |
| Indian | (50.4) | (1.42) | 12 | (1.56) | (0.01) | 12 |
| Total | 56.7 | 0.59 | 634 | 1.58 | 0.00 | 634 |

Note: Std error = Standard deviation of the mean.
 1 case reported population group as Other.
 Parenthesis indicates that a figure is based on 25-49 respondents. An asterisk indicates that a figure is based on fewer than 25 unweighted cases and has been suppressed.

In Figure 9.2, the mean weights for adolescent men and women in 2003 are compared with those observed in the 1998 SADHS. The mean weights at each single year of age are very similar with the largest difference (2.5 kg) being among 16-year-old women. Mean heights of men and women in the two surveys are also very similar.

Body Mass Index and Prevalence of Obesity

Tables 9.17 and 9.18 show the distribution of adolescent men and women by BMI status. BMI is a useful measure of nutritional status, which is defined as the weight in kilograms divided by the square of the height in metres. However, growing concern about the applicability of the adult standard cut-off's for children has led to the development of age-dependent standards for overweight and obesity for ages under 20 years (Cole *et al.*, 2000). New cut-off's developed by Conde & Monteiro (2006), using population data collected in Brazil, also provide age dependent criteria for underweight that correspond to an adult BMI cut-off of 17.5. Although these might not be completely applicable to the South African population, the SADHS data are also presented using these age dependent criteria.

It is interesting to compare the prevalence of underweight in adolescents using the different criteria. There is a marked difference in the case of males and a smaller difference in the case of females. Based on the age dependent criteria, 4 percent of adolescent males are underweight, while using the standard reference BMI cut-off of 18.5, the prevalence of underweight is much higher at 29 percent. In the case of adolescent women, the prevalence of underweight is 4 percent based on the age dependent criteria and 12 percent based on the standard reference cut-off. The large differences in underweight when using the two different criteria are also likely to be due to the fact that the age dependent criteria use BMI<17.5 instead of BMI<18.5 as a cut-off point for underweight. In contrast to the large difference in underweight, there are only small differences in the prevalence of overweight and obesity when using the different criteria, even at the younger ages.

The average BMI increases with age for both adolescent men and women. It is higher for women than for men at all age groups and for all provinces. Using the age dependent criteria, 8 percent of adolescent women are obese compared to 1 percent of adolescent men. The prevalence of female obesity is highest in the Eastern and Western Cape and is more common in urban settings than non-urban. Compared to other population groups, African urban women have the highest mean BMI (22.6) and African non-urban women have the lowest mean BMI (22.1).

A comparison of the prevalence of the standard reference BMI categories in the 1998 and 2003 surveys is presented in Figure 9.3. There is very little difference between the two surveys for either adolescent men or women. This also applies to mean BMI values for both adolescent men and women. Men have a mean BMI of 21.0 kg/m² in 1998 and a mean of 20.4 kg/m² in 2003. For women, this is 23.0 kg/m² and 22.8 kg/m² in 1998 and 2003, respectively.

Figure 9.2 Mean weight of adolescent men and women, SADHS 1998 and 2003

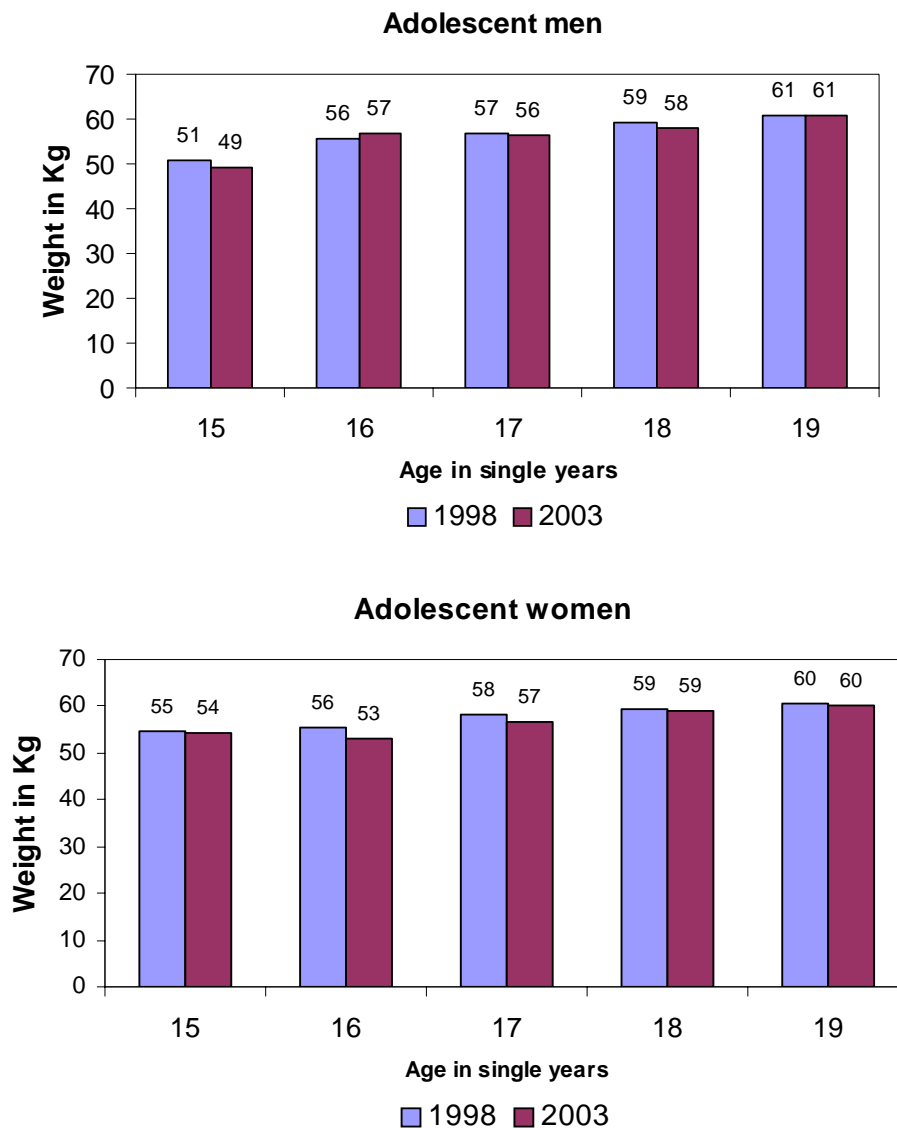


Table 9.17 Body mass index (BMI) of adolescent men

Mean and standard error of the BMI (kg/m^2) and the percentages of men aged 15-19 by age independent body mass index categories and age dependent categories with equivalent cut-offs at age 20 according to background characteristics, South Africa 2003

| Background characteristic | Body Mass Index | | | BMI Categories (age independent) | | | BMI Categories (age dependent) | | | Number | | |
|---------------------------|-----------------|-----------|--|----------------------------------|------------------|--------------------|--------------------------------|-------------------|------------------|--------|--------------------|-----------|
| | Mean | Std error | | Underweight <18.5 | Normal 18.5-24.9 | Overweight 25-29.9 | Obese 30+ | Underweight <17.5 | Normal 17.5-24.9 | | Overweight 25-29.9 | Obese 30+ |
| Age | | | | | | | | | | | | |
| 15 | 18.8 | 0.35 | | 53.7 | 39.9 | 6.4 | 0.0 | 8.0 | 82.5 | 9.5 | 0.0 | 103 |
| 16 | 20.4 | 0.34 | | 32.7 | 57.3 | 9.3 | 0.7 | 2.1 | 78.9 | 16.7 | 2.4 | 147 |
| 17 | 20.4 | 0.34 | | 27.6 | 63.4 | 9.0 | 0.0 | 5.2 | 81.9 | 12.8 | 0.3 | 111 |
| 18 | 20.7 | 0.25 | | 21.0 | 72.6 | 5.5 | 1.0 | 4.5 | 85.3 | 8.9 | 1.4 | 142 |
| 19 | 21.5 | 0.30 | | 14.1 | 74.8 | 11.0 | 0.1 | 1.8 | 82.3 | 14.9 | 1.1 | 121 |
| Residence | | | | | | | | | | | | |
| Urban | 20.6 | 0.21 | | 28.5 | 62.6 | 8.3 | 0.6 | 4.3 | 81.5 | 12.9 | 1.3 | 371 |
| Non-urban | 20.2 | 0.19 | | 29.7 | 62.0 | 8.1 | 0.2 | 3.7 | 83.0 | 12.4 | 0.9 | 254 |
| Province | | | | | | | | | | | | |
| Western Cape | (20.4) | (0.43) | | (21.6) | (73.8) | (2.3) | (2.3) | (6.8) | (88.6) | (2.3) | (2.3) | 60 |
| Eastern Cape | 20.2 | 0.43 | | 29.0 | 64.5 | 6.5 | 0.0 | 2.9 | 85.7 | 11.4 | 0.0 | 66 |
| Northern Cape | 19.4 | 0.41 | | 44.6 | 51.6 | 3.8 | 0.0 | 10.8 | 78.3 | 10.9 | 0.0 | 10 |
| Free State | 20.3 | 0.31 | | 28.8 | 65.7 | 3.5 | 1.9 | 3.9 | 83.4 | 9.6 | 3.1 | 50 |
| KwaZulu-Natal | 22.0 | 0.33 | | 9.4 | 70.2 | 20.3 | 0.1 | 0.2 | 72.6 | 24.3 | 2.9 | 121 |
| North West | 19.8 | 0.48 | | 40.2 | 51.1 | 8.7 | 0.0 | 11.9 | 75.3 | 11.3 | 1.5 | 42 |
| Gauteng | 20.1 | 0.39 | | 41.6 | 50.7 | 7.8 | 0.0 | 3.9 | 82.9 | 13.2 | 0.0 | 148 |
| Mpumalanga | 20.1 | 0.28 | | 26.7 | 70.1 | 3.2 | 0.0 | 4.1 | 85.1 | 10.8 | 0.0 | 53 |
| Limpopo | 19.6 | 0.25 | | 35.2 | 61.7 | 3.1 | 0.0 | 4.4 | 88.8 | 6.9 | 0.0 | 74 |
| Education | | | | | | | | | | | | |
| No education | * | * | | * | * | * | * | * | * | * | * | 7 |
| Grades 1-5 | (19.7) | (0.36) | | (35.5) | (61.5) | (3.1) | (0.0) | (9.6) | (79.7) | (10.7) | (0.0) | 44 |
| Grades 6-7 | 19.6 | 0.34 | | 36.0 | 60.8 | 2.5 | 0.8 | 2.1 | 88.9 | 8.2 | 0.8 | 77 |
| Grades 8-11 | 20.4 | 0.17 | | 30.4 | 59.8 | 9.3 | 0.4 | 4.7 | 81.1 | 12.9 | 1.3 | 413 |
| Grade 12 | (22.1) | (0.41) | | (9.4) | (78.3) | (12.3) | (0.0) | (0.0) | (77.5) | (20.6) | (1.9) | 62 |
| Higher | * | * | | * | * | * | * | * | * | * | * | 20 |
| Population group | | | | | | | | | | | | |
| African | 20.3 | 0.15 | | 29.7 | 62.4 | 7.7 | 0.2 | 4.0 | 82.4 | 12.6 | 1.0 | 556 |
| Afr. urban | 20.5 | 0.22 | | 29.8 | 62.8 | 7.2 | 0.2 | 4.2 | 82.4 | 12.4 | 1.0 | 310 |
| Afr. non-urban | 20.2 | 0.20 | | 29.5 | 61.9 | 8.4 | 0.2 | 3.8 | 82.5 | 12.8 | 0.9 | 246 |
| Coloured | 20.6 | 0.60 | | 27.1 | 64.9 | 4.8 | 3.1 | 6.5 | 84.7 | 5.7 | 3.1 | 44 |
| Indian | * | * | | * | * | * | * | * | * | * | * | 14 |
| Whites | (21.0) | (0.76) | | (40.1) | (47.7) | (11.3) | (1.0) | (0.0) | (59.6) | (40.4) | (0.0) | 10 |
| Total | 20.4 | 0.15 | | 29.0 | 62.4 | 8.2 | 0.4 | 4.1 | 82.1 | 12.7 | 1.1 | 625 |

* Derived by Conde and Monteiro (2006), the age dependent cutoffs vary by single year of age to be equivalent the BMI cutoffs for age 20 years of underweight (<17.5), normal (17.5-24.9), overweight (25-29.9) and obese (30+).

Note: Std error = Standard deviation of the mean.

1 case had education unknown and 1 case reported population group as Other.

Parenthesis indicates that a figure is based on 25-49 respondents. An asterisk indicates that a figure is based on fewer than 25 unweighted cases and has been suppressed.

Table 9.18 Body mass index (BMI) of adolescent women

Mean and standard error of the BMI (kg/m^2) and the percentages of women aged 15-19 by age independent body mass index categories and age dependent categories with equivalent cut-offs at age 20 according to background characteristics, South Africa 2003

| Background characteristic | Body Mass Index | | | BMI Categories (age independent) | | | BMI Categories (age dependent) ¹ | | | Number |
|---------------------------|-----------------|-----------|-------------------|----------------------------------|--------------------|-----------|---|------------------|--------------------|--------|
| | Mean | Std error | Underweight <18.5 | Normal 18.5-24.9 | Overweight 25-29.9 | Obese 30+ | Underweight <17.5 | Normal 17.5-24.9 | Overweight 25-29.9 | |
| Age | | | | | | | | | | |
| 15 | 22.5 | 0.57 | 13.0 | 65.5 | 15.6 | 5.9 | 1.7 | 72.7 | 18.6 | 7.1 |
| 16 | 21.7 | 0.43 | 18.8 | 63.7 | 10.6 | 6.9 | 6.0 | 74.7 | 12.4 | 6.9 |
| 17 | 22.5 | 0.43 | 8.1 | 72.8 | 12.4 | 6.7 | 2.1 | 78.8 | 12.4 | 6.7 |
| 18 | 23.3 | 0.47 | 12.9 | 61.7 | 15.3 | 10.1 | 5.0 | 68.9 | 16.0 | 10.1 |
| 19 | 23.9 | 0.52 | 6.8 | 57.6 | 28.1 | 7.6 | 3.2 | 59.3 | 27.9 | 9.5 |
| Residence | | | | | | | | | | |
| Urban | 23.3 | 0.34 | 10.5 | 63.2 | 16.7 | 9.7 | 4.1 | 67.9 | 17.9 | 10.1 |
| Non-urban | 22.0 | 0.27 | 14.4 | 66.0 | 15.5 | 4.1 | 3.0 | 75.9 | 16.2 | 4.9 |
| Province | | | | | | | | | | |
| Western Cape | 23.6 | 0.96 | 21.0 | 52.7 | 13.4 | 12.9 | 6.9 | 66.8 | 11.7 | 14.7 |
| Eastern Cape | 24.4 | 0.89 | 7.9 | 62.3 | 6.9 | 22.9 | 2.7 | 65.1 | 9.3 | 22.9 |
| Northern Cape | 20.9 | 0.33 | 23.7 | 66.3 | 7.7 | 2.4 | 2.4 | 82.5 | 10.4 | 2.4 |
| Free State | 22.1 | 0.39 | 16.1 | 62.9 | 21.0 | 0.0 | 5.2 | 72.9 | 21.9 | 0.0 |
| KwaZulu-Natal | 23.4 | 0.58 | 7.5 | 59.4 | 25.7 | 7.5 | 2.2 | 63.0 | 27.0 | 7.8 |
| North West | 21.8 | 0.50 | 16.8 | 66.2 | 15.4 | 1.6 | 8.2 | 69.4 | 20.8 | 1.6 |
| Gauteng | (22.3) | (0.50) | (5.5) | (76.6) | (15.2) | (2.7) | (0.7) | (81.5) | (15.2) | (2.7) |
| Mpumalanga | 22.4 | 0.45 | 11.4 | 68.5 | 16.4 | 3.7 | 2.9 | 71.7 | 21.6 | 3.7 |
| Limpopo | 21.8 | 0.37 | 15.5 | 65.7 | 14.3 | 4.4 | 4.6 | 75.7 | 13.4 | 6.3 |
| Education | | | | | | | | | | |
| No education | * | * | * | * | * | * | * | * | * | * |
| Grades 1-5 | * | * | * | * | * | * | * | * | * | * |
| Grades 6-7 | 21.5 | 0.99 | 17.34 | 67.2 | 10.4 | 5.1 | 10.3 | 71.7 | 13.0 | 5.1 |
| Grades 8-11 | 22.6 | 0.27 | 12.8 | 65.0 | 16.3 | 5.9 | 3.3 | 73.1 | 17.0 | 6.6 |
| Grade 12 | 24.8 | 0.50 | 3.6 | 60.6 | 16.5 | 19.3 | 0.2 | 61.6 | 18.9 | 19.3 |
| Higher | * | * | * | * | * | * | * | * | * | * |
| Population group | | | | | | | | | | |
| African | 22.9 | 0.24 | 9.2 | 66.0 | 17.6 | 7.3 | 8.1 | 70.1 | 9.3 | 12.6 |
| Afr. urban | 23.6 | 0.36 | 6.5 | 65.0 | 18.9 | 9.6 | 2.6 | 66.9 | 20.4 | 10.2 |
| Afr. non-urban | 22.1 | 0.28 | 12.6 | 67.2 | 16.0 | 4.2 | 3.0 | 75.3 | 16.7 | 5.0 |
| Coloured | 22.4 | 1.00 | 33.4 | 45.1 | 9.0 | 12.6 | 18.9 | 72.5 | 3.3 | 5.3 |
| Indian | * | * | * | * | * | * | * | * | * | * |
| White | (20.7) | (0.53) | (25.5) | (65.9) | (5.2) | (3.4) | (100.0) | (0.0) | (0.0) | (0.0) |
| Total | 22.8 | 0.24 | 12.0 | 64.3 | 16.2 | 7.5 | 3.7 | 71.0 | 17.3 | 8.1 |

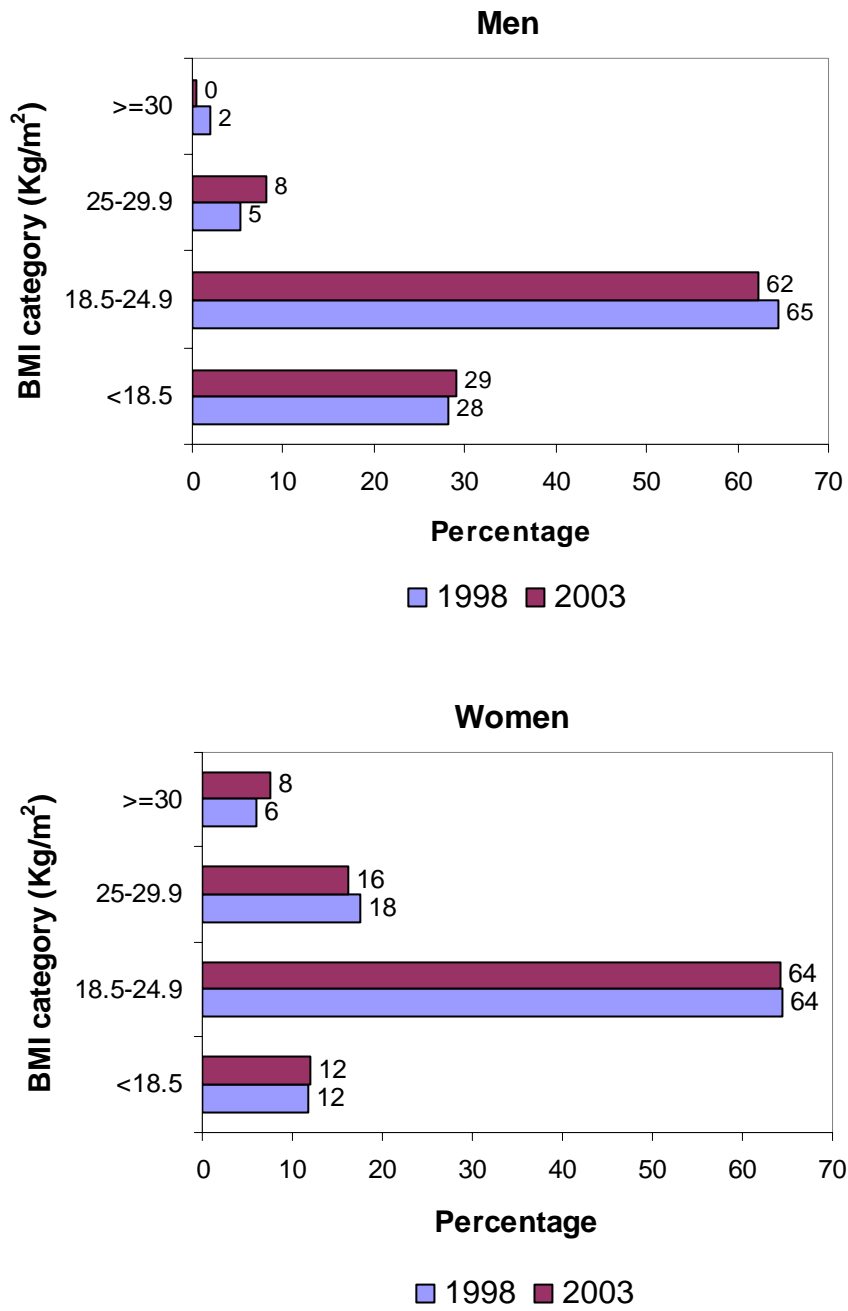
¹Derived by Conde and Monteiro (2006), the age dependent cutoffs vary by single year of age to be equivalent the BMI cutoffs for age 20 years of underweight (<17.5), normal (17.5-24.9), overweight (25-29.9) and obese (30+).

Note: Std error = Standard deviation of the mean.

1 case had education unknown and 1 case reported population group as Other.

Parenthesis indicates that a figure is based on fewer than 25 unweighted respondents. An asterisk indicates that a figure is based on fewer than 25 unweighted cases and has been suppressed.

Figure 9.3 Distribution of adolescent men and women by BMI



Waist and Hip Circumference and Waist/hip ratio (WHR)

Tables 9.19 and 9.20 show the mean waist and hip circumferences and WHRs for adolescent men and women, respectively. They also show the prevalence of those having a WHR above cut-off points for central obesity as indicated by $WHR \geq 1.0$ in men and 0.85 in women and waist measurements greater than or equal to 88 cm in women and 102 cm in men.

A high waist circumference and high WHR are associated with cardiovascular disease and with type 2 diabetes. The tables show that less than 1 percent of adolescent men have a waist measurement equal to or above 102 cm and only 2 percent have a $WHR \geq 1.0$. However, in adolescent women 5 percent have a waist measurement above 88 cm and 9 percent have a high WHR. In both men and women the mean waist and hip measurements increased with age. In men and women the mean waist measurements are highest in Gauteng Province. In men the mean WHR is the same (0.8) in all the provinces excepting KwaZulu-Natal where the mean is 0.9. In women, however, it varies between 0.7 and 1.4.

Figure 9.4 shows the prevalence of adolescent women who have a waist and WHR above the cut-off points by population group. Values are not available for white and Indian women because of small sample sizes. Urban African women have the highest prevalence of a high waist circumference (15 percent) followed by coloured women (13 percent) and non-urban African women (6 percent). Non-urban African women have the highest prevalence of a high WHR (19 percent), followed by urban African women (18 percent) and by coloured women (14 percent).

Non-urban African adolescent women clearly have smaller waists than the other two groups. This is reflected by the lower proportion with high waist circumference in combination with the higher proportion of high WHR when compared with the other groups.

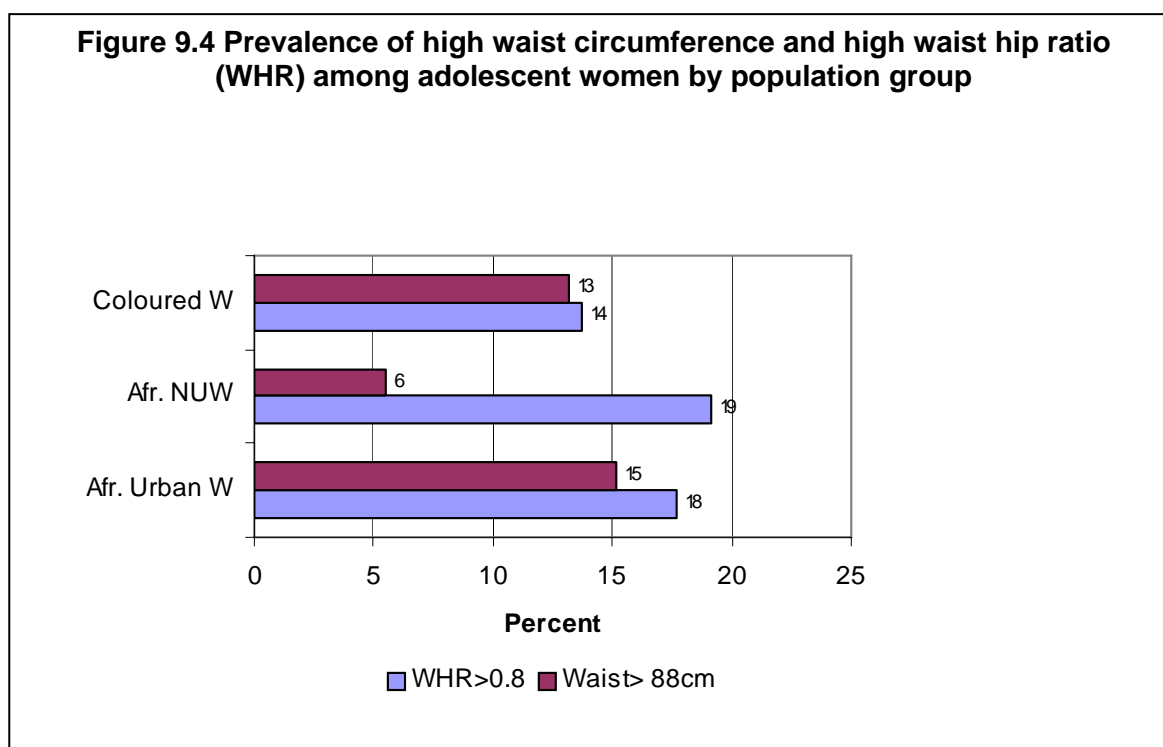


Table 9.19 Waist and hip circumference of adolescent men

Mean and standard error of the waist (cm), hip circumference (cm) and the waist/hip ratios (WHR) for men aged 15-19 as well as the prevalence of men with WHR ≥ 1.0 and waist circumference ≥ 102 cm by background characteristics, South Africa 2003

| Background characteristic | Waist Circumference (cm) | | | | Hip Circumference (cm) | | | Waist Hip Ratio (WHR) | | | |
|---------------------------|--------------------------|-------------|-------------------------------------|------------|------------------------|-------------|------------|-----------------------|-------------|--------------------------------|------------|
| | Mean | Std error | Percentage with waist ≥ 102 cm | Number | Mean | Std error | Number | Mean | Std error | Percentage with WHR ≥ 1.0 | Number |
| Age | | | | | | | | | | | |
| 15 | 64.7 | 1.56 | 0.0 | 103 | 80.3 | 1.97 | 103 | 0.8 | 0.02 | 5.0 | 103 |
| 16 | 70.7 | 1.05 | 0.0 | 147 | 85.0 | 1.36 | 147 | 0.9 | 0.07 | 4.4 | 147 |
| 17 | 68.3 | 0.68 | 0.0 | 111 | 86.3 | 1.19 | 111 | 0.8 | 0.01 | 2.7 | 111 |
| 18 | 70.2 | 0.90 | 0.9 | 139 | 86.8 | 1.00 | 139 | 0.8 | 0.01 | 3.9 | 139 |
| 19 | 72.8 | 0.87 | 0.1 | 119 | 89.2 | 1.05 | 119 | 0.8 | 0.01 | 3.8 | 119 |
| Residence | | | | | | | | | | | |
| Urban | 70.4 | 0.74 | 0.0 | 366 | 86.9 | 0.82 | 366 | 0.8 | 0.01 | 4.9 | 366 |
| Non-urban | 68.4 | 0.75 | 0.5 | 254 | 83.9 | 0.89 | 254 | 0.9 | 0.04 | 2.6 | 254 |
| Province | | | | | | | | | | | |
| Western Cape | (68.4) | (1.01) | (0.0) | (59) | (87.6) | (1.02) | 60 | (0.8) | (0.01) | (0.0) | 60 |
| Eastern Cape | 69.7 | 1.13 | 0.0 | 66 | 85.2 | 1.15 | 66 | 0.8 | 0.01 | 1.6 | 66 |
| Northern Cape | 67.6 | 0.93 | 0.0 | 10 | 84.5 | 1.14 | 10 | 0.8 | 0.01 | 1.9 | 10 |
| Free State | 69.5 | 0.98 | 0.0 | 50 | 86.4 | 1.08 | 50 | 0.8 | 0.01 | 2.3 | 50 |
| KwaZulu-Natal | 71.0 | 1.43 | 1.1 | 121 | 84.9 | 1.80 | 119 | 0.9 | 0.09 | 6.5 | 119 |
| North West | 68.6 | 0.90 | 0.0 | 42 | 82.7 | 1.06 | 42 | 0.8 | 0.02 | 3.8 | 42 |
| Gauteng | 71.5 | 1.61 | 0.0 | 145 | 87.2 | 1.90 | 145 | 0.8 | 0.03 | 8.1 | 145 |
| Mpumalanga | 67.5 | 0.60 | 0.0 | 53 | 84.8 | 0.97 | 53 | 0.8 | 0.01 | 0.0 | 53 |
| Limpopo | 66.4 | 1.05 | 0.0 | 74 | 84.7 | 1.11 | 74 | 0.8 | 0.01 | 1.2 | 74 |
| Education | | | | | | | | | | | |
| No education | * | * | * | 7 | * | * | 7 | * | * | * | 7 |
| Grades 1-5 | (68.6) | (1.19) | (0.0) | 44 | (84.2) | (1.34) | 44 | (0.8) | (0.01) | (0.0) | 44 |
| Grades 6-7 | 69.1 | 0.86 | 0.0 | 77 | 84.2 | 1.43 | 77 | 0.8 | 0.01 | 4.5 | 77 |
| Grades 8-11 | 69.2 | 0.68 | 0.3 | 408 | 85.2 | 0.81 | 408 | 0.8 | 0.03 | 5.0 | 408 |
| Grade 12 | (70.8) | (1.22) | (0.0) | 62 | (88.7) | (1.69) | 62 | (0.8) | (0.01) | (0.0) | 62 |
| Higher | * | * | * | 20 | * | * | 20 | * | * | * | 20 |
| Population group | | | | | | | | | | | |
| African | 69.3 | 0.57 | 0.2 | 551 | 85.2 | 0.67 | 551 | 0.8 | 0.02 | 4.4 | 551 |
| Afr. urban | 70.1 | 0.79 | 0.0 | 303 | 86.4 | 0.94 | 303 | 0.8 | 0.01 | 5.8 | 303 |
| Afr. non-urban | 68.4 | 0.64 | 0.5 | 244 | 83.8 | 0.90 | 244 | 0.9 | 0.04 | 2.6 | 244 |
| Coloured | 69.1 | 1.86 | 0.0 | 44 | 87.2 | 1.61 | 44 | 0.8 | 0.01 | 0.0 | 44 |
| White | * | * | * | 14 | * | * | 14 | * | * | * | 14 |
| Indian | (71.1) | (1.66) | (1.0) | 10 | (88.7) | (1.21) | 10 | (0.8) | (0.01) | (1.0) | 10 |
| Total | 69.6 | 0.54 | 0.7 | 620 | 85.7 | 0.61 | 620 | 0.8 | 0.02 | 2.0 | 620 |

Note: Std error = Standard deviation of the mean.

1 case had education unknown and 1 case reported population group as Other.

Parenthesis indicates that a figure is based on 25-49 respondents. An asterisk indicates that a figure is based on fewer than 25 unweighted cases and has been suppressed.

Table 9.20 Waist and hip circumference of adolescent women

Mean and standard error of the waist (cm), hip circumference (cm) and the waist/hip ratios (WHR) for women aged 15-19 as well as the prevalence of men with WHR ≥ 0.85 and waist circumference ≥ 88 cm by background characteristics, South Africa 2003

| Background characteristic | Waist Circumference (cm) | | | | Hip Circumference (cm) | | | Waist Hip Ratio (WHR) | | | |
|---------------------------|--------------------------|-----------|------------------------------------|--------|------------------------|-----------|--------|-----------------------|-----------|------------------------------------|--------|
| | Mean | Std error | Percentage with waist ≥ 88 cm | Number | Mean | Std error | Number | Mean | Std error | Percentage with WHR ≥ 0.85 cm | Number |
| Age | | | | | | | | | | | |
| 15 | 68.7 | 1.31 | 7.3 | 119 | 87.6 | 1.84 | 119 | 0.9 | 0.13 | 12.2 | 119 |
| 16 | 68.6 | 1.91 | 9.3 | 129 | 88.1 | 2.11 | 129 | 0.9 | 0.11 | 18.3 | 129 |
| 17 | 71.8 | 1.13 | 9.9 | 127 | 88.3 | 2.44 | 127 | 1.2 | 0.20 | 25.2 | 127 |
| 18 | 73.2 | 1.27 | 14.9 | 141 | 93.2 | 1.87 | 141 | 0.9 | 0.08 | 17.7 | 141 |
| 19 | 78.1 | 4.26 | 11.9 | 116 | 101.3 | 4.95 | 116 | 0.9 | 0.10 | 15.3 | 116 |
| Residence | | | | | | | | | | | |
| Urban | 73.6 | 1.53 | 14.2 | 384 | 93.3 | 2.10 | 384 | 1.0 | 0.09 | 17.5 | 384 |
| Non-urban | 69.7 | 0.87 | 5.4 | 247 | 88.9 | 1.19 | 247 | 0.9 | 0.08 | 18.4 | 247 |
| Province | | | | | | | | | | | |
| Western Cape | 73.6 | 2.14 | 15.3 | 80 | 91.6 | 3.58 | 80 | 1.1 | 0.25 | 20.2 | 80 |
| Eastern Cape | 73.8 | 1.89 | 18.8 | 79 | 94.5 | 2.77 | 79 | 1.0 | 0.21 | 13.7 | 79 |
| Northern Cape | 66.2 | 0.73 | 1.4 | 13 | 91.4 | 0.92 | 13 | 0.7 | 0.01 | 2.7 | 13 |
| Free State | 72.2 | 1.97 | 6.3 | 47 | 93.8 | 1.11 | 47 | 0.8 | 0.02 | 9.0 | 47 |
| KwaZulu-Natal | 71.1 | 1.77 | 16.5 | 124 | 81.1 | 2.95 | 124 | 1.4 | 0.21 | 40.2 | 124 |
| North West | 70.6 | 1.31 | 2.2 | 40 | 93.1 | 2.47 | 40 | 0.9 | 0.16 | 13.0 | 40 |
| Gauteng | (75.1) | (5.10) | (8.2) | 105 | (99.7) | (5.62) | 105 | (0.75) | (0.01) | (10.3) | 103 |
| Mpumalanga | 69.9 | 1.13 | 2.9 | 45 | 94.2 | 1.67 | 45 | 0.8 | 0.01 | 8.9 | 45 |
| Limpopo | 69.8 | 1.21 | 6.8 | 100 | 91.2 | 1.32 | 100 | 0.8 | 0.01 | 11.5 | 100 |
| Education | | | | | | | | | | | |
| No education | * | * | * | 2 | * | * | 2 | * | * | * | 2 |
| Grades 1-5 | * | * | * | 11 | * | * | 11 | * | * | * | 11 |
| Grades 6-7 | 70.8 | 1.59 | 6.5 | 48 | 91.3 | 1.86 | 48 | 0.8 | 0.01 | 19.2 | 48 |
| Grades 8-11 | 70.6 | 0.66 | 9.0 | 469 | 89.5 | 1.22 | 469 | 1.0 | 0.08 | 18.2 | 469 |
| Grade 12 | 80.7 | 5.65 | 21.8 | 89 | 101.9 | 6.61 | 89 | 1.0 | 0.19 | 19.4 | 89 |
| Higher | * | * | * | 11 | * | * | 11 | * | * | * | 11 |
| Population group | | | | | | | | | | | |
| African | 72.4 | 1.12 | 11.0 | 544 | 91.8 | 1.54 | 544 | 1.0 | 0.07 | 18.3 | 544 |
| Afr. urban | 74.3 | 1.84 | 15.2 | 304 | 93.9 | 2.58 | 304 | 1.0 | 0.11 | 17.7 | 304 |
| Afr. non-urban | 69.9 | 0.82 | 5.5 | 239 | 89.0 | 1.16 | 239 | 0.9 | 0.08 | 19.1 | 239 |
| Coloured | 71.0 | 2.31 | 13.2 | 59 | 92.1 | 2.55 | 59 | 0.9 | 0.17 | 13.7 | 59 |
| White | * | * | * | 15 | * | * | 15 | * | * | * | 15 |
| Indian | (64.3) | (1.53) | (2.8) | 12 | (83.9) | (3.82) | 12 | (0.8) | (0.03) | (27.0) | 12 |
| Total | 72.0 | 0.99 | 5.4 | 631 | 91.6 | 1.35 | 631 | 1.0 | 0.06 | 8.9 | 631 |

Note: Std error = Standard deviation of the mean.

1 case reported population group as Other.

Parenthesis indicates that a figure is based on 25-49 respondents. An asterisk indicates that a figure is based on fewer than 25 unweighted cases and has been suppressed.

9.8 Blood Pressure in Adolescents

Tables 9.21 and 9.22 provide the summary of the blood pressure measurements, the pulse rates and the prevalence of hypertension in the adolescent men and women. For some categories there are insufficient numbers of study participants to report the results. The categories that had data for less than 25 participants are suppressed and indicated with an asterisk. Those with between 25 and 49 participants are presented in brackets. It also needs to be kept in mind that serious problems were experienced in the BP readings and any interpretations of the BP data in the youth should be made cautiously.

For adolescent men the mean systolic BP is 115 mmHg and for adolescent women the mean is 110 mmHg. The mean diastolic BP for males is 66 mmHg and for females 67 mmHg. These values are very similar to those found in 1998. As found in 1998 for males the systolic BP levels increased between the ages of 15-19 years while this was not observed for females. The diastolic BP showed a similar trend but less marked than that of the systolic BP.

| Background characteristic | Systolic blood pressure (mmHg) | | Diastolic blood pressure (mmHg) | | Pulse rate (beats per min) | | Hypertension % BP \geq 140/90 and/or taking drugs | Number |
|---------------------------|--------------------------------|-----------|---------------------------------|-----------|----------------------------|-----------|---|--------|
| | Mean | Std error | Mean | Std error | Mean | Std error | | |
| Age | | | | | | | | |
| 15 | 111 | 1.40 | 64 | 1.41 | 74 | 1.83 | 1.6 | 103 |
| 16 | 116 | 1.30 | 67 | 0.97 | 73 | 1.26 | 5.4 | 147 |
| 17 | 114 | 1.56 | 68 | 1.45 | 73 | 1.38 | 7.4 | 111 |
| 18 | 115 | 1.05 | 65 | 0.94 | 72 | 1.04 | 2.8 | 142 |
| 19 | 118 | 1.38 | 67 | 1.08 | 70 | 1.46 | 8.5 | 121 |
| Residence | | | | | | | | |
| Urban | 115 | 0.81 | 66 | 0.87 | 73 | 1.00 | 15.6 | 298 |
| Non-urban | 114 | 2.25 | 67 | 1.81 | 74 | 1.87 | 0.0 | 73 |
| Province | | | | | | | | |
| Western Cape | (114) | (1.71) | (63) | (1.75) | (68) | (1.93) | (2.7) | 60 |
| Eastern Cape | 114 | 1.64 | 65 | 1.55 | 71 | 1.70 | 2.2 | 66 |
| Northern Cape | 119 | 1.22 | 64 | 1.54 | 72 | 1.46 | 0.1 | 10 |
| Free State | 117 | 1.57 | 67 | 1.18 | 71 | 1.14 | 2.3 | 50 |
| KwaZulu-Natal | 115 | 1.26 | 71 | 1.00 | 71 | 1.19 | 9.0 | 121 |
| North West | 113 | 1.22 | 65 | 1.64 | 74 | 1.73 | 0.6 | 42 |
| Gauteng | 115 | 1.46 | 67 | 1.45 | 75 | 1.65 | 5.7 | 148 |
| Mpumalanga | 116 | 1.29 | 64 | 1.17 | 73 | 1.47 | 2.9 | 53 |
| Limpopo | 115 | 1.53 | 62 | 1.20 | 73 | 1.75 | 0.0 | 74 |
| Education | | | | | | | | |
| No education | * | * | * | * | * | * | * | 7 |
| Grades 1-5 | (115) | (2.74) | (65) | (1.86) | (76) | (2.15) | (1.5) | 44 |
| Grades 6-7 | 115 | 1.30 | 64 | 1.15 | 73 | 1.64 | 2.6 | 77 |
| Grades 8-11 | 115 | 0.65 | 66 | 0.63 | 72 | 0.75 | 13.0 | 413 |
| Grade 12 | (119) | (1.49) | (70) | (2.44) | (70) | (2.33) | (6.1) | 62 |
| Higher | * | * | * | * | * | * | * | 20 |
| Population group | | | | | | | | |
| African | 115 | 0.58 | 66 | 0.56 | 72 | 0.67 | 18.3 | 556 |
| Afr. urban | 115 | 0.84 | 66 | 0.80 | 73 | 0.97 | 8.4 | 310 |
| Afr. non-urban | 114 | 0.76 | 66 | 0.76 | 71 | 0.83 | 9.9 | 246 |
| Coloured | 115 | 2.45 | 64 | 1.79 | 74 | 2.72 | 1.5 | 44 |
| White | * | * | * | * | * | * | * | 14 |
| Indian | (118) | (3.10) | (75) | (9.10) | (75) | (2.15) | (3.7) | 10 |
| Total | 115 | 0.56 | 66 | 0.55 | 72 | 0.64 | 2.0 | 625 |

Note: Std error = Standard deviation of the mean.
 1 case had population group recorded as Other.
 Parenthesis indicates that a figure is based on 25-49 respondents. An asterisk indicates that a figure is based on fewer than 25 unweighted cases and has been suppressed.

The prevalence of hypertension defined as a BP \geq 140/90 mmHg or taking anti-hypertension medication is much lower in 2003 than in 1998. The prevalence is 2 percent for both adolescent men and women compared to 8 percent and 5 percent respectively in 1998. These findings should be interpreted with caution and may reflect the problems in the data rather than a real change.

The mean pulse rate of adolescent men is 72 beats per minute and lower than that of adolescent women whose mean pulse rate is 76 beats per minute. A similar pattern was observed in 1998 when the mean level for the pulse rate of the males was 71 beats per minute and for females 78 beats per minute.

| Table 9.22 Blood pressure and pulse rate in adolescent women | | | | | | | | |
|--|--------------------------------|-----------|---------------------------------|-----------|----------------------------|-----------|---|--------|
| Mean and standard error of diastolic and systolic blood pressure (mmHg) and pulse rate (beats per minute) and the percentage of females aged 15-19 with BP \geq 140/90 or taking appropriate drugs for hypertension by background characteristics, South Africa 2003 | | | | | | | | |
| Background characteristic | Systolic blood pressure (mmHg) | | Diastolic blood pressure (mmHg) | | Pulse rate (beats per min) | | Hypertension % BP \geq 140/90 and/or taking drugs | Number |
| | Mean | Std error | Mean | Std error | Mean | Std error | | |
| Age | | | | | | | | |
| 15 | 110 | 1.79 | 67 | 1.08 | 77 | 1.39 | 5.9 | 119 |
| 16 | 111 | 1.22 | 69 | 1.18 | 76 | 1.44 | 4.3 | 129 |
| 17 | 109 | 1.09 | 66 | 1.15 | 76 | 2.25 | 4.6 | 127 |
| 18 | 108 | 0.91 | 67 | 0.97 | 75 | 0.91 | 6.1 | 141 |
| 19 | 111 | 1.01 | 68 | 0.83 | 77 | 1.42 | 1.2 | 118 |
| Residence | | | | | | | | |
| Urban | 110 | 0.93 | 68 | 0.73 | 76 | 1.13 | 11.9 | 314 |
| Non-urban | 112 | 2.04 | 71 | 1.39 | 78 | 2.00 | 4.9 | 73 |
| Province | | | | | | | | |
| Western Cape | 109 | 1.32 | 69 | 1.11 | 80 | 1.78 | 1.6 | 80 |
| Eastern Cape | 112 | 1.42 | 69 | 1.31 | 75 | 2.25 | 1.1 | 79 |
| Northern Cape | 113 | 1.44 | 68 | 1.22 | 80 | 1.68 | 0.3 | 13 |
| Free State | 112 | 1.54 | 69 | 1.26 | 79 | 1.93 | 2.4 | 47 |
| KwaZulu-Natal | 110 | 1.85 | 68 | 1.08 | 72 | 1.12 | 8.5 | 124 |
| North West | 108 | 2.11 | 66 | 1.54 | 76 | 1.27 | 1.5 | 40 |
| Gauteng | (110) | (1.60) | (69) | (1.64) | (74) | (2.75) | (5.1) | 105 |
| Mpumalanga | 111 | 1.31 | 67 | 1.14 | 79 | 1.48 | 1.6 | 45 |
| Limpopo | 108 | 1.10 | 63 | 1.03 | 80 | 1.09 | 0.0 | 100 |
| Education | | | | | | | | |
| No education | * | * | * | * | * | * | * | 4 |
| Grades 1-5 | * | * | * | * | * | * | * | 11 |
| Grades 6-7 | 112 | 1.64 | 69 | 1.27 | 80 | 2.35 | 0.6 | 48 |
| Grades 8-11 | 110 | 0.67 | 67 | 0.57 | 76 | 0.68 | 20.3 | 471 |
| Grade 12 | 108 | 1.23 | 67 | 1.40 | 73 | 2.99 | 0.6 | 89 |
| Higher | * | * | * | * | * | * | * | 11 |
| Population Group | | | | | | | | |
| African | 110 | 0.64 | 67 | 0.53 | 76 | 0.78 | 20.4 | 547 |
| Afr. urban | 111 | 1.01 | 68 | 0.78 | 76 | 1.19 | 15.2 | 308 |
| Afr. non-urban | 109 | 0.68 | 66 | 0.68 | 76 | 0.91 | 5.1 | 239 |
| Coloured | 108 | 1.33 | 69 | 1.19 | 78 | 1.62 | 1.5 | 59 |
| White | * | * | * | * | * | * | * | 15 |
| Indian | (108) | (1.45) | (70) | (2.60) | (75) | (3.03) | (0.2) | 12 |
| Total | 110 | 0.57 | 67 | 0.47 | 76 | 0.70 | 1.8 | 634 |

Note: Std error = Standard deviation of the mean.
 1 case reported population group as Other.
 Parenthesis indicates that a figure is based on 25-49 respondents. An asterisk indicates that a figure is based on fewer than 25 unweighted cases and has been suppressed.

9.9 Chronic Respiratory Symptoms and Peak Flow Expiratory Rates in Adolescents

A worldwide increase in asthma in children and adolescents has been noted in recent decades, associated with urbanisation and other as yet poorly understood markers of “development”. In South Africa, there are now studies showing both a positive rural urban gradient and a secular increase in the prevalence of asthma, as measured by symptoms and response to exercise or to short-acting pharmacological challenge (Van Niekerk, 1979; Calvert, 2005). Both trends have been demonstrated in the rural Transkei and Cape Town over the 20-year period between these studies. An increase in the prevalence of asthma symptoms over a shorter period of seven years has also been demonstrated in Cape Town among schoolchildren aged 13 to 14 years (Zar, 1997). Besides urbanisation, an increase in body mass index has been shown to be associated with an increased prevalence of asthmatic response to exercise (Calvert, 2005).

Table 9.23 shows the responses to the questions in the SADHS on respiratory symptoms in adolescents which have been combined to form two composite indices: airflow limitation in the past year and chronic bronchitis (see Chapter 12, pp 248 and 249 for definitions). The table also indicates the proportion with abnormal lung functions as measured by a peak flow meter in the field. These reference values were derived from the 1998 SADHS [See Appendix D of that report (Department of Health of the Republic of South Africa, 2002)].

The prevalence of symptoms of airflow limitation in the past year was 6 percent among both adolescent males and females. This represents an increase in airflow limitation prevalence compared to that found in the 1998 survey, when it was 3 percent among males and 5 percent among females. There is a parallel increase in the proportion with abnormal peak flow: in males from 2 percent in 1998 to 6 percent in 2003 and in females from 3 percent in 1998 to 7 percent in 2003. In this age group, the most likely cause of symptoms of airflow obstruction and peak flow abnormality is asthma. The data are thus compatible with an increase in the prevalence of asthma in this age group over the five-year interval between the two surveys.

Stratified analyses must be treated with caution because of small numbers in some strata. However, the increase in airflow limitation appears to be confined to the urban sample. Specifically, among urban African male adolescents, the prevalence of airflow limitation increased from 3.2 percent in 1998 to 9 percent in 2003, paralleled by an increase in the prevalence of abnormal peak flow from 2 percent to 10 percent. A similar, though smaller increase was noted among urban African females.

Table 9.23 Lung disease in adolescents

Percentage of men and women aged 15-19 who reported symptoms of airflow limitation or chronic bronchitis or who have abnormal peak flow rates, according to background characteristics, South Africa 2003

| Background characteristic | Adolescent men 15 -19 | | | | Adolescent women 15 -19 | | | |
|---------------------------|------------------------------------|------------------------------------|---|------------|------------------------------------|------------------------------------|---|------------|
| | Percentage with airflow limitation | Percentage with chronic bronchitis | Percentage with abnormal peak flow rate | Number | Percentage with airflow limitation | Percentage with chronic bronchitis | Percentage with abnormal peak flow rate | Number |
| Age | | | | | | | | |
| 15 | 4.9 | 0.8 | 10.6 | 110 | 6.3 | 0.5 | 7.6 | 122 |
| 16 | 7.2 | 1.5 | 5.3 | 150 | 4.2 | 1.5 | 4.5 | 135 |
| 17 | 6.3 | 0.0 | 4.6 | 111 | 5.2 | 1.2 | 9.5 | 131 |
| 18 | 2.2 | 0.1 | 4.0 | 145 | 5.0 | 2.0 | 5.1 | 148 |
| 19 | 7.7 | 1.9 | 7.7 | 127 | 9.3 | 1.5 | 8.5 | 120 |
| Residence | | | | | | | | |
| Urban | 8.1 | 0.8 | 8.7 | 381 | 7.2 | 1.0 | 9.7 | 399 |
| Non-urban | 2.1 | 1.1 | 2.7 | 261 | 4.0 | 1.9 | 2.7 | 258 |
| Province | | | | | | | | |
| Western Cape | (11.4) | (4.5) | (4.5) | 60 | 12.9 | 3.4 | 11.2 | 80 |
| Eastern Cape | 6.2 | 1.6 | 9.4 | 66 | 2.5 | 1.3 | 12.2 | 87 |
| Northern Cape | 1.9 | 0.0 | 5.4 | 10 | 5.1 | 0.0 | 23.1 | 13 |
| Free State | 5.8 | 0.0 | 5.8 | 51 | 2.9 | 2.1 | 4.5 | 48 |
| KwaZulu-Natal | 1.8 | 0.1 | 4.0 | 131 | 0.8 | 0.0 | 5.6 | 130 |
| North West | 5.1 | 0.0 | 3.5 | 44 | 6.8 | 1.6 | 0.0 | 41 |
| Gauteng | 9.5 | 0.0 | 12.5 | 150 | (8.4) | (0.0) | (7.9) | 109 |
| Mpumalanga | 4.4 | 0.0 | 2.2 | 54 | 13.0 | 1.5 | 1.1 | 46 |
| Limpopo | 1.2 | 2.4 | 1.2 | 76 | 5.3 | 2.7 | 4.2 | 104 |
| Education | | | | | | | | |
| No education | * | * | * | 7 | * | * | * | 6 |
| Grades 1-5 | (14.3) | (2.4) | (14.6) | 44 | * | * | * | 12 |
| Grades 6-7 | 3.2 | 0.2 | 1.2 | 79 | 11.6 | 3.3 | 8.2 | 50 |
| Grades 8-11 | 4.6 | 1.1 | 6.5 | 424 | 5.2 | 1.3 | 6.3 | 486 |
| Grade 12 | 5.2 | 0.0 | 7.8 | 67 | 5.7 | 0.0 | 9.9 | 92 |
| Higher | * | * | * | 20 | * | * | * | 11 |
| Population group | | | | | | | | |
| African | 5.9 | 1.0 | 6.6 | 572 | 5.6 | 1.3 | 6.1 | 568 |
| Afr. urban | 8.8 | 0.9 | 9.6 | 319 | 6.8 | 0.8 | 9.1 | 317 |
| Afr. non-urban | 2.1 | 1.2 | 2.8 | 253 | 4.1 | 2.0 | 2.3 | 250 |
| Coloured | 6.0 | 0.0 | 5.4 | 46 | 9.5 | 0.0 | 16.3 | 61 |
| White | * | * | * | 14 | * | * | * | 15 |
| Indian | (0.0) | (0.0) | (1.6) | 10 | (10.5) | (0.0) | (7.7) | 12 |
| Total | 5.6 | 0.9 | 6.2 | 642 | 5.9 | 1.3 | 6.9 | 657 |

Note: 1 male and 1 female reported population group as Other.

Parenthesis indicates that a figure is based on 25-49 respondents. An asterisk indicates that a figure is based on fewer than 25 unweighted cases and has been suppressed.

Chronic bronchitis remains uncommon in this age group. Among males the prevalence is less than 1 percent as it was in 1998, and among females the prevalence is 1 percent compared to 2 percent in 1998. This is not surprising as chronic bronchitis is generally a disease of older adults, associated with the cumulative effect of smoking, occupational exposures, smoky domestic fuel and, in South Africa, previous pulmonary tuberculosis. Of note is that the higher prevalence of chronic bronchitis noted in 1998 among adult women in South Africa, particularly non-urban African women (Ehrlich, 2004), is echoed in the excess among non-urban African adolescent females (2 percent) in the 2003 survey. In the absence of other explanations, exposure to smoky domestic fuel is the most likely culprit.

9.10 Dietary Intakes of Adolescents

The micronutrient adequacy of dietary intakes is a new measure included in the 2003 SADHS. Details about the methodology for collection and calculation of the scores can be found in section 13.10 of Chapter 13 and Appendix D. Based on the frequency of eating selected foods, a score ranging from 0 to 45 points is calculated with a low score indication for a better intake of micronutrients. The fat intake is scored from 1 to 6 points with a low score indicating a lower fat intake. The total score combines the micronutrient and fat scores and has a range from 1 to 51 where a low score is indicative of a better quality diet. The salt intake is scored from 0-11 with a low score indicating a lower salt intake.

Tables 9.24 and 9.25 provide the findings of the nutrient intakes of adolescents. In men and women there are no big differences in micro-nutrient intake between age groups. However there are large urban-non-urban and provincial differences. Urban subjects have better mean micronutrient scores (21.0 in men and 20.0 for women) compared with non-urban subjects (24.6 percent for men and 24.7 percent for women). Furthermore, the mean micronutrient scores are better in Gauteng and in KwaZulu-Natal and poorest in Mpumalanga, the Northern Cape, and Limpopo. African non-urban participants have the poorest mean micronutrient intake scores (24.8 for men and 24.4 for women).

Salt intake is similar for adolescent men and women (3.9 for men and 4.0 for women). Although there no clear association with age, salt intake scores increase with education by 1 point from the lowest level of education to the highest level of education.

Table 9.24 Dietary intake of adolescent men

Mean and standard error (SE) of the micronutrient, fat, total and salt intake scores and ranked categories based on total dietary score for men aged 15-19 years, by background characteristics, South Africa 2003

| Background characteristics | Micronutrient score ¹ | | | Fat score ² | | | Total dietary score ³ | | | Total dietary score categorised | | | Salt score ⁴ | | | Number of men | |
|----------------------------|----------------------------------|------|-----|------------------------|------|------|----------------------------------|------|------|---------------------------------|-------------------------|---------------|-------------------------|------|----|---------------|--|
| | Mean | SE | | Mean | SE | | Mean | SE | | Good < 33.3% | Intermediate 33.3-66.7% | Poor >= 66.7% | Total | Mean | SE | | |
| Age | | | | | | | | | | | | | | | | | |
| 15 | 22.4 | 1.33 | 2.3 | 0.09 | 24.7 | 1.36 | 27.6 | 46.2 | 26.2 | 100.0 | 4.2 | 0.18 | 110 | | | | |
| 16 | 23.9 | 1.33 | 2.3 | 0.10 | 26.2 | 1.32 | 24.2 | 40.7 | 35.1 | 100.0 | 3.9 | 0.13 | 150 | | | | |
| 17 | 23.4 | 1.28 | 2.4 | 0.09 | 25.8 | 1.27 | 23.4 | 43.9 | 32.7 | 100.0 | 3.7 | 0.14 | 111 | | | | |
| 18 | 21.2 | 1.13 | 2.3 | 0.09 | 23.5 | 1.17 | 35.9 | 34.6 | 29.5 | 100.0 | 3.8 | 0.12 | 144 | | | | |
| 19 | 21.3 | 1.38 | 2.4 | 0.10 | 23.6 | 1.36 | 26.0 | 49.6 | 24.4 | 100.0 | 4.1 | 0.18 | 127 | | | | |
| Residence | | | | | | | | | | | | | | | | | |
| Urban | 21.0 | 0.85 | 2.3 | 0.06 | 23.3 | 0.85 | 30.8 | 44.7 | 24.5 | 100.0 | 4.1 | 0.10 | 381 | | | | |
| Non-urban | 24.6 | 0.83 | 2.3 | 0.07 | 26.9 | 0.84 | 22.9 | 39.5 | 37.6 | 100.0 | 3.6 | 0.09 | 260 | | | | |
| Province | | | | | | | | | | | | | | | | | |
| Western Cape | 26.0 | 1.41 | 2.2 | 0.13 | 28.1 | 1.39 | 16.7 | 49.6 | 33.7 | 100.0 | 3.8 | 0.27 | 60 | | | | |
| Eastern Cape | 27.4 | 2.16 | 2.5 | 0.11 | 30.0 | 2.13 | 20.9 | 30.6 | 48.6 | 100.0 | 3.6 | 0.19 | 66 | | | | |
| Northern Cape | 30.6 | 1.30 | 2.1 | 0.12 | 32.7 | 1.34 | 5.4 | 40.2 | 54.4 | 100.0 | 3.5 | 0.19 | 10 | | | | |
| Free State | 27.4 | 1.56 | 2.2 | 0.10 | 29.6 | 1.56 | 15.2 | 40.5 | 44.3 | 100.0 | 3.9 | 0.20 | 51 | | | | |
| KwaZulu-Natal | 13.8 | 1.00 | 2.5 | 0.11 | 16.3 | 1.02 | 46.6 | 52.3 | 1.1 | 100.0 | 4.5 | 0.16 | 131 | | | | |
| North West | 27.3 | 1.52 | 2.1 | 0.17 | 29.4 | 1.55 | 10.3 | 48.6 | 41.1 | 100.0 | 3.4 | 0.18 | 44 | | | | |
| Gauteng | 15.9 | 1.73 | 2.4 | 0.10 | 18.3 | 1.73 | 47.1 | 39.0 | 13.9 | 100.0 | 4.3 | 0.16 | 150 | | | | |
| Mpumalanga | 30.8 | 1.10 | 2.2 | 0.12 | 33.0 | 1.13 | 5.3 | 39.8 | 54.9 | 100.0 | 3.5 | 0.15 | 54 | | | | |
| Limpopo | 30.1 | 1.16 | 2.2 | 0.11 | 32.3 | 1.16 | 7.4 | 38.1 | 54.5 | 100.0 | 3.1 | 0.13 | 75 | | | | |
| Education | | | | | | | | | | | | | | | | | |
| No education | 26.5 | 2.01 | 2.3 | 0.04 | 28.8 | 2.04 | 0.0 | 49.8 | 50.2 | 100.0 | 3.7 | 0.64 | 7 | | | | |
| Grades 1-5 | 27.2 | 2.67 | 2.2 | 0.11 | 29.4 | 2.65 | 19.6 | 31.8 | 48.6 | 100.0 | 3.4 | 0.25 | 44 | | | | |
| Grades 6-7 | 28.1 | 1.45 | 2.3 | 0.09 | 30.4 | 1.44 | 15.0 | 32.4 | 52.6 | 100.0 | 3.4 | 0.14 | 79 | | | | |
| Grades 8-11 | 22.0 | 0.66 | 2.3 | 0.05 | 24.3 | 0.66 | 28.0 | 45.8 | 26.2 | 100.0 | 4.0 | 0.09 | 424 | | | | |
| Grade 12 | 16.4 | 1.86 | 2.5 | 0.14 | 18.9 | 1.85 | 43.6 | 39.9 | 16.5 | 100.0 | 4.2 | 0.31 | 67 | | | | |
| Higher | 17.6 | 3.25 | 2.7 | 0.24 | 20.3 | 3.24 | 42.7 | 46.4 | 10.9 | 100.0 | 4.6 | 0.46 | 20 | | | | |
| Population group | | | | | | | | | | | | | | | | | |
| African | 22.6 | 0.64 | 2.3 | 0.04 | 24.9 | 0.64 | 28.5 | 40.0 | 31.5 | 100.0 | 3.9 | 0.08 | 571 | | | | |
| Afr. urban | 20.8 | 0.93 | 2.4 | 0.06 | 23.2 | 0.93 | 33.6 | 40.2 | 26.2 | 100.0 | 4.1 | 0.11 | 319 | | | | |
| Afr. non-urban | 24.8 | 0.85 | 2.3 | 0.07 | 27.1 | 0.85 | 22.0 | 39.8 | 38.2 | 100.0 | 3.6 | 0.09 | 252 | | | | |
| Coloured | 21.5 | 2.19 | 2.3 | 0.09 | 23.9 | 2.18 | 20.8 | 58.8 | 20.5 | 100.0 | 4.0 | 0.24 | 46 | | | | |
| White | 21.3 | 0.61 | 2.2 | 0.46 | 23.5 | 0.51 | 10.9 | 89.1 | 0.0 | 100.0 | 5.2 | 0.64 | 14 | | | | |
| Indian | 19.6 | 5.36 | 1.6 | 0.29 | 21.2 | 5.12 | 32.7 | 50.6 | 16.7 | 100.0 | 4.6 | 0.20 | 10 | | | | |
| Total | 22.4 | 0.62 | 2.3 | 0.04 | 24.8 | 0.62 | 27.6 | 42.6 | 29.8 | 100.0 | 3.9 | 0.07 | 641 | | | | |

1. This score ranged from 0 to 45 points with a low score indicating a better intake micronutrients.

2. This score ranged from 1 to 6 points with a low score indicating a lower fat intake.

3. This score combines the micronutrient and fat scores (45 + 6). A low score is indicative of a better quality diet.

4. This score ranges from 0-11 with a low score indicating a lower salt intake.

Note: Only cases with complete information on education and population group are included.

Table 9.25 Dietary intake of adolescent women

Mean and standard error (SE) of the micronutrient, fat, total and salt intake scores and ranked categories based on total dietary scores for women aged 15-19 years, by background characteristics, South Africa 2003

| Background characteristics | Micronutrient score ¹ | | Fat score ² | | Total dietary score ³ | | Total dietary score categorized | | | Salt score ⁴ | | Number of women | |
|----------------------------|----------------------------------|-------------|------------------------|-------------|----------------------------------|-------------|---------------------------------|-------------------------|----------------|-------------------------|------------|-----------------|------------|
| | Mean | SE | Mean | SE | Mean | SE | Good < 33.3% | Intermediate 33.3-66.7% | Poor >= 66.67% | Total | Mean | | SE |
| Age | | | | | | | | | | | | | |
| 15 | 23.0 | 1.15 | 2.2 | 0.10 | 25.2 | 1.15 | 24.1 | 46.2 | 29.7 | 100.0 | 3.8 | 0.14 | 122 |
| 16 | 20.4 | 1.45 | 2.1 | 0.09 | 22.6 | 1.45 | 35.3 | 36.5 | 28.2 | 100.0 | 3.9 | 0.14 | 135 |
| 17 | 22.2 | 1.08 | 2.3 | 0.09 | 24.6 | 1.08 | 26.0 | 47.5 | 26.5 | 100.0 | 4.2 | 0.11 | 131 |
| 18 | 19.9 | 1.37 | 2.2 | 0.11 | 22.1 | 1.34 | 33.4 | 45.0 | 21.7 | 100.0 | 4.3 | 0.17 | 147 |
| 19 | 24.4 | 0.99 | 2.2 | 0.12 | 26.6 | 1.00 | 22.1 | 44.9 | 33.0 | 100.0 | 3.7 | 0.14 | 120 |
| Residence | | | | | | | | | | | | | |
| Urban | 20.0 | 1.01 | 2.1 | 0.07 | 22.2 | 1.00 | 32.3 | 47.7 | 20.0 | 100.0 | 4.2 | 0.10 | 397 |
| Non-urban | 24.7 | 0.76 | 2.3 | 0.06 | 27.1 | 0.74 | 22.7 | 38.1 | 39.1 | 100.0 | 3.7 | 0.08 | 258 |
| Province | | | | | | | | | | | | | |
| Western Cape | 22.6 | 1.39 | 1.9 | 0.16 | 24.5 | 1.42 | 21.3 | 54.9 | 23.7 | 100.0 | 3.9 | 0.21 | 78 |
| Eastern Cape | 25.3 | 1.80 | 2.4 | 0.12 | 27.7 | 1.78 | 24.7 | 32.9 | 42.5 | 100.0 | 3.8 | 0.22 | 87 |
| Northern Cape | 28.6 | 1.28 | 2.0 | 0.11 | 30.6 | 1.27 | 10.8 | 43.3 | 46.0 | 100.0 | 3.9 | 0.18 | 13 |
| Free State | 28.8 | 1.79 | 2.1 | 0.10 | 30.9 | 1.82 | 15.7 | 32.2 | 52.1 | 100.0 | 3.6 | 0.18 | 48 |
| KwaZulu-Natal | 12.4 | 1.42 | 2.2 | 0.11 | 14.6 | 1.39 | 56.4 | 38.8 | 4.8 | 100.0 | 4.4 | 0.15 | 130 |
| North West | 26.4 | 1.45 | 2.2 | 0.14 | 28.6 | 1.46 | 12.2 | 51.0 | 36.9 | 100.0 | 3.9 | 0.18 | 41 |
| Gauteng | 15.0 | 2.19 | 2.2 | 0.16 | 17.2 | 2.12 | 44.6 | 50.7 | 4.7 | 100.0 | 4.3 | 0.20 | 109 |
| Mpumalanga | 30.9 | 1.19 | 2.4 | 0.12 | 33.3 | 1.13 | 2.9 | 43.1 | 54.0 | 100.0 | 4.0 | 0.12 | 46 |
| Limpopo | 27.8 | 1.01 | 2.3 | 0.10 | 30.1 | 1.02 | 11.3 | 47.3 | 41.4 | 100.0 | 3.5 | 0.13 | 104 |
| Education | | | | | | | | | | | | | |
| No education | 9.9 | 5.99 | 2.1 | 0.27 | 12.0 | 5.71 | 74.9 | 2.7 | 22.5 | 100.0 | 3.4 | 0.67 | 6 |
| Grades 1-5 | 28.1 | 1.46 | 2.0 | 0.27 | 30.1 | 1.54 | 7.7 | 47.3 | 45.0 | 100.0 | 3.5 | 0.21 | 12 |
| Grades 6-7 | 28.0 | 1.67 | 2.4 | 0.13 | 30.4 | 1.62 | 13.0 | 40.4 | 46.6 | 100.0 | 3.7 | 0.22 | 50 |
| Grades 8-11 | 22.3 | 0.82 | 2.3 | 0.05 | 24.5 | 0.82 | 27.8 | 43.9 | 28.4 | 100.0 | 4.0 | 0.08 | 485 |
| Grade 12 | 16.4 | 1.44 | 2.0 | 0.15 | 18.5 | 1.40 | 41.1 | 46.3 | 12.6 | 100.0 | 4.3 | 0.25 | 92 |
| Higher | 22.9 | 1.29 | 1.3 | 0.17 | 24.2 | 1.44 | 22.6 | 64.1 | 13.3 | 100.0 | 4.4 | 0.24 | 11 |
| Population group | | | | | | | | | | | | | |
| African | 21.9 | 0.76 | 2.3 | 0.05 | 24.2 | 0.75 | 29.3 | 41.8 | 28.9 | 100.0 | 3.9 | 0.08 | 568 |
| Afr. urban | 20.0 | 1.19 | 2.3 | 0.08 | 22.2 | 1.17 | 35.8 | 49.0 | 15.2 | 100.0 | 4.1 | 0.12 | 317 |
| Afr. non-urban | 24.4 | 0.78 | 2.3 | 0.06 | 26.7 | 0.76 | 21.4 | 64.7 | 13.9 | 100.0 | 3.7 | 0.08 | 250 |
| Coloured | 22.1 | 1.36 | 1.8 | 0.18 | 23.9 | 1.47 | 34.0 | 44.1 | 21.9 | 100.0 | 4.3 | 0.25 | 61 |
| White | 21.7 | 0.54 | 1.8 | 0.08 | 23.5 | 0.48 | 20.9 | 58.1 | 21.0 | 100.0 | 4.7 | 0.18 | 15 |
| Indian | 20.2 | 3.55 | 0.9 | 0.16 | 21.1 | 3.64 | 23.5 | 38.8 | 37.7 | 100.0 | 4.4 | 0.21 | 12 |
| Total | 21.9 | 0.70 | 2.2 | 0.05 | 24.1 | 0.69 | 28.5 | 43.9 | 27.6 | 100.0 | 4.0 | 0.07 | 655 |

1. This score ranged from 0 to 45 points with a low score indicating a better intake micronutrients.

2. This score ranged from 1 to 6 points with a low score indicating a lower fat intake.

3. This score combines the micronutrient and fat scores (45 + 6). A low score is indicative of a better quality diet.

4. This score ranges from 0-11 with a low score indicating a lower salt intake.

Note: Only cases with complete information on education and population group are included.

Overall the nutrient density of the diet consumed by the adolescents is poor. Figure 9.5 shows that more than 50 percent of adolescents had a value of less than 67 percent of the recommended dietary allowance (RDA) for calcium, folate, magnesium, vitamin E, thiamine, niacin and iron. Furthermore, more than 60 percent are getting less than 33 percent of the RDA for calcium. Micronutrients which are least deficient are vitamin A, vitamin B6, vitamin B12 and vitamin C. These patterns are repeated in all the provinces and in urban-rural areas to different degrees (data not shown). However, the profile for white adolescents is different. Figure 9.6 shows the nutrient intakes of African and white adolescents. For all nutrients, white participants show a lower prevalence of deficiency than African participants. Despite this, calcium and magnesium intake are deficient in all groups. It is important to note that the SADHS took place before the mandatory fortification of maize and wheat flour. Currently, all maize and wheat flour in South Africa are fortified to provide a person 10 years and older with the following percentage of the RDA (per 200 g raw flour): vitamin A-31 percent; thiamine-25 percent; niacin-25 percent; vitamin-B6 25 percent; riboflavin-17 percent; iron-25 percent; folic acid and zinc-20 percent. Hence one would expect the mean values of these micronutrients to have increased since the survey. The next SADHS dietary results will hopefully show an improvement in the mean score of micro-nutrient intakes.

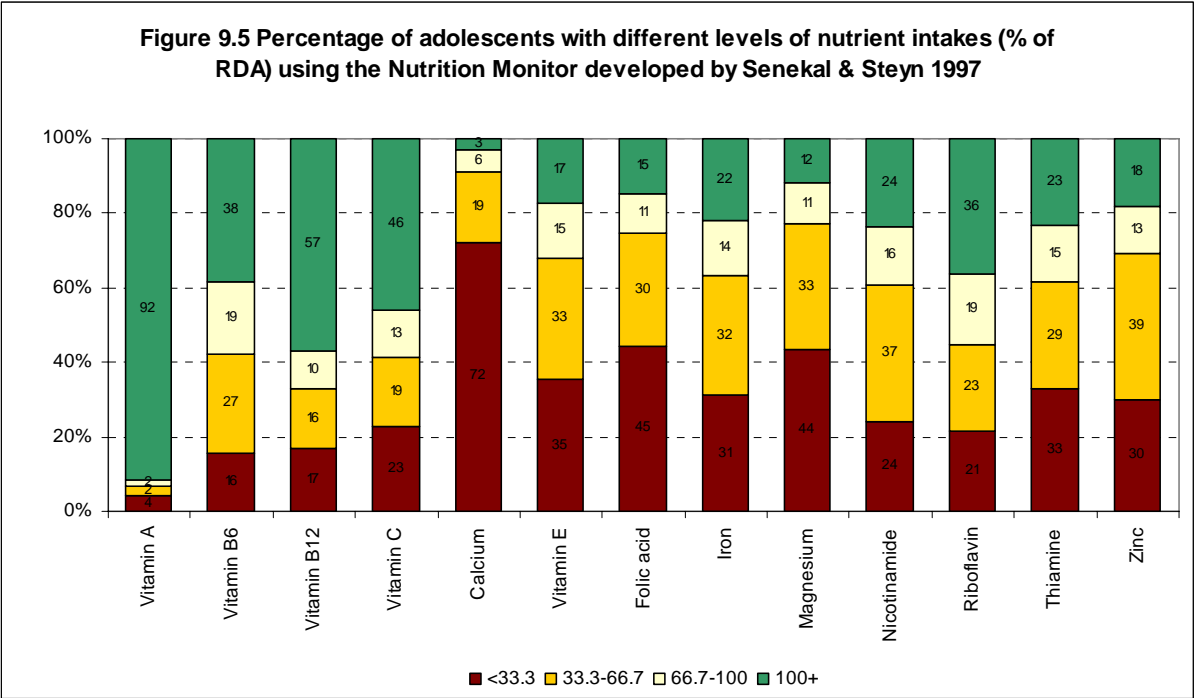
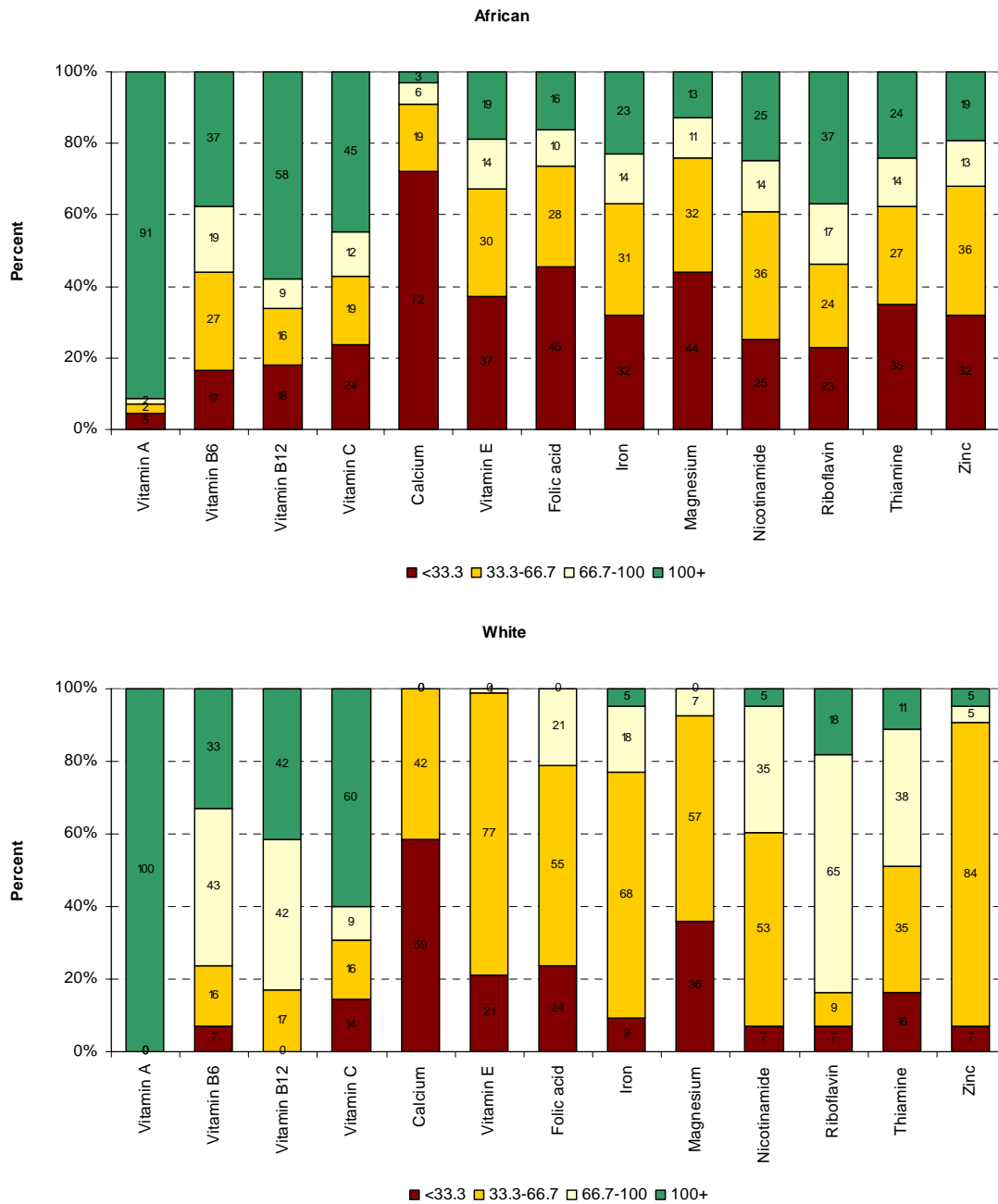
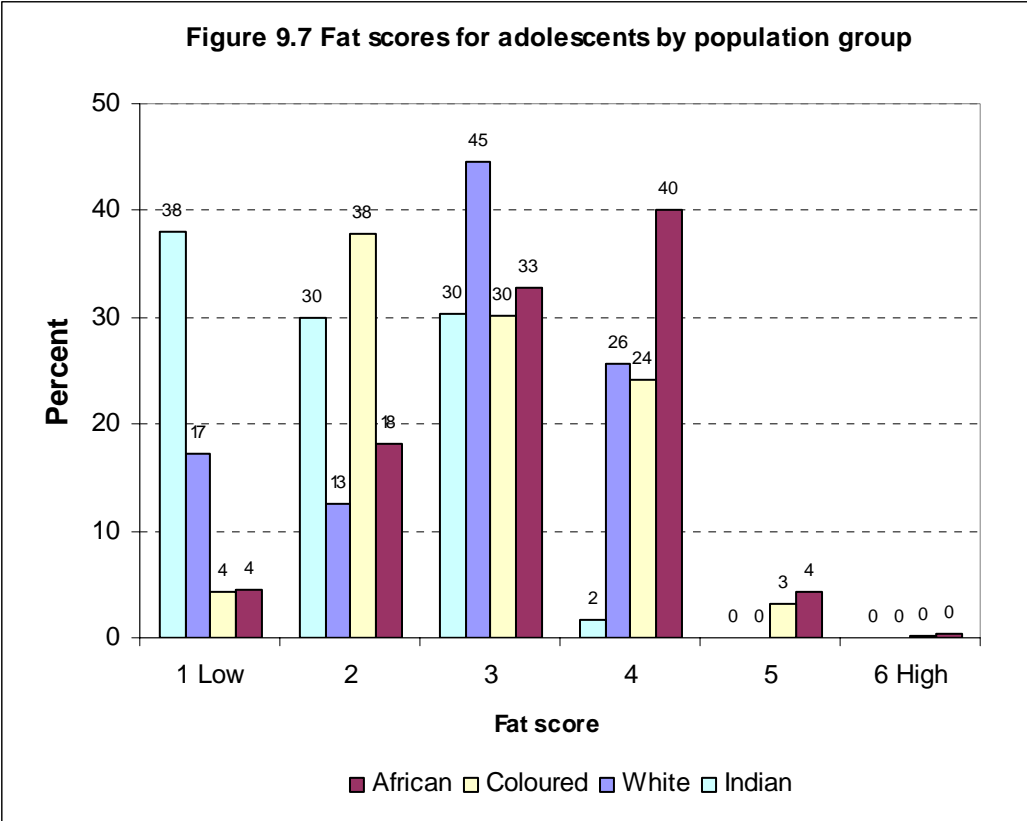


Figure 9.6 Nutrient intake (%RDA) of African and white adolescents, SADHS 2003



Fat intake is based on questions about the customary intake of fat. Out of the total of 6 questions about 40 percent answered more than 3 questions positively, indicative of an overall moderate fat intake. The distribution of the scores is shown for each population group in Figure 9.7. Africans appear to have the highest scores and Indians the lowest. From Tables 9.24 and 9.25, it can be seen that this is particularly the case for adolescent women.



9.11 Physical Activity in Adolescents

There is a recent global trend of increasing prevalence of obesity in children and adolescents. Physical inactivity is an important health behaviour associated with obesity. This is especially relevant for children and adolescents, as physical inactivity levels have been shown to track into adulthood with individuals who participate in physical activity as children being more likely to remain active as adults (Malina, 1996). Sedentary behaviour, in particular television viewing time, has been implicated in the increasing rates of obesity in children and the youth. This has been demonstrated in a variety of settings, including developing countries and under-resourced, low-income communities (Caballero, 2004). Physical inactivity in children and the youth has been attributed in part, to the lack of safe environments to play, lack of delivery of physical education within the school curriculum and lack of prioritisation of or access to sports programmes and facilities. In addition, children and youth may experience barriers in the form of financial or health-related impediments or even certain socio-cultural constraints to participation in physical activity. It may also be argued that physical education and sport are not only regarded as tools for health and physical development, they can be considered tools for acquiring values necessary for social cohesion and intercultural dialogue (UN, 2003). These factors highlight the need for surveillance of inactivity and associated determinants in

adolescents and young adults to address or prevent those factors contributing to low levels of physical activity, with a view to developing targeted interventions.

There are limited data concerning patterns and prevalence of physical activity in children and adolescents, particularly in developing country settings. From the YRBS, conducted in 2002, we know that less than half of school attenders aged 11-20 years, are meeting the public health recommendations for physical activity of at least 20 min of vigorous activity three times a week (44 percent) or 60 min of moderate activity daily (34 percent) (Reddy *et al.*, 2003). The survey also indicates that less than half of South African adolescents reported physical education classes within the school timetable at least once a week, and shows that at least 25 percent of 11-20 year old school children report 3 or more hours of television viewing, daily.

The prevalence of inactivity/insufficient activity (< 600 MET-min/wk) for adolescent men and women aged 15-19 years in the 2003 SADHS are presented by background characteristics in Table 9.26. These are based on 587 adolescent women and 539 adolescent men and the details of the methods used for collecting the data, the criteria for exclusion and the cut-offs for categorizing the results are described in section 13.11 of Chapter 13. Overall, 32 percent of adolescent men are reportedly inactive, with 31 percent reporting minimal activity and 37 percent reporting sufficient health-enhancing physical activity. A higher proportion of adolescent women are inactive (47 percent) and conversely a lower proportion is sufficiently active (21 percent). The gender group difference appears to increase with age. The prevalence of inactivity in the 15 year olds is similar for men and women. However, the prevalence of inactivity tends to increase with age as does the gender difference. It should be noted that the relatively small sample sizes in the single year age categories may result in fluctuations attributed to sampling. However, a similar gender difference was observed in the YRBS, which found that 31 percent of male school attenders and 43 percent of female school attenders were inactive (Reddy *et al.*, 2003). It is not clear whether the differences between the surveys are related to different target populations, different methodologies or the small sample size of the SADHS. Irrespective of the survey method, the data highlight the need for early interventions to increase opportunities for physical activity for adolescents and school leavers, with the view to increase lifetime participation in physical activity and with special recognition for vulnerable groups such as girls and young women.

Table 9.26 also shows that young women in KwaZulu-Natal have the highest reported prevalence of inactivity (74 percent), while men in the same province reported 47 percent prevalence of inactivity. These results are followed for men by those of the Western Cape, with 38 percent men inactive and for women, by Northern Cape (63 percent inactive). It is interesting to note that these results are contradictory to those of adults in the same province discussed in Chapter 13, which suggests that the “coastal effect” may not apply to younger age groups. These differences may be attributed to a lack of appropriate activities or programmes for these age groups. Also, contrary to the adult results in the Eastern Cape, 40 percent of young women and 54 percent of young men are sufficiently active.

This may be attributed to the geographical landscape and socio-economic status of this province. It may further be argued that these results may reflect data drawn, to a larger extent, from rural areas. The higher levels of physical activity are related to transport and occupational (household) activities. Most of the youth in the Eastern Cape areas walk to school, collect wood and fetch water.

Table 9.26 Physical activity of adolescent men and women

Percentage distribution across physical activity categories of inactive, minimally active and sufficiently active for adult men and women aged 15-19 years based on MET-minutes* per week by background characteristic, South Africa 2003

| Background characteristics | MEN | | | | | WOMEN | | | | |
|----------------------------|-------------------------------|---|--|--------------|------------------|-------------------------------|---|--|--------------|--------------------|
| | Inactive 0-<600 MET-min | Minimally active 600-<3000 MET-min | Sufficiently active >= 3000 MET-min | Total | Number of men | Inactive 0-<600 MET-min | Minimally active 600-<3000 MET-min | Sufficiently active >= 3000 MET-min | Total | Number of women |
| Age | | | | | | | | | | |
| 15 | 37.0 | 28.4 | 34.6 | 100.0 | 94 | 38.4 | 38.2 | 23.3 | 100.0 | 118 |
| 16 | 33.4 | 35.9 | 30.8 | 100.0 | 123 | 49.8 | 28.8 | 21.3 | 100.0 | 117 |
| 17 | 23.5 | 33.7 | 42.8 | 100.0 | 100 | 43.8 | 33.7 | 22.5 | 100.0 | 111 |
| 18 | 43.2 | 27.4 | 29.4 | 100.0 | 118 | 53.1 | 32.3 | 14.6 | 100.0 | 133 |
| 19 | 19.0 | 29.2 | 51.9 | 100.0 | 104 | 47.8 | 27.6 | 24.6 | 100.0 | 108 |
| Residence | | | | | | | | | | |
| Urban | 35.4 | 30.8 | 33.8 | 100.0 | 307 | 49.1 | 32.7 | 18.2 | 100.0 | 347 |
| Non-urban | 26.4 | 31.4 | 42.2 | 100.0 | 233 | 43.4 | 31.5 | 25.1 | 100.0 | 240 |
| Province | | | | | | | | | | |
| Western Cape | 38.3 | 23.5 | 38.3 | 100.0 | 47 | 51.5 | 38.2 | 10.3 | 100.0 | 66 |
| Eastern Cape | 18.7 | 27.7 | 53.6 | 100.0 | 58 | 24.9 | 35.3 | 39.8 | 100.0 | 81 |
| Northern Cape | 34.3 | 45.1 | 20.6 | 100.0 | 9 | 63.1 | 26.0 | 10.9 | 100.0 | 12 |
| Free State | 41.0 | 32.2 | 26.8 | 100.0 | 45 | 49.8 | 31.2 | 19.0 | 100.0 | 47 |
| Kwa-Zulu-Natal | 46.9 | 29.1 | 24.0 | 100.0 | 120 | 73.5 | 20.0 | 6.5 | 100.0 | 121 |
| North West | 17.3 | 46.7 | 36.0 | 100.0 | 39 | 46.3 | 45.9 | 7.9 | 100.0 | 35 |
| Gauteng | 37.2 | 25.4 | 37.5 | 100.0 | 103 | 54.2 | 25.2 | 20.7 | 100.0 | 83 |
| Mpumalanga | 14.6 | 34.3 | 51.1 | 100.0 | 51 | 29.8 | 43.4 | 26.8 | 100.0 | 44 |
| Limpopo | 16.4 | 36.9 | 46.7 | 100.0 | 68 | 26.8 | 38.0 | 35.2 | 100.0 | 98 |
| Education | | | | | | | | | | |
| No education | 15.4 | 69.2 | 15.4 | 100.0 | 4 | 39.4 | 60.6 | 0.0 | 100.0 | 6 |
| Grades 1-5 | 28.1 | 28.7 | 43.2 | 100.0 | 31 | 49.8 | 40.5 | 9.7 | 100.0 | 9 |
| Grades 6-7 | 31.0 | 32.3 | 36.7 | 100.0 | 70 | 50.5 | 22.6 | 26.9 | 100.0 | 47 |
| Grades 8-11 | 33.3 | 30.2 | 36.5 | 100.0 | 360 | 45.5 | 34.5 | 20.0 | 100.0 | 437 |
| Grade 12 | 30.2 | 20.3 | 49.6 | 100.0 | 58 | 50.3 | 21.9 | 27.8 | 100.0 | 78 |
| Higher | 9.7 | 80.4 | 9.9 | 100.0 | 15 | 58.3 | 33.7 | 8.0 | 100.0 | 10 |
| Population group | | | | | | | | | | |
| African | 32.4 | 29.3 | 38.3 | 100.0 | 480 | 47.6 | 30.6 | 21.7 | 100.0 | 514 |
| Afr. urban | 37.2 | 27.1 | 35.6 | 100.0 | 253 | 51.2 | 30.2 | 18.6 | 100.0 | 280 |
| Afr. non-urban | 27.0 | 31.8 | 41.3 | 100.0 | 227 | 43.3 | 31.1 | 25.5 | 100.0 | 234 |
| Coloured | 20.1 | 54.1 | 25.9 | 100.0 | 35 | 44.3 | 43.1 | 12.6 | 100.0 | 51 |
| White | 39.4 | 40.4 | 20.2 | 100.0 | 14 | 22.0 | 61.4 | 16.5 | 100.0 | 10 |
| Indian | 20.7 | 17.4 | 61.9 | 100.0 | 10 | 40.5 | 29.5 | 29.9 | 100.0 | 12 |
| Total | 31.6 | 31.0 | 37.4 | 100.0 | 539 | 46.8 | 32.2 | 21.0 | 100.0 | 587 |

*METs are multiples of the resting metabolic rate and yield a score in MET-minutes, which is computed by multiplying the MET score (8 for vigorous and 4 for moderate activity and transport related walking/cycling) by the minutes performed.

Different levels of education influence inactivity prevalence in young women, with those with higher education reporting 58 percent. Men with a Grade 12 education level report a high level of sufficient physical activity at 50 percent as compared to only 28 percent of women at the same level of education, which is the highest reported level of sufficient physical activity among women. Young white men reported the highest prevalence (39 percent) of inactivity, followed by African urban men at 37 percent. In women, young African urban women have the highest prevalence of inactivity at 51 percent followed by women of coloured origin at 44 percent. Young white women reported a minimal physical activity level at 61 percent. Differences in the prevalence of activity/inactivity in young women may be related to cultural factors, which may limit their involvement.

CHAPTER 10

MORTALITY AND MORBIDITY IN ADULTS

10.1 Introduction

The lack of information on the health of adults, in particular chronic diseases, was recognised in the planning of the first SADHS in 1998, and a module developed to fill this gap. A clinical examination of the respondents was not possible, but hypertension and lung disease were identified as sentinel conditions, which could be measured objectively by lay interviewers. The adult health module focused on information related to hypertension and lung disease, and includes risk behaviours, self-reported history of conditions, utilisation of services and long-term medication use. It also includes occupational illnesses and oral health. The 2003 SADHS was extended to include information on violence, physical activity and dietary intake. Combining information from the Household, Women's and Adult Health questionnaires, the extent of adult mortality and self-reported morbidity are investigated in this chapter.

10.2 Adult Mortality

As in 1998, the 2003 SADHS included questions about the vital status of the siblings of women aged 15-49 years. Data on the age at death of brothers and sisters together with the date of birth of the respondent, provided the data are reasonable comprehensive, can be used to derive direct estimates of the age-specific mortality rates of adults. Unfortunately, the sibling history section of the Women's questionnaire was not well answered. For nearly half of the siblings reported to have died, information on either their age or the year of death was missing, and no information at all was provided for 30 percent of the siblings. Thus it was not possible to produce reliable estimates of adult mortality or maternal mortality ratios from these data.

10.3 Chronic Diseases

The participants were asked if a doctor or a member of the health profession had informed them that they suffered from selected chronic conditions. In addition to the conditions selected for the 1998 SADHS, this survey included arthritis, osteoporosis and epilepsy. Data from participants on such self-reported conditions should be treated with caution, since they are frequently under-reported or incorrectly reported. As many chronic conditions tend to have a familial pattern, a positive family history for specific chronic diseases can potentially be put to good use in cost-effectively identifying persons at higher risk than the general population. For this reason questions on family history of selected chronic diseases were included.

Family history of chronic diseases

The data in Table 10.1 present the reported prevalence of family history for a number of common chronic diseases that are known to follow a familial pattern. Of the conditions included in the survey, a family history of hypertension is the most common and is reported by 27 percent of men and 37 percent of women. Figure 10.1 shows that a similar prevalence of family history was found in the 1998 survey. There is an increase in both the urban and non-urban reporting of a family history of hypertension. As in the 1998 survey, a family history of hypertension is reported more frequently in the urban than non-urban areas.

With the exception of KwaZulu-Natal, all the provinces have increases in the reported prevalence of a family history of hypertension. The largest increase occurred in Limpopo, which has almost

doubled the reported family history of hypertension (13 percent in 1998 and 25 percent in 2003), while the Western Cape continues to have the highest prevalence (40 percent in 1998 and 46 percent in 2003). In KwaZulu-Natal the prevalence of a family history of hypertension dropped from 33 percent in 1998 to 26 percent in 2003.

People with higher education report more family history of hypertension compared to those with less education. This was similar to the 1998 findings. Indians most frequently report a family history of hypertension, closely followed by coloureds. Reporting among whites fell from 40 percent in 1998 to 34 percent in 2003. Urban Africans have a higher frequency of reporting a family history of hypertension at 37 percent, an increase of 5 percent from 1998.

A family history of ischaemic heart disease (IHD), commonly known as a heart attack or of having angina is reported by 11 percent of men and 14 percent of women, a slight decrease from the 1998 figures of 13 and 16 percent respectively. The provincial distribution changed, with the Free State and Western Cape now reporting the highest frequency. KwaZulu-Natal data show the lowest reported family history of IHD at 6 percent, which is less than half that reported in 1998 and possibly spurious.

Those with higher education also have a higher frequency of a family history of IHD, although less so than in the 1998 survey. Indians have the highest frequency at 36 percent; this figure, together with those of most other race groups, remains unchanged from the 1998 findings. The exception was the Whites, with a 10 percent reduction in their reported family history of IHD from 38 to 28 percent.

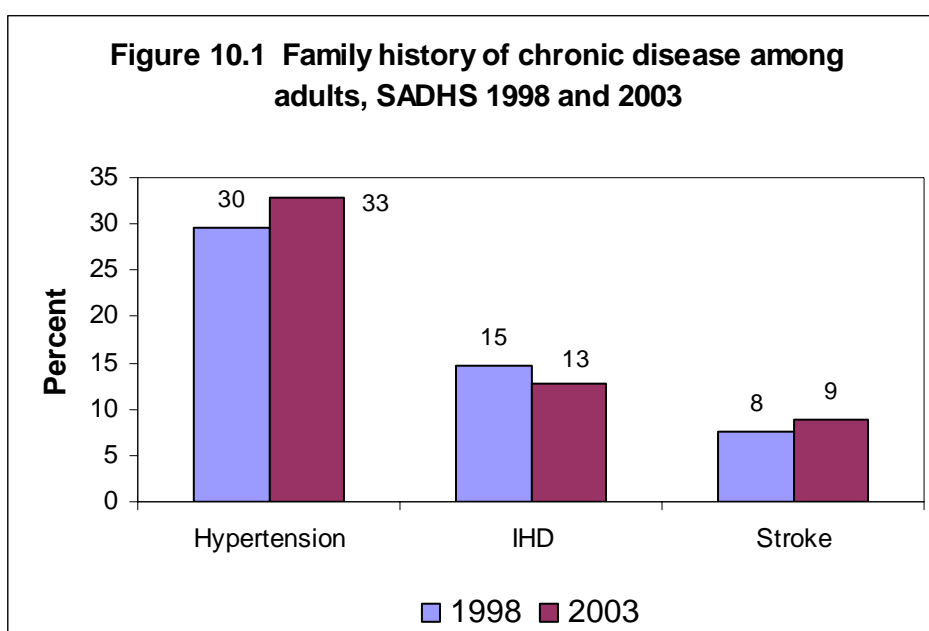


Table 10.1 Family history of chronic diseases

Percentage of adult men and women who reported a family history of hypertension, ischaemic heart disease (IHD) and stroke, according to background characteristic, South Africa 2003

| Background characteristic | Hypertension | IHD | IHD before 50 years | Stroke | Number |
|---------------------------|--------------|------|---------------------|--------|--------|
| Age | | | | | |
| 15-24 | 28.1 | 8.9 | 40.7 | 5.1 | 2 377 |
| 25-34 | 32.5 | 12.1 | 37.2 | 8.1 | 1 714 |
| 35-44 | 34.6 | 14.4 | 38.5 | 9.1 | 1 476 |
| 45-54 | 38.8 | 16.6 | 28.0 | 14.4 | 1 152 |
| 55-64 | 35.8 | 16.7 | 24.5 | 13.1 | 779 |
| 65+ | 33.7 | 12.3 | 34.0 | 9.8 | 618 |
| Sex | | | | | |
| Male | 27.0 | 11.4 | 37.6 | 7.7 | 3 422 |
| Female | 37.2 | 13.6 | 32.8 | 9.8 | 4 693 |
| Residence | | | | | |
| Urban | 37.6 | 14.6 | 33.6 | 10.6 | 5 285 |
| Non-urban | 24.1 | 9.1 | 37.7 | 5.7 | 2 830 |
| Province | | | | | |
| Western Cape | 45.6 | 19.4 | 28.4 | 16.1 | 910 |
| Eastern Cape | 33.6 | 12.0 | 33.4 | 9.1 | 929 |
| Northern Cape | 44.1 | 11.8 | 31.2 | 11.1 | 152 |
| Free State | 41.4 | 19.6 | 37.4 | 6.7 | 537 |
| KwaZulu-Natal | 25.5 | 6.0 | 30.3 | 4.2 | 1 669 |
| North West | 31.6 | 14.8 | 43.0 | 8.0 | 621 |
| Gauteng | 33.9 | 13.0 | 32.9 | 11.2 | 1 988 |
| Mpumalanga | 30.1 | 13.9 | 36.7 | 8.7 | 509 |
| Limpopo | 25.2 | 12.0 | 44.9 | 6.8 | 800 |
| Education | | | | | |
| No education | 29.7 | 12.1 | 38.0 | 6.7 | 874 |
| Grades 1-5 | 28.2 | 11.0 | 39.0 | 7.6 | 783 |
| Grades 6-7 | 34.5 | 12.4 | 30.9 | 9.3 | 884 |
| Grades 8-11 | 32.4 | 12.8 | 36.2 | 9.3 | 3 239 |
| Grade 12 | 33.8 | 11.9 | 38.8 | 6.9 | 1 626 |
| Higher | 39.9 | 16.7 | 19.5 | 15.5 | 653 |
| Unknown | 45.8 | 18.4 | 22.5 | 16.0 | 55 |
| Population group | | | | | |
| African | 31.4 | 10.3 | 37.7 | 7.2 | 6 695 |
| Afr. urban | 36.9 | 11.3 | 36.6 | 8.6 | 3 997 |
| Afr. non-urban | 23.2 | 8.9 | 39.8 | 5.1 | 2 698 |
| Coloured | 42.0 | 17.7 | 31.3 | 14.5 | 724 |
| Indian | 43.9 | 35.9 | 34.3 | 22.2 | 195 |
| White | 34.0 | 27.8 | 26.3 | 17.9 | 477 |
| Other | 74.2 | 21.1 | 22.4 | 32.8 | 25 |
| Total | 32.9 | 12.7 | 34.6 | 8.9 | 8 115 |

Reported family history of IHD before 50 years of age has decreased significantly, from 46 percent in 1998 to 35 percent in 2003, with the predominant decrease found among women. Similar to 1998, the frequency is higher in the non-urban than urban areas. However, unlike 1998, the highest frequencies are found in the poorer provinces of Limpopo and North West, while there is a dramatically lower rate of reported family history of IHD before 50 years of age in Gauteng and Mpumalanga. The lowest frequency is reported among those with higher education.

There is a slight increase in the reported family history of stroke, with the largest increase, i.e. from 13 percent in 1998 to 16 percent in 2003, found in the Western Cape. Again KwaZulu-Natal is the only province where the frequency not only decreased but implausibly reduced by half. Family history of stroke is most frequently reported in those with higher education and in urban areas, at almost double that reported in non-urban areas.

Self-reported prevalence of chronic conditions

Tables 10.2 and 10.3 demonstrate the self-reported prevalence of some commonly occurring chronic conditions according to the background characteristics. Similar to the 1998 survey, the 2003 results show that more than twice as many women as men report suffering from hypertension.

The differences in self-reported hypertension prevalence between the urban and non-urban areas for men and women in 2003 are similar to those found in 1998, with a higher prevalence in the urban areas. However, the provincial distribution changed, with the highest self-reported prevalence found in the Western Cape for men (15 percent)—a marked increase from 9 percent in 1998, and the lowest rate of 3 percent found in Mpumalanga—a decrease from 5 percent in 1998. The self-reported prevalence among women is highest in the Free State at 27 percent—a significant increase from 20 percent in 1998, and the lowest in KwaZulu-Natal at 11 percent—a marked decrease from

the 21 percent found in 1998. To reiterate, the KwaZulu-Natal data should be viewed with caution as there is no obvious reason for these changes.

With regard to education level, the highest self-reported hypertension prevalence is among those with no education for both men (15 percent) and women (32 percent). White men (24 percent) and coloured women (25 percent) most frequently report having hypertension, while African non-urban men (6 percent) and white women (9 percent) report it least frequently. The population distributions for self-reported hypertension prevalence were similar in 1998 and 2003, apart from an increase in coloured men from 9 percent to 15 percent and a decrease in white women from 21 percent to 9 percent. However, it is difficult to analyse the data as a large percentage are unaccounted for under the 'other' category.

As seen in the 1998 survey, inaccuracy of self-reported conditions is once again illustrated in 2003 by the lower self-reported prevalence of IHD among men (< 3 percent) than women (4 percent). In reality IHD is known to affect more men than women, with female gender being a protective factor against IHD. As expected, among men the self-reported prevalence of IHD increased with increasing age, is highest among Indians (8 percent), lowest among Whites (1 percent), most frequent in the Western Cape (6 percent), and least frequent in Limpopo Province (< 1 percent).

The self-reported prevalence of IHD among women decreases with higher education levels, with the least educated having the highest prevalence. Self-reported IHD in women is reported most frequently among Indians (7 percent), least frequently among coloureds (2 percent), most frequently in the Free State (9 percent) and least frequently in KwaZulu-Natal (2 percent). The highest self-reported prevalence of IHD among both men and women is found in Indians, who predominantly reside in KwaZulu-Natal, and once again illustrates the poor quality of the data in this province.

Of interest is the slightly higher prevalence among women in non-urban rather than urban areas, considering that IHD is generally more prevalent in urbanised centres. While the prevalence of IHD among African non-urban men is the second lowest, that among African non-urban women is the second highest at 5 percent. However, with the known association of urbanisation with IHD, these data should be regarded with caution.

Low levels of stroke and hyperlipidaemia are generally reported, with the highest self-reported prevalence among both men and women for Whites (10 and 8 percent respectively), and followed by Indians (8 and 7 percent respectively). This is unlikely to be a true reflection of the actual trend, as high cholesterol levels are on the increase even in non-urban areas in South Africa.

Similar to the 1998 survey results for stroke and hyperlipidaemia, the overall self-reported diabetes prevalence remain unchanged at 3 percent for men and 4 percent for women. The exception is a marked increase from 1998 to 2003 in prevalence among Indian men to equal that of Indian women, with the highest prevalence at 12 percent for men and 12 for women in both surveys. The highest self-reported diabetes prevalence is found in the pre-retirement age groups for both men and women, suggesting earlier onset in a Third World setting. There is a notable increase in self-reported diabetes prevalence among women aged 55-64 years, from 8 percent in 1998 to 12 percent in 2003.

The self-reported prevalence of cancer in men, although low, more than doubled in the urban areas from 0.3 percent in 1998 to 0.7 percent in 2003, and increased from 0.2 to 0.4 percent in non-urban areas over the same period. However, no information is available about the type of cancer reported.

Figure 10.2 and 10.3 show prevalence of self-reported chronic conditions among men and women who participated in the 2003 survey. These clearly show that high blood pressure is the most

common condition, and that it is much more prevalent among women than men. This is followed by arthritis.

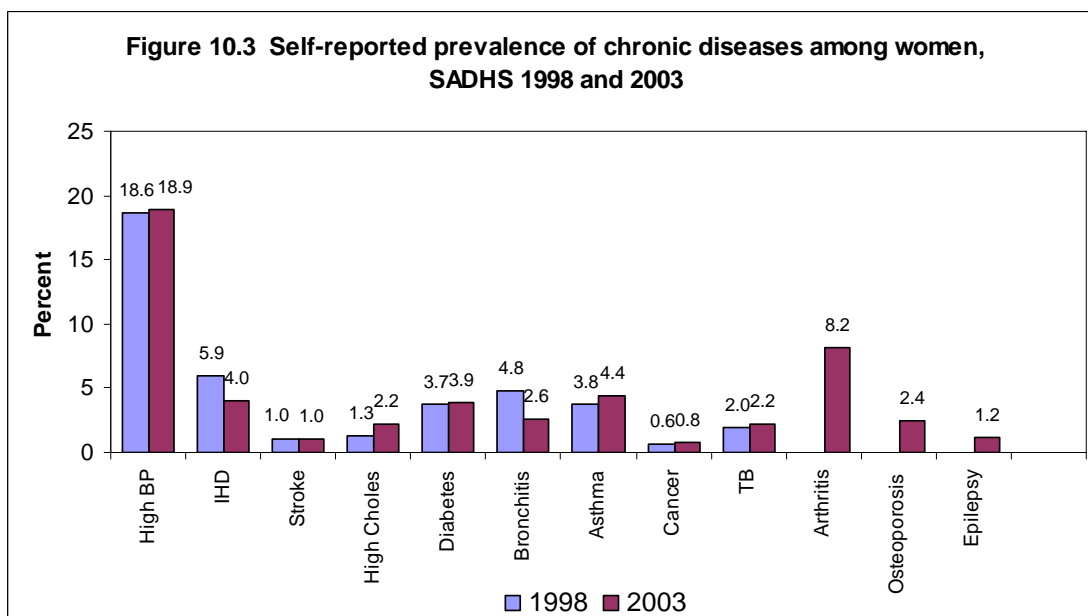
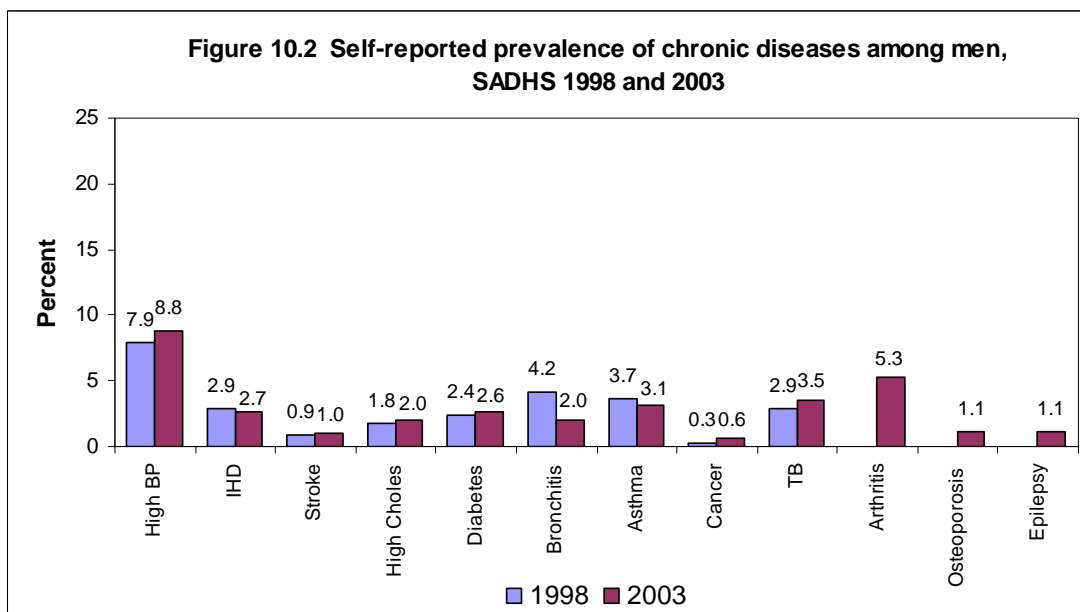


Table 10.2.Chronic disease prevalence among men

Percentage of men aged 15 and over who reported ever having been told by a doctor or nurse or staff member at a hospital or clinic that they had various chronic health conditions, according to background characteristic, South Africa 2003

| Background characteristic | High BP | IHD | Stroke | High Cholesterol | Diabetes | Bronchitis | Asthma | Arthritis | Osteoporosis | Epilepsy | TB | Cancer | Number |
|---------------------------|------------|------------|------------|------------------|------------|------------|------------|------------|--------------|------------|------------|------------|--------------|
| Age | | | | | | | | | | | | | |
| 15-24 | 1.8 | 1.0 | 0.2 | 0.2 | 1.3 | 0.8 | 2.1 | 1.5 | 0.4 | 0.6 | 1.7 | 0.6 | 1 121 |
| 25-34 | 3.0 | 2.0 | 0.7 | 0.7 | 1.2 | 1.2 | 2.6 | 3.2 | 0.9 | 0.8 | 3.4 | 0.1 | 735 |
| 35-44 | 10.3 | 2.6 | 0.5 | 3.0 | 1.8 | 1.7 | 2.5 | 4.3 | 0.6 | 1.6 | 2.8 | 0.2 | 593 |
| 45-54 | 18.4 | 4.5 | 1.0 | 6.9 | 5.9 | 4.4 | 4.1 | 10.6 | 1.4 | 1.1 | 6.8 | 1.2 | 438 |
| 55-64 | 18.2 | 5.1 | 4.9 | 1.8 | 7.2 | 5.0 | 5.3 | 12.4 | 1.7 | 0.9 | 4.0 | 1.0 | 297 |
| 65+ | 26.5 | 7.3 | 1.7 | 2.7 | 5.3 | 2.6 | 5.9 | 13.0 | 4.4 | 3.1 | 7.0 | 1.8 | 240 |
| Residence | | | | | | | | | | | | | |
| Urban | 10.2 | 3.2 | 0.7 | 2.8 | 2.9 | 2.3 | 3.0 | 5.8 | 0.8 | 1.1 | 3.8 | 0.7 | 2 289 |
| Non-urban | 6.0 | 1.7 | 1.4 | 0.4 | 1.9 | 1.3 | 3.3 | 4.2 | 1.6 | 0.9 | 2.8 | 0.4 | 1 133 |
| Province | | | | | | | | | | | | | |
| Western Cape | 14.8 | 5.8 | 1.1 | 5.4 | 3.7 | 3.4 | 5.7 | 8.6 | 0.4 | 0.0 | 7.8 | 1.4 | 337 |
| Eastern Cape | 9.1 | 3.5 | 0.9 | 2.3 | 2.7 | 6.3 | 4.0 | 5.5 | 0.6 | 2.5 | 8.4 | 0.6 | 367 |
| Northern Cape | 13.9 | 2.8 | 1.4 | 1.4 | 3.0 | 2.6 | 1.9 | 6.2 | 2.3 | 2.9 | 2.5 | 0.3 | 60 |
| Free State | 13.3 | 3.7 | 0.8 | 1.2 | 1.8 | 1.9 | 2.0 | 4.0 | 2.1 | 2.5 | 4.4 | 0.3 | 224 |
| KwaZulu-Natal | 6.3 | 1.7 | 0.6 | 1.0 | 2.6 | 0.6 | 1.4 | 3.4 | 0.5 | 0.3 | 0.9 | 0.4 | 781 |
| North West | 9.0 | 3.7 | 2.1 | 0.4 | 1.5 | 1.3 | 3.7 | 6.2 | 5.8 | 1.7 | 4.9 | 0.4 | 248 |
| Gauteng | 9.2 | 2.4 | 0.6 | 2.3 | 2.6 | 1.8 | 4.0 | 6.4 | 0.0 | 0.6 | 2.7 | 0.9 | 914 |
| Mpumalanga | 3.1 | 2.6 | 1.9 | 1.6 | 2.5 | 1.1 | 2.7 | 3.0 | 1.4 | 1.4 | 0.0 | 0.0 | 209 |
| Limpopo | 6.6 | 0.6 | 1.6 | 1.1 | 2.4 | 0.6 | 1.6 | 4.1 | 1.7 | 1.6 | 2.1 | 0.3 | 282 |
| Education | | | | | | | | | | | | | |
| No education | 15.2 | 5.5 | 2.7 | 0.6 | 3.5 | 2.4 | 4.1 | 9.5 | 3.5 | 2.7 | 7.2 | 0.4 | 296 |
| Grades 1-5 | 10.7 | 5.7 | 2.0 | 3.2 | 3.9 | 4.0 | 3.9 | 7.5 | 1.7 | 1.5 | 7.6 | 0.6 | 335 |
| Grades 6-7 | 10.6 | 3.6 | 2.5 | 1.3 | 4.0 | 3.0 | 3.4 | 6.5 | 1.5 | 1.0 | 3.5 | 0.2 | 384 |
| Grades 8-11 | 6.9 | 2.4 | 0.4 | 2.2 | 2.3 | 1.7 | 3.9 | 4.6 | 0.9 | 1.2 | 2.9 | 0.6 | 1 366 |
| Grade 12 | 6.0 | 1.2 | 0.2 | 1.7 | 1.6 | 1.7 | 1.1 | 2.3 | 0.1 | 0.2 | 1.4 | 0.5 | 703 |
| Higher | 12.6 | 0.5 | 0.3 | 2.7 | 1.8 | 0.4 | 2.3 | 6.8 | 0.6 | 1.0 | 1.0 | 1.9 | 309 |
| Population group | | | | | | | | | | | | | |
| African | 6.9 | 2.8 | 1.0 | 0.8 | 1.6 | 1.6 | 2.5 | 4.1 | 1.2 | 1.0 | 3.6 | 0.3 | 2 838 |
| Afr. urban | 7.6 | 3.6 | 0.8 | 1.3 | 1.4 | 1.7 | 2.2 | 4.3 | 0.9 | 1.1 | 4.2 | 0.3 | 1 747 |
| Afr. non-urban | 5.7 | 1.4 | 1.3 | 0.2 | 1.9 | 1.4 | 3.2 | 3.9 | 1.6 | 0.9 | 2.7 | 0.3 | 1 091 |
| Coloured | 15.4 | 2.3 | 1.5 | 4.7 | 3.5 | 4.3 | 3.8 | 8.2 | 0.9 | 0.7 | 4.6 | 0.9 | 268 |
| Indian | 13.3 | 8.1 | 0.8 | 8.4 | 11.5 | 2.5 | 5.8 | 7.0 | 0.4 | 0.3 | 0.7 | 0.0 | 83 |
| White | 23.9 | 1.0 | 0.3 | 10.1 | 8.8 | 3.9 | 8.4 | 13.3 | 0.1 | 2.6 | 1.3 | 4.8 | 220 |
| Total | 8.8 | 2.7 | 1.0 | 2.0 | 2.6 | 2.0 | 3.1 | 5.3 | 1.1 | 1.1 | 3.5 | 0.6 | 3 422 |

13 cases reported population group as other or missing.
22 cases had education unknown.

Table 10.3 Chronic disease prevalence among women

Percentage of women aged 15 and over who reported ever having been told by a doctor or nurse or staff member at a hospital or clinic that they had various chronic health conditions, according to background characteristic, South Africa 2003

| Background characteristic | High BP | IHD | Stroke | Cholesterol High | Diabetes | Bronchitis | Asthma | Arthritis | Osteoporosis | Epilepsy | TB | Cancer | Number |
|---------------------------|-------------|------------|------------|------------------|------------|------------|------------|------------|--------------|------------|------------|------------|--------------|
| Age | | | | | | | | | | | | | |
| 15-24 | 3.2 | 0.9 | 0.0 | 0.8 | 0.5 | 1.0 | 2.7 | 1.3 | 0.1 | 0.9 | 1.9 | 0.4 | 1 256 |
| 25-34 | 8.6 | 2.8 | 0.1 | 0.7 | 1.1 | 1.7 | 3.6 | 3.0 | 1.1 | 0.6 | 1.3 | 0.8 | 979 |
| 35-44 | 18.3 | 2.7 | 1.0 | 2.5 | 2.7 | 2.1 | 4.4 | 7.0 | 1.4 | 0.9 | 2.6 | 0.6 | 883 |
| 45-54 | 34.7 | 7.7 | 1.6 | 3.6 | 6.9 | 4.0 | 6.3 | 17.0 | 4.7 | 2.3 | 3.1 | 1.1 | 714 |
| 55-64 | 38.7 | 8.3 | 3.7 | 4.9 | 11.9 | 4.7 | 6.5 | 19.6 | 4.4 | 1.5 | 1.9 | 2.0 | 483 |
| 65+ | 43.8 | 8.3 | 2.4 | 3.4 | 9.2 | 5.8 | 6.3 | 16.1 | 8.4 | 2.7 | 3.8 | 1.1 | 378 |
| Residence | | | | | | | | | | | | | |
| Urban | 21.0 | 3.7 | 1.1 | 2.6 | 4.3 | 3.0 | 4.7 | 9.7 | 2.5 | 1.3 | 2.3 | 0.9 | 2 995 |
| Non-urban | 15.2 | 4.6 | 1.0 | 1.4 | 3.0 | 1.8 | 4.0 | 5.5 | 2.3 | 1.2 | 2.1 | 0.7 | 1 697 |
| Province | | | | | | | | | | | | | |
| Western Cape | 23.4 | 2.7 | 1.3 | 3.2 | 6.6 | 5.7 | 8.9 | 10.5 | 1.8 | 1.0 | 4.1 | 1.3 | 573 |
| Eastern Cape | 22.0 | 3.8 | 0.4 | 2.1 | 3.8 | 2.5 | 8.1 | 13.0 | 1.2 | 0.8 | 6.1 | 0.4 | 562 |
| Northern Cape | 25.1 | 3.3 | 1.6 | 2.3 | 3.0 | 3.7 | 4.4 | 10.1 | 2.6 | 1.8 | 2.3 | 0.5 | 92 |
| Free State | 26.6 | 8.9 | 0.9 | 1.7 | 4.0 | 1.7 | 2.7 | 5.9 | 0.6 | 3.9 | 3.0 | 0.9 | 313 |
| KwaZulu-Natal | 11.1 | 2.2 | 0.2 | 1.4 | 4.3 | 0.7 | 2.3 | 6.1 | 0.7 | 0.9 | 0.4 | 0.5 | 888 |
| North West | 20.7 | 7.0 | 2.0 | 2.1 | 1.9 | 2.9 | 3.6 | 8.7 | 10.0 | 2.2 | 3.0 | 0.3 | 373 |
| Gauteng | 21.2 | 3.1 | 1.6 | 2.6 | 3.6 | 2.2 | 3.7 | 8.8 | 2.1 | 0.7 | 1.0 | 1.2 | 1 074 |
| Mpumalanga | 14.7 | 4.5 | 1.1 | 1.3 | 2.1 | 2.1 | 4.2 | 3.9 | 2.2 | 1.3 | 1.6 | 0.5 | 300 |
| Limpopo | 14.3 | 5.5 | 1.0 | 2.2 | 3.5 | 3.5 | 2.5 | 5.6 | 3.5 | 1.3 | 0.9 | 1.2 | 519 |
| Education | | | | | | | | | | | | | |
| No education | 32.4 | 8.2 | 1.5 | 2.5 | 6.4 | 3.4 | 5.9 | 12.8 | 4.6 | 1.8 | 4.2 | 0.8 | 578 |
| Grades 1-5 | 31.4 | 6.7 | 1.5 | 1.4 | 7.1 | 2.4 | 6.4 | 14.8 | 1.8 | 2.7 | 4.5 | 1.5 | 448 |
| Grades 6-7 | 25.5 | 5.8 | 2.2 | 2.9 | 4.1 | 2.9 | 6.3 | 8.6 | 2.9 | 1.5 | 2.1 | 0.6 | 501 |
| Grades 8-11 | 15.9 | 3.3 | 0.6 | 2.4 | 3.3 | 2.4 | 3.8 | 6.8 | 2.6 | 1.0 | 1.8 | 1.0 | 1 873 |
| Grade 12 | 8.1 | 1.4 | 0.4 | 1.5 | 1.6 | 2.3 | 4.0 | 5.4 | 0.9 | 0.6 | 1.3 | 0.7 | 923 |
| Higher | 11.8 | 0.7 | 2.1 | 1.7 | 3.7 | 2.2 | 1.7 | 4.2 | 1.0 | 1.0 | 1.1 | 0.1 | 344 |
| Unknown | 65.8 | 19.6 | 2.6 | 0.7 | 11.2 | 8.4 | 0.0 | 32.3 | 9.1 | 0.7 | 0.0 | 0.0 | 26 |
| Population group | | | | | | | | | | | | | |
| African | 18.8 | 4.2 | 0.9 | 1.6 | 3.6 | 2.0 | 3.7 | 7.4 | 2.4 | 1.3 | 2.1 | 0.7 | 3 857 |
| Afr. urban | 22.2 | 3.9 | 0.9 | 1.7 | 4.0 | 2.2 | 3.8 | 8.9 | 2.5 | 1.3 | 2.2 | 0.8 | 2 250 |
| Afr. non-urban | 14.0 | 4.5 | 1.0 | 1.4 | 3.1 | 1.7 | 3.5 | 5.3 | 2.3 | 1.2 | 2.0 | 0.6 | 1 607 |
| Coloured | 24.8 | 2.3 | 1.2 | 2.8 | 5.9 | 5.1 | 8.1 | 10.7 | 0.9 | 1.0 | 5.0 | 1.3 | 456 |
| Indian | 19.6 | 6.9 | 1.1 | 7.1 | 11.7 | 4.5 | 6.4 | 17.5 | 1.2 | 2.4 | 0.0 | 0.6 | 112 |
| White | 9.0 | 2.8 | 2.5 | 7.8 | 1.2 | 6.4 | 7.5 | 11.3 | 5.4 | 0.2 | 0.0 | 1.9 | 257 |
| Other | 31.8 | 19.2 | 0.0 | 2.0 | 0.0 | 0.0 | 20.9 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 11 |
| Total | 18.9 | 4.0 | 1.0 | 2.2 | 3.9 | 2.6 | 4.4 | 8.2 | 2.4 | 1.2 | 2.2 | 0.8 | 4 693 |

12 cases reported population group as other or missing.

17 cases had education unknown.

10.4 Self-reported Prevalence of Tuberculosis

In this survey the “prevalence” of tuberculosis is a self-reported lifetime prevalence of recognised tuberculosis. This should be distinguished from the prevalence of tuberculosis infection as determined by tuberculin sensitivity testing or the prevalence of active tuberculosis determined by bacteriological testing, which were not part of this survey.

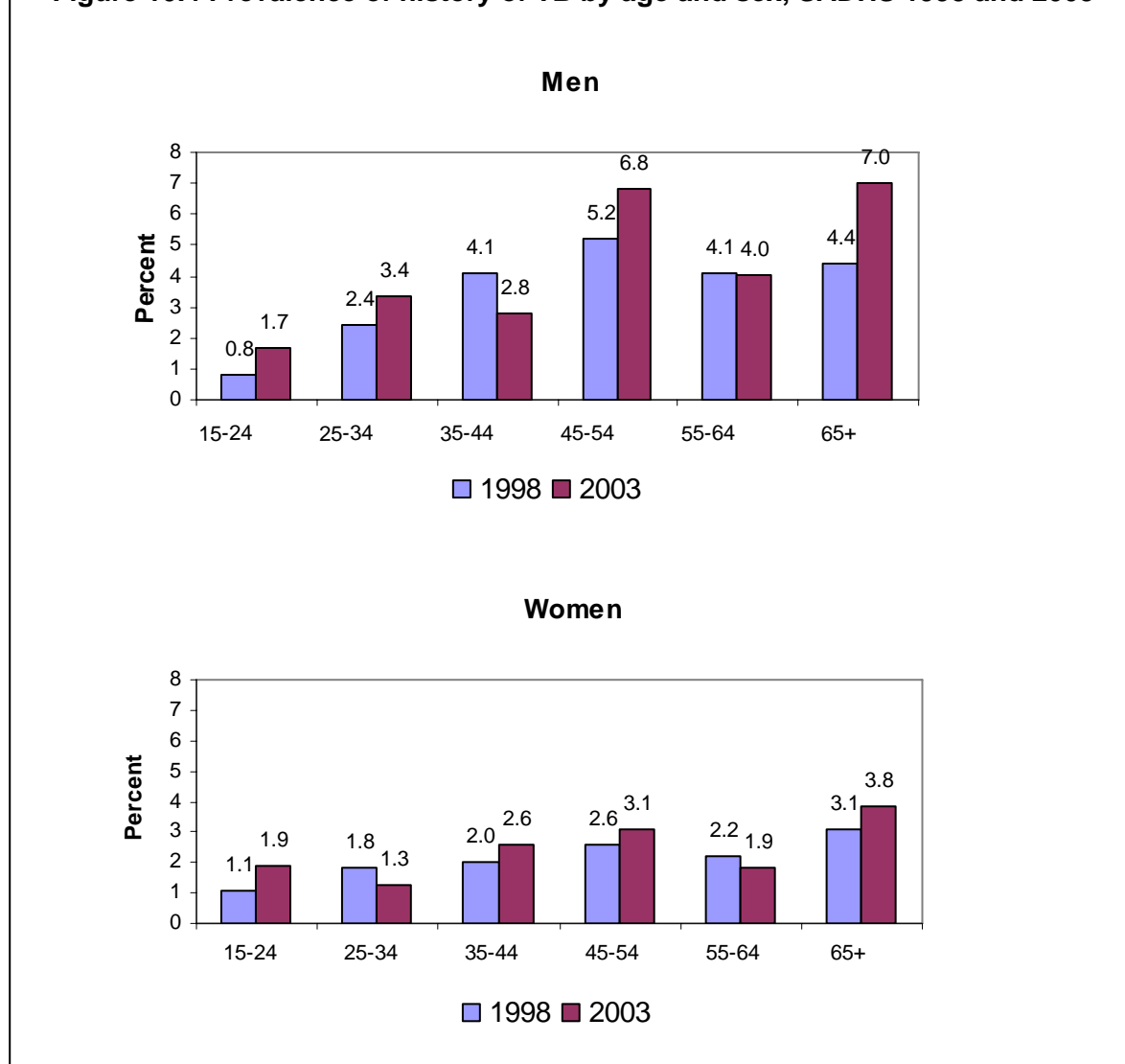
Tuberculosis remains the most commonly notified disease in South Africa, with approximately 339 000 cases (all forms) having been notified in 2004, and an extremely high incidence of 718 per 100 000 population (World Health Organisation, 2006). In this survey the prevalence of tuberculosis was 3.5 percent among men (up from 2.9 percent in 1998) and 2.2 percent among women (similar to the 1998 figure of 2.0 percent) (Tables 10.2 and 10.3). Figure 10.4 compares the age-specific prevalence of tuberculosis in 1998 and 2003

Although it is difficult to draw definite conclusions without taking sampling error into account, there are some interesting observations in comparing the latest results with those of 1998. While a history of tuberculosis was more common in non-urban areas in the earlier survey, this is reversed in the current survey with urban respondents reporting a higher prevalence. The prevalence remained highest in the Eastern Cape, which also recorded a relatively large increase across the two surveys, from 4.3 percent to 6.1 percent among women and 5.8 percent to 8.4 percent among men. This geographic distribution remains unexplained, as it is unlikely that better case finding explains the high Eastern Cape figure.

Low education remains a strong risk factor for having had tuberculosis (prevalence ratio, lowest to highest education level: 7.2 among men and 4.2 among women). Male gender is a moderate risk factor (prevalence ratio, male to female: 1.6). Regarding health disparities by race, coloured women record the highest prevalence of 5.0 percent, followed by coloured men at 4.6 percent and urban African men at 4.2 percent.

While tuberculosis remains one of the most common manifestations of HIV infection in South Africa, its impact is surprisingly inapparent in this survey. For example, KwaZulu-Natal, with the highest HIV seroprevalence rate nationally, has the lowest tuberculosis prevalence. Furthermore, the reported prevalence of tuberculosis among women aged 25 to 34 years, the age group with the highest national HIV seroprevalence (Department of Health, 2004), fell from the earlier to the later survey. One possible explanation is that AIDS-related mortality is resulting in HIV-infected people being under-represented in the surveyed population.

Figure 10.4 Prevalence of history of TB by age and sex, SADHS 1998 and 2003



10.5 Injury and Violence

Household injuries in last month

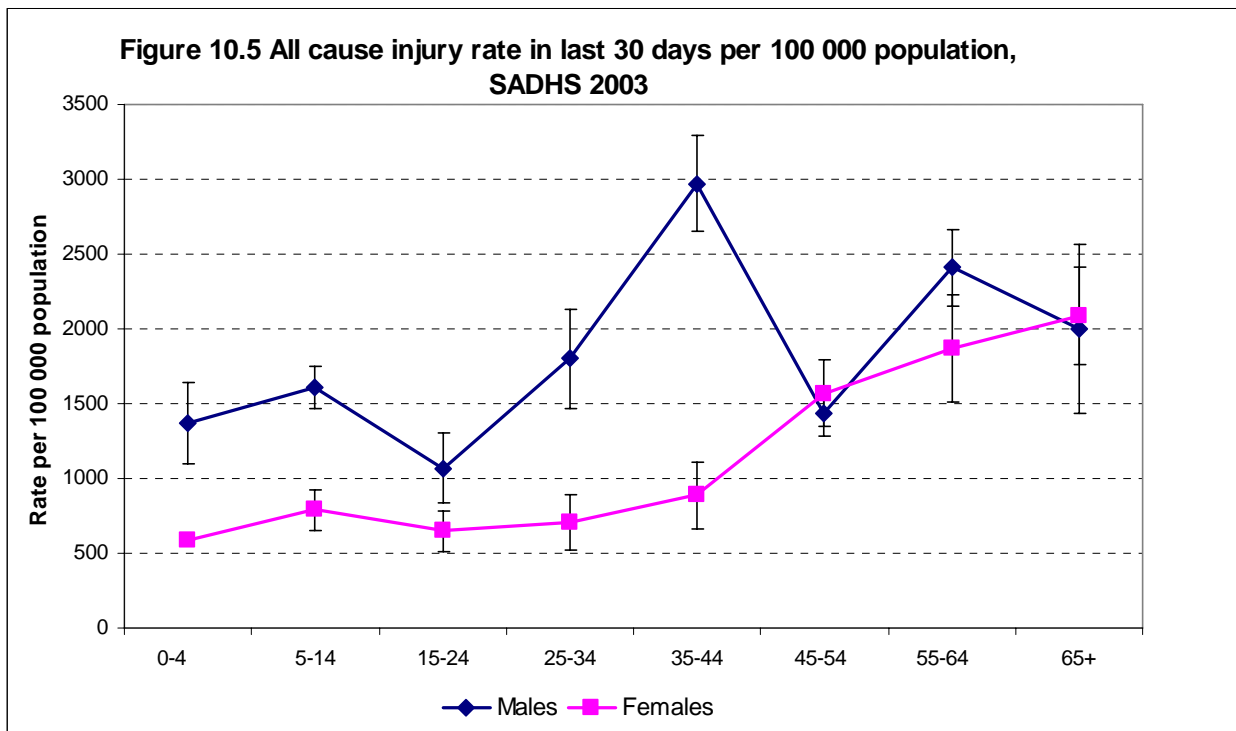
The SADHS is currently the only source of information about the incidence of non-fatal injuries at a national level. Monthly injury rates based on the Household Questionnaire administered among adult respondents (15 years and older) are summarised in Table 10.4. Among male respondents, every month 1 809 per 100 000 population sustain injuries severe enough to warrant medical attention, compared to 1 094 per 100 000 among females (significantly higher than the rate of 805 per 100 000 recorded among adult females in 1998). The estimated annual injury rate in South Africa is 21 713 per 100 000 population for males and 13 123 for females, i.e. one in five males and one in eight females require medical attention for an injury each year. Men are at least 60 percent more likely to seek medical treatment for injuries than women - for both intentional and unintentional injuries.

Table 10.4 Injury rates

Monthly injury rates per 100 000 adult men and women, according to whether injury was intentional or unintentional and by background characteristic, South Africa 2003

| Background characteristic | Intentional injuries | | Unintentional injuries | | All injuries | | Number | |
|---------------------------|----------------------|--------------|------------------------|--------------|----------------|----------------|--------------|---------------|
| | Male | Female | Male | Female | Male | Female | Male | Female |
| Age | | | | | | | | |
| 15-24 | 393.0 | 149.4 | 674.0 | 499.5 | 1 067.1 | 648.9 | 2 772 | 3 020 |
| 25-34 | 519.8 | 192.5 | 1 280.1 | 516.5 | 1 799.9 | 709.0 | 1 898 | 2 199 |
| 35-44 | 426.8 | 252.7 | 2 542.1 | 634.6 | 2 968.8 | 887.3 | 1 624 | 2 056 |
| 45-54 | 66.0 | 228.7 | 1 370.1 | 1 340.8 | 1 436.1 | 1 569.5 | 1 110 | 1 632 |
| 55-64 | 143.1 | 403.6 | 2 266.9 | 1 462.6 | 2 410.1 | 1 866.2 | 798 | 1 139 |
| 65+ | 489.7 | 258.5 | 1 510.3 | 1 827.3 | 2 000.1 | 2 085.8 | 673 | 963 |
| Residence | | | | | | | | |
| Urban | 386.8 | 170.8 | 1 539.8 | 873.1 | 1 926.5 | 1 044.0 | 5 953 | 7 016 |
| Non-urban | 336.7 | 319.9 | 1 233.9 | 860.8 | 1 570.6 | 1 180.7 | 2 922 | 3 994 |
| Province | | | | | | | | |
| Western Cape | 337.3 | 0.0 | 1 544.0 | 999.0 | 1 881.4 | 999.0 | 1 015 | 1 257 |
| Eastern Cape | 942.9 | 490.1 | 1 060.5 | 490.1 | 2 003.4 | 980.1 | 961 | 1 410 |
| Northern Cape | 372.4 | 61.7 | 1 454.2 | 1 486.0 | 1 826.5 | 1 547.7 | 157 | 196 |
| Free State | 110.9 | 398.1 | 1 928.8 | 1 094.5 | 2 039.6 | 1 492.7 | 540 | 703 |
| KwaZulu-Natal | 17.2 | 21.6 | 530.3 | 805.7 | 547.5 | 827.4 | 1 964 | 2 003 |
| North West | 289.1 | 246.3 | 1 580.3 | 657.4 | 1 869.4 | 903.8 | 598 | 862 |
| Gauteng | 458.0 | 213.9 | 2 068.4 | 1 046.7 | 2 526.4 | 1 260.6 | 2 362 | 2 672 |
| Mpumalanga | 790.6 | 174.6 | 908.8 | 421.8 | 1 699.4 | 596.4 | 546 | 680 |
| Limpopo | 272.0 | 446.1 | 2 115.4 | 1 053.6 | 2 387.4 | 1 499.7 | 731 | 1 227 |
| Education | | | | | | | | |
| No education | 114.6 | 454.7 | 1 885.8 | 984.6 | 2 000.5 | 1 439.3 | 813 | 1 397 |
| Grades 1-5 | 23.6 | 564.7 | 1 833.7 | 845.4 | 1 857.2 | 1 410.1 | 827 | 1 024 |
| Grades 6-7 | 278.5 | 50.2 | 1 172.9 | 861.3 | 1 451.4 | 911.6 | 925 | 1 192 |
| Grades 8-11 | 453.2 | 238.6 | 1 521.6 | 865.3 | 1 974.9 | 1 103.8 | 3 448 | 4 308 |
| Grade 12 | 448.3 | 40.0 | 1 001.6 | 847.4 | 1 449.9 | 887.4 | 1 964 | 2 161 |
| Higher | 440.6 | 104.7 | 1 676.3 | 871.3 | 2 116.9 | 975.9 | 813 | 846 |
| Unknown | 1 355.3 | 0.0 | 710.8 | 0.0 | 2 066.1 | 0.0 | 84 | 82 |
| Total | 370.3 | 224.9 | 1 439.1 | 868.7 | 1 809.4 | 1 093.6 | 8 874 | 11 010 |

Note: The number of injuries in some cells is very small. Consequently the rates are subject to high levels of sampling error and should be interpreted cautiously.



The age pattern of the incidence of injuries is shown for males and females in Figure 10.5. Male rates are generally higher than for females, except in the 75+ age group where the male rate is unexpectedly low. Below the age of 45 the male rates are significantly higher than the female rates, and this difference is particularly marked in the 35-44-year age group.

Unintentional injuries (traffic collisions, burns, falls, poisoning, etc.) account for nearly 80 percent of all injuries requiring medical treatment in both males and females (Table 10.4). This is slightly higher than the 78 percent recorded in the 1998 survey. The monthly unintentional injury rates of 1 439 per 100 000 population among males and 869 per 100 000 among females are 5 percent higher among males and nearly 38 percent higher among females than in the 1998 survey. The annual unintentional injury rate for adult males is 17 269 per 100 000 population and for adult females 10 424 per 100 000, i.e. one in six males and one in ten females require medical attention for an unintentional injury each year.

Among males the highest rates of unintentional injuries are recorded in the 35-44- and 55-64-year age categories (2 542 per 100 000 and 2 267 per 100 000 respectively), whereas for women the highest rate is recorded in the category of 65 years and older (1 827 per 100 000 population). Unintentional injury rates for men are higher than for women in all age groups, except in the 65 years and older age category.

Unintentional injury rates among males in urban areas are approximately 20 percent higher than in non-urban areas, whereas for females the rates are similar in both areas. This represents a slight increase in unintentional injury rates among males in non-urban areas, whereas among females unintentional injuries increased more than two-fold in non-urban areas between 1998 and 2003.

Intentional injuries (violence, assault and self-inflicted injuries) account for just over 20 percent of injuries requiring medical treatment. The monthly intentional injury rates of 370 per 100 000 population among males and 225 per 100 000 among females are 3 percent lower among males and nearly 29 percent higher among females than those recorded in 1998. The annual intentional injury rate for adult males is 4 444 per 100 000 population and for adult females 2 699 per 100 000, i.e. one in 23 males and one in 37 females require medical attention for an intentional injury each year.

Among males the highest rates of intentional injuries are recorded in the 25-34-year and 65 years and older age categories (520 per 100 000 and 490 per 100 000 respectively), whereas for women the highest rate is recorded in the 55-64-year age category (404 per 100 000). Intentional injury rates for men are higher than for women in all age groups except the 45-64-year age categories.

Intentional injury rates among males in urban areas are approximately 15 percent higher than in non-urban areas, whereas for females the non-urban rates are higher by almost 90 percent. This represents a 13 percent decrease in intentional injury rates among males and a 5 percent increase among females in urban areas, compared to a 20 percent increase among males and a 65 percent increase among females in non-urban areas between 1998 and 2003.

Violence among adults

The control and prevention of violence and crime have become national priorities in South Africa. The risk of becoming a victim in South Africa has been found to be high for residents of most of the larger cities—and mostly the urban poor (Louw *et al.*, 1998). Victim surveys have been conducted across the world over the past 30 years with the aim of complementing police data. However, victim surveys have limitations relating to the ability to recall events and when they happened, reluctance to discuss experiences (especially in the case of sexual violence and domestic violence), and failure to recognise that some incidents are relevant to the survey. These factors are likely to result in an undercount (Louw *et al.*, 1998).

Questions on physical attacks were included in the SADHS questionnaire for the first time, to gauge the frequency of violent attacks in the broader population. One respondent per household was selected according to specified criteria. Emphasis was placed on the fact that privacy had to be ensured, otherwise questions around violence should not be asked. It was decided not to ask questions and for details relating to the perpetrator so that respondents did not feel anxious in cases where the perpetrator was an intimate partner or where the perpetrator was present in the home.

Of the 1 298 men that were asked these questions, 13 percent said they had been attacked one or more times during the 12 months preceding the survey. Most of cases were due to pushing/shaking and slapping/arm twisting (7 percent and 5 percent respectively). The more severe cases of being punched with a fist (5 percent), kicked or dragged (3 percent), and attempts to strangle the victim (2 percent) happened less frequently. Nearly 5 percent of the victims were threatened with a weapon, including knives and guns, and another 3 percent were actually shot at or stabbed.

Physical attacks on women followed the same pattern as for the men as far as severity is concerned, but happened less frequently (Table 10.5). Of the 1 833 women interviewed, 7 percent indicate that they had been attacked one or more times in the 12 months preceding the survey. Most indicate that they were pushed or shaken (4 percent and 3 percent respectively). Lower proportions, 3 percent and 2 percent, were punched or kicked/dragged, and just over 1 percent were subject to strangulation attempts or burns. Two percent of the women were threatened with a knife or gun, and 1 percent were effectively shot at or stabbed.

Age seems to play a role in terms of being the victim of an attack as well as the type of attack. Men between the ages of 15 and 34 and women within the age category 35 to 44 seem to be more vulnerable to being attacked (all types of attacks) than the other age groups. However, it needs to be emphasised that the older age group of 55 to 64 (both men and women) also seems vulnerable to attack, with type of attack not specified in most cases. People living in urban areas seem to have a slightly higher chance of being the victim of an attack than those living in non-urban areas. Education does not seem to have an influence on the chances of being attacked, although men as well as women with a higher education have a lower chance throughout.

From Table 10.6 it can be seen that of the men that indicate that they had been attacked at least once in the past 12 months, the majority were attacked on a public road (53 percent) or in a club/shebeen or crowded place (12 percent and 7 percent respectively). Eighteen percent of the men were attacked in their homes. In contrast, nearly half of the women indicate that they were attacked in their homes (48 percent) and a third on public roads (33 percent). A global trend is that men are much more likely to be attacked by a stranger or an acquaintance than by someone in their close circle of relationships, whereas in women one of the most common forms of violence is that performed by intimate partners and acquaintances, and mostly in their homes (Krug *et al.*, 2002).

The majority of men and women who were attacked indicate that aches and pains and bruises or cuts that bled were the consequences (Table 10.7). More serious consequences, such as broken bones and other types of injury, were more than three times higher among women than men. Half of the women that were attacked sought medical attention, and 21 percent of these women were admitted to hospital. Just over 40 percent of the men sought medical attention, with 27 percent admitted to hospital.

More or less one-quarter of the sample of men and women who sought medical attention indicate that in their view, alcohol or drugs played a role in the attack. Alcohol has been identified as a risk factor for violence in general (Parry and Dewing, 2007), but also specifically for partner violence (Krug *et al.*, 2002; Jewkes *et al.*, 2002).

Table 10.5 Violence in the last 12 months

Percentage distribution of adult men and women 15 years and over who reported being physically attacked in the last 12 months according to selected background variables, South Africa 2003

| Background characteristic | MEN | | | | | | WOMEN | | | | | |
|---------------------------|---|-----------------------------------|---|-------------------------|--------------------------------|---|---------------|------------|---------------------|--|--|--|
| | Pushing, shaking or throwing something at you | Slapping you or twisting your arm | Punching you with their fist or something that could hurt you | Kicking or dragging you | Trying to strangle or burn you | Threatening you with a knife, gun, Shooting or other type of weapon | Any other way | Any attack | Number of women/men | | | |
| Age | | | | | | | | | | | | |
| 15-24 | 10.5 | 7.0 | 7.4 | 4.4 | 2.0 | 6.0 | 1.1 | 18.5 | 377 | | | |
| 25-34 | 8.7 | 5.5 | 7.6 | 3.8 | 0.3 | 8.2 | 1.5 | 15.3 | 280 | | | |
| 35-44 | 2.8 | 2.6 | 0.8 | 1.7 | 2.5 | 3.2 | 0.4 | 9.3 | 252 | | | |
| 45-54 | 4.6 | 4.1 | 4.2 | 3.1 | 1.4 | 2.2 | 0.9 | 7.3 | 168 | | | |
| 55-64 | 2.7 | 2.9 | 3.3 | 0.5 | 0.5 | 2.7 | 3.3 | 10.6 | 107 | | | |
| 65+ | 2.2 | 0.2 | 1.4 | 1.4 | 1.4 | 0.0 | 1.4 | 3.8 | 114 | | | |
| Residence | | | | | | | | | | | | |
| Urban | 6.4 | 4.4 | 4.8 | 3.0 | 1.6 | 6.1 | 1.4 | 13.3 | 843 | | | |
| Non-urban | 6.5 | 4.7 | 5.0 | 2.9 | 1.3 | 2.0 | 1.1 | 11.3 | 455 | | | |
| Education | | | | | | | | | | | | |
| No education | 5.3 | 3.6 | 5.1 | 5.1 | 4.1 | 1.9 | 2.6 | 9.1 | 121 | | | |
| Primary | 6.5 | 5.3 | 4.5 | 2.8 | 1.2 | 5.1 | 1.8 | 13.3 | 273 | | | |
| Secondary | 6.8 | 4.9 | 5.2 | 3.1 | 1.2 | 5.3 | 0.8 | 13.9 | 776 | | | |
| Higher | 5.7 | 1.5 | 3.7 | 0.9 | 1.4 | 2.8 | 1.9 | 7.1 | 120 | | | |
| Total | 6.5 | 4.5 | 4.9 | 3.0 | 1.5 | 4.7 | 1.3 | 12.6 | 1 298 | | | |
| Age | | | | | | | | | | | | |
| 15-24 | 3.8 | 3.8 | 3.1 | 2.0 | 1.2 | 2.7 | 1.3 | 8.6 | 420 | | | |
| 25-34 | 4.1 | 2.8 | 2.2 | 1.4 | 0.2 | 0.6 | 0.8 | 6.8 | 388 | | | |
| 35-44 | 4.6 | 5.3 | 4.9 | 4.2 | 2.5 | 2.2 | 0.7 | 7.5 | 377 | | | |
| 45-54 | 4.4 | 2.5 | 1.7 | 1.8 | 2.0 | 2.4 | 0.3 | 6.5 | 308 | | | |
| 55-64 | 3.4 | 1.8 | 3.5 | 1.3 | 1.3 | 3.7 | 7.1 | 8.1 | 178 | | | |
| 65+ | 1.4 | 1.0 | 0.0 | 1.3 | 1.0 | 2.0 | 0.4 | 3.5 | 162 | | | |
| Residence | | | | | | | | | | | | |
| Urban | 4.7 | 4.0 | 3.1 | 2.6 | 1.7 | 2.9 | 1.4 | 7.9 | 1 097 | | | |
| Non-urban | 2.7 | 2.0 | 2.4 | 1.5 | 0.9 | 0.9 | 1.4 | 6.0 | 735 | | | |
| Education | | | | | | | | | | | | |
| No education | 1.4 | 2.1 | 2.4 | 0.7 | 0.2 | 0.5 | 0.8 | 3.2 | 241 | | | |
| Primary | 5.5 | 3.8 | 3.8 | 3.8 | 1.9 | 1.3 | 2.4 | 8.9 | 408 | | | |
| Secondary | 3.7 | 3.4 | 2.4 | 1.9 | 1.4 | 2.6 | 1.0 | 7.3 | 1 033 | | | |
| Higher | 1.5 | 1.2 | 0.5 | 0.0 | 0.4 | 1.6 | 0.0 | 4.4 | 142 | | | |
| Unknown | 59.3 | 26.2 | 59.3 | 26.2 | 26.2 | 33.1 | 33.1 | 59.3 | 8 | | | |
| Total | 3.9 | 3.2 | 2.8 | 2.1 | 1.4 | 2.1 | 1.4 | 7.2 | 1 833 | | | |

Table 10.6 Place and result of attack

Percentage distribution of adult men and women 15 years and over who had been physically attacked in the last 12 months, by place and result of attack, according to selected background variables, South Africa 2003

| Background characteristic | Mean number of attacks in last 12 months | Place of attack | | | | | | Result of the attack | | | | | Number of men/women with at least one attack | |
|---------------------------|--|-----------------|---------------|--------------------|------------------------|---------------|-------------|----------------------|------------|-----------------|---------------------------|---|--|-------------------------------|
| | | Public road | Place of work | Place of education | Club/shebeen/disco/bar | Crowded venue | Home | Other | Missing | Aches and pains | Bruises or cuts that bled | Broken bones or other types of injuries | | Collapsed or went into a coma |
| | | | | | | | | | | | | | | |
| MEN | | | | | | | | | | | | | | |
| Age | | | | | | | | | | | | | | |
| 15-24 | 1.7 | 54.3 | 2.2 | 6.7 | 11.3 | 12.2 | 13.2 | 0.0 | 0.0 | 49.9 | 32.7 | 4.9 | 6.3 | 70 |
| 25-34 | 3.1 | 57.4 | 13.8 | 0.0 | 17.5 | 3.6 | 7.7 | 0.0 | 0.0 | 56.7 | 45.0 | 15.6 | 19.6 | 43 |
| 35-44 | 1.3 | 50.7 | 0.0 | 0.0 | 10.1 | 2.7 | 36.6 | 0.0 | 0.0 | 42.2 | 33.2 | 32.7 | 10.4 | 23 |
| 45-54 | 7.0 | 63.9 | 12.7 | 0.0 | 3.6 | 7.1 | 12.8 | 0.0 | 0.0 | 71.9 | 54.8 | 25.5 | 16.4 | 12 |
| 55-64 | 1.4 | 32.0 | 0.0 | 0.0 | 5.5 | 0.0 | 43.5 | 0.0 | 19.0 | 56.5 | 48.7 | 6.6 | 0.0 | 11 |
| 65+ | 2.5 | 41.0 | 14.7 | 0.0 | 0.0 | 0.0 | 44.2 | 0.0 | 0.0 | 57.3 | 0.0 | 0.0 | 0.0 | 4 |
| Residence | | | | | | | | | | | | | | |
| Urban | 2.3 | 61.0 | 4.7 | 0.7 | 9.0 | 3.9 | 18.8 | 0.0 | 1.9 | 51.1 | 41.7 | 10.6 | 9.9 | 112 |
| Non-urban | 2.8 | 36.9 | 8.6 | 7.5 | 17.0 | 13.9 | 16.1 | 0.0 | 0.0 | 56.9 | 29.7 | 19.0 | 11.9 | 51 |
| Education | | | | | | | | | | | | | | |
| No education | 2.5 | 56.4 | 5.7 | 0.0 | 6.3 | 5.2 | 26.4 | 0.0 | 0.0 | 78.0 | 19.2 | 10.3 | 8.3 | 11 |
| Primary | 1.7 | 59.0 | 2.8 | 1.9 | 10.4 | 8.7 | 11.3 | 0.0 | 6.0 | 45.5 | 31.8 | 22.0 | 13.9 | 36 |
| Secondary | 2.2 | 50.6 | 5.4 | 3.7 | 13.3 | 7.2 | 19.9 | 0.0 | 0.0 | 52.1 | 40.5 | 11.6 | 10.5 | 108 |
| Higher | 8.7 | 62.2 | 26.3 | 0.0 | 0.0 | 0.0 | 11.5 | 0.0 | 0.0 | 62.0 | 55.4 | 0.0 | 0.0 | 9 |
| Total | 2.43 | 53.4 | 5.9 | 2.8 | 11.5 | 7.1 | 18.0 | 0.0 | 1.3 | 61.9 | 36.1 | 3.7 | 13.5 | 164 |
| WOMEN | | | | | | | | | | | | | | |
| Age | | | | | | | | | | | | | | |
| 15-24 | 1.8 | 41.8 | 0.5 | 13.5 | 0.0 | 12.7 | 25.2 | 3.1 | 3.1 | 55.6 | 32.0 | 8.2 | 18.9 | 36 |
| 25-34 | 2.2 | 29.4 | 5.2 | 0.0 | 7.5 | 0.0 | 57.8 | 0.0 | 0.0 | 49.1 | 23.6 | 0.0 | 3.4 | 26 |
| 35-44 | 2.04 | 36.7 | 0.0 | 0.0 | 3.2 | 0.0 | 55.9 | 2.2 | 2.0 | 67.6 | 53.6 | 6.9 | 21.2 | 28 |
| 45-54 | 2.2 | 15.1 | 17.5 | 0.0 | 10.9 | 8.4 | 48.1 | 0.0 | 0.0 | 77.3 | 18.8 | 0.0 | 12.0 | 20 |
| 55-64 | 4.84 | 40.3 | 0.0 | 0.0 | 0.0 | 0.0 | 58.4 | 0.0 | 1.3 | 61.6 | 42.5 | 0.0 | 10.2 | 14 |
| 65+ | 3.55 | 9.8 | 0.0 | 0.0 | 0.0 | 19.7 | 70.5 | 0.0 | 0.0 | 79.8 | 77.1 | 0.0 | 0.0 | 6 |
| Residence | | | | | | | | | | | | | | |
| Urban | 2.7 | 32.0 | 4.2 | 1.3 | 3.5 | 3.9 | 52.8 | 2.0 | 0.2 | 64.4 | 36.8 | 4.4 | 12.4 | 87 |
| Non-urban | 1.72 | 33.7 | 3.1 | 8.6 | 4.5 | 9.1 | 37.2 | 0.0 | 3.8 | 57.1 | 34.8 | 2.5 | 15.5 | 44 |
| Education | | | | | | | | | | | | | | |
| No education | 3.17 | 54.7 | 0.0 | 0.0 | 0.0 | 0.0 | 45.3 | 0.0 | 0.0 | 85.4 | 81.7 | 0.0 | 38.6 | 8 |
| Primary | 3.06 | 27.3 | 0.0 | 0.0 | 6.1 | 1.9 | 61.5 | 1.7 | 1.6 | 61.3 | 47.6 | 5.4 | 14.4 | 36 |
| Secondary | 2 | 31.8 | 6.7 | 6.4 | 3.8 | 7.3 | 40.8 | 1.5 | 1.7 | 59.2 | 28.0 | 3.9 | 12.4 | 76 |
| Higher | 1.1 | 71.7 | 0.0 | 0.0 | 0.0 | 18.2 | 10.1 | 0.0 | 0.0 | 39.5 | 39.5 | 0.0 | 0.0 | 6 |
| Unknown | 3.44 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 100.0 | 0.0 | 0.0 | 100.0 | 0.0 | 0.0 | 0.0 | 5 |
| Total | 2.36 | 32.6 | 3.8 | 3.7 | 3.9 | 5.6 | 47.6 | 1.3 | 1.4 | 52.9 | 37.9 | 13.2 | 10.5 | 131 |

Table 10.7 Medical outcome of attack

Percentage distribution of adult men and women aged 15 years and over who had been physically attacked in the last 12 months, who had sought medical attention, those who were admitted to hospital, and whether alcohol or drugs played a role in the attack, according to selected background characteristic, South Africa 2003

| Background characteristic | MEN | | | | WOMEN | | | |
|---------------------------|--------------------------|----------------------|-------------------------------------|---------------|--------------------------|----------------------|-------------------------------------|-----------------|
| | Sought medical attention | Admitted to hospital | Alcohol/drugs contributed to attack | Number of men | Sought medical attention | Admitted to hospital | Alcohol/drugs contributed to attack | Number of women |
| Age | | | | | | | | |
| 15-24 | 28.6 | 14.7 | 25.0 | 39 | 38.4 | 21.5 | 12.9 | 23 |
| 25-34 | 46.2 | 39.2 | 27.2 | 28 | 43.9 | 34.1 | 43.9 | 13 |
| 35-44 | 81.4 | 42.6 | 36.2 | 13 | 65.4 | 22.0 | 30.1 | 22 |
| 45-54 | 31.2 | 15.1 | 4.2 | 10 | 55.6 | 0.0 | 19.0 | 15 |
| 55-64 | 12.7 | 9.8 | 9.8 | 6 | 48.5 | 48.5 | 48.5 | 9 |
| 65+ | 92.1 | 92.1 | 92.1 | 2 | 28.0 | 0.0 | 28.0 | 5 |
| Residence | | | | | | | | |
| Urban | 38.3 | 29.6 | 26.8 | 64 | 50.0 | 21.3 | 26.4 | 60 |
| Non-urban | 46.4 | 21.9 | 23.4 | 35 | 48.8 | 21.6 | 29.9 | 27 |
| Education | | | | | | | | |
| No education | 52.4 | 37.0 | 44.3 | 9 | 62.7 | 0.0 | 14.7 | 7 |
| Primary | 51.7 | 28.4 | 35.2 | 24 | 55.1 | 24.4 | 40.1 | 22 |
| Secondary | 36.1 | 27.2 | 20.3 | 62 | 44.6 | 17.9 | 19.5 | 50 |
| Higher | 34.3 | 0.0 | 13.2 | 5 | 53.9 | 53.9 | 53.9 | 2 |
| Total | 41.2 | 26.8 | 25.6 | 99 | 49.6 | 21.4 | 27.5 | 87 |

5 women with education unknown.

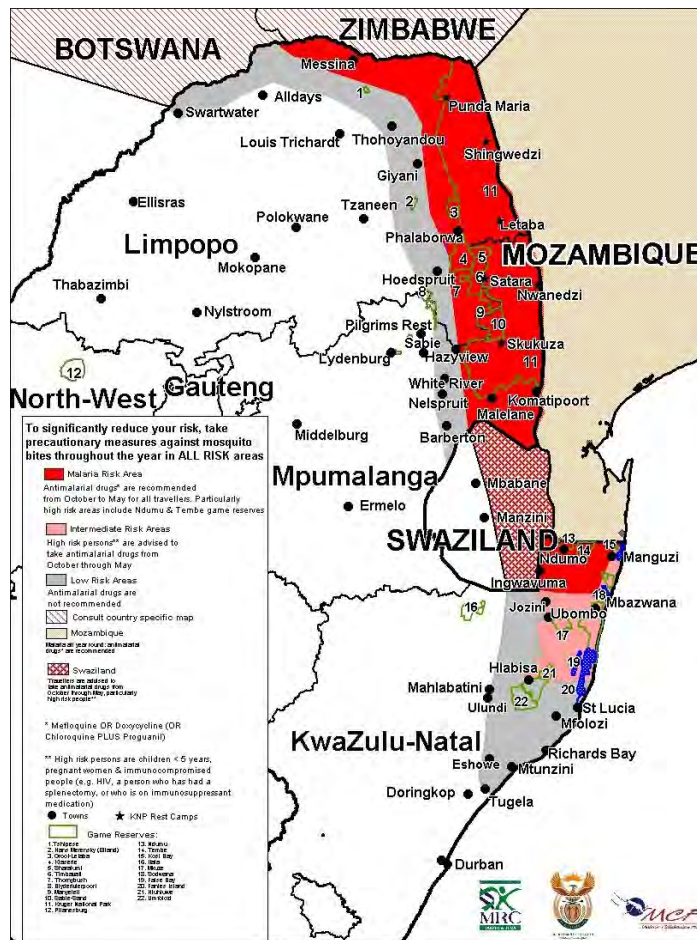
10.6 Malaria

Malaria is the most devastating disease affecting sub-Saharan Africa, accounting for large numbers of cases of death and illness in the region, particularly among children. The disease results from a class of parasites that follow a complex lifecycle, involving specific mosquitoes as an essential vector in the transmission of the disease. The manifestations of malaria infection include fever, headaches, cerebral malaria (caused by clotting of red blood cells in the brain blood capillaries), severe anaemia and failure of organs such as the kidneys, liver and spleen. Women are particularly susceptible to symptoms when pregnant, and are four times more likely to get sick and twice as likely to die from malaria if they are pregnant.

Malaria is endemic in the north-eastern region of South Africa, occurring in the low altitude areas of Mpumalanga, in the north-eastern part of Limpopo Province, and the north-eastern parts of KwaZulu-Natal. Figure 10.6 shows the regions that are at risk for malaria, as well as the distribution of the disease before control efforts were implemented in the 1940s - when malaria extended as far south as Durban along the eastern coast and as far south as Pretoria in the interior. According to Mabaso *et al.* (2004), malaria transmission is highly seasonal, with the greatest number of cases in the summer months from October to May. It can also be affected by the amount of rainfall.

South Africa has a comprehensive malaria control policy. The two main focuses are disease management, which entails detecting, diagnosing and treating malaria cases, and disease prevention, which includes vector control, parasite control and protection of individuals. The vector control programme targets high-risk areas, with indoor residual spraying of insecticides (mostly DDT). The malaria control programme in the affected provinces involves spraying the inside walls and ceilings of houses and buildings with effective insecticides that kill the anopheles mosquitoes that tend to rest and feed indoors. Parasite control involves identifying and treating people that are infected in order to disrupt the parasite's lifecycle and reduce the rate of transmission. Protecting individuals by preventing malaria bites is recommended, and insecticide-impregnated bed nets have been introduced in trials in recent years. Chemoprophylaxis is an option available for the protection of individuals who travel into high-risk areas.

Figure 10.6 Map of malaria risk in South Africa in 2004



Source: MRC Malaria Research Programme

The rapid increase of malaria cases in the late 1990s resulted in the National Malaria Control Programme reverting to the use of DDT after the introduction of pyrethriums. In addition, artemisinin combination therapy (ACT) was introduced as the front-line medication after the emergence of resistance to Fansidar and chloroquine. The malaria notification data suggest that the annual number of cases in South Africa has fallen from a peak of 65 000 cases in 2000 to a level of about 15 000 in 2003 and 2004 (Department of Health, 2005).

Malaria-related questions were introduced for the first time in the 2003 SADHS and applied in the three provinces affected by malaria. Questions included information about the use of bed nets and other anti-malarial activities, as well as whether anybody in the household had malaria in the preceding 12 months. Questions were asked about seeking treatment and medication in cases where there was a member of the household who had malaria. In addition, questions were asked in the Women’s Questionnaire about having malaria during pregnancy and taking malaria prophylaxis to avoid malaria. In addition, women who had a young child who experienced the symptoms of acute respiratory illness in the 2 weeks preceding the survey were asked whether the child had received anti-malarial medication.

Prevention efforts

Of the 3 005 households in the three provinces affected by Malaria, only 17 report owning bed nets (less than 0.1 percent). Thirteen households had only a single bed net in the house. Nine households report that the nets were not in use at the time of the survey. There were 140 households (4 percent) that were sprayed for mosquitoes in the previous 12 months. A further 36 households (1 percent)

were unsure. The majority of the households that had been sprayed indicated that it was done by the government (82 percent); 14 percent said that they or another household member did it. Six percent of households that were sprayed reported that it had been done by a private company.

Thirty-seven percent of households in the three provinces concerned, report that measures are taken to avoid mosquito bites. Of those who report taking measures, the most common is the use of coils (64 percent) and repellents (33 percent).

Seventeen households (less than 0.1 percent) report that a member of the household had taken medication to prevent malaria in the preceding 12 months, but the name of the medication could be provided in only three cases.

Illness and treatment

Out of the 3 005 households, 43 (1.5 percent) report that in the preceding 12 months somebody had been diagnosed with malaria. Most of the people sought treatment, with only seven not receiving any treatment. There were a further 26 households where the respondent was not sure whether anybody in the household had been diagnosed with malaria. It is difficult to assess the medication provided for malaria as in most of the cases the respondent was not aware of the name of the medication. Medication was obtained on the same day for about half of the cases, but for some it was three or more days later.

When women were asked about malaria during pregnancy, 17 report that they had this illness during their last pregnancy (0.8 percent of women who have ever been pregnant). Interestingly, the women who report having malaria came from across all the provinces, except Mpumalanga. Nine of the women report that they had taken malaria treatment during pregnancy, but generally could not recall the name of the medication. Of the 2 088 women who had ever been pregnant, 27 women were unsure whether they had taken an antimalarial drug during pregnancy. However, 22 report that they had taken such medication; three took Daramal, three took Mirquin, three took Doximal, three took Plasmoquine and a further 12 took a medication but could not remember the name. (These add up to 24 medications, indicating that some women took more than one drug.)

Out of the 387 children who had a fever and cough in the preceding 2 weeks, 43 percent had received no medication. Just over 6 percent had received malaria medication, either Fansidar or chloroquine. However, 39 percent had received non-malaria medication. Since malaria is confined to certain geographic areas, it is very difficult to assess whether the treatment is appropriate.

Overview of malaria findings

The survey shows that spraying and protection from mosquito bites are the most commonly used methods of preventing malaria in South Africa. Bed nets were generally not used in 2003. The small numbers of people who had malaria is consistent with the notification data that suggest that the incidence of the disease has dropped. However, given the relatively small numbers of malaria cases, the survey cannot offer much insight into the practicalities of the diagnosis and treatment of malaria.

10.7 Self-reported Illness and Health Problems Caused by Work

As in 1998, this survey included questions about work-related illness and health problems. Although the questions are not identical, they are able to provide similar information.

Only 32 percent of respondents worked in the past 12 months (Table 10.8). This is a low percentage, but when one takes into account the age of people not available for work because they are students, homemakers or disabled, the 2001 Census indicates that 42 percent were not eligible and only 34 percent were employed. The reported employment figure in this survey is comparable with the Census.

Of respondents who worked in the past 12 months, 6 percent reported an injury or health problem caused by work (Table 10.8). This is similar to the prevalence obtained in the last household survey. Projecting it to the population who were employed (11 600 000 assuming similar risk profiles) translates into 730 800 incidences where workers consult health services because of illness or problems caused by work. Of the respondents who worked in the past 12 months, almost 4 percent had been absent from work, resulting in approximately 440 000 individuals who stayed away from work, with an average duration of 15.1 (95% CI, 9.6-20.6) days absent from work. This would result in approximately 6.6 million worker-days loss to the economy.

Injuries are a much more common problem in the workplace than disease. The majority of problems reported are injuries, with 120 incident cases in the survey. This accounts for 5 percent of the respondents who had worked in the last 12 months. Reported disease prevalence is very low and may not reflect the true situation with regard to occupational disease. In the last survey 3 percent of respondents reported a disease. It is possible that the interviewers for the 2003 SADHS were not able to elicit the correct response from participants, since 1 percent of recorded responses are for unknown conditions, either disease or injury.

Table 10.8 Work-caused illness

Frequency of self-reported conditions caused by work in the past 12 months, South Africa 2003

| Respondents by work status and conditions | Number | Percentage |
|--|-------------|------------|
| Work status of respondents | | |
| Worked ¹ | 2 557 | 31.5 |
| Had not worked | 5 536 | 68.2 |
| Missing | 22 | 0.3 |
| Total | 8 115 | 100.0 |
| Any injury or health problem caused by work | | |
| Yes | 162 | 6.3 |
| No | 2 380 | 93.1 |
| Missing | 15 | 0.6 |
| Total | 2 557 | 100.0 |
| Conditions related to work | | |
| Disease | 6 | 0.2 |
| Injury | 120 | 4.7 |
| Unknown conditions ² | 36 | 1.4 |
| Total | | |
| Stay away from work? | | |
| Yes | 97 | 3.8 |
| No | 62 | 2.4 |
| Missing | 1 | 0.0 |
| Total | 160 | 6.2 |
| | Mean | SE |
| How long? | 15.1 | 2.8 |

¹Respondents who earned money in the 12 months prior to survey.

²Unknown conditions are unspecified diseases or injuries, or missing data.

The type of work-caused injury is presented in Table 10.9. Lower limb (25 percent) and upper limb (22 percent) injuries constitute the majority of those reported. Multiple parts affected constitute 13 percent, followed by head (8 percent), neck (5 percent) and thorax (3 percent).

The fieldwork did not elicit much information on the work-related disease experienced by respondents. Nevertheless, despite these limitations this crude estimate of the burden of avoidable occupational illness in society is available, illustrating the potential impact on health services and the economy.

Table 10.9 Type of work-caused injuries

Among adults who worked in past 12 months preceding the survey and had a work-caused injury, percentage distribution by specific injuries, South Africa 2003

| Injury | ICD Code | Number | Percentage |
|---|----------|--------|------------|
| Sprains, dislocation, fractures, lacerations | | | |
| Head | S00-S09 | 9 | 7.5 |
| Neck | S10-S19 | 6 | 5.0 |
| Thorax | S20-S29 | 3 | 2.5 |
| Abdomen, spine and pelvis | S30-S39 | 14 | 11.7 |
| Upper limbs | S40-S69 | 26 | 21.7 |
| Shoulder, arm | | | |
| Elbow, forearm | | | |
| Wrist, hand | | | |
| Lower limbs | S70-S99 | 30 | 25.0 |
| Hip, thigh | | | |
| Ankle and foot | | | |
| Multiple body parts affected | T00-T07 | 16 | 13.3 |
| Unspecified injury | T08-T14 | 2 | 1.7 |
| Total sprains, dislocations, etc. | | 106 | 88.3 |
| Other injuries | | | |
| Accidents | | | |
| Foreign object through orifice | T15-T19 | 1 | 0.8 |
| Burns | T20-T32 | 1 | 0.8 |
| Transport | V01-V99 | 2 | 1.7 |
| Other accidents | T33-T98 | 10 | 8.3 |
| Total other injuries | | 14 | 11.7 |
| Number | | 120 | 100.0 |

CHAPTER 11

UTILIZATION OF HEALTH SERVICES AND CHRONIC MEDICATION

11.1 Introduction

This chapter describes utilization of health services, satisfaction with these, and access to medical aid schemes for adults of 15 years and older. Women aged 15-49 years were asked whether they experienced problems with access to care, and if so what these problems were. The findings are reported in this chapter as they relate to health care utilization. Details about prescribed medications that are used regularly by adults of 15 years and older for chronic conditions are also reported.

11.2 Health Services Attended

Generally, adult women attended health services in the 30 days preceding the survey more than adult men, regardless of the type of facility (Table 11.1). Overall, 15 percent of adult men and 24 percent of adult women reported that they sought care at a public facility in the preceding 30 days. The results from both the 1998 and the 2003 SADHS show that attendance of public health services in the 30 days before the survey was higher for the age groups over 45 years (Figure 11.1). With the exception of males in the age group of 35-44 years, comparison of the two surveys shows a slight increase in attendance in all age groups in 2003.

Table 11.1 Health services attended, by age and sex

| Age group | Public sector | | Private sector | | Chemist | | Traditional healer | | Faith healer | | Dentist | | Number | |
|-----------|---------------|-------|----------------|-------|---------|-------|--------------------|-------|--------------|-------|---------|-------|--------|-------|
| | Men | Women | Men | Women | Men | Women | Men | Women | Men | Women | Men | Women | Men | Women |
| 15-24 | 10.9 | 19.1 | 7.8 | 10.4 | 2.3 | 4.4 | 1.9 | 1.5 | 2.0 | 2.5 | 1.1 | 1.2 | 1 121 | 1 256 |
| 25-34 | 12.9 | 20.9 | 11.2 | 16.9 | 5.5 | 7.4 | 3.6 | 2.4 | 3.3 | 3.6 | 1.5 | 2.1 | 735 | 979 |
| 35-44 | 11.1 | 19.8 | 14.1 | 22.5 | 4.9 | 7.4 | 2.6 | 2.7 | 1.7 | 2.6 | 1.9 | 3.8 | 593 | 883 |
| 45-54 | 18.9 | 31.0 | 15.8 | 19.8 | 8.2 | 9.0 | 1.0 | 3.9 | 1.9 | 4.5 | 2.1 | 3.3 | 438 | 714 |
| 55-64 | 25.0 | 31.4 | 18.8 | 21.0 | 9.0 | 8.3 | 1.6 | 3.2 | 2.6 | 5.7 | 1.5 | 3.4 | 297 | 483 |
| 65+ | 28.2 | 32.8 | 19.6 | 19.5 | 10.5 | 7.3 | 5.0 | 4.1 | 3.3 | 4.6 | 5.1 | 2.3 | 240 | 378 |
| Total | 14.8 | 23.8 | 12.4 | 17.3 | 5.4 | 6.9 | 2.5 | 2.7 | 2.4 | 3.6 | 1.8 | 2.5 | 3 422 | 4 693 |

Percentage of adults who sought care in last 30 days at facilities/providers in the public sector, the private sector, at chemists, traditional healers, faith healers and dentists, by age and sex, South Africa 2003

Figure 11.1 Percentage of adults using public health facilities in last 30 days, SADHS 1998 and 2003

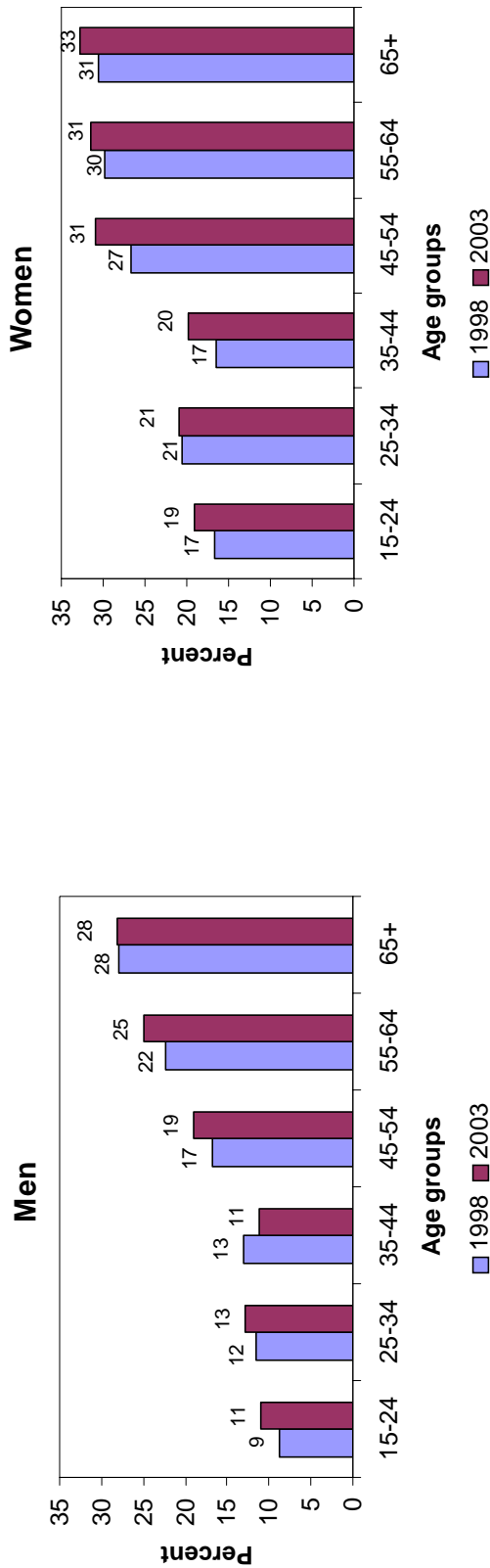
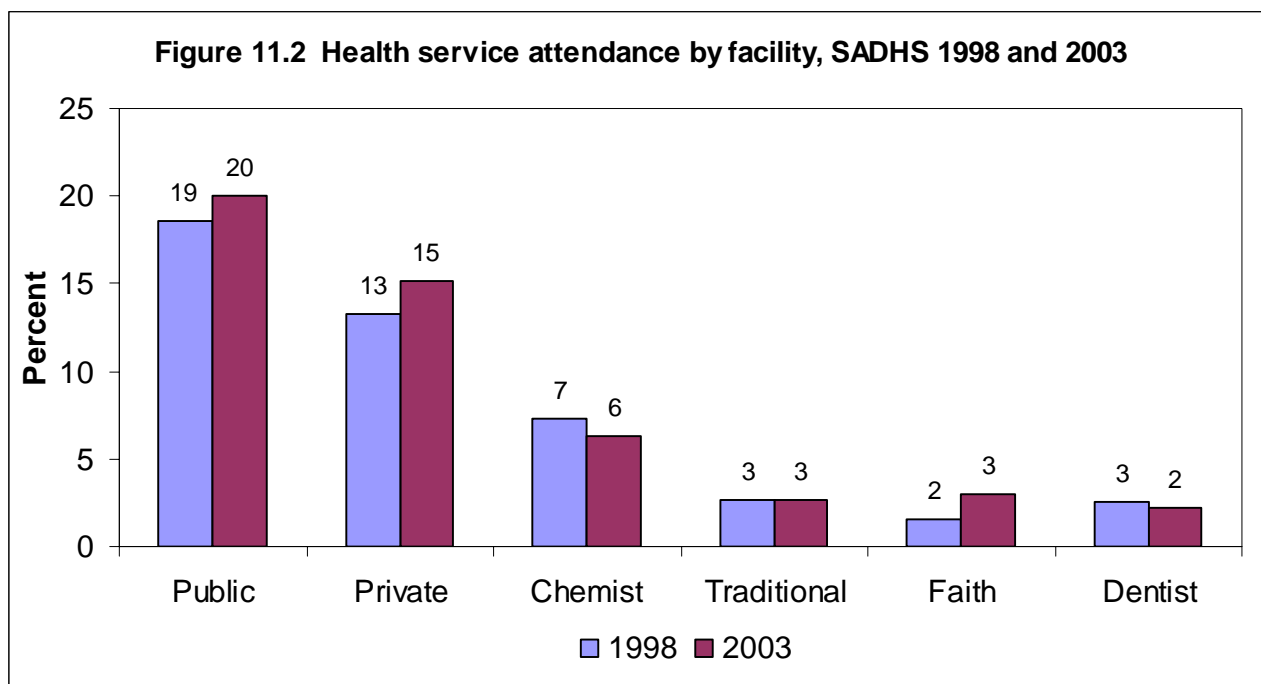


Figure 11.2 compares the attendance at health services in the last 30 days reported in the 1998 and the 2003 SADHS. Public sector facilities are used the most frequently, followed by the private sector. There has been a marginal increase, from 19 to 20 percent, in those who report having attended a public health service. The attendance of private hospitals or clinics increased from 13 percent in 1998 to 15 percent in 2003. The data show a marginal decline in the use of chemists, from 7 percent in 1998 to 6 percent in 2003. The proportion is slightly higher for women than men, and increases with age (Table 11.2). An equal proportion (about 3 percent) of adults sought care from a traditional healer and faith healer in the last 30 days, and just over 2 percent sought care from a dentist.

Table 11.2 Health services sought

Percentage of adults who sought care in last 30 days at facilities/providers in the public sector, the private sector, chemists, traditional healers, faith healers and dentists, by selected background characteristic, South Africa 2003

| Background characteristic | Public sector | Private sector | Chemist | Traditional healer | Faith healer | Dentist | Number |
|---------------------------|---------------|----------------|------------|--------------------|--------------|------------|--------------|
| Age | | | | | | | |
| 15-24 | 15.3 | 9.2 | 3.4 | 1.7 | 2.2 | 1.1 | 2 377 |
| 25-34 | 17.5 | 14.4 | 6.6 | 3.0 | 3.5 | 1.8 | 1 714 |
| 35-44 | 16.3 | 19.1 | 6.4 | 2.7 | 2.3 | 3.0 | 1 476 |
| 45-54 | 26.4 | 18.3 | 8.7 | 2.8 | 3.5 | 2.8 | 1 152 |
| 55-64 | 29.0 | 20.1 | 8.6 | 2.6 | 4.5 | 2.7 | 779 |
| 65+ | 31.0 | 19.5 | 8.6 | 4.4 | 4.1 | 3.4 | 618 |
| Sex | | | | | | | |
| Male | 14.8 | 12.4 | 5.4 | 2.5 | 2.4 | 1.8 | 3 422 |
| Female | 23.8 | 17.3 | 6.9 | 2.7 | 3.6 | 2.5 | 4 693 |
| Residence | | | | | | | |
| Urban | 20.1 | 16.5 | 7.8 | 2.2 | 2.2 | 2.5 | 5 285 |
| Non-urban | 19.9 | 12.9 | 3.4 | 3.3 | 4.6 | 1.6 | 2 830 |
| Province | | | | | | | |
| Western Cape | 20.7 | 15.8 | 11.2 | 0.6 | 1.1 | 2.0 | 910 |
| Eastern Cape | 22.6 | 14.8 | 6.8 | 3.5 | 1.5 | 2.6 | 929 |
| Northern Cape | 26.7 | 11.3 | 5.1 | 0.5 | 0.5 | 2.1 | 152 |
| Free State | 22.8 | 15.6 | 5.2 | 2.6 | 2.5 | 2.4 | 537 |
| KwaZulu-Natal | 23.0 | 13.7 | 6.9 | 3.7 | 5.6 | 1.9 | 1 669 |
| North West | 6.5 | 24.9 | 1.7 | 1.4 | 2.0 | 1.2 | 621 |
| Gauteng | 20.6 | 16.9 | 7.1 | 2.2 | 2.7 | 3.6 | 1 988 |
| Mpumalanga | 13.5 | 10.2 | 3.1 | 1.6 | 1.9 | 0.6 | 509 |
| Limpopo | 20.0 | 10.2 | 3.2 | 4.3 | 5.1 | 0.7 | 800 |
| Education | | | | | | | |
| No education | 25.5 | 16.8 | 3.4 | 5.5 | 5.1 | 1.0 | 874 |
| Grades 1-5 | 29.5 | 14.1 | 3.8 | 3.2 | 6.8 | 2.4 | 783 |
| Grades 6-7 | 23.1 | 16.7 | 4.1 | 3.1 | 3.6 | 2.2 | 884 |
| Grades 8-11 | 20.5 | 12.4 | 5.2 | 2.1 | 2.5 | 1.8 | 3 239 |
| Grade 12 | 15.1 | 16.0 | 7.6 | 1.9 | 1.8 | 2.5 | 1 626 |
| Higher | 5.7 | 24.6 | 17.6 | 1.6 | 0.9 | 4.5 | 653 |
| Unknown | 31.7 | 17.1 | 9.9 | 0.0 | 0.0 | 2.5 | 55 |
| Population group | | | | | | | |
| African | 20.8 | 14.4 | 4.5 | 2.9 | 3.6 | 1.8 | 6 695 |
| African urban | 21.6 | 15.2 | 5.2 | 2.5 | 2.7 | 2.0 | 3 997 |
| African non-urban | 19.6 | 13.2 | 3.5 | 3.4 | 4.8 | 1.7 | 2 698 |
| Coloured | 21.6 | 13.6 | 7.9 | 1.4 | 1.2 | 1.4 | 724 |
| Indian | 20.3 | 24.2 | 20.2 | 0.1 | 0.4 | 6.0 | 195 |
| White | 5.3 | 25.1 | 21.8 | 0.6 | 0.0 | 6.3 | 477 |
| Other | 47.7 | 36.3 | 29.9 | 8.5 | 0.0 | 6.9 | 25 |
| Total | 20.0 | 15.2 | 6.3 | 2.6 | 3.0 | 2.2 | 8 115 |



11.3 Satisfaction with Health Services

Table 11.3 presents the results regarding people’s dissatisfaction with various categories of health facilities, including hospitals, community health centres, chemists and health providers including private doctors, faith healers, traditional healers, dentists and rehabilitation therapists. Figure 11.3 shows a comparison of the proportions of adult users who express dissatisfaction with health services.

There was an increase in the percentage of adults who express dissatisfaction with all types of services, except traditional healers. Generally, the results show that considerably more people are dissatisfied with the services rendered in hospitals, both public and private. Even the levels of dissatisfaction with the services rendered by solo practitioners in the private sector seem to be on the increase during the period between the surveys. Data on satisfaction with care from rehabilitation therapists or home-based care are not shown in Table 11.3 as the numbers of respondents who sought such care were relatively small. Only 59 adults received services from a rehabilitation therapist in the preceding 30 days. Of these respondents, about 3 percent report dissatisfaction. Similarly, the 30 adults who received home-based care in the preceding 30 days are generally satisfied, as less than 3 percent report dissatisfaction. The proportion of respondents dissatisfied with a dentist increased significantly from 3 percent in 1998 to 13 percent in 2003.

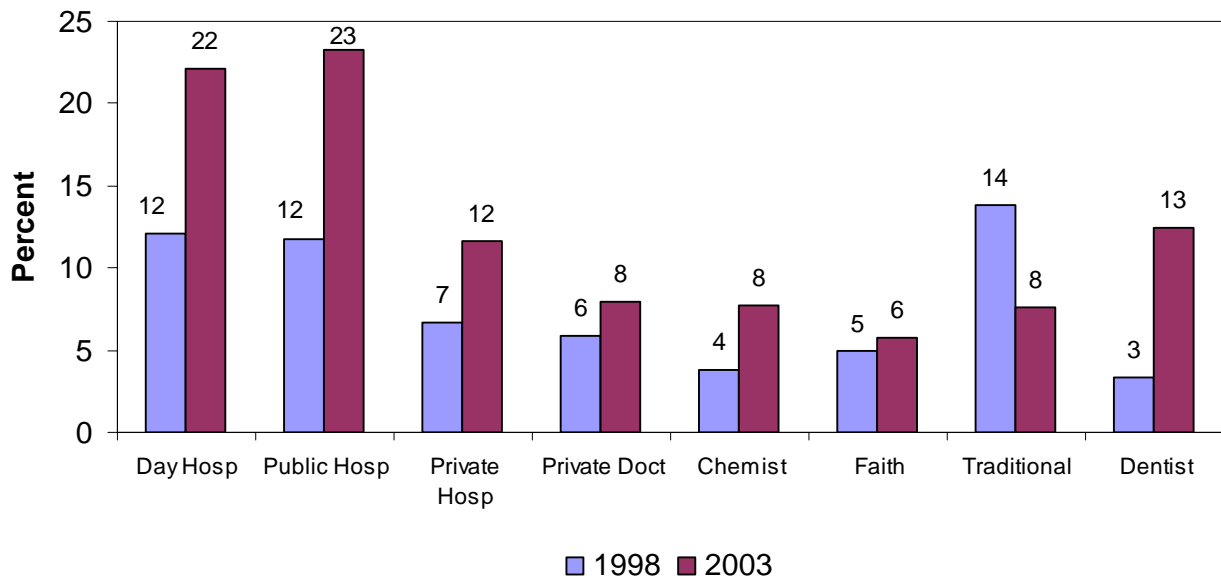
From Table 11.3 it can be seen that more users living in the urban compared to non-urban areas express dissatisfaction with public sector facilities, private doctors, chemists and dentists. Slightly more users living in non-urban compared to urban areas express dissatisfaction with faith healers, traditional healers and rehabilitation therapists. Dissatisfaction with the public hospitals and community health centres is highest in Gauteng, followed by Eastern Cape.

Table 11.3 Dissatisfaction with health services

| Background characteristic | PUBLIC SECTOR | | | | | | | | | | PRIVATE SECTOR | | | | | | | | | |
|---------------------------|-------------------------|--------|---|--------|-------------------------|--------|----------------|--------|---------|--------|----------------|--------|--------------------|--------|------------------------------|--------|---------|--------|--|--|
| | Community health centre | | Government hospital/clinic ¹ | | Private hospital/clinic | | Private doctor | | Chemist | | Faith healer | | Traditional healer | | Health services at workplace | | Dentist | | | |
| | % | Number | % | Number | % | Number | % | Number | % | Number | % | Number | % | Number | % | Number | % | Number | | |
| Age | | | | | | | | | | | | | | | | | | | | |
| 15-24 | 20.9 | 87 | 20.6 | 310 | 11.9 | 107 | 10.3 | 135 | 8.6 | 81 | 5.8 | 53 | 0.5 | 40 | 0.0 | 14 | 22.3 | 26 | | |
| 25-34 | 20.7 | 92 | 20.9 | 255 | 9.3 | 96 | 7.8 | 183 | 9.3 | 112 | 5.9 | 60 | 10.4 | 51 | 5.7 | 13 | 20.6 | 31 | | |
| 35-44 | 16.5 | 64 | 26.0 | 206 | 8.5 | 100 | 3.4 | 198 | 1.4 | 94 | 2.8 | 33 | 5.1 | 39 | 0.0 | 26 | 0.9 | 45 | | |
| 45-54 | 20.7 | 82 | 24.9 | 260 | 12.9 | 89 | 7.0 | 142 | 5.7 | 100 | 10.7 | 41 | 12.9 | 32 | 14.2 | 15 | 20.7 | 33 | | |
| 55-64 | 31.7 | 60 | 21.5 | 205 | 18.7 | 90 | 11.9 | 84 | 13.4 | 67 | 3.4 | 35 | 21.6 | 20 | 0.0 | 1 | 12.1 | 21 | | |
| 65+ | 24.7 | 50 | 28.7 | 167 | 7.9 | 65 | 12.7 | 70 | 10.3 | 53 | 5.4 | 25 | 0.0 | 27 | 0.0 | 3 | 0.6 | 21 | | |
| Sex | | | | | | | | | | | | | | | | | | | | |
| Male | 23.1 | 120 | 21.1 | 452 | 7.6 | 188 | 7.8 | 276 | 7.5 | 183 | 8.9 | 81 | 4.9 | 84 | 10.6 | 27 | 6.0 | 60 | | |
| Female | 21.7 | 316 | 24.4 | 952 | 13.7 | 358 | 7.9 | 537 | 7.8 | 324 | 4.3 | 166 | 9.4 | 125 | 0.0 | 45 | 15.9 | 117 | | |
| Residence | | | | | | | | | | | | | | | | | | | | |
| Urban | 26.0 | 328 | 26.3 | 903 | 11.8 | 345 | 8.8 | 607 | 8.5 | 412 | 5.4 | 117 | 5.9 | 116 | 4.0 | 57 | 14.5 | 131 | | |
| Non-urban | 10.3 | 108 | 17.9 | 500 | 11.3 | 201 | 5.2 | 205 | 3.9 | 95 | 6.2 | 130 | 9.7 | 93 | 4.3 | 15 | 6.9 | 46 | | |
| Province | | | | | | | | | | | | | | | | | | | | |
| Western Cape | 18.6 | 67 | 25.5 | 149 | 6.1 | 45 | 13.0 | 117 | 8.3 | 102 | 27.5 | 10 | 23.4 | 6 | 0.0 | 14 | 7.5 | 18 | | |
| Eastern Cape | 30.9 | 75 | 29.2 | 156 | 16.1 | 47 | 7.3 | 88 | 12.1 | 63 | 7.8 | 14 | 0.0 | 32 | 33.3 | 6 | 0.0 | 24 | | |
| Northern Cape | 19.6 | 6 | 10.5 | 37 | 7.2 | 7 | 2.6 | 12 | 0.0 | 8 | 26.8 | 1 | 26.8 | 1 | 0.0 | 1 | 10.0 | 3 | | |
| Free State | 13.2 | 41 | 18.2 | 107 | 10.8 | 36 | 12.1 | 50 | 3.5 | 28 | 14.3 | 14 | 14.0 | 14 | 0.0 | 3 | 23.0 | 13 | | |
| KwaZulu-Natal | 8.3 | 48 | 21.1 | 370 | 5.2 | 100 | 6.6 | 170 | 7.8 | 115 | 4.2 | 94 | 10.9 | 61 | 0.9 | 14 | 11.3 | 32 | | |
| North West | 15.8 | 14 | 9.6 | 26 | 18.5 | 125 | 8.1 | 37 | 23.0 | 10 | 0.0 | 13 | 7.2 | 9 | 20.0 | 3 | 11.9 | 7 | | |
| Gauteng | 36.8 | 116 | 31.5 | 372 | 11.1 | 130 | 5.7 | 253 | 6.4 | 141 | 4.3 | 53 | 5.1 | 44 | 0.0 | 20 | 15.3 | 71 | | |
| Mpumalanga | 7.7 | 30 | 12.9 | 48 | 3.3 | 20 | 2.8 | 37 | 3.2 | 16 | 5.3 | 10 | 0.0 | 8 | 0.0 | 3 | 16.2 | 3 | | |
| Limpopo | 7.1 | 39 | 12.4 | 140 | 14.9 | 36 | 13.2 | 46 | 3.6 | 25 | 4.5 | 40 | 8.1 | 34 | 0.0 | 8 | 31.1 | 5 | | |
| Education | | | | | | | | | | | | | | | | | | | | |
| No education | 21.1 | 53 | 24.0 | 196 | 12.1 | 79 | 7.6 | 78 | 0.0 | 29 | 14.2 | 45 | 10.8 | 48 | 0.0 | 5 | 1.6 | 9 | | |
| Grades 1-5 | 26.8 | 60 | 23.2 | 201 | 10.8 | 59 | 4.9 | 63 | 26.0 | 30 | 7.2 | 53 | 1.6 | 25 | 0.0 | 3 | 9.3 | 19 | | |
| Grades 6-7 | 14.8 | 44 | 23.6 | 186 | 13.8 | 77 | 8.3 | 71 | 6.1 | 36 | 2.9 | 31 | 4.8 | 27 | 14.2 | 15 | 14.3 | 19 | | |
| Grades 8-11 | 20.7 | 181 | 22.0 | 559 | 14.4 | 168 | 8.4 | 272 | 4.6 | 167 | 4.1 | 82 | 10.7 | 67 | 0.0 | 27 | 14.8 | 59 | | |
| Grade 12 | 25.7 | 81 | 25.5 | 215 | 7.0 | 97 | 7.3 | 199 | 7.9 | 124 | 0.0 | 30 | 5.8 | 31 | 4.6 | 14 | 18.6 | 40 | | |
| Higher | 26.5 | 17 | 41.8 | 28 | 10.1 | 60 | 9.3 | 126 | 9.9 | 115 | 0.0 | 6 | 0.0 | 11 | 1.5 | 8 | 2.0 | 29 | | |
| Unknown | 0.0 | 1 | 0.0 | 18 | 0.0 | 7 | 0.0 | 3 | 0.0 | 5 | - | - | - | - | - | - | 43.0 | 1 | | |
| Population group | | | | | | | | | | | | | | | | | | | | |
| African | 23.4 | 362 | 23.4 | 1210 | 12.1 | 447 | 7.7 | 602 | 6.0 | 299 | 6.0 | 238 | 8.1 | 194 | 5.2 | 54 | 16.5 | 123 | | |
| African urban | 28.3 | 262 | 26.4 | 744 | 12.8 | 249 | 8.8 | 406 | 6.9 | 206 | 5.7 | 108 | 6.6 | 101 | 5.5 | 39 | 22.2 | 78 | | |
| African non-urban | 10.9 | 101 | 18.7 | 466 | 11.1 | 197 | 5.4 | 196 | 4.0 | 93 | 6.2 | 130 | 9.7 | 93 | 4.4 | 15 | 6.7 | 46 | | |
| Coloured | 10.9 | 53 | 21.4 | 126 | 1.2 | 40 | 7.3 | 67 | 12.2 | 57 | 2.1 | 9 | 1.9 | 10 | 0.0 | 11 | 1.3 | 10 | | |
| Indian | 45.0 | 6 | 26.7 | 38 | 5.1 | 11 | 1.2 | 40 | 2.9 | 39 | 0.0 | 1 | 0.0 | 0 | 6.2 | 2 | 2.7 | 12 | | |
| White | 30.0 | 10 | 35.4 | 19 | 17.2 | 46 | 12.2 | 98 | 11.0 | 104 | - | 0 | 0.0 | 3 | 0.0 | 1 | 4.6 | 30 | | |
| Other | 0.0 | 5 | 0.0 | 10 | 28.8 | 2 | 0.0 | 5 | 18.6 | 7 | - | 0 | 0.0 | 2 | 0.0 | 3 | 0.0 | 2 | | |
| Total | 22.1 | 436 | 23.3 | 1404 | 11.6 | 546 | 7.9 | 812 | 7.7 | 507 | 5.8 | 247 | 7.6 | 209 | 4.0 | 72 | 12.5 | 177 | | |

1 "Government hospital" and "government clinic" are assessed together in the questionnaire.

Figure 11.3 Percentage of users dissatisfied by health facility, SADHS 1998 and 2003



The users of public health care facilities in Limpopo, Mpumalanga and KwaZulu-Natal appear to be least dissatisfied with community health centres and other public health facilities, whereas users in the North West and Northern Cape appear to be least dissatisfied with government hospital services.

More users with no education appear to be most dissatisfied with services of faith healers and traditional healers. On the other hand, users with Grade 12 level of education are dissatisfied with the services of dentists. More users with higher education (42 percent) express dissatisfaction with government hospitals. A large percentage (45 percent) of public facilities users from the Indian population group express dissatisfaction with government community health centres. A large percentage of whites are also dissatisfied with government hospitals (35 percent) and private hospitals (17 percent). Compared with Africans living in urban areas, Africans living in non-urban areas express less dissatisfaction with government hospitals, community health centres and dentists.

The major reasons for dissatisfaction with the public sector hospitals and community health centres are long waiting times, staff attitudes, prescribed medication not being available and shortages of staff (doctors/pharmacists) (Table 11.4). Long waiting time is the most common reason for dissatisfaction in government hospitals, community health centres and private hospitals or clinics, with staff attitude and lack of drugs other important reasons for dissatisfaction. Lack of drugs is also an important reason in the public sector. Major reasons for dissatisfaction in the private hospital/clinic sector are long waiting times, staff attitude, and doctors and pharmacists being too expensive. For private doctors major reasons cited for dissatisfaction are short consultations (33 percent) and cost (25 percent).

Table 11.4 Reasons for dissatisfaction

Percentage distribution of recent health seekers by reported reasons for dissatisfaction with health services, according to health care facility/provider, South Africa 2003

| Background characteristic | Long wait | Staff rude/unkind | Short consultation | Did not see doctor/ pharmacist, too expensive | No prescribed drugs available | Other | Missing | Total | Number |
|----------------------------|-----------|-------------------|--------------------|---|-------------------------------|-------|---------|-------|--------|
| Public sector | | | | | | | | | |
| Community health centre | 38.1 | 25.9 | 7.0 | 10.6 | 17.7 | 0.0 | 0.6 | 100 | 99 |
| Government hospital/clinic | 41.5 | 22.8 | 5.6 | 6.3 | 15.8 | 4.3 | 3.7 | 100 | 328 |
| Private sector | | | | | | | | | |
| Private hospital/clinic | 26.7 | 18.0 | 10.8 | 15.2 | 7.9 | 13.1 | 8.4 | 100 | 63 |
| Private doctor | 7.4 | 7.1 | 33.4 | 24.8 | 0.0 | 17.6 | 9.7 | 100 | 64 |

Note: Home-based care, faith healers, traditional healers, health services at workplace, dentists and rehabilitation therapists had fewer than 25 respondents and have been omitted from the table.

11.4 Problems in Accessing Health Care among Women

Just over half the women aged 15-49 years have at least one major problem with access to health care when they are ill (Table 11.5). The most common problem is money for treatment (39 percent), followed by problems with transport (32 percent) and distance from the health service (31 percent). Some women report not being keen to go alone (17 percent), concern that there may not be a female provider (12 percent), needing to get permission to go for treatment (9 percent), and knowledge about where to go for treatment (8 percent). From Table 11.5 it can be seen that women in non-urban areas experience more problems than women in the urban areas (66 percent compared with 44 percent). Cost, distance and transport are the most common concerns.

The percentage of women living in Limpopo who report any of the specified problems, is very high (76 percent). They had the highest proportion of all the concerns about access to health care. Cost, distance and transport are also the most common concerns in this province. Fewer white women report problems with access to health care (16 percent) than other population groups. The most common concern in this group is about not wanting to go alone (9 percent). African women report the most problems (55 percent). The proportion of women with problems is inversely related to level of education. In terms of education, the highest proportion experiencing any problem is women with a Grade 1-5 level of education. However, with the exception of distance to health care, women with no education have the highest proportions reporting a specific problem.

The number of children that women live with seems to be positively associated with experiencing problems with getting money for treatment, distance to health facilities and having to take transport to health facilities. Women who were never married or divorced/separated/widowed are affected mostly by problems of getting money for treatment followed by having to take transport, then by distance to health facilities and lastly by concern that there may not be a female provider. Women in marriage/cohabiting relationships reported being affected by similar problems to lesser extent than other groups. The percentage of never married women who reported problems with knowing where to go and getting permission to go for treatment is higher than for both married/cohabiting women and divorced/separated/widowed women.

Table 11.5 Problems in accessing health care

Percentage of women 15-49 years who reported they have major problems in accessing health care for themselves when they are sick, by type of problem and background characteristics, South Africa 2003

| Background characteristic | Problems in accessing health care | | | | | | | | | | Number of women | |
|----------------------------------|-----------------------------------|--|-----------------------------|-----------------------------|--------------------------|-------------------------|--|-------------------------------|------|------|-----------------|--|
| | Knowing where to go for treatment | Getting permission to go for treatment | Getting money for treatment | Distance to health facility | Having to take transport | Not wanting to go alone | Concern there may not be a female provider | Any of the specified problems | | | | |
| Age | | | | | | | | | | | | |
| 15-19 | 10.5 | 12.3 | 37.3 | 29.3 | 30.4 | 23.1 | 20.5 | 55.9 | 20.5 | 55.9 | 1 395 | |
| 20-29 | 8.7 | 9.2 | 39.8 | 29.9 | 31.7 | 15.2 | 11.0 | 50.8 | 11.0 | 50.8 | 2 257 | |
| 30-39 | 7.8 | 7.8 | 40.0 | 31.8 | 32.5 | 13.8 | 9.9 | 50.4 | 9.9 | 50.4 | 1 909 | |
| 40-49 | 6.3 | 6.3 | 39.7 | 31.5 | 32.3 | 16.8 | 9.4 | 48.9 | 9.4 | 48.9 | 1 480 | |
| Number of living children | | | | | | | | | | | | |
| 0 | 9.6 | 10.3 | 37.4 | 28.6 | 30.5 | 19.4 | 15.8 | 52.2 | 15.8 | 52.2 | 2 539 | |
| 1-2 | 7.6 | 7.6 | 38.7 | 30.3 | 30.5 | 14.2 | 9.6 | 48.4 | 9.6 | 48.4 | 2 771 | |
| 3-4 | 7.7 | 8.5 | 41.7 | 32.2 | 33.8 | 15.9 | 10.5 | 52.8 | 10.5 | 52.8 | 1 326 | |
| 5+ | 7.0 | 9.4 | 49.3 | 40.1 | 41.9 | 19.9 | 14.1 | 60.4 | 14.1 | 60.4 | 404 | |
| Marital status | | | | | | | | | | | | |
| Never married | 9.7 | 10.4 | 41.1 | 31.8 | 33.2 | 18.5 | 14.3 | 53.6 | 14.3 | 53.6 | 3 821 | |
| Married or living together | 6.7 | 7.1 | 35.8 | 28.9 | 29.4 | 14.0 | 9.7 | 47.3 | 9.7 | 47.3 | 2 658 | |
| Divorced/separated/widowed | 6.3 | 6.1 | 44.4 | 30.7 | 33.7 | 17.5 | 10.8 | 55.0 | 10.8 | 55.0 | 562 | |
| Residence | | | | | | | | | | | | |
| Urban | 6.4 | 6.9 | 32.2 | 21.8 | 23.2 | 14.5 | 11.0 | 43.7 | 11.0 | 43.7 | 4 678 | |
| Non-urban | 12.1 | 12.6 | 53.7 | 48.2 | 48.8 | 21.2 | 14.7 | 66.4 | 14.7 | 66.4 | 2 363 | |
| Region | | | | | | | | | | | | |
| Western Cape | 2.7 | 3.4 | 29.8 | 22.7 | 25.9 | 8.1 | 5.9 | 41.3 | 5.9 | 41.3 | 892 | |
| Eastern Cape | 5.6 | 7.0 | 39.8 | 36.0 | 36.3 | 20.0 | 12.5 | 58.2 | 12.5 | 58.2 | 804 | |
| Northern Cape | 2.2 | 3.2 | 30.7 | 20.9 | 20.4 | 10.5 | 10.9 | 48.7 | 10.9 | 48.7 | 125 | |
| Free State | 7.5 | 8.3 | 36.5 | 22.6 | 25.5 | 16.9 | 12.3 | 46.9 | 12.3 | 46.9 | 443 | |
| KwaZulu-Natal | 8.4 | 9.4 | 40.7 | 36.8 | 35.7 | 17.0 | 9.5 | 48.4 | 9.5 | 48.4 | 1 177 | |
| North West | 8.2 | 7.5 | 43.1 | 23.7 | 26.0 | 12.7 | 8.1 | 51.0 | 8.1 | 51.0 | 523 | |
| Gauteng | 10.5 | 11.4 | 33.9 | 23.9 | 24.8 | 18.8 | 14.0 | 45.3 | 14.0 | 45.3 | 1 854 | |
| Mpumalanga | 6.5 | 10.6 | 47.1 | 37.8 | 36.6 | 12.7 | 15.2 | 54.4 | 15.2 | 54.4 | 451 | |
| Limpopo | 14.8 | 11.1 | 57.2 | 47.6 | 51.2 | 23.9 | 20.7 | 75.8 | 20.7 | 75.8 | 772 | |
| Education | | | | | | | | | | | | |
| No education | 14.0 | 16.5 | 55.5 | 40.6 | 37.9 | 22.1 | 16.9 | 63.6 | 16.9 | 63.6 | 302 | |
| Grades 1-5 | 12.1 | 13.0 | 55.0 | 47.2 | 48.9 | 19.8 | 15.3 | 66.6 | 15.3 | 66.6 | 438 | |
| Grades 6-7 | 10.7 | 11.5 | 48.3 | 38.1 | 36.6 | 19.0 | 15.8 | 60.3 | 15.8 | 60.3 | 721 | |
| Grades 8-11 | 8.2 | 9.7 | 41.7 | 32.8 | 34.6 | 19.4 | 13.7 | 55.1 | 13.7 | 55.1 | 3 285 | |
| Grade 12 | 7.6 | 6.1 | 33.2 | 25.0 | 26.1 | 12.2 | 8.3 | 43.4 | 8.3 | 43.4 | 1 683 | |
| Higher | 2.4 | 1.8 | 14.2 | 8.9 | 11.7 | 7.5 | 6.7 | 25.0 | 6.7 | 25.0 | 609 | |
| Population | | | | | | | | | | | | |
| African | 9.4 | 10.0 | 43.4 | 34.0 | 35.1 | 18.2 | 13.2 | 55.3 | 13.2 | 55.3 | 5 831 | |
| African urban | 7.3 | 8.1 | 36.4 | 24.4 | 25.9 | 15.9 | 11.9 | 47.7 | 11.9 | 47.7 | 3 586 | |
| African non-urban | 12.7 | 13.0 | 54.6 | 49.3 | 49.8 | 22.0 | 15.3 | 67.4 | 15.3 | 67.4 | 2 246 | |
| Coloured | 3.2 | 3.0 | 29.4 | 22.8 | 24.2 | 8.2 | 8.1 | 41.2 | 8.1 | 41.2 | 665 | |
| Indian | 1.7 | 1.5 | 13.4 | 9.2 | 14.7 | 17.3 | 11.4 | 34.8 | 11.4 | 34.8 | 141 | |
| White | 3.3 | 3.9 | 6.9 | 2.0 | 2.2 | 9.0 | 6.0 | 16.1 | 6.0 | 16.1 | 402 | |
| Employment | | | | | | | | | | | | |
| Total | 8.3 | 8.8 | 39.4 | 30.6 | 31.8 | 16.7 | 12.3 | 51.3 | 12.3 | 51.3 | 7 041 | |

One case has education missing; four cases reported population group as 'Other'.

11.5 Access to Medical Aid

Just over 14 percent of adults have access to some form of medical scheme coverage or benefit (Table 11.6). The 1998 SADHS found 18 percent of the population aged 15 years and above to have access, which suggests a decline in the 5-year period between the surveys. The only increase found is among people with no education, with an increase from 2 percent in 1998 to 4 percent in 2003, and among the African population group with a slight increase from 8 percent in 1998 to 9 percent in 2003. Similar to the results of the 1998 SADHS, access remained highest among people in the age group 35-44 years and lowest in the youth (15-24 years) and elderly (65 years and above). The highest disparity in access to medical aid remains unchanged among people residing in urban and non-urban areas (19 percent and 6 percent respectively).

The proportion of people with access to medical aid is lowest in the Limpopo, although the data show a slight increase from below 7 percent in 1998 to over 8 percent in 2003. Gauteng and Western Cape have the highest proportion of the population with access to medical aid (22 and 20 percent respectively). Even though the membership of medical schemes seems to be declining, it is clear that access to medical aid continued to be positively associated with educational level. As clearly demonstrated by the above, an unexpected increase in enrolment to medical schemes is reported among people with no education. This could possibly be related to the number of union agreements that have included medical aid cover.

In terms of population group distribution with respect to access to medical schemes, 68 percent of whites, 32 percent of Indians, 20 percent of coloureds and 9 percent of Africans report access to medical aid. The proportion of Africans residing in non-urban areas who have medical benefits seems to have increased, from 4 percent in 1998 to 6 percent in 2003. This information needs to be interpreted with some caution, as there may be some bias with regard to increase in medical schemes enrolment in rural areas.

Table 11.6 Access to medical aid

Percentage of adults who reported that they have medical aid by selected background characteristic, South Africa 2003

| Background characteristic | Percentage with medical aid |
|---------------------------|-----------------------------|
| Age | |
| 15-24 | 11.0 |
| 25-34 | 13.9 |
| 35-44 | 18.2 |
| 45-54 | 16.5 |
| 55-64 | 16.2 |
| 65+ | 10.5 |
| Sex | |
| Male | 14.2 |
| Female | 14.1 |
| Residence | |
| Urban | 18.5 |
| Non-urban | 6.2 |
| Province | |
| Western Cape | 20.3 |
| Eastern Cape | 10.3 |
| Northern Cape | 15.8 |
| Free State | 11.0 |
| KwaZulu-Natal | 9.6 |
| North West | 9.4 |
| Gauteng | 22.0 |
| Mpumalanga | 12.5 |
| Limpopo | 8.4 |
| Education | |
| No education | 4.1 |
| Grades 1-5 | 3.9 |
| Grades 6-7 | 5.8 |
| Grades 8-11 | 10.4 |
| Grade 12 | 21.2 |
| Higher | 53.0 |
| Unknown | 8.3 |
| Population group | |
| African | 9.2 |
| African urban | 11.5 |
| African non-urban | 5.8 |
| Coloured | 19.8 |
| Indian | 31.8 |
| White | 68.0 |
| Other | 18.1 |
| Total | 14.2 |

11.6 Self-Reported Chronic Disease Drugs Used

Tables 11.7 and 11.8 present the self-reported patterns of medication for chronic diseases used by men and women, as well as the pattern of drugs listed by the field workers from the drug containers presented by participants in their homes. Overall, 11 percent of men and 19 percent of women report taking prescribed medication regularly. Per age category, more women than men report using these medications. Among men there is increasing frequency of drug usage with increasing age, but among women the highest frequency is reported in the 55-64 age category. More urban than non-urban men and women report using prescribed medication. These findings are similar to the 1998 survey, apart from increasing drug usage with age among both men and women in that survey.

Table 11.7 Medication for chronic conditions in men

Percentage of all adult men interviewed who report taking prescribed medication and whose medication could be listed by interviewers, and of these, percentage distribution by number of medications listed, South Africa 2003

| Background characteristics | % who reported taking prescribed medication | Number of men | % who have listed drugs | Number of men | Among those with medicine listed: | | | Number with listed drugs |
|----------------------------|---|---------------|-------------------------|---------------|-----------------------------------|-------------------------------|----------------------------------|--------------------------|
| | | | | | % who had 1 listed drug | % who had 2 or 3 listed drugs | % who had 4 or more listed drugs | |
| Age | | | | | | | | |
| 15-24 | 3.0 | 1 116 | 2.1 | 1 121 | 57.2 | 42.8 | 0.0 | 23 |
| 25-34 | 7.3 | 734 | 5.5 | 735 | 34.1 | 58.8 | 7.1 | 41 |
| 35-44 | 12.6 | 590 | 10.1 | 593 | 47.2 | 45.2 | 7.6 | 60 |
| 45-54 | 18.4 | 437 | 17.1 | 438 | 40.3 | 35.2 | 24.6 | 75 |
| 55-64 | 24.6 | 294 | 18.7 | 297 | 38.0 | 31.3 | 30.7 | 56 |
| 65+ | 29.4 | 240 | 22.3 | 240 | 32.7 | 44.9 | 22.3 | 53 |
| Residence | | | | | | | | |
| Urban | 13.2 | 2 280 | 10.8 | 2 289 | 38.7 | 43.0 | 18.4 | 246 |
| Non-urban | 7.3 | 1 131 | 5.4 | 1 133 | 47.1 | 37.2 | 15.8 | 61 |
| Province | | | | | | | | |
| Western Cape | 14.0 | 337 | 10.6 | 337 | 40.2 | 24.6 | 35.2 | 36 |
| Eastern Cape | 14.2 | 367 | 11.2 | 367 | 47.9 | 42.2 | 10.0 | 41 |
| Northern Cape | 20.5 | 60 | 19.5 | 60 | 41.1 | 51.9 | 7.0 | 12 |
| Free State | 15.2 | 222 | 11.9 | 224 | 41.4 | 40.8 | 17.8 | 27 |
| KwaZulu-Natal | 6.5 | 778 | 4.3 | 781 | 52.2 | 27.1 | 20.6 | 33 |
| North West | 10.9 | 248 | 7.6 | 248 | 29.9 | 52.4 | 17.7 | 19 |
| Gauteng | 13.0 | 909 | 11.6 | 914 | 35.3 | 48.5 | 16.2 | 106 |
| Mpumalanga | 7.9 | 209 | 7.1 | 209 | 34.1 | 46.0 | 19.8 | 15 |
| Limpopo | 9.3 | 281 | 6.8 | 282 | 45.2 | 42.7 | 12.0 | 19 |
| Education | | | | | | | | |
| No education | 19.2 | 296 | 15.3 | 296 | 55.0 | 33.6 | 11.5 | 45 |
| Grades 1-5 | 15.6 | 335 | 13.0 | 335 | 45.4 | 41.2 | 13.4 | 44 |
| Grades 6-7 | 10.8 | 383 | 7.9 | 384 | 30.0 | 49.4 | 20.6 | 30 |
| Grades 8-11 | 8.7 | 1 357 | 6.9 | 1 366 | 37.3 | 38.5 | 24.2 | 94 |
| Grade 12 | 8.8 | 701 | 7.4 | 703 | 41.9 | 46.1 | 12.0 | 52 |
| Higher | 15.9 | 308 | 12.2 | 309 | 28.7 | 48.5 | 22.8 | 38 |
| Population group | | | | | | | | |
| African | 9.1 | 2 829 | 7.2 | 2 838 | 42.1 | 46.1 | 11.7 | 205 |
| Afr. urban | 10.4 | 1 741 | 8.7 | 1 747 | 39.7 | 47.9 | 12.4 | 152 |
| Afr. non-urban | 6.9 | 1 089 | 4.9 | 1 091 | 49.3 | 41.1 | 9.7 | 53 |
| Coloured | 12.8 | 268 | 8.2 | 268 | 35.7 | 33.9 | 30.3 | 22 |
| Indian | 21.1 | 83 | 19.0 | 83 | 30.1 | 34.9 | 35.0 | 16 |
| White | 33.1 | 217 | 27.5 | 220 | 37.3 | 32.0 | 30.7 | 61 |
| Total | 11.2 | 3 411 | 9.0 | 3 422 | 40.4 | 41.8 | 17.8 | 307 |

22 cases had education unknown; 13 cases reported population group as 'Other'.

Table 11.8 Medication for chronic conditions in women

Percentage of all adult women interviewed who report taking prescribed medication and whose medication could be listed by interviewers, and of these, percentage distribution by number of medications listed, South Africa 2003

| | % who reported taking prescribed medication | Number of women | % who have listed drugs | Among those with medicine listed: | | | | |
|-------------------------|---|-----------------|-------------------------|-----------------------------------|-------------------------|-------------------------------|----------------------------------|--------------------------|
| | | | | Number | % who had 1 listed drug | % who had 2 or 3 listed drugs | % who had 4 or more listed drugs | Number with listed drugs |
| Age | | | | | | | | |
| 15-24 | 5.6 | 1 254 | 4.0 | 1 256 | 50.8 | 42.1 | 7.1 | 50 |
| 25-34 | 9.3 | 979 | 7.0 | 979 | 35.9 | 54.7 | 9.4 | 69 |
| 35-44 | 15.0 | 880 | 12.1 | 883 | 36.3 | 53.0 | 10.8 | 107 |
| 45-54 | 35.5 | 713 | 29.6 | 714 | 33.8 | 45.3 | 21.0 | 212 |
| 55-64 | 41.7 | 483 | 35.4 | 483 | 35.7 | 45.5 | 18.8 | 171 |
| 65+ | 36.1 | 378 | 31.0 | 378 | 24.2 | 42.9 | 32.9 | 117 |
| Residence | | | | | | | | |
| Urban | 22.1 | 2 993 | 18.5 | 2 995 | 34.4 | 47.0 | 18.7 | 553 |
| Non-urban | 13.2 | 1 694 | 10.2 | 1 697 | 34.6 | 46.1 | 19.3 | 172 |
| Province | | | | | | | | |
| Western Cape | 27.8 | 571 | 22.9 | 573 | 34.7 | 46.7 | 18.6 | 131 |
| Eastern Cape | 22.8 | 561 | 17.3 | 562 | 34.7 | 44.9 | 20.4 | 97 |
| Northern Cape | 25.0 | 92 | 21.1 | 92 | 42.3 | 40.0 | 17.8 | 19 |
| Free State | 23.3 | 313 | 20.3 | 313 | 26.5 | 50.6 | 22.9 | 64 |
| KwaZulu-Natal | 9.4 | 886 | 6.5 | 888 | 30.7 | 38.0 | 31.3 | 58 |
| North West | 20.4 | 373 | 16.8 | 373 | 32.4 | 49.1 | 18.5 | 63 |
| Gauteng | 22.8 | 1 073 | 20.3 | 1 074 | 34.8 | 49.7 | 15.5 | 218 |
| Mpumalanga | 11.3 | 300 | 9.2 | 300 | 48.6 | 36.6 | 14.8 | 27 |
| Limpopo | 11.9 | 519 | 9.1 | 519 | 37.4 | 48.4 | 14.2 | 47 |
| Education | | | | | | | | |
| No education | 24.4 | 578 | 20.6 | 578 | 32.5 | 51.2 | 16.3 | 119 |
| Grades 1-5 | 27.3 | 447 | 21.3 | 448 | 27.3 | 50.1 | 22.6 | 95 |
| Grades 6-7 | 25.7 | 501 | 21.2 | 501 | 33.3 | 41.4 | 25.3 | 106 |
| Grades 8-11 | 17.1 | 1 867 | 14.0 | 1 873 | 34.5 | 45.2 | 20.3 | 262 |
| Grade 12 | 9.5 | 923 | 7.2 | 923 | 43.2 | 48.6 | 8.3 | 67 |
| Higher | 19.3 | 344 | 17.1 | 344 | 42.0 | 50.6 | 7.4 | 59 |
| Population group | | | | | | | | |
| African | 17.0 | 3 853 | 13.9 | 3 857 | 33.3 | 48.0 | 18.7 | 535 |
| African urban | 20.6 | 2 248 | 17.2 | 2 250 | 32.6 | 48.4 | 19.0 | 386 |
| African non-urban | 12.1 | 1 606 | 9.2 | 1 607 | 35.2 | 47.1 | 17.8 | 148 |
| Coloured | 25.2 | 454 | 20.5 | 456 | 40.6 | 40.9 | 18.4 | 94 |
| Indian | 34.8 | 112 | 32.0 | 112 | 37.6 | 30.5 | 31.9 | 36 |
| White | 26.6 | 257 | 22.9 | 257 | 34.0 | 56.2 | 9.8 | 59 |
| Total | 18.8 | 4 687 | 15.5 | 4 693 | 34.4 | 46.7 | 18.8 | 725 |

17 cases had education unknown; 12 cases reported population group as 'Other'.

Prescription drug use for men is most frequently reported in the Northern Cape (21 percent) and Free State (15 percent). It is reported least frequently in KwaZulu-Natal (less than 7 percent). Among women, the most frequently reported use of prescription drugs is from Western Cape (28 percent) followed by Northern Cape (25 percent), Gauteng (23 percent) and Eastern Cape (23 percent), with the least frequent reporting from KwaZulu-Natal (9 percent). The geographic pattern is different from what it was in 1998, when reported prevalence for men in KwaZulu-Natal was twice as high (14 percent) and that for Free State was much lower (9 percent). Among women the rate of prescription drug use in the 1998 survey was 18 percent in KwaZulu-Natal, twice that of the present prevalence, and lower frequencies were found in Eastern Cape, Free State and North West than in 2003.

Sixty percent of men and two-thirds of women taking regular chronic disease medication report using more than one prescribed drug (Tables 11.7 and 11.8). Forty percent of men report using only one drug, with 18 percent report using four or more listed drugs regularly. Among the women, 34 percent use one drug while 19 percent report using four or more drugs regularly. Among the men, those with the least or higher education most frequently report using prescribed medication regularly.

White men and Indian women are the most frequent users of prescribed medication. African men and women, especially from non-urban areas, report least frequent use of prescribed medication. The 2003 survey reports similar prescribed medication usage to the 1998 survey among most population groups, except for white women whose usage decreased significantly, from 48 percent to 27 percent.

Almost 90 percent of African men use three drugs or less, while approximately a third of coloured, Indian and white men use four or more drugs. From 1998 to 2003 there has been a decrease in the use of four or more drugs among African men, from 18 to 12 percent, while there is an increase in the use of four or more drugs among other men, from about 20 percent to over 30 percent. Among African and coloured women the use of four drugs or more has not changed much between 1998 and 2003, at around 20 percent. However, there has been a decrease for white women, from over 20 percent to less than 10 percent, and an increase from 22 percent to 32 percent for Indian women.

11.7 Payment for Prescribed Medication for Chronic Diseases

Table 11.9 shows the payment method used by the respondents for their chronic medications. Thirty-nine percent of men and 53 percent of women receive their medication from the public health care sector, an increase since the 1998 survey of 5 percent and 14 percent among the men and women respectively. Self-payment of the prescribed medication is made by 26 percent and 22 percent of men and women respectively, a small decrease from the 1998 survey. Medication is paid for by medical aids for 23 percent of the men and 12 percent of the women, a decrease compared to the 1998 survey. Those with the highest medical aid cover live in Gauteng and the Western Cape. White respondents have the highest medical aid cover, while African respondents have the lowest medical aid cover for chronic medication payment. The oldest age groups receive their medication from the public health sector and have a low level of medical aid cover. Employers pay for less than 2 percent and less than 1 percent of medication for men and women respectively.

Table 11.9 Payment for medication for chronic conditions

| Background characteristic | MEN | | | | | | | | | | WOMEN | | | | | | | | |
|---------------------------|---------------------------|--------|-------------|----------|-------|---------------------------|------------|--------|-------------|----------|---------------------------|-------|------------|--------|-------------|----------|-------|-------|--|
| | Public health care sector | | | | | Public health care sector | | | | | Public health care sector | | | | | | | | |
| | Respondent | Family | Medical Aid | Employer | Other | Total | Respondent | Family | Medical Aid | Employer | Other | Total | Respondent | Family | Medical Aid | Employer | Other | Total | |
| Age | | | | | | | | | | | | | | | | | | | |
| 15-24 | 17.9 | 42.7 | 17.4 | 19.4 | 0.0 | 33 | 11.9 | 18.3 | 14.1 | 49.9 | 0.0 | 70 | 11.9 | 18.3 | 14.1 | 49.9 | 0.0 | 70 | |
| 25-34 | 31.2 | 12.2 | 6.9 | 45.3 | 2.3 | 54 | 27.9 | 9.0 | 16.8 | 37.9 | 0.0 | 91 | 27.9 | 9.0 | 16.8 | 37.9 | 0.0 | 91 | |
| 35-44 | 36.0 | 3.1 | 32.3 | 18.4 | 2.5 | 74 | 26.3 | 12.6 | 6.6 | 51.0 | 0.4 | 132 | 26.3 | 12.6 | 6.6 | 51.0 | 0.4 | 132 | |
| 45-54 | 14.0 | 0.2 | 31.6 | 48.5 | 5.3 | 81 | 24.0 | 4.6 | 12.9 | 53.4 | 2.1 | 253 | 24.0 | 4.6 | 12.9 | 53.4 | 2.1 | 253 | |
| 55-64 | 34.2 | 3.6 | 22.0 | 39.1 | 0.0 | 72 | 18.0 | 5.1 | 12.1 | 57.7 | 0.0 | 201 | 18.0 | 5.1 | 12.1 | 57.7 | 0.0 | 201 | |
| 65+ | 21.1 | 1.9 | 17.6 | 56.1 | 0.0 | 70 | 22.0 | 2.5 | 8.6 | 59.5 | 0.0 | 136 | 22.0 | 2.5 | 8.6 | 59.5 | 0.0 | 136 | |
| Residence | | | | | | | | | | | | | | | | | | | |
| Urban | 24.1 | 5.2 | 28.3 | 38.2 | 1.3 | 301 | 21.2 | 7.1 | 14.3 | 51.8 | 0.9 | 660 | 21.2 | 7.1 | 14.3 | 51.8 | 0.9 | 660 | |
| Non-urban | 33.4 | 13.6 | 2.4 | 43.7 | 4.2 | 83 | 24.9 | 7.3 | 3.8 | 57.0 | 0.0 | 223 | 24.9 | 7.3 | 3.8 | 57.0 | 0.0 | 223 | |
| Province | | | | | | | | | | | | | | | | | | | |
| Western Cape | 23.1 | 11.6 | 32.4 | 32.9 | 0.0 | 47 | 21.6 | 8.4 | 17.7 | 47.1 | 0.9 | 159 | 21.6 | 8.4 | 17.7 | 47.1 | 0.9 | 159 | |
| Eastern Cape | 38.5 | 5.8 | 0.0 | 52.1 | 0.0 | 52 | 25.2 | 6.7 | 7.4 | 54.8 | 0.0 | 128 | 25.2 | 6.7 | 7.4 | 54.8 | 0.0 | 128 | |
| Northern Cape | 21.2 | 2.8 | 15.0 | 59.5 | 1.5 | 12 | 18.1 | 2.4 | 11.2 | 63.5 | 1.6 | 23 | 18.1 | 2.4 | 11.2 | 63.5 | 1.6 | 23 | |
| Free State | 22.1 | 7.0 | 5.2 | 55.8 | 0.0 | 34 | 19.6 | 10.8 | 4.0 | 60.7 | 1.6 | 73 | 19.6 | 10.8 | 4.0 | 60.7 | 1.6 | 73 | |
| KwaZulu-Natal | 24.5 | 8.1 | 17.9 | 48.9 | 0.0 | 51 | 26.1 | 5.3 | 9.3 | 54.8 | 0.0 | 83 | 26.1 | 5.3 | 9.3 | 54.8 | 0.0 | 83 | |
| North West | 24.1 | 16.2 | 0.0 | 47.3 | 0.0 | 27 | 13.0 | 7.6 | 3.4 | 68.9 | 0.0 | 76 | 13.0 | 7.6 | 3.4 | 68.9 | 0.0 | 76 | |
| Gauteng | 17.6 | 2.4 | 46.8 | 28.9 | 2.5 | 118 | 16.6 | 4.3 | 17.7 | 53.8 | 1.2 | 245 | 16.6 | 4.3 | 17.7 | 53.8 | 1.2 | 245 | |
| Mpumalanga | 34.9 | 16.0 | 18.3 | 30.8 | 0.0 | 17 | 37.7 | 8.5 | 6.5 | 38.3 | 0.0 | 34 | 37.7 | 8.5 | 6.5 | 38.3 | 0.0 | 34 | |
| Limpopo | 52.1 | 7.0 | 3.5 | 21.1 | 16.2 | 26 | 40.5 | 14.3 | 5.9 | 36.3 | 0.0 | 62 | 40.5 | 14.3 | 5.9 | 36.3 | 0.0 | 62 | |
| Education | | | | | | | | | | | | | | | | | | | |
| No education | 31.0 | 5.4 | 3.6 | 48.7 | 4.6 | 57 | 28.8 | 3.8 | 0.2 | 62.0 | 0.0 | 141 | 28.8 | 3.8 | 0.2 | 62.0 | 0.0 | 141 | |
| Grades 1-5 | 26.3 | 9.8 | 12.7 | 48.6 | 0.0 | 52 | 11.6 | 3.7 | 2.2 | 73.5 | 1.6 | 122 | 11.6 | 3.7 | 2.2 | 73.5 | 1.6 | 122 | |
| Grades 6-7 | 48.8 | 3.8 | 1.8 | 37.0 | 4.0 | 41 | 26.6 | 5.4 | 6.2 | 59.0 | 0.5 | 129 | 26.6 | 5.4 | 6.2 | 59.0 | 0.5 | 129 | |
| Grades 8-11 | 20.1 | 11.1 | 16.0 | 48.4 | 2.5 | 118 | 21.9 | 8.6 | 12.9 | 51.6 | 1.0 | 320 | 21.9 | 8.6 | 12.9 | 51.6 | 1.0 | 320 | |
| Grade 12 | 19.5 | 6.6 | 38.9 | 32.3 | 0.0 | 62 | 24.4 | 18.2 | 24.0 | 22.9 | 0.0 | 88 | 24.4 | 18.2 | 24.0 | 22.9 | 0.0 | 88 | |
| Higher | 22.0 | 0.3 | 71.1 | 6.2 | 0.4 | 49 | 22.1 | 3.8 | 44.3 | 20.4 | 0.0 | 66 | 22.1 | 3.8 | 44.3 | 20.4 | 0.0 | 66 | |
| Population group | | | | | | | | | | | | | | | | | | | |
| African | 28.5 | 9.3 | 8.4 | 46.8 | 2.7 | 256 | 22.5 | 7.3 | 6.5 | 58.0 | 0.9 | 463 | 22.5 | 7.3 | 6.5 | 58.0 | 0.9 | 463 | |
| African urban | 26.3 | 6.9 | 10.8 | 49.2 | 1.9 | 181 | 24.0 | 7.3 | 3.3 | 57.5 | 0.0 | 194 | 24.0 | 7.3 | 3.3 | 57.5 | 0.0 | 194 | |
| African non-urban | 33.7 | 15.0 | 2.6 | 41.0 | 4.7 | 75 | 22.9 | 7.3 | 5.6 | 57.9 | 0.6 | 656 | 22.9 | 7.3 | 5.6 | 57.9 | 0.6 | 656 | |
| Coloured | 27.8 | 4.5 | 21.4 | 46.4 | 0.0 | 34 | 22.1 | 5.6 | 17.0 | 50.0 | 1.4 | 115 | 22.1 | 5.6 | 17.0 | 50.0 | 1.4 | 115 | |
| Indian | 22.7 | 2.1 | 21.7 | 49.9 | 1.9 | 17 | 13.9 | 11.7 | 11.3 | 56.5 | 0.0 | 39 | 13.9 | 11.7 | 11.3 | 56.5 | 0.0 | 39 | |
| White | 13.7 | 1.9 | 75.5 | 8.8 | 0.0 | 72 | 16.3 | 6.2 | 61.6 | 11.7 | 0.0 | 68 | 16.3 | 6.2 | 61.6 | 11.7 | 0.0 | 68 | |
| Total | 26.1 | 7.0 | 22.7 | 39.4 | 1.9 | 384 | 22.1 | 7.1 | 11.6 | 53.1 | 0.7 | 883 | 22.1 | 7.1 | 11.6 | 53.1 | 0.7 | 883 | |

Three men and 17 women had education unknown; Three men and 44 women reported population groups as 'Other'.

11.8 Patterns of Prescribed Medication for Common Chronic Diseases

Table 11.10 shows the results of the coded medication used by respondents for tuberculosis, asthma and chronic bronchitis, diabetes, hyperlipidaemia, hypertension, atherosclerosis, stroke-related conditions, arthritis, osteoporosis and epilepsy. The Anatomical Therapeutic Chemical (ATC) classification codes were used to classify the medications for these eleven chronic conditions. The detailed coding list containing all the medication on the market in South Africa at the time of the survey can be obtained on request.

A total of 746 respondents provided containers for the eleven conditions, and accounted for 10 percent of all adults. The total number of drugs taken for the different conditions adds up to more than the total number of people who had drugs coded, since some respondents used medications for more than one condition. Overall, a higher proportion of women (12 percent) than men (7 percent) use prescribed medications regularly for these chronic conditions. However, a higher proportion of men use medication for tuberculosis, diabetes, hyperlipidaemia, atherosclerosis and stroke-related conditions, and epilepsy.

From Table 11.10 it can be seen that respondents presented a total of 1 673 different drug items for the chronic conditions. The least commonly prescribed drugs among adults are for tuberculosis and hyperlipidaemia (about 2 percent). The most frequently prescribed drugs are for hypertension (52 percent), followed by diabetes and arthritis (just less than 12 percent). Details of the prescribed medication for the chronic conditions are presented in Table 11.11, and the source of the medication in terms of the public and private sector is presented in Table 11.12.

Table 11.10 Use of prescribed medication for eleven common chronic conditions

The number and percentage of men and women using prescribed medication regularly and the number and percentage of all regularly used prescribed medications for tuberculosis, asthma, chronic bronchitis, diabetes, hyperlipidaemia, hypertension, atherosclerosis or stroke-related conditions, arthritis, osteoporosis and epilepsy using Anatomical Therapeutic Chemical Classification (ATC) codes, South Africa 2003

| Chronic conditions | ATC Code | People taking chronic medication | | | | | | Medication taken | | | | | |
|------------------------------------|-----------------|----------------------------------|---------|-------|--------|-------|--------|------------------|--------|-------|--------|-------|-------|
| | | Men | | Women | | Total | | Men | | Women | | Total | |
| | | Number | %Number | % | Number | % | Number | % | Number | % | Number | % | |
| Tuberculosis | J04A | 16 | 0.5 | 8 | 0.2 | 24 | 0.3 | 21 | 4.4 | 8 | 0.7 | 29 | 1.7 |
| Asthma and chronic bronchitis | R03 | 33 | 1.0 | 88 | 1.9 | 121 | 1.5 | 46 | 9.8 | 133 | 11.0 | 179 | 10.7 |
| Diabetes | A10 | 46 | 1.3 | 95 | 2.0 | 141 | 1.7 | 61 | 12.9 | 136 | 11.3 | 197 | 11.8 |
| Hyperlipidaemia | C10a | 15 | 0.4 | 19 | 0.4 | 34 | 0.4 | 15 | 3.3 | 19 | 1.6 | 34 | 2.1 |
| Hypertension | C02/03/07/08/09 | 141 | 4.1 | 395 | 8.4 | 536 | 6.6 | 226 | 48.2 | 649 | 53.9 | 875 | 52.3 |
| Atherosclerosis and stroke-related | B01AC/C01A/B/DA | 23 | 0.7 | 38 | 0.8 | 61 | 0.8 | 26 | 5.6 | 46 | 3.9 | 73 | 4.4 |
| Arthritis | M01A/B/C,M04 | 44 | 1.3 | 141 | 3.0 | 184 | 2.3 | 46 | 9.7 | 152 | 12.6 | 197 | 11.8 |
| Osteoporosis | A12,M05B | 12 | 0.3 | 36 | 0.8 | 48 | 0.6 | 13 | 2.7 | 36 | 3.0 | 49 | 2.9 |
| Epilepsy | N03 | 14 | 0.4 | 21 | 0.5 | 35 | 0.4 | 16 | 3.5 | 23 | 2.0 | 40 | 2.4 |
| Any condition | | 240 | 7.0 | 576 | 12.3 | 816 | 10.1 | 470 | 100.0 | 1 203 | 100.0 | 1 673 | 100.0 |

Table 11.11 Prescribed medication for eleven common chronic conditions

Percentage of people taking regular medications for tuberculosis, asthma, chronic bronchitis, diabetes, hyperlipidaemia, hypertension, atherosclerosis or stroke-related conditions, arthritis, osteoporosis and epilepsy, the total number of drugs used for each condition and the percent distribution of common subclasses of prescribed medication for each condition using Anatomical Therapeutic Chemical Classification (ATC) codes, South Africa 2003

| | Men | Women | Total |
|--|------|-------|-------|
| Number of persons taking prescribed medication (denominator) | 219 | 528 | 746 |
| TUBERCULOSIS Code J04A | | | |
| % of persons taking drugs for tuberculosis | 7.4 | 1.5 | 3.2 |
| Number of tuberculosis drugs used | 21 | 8 | 29 |
| Antibiotics (J04AB) as % of tuberculosis drugs | 14.0 | 0.0 | 10.0 |
| Hydrazides (J04AC) as % of tuberculosis drugs | 7.1 | 0.0 | 5.1 |
| Thiocarbamides (J04AD) as % of tuberculosis drugs | 14.0 | 0.0 | 10.0 |
| Others (J04AK) as % of tuberculosis drugs | 9.6 | 17.0 | 11.7 |
| ASTHMA AND CHRONIC BRONCHITIS Code R03 | | | |
| % of persons taking drugs for asthma and chronic bronchitis | 15.1 | 16.8 | 16.3 |
| Number of asthma drugs used | 46 | 133 | 179 |
| Adrenergic inhalers (R03A) as % of asthma drugs | 14.2 | 7.2 | 9.0 |
| Glucocorticoids for inhalation (R03BA) as % of asthma drugs | 16.2 | 15.7 | 15.8 |
| Anticholinergics for inhalation (R03BB) as % of asthma drugs | 0.0 | 0.5 | 0.4 |
| Adrenergics for systemic use as (R03C) % of asthma drugs | 23.1 | 33.9 | 31.1 |
| Xanthines (R03DA) as % of asthma drugs | 46.5 | 42.6 | 43.6 |
| Combination preparations (R03DA54 / R03DA55) as % of asthma drugs | 9.0 | 11.4 | 10.8 |
| DIABETES Code A10 | | | |
| % of persons taking drugs for diabetes | 20.9 | 18.0 | 18.9 |
| Number of diabetic drugs used | 61 | 136 | 197 |
| Insulin (A10A) as % of diabetic drugs | 29.9 | 9.4 | 15.7 |
| Oral agents (A10B) as % of diabetic drugs | 70.1 | 90.6 | 84.3 |
| Biguanides (A10BA) as % of diabetic drugs | 32.4 | 43.7 | 40.2 |
| Sulphonamides, urea derivatives (A10BB) as % of diabetic drugs | 37.7 | 46.9 | 44.1 |
| HYPERLIPIDAEMIA Code C10A | | | |
| % of persons taking drugs for hyperlipidaemia | 6.9 | 3.6 | 4.6 |
| Number of hyperlipidaemic drugs used | 15 | 19 | 34 |
| HYPERTENSION Codes C02, C03, C07, C08, C09* | | | |
| % of persons taking drugs for hypertension | 64.4 | 74.9 | 71.9 |
| Number of hypertensive drugs used | 226 | 649 | 875 |
| Diuretics as % of hypertension drugs | 31.0 | 46.1 | 42.2 |
| Diuretics on their own as % of hypertension drugs | 31.0 | 45.4 | 41.7 |
| Low-ceiling diuretics (thiazide, others) (C03A/B) as % of hypertension drugs | 22.3 | 36.3 | 32.7 |
| High-ceiling diuretics (C03C) as % of hypertension drugs | 6.3 | 4.3 | 4.9 |
| Potassium-sparing agents (C03D) as % of hypertension drugs | 0.1 | 0.4 | 0.4 |
| Diuretics and potassium sparing agents (C03E) as % of hypertension drugs | 2.3 | 4.2 | 3.7 |
| Diuretics in combination (C02AA52/53) as % of hypertension drugs | 0.0 | 0.7 | 0.5 |
| Reserpine/diuretic and/or vasodilator | 0.0 | 0.0 | 0.0 |
| ACE inhibitors with diuretics (C09BA) as % of hypertension drugs | 0.0 | 0.6 | 0.5 |
| Beta-blocking agents & diuretics (C07B/C/D) as % of hypertension drugs | 0.0 | 0.0 | 0.0 |
| Beta-blocking agents (C07A/B/D) as % of hypertension drugs | 10.9 | 8.4 | 9.0 |
| Calcium-channel blockers (C08) | 11.3 | 8.1 | 8.9 |
| Agents acting on renin-angiotensin system (C09) as % of hypertension drugs | 38.7 | 22.1 | 26.4 |
| Plain ACE inhibitors (C09AA) as % of hypertension drugs | 34.5 | 20.1 | 23.9 |
| ACE inhibitors with diuretics (C09BA) as % of hypertension drugs | 0.0 | 0.6 | 0.5 |
| Anti-adrenergic and other agents as % of hypertension drugs | | | |
| Anti-adrenergic agents - central acting (C02A) as % of hypertension drugs | 6.6 | 15.1 | 12.9 |
| Reserpine (C02AA02) as % of hypertension drugs | 0.0 | 0.1 | 0.1 |
| Reserpine / diuretic and/or vasodilator (C02AA52/53) as % of hypertension drug | | | |
| Methyldopa (C02AB01) as % of hypertension drug | 2.8 | 3.8 | 3.6 |
| Anti-adrenergic agents - peripherally acting (C02C) as % of hypertension drugs | 1.5 | 0.3 | 0.6 |
| Agents acting on arteriolar smooth muscle (C02D) as % of hypertension drugs | 0.0 | 0.6 | 0.5 |

| DRUGS FOR OTHER ATHEROSCLEROSIS OR STROKE-RELATED CONDITIONS Codes: B01AC, C01DA, C01A, C01B | | | |
|---|------|------|------|
| % of persons taking chronic drugs | 10.4 | 7.3 | 8.2 |
| Number of atherosclerosis drugs used | 26 | 46 | 73 |
| Vasodilators - nitrates (C01DA) as % of atherosclerosis drugs (B01AC) as % of atherosclerosis drugs | 16.2 | 27.2 | 23.2 |
| Aspirin (B01AC06) as % of atherosclerosis drugs | 52.3 | 51.8 | 52.0 |
| Cardiac glycosides (C01A) as % of atherosclerosis drugs | 52.3 | 51.1 | 51.5 |
| Anti-arrhythmics (C01B) as % of atherosclerosis drugs | 31.5 | 21.0 | 24.8 |
| | 0.0 | 0.0 | 0.0 |
| DRUGS TAKEN FOR ARTHRITIS | | | |
| % of persons taking chronic drugs | 4.7 | 0.7 | 1.9 |
| Number of arthritis drugs used | 46 | 152 | 197 |
| Non-steroidal anti-inflammatory and anti-rheumatic drug (M01A) as % of arthritis drugs | 77.5 | 97.5 | 92.9 |
| Anti-gout preparations (M04) as % of arthritis drugs | 22.5 | 2.5 | 7.1 |
| Allopurinol (M04AA01) as % of arthritis drugs | 22.5 | 2.4 | 7.1 |
| DRUGS TAKEN FOR OSTEOPOROSIS | | | |
| % of persons taking chronic drugs | 5.5 | 6.8 | 6.4 |
| Number of osteoporosis drugs used | 13 | 36 | 49.0 |
| Calcium supplements (A12A) as % of osteoporosis drugs | 31.3 | 45.6 | 41.9 |
| Drugs affecting mineralization (M05B) as % of osteoporosis drugs | 2.5 | 0.0 | 0.7 |
| Alendronic acid (M05BA04) as % of osteoporosis drugs | 2.5 | 0.0 | 0.7 |
| DRUGS TAKEN FOR EPILEPSY | | | |
| % of persons taking chronic drugs | 6.4 | 4.1 | 4.7 |
| Number of epilepsy drugs used | 16 | 23 | 40 |
| Barbiturates (N03AA) as % of epilepsy drugs | 4.3 | 4.7 | 4.5 |
| Hydantoin derivatives (N03AB) as % of epilepsy drugs | 38.5 | 42.0 | 40.6 |
| Carboxamide derivatives (N03AF) as % of epilepsy drugs | 36.8 | 49.4 | 44.2 |

Tuberculosis

Among adults 15 years and older 0.3 percent reported taking anti-tuberculosis medication. In 1998 this figure was 0.2 percent. A low proportion of respondents on chronic medication, 3 percent, are on TB medication; however, this is twice that reported in the 1998 survey. This may be because many more TB patients take their medication under direct supervision. The rates of patients on TB treatment remain very low. This is of grave concern as there is a marked increase in TB cases, caseloads and mortality in the country. Of the TB drug names presented by the respondents, more were provided by the public than the private sector, although the ratio of private to public sector facilities has increased since the 1998 survey, from 0.3 to 0.6.

Asthma and chronic bronchitis

Less than 2 percent (1.5 percent) of respondents aged 15 years or older use prescribed medication regularly for asthma or chronic bronchitis. In 1998 this figure was 1.7 percent. Of the respondents on chronic drugs, 16 percent are on regular asthma or chronic bronchitis medication, with a slightly higher proportion receiving their medication from the public sector compared to the private sector, a reversal of the 1998 findings. Xanthines followed by systemic anti-cholinergics are the most commonly used anti-asthmatic drugs in both sectors. This is similar to the 1998 findings, but unlike the previous report there is a marked reduction in the use of inhalers in 2003, especially in the private sector. This is of some concern, as inhalers would be expected to be the drug of choice/first-line treatment recommended in the guidelines for South Africa.

Diabetes

Diabetes medication was taken by less than 2 percent of all adult participants in both 1998 and 2003. Diabetes medication accounted for 19 percent of all chronic medication usage. Oral agents are the predominant diabetes medication used, with insulin accounting for nearly a third of treatment in men and less than 10 percent in women. A slightly higher proportion of men than women receive diabetes medication and a slightly higher proportion receive treatment from the public compared to the private sector.

Hyperlipidaemia

Less than half a percent of respondents use lipid-lowering drugs in both 2003 and 1998. This accounts for close to 5 percent of all chronic medications used. It is a higher rate than recorded in 1998, but remains very low considering that the estimated number of South Africans with hyperlipidaemia is 5.7 million.

Hypertension

Between 6 and 7 percent of the respondents in the study are taking chronic medication for hypertension in 2003, while less than 6 percent did so in 1998. Fifty two percent of the chronic drugs used are for hypertension, while 72 percent of respondents using chronic medication are taking antihypertension drugs. In this survey, a higher proportion of chronic medication respondents are using antihypertension drugs (72 percent compared to 57 percent in 1998). More than twice as many women as men report taking chronic medication for hypertension. In 2003 more women use medication for hypertension than men, which accounts for the higher rate of use found in 2003 compared to 1998. Of the respondents on chronic medication, 64 percent of the men and 75 percent of the women are on antihypertension drugs.

Among the men the most frequently used antihypertensive drug classes, including compounds in combination formulations, are ACE inhibitors (39 percent), and followed by diuretics (31 percent), calcium-channel blockers (11 percent) and beta-blockers (11 percent). Among the women the most frequently used antihypertensive drug classes are diuretics (46 percent), followed by ACE inhibitors (22 percent), beta-blockers (8 percent) and calcium-channel blockers (8 percent). These data differ notably from the 1998 report, in that ACE inhibitors have replaced diuretics among men as the most frequently used antihypertensive drug, and that methyldopa and reserpine use have dropped dramatically among women. The increased use of ACE inhibitors, especially among men, may be due to the increased availability of generic and cheaper ACE inhibitors. However, diuretics are still the recommended first-line treatment.

Atherosclerosis- and stroke-related conditions

Included under this heading are drugs used for angina, after a heart attack, a stroke, or for any other heart condition. Beta-blocking agents and calcium antagonists can be used for both angina and hypertension. The data set does not distinguish between angina and hypertension for the use of these two drug classes, and therefore, their use is reported for hypertension.

Of all participants, 0.8 percent have prescribed drugs for these conditions in 2003, while 1 percent was recorded in 1998. These drugs accounted for 4 percent of all chronic medication. More men (10 percent) than women (7 percent) use these classes of drugs, which is not surprising as men suffer from atherosclerosis-related conditions more frequently than women. The most commonly used drug was aspirin, especially in the public sector. Aspirin accounts for 52 percent of drugs used for atherosclerosis-related conditions.

Arthritis

Just over two percent of adult participants have drugs for arthritis. Of the persons taking drugs for chronic conditions, only 2 percent are for arthritis, with women predominating (5 percent). Less than 1 percent of men report using drugs for this condition. Ninety three percent are non-steroidal anti-inflammatory agents, and 7 percent of these are anti-gout medication. It is not possible to describe trends in the use of medications for arthritis as the 1998 SADHS did not include it.

Osteoporosis

Of the adults, less than 1 percent use drugs for osteoporosis, representing almost 6 percent of men and 7 percent of women using chronic medication. Most patients are using calcium supplements for this condition. No comparison is possible since this condition was not included in the 1998 SADHS.

Epilepsy

Of the adults, less than half a percent use drugs for epilepsy, representing 6 percent and 4 percent of men and women respectively. Most people are using phenytoin and carboxamide derivatives as medication. The 1998 SADHS did not include epilepsy, making it impossible to make a comparison.

11.9 Chronic Disease Drug Utilization in Private and Public Sectors

Table 11.12 presents the distribution of the chronic disease drug classes provided by the public and private sectors. Payments made to the private sector include those made by the participant, their family, their employer or their medical aid fund. Forty-seven percent of participants on chronic medication receive their drugs from the private sector, and 53 percent from the public sector health services. This represents a shift from the 1998 report, where the majority of participants (58 percent) received their medication from the private health care sector. The mean number of chronic disease drugs used is 2.2 in the private sector and 2.4 in the public sector, an increase from the 1998 report for both sectors. A larger proportion of participants on chronic medication are taking four or more drugs, both in the private and public sectors (18 percent and 19 percent respectively), a marked increase from 1998, when the figures were 10 percent and 12 percent respectively. In the private sector similar proportions of participants are taking either 1, or 2 to 3 drugs, although in the public sector almost half of the participants are on 2 to 3 drugs.

The ratio of private to public sector chronic drug provision is considerably greater than one for hyperlipidaemia, indicating that drugs for this condition are used almost exclusively in the private sector. The ratio is markedly less than one for tuberculosis, hypertension and atherosclerosis-related conditions, signifying that drugs for these conditions are more frequently used in the public than in the private sector. A similar pattern was observed in the 1998 SADHS.

Diuretics in combination, beta-blockers and calcium-channel blockers are used more in the private than in the public sector, while anti-adrenergic agents, reserpine, methyldopa and diuretics alone are used more frequently in the public sector. Cardiac glycosides usage has markedly decreased in the public sector, resulting in its more frequent use in the private sector. Aspirin use has decreased across both sectors since the 1998 report, but more so in the private sector, resulting in the more frequent use of aspirin in the public sector.

The use of asthma and chronic bronchitis/obstructive pulmonary disease medication occurs slightly more frequently in the public than the private sector, a change from 1998. Adrenergic inhalers and combination medications are still used more frequently in the private sector. The use of steroid inhalers is markedly reduced in the private sector compared to 1998, resulting in its more frequent use in the public sector.

Table 11.12 Public and private sector provision of medication for chronic conditions

Comparison between public and private sector of number of respondents, number of drugs and proportion of type of chronic medication, South Africa 2003

| | Private sector | Public sector | Ratio of private to public |
|--|----------------|---------------|----------------------------|
| Number of people taking drug | 490 | 542 | |
| Number of drugs taken | 1107 | 1332 | |
| Mean number per respondent | 2.2 | 2.4 | |
| SD | 1.4 | 1.4 | |
| % Taking 1 drug | 40.7 | 32.1 | |
| % Taking 2 - 3 drugs | 41.8 | 48.4 | |
| % Taking ≥ 4 drugs | 17.5 | 19.4 | |
| DRUGS FOR CONDITIONS (% of number of drugs used)* | | | |
| TUBERCULOSIS (J04A) | 0.8 | 1.4 | 0.59 |
| ASTHMA AND CHRONIC OBSTRUCTIVE PULMONARY DISEASE MEDICATION (R03) | 6.8 | 7.7 | 0.88 |
| Adrenergic inhalers (R03A) | 0.8 | 0.5 | 1.49 |
| Steroid inhalers (R03BA) | 1.0 | 1.3 | 0.77 |
| Anticholinergic inhalers (R03BB) | 0.0 | 0.1 | 0.00 |
| Systemic anticholinergics (R03C) | 2.2 | 2.3 | 0.95 |
| Xanthines (R03DA) | 2.8 | 3.5 | 0.80 |
| Combinations (R03DA54, R03DA55) | 1.1 | 0.5 | 2.29 |
| DIABETES TOTAL (A10) | 7.6 | 8.4 | 0.90 |
| Insulin (A10A) | 1.4 | 1.2 | 1.15 |
| Oral agents (A10B) | 6.3 | 7.3 | 0.86 |
| Biguanides (A10BA) | 3.3 | 3.2 | 1.01 |
| Sulphonamides (A10BB) | 3.0 | 4.0 | 0.75 |
| HYPERLIPIDAEMIA (C10A) | 2.8 | 0.3 | 9.65 |
| HYPERTENSION TOTAL (C02, C03, C07, C08, C09) | 28.4 | 42.1 | 0.68 |
| Anti-adrenergic agents, centrally acting (C02A) | 2.1 | 6.7 | 0.31 |
| Reserpine-containing agents (C02AA02, C02AA52) | 2.9 | 12.2 | 0.24 |
| Methyldopa (C02AB01) | 0.8 | 1.7 | 0.50 |
| Anti-adrenergic agents - peripherally acting (C02C) | 0.2 | 0.2 | 0.93 |
| Arteriolar smooth muscle agents (C02D) | 0.1 | 0.2 | 0.60 |
| Diuretics (C03A, C03B, C03C, C03D, C03E) ▲ | 10.1 | 19.0 | 0.53 |
| Diuretics in combination (C02AA52, C02AA53, C09BA, C07B, C07C, C07D) ● | 0.4 | 0.0 | 53.36 |
| Total Diuretics (▲+ ●) | 10.5 | 19.0 | 0.56 |
| ACE inhibitors (C09) | 8.8 | 10.0 | 0.88 |
| Beta-blocking agents (C07A, C07B, C07C, C07D) | 3.6 | 2.9 | 1.23 |
| Calcium-channel blockers (C08) | 3.4 | 3.0 | 1.12 |
| DRUGS FOR OTHER ATHEROSCLEROSIS-RELATED CONDITIONS (B01AC, C01DA, C01A, C01B) | 2.5 | 3.4 | 0.75 |
| Vasodilators - nitrates (C01DA) | 0.3 | 1.0 | 0.30 |
| Anti-arrhythmics (C01B) | 0.0 | 0.0 | |
| Cardiac glycosides (C01A) | 1.1 | 0.5 | 2.23 |
| Aspirin (B01AC06) | 1.1 | 1.9 | 0.59 |
| ARTHRITIS (M01, M04) | 7.1 | 8.9 | 0.80 |
| Non-steroidal anti-inflammatory and anti-rheumatic drugs (M01A) | 6.3 | 8.5 | 0.74 |
| Anti-gout preparations (M04) | 0.8 | 0.4 | 2.10 |
| Allopurinol (M04AA01) | 0.8 | 0.4 | 2.06 |
| OSTEOPOROSIS (A12, M05B) | 2.5 | 1.6 | 1.52 |
| Calcium supplements (A12A) | 1.3 | 0.4 | 3.20 |
| Drugs affecting mineralization (M05B) | 0.0 | 0.0 | |
| EPILEPSY (N03) | 1.7 | 1.6 | 1.10 |
| Barbiturates (N03AA) | 0.1 | 0.0 | 10.60 |
| Hydantoin derivatives (N03AB) | 0.7 | 0.6 | 1.06 |
| Carboxamide derivatives (N03AF) | 0.6 | 0.9 | 0.65 |

The denominator for private sector is 1 107 and for public sector it is 1 332.

11.10 Patient Knowledge of their Chronic Disease Drugs

Most of the respondents taking chronic medication for diabetes (89 percent) and hypertension (93 percent) report that they know what the drugs are for, with similar levels of awareness in men and women (Table 11.13). The proportion is lower for arthritis (62 percent). Knowledge of medication used is generally similar in urban and non-urban residents for diabetes and hypertension. With regard to age, there is no difference in knowledge in respondents taking antihypertensive medication, the 45-60 age group know the most for diabetes, and there is decreasing knowledge with increasing age for asthma and chronic bronchitis.

Table 11.13 Knowledge about prescribed medication

Proportion of participants taking medication for selected diseases who know the condition and the medication, South Africa 2003

| Background characteristic | Asthma and chronic bronchitis (R03) | | Diabetes (A10) | | Hypertension (C02, C03, C07, C08, C09) | | Arthritis (M01A, M04) | |
|---------------------------|-------------------------------------|--------|----------------|--------|--|--------|-----------------------|--------|
| | % | Number | % | Number | % | Number | % | Number |
| Sex | | | | | | | | |
| Female | 87.9 | 88 | 87.1 | 95 | 92.0 | 395 | 62.2 | 141 |
| Male | (65.6) | 33 | 92.9 | 46 | 94.0 | 141 | 61.0 | 44 |
| Residence | | | | | | | | |
| Urban | 80.3 | 85 | 89.1 | 119 | 91.8 | 414 | 65.7 | 148 |
| Non-urban | (85.5) | 36 | 88.4 | 22 | 94.9 | 123 | 46.6 | 36 |
| Age | | | | | | | | |
| 15-45 | 85.9 | 46 | 73.1 | 24 | 90.9 | 96 | 71.6 | 41 |
| 45-<60 | (78.0) | 40 | 98.9 | 65 | 92.1 | 242 | 64.2 | 86 |
| 60+ | (80.9) | 35 | 84.0 | 52 | 93.9 | 198 | 51.5 | 57 |
| Total | 81.8 | 121 | 89.0 | 141 | 92.5 | 536 | 61.9 | 184 |

Note: Percentages shown in brackets are based on fewer than 50 respondents.

11.11 Discussion

Health service utilization by adults has not changed much between the 1998 and 2003 surveys, but access to medical aid has declined slightly. Higher proportions of users report dissatisfaction with the health service, with the exception of respondents attended to by traditional healers. For the first time the 2003 SADHS included questions about problems with access to health care to women aged 15-49 years. About half of these women report problems, mostly related to payment, distance and transport. The findings about prescribed medications in the 2003 SADHS are very similar to those in the 1998 SADHS. However, while the utilization of public sector facilities has not changed much, there appears to have been a bit of a shift towards the public sector for the provision of prescribed medications for chronic conditions. It is possible that this could reflect the tendency for patients to revert to the public sector if their benefits from a medical fund are depleted before the year-end.

CHAPTER 12

HYPERTENSION, CHRONIC OBSTRUCTIVE PULMONARY DISEASE AND ASTHMA IN ADULTS

12.1 Introduction

Two conditions, hypertension and chronic lung disease were chosen in the SADHS as indicator conditions to assess the status of chronic disease care in South Africa. The motivation for choosing these two conditions is that they can be measured objectively and reliably by lay interviewers after suitable training. In large community surveys it is easier to determine hypertension and its treatment status than most other chronic conditions or risk factors that require the collection of blood samples or other technically difficult and costly measures. Good quality blood pressure (BP) data can be collected if field workers are properly trained use the correct equipment and if quality control procedures are followed throughout the field work period. It is also possible to collect good quality data on respiratory conditions using standardised questions on symptoms experienced by the respondent.

Several community-based surveys in South Africa (Alberts *et al.*, 2005, Steyn, *et al.*, 1996; Steyn *et al.*, 1986; Steyn, *et al.*, 1993; Metcalf *et al.*, 1996) have found that hypertension is usually inadequately diagnosed and poorly treated. Studies have found similar indications of inadequate care for most of the risk factors for chronic diseases in adults including conditions such as diabetes, hyperlipidaemia and chronic lung diseases (Levitt, *et al.*, 1997; Steyn, *et al.*, 1998).

The 1998 SADHS highlighted that about 20 percent of both adult men and women were hypertensive. For men with hypertension, the level of awareness, taking antihypertensive medication and having controlled BP were lower than for women (Steyn *et al.*, 2001). The 2003 SADHS set out to collect similar data using the equipment and a slightly modified questionnaire. This chapter reviews the quality of the data collected in the 2003 SADHS, and reports the findings related to the BP measurements and the peak flow measurements reflecting lung function. It reports on the distribution of BP and pulse rate in South Africa, along with the treatment status of hypertensive South Africans and the distribution of the related risk factors for hypertension in the community. The chapter also describes the distribution of diagnoses and symptoms related to chronic obstructive pulmonary disease (COPD) and asthma in the South African population aged 15 years and above, and draws comparisons between the 2003 and 1998 findings.

12.2 Hypertension

The impact of untreated or poorly treated hypertension on the health of people is a major contributor to the overall burden of adult diseases in any population. However, the impact of poorly controlled hypertension can be avoided if early detection and cost-effective management of the condition occurs. The major outcomes of poorly treated hypertension and that contribute to this burden of diseases include strokes (cerebrovascular diseases), heart attack (myocardial infarction), kidney disease or failure, as well as heart enlargement due to left ventricular hypertrophy, which could predispose to congestive heart failure (WHO Guidelines Sub-committee, 1999).

The measurement of BP has indeed become much easier since good quality accurate electronic tools have become available. This development led to the decision to include electronically measured BPs in the adult section of the Demographic and Health Survey as a means to identify hypertension in South Africa. In addition, it was decided to study hypertension, its determinants, and treatment status in detail, and to use this as a proxy measure for the overall quality of care provided for adult chronic diseases.

BP measurements for this survey were taken after the participant had been seated for 5 minutes with the use of an Omron M1 electronic BP monitor. Three BP and pulse readings were taken on the left arm resting at heart level. In accordance with accepted definitions (Joint National Committee, 1997) if the second systolic or diastolic BP differed by more than 5 mmHg, the first BP reading was excluded. A BP reading was retained in the data set if the systolic BP was 80 mmHg or higher, and if the systolic BP was at least 15 mmHg higher than the diastolic BP level. Thereafter a mean systolic and diastolic BP was calculated from the remaining BPs. The pulse pressure of each patient was calculated as the difference between these mean systolic and diastolic BPs. In all cases the name of the prescribed medication was recorded by the fieldworker and verified as a medication for hypertension using the Anatomical Therapeutic Chemical Classification (ATC) Index for hypertension medication (WHO Collaborating Centre for Drugs, 1998).

12.3 Blood Pressure Data Quality

Quality BP data is collected in household surveys if the field workers are properly trained to use the right equipment correctly, and if ongoing quality assurance procedures are conducted throughout the data collection period. The recorded BP levels of participants in the 2003 survey, particularly the diastolic BP, were much lower than was recorded in 1998. The consequence of this is that the apparent prevalence rate of hypertension in 2003 was reduced by almost half. This unrealistic finding prompted a series of exploratory analyses to attempt an explanation for this phenomenon. This included assessing whether the risk factor profile was significantly different or whether the use of anti-hypertensive medication had changed.

The pattern of the risk factors for hypertension, overweight, obesity and alcohol use, was mostly unchanged from the findings in 1998 (see Chapter 13). The proportion of respondents for whom anti-hypertension medication was recorded in 1998 and 2003 was similar (Figures 12.1 and 12.2), indicating that there were no major shifts in the management of hypertension.

The major difference between the BP findings in 1998 and 2003 resides predominantly in a reduction in the mean diastolic BP. Figure 12.3 shows the mean systolic and diastolic BP for men and women by age. It can be seen that the values of the diastolic BP of men, and women over 55 years is somewhat lower in 2003 than in 1998. Further analyses showed that the prevalence rate of purely diastolic hypertension was reduced much more than the purely systolic hypertension. The difference could neither be explained by a shift in major risk factors, nor by an increase in the proportion of adults taking anti-hypertensive medication. The instruments used in both surveys were manufactured by a reputable company, OMRON. As many models of their BP equipment are listed by independent international agencies as accurate after testing the equipment, it is likely that the measurements were not taken correctly by the field-workers.

Although the results of the survey are presented in this chapter, caution should be exercised in interpretation as it is likely that the BP data do not reflect the true situation regarding hypertension in South Africa. Furthermore, the proportion of participants with hypertension who were taking drugs was unrealistically increased by the lower BP levels, as was the proportion with controlled BP.

Figure 12.1 Prevalence of hypertension according to medication status, 1998 and 2003 SADHS

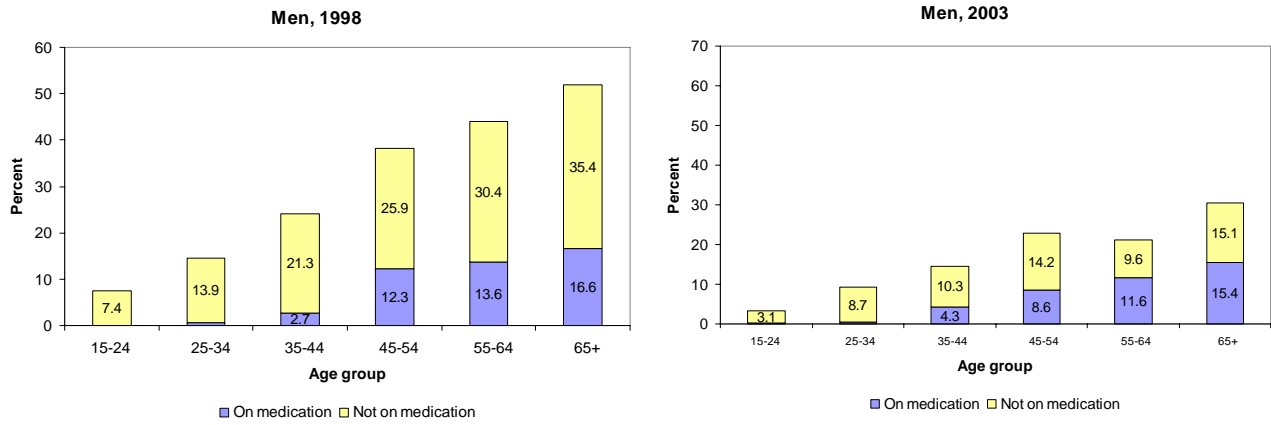


Figure 12.2 Prevalence of hypertension according to medication status, 1998 and 2003 SADHS

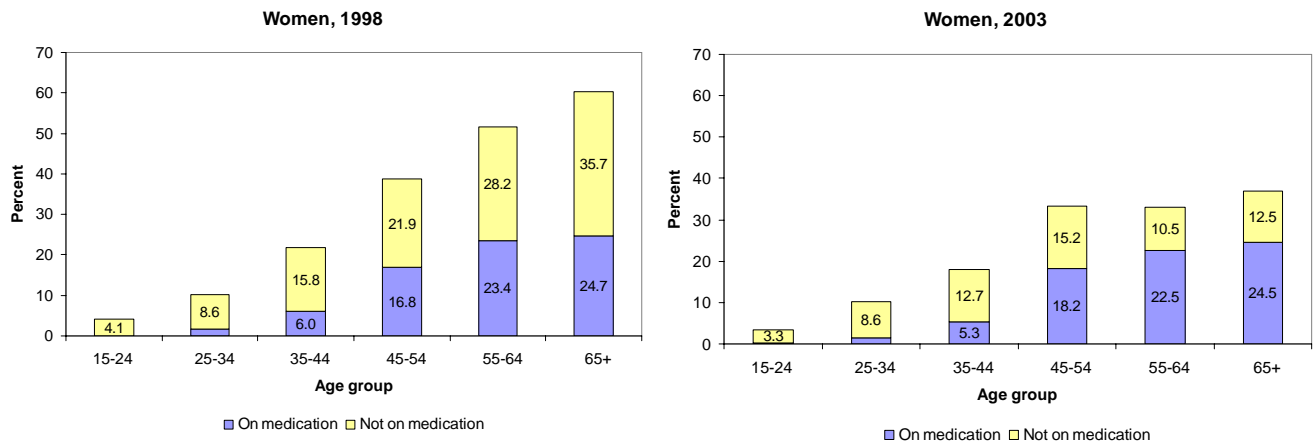
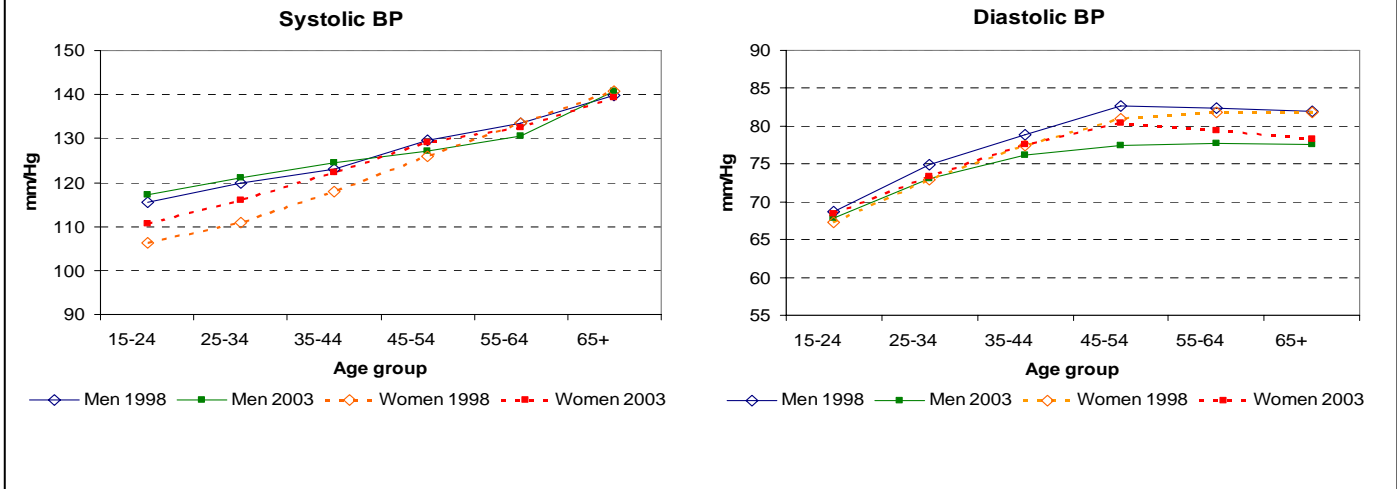


Figure 12.3 Mean systolic and diastolic blood pressure by age and sex, 1998 and 2003 SADHS



12.4 Mean Blood Pressure, Pulse Rates and Pulse Pressure of Adults

Table 12.1 and 12.2 show the mean systolic and diastolic BP (mm/Hg) as well as the mean pulse rate and pulse pressures (mm/Hg) of men and women according to background characteristics. For both men and women the systolic BP increases with age. However in contrast with the 1998 SADHS, the diastolic BP is not found to increase with age. It needs to be kept in mind that the data has not been corrected for the influence of age when considering the other socio-demographic characteristic.

In contrast to the findings in the 1998 SADHS there is little difference between the mean systolic BP for men and women or the diastolic BP. For men and women the highest mean systolic BP level is recorded in the Northern Cape. White men have higher BPs than men from the other population groups, while the lowest rates are recorded for non-urban African men. Indian women have the highest systolic BP, and white women the lowest.

The mean pulse rate of women is higher (77 compared with 72) than that of men with relatively little variation between the different groups of people. The mean pulse pressure also increased with age for both men and women and the mean pulse pressure is higher in men than women. Similarly to the pulse rate, there is little variation between the groups of people considered.

Table 12.1 Mean blood pressure, pulse rate and pulse pressure among men

Mean levels of systolic and diastolic blood pressure (BP) and pulse rates and standard error (SE) of men aged 15 and over, according to background characteristic, South Africa 2003

| Background characteristic | Mean systolic | | Mean diastolic | | Mean pulse | | Mean pulse | | Number |
|---------------------------|---------------|------|----------------|------|------------|------|------------|------|--------|
| | BP | SE | BP | SE | rate | SE | pressure | SE | |
| Age | | | | | | | | | |
| 15-24 | 117 | 0.53 | 68 | 0.52 | 72 | 0.47 | 49 | 0.50 | 1 072 |
| 25-34 | 121 | 0.72 | 73 | 0.58 | 71 | 0.71 | 48 | 0.60 | 679 |
| 35-44 | 124 | 0.97 | 76 | 0.77 | 73 | 0.65 | 48 | 0.68 | 538 |
| 45-54 | 127 | 1.29 | 78 | 0.95 | 73 | 0.90 | 49 | 0.88 | 415 |
| 55-64 | 131 | 1.50 | 78 | 0.95 | 73 | 1.08 | 53 | 1.27 | 284 |
| 65+ | 141 | 1.95 | 77 | 1.14 | 73 | 1.00 | 63 | 1.37 | 244 |
| Residence | | | | | | | | | |
| Urban | 125 | 0.64 | 74 | 0.50 | 73 | 0.45 | 51 | 0.42 | 1 882 |
| Non-urban | 121 | 0.58 | 71 | 0.45 | 71 | 0.42 | 49 | 0.58 | 1 350 |
| Province | | | | | | | | | |
| Western Cape | 125 | 1.43 | 74 | 1.22 | 71 | 0.86 | 50 | 0.68 | 229 |
| Eastern Cape | 126 | 1.40 | 73 | 0.98 | 72 | 0.72 | 53 | 1.13 | 244 |
| Northern Cape | 128 | 1.03 | 75 | 0.93 | 74 | 0.93 | 54 | 0.73 | 346 |
| Free State | 125 | 1.03 | 72 | 0.65 | 73 | 0.85 | 52 | 0.92 | 384 |
| KwaZulu-Natal | 119 | 0.83 | 73 | 0.62 | 72 | 0.76 | 46 | 0.88 | 713 |
| North West | 122 | 1.02 | 72 | 0.92 | 71 | 0.86 | 50 | 0.87 | 332 |
| Gauteng | 126 | 1.24 | 76 | 1.04 | 73 | 0.83 | 51 | 0.71 | 353 |
| Mpumalanga | 122 | 1.13 | 69 | 0.75 | 73 | 0.86 | 53 | 0.95 | 356 |
| Limpopo | 120 | 0.96 | 69 | 0.91 | 71 | 0.92 | 51 | 0.80 | 275 |
| Education | | | | | | | | | |
| No education | 129 | 1.56 | 75 | 1.00 | 73 | 0.96 | 54 | 1.23 | 323 |
| Grades 1-5 | 128 | 1.56 | 75 | 0.89 | 71 | 0.83 | 53 | 1.27 | 347 |
| Grades 6-7 | 123 | 1.13 | 72 | 0.81 | 72 | 0.76 | 51 | 0.85 | 419 |
| Grades 8-11 | 122 | 0.61 | 72 | 0.54 | 73 | 0.53 | 49 | 0.44 | 1 301 |
| Grade 12 | 121 | 0.77 | 73 | 0.71 | 72 | 0.59 | 48 | 0.62 | 598 |
| Higher | 126 | 1.64 | 76 | 1.48 | 71 | 1.09 | 50 | 1.31 | 244 |
| Population group | | | | | | | | | |
| African | 122 | 0.49 | 72 | 0.36 | 72 | 0.35 | 50 | 0.37 | 2491 |
| Afr. urban | 123 | 0.70 | 73 | 0.51 | 72 | 0.49 | 51 | 0.47 | 1225 |
| Afr. non-urban | 121 | 0.59 | 71 | 0.45 | 71 | 0.44 | 49 | 0.59 | 1266 |
| Coloured | 127 | 1.42 | 76 | 1.08 | 74 | 1.27 | 50 | 1.03 | 339 |
| Indian | 128 | 2.15 | 79 | 4.38 | 77 | 1.42 | 49 | 2.85 | 291 |
| White | 131 | 2.20 | 80 | 1.92 | 76 | 1.69 | 51 | 1.37 | 111 |
| Total | 123 | 0.46 | 73 | 0.36 | 72 | 0.33 | 50 | 0.34 | 3 232 |

Only cases with complete information on education and population group included.

These data should be read with caution. See text for details.

Table 12.2 Mean blood pressure, pulse rate and pulse pressure among women

Mean levels of systolic and diastolic blood pressure (BP) and pulse rates and standard error (SE) of women aged 15 and over, according to background characteristic, South Africa 2003

| Background characteristic | Mean systolic BP | SE | Mean diastolic BP | SE | Mean pulse rate | SE | Mean pulse pressure | SE | Number |
|---------------------------|------------------|------|-------------------|------|-----------------|------|---------------------|------|--------|
| Age | | | | | | | | | |
| 15-24 | 111 | 0.41 | 68 | 0.42 | 77 | 0.43 | 42 | 0.48 | 1 262 |
| 25-34 | 116 | 0.63 | 73 | 0.50 | 78 | 0.49 | 43 | 0.60 | 940 |
| 35-44 | 122 | 0.84 | 78 | 0.60 | 78 | 0.55 | 45 | 0.62 | 828 |
| 45-54 | 129 | 0.98 | 80 | 0.56 | 76 | 0.54 | 49 | 0.79 | 736 |
| 55-64 | 132 | 1.50 | 79 | 0.68 | 75 | 0.68 | 53 | 1.19 | 471 |
| 65+ | 139 | 1.63 | 78 | 0.85 | 76 | 0.76 | 61 | 1.25 | 402 |
| Residence | | | | | | | | | |
| Urban | 121 | 0.55 | 75 | 0.32 | 77 | 0.35 | 46 | 0.43 | 2 601 |
| Non-urban | 121 | 0.54 | 74 | 0.33 | 77 | 0.39 | 47 | 0.48 | 2 038 |
| Province | | | | | | | | | |
| Western Cape | 121 | 1.35 | 76 | 0.65 | 76 | 0.74 | 45 | 0.95 | 388 |
| Eastern Cape | 124 | 0.93 | 75 | 0.59 | 76 | 0.71 | 48 | 0.71 | 382 |
| Northern Cape | 126 | 1.08 | 78 | 0.59 | 81 | 0.72 | 48 | 0.75 | 531 |
| Free State | 124 | 1.00 | 76 | 0.66 | 79 | 0.71 | 48 | 0.74 | 528 |
| KwaZulu-Natal | 119 | 0.95 | 74 | 0.51 | 75 | 0.54 | 44 | 0.93 | 885 |
| North West | 122 | 1.17 | 75 | 0.60 | 78 | 0.66 | 47 | 0.95 | 497 |
| Gauteng | 122 | 0.99 | 76 | 0.67 | 78 | 0.73 | 46 | 0.79 | 404 |
| Mpumalanga | 122 | 0.99 | 75 | 0.54 | 77 | 0.70 | 48 | 0.85 | 507 |
| Limpopo | 119 | 1.24 | 71 | 0.77 | 77 | 0.79 | 48 | 0.81 | 517 |
| Education | | | | | | | | | |
| No education | 133 | 1.30 | 79 | 0.69 | 77 | 0.66 | 54 | 0.98 | 658 |
| Grades 1-5 | 128 | 1.25 | 78 | 0.69 | 78 | 0.65 | 49 | 1.02 | 497 |
| Grades 6-7 | 124 | 1.20 | 76 | 0.65 | 78 | 0.64 | 48 | 0.91 | 549 |
| Grades 8-11 | 118 | 0.59 | 74 | 0.41 | 77 | 0.39 | 44 | 0.47 | 1 800 |
| Grade 12 | 116 | 0.71 | 72 | 0.57 | 76 | 0.51 | 44 | 0.65 | 811 |
| Higher | 119 | 1.15 | 74 | 0.90 | 75 | 0.85 | 44 | 0.95 | 324 |
| Population group | | | | | | | | | |
| African | 121 | 0.43 | 75 | 0.27 | 77 | 0.29 | 46 | 0.36 | 3 444 |
| Afr. urban | 121 | 0.63 | 75 | 0.39 | 77 | 0.42 | 46 | 0.50 | 1 580 |
| Afr. non-urban | 121 | 0.55 | 74 | 0.34 | 76 | 0.38 | 47 | 0.50 | 1 864 |
| Coloured | 122 | 1.48 | 77 | 0.72 | 77 | 0.90 | 45 | 1.05 | 626 |
| Indian | 126 | 1.31 | 77 | 0.92 | 78 | 0.84 | 49 | 1.18 | 405 |
| White | 120 | 1.51 | 75 | 0.72 | 75 | 1.00 | 46 | 1.28 | 164 |
| Total | 121 | 0.40 | 75 | 0.23 | 77 | 0.26 | 46 | 0.33 | 4 639 |

Only cases with complete information on education and population group included.

These data should be read with caution. See text for details.

12.5 Prevalence of Hypertension and Treatment Status of Hypertensive Participants

This analysis has made use of the new South African hypertension guideline (Seedat *et al.*, 2006) and the World Health Organisation-International Society of Hypertension Guidelines for the Management of Hypertension (WHO Guidelines Sub-committee, 1999) that suggest that a person be considered as hypertensive with a BP equal or above 140/90 mmHg, and/or taking anti-hypertensive medication. Tables 12.3 and 12.4 show the prevalence of hypertension and the treatment status achieved for hypertensive men and women respectively. Of all the participants, only 9 percent of men and 19 percent of women report having been told by a health professional that they are hypertensive. For men and women identified as having any hypertension (BP equal or above 140/90 mmHg) this figure goes up to 40 percent and 51 percent, respectively. This difference between men and women highlights that more women than men know they suffer from the condition. Considerably fewer hypertensive men in the non-urban areas know that they suffer from the condition than their urban counterparts. Furthermore, hypertensive men in KwaZulu-Natal (27 percent) are the least aware of being hypertensive. These data identify men as having the most undiagnosed hypertension in the country, particularly if they are younger than 45 years and live in certain areas. A similar finding was recorded in 1998. These groups still need to be targeted specifically to improve the rate of hypertension diagnoses.

Of the men, 18 percent are found to have a BP below 140/90 mmHg or are taking appropriate medication. For women the equivalent prevalence is 22 percent. Given the concerns about the BP values, these figures should not be used as indicators of the quality of care.

Table 12.3 Hypertension prevalence and treatment status of men

Percentage of men aged 15 and over who report having hypertension, percentage who are measured as being hypertensive using cut-off points of 140/90, and of those with hypertension: the percentage who report being hypertensive, who use medication, who have controlled their hypertension, according to selected background characteristic, South Africa 2003

| Background characteristic | Prevalence of hypertension | | | Among those with any hypertension, using cut-off of 140/90 mmHg (percentage) | | | |
|---------------------------|----------------------------|---------------------------------------|---------------|--|--------------------|---------------------------------|---------------|
| | Self-reported hypertension | BP \geq 140/90 mmHg \pm treatment | Number of men | Who reported hypertension | Who use medication | With controlled BP <140/90 mmHg | Number of men |
| Age | | | | | | | |
| 15-24 | 1.8 | 3.4 | 1 121 | 35.1 | 8.1 | 8.1 | 38 |
| 25-34 | 3.0 | 9.2 | 735 | 35.2 | 5.5 | 4.5 | 68 |
| 35-44 | 10.3 | 14.6 | 593 | 44.5 | 29.5 | 15.6 | 87 |
| 45-54 | 18.4 | 22.8 | 438 | 41.5 | 37.7 | 22.9 | 100 |
| 55-64 | 18.2 | 21.2 | 297 | 44.5 | 54.5 | 31.2 | 63 |
| 65+ | 26.5 | 30.5 | 240 | 33.3 | 50.4 | 17.4 | 73 |
| Residence | | | | | | | |
| Urban | 10.2 | 14.5 | 2 289 | 45.0 | 35.7 | 18.6 | 331 |
| Non-urban | 6.0 | 8.5 | 1 133 | 21.1 | 23.5 | 13.4 | 97 |
| Province | | | | | | | |
| Western Cape | 14.8 | 18.3 | 337 | 54.7 | 33.6 | 14.8 | 62 |
| Eastern Cape | 9.1 | 10.9 | 367 | 40.6 | 27.1 | 8.1 | 40 |
| Northern Cape | 13.9 | 17.7 | 60 | 40.0 | 43.8 | 15.9 | 11 |
| Free State | 13.3 | 11.6 | 224 | 41.9 | 42.5 | 21.3 | 26 |
| KwaZulu-Natal | 6.3 | 9.7 | 781 | 27.4 | 29.6 | 18.6 | 76 |
| North West | 9.0 | 11.2 | 248 | 33.4 | 30.3 | 21.4 | 28 |
| Gauteng | 9.2 | 17.3 | 914 | 40.0 | 33.1 | 17.8 | 158 |
| Mpumalanga | 3.1 | 6.2 | 209 | 31.2 | 45.4 | 36.3 | 13 |
| Limpopo | 6.6 | 5.4 | 282 | 45.8 | 31.9 | 15.1 | 15 |
| Education | | | | | | | |
| No education | 15.2 | 17.9 | 296 | 35.2 | 32.7 | 16.5 | 53 |
| Grades 1-5 | 10.7 | 14.7 | 335 | 27.7 | 46.3 | 14.0 | 49 |
| Grades 6-7 | 10.6 | 10.9 | 384 | 22.4 | 23.1 | 15.6 | 42 |
| Grades 8-11 | 6.9 | 10.2 | 1 366 | 42.8 | 29.8 | 15.2 | 139 |
| Grade 12 | 6.0 | 10.8 | 703 | 45.0 | 27.7 | 19.6 | 76 |
| Higher | 12.6 | 20.7 | 309 | 46.2 | 41.3 | 22.4 | 64 |
| Population group | | | | | | | |
| African | 6.9 | 10.0 | 2 838 | 36.3 | 26.7 | 17.3 | 283 |
| Afr. urban | 7.6 | 11.0 | 1 747 | 51.2 | 30.0 | 20.0 | 192 |
| Afr. non-urban | 5.7 | 8.3 | 1 091 | 65.7 | 19.6 | 11.6 | 91 |
| Coloured | 15.4 | 16.1 | 268 | 45.0 | 23.0 | 5.5 | 43 |
| Indian | 13.3 | 27.0 | 83 | 44.6 | 43.9 | 20.4 | 22 |
| White | 23.9 | 35.8 | 220 | 47.0 | 57.9 | 23.6 | 79 |
| Total | 8.8 | 12.5 | 3 422 | 39.6 | 33.0 | 17.5 | 428 |

22 cases had education unknown, and 13 cases reported population group as "Other", or are missing.

These data should be read with caution. See text for details.

Table 12.4 Hypertension prevalence and treatment status of women

Percentage of women aged 15 and over who report having hypertension, percentage who are measured as being hypertensive using cut-off points of 140/90 and of those with hypertension: the percentage who report being hypertensive, who use medication, who have controlled their hypertension, according to selected background characteristic, South Africa 2003

| Background characteristic | Prevalence of hypertension | | | Among those with any hypertension, using cut-off of 140/90 mmHg (percentage) | | | |
|---------------------------|-----------------------------|----------------------------------|-----------------|--|--------------------|---------------------------------|-----------------|
| | Self-reported hyper-tension | BP \geq 140/90 mmHg +treatment | Number of women | Who reported hyper-tension | Who use medication | With controlled BP <140/90 mmHg | Number of women |
| Age | | | | | | | |
| 15-24 | 3.2 | 3.5 | 1 256 | 33.8 | 6.6 | 0.0 | 44 |
| 25-34 | 8.6 | 10.1 | 979 | 40.1 | 14.4 | 9.0 | 99 |
| 35-44 | 18.3 | 18.0 | 883 | 54.0 | 29.5 | 16.8 | 159 |
| 45-54 | 34.7 | 33.4 | 714 | 57.9 | 54.6 | 28.2 | 238 |
| 55-64 | 38.7 | 33.0 | 483 | 55.9 | 68.2 | 29.3 | 159 |
| 65+ | 43.8 | 37.0 | 378 | 42.7 | 66.2 | 21.9 | 140 |
| Residence | | | | | | | |
| Urban | 21.0 | 19.8 | 2 995 | 56.0 | 49.7 | 23.1 | 594 |
| Non-urban | 15.2 | 14.4 | 1 697 | 38.5 | 40.8 | 17.6 | 245 |
| Province | | | | | | | |
| Western Cape | 23.4 | 21.4 | 573 | 64.1 | 59.2 | 28.0 | 122 |
| Eastern Cape | 22.0 | 19.2 | 562 | 49.9 | 50.7 | 19.3 | 108 |
| Northern Cape | 25.1 | 27.9 | 92 | 57.0 | 49.6 | 22.3 | 26 |
| Free State | 26.6 | 23.9 | 313 | 49.0 | 55.0 | 23.8 | 75 |
| KwaZulu-Natal | 11.1 | 12.9 | 888 | 43.9 | 31.3 | 15.4 | 115 |
| North West | 20.7 | 18.7 | 373 | 49.1 | 58.1 | 25.8 | 70 |
| Gauteng | 21.2 | 20.7 | 1 074 | 53.1 | 46.4 | 21.1 | 223 |
| Mpumalanga | 14.7 | 14.8 | 300 | 41.8 | 31.4 | 12.0 | 44 |
| Limpopo | 14.3 | 11.0 | 519 | 39.2 | 36.3 | 24.0 | 57 |
| Education | | | | | | | |
| No education | 32.4 | 26.7 | 578 | 43.6 | 51.9 | 18.4 | 154 |
| Grades 1-5 | 31.4 | 27.5 | 448 | 47.0 | 50.3 | 22.2 | 123 |
| Grades 6-7 | 25.5 | 20.0 | 501 | 59.0 | 59.0 | 23.6 | 100 |
| Grades 8-11 | 15.9 | 16.1 | 1 873 | 53.9 | 44.7 | 21.6 | 301 |
| Grade 12 | 8.1 | 9.6 | 923 | 43.4 | 24.8 | 14.1 | 89 |
| Higher | 11.8 | 15.2 | 344 | 63.7 | 44.7 | 28.3 | 52 |
| Population group | | | | | | | |
| African | 18.8 | 17.4 | 3 857 | 50.3 | 45.6 | 20.7 | 669 |
| Afr. urban | 22.2 | 19.8 | 2 250 | 39.64 | 48.9 | 22.1 | 445 |
| Afr. non-urban | 14.0 | 13.9 | 1 607 | 60.44 | 39.0 | 17.9 | 224 |
| Coloured | 24.8 | 21.0 | 456 | 60.4 | 53.7 | 23.9 | 96 |
| Indian | 19.6 | 29.1 | 112 | 56.0 | 54.6 | 24.2 | 33 |
| White | 9.0 | 15.3 | 257 | 32.3 | 48.6 | 28.0 | 39 |
| Total | 18.9 | 17.9 | 4 693 | 50.9 | 47.1 | 21.5 | 839 |

17 cases had education unknown, and 12 cases reported population group as "Other" or are missing.

These data should be read with caution. See text for details.

As expected, older South Africans are more hypertensive than younger ones. The urban rates were higher than the non-urban rates. The highest prevalence rates for hypertension in men are found in the Western Cape, followed by Northern Cape and Gauteng. For women the highest rates were recorded in the Northern Cape followed by Free State, Western Cape and Gauteng. The lowest rates were recorded in Limpopo, Mpumalanga and KwaZulu-Natal. For men the highest rates were found in the most educated group, while for women the highest rates were in the least educated women. It must be noted that these figures have not been adjusted for age. For men the highest rate is found in the white population group, followed by Indians and coloureds, while for women the highest rates are found in the Indian and coloured groups.

In this survey strict criteria were used to identify those participants who were using anti-hypertensive medication. For many surveys self-reported anti-hypertensive medication use has been used to identify those hypertensive participants who had controlled BP, but were identified as being hypertensive by virtue of the fact that they reported using medication. Thus the data might

not be comparable with some other surveys. Although it is impossible to interpret these results, it is disturbing to note the poor level of hypertension control in young patients with hypertension compared to older patients. This was also found in the 1998 survey. As these hypertensive patients have the longest working life ahead of them as members of the labour force of the country, it can be argued that they require even better control than older patients in order to prevent related complications such as organ damage. For men the worst level of control is reported in the young men as well as the African and coloured group, while for women it is found in young women and the non-urban African women.

12.6 Hypertension Risk Factors

Tables 12.5 and 12.6 show the salt use behaviour of all participants with hypertension compared with the overall population along with other hypertension-related risk factors. Salt-seeking behaviour is reported more frequently in men than women, including the hypertensive participants. The most common features of the salt-seeking behaviour include the fact that younger participants report consuming more salt than older participants, as generally do urban participants compared to non-urban participants. In fact, the urban African participants report markedly high salt-seeking behaviour, as do those with more education. It has been suggested that the African people in South Africa are more salt-sensitive than other population groups (Worthington *et al.*, 1993). Should this be the case, it is of great concern that the younger urban Africans are consuming so much more salt than other groups, as they may be more prone to develop hypertension when they grow older. Already this group has a significant level of hypertension, and they suffer the consequences of high stroke rates.

Table 12.5 Hypertension risk factors among men

Percentage of all men and men with hypertension aged 15 or over who eat salty foods, who add salt before tasting, and who eat salty snacks more than three times a week and, among those with hypertension, percentage who drink alcohol, who had their blood pressure (BP) measured in the previous year, who say they know it is high, who are obese, according to selected background characteristic, South Africa 2003

| Background characteristic | Among all men, percentage | | | | Among those with hypertension, percentage | | | | | | | | |
|---------------------------|---------------------------|----------------------------------|------------------------------------|--------|---|----------------------------------|------------------------------------|-------------------|-------------------|--|------------------------------------|---------------|--------|
| | Who eat food very salty | Who add salt before tasting food | Who eat salty snacks >3 times/week | Number | Who eat food very salty | Who add salt before tasting food | Who eat salty snacks >3 times/week | Who drink alcohol | Who abuse alcohol | Who had their BP measured during last year | Who say they know their BP is high | Who are obese | Number |
| Age | | | | | | | | | | | | | |
| 15-24 | 10.2 | 5.7 | 47.7 | 1 121 | 0.0 | 21.9 | 49.1 | 33.4 | 12.7 | 24.8 | 14.7 | 7.6 | 38 |
| 25-34 | 12.9 | 6.9 | 40.3 | 735 | 16.3 | 7.6 | 43.5 | 51.1 | 39.7 | 34.0 | 15.9 | 6.0 | 68 |
| 35-44 | 15.1 | 7.5 | 33.2 | 593 | 12.7 | 9.7 | 34.2 | 52.1 | 19.7 | 53.6 | 40.3 | 23.1 | 87 |
| 45-54 | 15.2 | 9.7 | 28.2 | 438 | 16.4 | 17.1 | 32.8 | 50.4 | 23.4 | 51.9 | 49.5 | 10.9 | 100 |
| 55-64 | 13.1 | 4.9 | 22.6 | 297 | 13.1 | 4.7 | 19.9 | 40.9 | 21.2 | 61.8 | 50.0 | 25.3 | 63 |
| 65+ | 7.6 | 2.8 | 11.2 | 240 | 9.7 | 4.2 | 9.8 | 39.1 | 22.6 | 41.1 | 56.0 | 9.6 | 73 |
| Residence | | | | | | | | | | | | | |
| Urban | 12.8 | 7.8 | 40.0 | 2 289 | 12.2 | 12.1 | 31.7 | 51.8 | 24.8 | 53.2 | 43.3 | 16.3 | 331 |
| Non-urban | 11.3 | 3.8 | 29.1 | 1 133 | 13.7 | 5.0 | 25.8 | 26.2 | 20.4 | 24.2 | 30.5 | 6.9 | 97 |
| Province | | | | | | | | | | | | | |
| Western Cape | 8.5 | 7.8 | 28.9 | 337 | 11.6 | 13.3 | 30.5 | 65.4 | 35.5 | 61.3 | 46.5 | 18.9 | 62 |
| Eastern Cape | 14.9 | 4.6 | 25.3 | 367 | 16.3 | 2.7 | 24.4 | 31.9 | 43.7 | 40.6 | 43.3 | 5.4 | 40 |
| Northern Cape | 22.0 | 5.5 | 19.0 | 60 | 17.2 | 6.9 | 12.9 | 50.5 | 42.5 | 52.9 | 42.0 | 16.4 | 11 |
| Free State | 11.8 | 5.3 | 36.3 | 224 | 8.4 | 2.3 | 28.1 | 51.3 | 33.1 | 38.0 | 49.4 | 19.0 | 26 |
| KwaZulu-Natal | 5.6 | 3.8 | 29.1 | 781 | 6.2 | 3.7 | 22.7 | 8.8 | 6.4 | 30.0 | 35.9 | 5.1 | 76 |
| North West | 11.7 | 2.8 | 27.7 | 248 | 4.9 | 2.3 | 10.3 | 55.7 | 35.5 | 37.4 | 47.4 | 15.7 | 28 |
| Gauteng | 18.8 | 12.2 | 54.2 | 914 | 17.8 | 19.2 | 44.1 | 59.9 | 18.2 | 52.9 | 37.3 | 18.4 | 158 |
| Mpumalanga | 11.5 | 4.1 | 23.1 | 209 | 7.9 | 4.0 | 17.6 | 33.0 | 12.5 | 55.1 | 22.1 | 9.1 | 13 |
| Limpopo | 10.6 | 2.7 | 43.2 | 282 | 6.0 | 0.0 | 6.0 | 27.1 | 28.9 | 41.0 | 50.0 | 12.0 | 15 |
| Education | | | | | | | | | | | | | |
| No education | 11.1 | 4.3 | 23.3 | 296 | 10.3 | 8.0 | 10.5 | 40.5 | 23.4 | 31.5 | 56.3 | 9.9 | 53 |
| Grades 1-5 | 13.4 | 6.0 | 27.0 | 335 | 9.5 | 1.5 | 23.3 | 22.3 | 34.3 | 43.1 | 44.6 | 9.4 | 49 |
| Grades 6-7 | 15.8 | 4.3 | 35.0 | 384 | 14.9 | 16.0 | 41.3 | 49.3 | 23.3 | 37.5 | 28.2 | 20.3 | 42 |
| Grades 8-11 | 13.8 | 7.3 | 41.4 | 1 366 | 14.1 | 14.1 | 32.6 | 45.8 | 27.6 | 45.2 | 39.7 | 11.5 | 139 |
| Grade 12 | 7.7 | 6.1 | 38.5 | 703 | 13.3 | 11.8 | 34.6 | 47.7 | 21.1 | 52.4 | 33.4 | 23.7 | 76 |
| Higher | 11.1 | 7.9 | 33.0 | 309 | 11.0 | 7.2 | 35.0 | 67.3 | 11.8 | 64.1 | 41.4 | 13.1 | 64 |
| Population group | | | | | | | | | | | | | |
| African | 12.3 | 5.4 | 38.6 | 2 838 | 10.8 | 7.6 | 34.1 | 34.0 | 26.3 | 33.7 | 35.9 | 10.4 | 283 |
| Afr. urban | 13.0 | 6.4 | 44.5 | 1 747 | 9.2 | 8.7 | 38.5 | 39.4 | 29.8 | 40.0 | 40.0 | 13.0 | 192 |
| Afr. non-urban | 11.3 | 4.0 | 29.2 | 1 091 | 14.3 | 5.3 | 25.0 | 22.6 | 18.9 | 20.4 | 27.2 | 4.8 | 91 |
| Coloured | 15.2 | 10.2 | 31.2 | 268 | 13.6 | 10.4 | 29.7 | 59.1 | 39.9 | 50.6 | 35.4 | 19.5 | 43 |
| Indian | 4.2 | 5.1 | 28.0 | 83 | 0.0 | 13.8 | 41.3 | 61.0 | 6.9 | 82.6 | 40.5 | 3.8 | 22 |
| White | 12.8 | 16.5 | 18.2 | 220 | 21.8 | 19.9 | 14.3 | 78.0 | 10.9 | 80.8 | 59.6 | 28.0 | 79 |
| Total | 12.3 | 6.5 | 36.4 | 3 422 | 12.6 | 10.5 | 30.4 | 46.0 | 23.8 | 46.6 | 40.5 | 14.2 | 428 |
| | | | | | | | | | | | | | 20.8 |

22 cases had education unknown, and 13 cases reported population group as "Other".

Table 12.6 Hypertension risk factors among women

Percentage of all women, and women with hypertension aged 15 or over who eat salty foods, who add salt before tasting and who eat salty snacks more than three times a week and, among those with hypertension, percentage who drink alcohol, who had their blood pressure (BP) measured in the previous year, who say they know it is high, who are obese, according to selected background characteristic, South Africa 2003

| Background characteristic | Among all men, percentage | | | | Among those with hypertension, percentage | | | | | | | | |
|---------------------------|---------------------------|----------------------------------|------------------------------------|--------|---|----------------------------------|------------------------------------|-------------------|-------------------|--|------------------------------------|---------------|--------|
| | Who eat food very salty | Who add salt before tasting food | Who eat salty snacks >3 times/week | Number | Who eat food very salty | Who add salt before tasting food | Who eat salty snacks >3 times/week | Who drink alcohol | Who abuse alcohol | Who had their BP measured during last year | Who say they know their BP is high | Who are obese | Number |
| Age | | | | | | | | | | | | | |
| 15-24 | 13.2 | 4.1 | 48.4 | 1 256 | 9.6 | 0.0 | 35.5 | 3.4 | 2.2 | 9.9 | 13.2 | 6.6 | 44 |
| 25-34 | 12.1 | 6.0 | 38.6 | 979 | 10.7 | 7.1 | 32.0 | 9.8 | 5.9 | 39.9 | 27.4 | 8.5 | 99 |
| 35-44 | 10.9 | 3.9 | 33.1 | 883 | 10.0 | 7.1 | 29.8 | 28.3 | 10.2 | 51.2 | 53.3 | 18.3 | 159 |
| 45-54 | 10.6 | 2.4 | 25.3 | 714 | 6.4 | 0.9 | 20.4 | 16.1 | 10.1 | 61.5 | 69.1 | 26.8 | 238 |
| 55-64 | 9.2 | 1.9 | 17.0 | 483 | 6.8 | 2.2 | 13.8 | 17.2 | 9.5 | 66.6 | 74.9 | 23.1 | 159 |
| 65+ | 4.6 | 2.4 | 13.5 | 378 | 4.9 | 5.3 | 11.9 | 12.1 | 5.3 | 59.0 | 72.7 | 25.3 | 140 |
| Residence | | | | | | | | | | | | | |
| Urban | 11.9 | 4.4 | 37.3 | 2 995 | 7.8 | 4.4 | 23.5 | 19.1 | 9.3 | 60.5 | 63.1 | 24.0 | 594 |
| Non-urban | 9.6 | 2.8 | 28.0 | 1 697 | 7.0 | 2.2 | 17.3 | 10.4 | 5.9 | 41.3 | 52.5 | 13.8 | 245 |
| Province | | | | | | | | | | | | | |
| Western Cape | 13.4 | 3.8 | 39.0 | 573 | 2.2 | 4.5 | 32.0 | 19.9 | 7.6 | 78.6 | 74.9 | 27.8 | 122 |
| Eastern Cape | 19.4 | 3.4 | 20.7 | 562 | 17.3 | 2.8 | 9.8 | 11.0 | 7.0 | 60.2 | 70.4 | 23.7 | 108 |
| Northern Cape | 20.7 | 4.9 | 22.6 | 92 | 18.2 | 2.4 | 12.3 | 24.4 | 15.0 | 62.5 | 56.0 | 20.0 | 26 |
| Free State | 11.7 | 3.4 | 28.8 | 313 | 4.6 | 0.8 | 14.7 | 28.5 | 19.9 | 56.1 | 66.6 | 18.4 | 75 |
| KwaZulu-Natal | 7.6 | 2.4 | 31.7 | 888 | 5.5 | 3.1 | 18.6 | 2.4 | 0.7 | 31.9 | 34.8 | 9.3 | 115 |
| North West | 9.7 | 2.4 | 22.5 | 373 | 9.0 | 2.2 | 6.9 | 23.7 | 14.2 | 53.0 | 65.6 | 20.1 | 70 |
| Gauteng | 10.4 | 7.0 | 43.3 | 1 074 | 6.5 | 6.4 | 30.3 | 17.8 | 6.2 | 55.7 | 60.2 | 25.4 | 223 |
| Mpumalanga | 5.7 | 2.3 | 27.9 | 300 | 9.4 | 2.7 | 16.5 | 10.7 | 7.2 | 43.6 | 52.0 | 16.4 | 44 |
| Limpopo | 8.8 | 2.1 | 43.9 | 519 | 4.9 | 1.6 | 30.1 | 20.6 | 11.5 | 42.4 | 50.5 | 16.9 | 57 |
| Education | | | | | | | | | | | | | |
| No education | 9.1 | 1.6 | 17.3 | 578 | 8.3 | 2.8 | 16.7 | 15.4 | 9.7 | 48.4 | 65.2 | 22.4 | 154 |
| Grades 1-5 | 13.0 | 1.8 | 26.9 | 448 | 10.4 | 0.2 | 24.8 | 17.0 | 13.9 | 51.3 | 62.0 | 19.6 | 123 |
| Grades 6-7 | 10.6 | 4.2 | 29.0 | 501 | 10.5 | 2.7 | 15.6 | 12.0 | 10.3 | 61.4 | 69.0 | 28.1 | 100 |
| Grades 8-11 | 10.6 | 4.2 | 39.2 | 1 873 | 5.1 | 4.8 | 21.0 | 14.7 | 7.0 | 58.2 | 61.2 | 25.2 | 301 |
| Grade 12 | 11.9 | 5.8 | 40.8 | 923 | 5.0 | 8.9 | 33.6 | 13.6 | 1.0 | 37.4 | 38.0 | 8.6 | 89 |
| Higher | 11.8 | 2.6 | 31.4 | 344 | 5.7 | 2.6 | 22.4 | 44.9 | 6.6 | 68.7 | 43.3 | 11.7 | 52 |
| Population group | | | | | | | | | | | | | |
| African | 10.4 | 3.4 | 35.9 | 3 857 | 7.7 | 3.0 | 23.2 | 15.9 | 10.1 | 55.8 | 63.7 | 25.4 | 669 |
| Afr. urban | 10.9 | 3.9 | 41.3 | 2 250 | 7.8 | 3.4 | 26.0 | 9.8 | 5.4 | 38.7 | 49.9 | 12.0 | 445 |
| Afr. non-urban | 9.7 | 2.7 | 28.3 | 1 607 | 7.4 | 2.2 | 17.7 | 16.9 | 12.3 | 86.6 | 70.2 | 26.9 | 224 |
| Coloured | 13.4 | 5.0 | 31.7 | 456 | 8.1 | 7.9 | 19.0 | 16.6 | 2.4 | 100.0 | 53.5 | 13.3 | 96 |
| Indian | 12.8 | 1.0 | 16.8 | 112 | 4.6 | 1.2 | 6.1 | 62.5 | 0.0 | 13.2 | 54.2 | 16.5 | 33 |
| White | 15.8 | 9.3 | 14.7 | 257 | 7.8 | 7.3 | 14.9 | 0.0 | 0.0 | 27.4 | 100.0 | 0.0 | 39 |
| Total | 11.1 | 3.8 | 33.9 | 4 693 | 7.6 | 3.7 | 21.7 | 16.6 | 8.3 | 54.9 | 60.0 | 21.0 | 839 |

17 cases had education unknown, and 12 cases reported population group as "Other".

When the alcohol consumption pattern of the hypertensive men and women is compared with that of non hypertensive participants it is clear that more hypertensive participants consume alcohol at present than is the case for other participants. Of the hypertensive men, 46 percent consume alcohol and of hypertensive women 17 percent consume alcohol. The CAGE questionnaire identifies people who may have a pattern of excess alcohol use. The prevalence of CAGE-positive hypertensive men and women, respectively, is 24 percent and 8 percent. In the 1998 SADHS these figures were 29 percent and 12 percent respectively. A possible explanation for the slightly lower rates in 2003 could be as a higher proportion of the patients with hypertension identified in 2003 were diagnosed and were receiving treatment. As in 1998 these data suggest that heavy alcohol use is associated with being hypertensive, particularly in men in South Africa. This finding is an issue that needs consideration when South Africa formulates a policy related to alcohol consumption and the management of hypertension.

The prevalence of obesity (BMI \geq 30) in the hypertensive men and women, respectively is 21 percent and 46 percent. When comparing this to Tables 13.10 and 13.11, it is clear that this obesity prevalence in hypertensives is much higher than in the general study population, where it is 9 percent for men and 27 percent for women. This association is well established and identifies the need to respond to the high rates of obesity among South Africans and, in particular, in African women.

12.7 Comparison of BP Control between Public and Private Health Care Services

From the preceding data and the different patterns of prescribed drug use for hypertension between the private and public health care sector, the question arises as to which of these sectors are achieving the best hypertension control. In Table 12.7 the data presented attempt to answer this question by comparing hypertension control between the private and public health care sector. As stated earlier the current guidelines for hypertension definition and control are based on a BP level of 140/90 mmHg. Table 12.7 shows the prevalence of controlled BP in the public and private sector of those patients with hypertension, and the subsection of patients on anti-hypertensive drugs. In addition, the table shows the comparison of uncontrolled BP in the two sectors, and the total group of patients with hypertension and only those who are taking anti-hypertensive medication. In both groups of patients the level of BP control is better in the private sector than in the public sector, and the level of uncontrolled BP higher in the public than private sector.

| Table 12.7 Public versus private sector source of hypertension medication | | | |
|---|---------------|-------------------------------|--------|
| Percentage of hypertensive patients who received their medication from either the public or private sector, according to level of control of blood pressure (BP), South Africa 2003 | | | |
| Percentage of hypertensives who received drugs from: | Controlled BP | | Number |
| | < 140/90 mmHg | Uncontrolled BP \geq 140/90 | |
| Among those taking medication | | | |
| Public sector | 46.3 | 51.0 | 447 |
| Private sector | 53.9 | 42.7 | 89 |
| Among those with any hypertension | | | |
| Public sector | 19.1 | 79.8 | 1 082 |
| Private sector | 26.2 | 72.1 | 183 |

12.8 Chronic Obstructive Pulmonary Diseases and Asthma

Chronic obstructive pulmonary disease (COPD) and asthma make up a large part of chronic lung disease in developed countries, and increasingly in developing countries. COPD includes chronic bronchitis, a condition characterised by excessive mucus production in the airways (bronchi) and emphysema, in which there is damage to the gas exchange part of the lung. Asthma is a condition which overlaps with COPD in adults, but in which the limitation of airflow is reversible. COPD and asthma result in episodic or persistent symptoms including wheeze, cough, phlegm and/or breathlessness.

These chronic conditions account for a huge burden of morbidity, health service and medication costs. The mortality burden of COPD is also rising, particularly in middle and low income countries. Worldwide in 2001, COPD was the fifth most common cause of death (Pauwels & Rabe, 2004) responsible for 4.7 percent of deaths and 2.0 percent of disability adjusted life years (DALYs) (World Health Organization, 2002). A 30-year projection from 1990 predicted a steady rise in the number of COPD deaths to the third most common cause worldwide by 2020 (Murray & Lopez, 1997). Strikingly, most of the projected DALY burden will fall on developing countries (Enarson, 2004). There is, however, a scarcity of data from Africa.

In South Africa, respiratory disease as a group, but excluding tuberculosis, was ranked as the seventh most important cause of DALYs (4.7 percent) in 2000 (Bradshaw *et al.*, 2003). COPD alone was responsible for 2.3 percent of all deaths in 2000, although only 1.1 percent of years of life lost, indicating its concentration at older ages (Bradshaw *et al.*, 2004). The true proportion of deaths to which COPD contributes is almost certainly higher, since COPD is likely to be under-certified as an underlying cause where the immediate cause is stated as respiratory infection.

Asthma is not ranked among the top fifteen causes of death globally, as it is largely an adequately controlled disease in developed countries. It ranked only at 30th as a cause of DALYs in 2001 (World Health Organization, 2002), responsible for one percent of DALYs lost (comparable to diabetes) and 0.4 percent of all deaths (Global Initiative for Asthma, 2002, 2004). In South Africa, asthma ranked somewhat higher, at 13th as a cause of death (1.5 percent of all deaths) and 18th as a cause of years of life lost (0.9 percent) (Bradshaw *et al.*, 2004). It is notable that while South Africa is ranked 25th worldwide in the prevalence of asthma (estimated at 8.1 percent over all ages), it runs fourth in asthma mortality rate in the 5-34 year age group, at approximately 1.5 per 100 000 (Masoli *et al.*, 2003). Similarly, the asthma case fatality rate in South Africa is reported as being the fifth highest in the world at 18.5 per 100 000 asthmatics (Masoli *et al.*, 2003).

12.9 Self-reporting of respiratory diagnoses

These diagnoses formed part of a list of chronic conditions in the questionnaire prefaced by the words “Has a doctor or nurse or health worker at a clinic or hospital told you have or have had any of the following conditions?”

“*Emphysema/bronchitis*”

Self-reporting of these conditions is an unreliable guide to the prevalence of chronic lung disease for a variety of reasons. First, use of diagnostic terms reflects health service access, which in South Africa varies considerably by socio-economic status and geography. A term such as “emphysema” (which refers to changes in the lung seen on x-ray and under the microscope) is likely to be used inconsistently by medical practitioners based on varying clinical criteria. In recent decades, the term chronic obstructive lung disease (COPD), which includes both emphysema and chronic bronchitis, has gained prominence in official classifications and in authoritative recommendations (Pauwels *et*

al., 2001). Finally, spirometric lung function testing, which is essential for the diagnosis of COPD, is usually available only in specialist facilities.

“Bronchitis” is a non-specific term that would elicit reports of acute bronchitis as well as chronic bronchitis. Acute bronchitis is a common ailment, often a mild and self-limiting viral infection, which may occur without underlying chronic disease. Finally, asthma in adults is frequently misdiagnosed as bronchitis.

The self-reported rates of emphysema/bronchitis (Tables 10.2 and 10.3) are 2 percent in men and 2.6 percent in women. These are lower than the comparable figures reported in the 1998 SADHS of 4.2 percent among men and 4.8 percent among women. Because there are so many factors influencing the response to this question, it is difficult to interpret this decline. The overall prevalences are also lower (non age-standardised) than the estimated 4.5 percent of men and 6.4 percent in women in the United States population who reported in 2003 “ever having been diagnosed with emphysema or having been diagnosed with chronic bronchitis in the previous 12 months” (United States Department of Health and Human Services, 2005). The South African age-specific prevalences are also lower for each gender and age stratum.

In looking at the stratified results (without formal analysis), the prevalence of self-reported emphysema/bronchitis appears to be associated with increasing age, urban residence and lower educational level. In population group comparison, these diagnoses appear less frequently among Africans than other groups.

Table 12.8 Symptoms of lung disease

Percentage of men and women aged 15 years and over who report symptoms of airflow limitation or chronic bronchitis or who have abnormal peak flow rates, according to selected background characteristic, South Africa 2003

| Background characteristic | MEN | | | | WOMEN | | | |
|---------------------------|-----------------------------|--------------------|--------------------------|---------------|-----------------------------|--------------------|--------------------------|-----------------|
| | Airflow limitation symptoms | Chronic bronchitis | Abnormal peak flow rates | Number of men | Airflow limitation symptoms | Chronic bronchitis | Abnormal peak flow rates | Number of women |
| Age | | | | | | | | |
| 15-24 | 4.8 | 0.7 | 6.0 | 1 121 | 5.7 | 1.3 | 8.7 | 1 256 |
| 25-34 | 5.9 | 1.8 | 7.3 | 735 | 6.4 | 1.2 | 9.8 | 979 |
| 35-44 | 6.5 | 2.2 | 8.2 | 593 | 7.2 | 2.5 | 10.0 | 883 |
| 45-54 | 10.2 | 4.8 | 11.7 | 438 | 11.5 | 2.6 | 11.2 | 714 |
| 55-64 | 11.9 | 4.3 | 8.6 | 297 | 10.7 | 2.8 | 13.7 | 483 |
| 65+ | 12.8 | 4.6 | 10.3 | 240 | 12.5 | 2.7 | 18.8 | 378 |
| Residence | | | | | | | | |
| Urban | 7.8 | 2.5 | 9.4 | 2 289 | 8.7 | 1.6 | 13.8 | 2 995 |
| Non-urban | 6.1 | 1.9 | 4.9 | 1 133 | 7.0 | 2.6 | 5.8 | 1 697 |
| Province | | | | | | | | |
| Western Cape | 14.2 | 5.3 | 11.8 | 337 | 12.5 | 2.9 | 14.4 | 573 |
| Eastern Cape | 9.8 | 5.5 | 17.4 | 367 | 11.2 | 4.0 | 17.7 | 562 |
| Northern Cape | 9.6 | 3.3 | 14.7 | 60 | 10.8 | 1.9 | 22.0 | 92 |
| Free State | 11.1 | 2.5 | 8.5 | 224 | 7.7 | 2.5 | 10.0 | 313 |
| KwaZulu-Natal | 1.4 | 0.1 | 3.2 | 781 | 3.5 | 0.0 | 3.8 | 888 |
| North West | 7.4 | 1.6 | 5.3 | 248 | 7.8 | 3.6 | 7.4 | 373 |
| Gauteng | 7.5 | 2.1 | 9.7 | 914 | 6.5 | 0.8 | 17.0 | 1 074 |
| Mpumalanga | 7.7 | 1.2 | 1.9 | 209 | 10.9 | 1.0 | 4.3 | 300 |
| Limpopo | 6.6 | 2.5 | 3.0 | 282 | 9.2 | 3.6 | 3.9 | 519 |
| Education | | | | | | | | |
| No education | 15.5 | 5.0 | 8.8 | 296 | 13.2 | 3.7 | 12.0 | 578 |
| Grades 1-5 | 12.5 | 5.8 | 14.4 | 335 | 12.1 | 3.7 | 11.5 | 448 |
| Grades 6-7 | 10.2 | 2.1 | 6.7 | 384 | 10.1 | 3.4 | 13.6 | 501 |
| Grades 8-11 | 7.0 | 2.5 | 7.9 | 1 366 | 7.4 | 1.8 | 9.5 | 1 873 |
| Grade 12 | 2.2 | 0.0 | 6.0 | 703 | 4.6 | 0.2 | 11.7 | 923 |
| Higher | 1.8 | 0.0 | 5.9 | 309 | 3.9 | 0.7 | 8.9 | 344 |
| Population group | | | | | | | | |
| African | 7.3 | 2.2 | 7.7 | 2 838 | 7.8 | 2.1 | 10.6 | 3 857 |
| Afr. urban | 8.1 | 2.5 | 9.5 | 1 747 | 8.4 | 1.7 | 14.3 | 2 250 |
| Afr. non-urban | 6.0 | 1.9 | 4.7 | 1 091 | 6.9 | 2.7 | 5.4 | 1 607 |
| Coloured | 10.2 | 4.2 | 12.1 | 268 | 10.8 | 2.1 | 12.9 | 456 |
| Indian | 8.6 | 0.4 | 6.7 | 83 | 14.6 | 0.3 | 12.5 | 112 |
| White | 2.2 | 1.6 | 6.8 | 220 | 5.3 | 0.0 | 11.6 | 257 |
| Total | 7.2 | 2.3 | 7.9 | 3 422 | 8.1 | 2.0 | 10.9 | 4 693 |

2 men and 17 women had education unknown.

13 men and 12 women reported population group as Other or missing.

Table 12.9 Lung disease and risk factors

Percentage of men and women aged 15 years and over who report symptoms of airflow limitation or chronic bronchitis or who have abnormal peak flow rates, by history of various risk factors for lung disease (smoking, past TB, exposure to smoky home fuels, exposure to occupational air pollution), South Africa 2003

| Background characteristic | Airflow limitation symptoms | | | Chronic bronchitis | | | Abnormal peak flow rate | | |
|---------------------------|-----------------------------|-----|-------------------|--------------------|-----|-------------------|-------------------------|------|-------------------|
| | Yes | No | Prevalence ratio* | Yes | No | Prevalence ratio* | Yes | No | Prevalence ratio* |
| MEN | | | | | | | | | |
| Tobacco smoking | 11.7 | 3.8 | 3.0 | 4.2 | 0.9 | 4.0 | 10.2 | 6.8 | 1.4 |
| Indoor fuel exposure | 6.6 | 8.9 | 0.7 | 2.0 | 3.2 | 0.6 | 9.1 | 6.2 | 1.4 |
| Occupational exposure | 11.7 | 5.8 | 1.8 | 4.1 | 1.8 | 1.8 | 11.7 | 7.2 | 1.5 |
| History of TB | 34.7 | 6.3 | 4.8 | 19.5 | 1.7 | 9.3 | 20.9 | 7.9 | 2.4 |
| WOMEN | | | | | | | | | |
| Tobacco smoking | 15.8 | 6.8 | 2.3 | 3.2 | 1.8 | 1.8 | 17.1 | 9.9 | 1.7 |
| Indoor fuel exposure | 8.4 | 7.3 | 1.2 | 1.4 | 3.4 | 0.4 | 13.0 | 7.3 | 1.8 |
| Occupational exposure | 12.8 | 7.6 | 1.6 | 1.4 | 2.0 | 0.6 | 14.0 | 11.1 | 1.2 |
| History of TB | 39.1 | 7.4 | 4.9 | 9.9 | 1.8 | 5.1 | 23.5 | 11.2 | 2.1 |

* Adjusted for age.

“Asthma”

Self reported asthma prevalences are likely to reflect conflicting influences. On the one hand, under diagnosis of asthma is well established. On the other hand, asthma prevalence may be inflated by confusion with COPD, particularly in older age groups and smokers. Analysis of the 1998 SADHS (Ehrlich *et al.*, 2005) provided evidence that in South Africa the term “asthma” in population studies may be unable to distinguish between asthma and COPD.

Prevalence of reported asthma (Tables 10.2 and 10.3) is 3.1 percent in men and 4.4 percent in women, a significant female excess. A gender gap in asthma diagnosis has thus appeared since the 1998 SADHS in which the comparable figures were 3.7 percent among men and 3.8 percent among women. These values are lower (non age-standardised) than the figures for reported asthma in the United States in 2003 of 8.0 percent in men and 11.3 percent in women (United States Department of Health and Human Services, 2005). Factors associated in the 2003 SADHS with higher self-reported asthma prevalence in men and women are increasing age and lower education level. Africans report the diagnosis less often than other population groups.

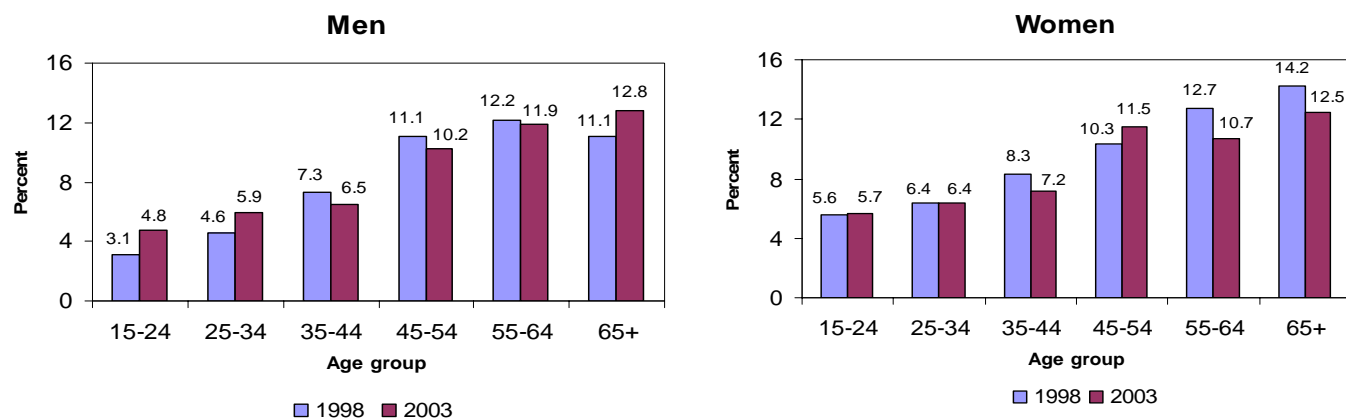
12.10 Reporting of symptoms

Airflow limitation symptoms

Reporting of symptoms is less likely to be influenced by contact with health services than is reporting of diagnoses, although interpretation by participants of symptoms questions is still subject to educational, language and cultural variation. Airflow limitation symptoms consist of wheezing/tight chest with breathlessness in the past year associated with sleep interruption by wheezing/tight chest or by coughing. This syndrome is characteristic of airflow limitation. This composite definition is unique to the SADHS and was an attempt to obtain a specific (as opposed to sensitive) questionnaire measure of airflow limitation in the absence of spirometry, the definitive measure of such limitation. If this airflow limitation is reversible, spontaneously or by therapy, it should be diagnosed as asthma. However, people with COPD may have similar symptoms to those with asthma. As the questionnaire did not probe reversibility, the definition can be regarded as suggestive of but not equivalent to asthma. The prevalence of this symptom complex is shown in table 12.8.

The prevalence of airflow limitation symptoms is 7.2 percent in men ($n = 3\ 422$), lower than the 8.1 percent in women ($n = 4\ 693$) (Table 12.8). Compared to 1998, this is a small increase among men (up from 6.7 percent) and a slight decrease among women (down from 8.6 percent). As in 1998, the prevalence of airflow limitation symptoms increases with age, although in both men and women it shows a sharp “step up” over the age of 44 years (Figure 12.4). Again, lack of education is a powerful risk factor for airflow limitation symptoms. For example, men with no education are approximately seven times more likely to report airflow limitation symptoms than those with higher (post grade 12) education.

Figure 12.4 Prevalence of airflow limitation symptoms by sex, 1998 and 2003 SADHS



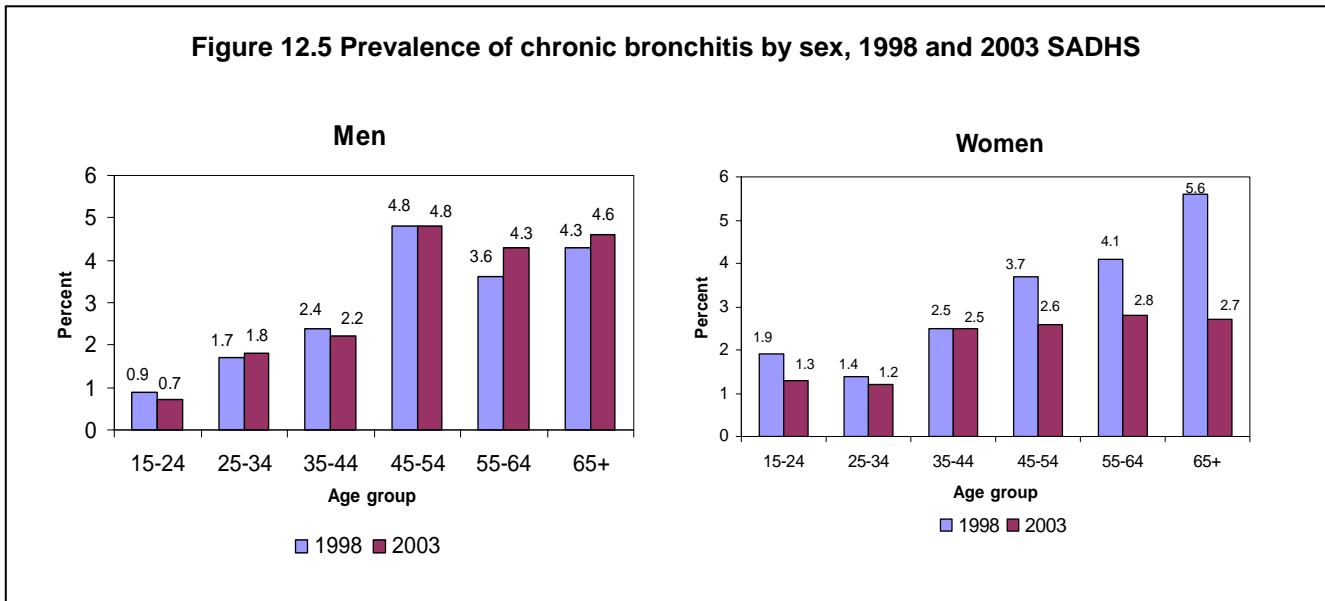
Differences from 1998 are most pronounced with regard to place of residence and population group. In contrast to 1998, urban respondents now report more airflow limitation symptoms than non-urban. Prevalence appears to have declined sharply among whites, but this may be attributable to relatively small numbers of whites in the latest survey. Indian women again show the highest prevalence (15 percent). A notable finding is the increase in the prevalence of airflow limitation symptoms among African urban men from 5.7 percent in 1998 to 8.1 percent in 2003.

Table 12.9 cross tabulates airflow limitation symptoms across four preventable “environmental” risk factors for chronic lung disease, viz. tobacco smoking, indoor air pollution, occupational exposure (exposure to dust, fumes, vapours and strong smells and/or underground mining for at least a year) and past tuberculosis history. The comparison is expressed as a prevalence ratio, where a ratio of one implies no association, a ratio of two a “moderate” association and a ratio less than one a “protective” association. It should be emphasised that these risk factors may be correlated with each other, and that the resulting associations need to be examined in an analysis that is able to control for competing risk factors so as to isolate the effect of the risk factor of interest more clearly. In Table 12.9, the prevalence ratios were adjusted for age only. The highest prevalence ratio is that for a history of TB – those with a history of TB are almost five times more likely to report symptoms of airflow limitation than those without such a history. Smoking is also relatively strongly associated with such symptoms, but occupational exposures only weakly so.

Chronic bronchitis

The “chronic bronchitis” symptom complex is defined by chronic cough with phlegm every day for at least 3 months a year, for at least 2 successive years. The prevalence of chronic bronchitis is 2.3 percent among men and 2.0 percent among women (Table 12.8). Among men, there has been no change in prevalence since the 1998 survey, but in women the prevalence has declined from 2.8 percent to 2.0 percent. This decline is most evident among women aged over 44 years as shown in Figure 12.5.

Figure 12.5 Prevalence of chronic bronchitis by sex, 1998 and 2003 SADHS



As would be expected in a national survey, the prevalence of chronic bronchitis in men is considerably lower than those reported in working populations and in some general (not necessarily national) populations in Africa including South Africa (Becklake, 1995), which ranged from 10 to 45 percent. If one compares the prevalence in the age stratum 24 to 44 years with those obtained in the European Community Respiratory Health Survey (of adults aged 20 to 44 years), the South African values are also at the low end of the range for European countries (Ehrlich *et al.*, 2004).

The prevalence of chronic bronchitis rises with age from about 1 percent among men and women aged 15 to 24 years to 5 percent among men and 3 percent among women aged 65 years and over (Table 12.8). There is a sharp decline in prevalence with increasing education, with the condition being undetectable in this survey among men with higher (post grade 12) education and uncommon (less than 1 percent) among women with higher education.

An important interaction between gender, residence and population group is observable in these data. Among men, the prevalence of chronic bronchitis is highest in the urban sample and among Coloured men. This accord with the smoking prevalence (Tables 13.1 and 13.2). In contrast, among women, chronic bronchitis is more common among non-urban respondents and among African non-urban women. This latter group also has the lowest smoking prevalence. It is clear that influences in addition to tobacco are at play among women.

Table 12.9 (see earlier description) also shows the prevalence ratios (adjusted for age only) for chronic bronchitis in regard to the four risk factors, tobacco smoking, indoor fuel exposure, occupational exposure and history of TB. As in 1998, a history of tuberculosis shows a powerful association with chronic bronchitis in men and women. Among men, tobacco smoking is strongly associated with chronic bronchitis, while a history of occupational exposure shows a moderate association. Among women, tobacco smoking demonstrates a moderate association with chronic bronchitis.

These associations are similar to those found in 1998 and analysed further in a full statistical analysis (Ehrlich *et al.*, 2004). The one exception is indoor fuel exposure, which in 1998 showed a modest association with chronic bronchitis among women but in the latest survey shows a “protective” association, i.e. the prevalence of chronic bronchitis in those with indoor fuel exposure is lower than in subjects without such exposure (Table 12.9). This is difficult to explain, especially given the excess prevalence among African women living in non-urban areas.

12.11 Abnormal peak expiratory flow rates

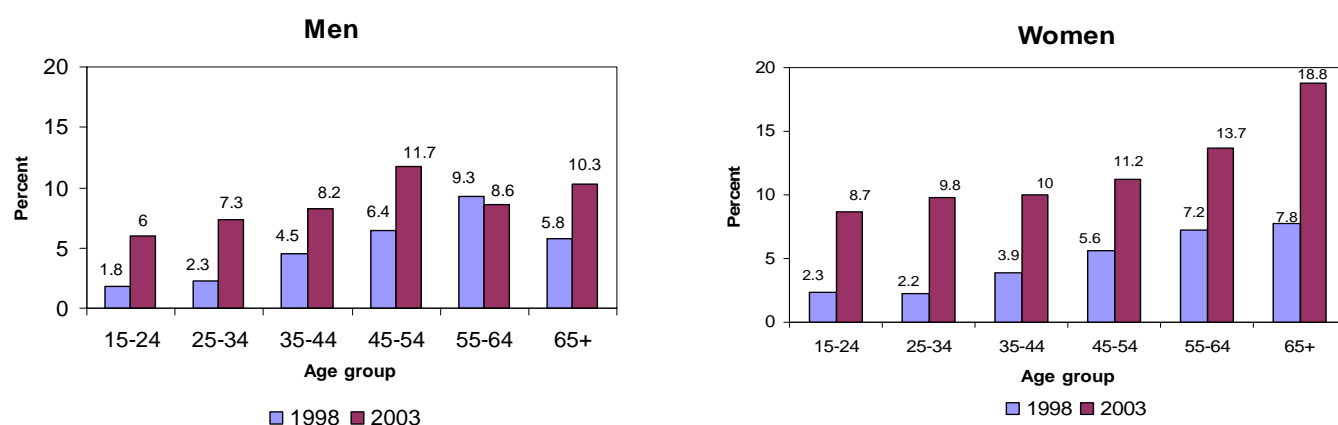
Peak expiratory flow rate (PEFR) is the maximum rate of flow of air expelled during a forced expiration. It is less sensitive and more variable than lung function measured by more sophisticated but less mobile equipment, such as spirometry, and is strongly dependent on how hard the subject tries. The advantage of using PEFR is that it can be measured with a simple portable meter suitable for field studies. It should thus be regarded as a crude measure of airways function. Besides effort, PEFR is strongly dependent on age, body size and sex. Thus, in order to compare PEFR across groups or strata, it is necessary to control for these intrinsic sources of variation. The most common method of doing this is to express PEFR as a percentage of a predicted or reference value drawn from a study of a population suitable for this purpose.

These reference values were derived from the 1998 survey [See Appendix D of that report (Department of Health of the Republic of South Africa, 2002)]. In brief, in order to use a population as close as possible to the one studied, the total sample recruited in that survey was chosen as the reference population. Smokers were excluded from the reference group, as were people who reported asthma, emphysema/bronchitis, lung cancer or tuberculosis, those who met the definition for chronic bronchitis or airflow limitation, and women who reported pregnancy. The final reference group comprised 2 373 men and 5 080 women. A statistical prediction model was developed as a function of age, sex and height and weight. From this a mean or "expected" PEFR value could be calculated for any individual as well as the "lower limit of normal" for PEFR (in this case 2 standard deviations below the prediction mean).

The proportions of the 2003 survey population falling below this abnormal threshold value are reported for each stratum of interest (Table 12.8). The 2003 results are striking for the large increase in the proportion of those with an abnormal peak flow, from 4 percent to 8 percent in men and from 4 percent to 11 percent in women. These increases are not reflected in equivalent changes in symptom prevalences, which suggest that technical factors related to method and not biological factors related to the subjects are responsible for the large jump in values between surveys.

Some trends may still be discernable if one assumes that any technical error is "balanced" across different strata. The much higher prevalence of abnormal peak flow among women than men is evident at all ages (Figure 12.6), for all educational strata and for all population groups. In the latest survey, urban residents have approximately twice the prevalence of abnormal peak flow as non-urban residents, in contrast to the relatively small urban/non-urban differences in 1998.

Figure 12.6 Prevalence of abnormal peak flow by sex, 1998 and 2003 SADHS



When looking at environmental factors predictive of abnormal peak flow (Table 12.9), the prevalence ratios are generally lower than for chronic bronchitis and airflow limitation, suggesting weaker associations when peak flow abnormality is the outcome. A history of TB again shows the highest prevalence ratio among men and women.

12.12 Discussion

The inaccurate BP levels and prevalence rates reported in this chapter mean that the results unfortunately cannot contribute to the understanding of the trends between 1998 and 2003 regarding BP, hypertension prevalence rates, or patients' treatment status in South Africa.

Despite the limitations of the BP data, it can be concluded that the lifestyle risk factors for hypertension, (obesity, high salt and alcohol intake) are still very common in those persons with hypertension. This emphasizes the urgency with which the National Department of Health must implement its planned national policy to promote a healthy lifestyle. Another aspect that needs to be addressed by the National Department of Health is the regulation of the amount of salt found in foods produced by the food industry. The amount of salt in staple food, such as bread is much higher in this country than elsewhere. The benefit of lowering salt in commonly used foods is a reduction in BP levels. This has been shown in a recently conducted randomised controlled trial in Langa in Cape Town (Unpublished data, Karen Charlton).

Although inaccurate, the magnitude of inadequate hypertension treatment is highlighted in these data. About half the participants with hypertension reported that their BP had been measured in the previous year, yet a very small proportion actually reported that they had a raised BP. This suggests that the empowerment of the patients with hypertension still needs attention. The control of a chronic condition such as hypertension cannot be achieved unless the patient becomes active, informed and motivated to comply with all the steps necessary for BP control. The data show that the private sector achieves better BP control than the public sector; however, both sectors have a long way to go to significantly reduce the impact of hypertension on the burden of disease in South Africa.

In regard to respiratory conditions, the most striking change between the two surveys is the rise in the prevalence of peak flow abnormality in men and women. It is difficult to infer an equivalent increase in COPD or asthma. In women, there has been a rise in self-reported asthma diagnosis, reflecting a gender gap not apparent in 1998. However, the rise in peak flow abnormality in women

is not corroborated by an increase in reported symptoms of airflow limitation or bronchitis. There has also been little change in the overall prevalence of current smoking among women over this period (Figure 13.2).

In men, there has been some rise in airflow limitation symptoms prevalence but in fact an overall decline in asthma diagnosis. The prevalence of chronic bronchitis in men has not changed, and smoking prevalence (Figure 13.1) has declined from 42 percent to 35 percent between the two surveys. The increase in peak flow abnormality may thus be related to study technical factors rather than a real change. To determine whether South Africa is experiencing the rise in COPD predicted for developing countries, population studies using spirometry and standard international definitions such as that of the Global Initiative for Chronic Obstructive Lung Disease (GOLD) are needed (Pauwels *et al.*, 2001).

With regard to risk factors, the predictive power of a past history of tuberculosis in respect of all symptoms complexes and peak flow abnormality underscores the powerful impact that tuberculosis is having on health of the general population in South Africa. What is being reflected is not active tuberculosis but rather the long term effect of damage to the lungs following even successful treatment of tuberculosis. Overall, the results continue to reflect the importance of the triad of tobacco, occupational exposures and tuberculosis (and interaction between them) in producing symptoms of “asthma” and COPD in South African men. Primary prevention of chronic lung disease in adults in South Africa thus requires action on all three fronts, viz. control of tobacco, of dusty working conditions and of the tuberculosis epidemic.

In the 1998 survey, excess chronic bronchitis among women was noted among African women in non-urban areas, despite their very low smoking rates (Ehrlich *et al.*, 2004). Smoky domestic fuel was suggested as an explanation. In this survey, the prevalence of chronic bronchitis has declined among women, particularly in those over 44 years of age, with no association between smoky domestic fuel and chronic bronchitis overall. However, among women, African non-urban women still recorded a prevalence of chronic bronchitis of 2.7 percent despite their very low current smoking prevalence of only 2.7 percent.

The much lower prevalence of chronic respiratory disease with improved education is also striking. Analysis of the 1998 survey data (Ehrlich *et al.*, 2004, Ehrlich *et al.*, 2005) showed that this protective effect of education was independent of other risk factors such as smoking, occupational exposure and past tuberculosis. If education is taken as a proxy for social position or socioeconomic status, the finding is another example of gross health disparity in South Africa. This social gradient may be attributable not to a few observable risk factors in adulthood but rather to the cumulative effect of adverse social position throughout life. This is an example of the “life course” model, in which factors producing susceptibility to chronic lung disease in adults, including nutrition and growth, act from uterine life through childhood to adulthood (Strachan & Sheikh, 2004). The implication is that public health action to produce optimal lung health in adulthood is needed across the whole life course.

CHAPTER 13

ADULT HEALTH RISK PROFILES

13.1 Introduction

Monitoring the risk profile of the population is an extremely important step to ensure the health of the nation as future trends in disease burden relate to current trends in risk factors. The importance of this has recently been highlighted in the global health strategy for the prevention of chronic diseases (WHO, 2004). The 1998 SADHS introduced questions on selected risk factors, which have been extended in the 2003 SADHS. Where possible, the measurements and questions are applied in accordance with the training and techniques proposed by the WHO STEP-wise surveillance programme (Bonita *et al.* 2002).

This chapter reports on tobacco smoking, exposure to environmental tobacco smoke, exposure to other fumes and dust, alcohol use, a four item measure of alcohol dependence, dietary intake, physical activity and anthropometric measurements including weight, BMI and the waist-hip ratio. Information on the methods used for these risk behaviours are described under the relevant sections. Furthermore, physical activity and dietary data have been collected and assessed in the 2003 SADHS. Consequently these results represent the first comprehensive, nationally representative dataset concerning adult micronutrient intake and physical activity levels. These are of particular importance in understanding the populations 'at risk' while undergoing epidemiological transition.

13.2 Prevalence of Tobacco use Among Adults

Data on tobacco use were collected using a standard questionnaire recommended by the WHO STEP-wise surveillance programme (Bonita *et al.*, 2002). This was similar to the WHO questionnaire used in 1998 but with greater emphasis on current and daily smoking habits rather than a past history of ever smoking. In accordance with the 1998 questionnaire, the use of tobacco products such as cigarettes, cigars and pipes was ascertained together with the use of smokeless tobacco, exposure to environmental tobacco smoke, and other fumes and dusts.

Tobacco control legislation and rapidly increasing excise taxes have resulted in a significant decrease in smoking in South Africa. The Tobacco Products Control Act of 1993 introduced health warnings on cigarette packs and advertising material, and a 1999 amendment banned tobacco advertising, prohibited smoking in indoor public places and the sale of tobacco to minors. The high price elasticity of local cigarette expenditure to income changes demonstrated the effectiveness of excise tax increases as a mechanism to decrease cigarette consumption (van Walbeek, 2005).

Aggregate cigarette consumption between the early 1990s and 2004 has decreased by more than a third with a per capita cigarette consumption reduction of about half. Smoking prevalence decreased markedly among Africans, men, young adults and poorer individuals while decreases among whites, women, and older and wealthier individuals were less (van Walbeek, 2005).

The current data demonstrate similar trends to those found by van Walbeek (2005) except among women of different race groups and young women who smoke daily or occasionally. These smoking rates increased slightly in women across all race groups, particularly among Indian women. The rates of smoking daily or occasionally increased in young women between the ages of 15 and 24.

Tables 13.1 and 13.2 show the prevalence of tobacco use among men and women, respectively, as well as the mean age at which smokers started and their duration of smoking according to background characteristics. Smoking prevalence has dropped for men but continues to be much more common among men than women; 35 percent of men and 10 percent of women smoke cigarettes either daily or occasionally. In 1998 these figures were 42 percent and 11 percent, respectively. In the age group 15-24 years, 23 percent of men and 7 percent of women already smoke daily or occasionally; a similar prevalence to that reported in 1998 SADHS. In 2003, 45 percent of men and 25 percent of women have ever used any form of tobacco, compared to 53 and 24 percent respectively.

There is a higher prevalence of daily or occasional smoking among men and women living in urban areas (39 percent and 13 percent, respectively) as compared to their rural counterparts (28 percent and 6 percent, respectively).

Like the 1998 SADHS, the highest prevalence of daily or occasional smoking in both men (51 percent) and women (35 percent) is in the Northern Cape. The next highest rates are recorded in the Western Cape. There was an increase in tobacco use from 1998 among the Northern Cape women with no significant change among the men. There has been a provincial decrease in tobacco use among men across most provinces with an unusually marked unexplained decrease in daily or occasional smoking in KwaZulu-Natal (38 percent to 21 percent) that is probably an artefact. In view of the poor quality of data found in the rest of this survey from KwaZulu-Natal, this decrease is probably an artefact.

Table 13.1 Tobacco use among men

Percentage of all men aged 15 years and over who ever used tobacco products, and among those who currently smoked daily the percentage who smoked manufactured cigarettes, the mean duration of smoking and mean starting age, according to background characteristics, South Africa 2003

| Background characteristics | Among all men percentage who: | | | | Among men who currently smoked tobacco daily: | | | | | | | | |
|----------------------------|--------------------------------|-----------------------------------|---------------------------|-----------------------|---|-----------------------------|---------------|--|-----------------------------------|-----------|-------------------------------|-----------|---|
| | Ever used any tobacco products | Ever used smokeless tobacco daily | Ever smoked tobacco daily | Currently smoke daily | Currently smoke occasionally | Smoke daily or occasionally | Number of men | Percentage who smoke manufactured cigarettes | Mean duration of smoking in years | Std error | Mean age when started smoking | Std error | Number who ever smoked cigarettes daily |
| Age | | | | | | | | | | | | | |
| 15-24 | 28.1 | 2.1 | 24.8 | 20.5 | 2.4 | 22.9 | 1 121 | 95.1 | 4.5 | 0.2 | 16.0 | 0.2 | 229 |
| 25-34 | 49.6 | 0.6 | 46.0 | 37.7 | 4.2 | 41.9 | 735 | 96.2 | 11.3 | 0.3 | 17.9 | 0.3 | 277 |
| 35-44 | 53.6 | 2.9 | 51.2 | 41.3 | 2.9 | 44.2 | 593 | 86.6 | 19.5 | 0.5 | 19.7 | 0.5 | 245 |
| 45-54 | 61.3 | 2.5 | 57.7 | 41.3 | 4.7 | 46.0 | 438 | 73.3 | 27.0 | 0.6 | 21.6 | 0.6 | 181 |
| 55-64 | 48.9 | 2.0 | 46.1 | 31.1 | 4.1 | 35.2 | 297 | 50.6 | 35.3 | 1.4 | 23.4 | 1.2 | 92 |
| 65+ | 52.2 | 8.7 | 46.8 | 25.3 | 3.1 | 28.4 | 240 | 51.9 | 43.8 | 1.8 | 27.1 | 2.2 | 61 |
| Residence | | | | | | | | | | | | | |
| Urban | 49.2 | 1.9 | 46.4 | 35.5 | 3.2 | 38.7 | 2 289 | 89.6 | 17.8 | 0.6 | 19.1 | 0.3 | 812 |
| Non-urban | 36.2 | 3.4 | 31.7 | 24.1 | 3.8 | 27.9 | 1 133 | 65.9 | 19.0 | 0.9 | 20.6 | 0.4 | 273 |
| Province | | | | | | | | | | | | | |
| Western Cape | 62.2 | 0.8 | 59.9 | 44.1 | 5.7 | 49.8 | 337 | 93.1 | 17.8 | 1.4 | 17.3 | 0.5 | 149 |
| Eastern Cape | 54.4 | 1.1 | 49.0 | 35.2 | 8.6 | 43.9 | 367 | 69.3 | 19.3 | 1.4 | 20.3 | 0.6 | 129 |
| Northern Cape | 63.4 | 1.3 | 62.1 | 48.9 | 2.5 | 51.4 | 60 | 78.4 | 20.9 | 1.2 | 18.8 | 0.5 | 29 |
| Free State | 49.7 | 3.1 | 43.3 | 34.2 | 6.4 | 40.6 | 224 | 68.4 | 18.0 | 1.0 | 20.5 | 0.6 | 76 |
| KwaZulu-Natal | 25.4 | 2.1 | 23.5 | 19.9 | 1.1 | 21.0 | 781 | 84.9 | 17.9 | 1.2 | 18.2 | 0.4 | 156 |
| North West | 48.1 | 4.3 | 44.6 | 34.2 | 3.4 | 37.6 | 248 | 79.3 | 17.3 | 1.2 | 22.0 | 0.8 | 85 |
| Gauteng | 49.2 | 1.9 | 46.4 | 36.8 | 1.8 | 38.5 | 914 | 92.9 | 18.0 | 1.2 | 19.2 | 0.6 | 336 |
| Mpumalanga | 44.0 | 5.4 | 40.3 | 30.8 | 2.6 | 33.4 | 209 | 78.9 | 20.3 | 1.5 | 19.6 | 0.6 | 64 |
| Limpopo | 41.8 | 4.3 | 36.3 | 21.3 | 3.6 | 24.9 | 282 | 68.7 | 14.4 | 1.7 | 23.1 | 1.4 | 60 |
| Education | | | | | | | | | | | | | |
| No education | 56.2 | 6.8 | 49.8 | 37.3 | 4.3 | 41.6 | 296 | 58.1 | 28.3 | 2.2 | 23.8 | 1.1 | 110 |
| Grades 1-5 | 54.8 | 5.8 | 50.6 | 39.1 | 3.5 | 42.6 | 335 | 57.9 | 23.0 | 1.4 | 20.3 | 0.8 | 131 |
| Grades 6-7 | 50.7 | 0.5 | 46.7 | 35.4 | 4.8 | 40.3 | 384 | 80.8 | 18.4 | 1.0 | 20.2 | 0.9 | 136 |
| Grades 8-11 | 43.5 | 2.0 | 40.3 | 31.7 | 3.5 | 35.2 | 1 366 | 91.5 | 16.1 | 0.9 | 18.5 | 0.4 | 433 |
| Grades 12 | 38.5 | 1.4 | 36.1 | 27.5 | 2.7 | 30.1 | 703 | 95.2 | 13.4 | 0.9 | 18.3 | 0.5 | 193 |
| Higher | 36.4 | 1.0 | 34.6 | 22.3 | 2.0 | 24.3 | 309 | 98.8 | 15.4 | 2.3 | 18.9 | 0.6 | 69 |
| Population group | | | | | | | | | | | | | |
| African | 41.8 | 2.5 | 38.3 | 29.3 | 3.5 | 32.8 | 2 838 | 80.3 | 17.8 | 0.5 | 20.1 | 0.3 | 831 |
| Afr. urban | 45.8 | 1.8 | 43.0 | 33.2 | 3.4 | 36.5 | 1 747 | 87.0 | 17.3 | 0.7 | 19.7 | 0.4 | 580 |
| Afr. non-urban | 35.3 | 3.5 | 30.8 | 23.0 | 3.7 | 26.7 | 1 091 | 64.9 | 18.8 | 0.8 | 20.9 | 0.5 | 251 |
| Coloured | 60.7 | 1.8 | 58.1 | 48.9 | 3.3 | 52.1 | 268 | 92.9 | 19.2 | 1.7 | 17.3 | 0.5 | 131 |
| White | 67.4 | 2.3 | 53.8 | 34.7 | 1.0 | 35.7 | 220 | (99.8) | 21.8 | 1.3 | (18.1) | (0.9) | 77 |
| Indian | 56.0 | 1.4 | 63.7 | 50.4 | 5.1 | 55.5 | 83 | 94.9 | 16.7 | 3.4 | 16.8 | 0.4 | 42 |
| Total | 44.9 | 2.4 | 41.5 | 31.7 | 3.4 | 35.1 | 3 422 | 83.6 | 18.1 | 0.5 | 19.5 | 0.3 | 1085 |

Note: Std error = standard deviation of the mean. 22 cases had education unknown and 13 cases reported population group as Other.

Table 13.2. Tobacco use among women

Percentage of all women aged 15 years and over who ever used tobacco products, and among those who currently smoked daily the percentage who smoked manufactured cigarettes, the mean duration of smoking and mean starting age, according to background characteristics, South Africa 2003

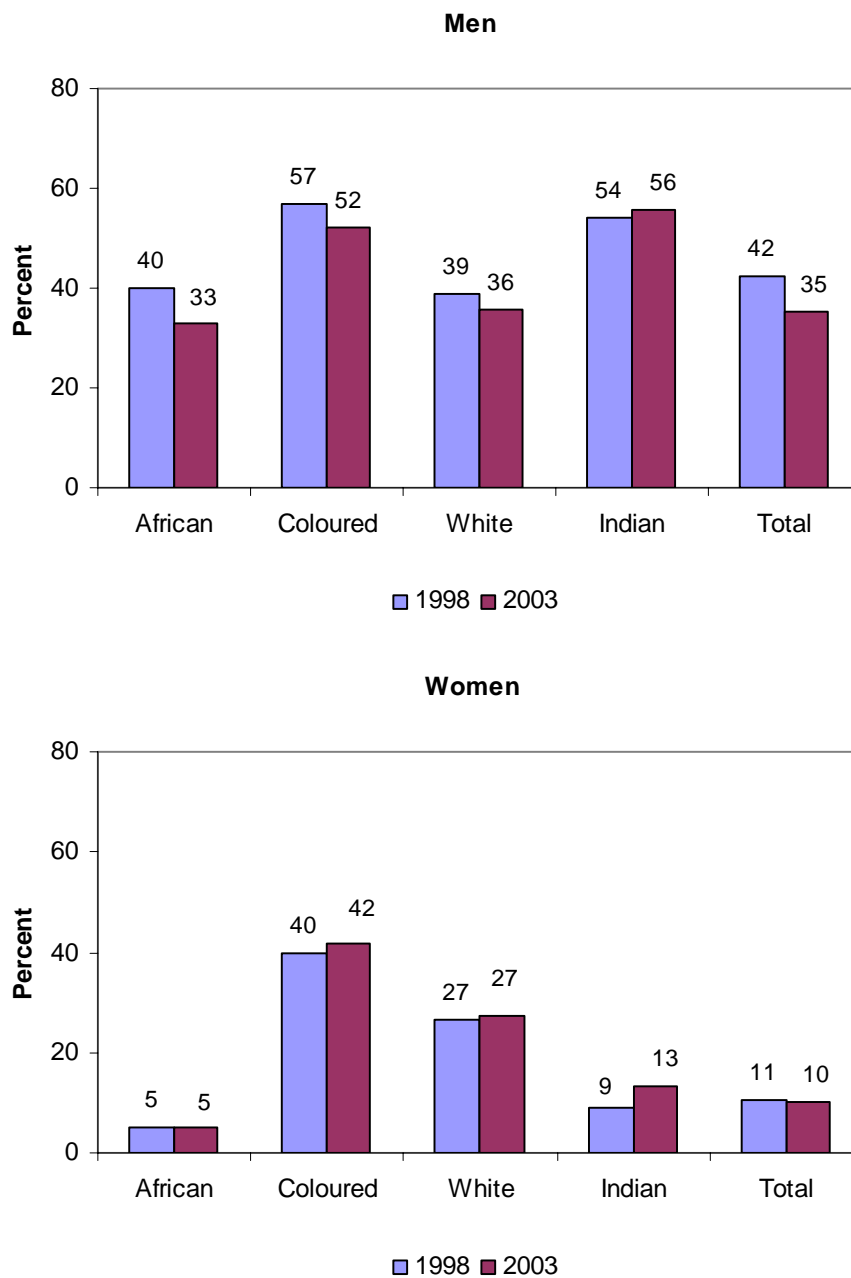
| Background characteristics | Among all women percentage who: | | | | | | | | | | Among women who currently smoked tobacco daily: | | | |
|----------------------------|---------------------------------|-----------------------------------|--------------------------|-----------------------|------------------------------|-----------------------------|-----------------|--|-----------------------------------|-----------|---|-----------|---|--|
| | Ever used any tobacco products | Ever used smokeless tobacco daily | Ever smoke tobacco daily | Currently smoke daily | Currently smoke occasionally | Smoke daily or occasionally | Number of women | Percentage who smoke manufactured cigarettes | Mean duration of smoking in years | Std error | Mean age when started smoking | Std error | Number who ever smoked cigarettes daily | |
| Age | | | | | | | | | | | | | | |
| 15-24 | 12.0 | 2.8 | 9.2 | 6.7 | 0.2 | 7.0 | 1 256 | 98.1 | 4.1 | 0.3 | 16.1 | 0.3 | 85 | |
| 25-34 | 16.6 | 7.5 | 8.4 | 5.8 | 1.8 | 7.6 | 979 | 96.7 | 11.9 | 0.5 | 18.4 | 0.7 | 56 | |
| 35-44 | 29.9 | 11.3 | 16.4 | 12.5 | 1.8 | 14.3 | 883 | 90.0 | 20.8 | 1.0 | 19.3 | 0.9 | 110 | |
| 45-54 | 33.4 | 16.0 | 18.0 | 12.2 | 1.9 | 14.0 | 714 | 77.2 | 25.6 | 1.2 | 24.3 | 1.3 | 87 | |
| 55-64 | 40.0 | 20.8 | 21.0 | 12.6 | 1.5 | 14.0 | 483 | 63.9 | 34.8 | 1.7 | 23.8 | 1.8 | 61 | |
| 65+ | 37.2 | 23.6 | 12.4 | 6.1 | 0.3 | 6.5 | 378 | 56.4 | 37.0 | 4.7 | 32.0 | 4.8 | 23 | |
| Residence | | | | | | | | | | | | | | |
| Urban | 26.4 | 9.1 | 16.8 | 11.3 | 1.4 | 12.7 | 2 995 | 90.6 | 19.8 | 1.0 | 20.5 | 0.7 | 340 | |
| Non-urban | 21.2 | 14.0 | 6.8 | 4.9 | 0.9 | 5.8 | 1 697 | 58.2 | 23.4 | 2.2 | 22.8 | 1.3 | 82 | |
| Province | | | | | | | | | | | | | | |
| Western Cape | 39.6 | 2.3 | 37.9 | 21.5 | 0.7 | 28.7 | 573 | 94.0 | 18.5 | 1.3 | 19.2 | 0.9 | 160 | |
| Eastern Cape | 18.1 | 7.5 | 9.8 | 1.9 | 2.2 | 8.9 | 562 | * | * | * | * | * | 37 | |
| Northern Cape | 50.2 | 9.0 | 39.9 | 28.0 | 3.7 | 35.0 | 92 | 73.3 | 22.7 | 1.1 | 18.6 | 0.5 | 29 | |
| Free State | 36.2 | 22.3 | 12.6 | 6.7 | 2.2 | 11.7 | 313 | 58.6 | 25.2 | 2.3 | 24.8 | 3.7 | 30 | |
| KwaZulu-Natal | 10.5 | 4.6 | 5.6 | 31.4 | 0.3 | 4.2 | 888 | (89.2) | (18.2) | (3.5) | (23.7) | (2.1) | 34 | |
| North West | 31.2 | 22.7 | 6.8 | 9.5 | 2.5 | 7.3 | 373 | * | * | * | * | * | 18 | |
| Gauteng | 26.2 | 11.8 | 13.8 | 8.3 | 1.1 | 9.4 | 1 074 | (90.4) | (21.1) | (2.3) | (19.2) | (1.4) | 90 | |
| Mpumalanga | 18.9 | 12.9 | 5.7 | 3.2 | 0.8 | 4.0 | 300 | * | * | * | * | * | 10 | |
| Limpopo | 21.9 | 16.8 | 5.8 | 2.9 | 0.9 | 3.8 | 519 | * | * | * | * | * | 15 | |
| Education | | | | | | | | | | | | | | |
| No education | 41.0 | 25.1 | 15.5 | 10.7 | 1.4 | 12.1 | 578 | 53.0 | 24.5 | 2.2 | 28.6 | 2.6 | 62 | |
| Grades 1-5 | 38.9 | 23.2 | 17.2 | 9.4 | 2.8 | 12.1 | 448 | 64.8 | 28.7 | 1.1 | 21.8 | 0.8 | 42 | |
| Grades 6-7 | 30.8 | 15.7 | 16.2 | 9.4 | 1.7 | 11.2 | 501 | 88.1 | 20.5 | 1.6 | 18.9 | 1.5 | 47 | |
| Grades 8-11 | 20.8 | 6.9 | 13.0 | 9.1 | 0.9 | 10.0 | 1 873 | 92.5 | 19.4 | 1.6 | 19.1 | 0.8 | 171 | |
| Grades 12 | 14.4 | 3.6 | 9.6 | 7.0 | 0.9 | 7.9 | 923 | 97.9 | 15.5 | 1.7 | 19.3 | 0.9 | 64 | |
| Higher | 16.1 | 4.6 | 10.5 | 9.7 | 1.0 | 10.7 | 344 | (91.4) | (19.0) | (4.0) | (19.6) | (1.9) | 33 | |
| Population group | | | | | | | | | | | | | | |
| African | 20.2 | 13.0 | 6.9 | 4.1 | 1.1 | 5.2 | 3 857 | 68.8 | 22.0 | 1.5 | 24.6 | 1.4 | 157 | |
| Afr. urban | 20.9 | 11.7 | 8.9 | 5.1 | 1.3 | 6.3 | 2 250 | 79.8 | 20.8 | 1.8 | 18.4 | 0.6 | 114 | |
| Afr. non-urban | 19.2 | 14.7 | 4.2 | 2.7 | 0.9 | 3.6 | 1 607 | 40.2 | 25.3 | 2.2 | 24.7 | 3.9 | 44 | |
| Coloured | 52.5 | 2.2 | 49.5 | 39.0 | 2.7 | 41.8 | 456 | 90.4 | 18.8 | 1.1 | 17.9 | 0.6 | 178 | |
| White | 37.5 | 0.1 | 36.9 | 26.7 | 0.5 | 27.3 | 112 | (100.0) | (15.6) | (2.3) | (26.4) | (1.6) | 69 | |
| Indian | 24.1 | 1.1 | 22.5 | 13.0 | 0.2 | 13.1 | 257 | (99.3) | (22.9) | (2.5) | (23.9) | (1.8) | 15 | |
| Total | 24.5 | 10.9 | 13.2 | 9.0 | 1.2 | 10.2 | 4 693 | 84.3 | 20.5 | 0.9 | 20.9 | 0.6 | 422 | |

Note: Std error = standard deviation of the mean.
17 cases had education unknown and 12 cases reported population group as Other.

There is an inverse relationship between education level and the prevalence rates of smoking daily or occasionally particularly for men; those with the lowest education having the highest prevalence of smoking daily or occasionally. These findings may however be influenced by the fact that older people mostly have lower levels of education than young people, especially among the women.

There is a decrease across all race groups for men that smoke daily or occasionally compared to 1998 except for Indian men who had an increase and have the highest prevalence at 56 percent (Figure 13.1). However the number of Indian men in the study is small. The rates in African men have reduced more markedly between 1998 and 2003 than in the other groups. African men and women are less likely to smoke daily or occasionally than the other groups with the lowest rates recorded in non-urban men and women. The proportion of women that smoke daily or occasionally has increased across all race groups from 1998 to 2003. However, the overall prevalence is deceptively lower as a higher proportion of Africans were sampled in 2003 as compared to 1998. African women have the lowest smoking prevalence and this together with their greater sample proportion reduced the total prevalence. Coloured women have the highest rates of daily or occasional smoking of 42 percent, which is similar to the rates recorded in 1998.

Figure 13.1 Prevalence of smoking by population group and sex, SADHS 2003



Smokeless tobacco is used most frequently by African women who are older, have limited education and most frequently live in Free State (22 percent), and North West Province (23 percent). There are relatively small differences between those women who live in urban and non-urban settings. There is no increase in the use of smokeless tobacco among women between 1998 and 2003 and men use it infrequently. The prevalence is most frequent in older men, those with no education who live in Mpumalanga, Limpopo or North West provinces.

The highest rates of current smoking are in the Northern Cape and the Western Cape while the lowest rates are in Limpopo Province. Among men those with lower education levels smoke more while those with higher education smoke the least. This trend was also observed in 1998 although at higher overall smoking rates than in 2003. Among women there is little difference in smoking prevalence according to education. Indian (56 percent) and Coloured (52 percent) men are more likely to smoke than White (36 percent) or African (33 percent) men. Coloured women are most likely to be current smokers (42 percent), followed by White (27 percent) and Indian (13 percent) women, while only 5 percent of African women smoke.

Smokers that were older used fewer manufactured cigarettes than their younger counterparts. Similarly, smokers with lower education levels used fewer manufactured cigarettes than those that were more educated. These trends are similar to those found in 1998. Among those who currently smoke daily, the mean duration of smoking is 18 years for men and 21 years for women while their mean age of starting smoking is 20 years for men and 21 years for women.

13.3 Exposure to Environmental Tobacco Smoke and Dust/Fumes in the Work Place

Tables 13.3 and 13.4 also show the exposure of non-smokers to environmental tobacco smoke (ETS). Exposure to tobacco smoke has declined since 1998, an additional benefit of the reduced prevalence of smoking after the introduction of the tobacco control legislation.

Of those who never smoked 30 percent of men and 26 percent of women report living in a home where other people smoke regularly. This occurs more frequently in urban than non-urban areas. The exposure of non-smokers to define first ETS is more frequent in the Coloured community with their high prevalence rates of smoking, than any other. Equally worrying is the number of ex-smokers who are exposed to ETS, of men 69 percent and of women 57 percent. This occurs most frequently for Coloured men who have quit.

The extent of exposure of all participants to ETS in the home and the workplace and who are exposed at work to dust and fumes are also shown in Tables 13.3 and 13.4. Of all the men who participated in the study, 21 percent and 24 percent, respectively, work in smoky areas or spaces with dust and fumes. Of all the women, 8 percent and 10 percent, respectively, work in similar conditions. For both men and women this occurs more frequently in urban than in non-urban environments. For the people who work in environments with dust and fumes the mean number of years of exposure is 8 and 9 years respectively for men and women.

Alongside the prevalence of smoking, Figure 13.2 shows the percentage of all adults who are exposed to ETS in their home and work places as well as those exposed to dust and fumes at work. Interpretation of trends suggested by the current data may be influenced by a change in the questionnaire format as well as possible data quality concerns.

Table 13.3 Environmental Tobacco Smoke (ETS) and fumes or dust exposure among men

Percentage of adult men never-smokers and ex-smokers who are exposed to environmental tobacco smoke (ETS) and percentage of all men 15 years and above who live with smokers, who work with smokers, and who work in a dusty environment, and the mean number of years, and exposure to work in a dusty environment by background characteristics, South Africa 2003

| Background characteristics | Never-smoked | | | Ex-smokers | | | All men | | | Exposed to dust or fumes at work | | |
|----------------------------|---------------------------|-------------------------|---------------------------|----------------------|-----------------------------------|--|---------------------------------------|-------------------|----------------------------------|----------------------------------|---------------------------------------|--|
| | Percentage exposed to ETS | Number who never smoked | Percentage exposed to ETS | Number of ex-smokers | Percentage who lives with smokers | Percentage who work in smoking environment | Percentage who work in dust and fumes | Number of all men | Mean number of years of exposure | Std error | Number who work in dusty environments | |
| Age | | | | | | | | | | | | |
| 15-24 | 26.8 | 806 | 58.8 | (39) | 29.3 | 11.1 | 10.9 | 1 121 | 1.3 | 0.21 | 122 | |
| 25-34 | 32.3 | 370 | 67.0 | (50) | 25.7 | 27.8 | 25.0 | 735 | 3.4 | 0.39 | 184 | |
| 35-44 | 37.0 | 275 | 78.5 | (52) | 21.8 | 33.2 | 34.6 | 593 | 7.5 | 0.65 | 205 | |
| 45-54 | 30.9 | 169 | 73.0 | 63 | 25.9 | 26.8 | 37.9 | 438 | 11.0 | 0.83 | 166 | |
| 55-64 | 31.8 | 151 | 77.2 | (38) | 25.3 | 16.9 | 30.8 | 297 | 12.3 | 1.37 | 91 | |
| 65+ | 23.6 | 114 | 55.9 | (45) | 18.7 | 10.0 | 24.3 | 240 | 17.5 | 2.45 | 58 | |
| Residence | | | | | | | | | | | | |
| Urban | 34.3 | 1 163 | 68.4 | 217 | 28.6 | 24.4 | 27.9 | 2 289 | 7.9 | 0.47 | 639 | |
| Non-urban | 22.8 | 722 | 70.4 | 71 | 19.8 | 13.8 | 16.5 | 1 133 | 6.9 | 0.79 | 187 | |
| Province | | | | | | | | | | | | |
| Western Cape | 66.6 | 127 | 77.3 | (42) | 40.0 | 38.6 | 47.0 | 337 | 7.5 | 0.96 | 159 | |
| Eastern Cape | 28.3 | 166 | 82.3 | * | 22.4 | 16.5 | 31.1 | 367 | 7.6 | 1.06 | 114 | |
| Northern Cape | 55.6 | 22 | 87.0 | (7) | 46.4 | 35.6 | 34.1 | 60 | 8.2 | 0.83 | 20 | |
| Free State | 38.6 | 112 | 80.7 | (16) | 37.7 | 26.9 | 29.0 | 224 | 8.6 | 0.83 | 65 | |
| KwaZulu-Natal | 11.6 | 583 | 41.0 | (25) | 13.7 | 8.2 | 7.5 | 781 | 8.1 | 0.86 | 59 | |
| North West | 26.1 | 129 | 72.9 | (21) | 20.7 | 20.3 | 20.8 | 248 | 7.6 | 1.04 | 52 | |
| Gauteng | 39.8 | 465 | 61.9 | (86) | 29.9 | 24.0 | 27.0 | 914 | 6.9 | 0.75 | 247 | |
| Mpumalanga | 24.0 | 117 | 67.2 | (17) | 24.1 | 17.8 | 15.0 | 209 | 8.4 | 1.71 | 31 | |
| Limpopo | 38.0 | 164 | 71.8 | (38) | 24.2 | 26.2 | 28.3 | 282 | 8.9 | 2.05 | 80 | |
| Education | | | | | | | | | | | | |
| No education | 24.9 | 150 | 71.5 | (29) | 20.9 | 20.4 | 31.3 | 296 | 10.6 | 1.44 | 93 | |
| Grades 1-5 | 28.4 | 189 | 88.2 | (34) | 29.6 | 24.7 | 29.4 | 335 | 7.7 | 1.05 | 98 | |
| Grades 6-7 | 38.9 | 772 | 82.2 | (39) | 27.9 | 23.9 | 27.2 | 384 | 7.6 | 1.03 | 104 | |
| Grades 8-11 | 28.5 | 432 | 66.1 | 96 | 28.6 | 16.7 | 20.9 | 1 366 | 7.2 | 0.56 | 286 | |
| Grades 12 | 26.4 | 196 | 63.4 | (53) | 22.0 | 23.8 | 22.8 | 703 | 6.5 | 0.92 | 161 | |
| Higher | 38.5 | 16 | 48.6 | (36) | 20.1 | 25.2 | 24.9 | 309 | 8.3 | 1.72 | 77 | |
| Population group | | | | | | | | | | | | |
| African | 27.5 | 1 650 | 68.9 | 215 | 23.3 | 19.2 | 20.6 | 2 838 | 7.2 | 0.48 | 585 | |
| Afr. urban | 30.9 | 946 | 68.2 | 145 | 26.2 | 22.9 | 23.5 | 1 747 | 7.3 | 0.58 | 410 | |
| Afr. non-urban | 22.8 | 705 | 70.1 | 70 | 18.8 | 13.4 | 16.0 | 1 091 | 7.0 | 0.84 | 175 | |
| Coloured | 55.6 | 105 | 98.1 | (20) | 43.9 | 33.1 | 41.8 | 268 | 6.8 | 0.98 | 112 | |
| White | 34.3 | 97 | 54.5 | * | 31.0 | 20.4 | 38.5 | 220 | 9.6 | 1.08 | 40 | |
| Indian | 55.5 | 27 | 67.4 | (10) | 32.8 | 40.1 | 48.0 | 83 | (10.5) | (1.61) | 85 | |
| Total | 29.9 | 1 885 | 68.9 | 287 | 25.7 | 20.9 | 24.1 | 3 422 | 7.7 | 0.41 | 826 | |

Note: Std error = standard deviation of the mean.

22 cases had education unknown; 13 cases reported population group as Other.

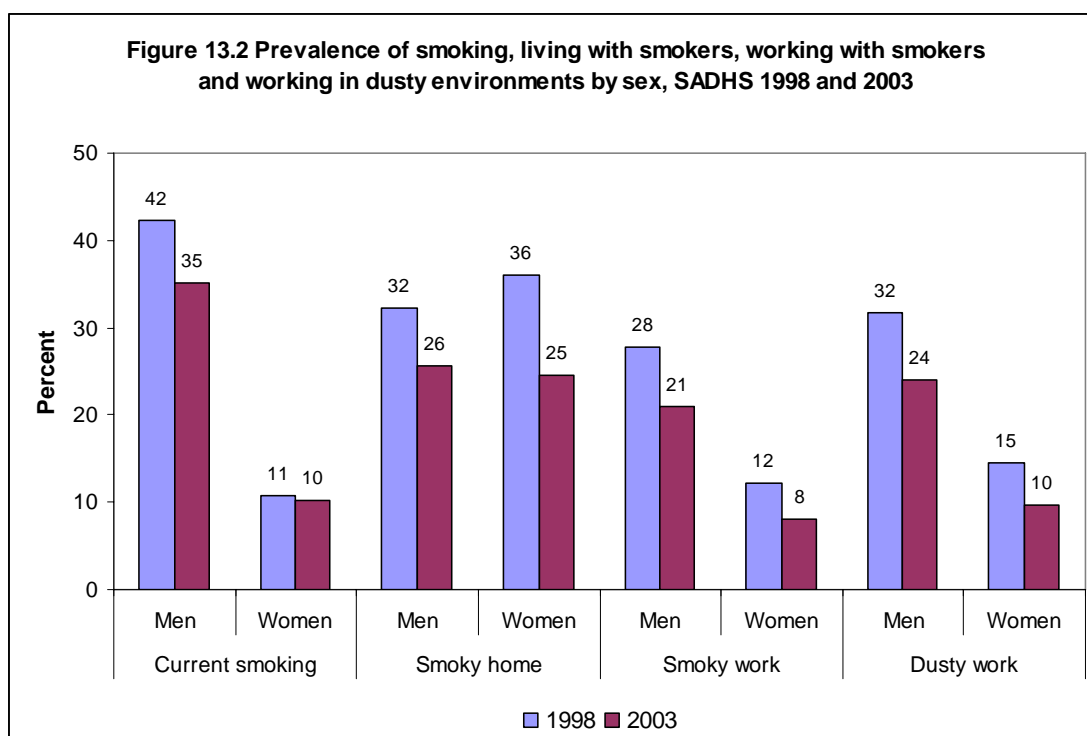
Figures in parentheses are based on 25-49 unweighted cases; an asterisk indicates a suppressed figure based on fewer than 25 unweighted cases.

Table 13.4 Environmental Tobacco Smoke (ETS) and fumes or dust exposure among women

Percentage of adult women never-smokers and ex-smokers who are exposed to environmental tobacco smoke (ETS) and percentage of all women 15 years and above who live with smokers, who work with smokers, and who work in a dusty environment, and the mean number of years, and exposure to work in a dusty environment by background characteristics, South Africa 2003

| Background characteristics | Never-smoked | | | | Ex-smokers | | | | All women | | | | Exposed to dust or fumes at work | |
|----------------------------|---------------------------|-------------------------|---------------------------|----------------------|-----------------------------------|--|---------------------------------------|---------------------|----------------------------------|----------|---------------------------------------|--|----------------------------------|--|
| | Percentage exposed to ETS | Number who never smoked | Percentage exposed to ETS | Number of ex-smokers | Percentage who lives with smokers | Percentage who work in smoking environment | Percentage who work in dust and fumes | Number of all women | Mean number of years of exposure | StdError | Number who work in dusty environments | | | |
| Age | | | | | | | | | | | | | | |
| 15-24 | 23.9 | 1 106 | 59.6 | (31) | 23.9 | 6.3 | 4.3 | 1 256 | 1.1 | 0.18 | 53 | | | |
| 25-34 | 29.3 | 811 | 73.7 | * | 25.9 | 10.8 | 10.9 | 979 | 5.0 | 0.58 | 103 | | | |
| 35-44 | 28.4 | 617 | 52.3 | (27) | 26.5 | 10.4 | 10.1 | 883 | 6.3 | 0.83 | 89 | | | |
| 45-54 | 25.8 | 474 | 65.4 | (38) | 23.8 | 9.2 | 11.4 | 714 | 8.6 | 0.93 | 81 | | | |
| 55-64 | 25.5 | 289 | 52.4 | (38) | 25.1 | 4.7 | 18.0 | 483 | 10.7 | 1.41 | 87 | | | |
| 65+ | 19.4 | 237 | 39.5 | * | 18.8 | 4.1 | 8.6 | 378 | (19.1) | (3.15) | 32 | | | |
| Residence | | | | | | | | | | | | | | |
| Urban | 29.7 | 2 201 | 58.1 | 150 | 27.5 | 9.2 | 12.0 | 2 995 | 8.0 | 0.72 | 358 | | | |
| Non-urban | 19.9 | 1 335 | 52.7 | (28) | 19.3 | 6.2 | 5.4 | 1 697 | 5.9 | 1.02 | 92 | | | |
| Province | | | | | | | | | | | | | | |
| Western Cape | 43.2 | 346 | 53.6 | (57) | 32.6 | 15.0 | 23.3 | 573 | 7.9 | 1.15 | 134 | | | |
| Eastern Cape | 20.8 | 457 | 42.4 | * | 20.1 | 4.5 | 6.3 | 562 | * | * | 36 | | | |
| Northern Cape | 48.8 | 46 | 76.2 | (7) | 49.2 | 11.7 | 16.6 | 92 | 8.5 | 1.28 | 15 | | | |
| Free State | 30.8 | 200 | 68.9 | * | 31.9 | 12.4 | 11.7 | 313 | 4.3 | 0.61 | 37 | | | |
| KwaZulu-Natal | 18.7 | 794 | 53.6 | (16) | 18.8 | 3.4 | 5.1 | 888 | 7.2 | 0.73 | 45 | | | |
| North West | 22.2 | 255 | 17.1 | * | 23.1 | 8.5 | 5.9 | 373 | (6.5) | (1.65) | 22 | | | |
| Gauteng | 28.4 | 789 | 63.5 | * | 26.0 | 7.7 | 8.0 | 1 074 | (9.2) | (1.55) | 86 | | | |
| Mpumalanga | 19.9 | 243 | 37.7 | * | 19.1 | 7.7 | 5.2 | 300 | (2.9) | (0.97) | 16 | | | |
| Limpopo | 27.9 | 405 | 73.2 | * | 22.6 | 9.7 | 11.8 | 519 | 7.4 | 2.60 | 59 | | | |
| Education | | | | | | | | | | | | | | |
| No education | 18.2 | 337 | 42.8 | (25) | 22.6 | 7.0 | 7.6 | 578 | 11.6 | 2.02 | 44 | | | |
| Grades 1-5 | 16.5 | 273 | 58.3 | (28) | 23.9 | 8.1 | 9.7 | 448 | 12.3 | 0.99 | 43 | | | |
| Grades 6-7 | 26.2 | 347 | 80.5 | (31) | 29.7 | 8.7 | 10.0 | 501 | 7.1 | 1.43 | 50 | | | |
| Grades 8-11 | 27.1 | 1 483 | 54.6 | (66) | 25.6 | 6.7 | 9.3 | 1 873 | 7.5 | 0.83 | 174 | | | |
| Grades 12 | 28.6 | 788 | 52.9 | * | 23.9 | 9.8 | 10.5 | 923 | 5.1 | 0.64 | 97 | | | |
| Higher | 29.6 | 289 | 18.4 | * | 15.8 | 10.8 | 12.1 | 344 | (5.4) | (1.54) | 42 | | | |
| Population group | | | | | | | | | | | | | | |
| African | 22.7 | 3 071 | 57.7 | 95 | 22.0 | 6.8 | 6.3 | 3 857 | 7.8 | 0.93 | 244 | | | |
| Afr. urban | 25.7 | 1 776 | 59.0 | 77 | 24.7 | 7.7 | 7.4 | 2 250 | 9.2 | 1.29 | 166 | | | |
| Afr. non-urban | 18.5 | 1 295 | 52.3 | (18) | 18.1 | 5.5 | 4.9 | 1 607 | 4.6 | 0.69 | 78 | | | |
| Coloured | 51.5 | 216 | 56.4 | 44 | 37.9 | 16.1 | 23.9 | 456 | 7.9 | 1.01 | 109 | | | |
| White | 32.0 | 160 | 45.0 | * | 24.8 | 10.1 | 23.1 | 112 | 7.3 | 0.72 | 32 | | | |
| Indian | 66.4 | 85 | 74.9 | (11) | 52.8 | 11.2 | 28.4 | 257 | (6.5) | (1.09) | 59 | | | |
| Total | 26.0 | 3 535 | 57.2 | 179 | 24.5 | 8.1 | 9.6 | 4 693 | 7.6 | 0.61 | 450 | | | |

Note: Std error = standard deviation of the mean.
 17 cases had education unknown; 12 cases reported population group as Other.
 Figures in parentheses are based on 25-49 unweighted cases; an asterisk indicates a suppressed figure based on fewer than 25 unweighted cases.



13.4 Patterns of Alcohol Consumption

Nine questions were asked about alcohol use and associated problems. Lifetime ('ever') use of alcohol and the 4 items of the CAGE questionnaire were similar to questions asked in the 1998 survey. Instead of asking about use of alcohol 'now', participants were asked about use in the past 12 months, and instead of asking about the amount of alcohol typically consumed on (a) weekends and (b) weekdays, they were asked how many days they drank on each of the past seven days. In the 2003 survey, participants were also asked how many drinks they consume on average on a day that they drink and how frequently they have had at least one drink in the past 12 months.

Tables 13.5 and 13.6 show the patterns of alcohol consumption based on the questions about ever drinking alcohol, average consumption in the last year and in the past 7 days for men and women respectively. Just under half of men (49 percent) and just over one-fifth of women (22 percent) 15 years and older acknowledge that they have 'ever' drunk alcohol, and only four out of ten men (39 percent) and one out of six women (16 percent) acknowledge that they have drunk alcohol in the past 12 months. The proportion of men and women reporting drinking in the past seven days ('current drinking') is substantially less (30 percent for men and 10 percent for women). Based on data from the 2001 census (Stats SA, 2003) this translates to approximately 27 percent of the population over 15 years of age who have drunk alcohol in the past 12 months amounting to 8.1 million persons. Given the nature of omnibus surveys these prevalence estimates are likely to under-estimate the true levels of drinking in the population. Given social pressures of women in certain cultures not to drink alcohol it is possible that under-reporting may be even greater in certain subpopulations, e.g. African women.

Shisana *et al.* (2005) in a national household survey of HIV prevalence and behaviour in South Africa reported a 30-day prevalence figure for alcohol use of 28 percent, among persons 15 years and older, which is very similar to the past 12 months prevalence found in SADHS 2003. While these results are consistent, given what is known about alcohol consumption in South Africa from estimates of consumption and more localised community surveys, the figures for both the HSRC survey (Shisana *et al.*, 2005) and the SADHS 2003 are likely to grossly underestimate the true prevalence of alcohol use in South Africa.

The proportions of both men and women indicating that they have ever consumed alcohol is substantially less than was reported in SADHS 1998 (58 percent for males and 26 percent for females). Similarly, the proportions who report that they currently drink is lower than in SADHS 1998; 45 percent of men and 17 percent of women compared to 30 and 10 percent in SADHS 2003.

As in 1998, levels of current drinking differ substantially by population group and gender, with the highest levels reported by white males (53 percent), and followed by Coloured and Indian males (36 percent). The lowest levels were reported by African females (7 percent). The rank ordering of the proportion of males reporting consuming alcohol in the past seven days, from highest to lowest is whites, Coloureds and Indians, followed by Africans. Compared to the 1998 SADHS there appears to have been a decrease in the proportion of most of the population groups in terms of levels of current drinking. The ordering for females is the same. Indians and Africans have changed their relative rankings.

For both men and women higher rates of current (past seven days) drinking are recorded in urban as compared to non-urban areas. The same distinction was found in 1998. For both men and women, persons with either no education or tertiary education are more likely to drink than those with levels of education in between. A similar finding was noted in 1998. With regard to the different provinces, for males the highest past 7-day drinking levels occur in the Western Cape, Eastern Cape, North West, Northern Cape, and Gauteng (37 percent or more) and the lowest levels in KwaZulu-Natal (9 percent). For females the lowest levels are also in KwaZulu-Natal (1 percent), with the highest levels being in Western Cape and Northern Cape (19 percent). In general the levels of reported use of alcohol in KwaZulu-Natal for both men and women are too low to be plausible. As compared to the 1998 SADHS, there have been changes in the position of both provinces with the highest and lowest levels of the population who report current drinking. For men the highest levels of current alcohol use are recorded among persons in the 35-44 age group, and the lowest levels in the 15-24 age group. For women, the highest levels reporting current alcohol use were the 35-44 and 55-64 age groups with the 25-34 age group also having the lowest percentage reporting current drinking. This is fairly similar to what was found in the 1998 SADHS.

As indicated earlier, levels of lifetime consumption of alcohol are 49 percent for men and 22 percent for women. The age, population group, education, urban/non-urban and provincial differences described above for current drinking rates are very similar for lifetime consumption of alcohol and drinking during the past 12 months.

Table 13.5 Patterns of drinking, risky drinking and symptoms of alcohol problems among men

Percentage of men aged 15 years and above who ever drank alcohol, who show signs of alcohol problems, who drank alcohol in past 12 months or past 7 days (current drinkers), and the percentage of drinkers with on average responsible, harmful and hazardous levels of use in the past 12 months and the past 7 days by background characteristics, South Africa 2003

| Background characteristics | Ever drank alcohol | | | | Average in past 12 months | | | | Average in past 7 days | | | | | |
|----------------------------|--------------------|----------------------|------------------------------|-----------------------|---------------------------|------------------|---------|-------------------|---------------------------|-----------------------|-----------------------|------------------|--------|--------|
| | CAGE >=2 | Drink past 12 months | Abstainers in past 12 months | Responsible <4 drinks | Hazardous 4-<6 drinks | Harmful 6+drinks | Missing | Drink past 7 days | Abstainers in past 7 days | Responsible <4 drinks | Hazardous 4-<6 drinks | Harmful 6+drinks | Number | |
| Age | | | | | | | | | | | | | | |
| 15-24 | 38.5 | 16.4 | 32.7 | 67.4 | 25.7 | 1.8 | 1.4 | 3.8 | 21.5 | 78.5 | 20.3 | 0.7 | 0.5 | 1 121 |
| 25-34 | 52.8 | 26.7 | 43.3 | 56.7 | 33.6 | 3.1 | 3.2 | 3.4 | 34.4 | 65.6 | 31.6 | 2.1 | 0.7 | 735 |
| 35-44 | 55.3 | 25.6 | 45.0 | 55.0 | 35.5 | 2.5 | 4.2 | 2.7 | 36.8 | 63.2 | 33.1 | 2.4 | 1.4 | 593 |
| 45-54 | 55.8 | 20.3 | 42.6 | 57.4 | 33.9 | 3.1 | 2.1 | 3.5 | 33.8 | 66.2 | 31.8 | 1.8 | 0.3 | 438 |
| 55-64 | 54.6 | 22.1 | 41.3 | 58.7 | 33.1 | 2.9 | 1.9 | 3.5 | 29.7 | 70.3 | 27.2 | 1.3 | 1.3 | 297 |
| 65+ | 44.7 | 19.2 | 32.9 | 67.1 | 28.6 | 0.6 | 1.9 | 1.9 | 27.7 | 72.3 | 27.1 | 0.4 | 0.2 | 240 |
| Residence | | | | | | | | | | | | | | |
| Urban | 53.4 | 21.7 | 43.5 | 56.5 | 35.2 | 3.0 | 2.7 | 2.7 | 34.1 | 65.9 | 31.4 | 1.9 | 0.9 | 2 289 |
| Non-urban | 38.6 | 20.7 | 30.2 | 69.8 | 22.5 | 1.2 | 2.0 | 4.6 | 20.7 | 79.3 | 19.6 | 0.7 | 0.4 | 1 133 |
| Province | | | | | | | | | | | | | | |
| Western Cape | 70.3 | 31.0 | 55.1 | 44.9 | 48.2 | 2.8 | 2.0 | 2.0 | 37.3 | 62.7 | 34.0 | 3.4 | 0.0 | 337 |
| Eastern Cape | 58.8 | 35.9 | 42.5 | 57.6 | 35.1 | 1.2 | 3.6 | 2.7 | 37.0 | 63.1 | 33.6 | 1.4 | 2.0 | 367 |
| Northern Cape | 61.4 | 38.0 | 51.8 | 48.2 | 40.3 | 3.9 | 4.6 | 3.0 | 42.8 | 57.2 | 33.9 | 4.3 | 4.6 | 60 |
| Free State | 52.5 | 27.7 | 45.9 | 54.1 | 34.2 | 2.8 | 5.5 | 3.4 | 32.9 | 67.1 | 30.3 | 2.3 | 0.3 | 224 |
| KwaZulu-Natal | 22.2 | 11.4 | 14.1 | 85.9 | 7.8 | 1.6 | 0.2 | 4.5 | 8.7 | 91.3 | 7.6 | 0.9 | 0.2 | 781 |
| North West | 57.9 | 34.5 | 52.5 | 47.5 | 41.8 | 1.9 | 6.3 | 2.6 | 44.7 | 55.3 | 42.7 | 1.2 | 0.8 | 248 |
| Gauteng | 56.6 | 14.6 | 48.4 | 51.6 | 39.8 | 3.6 | 2.8 | 2.1 | 37.7 | 62.3 | 35.5 | 1.2 | 0.9 | 914 |
| Mpumalanga | 43.2 | 18.1 | 41.0 | 59.0 | 34.7 | 2.3 | 1.4 | 2.6 | 32.9 | 67.1 | 30.3 | 1.8 | 0.8 | 209 |
| Limpopo | 45.7 | 23.1 | 33.6 | 66.4 | 23.8 | 1.3 | 1.0 | 7.5 | 21.8 | 78.2 | 21.4 | 0.3 | 0.0 | 282 |
| Education | | | | | | | | | | | | | | |
| No education | 50.1 | 25.2 | 41.5 | 58.5 | 31.6 | 0.7 | 4.5 | 4.8 | 32.2 | 67.8 | 29.0 | 2.6 | 0.6 | 296 |
| Grades 1-5 | 52.0 | 29.2 | 36.7 | 63.3 | 28.6 | 3.6 | 2.5 | 2.0 | 28.9 | 71.1 | 27.6 | 0.9 | 0.5 | 335 |
| Grades 6-7 | 48.1 | 23.1 | 38.3 | 61.7 | 30.9 | 3.2 | 1.8 | 2.4 | 31.6 | 68.4 | 29.9 | 1.7 | 0.1 | 384 |
| Grades 8-11 | 45.7 | 19.9 | 36.7 | 63.3 | 29.0 | 2.3 | 2.3 | 3.3 | 26.8 | 73.2 | 24.2 | 1.7 | 0.9 | 1 366 |
| Grade 12 | 47.7 | 19.1 | 38.7 | 61.3 | 29.7 | 2.7 | 2.5 | 3.9 | 28.9 | 71.1 | 27.2 | 1.0 | 0.7 | 703 |
| Higher | 57.2 | 18.0 | 50.7 | 49.4 | 44.4 | 1.8 | 0.9 | 3.5 | 37.8 | 62.2 | 36.0 | 0.7 | 1.1 | 309 |
| Population group | | | | | | | | | | | | | | |
| African | 44.2 | 21.6 | 35.2 | 64.8 | 26.9 | 2.3 | 2.5 | 3.6 | 27.1 | 72.9 | 25.3 | 1.1 | 0.8 | 2 838 |
| Afr. urban | 48.0 | 22.4 | 38.7 | 61.3 | 30.2 | 2.9 | 2.8 | 2.9 | 31.2 | 68.8 | 29.0 | 1.3 | 1.0 | 1 747 |
| Afr. non-urban | 38.0 | 20.4 | 29.5 | 70.5 | 21.6 | 1.2 | 4.7 | 4.7 | 20.4 | 79.6 | 19.4 | 0.6 | 0.4 | 1 091 |
| Coloureds | 68.0 | 31.2 | 52.3 | 47.7 | 43.5 | 3.5 | 3.0 | 2.2 | 36.4 | 63.6 | 32.3 | 3.4 | 0.7 | 268 |
| White | 74.5 | 10.0 | 69.9 | 30.1 | 64.8 | 1.9 | 1.9 | 1.3 | 53.1 | 46.9 | 48.9 | 4.2 | 0.0 | 2 20.0 |
| Indian | 66.3 | 11.0 | 50.3 | 49.7 | 40.6 | 5.0 | 1.3 | 3.5 | 36.2 | 63.8 | 32.8 | 2.2 | 1.3 | 83.0 |
| Total | 48.5 | 21.4 | 39.1 | 60.9 | 31.0 | 2.4 | 2.4 | 3.3 | 29.6 | 70.4 | 27.5 | 1.5 | 0.7 | 3 422 |

33 men have incomplete data on number of drinks.

22 men had education unknown; 13 men reported population group as Other.

Missing data for past 7 days has not been included

Table 13.6 Patterns of drinking, risky drinking and symptoms of alcohol problems among women

Percentage of women aged 15 years and above who ever drank alcohol, who show signs of alcohol problems, who drank alcohol in past 12 months or past 7 days (current drinkers), and the percentage of drinkers with on average responsible, harmful and hazardous levels of use in the past 12 months and the past 7 days by background characteristics, South Africa 2003

| Background characteristics | Average in past 12 months | | | | | | | | | | Average in past 7 days | | | | |
|----------------------------|---------------------------|---------|----------------------|------------------------------|-----------------------|-----------------------|-------------------|---------|-------------------|---------------------------|------------------------|-----------------------|-------------------|--------|--|
| | Ever drank alcohol | CAGE ≥2 | Drink past 12 months | Abstainers in past 12 months | Responsible <2 drinks | Hazardous 2-<4 drinks | Harmful 4+ drinks | Missing | Drink past 7 days | Abstainers in past 7 days | Responsible <2 drinks | Hazardous 2-<4 drinks | Harmful 4+ drinks | Number | |
| Age | | | | | | | | | | | | | | | |
| 15-24 | 18.5 | 6.1 | 14.7 | 85.3 | 11.5 | 0.5 | 0.9 | 1.8 | 8.2 | 91.8 | 6.9 | 1.2 | 0.1 | 1 256 | |
| 25-34 | 20.8 | 6.9 | 14.7 | 85.3 | 12.4 | 0.7 | 0.8 | 0.9 | 7.9 | 92.1 | 7.5 | 0.5 | 0.0 | 979 | |
| 35-44 | 25.0 | 8.0 | 19.6 | 80.4 | 15.6 | 0.9 | 2.1 | 1.0 | 13.3 | 86.7 | 11.2 | 1.6 | 0.5 | 883 | |
| 45-54 | 21.0 | 7.4 | 13.4 | 86.6 | 9.9 | 1.9 | 0.7 | 0.9 | 9.3 | 90.7 | 8.4 | 0.8 | 0.1 | 714 | |
| 55-64 | 27.1 | 7.9 | 17.0 | 83.0 | 14.0 | 0.8 | 1.0 | 1.2 | 13.6 | 86.4 | 12.5 | 0.8 | 0.3 | 483 | |
| 65+ | 19.8 | 5.1 | 12.2 | 87.8 | 8.6 | 2.0 | 0.7 | 0.9 | 8.0 | 92.0 | 5.7 | 1.9 | 0.3 | 378 | |
| Residence | | | | | | | | | | | | | | | |
| Urban | 26.7 | 7.5 | 19.5 | 80.5 | 16.0 | 1.2 | 1.1 | 1.3 | 12.0 | 88.0 | 10.6 | 1.2 | 0.3 | 2 995 | |
| Non-urban | 12.5 | 5.9 | 8.3 | 91.7 | 5.7 | 0.5 | 1.1 | 1.0 | 5.9 | 94.1 | 5.0 | 0.8 | 0.1 | 1 697 | |
| Province | | | | | | | | | | | | | | | |
| Western Cape | 39.2 | 9.6 | 28.8 | 71.2 | 22.9 | 1.9 | 1.6 | 2.5 | 18.8 | 81.3 | 15.5 | 3.1 | 0.2 | 573 | |
| Eastern Cape | 18.1 | 9.1 | 10.5 | 89.5 | 7.1 | 0.8 | 0.6 | 2.1 | 8.0 | 92.0 | 7.0 | 1.0 | 0.0 | 562 | |
| Northern Cape | 39.1 | 18.8 | 29.3 | 70.7 | 22.4 | 2.6 | 2.9 | 1.5 | 19.3 | 80.7 | 14.2 | 3.5 | 1.6 | 92 | |
| Free State | 27.5 | 13.2 | 21.0 | 79.0 | 13.4 | 3.4 | 2.8 | 1.4 | 13.9 | 86.1 | 11.2 | 1.9 | 0.8 | 313 | |
| KwaZulu-Natal | 6.6 | 1.9 | 3.6 | 96.4 | 3.0 | 0.0 | 0.3 | 0.3 | 1.4 | 98.6 | 0.8 | 0.5 | 0.0 | 888 | |
| North West | 21.5 | 9.7 | 18.2 | 81.8 | 14.2 | 1.5 | 2.0 | 0.5 | 11.9 | 88.1 | 10.9 | 0.6 | 0.4 | 373 | |
| Gauteng | 27.8 | 4.8 | 21.0 | 79.0 | 18.6 | 0.8 | 0.8 | 0.8 | 13.2 | 86.8 | 12.4 | 0.5 | 0.3 | 1 074 | |
| Mpumalanga | 12.3 | 2.7 | 8.3 | 91.7 | 6.4 | 0.8 | 0.7 | 0.4 | 5.5 | 94.5 | 4.9 | 0.6 | 0.0 | 300 | |
| Limpopo | 17.2 | 9.4 | 11.3 | 88.7 | 8.2 | 0.2 | 1.0 | 1.9 | 6.1 | 93.9 | 5.5 | 0.5 | 0.0 | 519 | |
| Education | | | | | | | | | | | | | | | |
| No education | 20.3 | 10.4 | 13.9 | 86.1 | 9.9 | 1.4 | 1.7 | 1.0 | 11.4 | 88.6 | 9.6 | 1.3 | 0.5 | 578 | |
| Grades 1-5 | 17.7 | 8.8 | 12.8 | 87.2 | 9.3 | 1.2 | 1.1 | 1.2 | 9.1 | 90.9 | 8.2 | 0.8 | 0.1 | 448 | |
| Grades 6-7 | 22.0 | 9.7 | 12.4 | 87.6 | 10.2 | 0.8 | 0.8 | 0.6 | 7.6 | 92.4 | 6.0 | 1.5 | 0.1 | 501 | |
| Grades 8-11 | 20.4 | 7.0 | 14.9 | 85.1 | 11.8 | 0.7 | 1.1 | 1.4 | 8.8 | 91.2 | 7.7 | 0.7 | 0.3 | 1 873 | |
| Grade 12 | 19.4 | 3.2 | 14.2 | 85.8 | 11.2 | 1.1 | 1.0 | 0.9 | 9.2 | 90.9 | 7.5 | 1.6 | 0.0 | 923 | |
| Higher | 39.3 | 4.6 | 32.6 | 67.4 | 29.0 | 1.0 | 0.4 | 2.3 | 18.5 | 81.5 | 17.8 | 0.7 | 0.0 | 344 | |
| Population group | | | | | | | | | | | | | | | |
| African | 16.4 | 6.6 | 11.4 | 88.6 | 8.9 | 0.9 | 0.8 | 0.9 | 7.1 | 92.9 | 6.2 | 0.8 | 0.2 | 3 857 | |
| Afr. urban | 20.3 | 7.5 | 14.2 | 85.8 | 11.7 | 1.1 | 0.6 | 0.8 | 8.5 | 91.5 | 7.4 | 0.8 | 0.3 | 2 250 | |
| Afr. non-urban | 11.1 | 5.3 | 7.5 | 92.6 | 5.1 | 0.5 | 0.9 | 0.9 | 5.3 | 94.7 | 4.5 | 0.7 | 0.1 | 1 607 | |
| Coloureds | 40.2 | 14.0 | 27.7 | 72.3 | 20.2 | 1.0 | 3.8 | 2.7 | 19.7 | 80.3 | 16.8 | 2.4 | 0.5 | 456 | |
| White | 58.6 | 1.7 | 50.9 | 49.1 | 43.9 | 2.9 | 1.1 | 3.0 | 31.3 | 68.7 | 27.8 | 3.5 | 0.0 | 257 | |
| Indian | 37.7 | 2.7 | 24.4 | 75.6 | 21.2 | 0.2 | 0.3 | 2.7 | 12.8 | 87.2 | 12.6 | 0.2 | 0.0 | 112 | |
| Total | 21.6 | 6.9 | 15.5 | 84.5 | 12.2 | 1.0 | 1.1 | 1.2 | 9.8 | 90.2 | 9.6 | 0.1 | 0.1 | 4 693 | |

8 women have incomplete data on number of drinks.

17 women had education unknown; 12 women reported population group as Other.

Missing data for past 7 days has not been included

Using data on the average number of drinks consumed per day and drinking frequency over the past 12 months*, the proportion of persons drinking 'responsibly' (less than four drinks per day for men and less than two drinks per day for women), drinking at 'harmful levels' (four drinks to less than six drinks per day for men and two drinks to less than four drinks per day for women) and drinking at 'hazardous levels' (six or more drinks per day for men and four or more drinks per day for women) was calculated. These levels were recommended by the Australian National Health and Medical Research Council in 1987 and allow for average body size difference between men and women. For drinking during the past seven days this was calculated directly using information provided by respondents. Using data over the past 12 months, 79 percent of men and women drinkers, on average, drink at responsible levels. Among persons who reported drinking in the past seven days, men reported 5.0 alcohol free days (S.E. = 0.07) compared to 5.6 for women (S.E. = 0.08).

13.5 Risky Drinking and Alcohol Problems

Using the levels of hazardous and harmful drinking referred to in the previous section and the data averaged over the past 12 months, it was found that 12 percent of male and 14 percent of female drinkers drink at "hazardous" or "harmful" levels. Using data on drinking practices during the seven days preceding the interview, it was found that 7 percent of male drinkers and 2 percent of female drinkers drink at such levels. In terms of the total sample of drinkers and non-drinkers, 5 percent of men and 2 percent of women on average drink at hazardous/harmful levels based on the past 12 months (Tables 13.5 and 13.6).

Hazardous and harmful drinking appears to be particularly high over weekends. Using information on the amount of alcohol consumed over the seven days preceding the interview, 23 percent of male drinkers and 25 percent of female drinkers exceeded the recommended levels for responsible drinking on average over the weekend (Friday, Saturday and Sunday) preceding the interview. For weekdays (Monday-Thursday) one percent of male drinkers and four percent of female drinkers drink at hazardous or harmful levels (Table 13.7). Rates of hazardous/harmful drinking are therefore roughly 16 times higher for men over weekends as compared to weekdays and 7 times greater for female drinkers. It is difficult to compare levels of hazardous/harmful drinking over weekdays and weekends with the 1998 SADHS as the 'risky drinking' measures differed in the two surveys.

* 5 or more days per week (category 1), 1-4 days per week (2), 1-3 days per month (3), and less than once a month (4). To calculate an average daily amount of alcohol consumed, the daily frequency of alcohol drinking was multiplied by the average daily amount, with persons in category 1 estimated as drinking every day, persons in category 2 at 2.5/7 times a day, category 3 at 1/15 times a day and category 4 at 1/30 times per day.

Table 13.7 Hazardous and harmful drinking among adults

Percentage of adult drinkers 15 years and above who drink at hazardous or harmful levels during weekdays and weekends based on past 7 day drinking report by sex and background characteristics, South Africa 2003

| Background characteristics | Weekdays (Monday-Thursday) | | Weekends (Friday-Sunday) | |
|----------------------------|-------------------------------|------------|-----------------------------|-------------|
| | Men | Women | Men | Women |
| Age | | | | |
| 15-24 | 0.6 | 0.9 | 18.3 | 28.0 |
| 25-34 | 1.1 | 2.1 | 26.8 | 24.5 |
| 35-44 | 1.6 | 3.9 | 31.4 | 26.4 |
| 45-54 | 1.4 | 4.6 | 22.7 | 23.3 |
| 55-64 | 3.8 | 3.1 | 16.2 | 11.9 |
| 65+ | 1.3 | 15.9 | 4.5 | 42.3 |
| Residence | | | | |
| Urban | 1.4 | 3.2 | 25.7 | 24.2 |
| Non-urban | 1.3 | 5.2 | 13.4 | 30.5 |
| Province | | | | |
| Western Cape | 0.8 | 4.7 | 22.7 | 27.0 |
| Eastern Cape | 2.8 | 0.0 | 21.7 | 32.8 |
| Northern Cape | 8.1 | 9.0 | 37.5 | 38.7 |
| Free State | 1.9 | 7.5 | 20.8 | 33.5 |
| KwaZulu-Natal | 2.2 | 0.0 | 27.3 | 17.4 |
| North West | 0.7 | 2.9 | 15.8 | 24.2 |
| Gauteng | 0.6 | 2.6 | 26.8 | 23.7 |
| Mpumalanga | 2.6 | 4.8 | 16.4 | 18.2 |
| Limpopo | 0.0 | 3.1 | 10.0 | 13.4 |
| Education | | | | |
| No education | 1.7 | 8.2 | 18.8 | 33.3 |
| Grades 1-5 | 2.7 | 4.7 | 12.8 | 27.3 |
| Grades 6-7 | 0.3 | 1.5 | 24.7 | 28.7 |
| Grades 8-11 | 2.0 | 2.9 | 23.0 | 26.9 |
| Grade 12 | 0.2 | 4.8 | 28.3 | 31.2 |
| Higher | 1.1 | 1.2 | 17.6 | 7.0 |
| Population group | | | | |
| African | 1.4 | 3.3 | 23.5 | 28.5 |
| Afr. urban | 1.5 | 3.2 | 28.6 | 29.2 |
| Afr. non-urban | 1.3 | 3.8 | 12.9 | 26.4 |
| Coloured | 2.0 | 4.0 | 28.4 | 38.7 |
| Indian | 4.7 | 0.0 | 14.7 | 4.6 |
| White | 0.0 | 4.8 | 13.8 | 6.9 |
| Total | 1.4 | 3.6 | 22.5 | 25.4 |

Note: Responsible drinking is defined as less than 4 standard drinks per day, hazardous levels as 4 to less than 6 and harmful drinking as in excess of 6 drinks per day for men.

For women the comparable amounts are less than 2, 2 to less than 4 and more than 4.

For men hazardous/harmful drinking at weekends appears to be highest among drinkers in the middle categories for age (35-44 years), whereas for women the highest proportion of persons drinking at hazardous/harmful levels occurs among persons 65 years and older. With regard to the different population groups, the highest level of hazardous/harmful drinking among men over weekends occurs in Coloureds and urban Africans (28 – 29 percent of drinkers), whereas for women levels are highest among Coloured females (39 percent of drinkers). For men hazardous/harmful drinking over weekends is greatest among persons living in urban areas whereas for women a higher proportion of persons in non-urban areas drink at hazardous/harmful levels. Among both men and women, the Northern Cape stands out as the province having the highest proportion of drinkers drinking at hazardous/harmful levels over weekends (38 – 39 percent of drinkers). For men the highest levels of hazardous/harmful drinking over weekends occurs among persons with a grade 12 education, whereas for females the highest level occurs in persons with no education.

Only 1 percent of pregnant women acknowledged that they had drunk alcohol in the past seven days. Symptoms of alcohol problems were assessed via the 4-item CAGE Questionnaire (Erwing, 1984). Over a fifth of men in the study population (21 percent), both drinkers and non-drinkers, and 7 percent of women were found to score above the cut off point (≥ 2) on this 4 item questionnaire (Table 13.5 and 13.6), indicating that they have in their lifetime experienced symptoms of alcohol problems. This is slightly lower than the proportions reported in 1998, 28 percent and 10 percent respectively (Department of Health and South African Medical Research Council, 2002). Shisana *et al.* in their national survey conducted in 2005 reported levels of high risk drinking of 14 percent for men and 2 percent for women. Shisana *et al.* (2005) used the Alcohol Use Disorders Identification Test (AUDIT), a 10 item instrument that takes into account both the quantity and frequency of alcohol consumed as well as symptoms of alcohol problems. The most likely reason, however, for the lower estimates of problematic alcohol use reported by Shisana *et al.* as compared to the 2003 SADHS is because of the different time frame used (past 12 months versus lifetime).

In the 2003 SADHS symptoms of alcohol problems among men are highest among persons in the 25-34 and 35-44 age groups (26-27 percent), persons in the Northern Cape, Eastern Cape and North West (all above 35 percent), persons with the lowest levels of education (29 percent for persons with a grade 1-5 education and 25 percent for persons with no education), and persons who identified themselves as Coloured (31 percent). For females, symptoms of alcohol problems are highest among persons in the 35-44 age group (8 percent), persons in the Northern Cape and Free State (above 10 percent), persons with no education (10 percent), and persons who identified themselves as Coloured (14 percent). There are no major differences between urban and non-urban areas of residence in reported experience of symptoms of alcohol problems. In the 1998 SADHS the highest symptoms of alcohol problems were reported by males (aged 35-44) and females (aged 45-54), persons with the lowest levels of education, and Coloureds and Africans.

Interventions are needed to reduce the high levels of risky drinking over weekends. Some groups appear to be especially at risk from the effects of hazardous and harmful levels of drinking: Coloured men and women and African men. Other groups deserving special attention in intervention planning are persons in the Northern Cape, persons living in urban areas, higher educated men and women with no education, as well as men aged 35-44 and women 65 years of age and older. However, this does not mean that interventions should exclude other sectors of the population such as non-urban populations.

13.6 Perceptions of Own Body Weight

Table 13.8 shows the responses of adult participants to the question about their own body weight. In general, more men perceive themselves as being underweight, while more women perceive themselves as being overweight. Perceptions are related to age, area of residence and education levels. For example, more non-urban compared with urban women perceive themselves as being underweight. On the other hand, more urban men and women perceive themselves as overweight compared with non-urban ones and these perceptions are more common in women with higher levels of education.

The largest percent of adults who perceive themselves as being underweight is in the Eastern Cape while the largest percent of those who perceive themselves as overweight are in the Western Cape. The lowest percent of those who perceive themselves as being underweight are in KwaZulu-Natal and the lowest percent of those who perceive themselves as overweight are men in North West and women in Limpopo.

Of the different population groups the highest prevalence of Coloured men and women perceive themselves as being underweight, 16 and 12 percent, respectively. The lowest percent of a perception of being underweight is reported by African non-urban men (8 percent), and white (6 percent) and Indian (6 percent) women. A large prevalence of white men (23 percent) and women (30 percent) perceive themselves as being overweight, compared to African non-urban men and women who report the lowest percentages, 1 and 5 percent, respectively.

Table 13.8 Adults' self perception of weight

Percentage of men and women 15 years and above who perceive themselves to be underweight, normal weight, and over weight, by background characteristics, South Africa 2003

| Background characteristics | MEN | | | | WOMEN | | | |
|----------------------------|--------------|---------------|-------------|--------------|--------------|---------------|-------------|--------------|
| | Under-weight | Normal weight | Over-weight | Number | Under-weight | Normal weight | Over-weight | Number |
| Age | | | | | | | | |
| 15-24 | 9.9 | 80.6 | 3.2 | 1 121 | 8.3 | 75.6 | 9.3 | 1 256 |
| 25-34 | 10.9 | 76.7 | 5.6 | 735 | 7.9 | 68.7 | 16.4 | 979 |
| 35-44 | 8.5 | 76.6 | 6.8 | 593 | 9.9 | 66.8 | 16.1 | 883 |
| 45-54 | 14.8 | 70.1 | 6.8 | 438 | 12.6 | 60.2 | 18.3 | 714 |
| 55-64 | 15.2 | 64.2 | 8.6 | 297 | 12.7 | 62.0 | 14.6 | 483 |
| 65+ | 16.8 | 65.5 | 4.8 | 240 | 15.9 | 60.0 | 10.7 | 378 |
| Residence | | | | | | | | |
| Urban | 11.2 | 75.4 | 6.9 | 2 289 | 9.1 | 65.3 | 18.3 | 2 995 |
| Non-urban | 11.9 | 75.0 | 2.2 | 1 133 | 12.3 | 71.4 | 6.7 | 1 697 |
| Province | | | | | | | | |
| Western Cape | 14.2 | 66.2 | 12.1 | 337 | 13.4 | 50.5 | 28.9 | 573 |
| Eastern Cape | 28.5 | 63.0 | 5.9 | 367 | 21.6 | 64.1 | 10.9 | 562 |
| Northern Cape | 17.1 | 67.1 | 6.1 | 60 | 14.5 | 59.8 | 17.6 | 92 |
| Free State | 19.0 | 68.4 | 3.8 | 224 | 12.6 | 68.7 | 13.3 | 313 |
| KwaZulu-Natal | 4.7 | 83.7 | 3.3 | 781 | 1.7 | 82.3 | 9.3 | 888 |
| North West | 6.0 | 70.3 | 1.8 | 248 | 7.2 | 66.2 | 10.2 | 373 |
| Gauteng | 6.6 | 80.7 | 6.8 | 914 | 6.8 | 69.1 | 17.9 | 1 074 |
| Mpumalanga | 14.7 | 67.5 | 5.2 | 209 | 9.4 | 54.8 | 7.9 | 300 |
| Limpopo | 15.6 | 78.1 | 2.2 | 282 | 16.7 | 70.2 | 7.5 | 519 |
| Education | | | | | | | | |
| No education | 20.6 | 60.7 | 2.7 | 296 | 18.3 | 62.0 | 7.2 | 578 |
| Grades 1-5 | 19.5 | 62.9 | 4.7 | 335 | 15.6 | 62.7 | 9.8 | 448 |
| Grades 6-7 | 15.6 | 68.5 | 5.0 | 384 | 11.9 | 64.2 | 13.1 | 501 |
| Grades 8-11 | 10.4 | 78.6 | 4.0 | 1 366 | 10.2 | 67.7 | 14.7 | 1 873 |
| Grades 12 | 6.6 | 81.1 | 7.5 | 703 | 4.7 | 73.7 | 16.2 | 923 |
| Higher | 4.9 | 82.8 | 9.9 | 309 | 3.0 | 70.4 | 23.5 | 344 |
| Population group | | | | | | | | |
| African | 11.3 | 77.0 | 2.9 | 2 838 | 10.4 | 69.8 | 11.0 | 3 857 |
| Afr. urban | 10.7 | 78.4 | 3.3 | 1 747 | 11.8 | 87.9 | 18.8 | 2 250 |
| Afr. non-urban | 7.6 | 46.6 | 1.4 | 1 091 | 11.2 | 66.2 | 5.4 | 1 607 |
| Coloured | 16.3 | 67.4 | 11.0 | 268 | 12.2 | 52.7 | 26.8 | 456 |
| White | 8.2 | 67.1 | 23.3 | 220 | 5.7 | 61.9 | 30.4 | 257 |
| Indian | 11.5 | 67.5 | 19.1 | 83 | 5.7 | 65.0 | 27.4 | 112 |
| Total* | 11.4 | 75.2 | 5.4 | 3 422 | 10.2 | 67.5 | 14.1 | 4 693 |

22 men and 17 women had education unknown.

13 men and 12 women reported population group as Other.

*missing and unknown are excluded.

13.7 Weight and Height

Table 13.9 provides mean values of weight and height for South African men and women aged 15 years and older. Mean height for men is higher than that of women, (1.68 metre vs. 1.59 metre). Variations in height are observed in relation to the level of education and population groups. White and Indian men are the tallest, while African non-urban men are the shortest. Coloured men and Indian women are the shortest within their population groups.

Although on average men are taller than women, their mean weight was lower, a difference of 2.1kg. The heaviest men are

in the 35 to 54-age category, while the heaviest women are in the 25 to 54 age group. Urban men and women are heavier than non-urban ones. The heaviest men and women are residents of KwaZulu-Natal and the lightest of Limpopo and Northern Cape provinces. The highest mean weight is reported in African urban women, and the lowest in Indian women.

A comparison of weight and height data from the current survey with the 1998 survey shows only a few differences. Mean weight and height data remained similar with one exception; data from the 1998 survey shows higher mean weights and heights for white men and women than in the current study. These differences can be partly explained by the fact that the sample sizes of men and women were 536 and 737 respectively, in 1998, and 203 and 236, respectively in 2003.

Table 13.9 Anthropometry of adult men and women

The mean and standard error of weight in kg and height in metres of men and women aged 15 and above by background characteristics, South Africa 2003

| Background characteristics | MEN | | | | | | WOMEN | | | | | | |
|----------------------------|-------------|-----------|------------|-----------|--------|-------|-------------|-----------|------------|-----------|--------|------|-------|
| | Weight (kg) | | Height (m) | | Number | | Weight (kg) | | Height (m) | | Number | | |
| | Mean | Std Error | Mean | Std error | | | Mean | Std Error | Mean | Std error | | | |
| Age | | | | | | | | | | | | | |
| 15-24 | 59.2 | 0.47 | 1 086 | 1.67 | 0.004 | 1 086 | 59.2 | 0.51 | 1.58 | 0.002 | 1 199 | 1.58 | 0.002 |
| 25-34 | 67.5 | 0.74 | 702 | 1.69 | 0.005 | 702 | 68.7 | 0.65 | 1.60 | 0.003 | 934 | 1.60 | 0.003 |
| 35-44 | 69.8 | 0.83 | 569 | 1.69 | 0.005 | 569 | 72.3 | 0.79 | 1.59 | 0.003 | 852 | 1.59 | 0.003 |
| 45-54 | 71.1 | 1.02 | 418 | 1.69 | 0.005 | 418 | 73.9 | 0.97 | 1.59 | 0.004 | 684 | 1.59 | 0.004 |
| 55-64 | 69.0 | 1.27 | 282 | 1.68 | 0.008 | 282 | 71.2 | 1.09 | 1.58 | 0.005 | 455 | 1.58 | 0.005 |
| 65+ | 67.6 | 1.07 | 218 | 1.66 | 0.008 | 218 | 69.4 | 1.19 | 1.57 | 0.005 | 357 | 1.57 | 0.005 |
| Residence | | | | | | | | | | | | | |
| Urban | 67.1 | 0.59 | 2 189 | 1.69 | 0.003 | 2 189 | 69.2 | 0.56 | 1.59 | 0.002 | 2 864 | 1.59 | 0.002 |
| Non-urban | 63.0 | 0.43 | 1 086 | 1.67 | 0.003 | 1 086 | 65.6 | 0.48 | 1.59 | 0.003 | 1 616 | 1.59 | 0.003 |
| Province | | | | | | | | | | | | | |
| Western Cape | 68.0 | 1.24 | 331 | 1.68 | 0.007 | 331 | 67.4 | 1.12 | 1.57 | 0.004 | 559 | 1.57 | 0.004 |
| Eastern Cape | 64.6 | 1.43 | 355 | 1.67 | 0.009 | 355 | 69.8 | 1.03 | 1.58 | 0.005 | 527 | 1.58 | 0.005 |
| Northern Cape | 60.4 | 0.99 | 58 | 1.66 | 0.005 | 58 | 62.8 | 0.84 | 1.56 | 0.004 | 89 | 1.56 | 0.004 |
| Free State | 62.5 | 1.13 | 217 | 1.66 | 0.005 | 217 | 64.8 | 0.83 | 1.57 | 0.003 | 298 | 1.57 | 0.003 |
| KwaZulu-Natal | 68.0 | 0.59 | 734 | 1.67 | 0.006 | 734 | 70.6 | 0.97 | 1.62 | 0.005 | 831 | 1.62 | 0.005 |
| North West | 62.6 | 0.80 | 243 | 1.68 | 0.005 | 243 | 65.9 | 0.93 | 1.58 | 0.004 | 361 | 1.58 | 0.004 |
| Gauteng | 67.6 | 1.21 | 865 | 1.70 | 0.006 | 865 | 69.4 | 1.05 | 1.59 | 0.004 | 1 025 | 1.59 | 0.004 |
| Mpumalanga | 63.5 | 0.89 | 206 | 1.69 | 0.004 | 206 | 67.2 | 0.93 | 1.59 | 0.003 | 294 | 1.59 | 0.003 |
| Limpopo | 61.1 | 0.78 | 268 | 1.68 | 0.005 | 268 | 63.6 | 1.13 | 1.57 | 0.004 | 496 | 1.57 | 0.004 |
| Education | | | | | | | | | | | | | |
| No education | 64.8 | 0.95 | 276 | 1.66 | 0.007 | 276 | 66.5 | 0.84 | 1.57 | 0.005 | 544 | 1.57 | 0.005 |
| Grades 1-5 | 64.8 | 1.06 | 329 | 1.66 | 0.005 | 329 | 69.4 | 0.98 | 1.59 | 0.004 | 429 | 1.59 | 0.004 |
| Grades 6-7 | 64.6 | 0.93 | 371 | 1.68 | 0.005 | 371 | 70.4 | 1.14 | 1.58 | 0.004 | 485 | 1.58 | 0.004 |
| Grades 8-11 | 63.9 | 0.59 | 1 300 | 1.68 | 0.003 | 1 300 | 66.6 | 0.60 | 1.58 | 0.002 | 1 796 | 1.58 | 0.002 |
| Grades 12 | 67.1 | 0.70 | 669 | 1.70 | 0.005 | 669 | 68.2 | 0.73 | 1.61 | 0.004 | 878 | 1.61 | 0.004 |
| Higher | 74.1 | 1.56 | 300 | 1.72 | 0.009 | 300 | 69.7 | 1.35 | 1.61 | 0.006 | 322 | 1.61 | 0.006 |
| Population group | | | | | | | | | | | | | |
| African | 64.6 | 0.36 | 2 720 | 1.68 | 0.002 | 2 720 | 68.5 | 0.44 | 1.59 | 0.002 | 3 687 | 1.59 | 0.002 |
| Afr. urban | 65.4 | 0.50 | 1 673 | 1.69 | 0.003 | 1 673 | 70.4 | 0.65 | 1.59 | 0.003 | 2 161 | 1.59 | 0.003 |
| Afr. non-urban | 63.2 | 0.44 | 1 047 | 1.67 | 0.003 | 1 047 | 65.8 | 0.47 | 1.59 | 0.003 | 1 526 | 1.59 | 0.003 |
| Coloured | 67.0 | 1.78 | 256 | 1.66 | 0.010 | 256 | 65.3 | 1.19 | 1.57 | 0.006 | 438 | 1.57 | 0.006 |
| White | 78.2 | 2.63 | 203 | 1.73 | 0.012 | 203 | 65.7 | 1.86 | 1.62 | 0.006 | 236 | 1.62 | 0.006 |
| Indian | 71.3 | 2.17 | 82 | 1.69 | 0.017 | 82 | 63.6 | 0.93 | 1.55 | 0.004 | 110 | 1.55 | 0.004 |
| Total | 65.8 | 0.42 | 3 275 | 1.68 | 0.002 | 3 275 | 67.9 | 0.41 | 1.59 | 0.002 | 4 481 | 1.59 | 0.002 |

Note: Std Error = standard deviation of the mean.
22 men and 17 women had education unknown; 13 men and 11 women reported population group as Other.

13.8 Body Mass Index (BMI) and Prevalence of Obesity

Body mass index calculated as weight in kilograms divided by the square of the height in metres (kg/m^2), is a useful measure of nutritional status that combines height and weight data. A person is underweight if the BMI is less than 18.5 kg/m^2 ; overweight if BMI is $25\text{-}29.9 \text{ kg/m}^2$; and obese if $\text{BMI} \geq 30 \text{ kg/m}^2$. Tables 13.10 and 13.11 show the mean BMI for adult men and women, as well as the distribution of the study population by underweight, normal weight, overweight or obesity.

| Table 13.10 Body mass index (BMI) of adult men | | | | | | | |
|---|-----------------|-------------|----------------------|---------------------|-----------------------|--------------|-------------|
| Mean and standard error of the BMI (kg/m^2) and the percentage of men aged 15 years and above by body mass index categories according to background characteristics, South Africa 2003 | | | | | | | |
| Background characteristics | Body Mass Index | | BMI Categories | | | | Number |
| | Mean | Std error | Underweight <18.5 | Normal 18.5-24.9 | Overweight 25-29.9 | Obese 30+ | |
| Age | | | | | | | |
| 15-24 | 21.2 | 0.17 | 20.3 | 68.2 | 9.7 | 1.8 | 1 086 |
| 25-34 | 23.8 | 0.28 | 8.4 | 60.9 | 20.9 | 9.8 | 702 |
| 35-44 | 24.6 | 0.32 | 8.3 | 52.2 | 26.6 | 12.9 | 569 |
| 45-54 | 24.9 | 0.33 | 8.4 | 45.9 | 31.9 | 13.8 | 418 |
| 55-64 | 24.5 | 0.38 | 9.9 | 48.0 | 29.0 | 13.1 | 282 |
| 65+ | 24.7 | 0.40 | 9.3 | 44.7 | 32.0 | 14.0 | 218 |
| Residence | | | | | | | |
| Urban | 23.7 | 0.21 | 11.8 | 57.3 | 20.3 | 10.6 | 2 189 |
| Non-urban | 22.7 | 0.15 | 14.0 | 58.5 | 22.4 | 5.1 | 1 086 |
| Province | | | | | | | |
| Western Cape | 24.1 | 0.38 | 9.2 | 52.7 | 23.6 | 14.5 | 331 |
| Eastern Cape | 23.2 | 0.67 | 10.9 | 63.8 | 16.5 | 8.8 | 355 |
| Northern Cape | 21.8 | 0.29 | 25.7 | 55.1 | 13.8 | 5.4 | 58 |
| Free State | 22.6 | 0.34 | 18.0 | 60.0 | 13.5 | 8.6 | 217 |
| KwaZulu-Natal | 24.5 | 0.26 | 4.1 | 55.0 | 31.9 | 9.0 | 734 |
| North West | 22.1 | 0.26 | 19.8 | 57.9 | 17.5 | 4.8 | 243 |
| Gauteng | 23.5 | 0.39 | 14.3 | 55.9 | 20.2 | 9.7 | 865 |
| Mpumalanga | 22.3 | 0.28 | 16.4 | 61.4 | 16.3 | 6.0 | 206 |
| Limpopo | 21.5 | 0.24 | 19.5 | 64.9 | 11.0 | 4.6 | 268 |
| Education | | | | | | | |
| No education | 23.5 | 0.33 | 13.9 | 51.2 | 24.1 | 10.8 | 276 |
| Grades 1-5 | 23.6 | 0.41 | 14.4 | 51.2 | 24.5 | 10.0 | 329 |
| Grades 6-7 | 23.0 | 0.35 | 16.1 | 58.6 | 16.3 | 9.0 | 371 |
| Grades 8-11 | 22.8 | 0.20 | 14.1 | 60.2 | 19.3 | 6.3 | 1 300 |
| Grades 12 | 23.7 | 0.32 | 9.7 | 60.5 | 19.9 | 10.0 | 669 |
| Higher | 25.0 | 0.41 | 5.4 | 51.5 | 30.3 | 12.9 | 300 |
| Population group | | | | | | | |
| African | 22.9 | 0.13 | 13.3 | 59.5 | 20.1 | 7.1 | 2 720 |
| Afr. urban | 23.1 | 0.19 | 13.0 | 60.3 | 18.7 | 8.1 | 1 673 |
| Afr. non-urban | 22.7 | 0.15 | 13.9 | 58.3 | 22.5 | 5.3 | 1 047 |
| Coloured | 24.4 | 0.89 | 11.5 | 52.4 | 21.3 | 14.9 | 256 |
| White | 26.3 | 0.94 | 4.9 | 47.0 | 25.1 | 23.0 | 203 |
| Indian | 24.8 | 0.36 | 10.1 | 45.2 | 33.7 | 10.9 | 82 |
| Total | 23.3 | 0.15 | 12.5 | 57.7 | 21.0 | 8.8 | 3275 |
| Note: Std error = standard deviation of the mean. 22 cases had education unknown. 13 cases reported population group as Other. | | | | | | | |

The mean BMI is 23.3 kg/m² and 27 kg/m² for men and women, respectively. Although the mean values are within the normal limits in relation to age, area of residence, and within provinces, there are variations in relation to level of education and population groups. The prevalence of overweight increases with age and is most prevalent in men over 65 years and in women aged 55 to 64 years. Urban women are more obese than non-urban ones and a difference of 10 percent is observed between urban and non-urban groups. In men the same trend is followed with the prevalence of obesity being 5 percent higher in urban men. For both men and women, the prevalence of overweight is highest in KwaZulu-Natal and lowest in men in Limpopo and women in Northern Cape.

| Background characteristics | Body Mass Index | | BMI Categories | | | | Number |
|----------------------------|-----------------|-----------|-------------------|------------------|--------------------|-----------|--------|
| | Mean | Std error | Underweight <18.5 | Normal 18.5-24.9 | Overweight 25-29.9 | Obese 30+ | |
| Age | | | | | | | |
| 15-24 | 23.6 | 0.20 | 11.1 | 58.2 | 19.7 | 11.0 | 1 199 |
| 25-34 | 26.8 | 0.25 | 5.2 | 39.3 | 29.4 | 26.0 | 934 |
| 35-44 | 28.6 | 0.31 | 4.3 | 30.5 | 29.6 | 35.6 | 852 |
| 45-54 | 29.4 | 0.40 | 2.9 | 27.7 | 28.2 | 41.2 | 684 |
| 55-64 | 28.5 | 0.46 | 4.9 | 27.0 | 34.2 | 33.9 | 455 |
| 65+ | 28.3 | 0.46 | 5.2 | 29.1 | 33.9 | 31.8 | 357 |
| Residence | | | | | | | |
| Urban | 27.6 | 0.22 | 5.7 | 36.1 | 27.1 | 31.0 | 2 864 |
| Non-urban | 25.9 | 0.18 | 7.1 | 43.7 | 28.2 | 21.0 | 1 616 |
| Province | | | | | | | |
| Western Cape | 27.3 | 0.42 | 9.5 | 34.3 | 25.9 | 30.3 | 559 |
| Eastern Cape | 27.9 | 0.44 | 3.2 | 36.7 | 28.2 | 31.9 | 527 |
| Northern Cape | 25.8 | 0.28 | 12.2 | 41.9 | 21.6 | 24.2 | 89 |
| Free State | 26.4 | 0.31 | 7.6 | 42.8 | 23.3 | 26.2 | 298 |
| KwaZulu-Natal | 26.9 | 0.41 | 3.2 | 39.3 | 33.0 | 24.5 | 831 |
| North West | 26.4 | 0.35 | 8.0 | 42.6 | 25.1 | 24.4 | 361 |
| Gauteng | 27.5 | 0.43 | 5.6 | 36.1 | 28.2 | 30.1 | 1 025 |
| Mpumalanga | 26.7 | 0.36 | 6.0 | 40.1 | 25.9 | 28.0 | 294 |
| Limpopo | 25.6 | 0.43 | 9.1 | 45.0 | 24.2 | 21.8 | 496 |
| Education | | | | | | | |
| No education | 26.9 | 0.31 | 6.6 | 36.7 | 30.3 | 26.4 | 544 |
| Grades 1-5 | 27.6 | 0.38 | 7.1 | 30.9 | 32.4 | 29.5 | 429 |
| Grades 6-7 | 28.3 | 0.45 | 6.3 | 32.6 | 25.8 | 35.3 | 485 |
| Grades 8-11 | 26.6 | 0.25 | 7.1 | 41.6 | 24.9 | 26.4 | 1 796 |
| Grades 12 | 26.4 | 0.29 | 4.8 | 43.2 | 27.4 | 24.6 | 878 |
| Higher | 27.0 | 0.51 | 3.9 | 38.4 | 33.9 | 23.8 | 322 |
| Population group | | | | | | | |
| African | 27.2 | 0.18 | 5.6 | 38.2 | 27.7 | 28.5 | 3 687 |
| Afr. urban | 28.1 | 0.26 | 5.1 | 34.0 | 27.1 | 33.8 | 2 161 |
| Afr. non-urban | 25.9 | 0.18 | 6.3 | 44.2 | 28.6 | 21.0 | 1 526 |
| Coloured | 26.4 | 0.42 | 12.1 | 35.8 | 25.7 | 26.5 | 438 |
| White | 25.0 | 0.69 | 4.9 | 57.0 | 24.3 | 13.7 | 236 |
| Indian | 26.6 | 0.37 | 5.7 | 35.1 | 34.4 | 24.8 | 110 |
| Total | 27.0 | 0.16 | 6.2 | 38.9 | 27.5 | 27.4 | 4 481 |

Note: Std error = standard deviation of the mean.
17 cases had education unknown.
11 cases reported population group as Other.

The highest level of obesity in men is seen in those of 65 years and older, in the Western Cape, in men with a tertiary education and amongst whites. In women, obesity is most prevalent in the 45-54 age group, in the Eastern Cape, in those with low education (Grade 6-7) and in African urban women. White women (14 percent) and the 15-24 age group (11 percent) have the lowest prevalence of obesity.

A comparison of data from the 1998 survey with the current one shows that there have been no major changes in BMI data over the 5-year period (Figure 13.3). Mean BMI for men and women has hardly changed from 23.4 kg/m² and 27.3 kg/m² for men and women respectively. Figure 13.4 shows the BMI categories by population group. The only changes can be seen for White men and women who tend towards less overweight than in 1998 and the Indian women who have a lower proportion underweight in 2003 than in 1998.

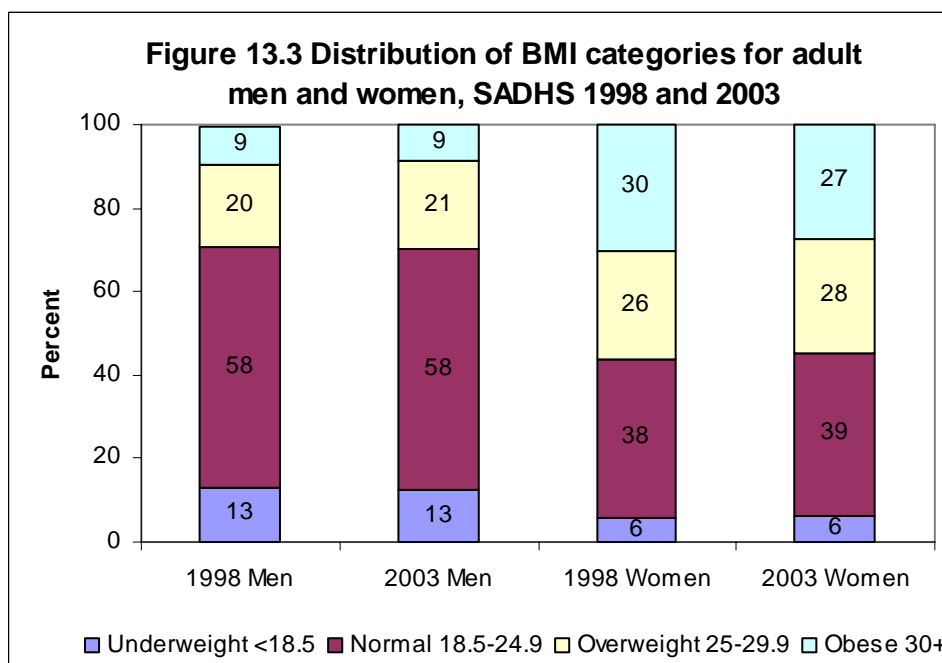
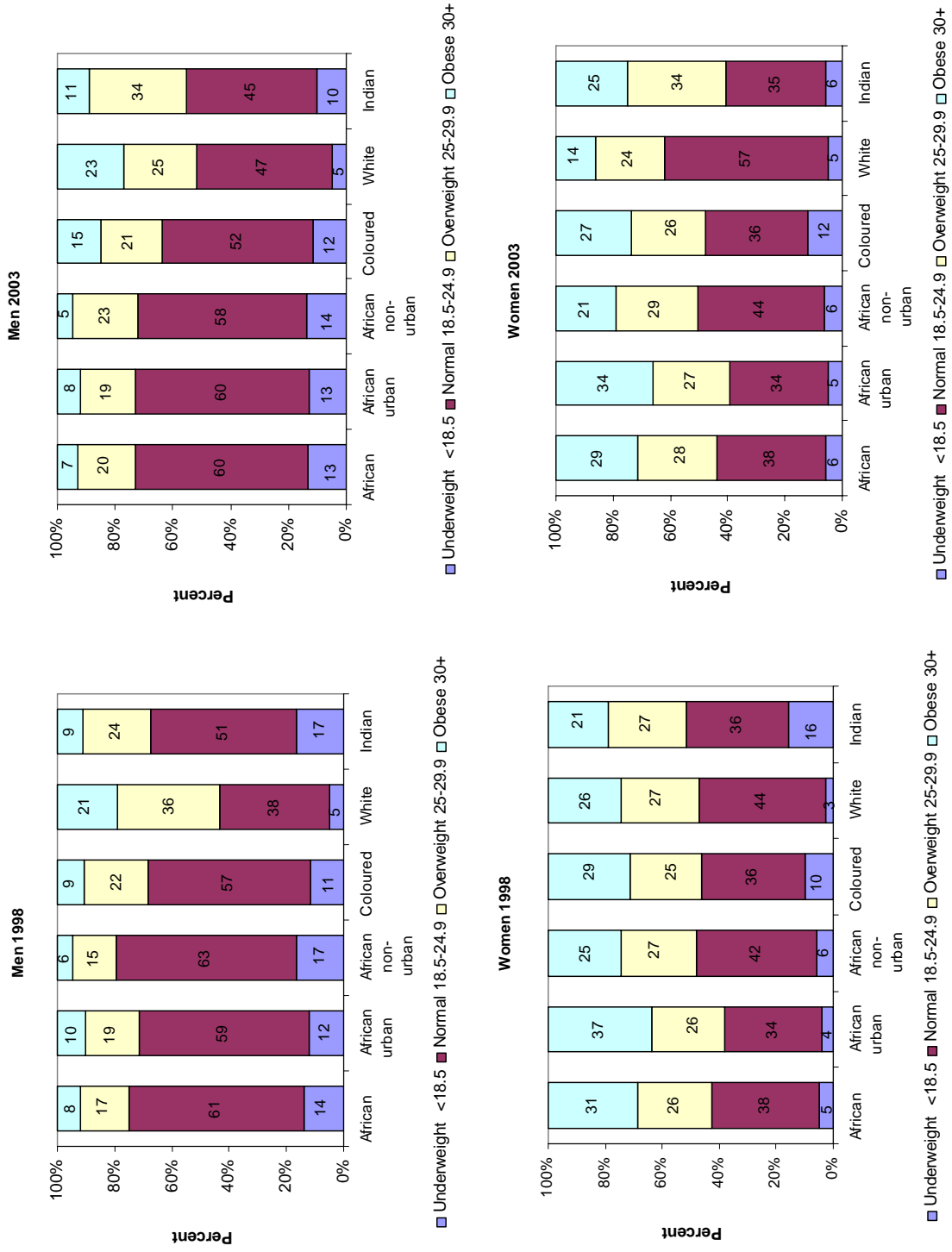


Figure 13.4 Distribution of BMI categories by population group and sex, SADHS 1998 and 2003



13.9 Waist and Hip Circumference and Waist/Hip Ratio (WHR)

Tables 13.12 and 13.13 show the mean waist, hip circumference and waist/hip ratios (WHR) of men and women, respectively. They also show the prevalence of those having a WHR above the cut-off points for central obesity indicated by a WHR greater than or equal to 1.0 for men or greater than or equal to 0.85 for women. In addition, the tables show the percentage of men with a waist measurement greater than 102 cm and the percentage of women having a value greater than 88 cm. The mean waist and hip circumference for men and women is 78.2 cm and 91.4 cm and 82.7 cm and 100.3 cm, respectively. For both men and women the mean waist and hip circumference increases with age until about 64 years. In men the highest levels of waist and hip circumference are reported in Gauteng and Western Cape, in whites and in Indians (with tertiary and/or no education).

| Background characteristics | Waist circumference (cm) | | | | Hip Circumference (cm) | | | Waist Hip Ratio (WHR) | | | |
|----------------------------|--------------------------|-------------|-------------------------------------|--------------|------------------------|-------------|-------------|-----------------------|--------------|--------------------------------|--------------|
| | Mean | Std error | Percentage with waist \geq 102 cm | Number | Mean | Std error | Number | Mean | Std error | Percentage with WHR \geq 1.0 | Number |
| Age | | | | | | | | | | | |
| 15-24 | 71.3 | 0.41 | 0.9 | 1 076 | 87.5 | 0.49 | 1074 | 0.84 | 0.013 | 3.1 | 1 074 |
| 25-34 | 78.3 | 0.66 | 3.0 | 697 | 90.3 | 1.16 | 697 | 1.06 | 0.074 | 7.2 | 697 |
| 35-44 | 82.4 | 0.79 | 8.0 | 565 | 95.9 | 1.16 | 565 | 0.88 | 0.015 | 6.8 | 565 |
| 45-54 | 83.1 | 1.27 | 8.4 | 417 | 94.0 | 1.17 | 417 | 1.02 | 0.073 | 7.3 | 417 |
| 55-64 | 85.0 | 1.35 | 11.5 | 281 | 94.0 | 1.18 | 279 | 0.94 | 0.034 | 11.4 | 279 |
| 65+ | 83.9 | 1.22 | 9.4 | 216 | 94.0 | 0.95 | 216 | 0.89 | 0.010 | 11.4 | 216 |
| Residence | | | | | | | | | | | |
| Urban | 79.7 | 0.58 | 6.2 | 2 168 | 92.6 | 0.64 | 2166 | 0.94 | 0.032 | 7.9 | 2 166 |
| Non-urban | 75.4 | 0.47 | 2.7 | 1 085 | 89.0 | 0.53 | 1082 | 0.90 | 0.024 | 3.4 | 1 082 |
| Province | | | | | | | | | | | |
| Western Cape | 80.5 | 1.03 | 7.3 | 326 | 92.2 | 1.31 | 326 | 0.96 | 0.091 | 6.8 | 326 |
| Eastern Cape | 77.8 | 1.07 | 5.2 | 352 | 91.3 | 1.10 | 352 | 0.85 | 0.007 | 4.7 | 352 |
| Northern Cape | 76.3 | 0.85 | 4.2 | 57 | 89.7 | 0.79 | 57 | 0.88 | 0.029 | 3.7 | 57 |
| Free State | 76.9 | 0.92 | 3.0 | 217 | 91.5 | 0.96 | 217 | 0.87 | 0.024 | 3.6 | 217 |
| KwaZulu-Natal | 78.0 | 0.74 | 3.9 | 727 | 90.0 | 1.09 | 723 | 1.00 | 0.061 | 7.4 | 723 |
| North West | 76.3 | 0.67 | 2.2 | 242 | 88.8 | 0.58 | 242 | 0.86 | 0.005 | 3.5 | 242 |
| Gauteng | 81.1 | 1.25 | 7.3 | 859 | 94.8 | 1.26 | 859 | 0.94 | 0.057 | 9.3 | 859 |
| Mpumalanga | 74.8 | 0.69 | 2.4 | 206 | 88.7 | 0.72 | 205 | 0.91 | 0.040 | 3.2 | 205 |
| Limpopo | 73.5 | 0.86 | 4.0 | 267 | 87.9 | 0.71 | 267 | 0.88 | 0.036 | 4.3 | 267 |
| Education | | | | | | | | | | | |
| No education | 80.6 | 0.85 | 3.8 | 276 | 92.0 | 0.81 | 275 | 0.92 | 0.038 | 5.7 | 275 |
| Grades 1-5 | 79.0 | 1.10 | 6.0 | 329 | 92.8 | 1.86 | 326 | 0.91 | 0.050 | 5.9 | 326 |
| Grades 6-7 | 78.5 | 0.83 | 6.0 | 368 | 91.1 | 1.02 | 368 | 0.92 | 0.044 | 6.3 | 368 |
| Grades 8-11 | 76.5 | 0.56 | 3.7 | 1 289 | 90.1 | 0.63 | 1289 | 0.90 | 0.025 | 5.5 | 1 289 |
| Grades 12 | 77.2 | 0.85 | 3.7 | 664 | 92.0 | 1.05 | 664 | 0.92 | 0.041 | 4.1 | 664 |
| Higher | 84.0 | 1.45 | 12.2 | 298 | 93.5 | 1.98 | 296 | 1.12 | 0.114 | 16.0 | 296 |
| Population Group | | | | | | | | | | | |
| African | 77.0 | 0.35 | 3.0 | 2 708 | 90.4 | 0.46 | 2703 | 0.93 | 0.025 | 5.1 | 2 703 |
| Afr. urban | 78.0 | 0.47 | 3.1 | 1 662 | 91.4 | 0.66 | 1660 | 0.95 | 0.038 | 6.1 | 1 660 |
| Afr. non-urban | 75.4 | 0.48 | 2.8 | 1 046 | 89.0 | 0.55 | 1043 | 0.90 | 0.024 | 3.6 | 1 043 |
| Coloured | 79.5 | 1.21 | 7.7 | 254 | 92.9 | 1.74 | 254 | 0.93 | 0.084 | 8.2 | 254 |
| White | 90.6 | 3.03 | 26.5 | 195 | 100.0 | 2.71 | 195 | 0.91 | 0.016 | 22.1 | 195 |
| Indian | 85.9 | 1.01 | 11.7 | 82 | 96.8 | 1.23 | 82 | 0.88 | 0.007 | 6.7 | 82 |
| Total | 78.2 | 0.41 | 5.0 | 3 253 | 91.4 | 0.47 | 3248 | 0.93 | 0.023 | 6.4 | 3 248 |

Note: Std error = standard deviation of the mean.
17 cases had education unknown.
11 cases reported population group as Other.

In women the highest levels of waist circumference are shown in Western Cape and KwaZulu-Natal; hip circumference is highest in Gauteng and North West. African urban women have the highest mean waist and mean hip measurements of all women. Numerous white men (27 percent) have a waist measurement above 102 cm compared with only 3 percent of African men (Figure 13.5). A large percent of urban African women (39 percent) have a waist circumference greater than 88 cm, and the lowest percentage (25 percent) is among Indian women (Figure 13.5). The largest prevalence of women with a waist circumference greater than 88 cm is observed among those who are older, reside in Gauteng and Western Cape and have a low level of education (Grades 1-7) or no education (data not shown).

Table 13.13 Waist and hip circumference of adult women

Mean and standard error of the waist (cm), hip circumference (cm) and the waist/hip ratios (WHR) for women aged 15 and above; and of women with WHR >0.85 and waist circumference \geq 88 cm by background characteristics, South Africa 2003

| Background characteristics | Waist circumference (cm) | | | | Hip Circumference (cm) | | | Waist Hip Ratio (WHR) | | | |
|----------------------------|--------------------------|-------------|------------------------------------|--------------|------------------------|-------------|--------------|-----------------------|--------------|---------------------------------|--------------|
| | Mean | Std error | Percentage with waist \geq 88 cm | Number | Mean | Std error | Number | Mean | Std error | Percentage with WHR \geq 0.85 | Number |
| Age | | | | | | | | | | | |
| 15-24 | 74.2 | 0.65 | 12.9 | 1 185 | 94.3 | 0.91 | 1 189 | 0.96 | 0.047 | 17.9 | 1 185 |
| 25-34 | 82.3 | 0.54 | 31.0 | 925 | 101.1 | 0.91 | 926 | 0.94 | 0.043 | 28.0 | 925 |
| 35-44 | 85.1 | 0.83 | 38.4 | 838 | 104.1 | 1.12 | 838 | 0.96 | 0.051 | 30.4 | 835 |
| 45-54 | 88.4 | 0.83 | 50.7 | 678 | 105.5 | 1.16 | 677 | 0.98 | 0.047 | 42.3 | 677 |
| 55-64 | 88.2 | 1.04 | 50.1 | 452 | 100.6 | 1.69 | 452 | 1.13 | 0.092 | 48.1 | 452 |
| 65+ | 87.8 | 1.02 | 46.5 | 353 | 99.2 | 2.34 | 355 | 1.23 | 0.122 | 53.2 | 353 |
| Residence | | | | | | | | | | | |
| Urban | 83.8 | 0.49 | 37.1 | 2 826 | 101.5 | 0.86 | 2 832 | 1.05 | 0.043 | 31.6 | 2 825 |
| Non-urban | 80.7 | 0.47 | 27.8 | 1 605 | 98.2 | 0.62 | 1 604 | 0.91 | 0.027 | 32.8 | 1 602 |
| Province | | | | | | | | | | | |
| Western Cape | 82.8 | 1.03 | 37.9 | 548 | 100.9 | 2.17 | 549 | 1.10 | 0.110 | 34.1 | 548 |
| Eastern Cape | 82.7 | 0.92 | 34.7 | 525 | 102.0 | 1.19 | 525 | 0.90 | 0.045 | 27.6 | 525 |
| Northern Cape | 78.8 | 0.65 | 26.9 | 89 | 99.8 | 0.86 | 89 | 0.83 | 0.027 | 20.3 | 89 |
| Free State | 81.5 | 0.94 | 31.4 | 297 | 98.5 | 1.19 | 297 | 1.04 | 0.060 | 29.5 | 297 |
| KwaZulu-Natal | 82.8 | 0.81 | 32.0 | 824 | 93.6 | 1.71 | 822 | 1.31 | 0.105 | 48.8 | 822 |
| North West | 82.5 | 0.85 | 32.9 | 360 | 103.4 | 0.97 | 360 | 0.83 | 0.023 | 27.2 | 360 |
| Gauteng | 84.7 | 1.05 | 39.5 | 1 006 | 104.3 | 1.49 | 1 012 | 0.94 | 0.060 | 27.7 | 1 006 |
| Mpumalanga | 80.7 | 0.77 | 28.0 | 293 | 102.0 | 0.89 | 293 | 0.82 | 0.021 | 22.8 | 293 |
| Limpopo | 80.7 | 0.83 | 26.0 | 490 | 98.9 | 0.94 | 490 | 0.83 | 0.014 | 28.0 | 488 |
| Education | | | | | | | | | | | |
| No education | 84.6 | 0.77 | 35.9 | 543 | 100.1 | 1.47 | 543 | 1.01 | 0.056 | 43.1 | 542 |
| Grades 1-5 | 85.9 | 0.94 | 41.6 | 426 | 99.0 | 1.54 | 426 | 1.15 | 0.107 | 46.4 | 426 |
| Grades 6-7 | 85.7 | 0.99 | 43.5 | 484 | 103.4 | 1.45 | 484 | 0.97 | 0.066 | 34.0 | 484 |
| Grades 8-11 | 80.9 | 0.55 | 31.1 | 1 776 | 99.2 | 0.82 | 1 778 | 1.01 | 0.041 | 27.8 | 1 773 |
| Grades 12 | 81.9 | 0.99 | 28.8 | 854 | 100.3 | 1.14 | 857 | 0.96 | 0.044 | 27.9 | 854 |
| Higher | 81.8 | 1.05 | 28.9 | 322 | 102.8 | 1.57 | 322 | 0.90 | 0.066 | 25.1 | 322 |
| Population Group | | | | | | | | | | | |
| African | 83.0 | 0.40 | 34.2 | 3 658 | 100.5 | 0.66 | 3 663 | 1.01 | 0.034 | 31.9 | 3 656 |
| Afr. urban | 84.6 | 0.59 | 39.1 | 2 141 | 102.1 | 1.05 | 2 147 | 1.08 | 0.053 | 31.0 | 2 141 |
| Afr. non-urban | 80.7 | 0.48 | 27.2 | 1 517 | 98.1 | 0.62 | 1 516 | 0.92 | 0.029 | 33.2 | 1 514 |
| Coloured | 81.8 | 1.05 | 36.1 | 432 | 100.9 | 1.84 | 434 | 1.00 | 0.062 | 36.1 | 432 |
| White | 80.2 | 1.74 | 25.9 | 222 | 98.6 | 1.59 | 220 | 0.82 | 0.013 | 24.0 | 220 |
| Indian | 79.7 | 1.04 | 24.6 | 109 | 97.8 | 1.65 | 109 | 0.90 | 0.040 | 33.5 | 109 |
| Total | 82.7 | 0.36 | 33.7 | 4 431 | 100.3 | 0.59 | 4 436 | 1.00 | 0.029 | 32.0 | 4 427 |

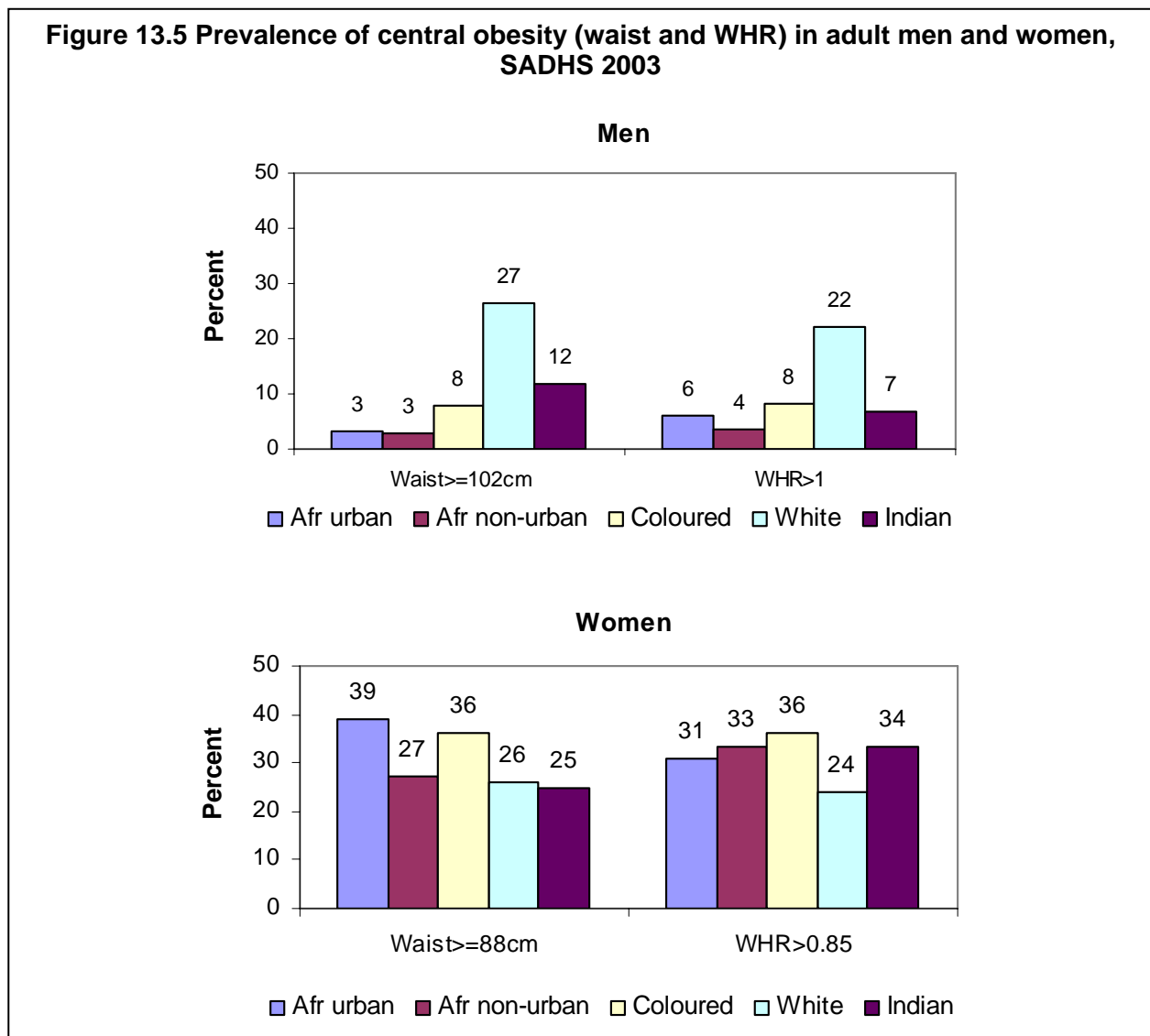
Note: Std error = standard deviation of the mean.

17 cases had education unknown.

11 cases reported population group as Other.

Coloured women have the highest prevalence of WHR above the cut-off point (36 percent), followed by Indians (34 percent) and non-urban Africans (33 percent). Six percent of men and thirty-two percent of women have a WHR above the cut-off point. The percentage with a WHR above the cut-off point is highest in men and women aged 55 years and above. White men have the highest prevalence of high WHR (22 percent) of all men. African-urban men have a higher prevalence of WHR above 1.0 than non-urban men, however, this is not the case for women. In all the provinces the prevalence of WHR above the cut-off for women is above 20 percent while it is less than 8 percent in men.

Perceptions about overweight differ among population groups (Table 13.8). More than half of African and Coloured women are overweight and obese, 56 percent and 52 percent respectively, but only a few (11 percent) African women and (27 percent) Coloured women perceive themselves as being overweight (Tables 13.8 and 13.11). A large number of Indian women are overweight and obese (59 percent) and far less actually perceive themselves as such (27 percent). Similarly a large percentage of white women perceive themselves as being overweight and obese (38 percent) while fewer are actually overweight (24 percent). This difference and actual weight appears to be lowest in white women



13.10 Dietary Intake of Adult Men and Women

Micronutrient intakes have been assessed using a brief 30-item food frequency questionnaire (30-item FFQ) and fat intake using seven questions that were developed as part of the Nutrition Index (N-Index) that was part of an overall nutritional health questionnaire called a Nutrition Monitor (Senekal and Steyn, 2000). Three additional questions reflecting salt intake developed for the SAHDS, were also included. The 30-item FFQ section of the N-Index was developed to rapidly assess micronutrients associated with the development and prevention of chronic diseases of lifestyle, in particular, hypertension, dyslipidaemia, type 2 diabetes, certain cancers, stroke and osteoporosis as well as assessing fat and salt intake. All these micronutrients would also be relevant in terms of micronutrient deficiencies.

The N-Index was developed by identifying from the literature the micronutrients associated with diseases and with deficiency conditions: calcium, magnesium, zinc, iron, vitamin A, vitamin E, thiamine, riboflavin, niacin, vitamin B6, vitamin B12, folate and vitamin C. The main sources of the above micronutrients and fats were then identified from the South African Food Composition Tables and various text books. To ensure ethnic sensitivity, the foods most commonly consumed by the different ethnic groups in South Africa were identified from studies undertaken in South Africa over the past 30 years (Nel and Steyn, 2002). A list of 86 food items was identified as being important sources of the above nutrients. A comprehensive quantified food frequency questionnaire was developed using these 86 items and selected frequency categories. The recall period of the comprehensive food frequency was restricted to one month in order to reduce memory constraints. Using stepwise multiple regression analyses, a short list of foods/questions from the 86 items was then identified to best predict the selected micronutrient and fat intake. This was based on a study conducted on a randomly selected sample of 2100 adult subjects representing all population groups of South Africa, all provinces and urban and rural settings (554 respondents returned questionnaires). In a final step, the validity of the 30-item FFQ was assessed on a convenience sample of 165 adult subjects (Senekal and Steyn, 1997). A detailed summary of the development can be found in Appendix D.

For the SADHS the fieldworkers were trained in the use of the Micronutrient Index and a specially designed colour food manual was used to assist in helping to recall foods eaten. A total of 3 379 men and 4 656 women completed the dietary questionnaire. The micronutrient intake is calculated using the South African Food Composition Table by assuming that an average food helping has been used according to the average frequency of each category.

Tables 13.14 and 13.15 show the mean values and standard errors of the micronutrient, fat and salt scores for men and women aged 15 years and older. Micronutrient score was calculated for each of 13 nutrients: vitamin A, vitamin C, folic acid, vitamin B1, B2, B3, B6, B12, vitamin E, calcium, iron, zinc, magnesium. For each nutrient (except iron and vitamin A) an intake less than 33% RDA provides a score of 3; 33.3-66.6% RDA provides a score of 2; 66.6-99% RDA provides a score of 1 and a value of 100% RDA provides a score of 0. Vitamin A and iron provide double the score in each category because of their status as important nutrients in the SA context. The total micronutrient score was calculated out of 45 points. The perfect score with all nutrients above 100% of the RDA would give a score of zero. A poor score would be closer to 45 points. Furthermore, a fat score was calculated from questions on fat that provide a score between 0-6 with 0 being the ideal score and a salt score of 0-11 with 0 being the ideal.

Some important findings are noted with regard to the micronutrient scores. Firstly, it is considerably better in urban areas and in KwaZulu-Natal and Gauteng. It is poorest in Mpumalanga, Northern

Cape and Limpopo provinces in both men and women. It is interesting to note that mean micronutrient scores improve linearly with level of education, from 24.1 to 17.8 in men and from 24.6 to 17.6 in women. Whites and urban Africans have the best micronutrient scores (19.1 and 19.3 in men; 18.7 and 17.9 in women, respectively) while non-urban Africans and Indians have the worst (23.3 and 23.0 in men and 23.9 and 23.4 in women, respectively).

Table 13.14 Dietary intake of adult men

Mean and standard error of the micronutrient, fat, and salt intake scores for men aged 15 years and above by background characteristics, South Africa 2003

| Background characteristics | Micronutrient score ¹ | | Fat score ² | | Total dietary score ³ | | Total dietary score categorised | | | Salt score ⁴ | | Number of men | |
|----------------------------|----------------------------------|------|------------------------|------|----------------------------------|------|---------------------------------|-----------------------------|-------------------|-------------------------|------|---------------|-------|
| | Mean | SE | Mean | SE | Mean | SE | Good 0-13.8% | Intermediate >13.8-27.6% | Poor >27.6-45% | Total | Mean | | SE |
| Age | | | | | | | | | | | | | |
| 15-24 | 21.5 | 0.56 | 2.3 | 0.04 | 23.8 | 0.57 | 29.7 | 43.3 | 27.0 | 100.0 | 4.0 | 0.06 | 1 114 |
| 25-34 | 19.6 | 0.67 | 2.2 | 0.05 | 21.8 | 0.67 | 36.1 | 41.0 | 22.9 | 100.0 | 3.8 | 0.07 | 727 |
| 35-44 | 20.4 | 0.72 | 2.1 | 0.05 | 22.5 | 0.72 | 32.2 | 47.8 | 20.0 | 100.0 | 3.7 | 0.07 | 581 |
| 45-54 | 20.4 | 0.75 | 1.9 | 0.07 | 22.3 | 0.74 | 37.3 | 38.9 | 23.8 | 100.0 | 3.4 | 0.08 | 430 |
| 55-64 | 20.0 | 0.96 | 1.8 | 0.07 | 21.8 | 0.95 | 37.6 | 38.5 | 23.9 | 100.0 | 3.3 | 0.10 | 288 |
| 65+ | 24.0 | 0.93 | 1.8 | 0.09 | 25.7 | 0.94 | 28.5 | 35.9 | 35.6 | 100.0 | 3.0 | 0.09 | 238 |
| Residence | | | | | | | | | | | | | |
| Urban | 19.6 | 0.52 | 2.1 | 0.04 | 21.7 | 0.52 | 35.7 | 44.4 | 20.0 | 100.0 | 3.8 | 0.05 | 2 252 |
| Non-urban | 23.3 | 0.48 | 2.1 | 0.04 | 25.4 | 0.48 | 27.8 | 37.5 | 34.7 | 100.0 | 3.5 | 0.05 | 1 127 |
| Province | | | | | | | | | | | | | |
| Western Cape | 24.9 | 0.83 | 1.9 | 0.07 | 26.8 | 0.85 | 19.7 | 51.4 | 28.9 | 100.0 | 3.6 | 0.10 | 328 |
| Eastern Cape | 25.9 | 1.35 | 2.3 | 0.07 | 28.3 | 1.35 | 20.1 | 36.0 | 43.9 | 100.0 | 3.5 | 0.12 | 360 |
| Northern Cape | 29.0 | 0.88 | 2.0 | 0.05 | 31.0 | 0.89 | 10.9 | 41.7 | 47.5 | 100.0 | 3.1 | 0.07 | 59 |
| Free State | 25.2 | 1.03 | 2.0 | 0.05 | 27.2 | 1.05 | 20.5 | 40.5 | 39.1 | 100.0 | 3.6 | 0.08 | 219 |
| KwaZulu-Natal | 13.4 | 0.70 | 2.1 | 0.07 | 15.5 | 0.70 | 54.6 | 40.2 | 5.2 | 100.0 | 4.0 | 0.08 | 777 |
| North West | 26.2 | 0.84 | 2.1 | 0.08 | 28.3 | 0.83 | 14.0 | 51.9 | 34.2 | 100.0 | 3.3 | 0.10 | 248 |
| Gauteng | 15.9 | 0.77 | 2.2 | 0.06 | 18.0 | 0.78 | 47.9 | 40.6 | 11.6 | 100.0 | 3.8 | 0.08 | 900 |
| Mpumalanga | 30.3 | 0.88 | 2.2 | 0.06 | 32.4 | 0.89 | 7.3 | 38.5 | 54.2 | 100.0 | 3.4 | 0.07 | 209 |
| Limpopo | 28.9 | 0.67 | 2.2 | 0.05 | 31.1 | 0.68 | 8.5 | 44.5 | 47.1 | 100.0 | 3.1 | 0.06 | 280 |
| Education | | | | | | | | | | | | | |
| No education | 24.1 | 0.93 | 2.0 | 0.07 | 26.0 | 0.93 | 28.7 | 34.0 | 37.3 | 100.0 | 3.1 | 0.08 | 295 |
| Grades 1-5 | 24.0 | 0.83 | 2.0 | 0.06 | 26.0 | 0.83 | 27.6 | 35.9 | 36.5 | 100.0 | 3.4 | 0.08 | 335 |
| Grades 6-7 | 23.9 | 0.77 | 2.2 | 0.06 | 26.1 | 0.78 | 26.3 | 36.4 | 37.3 | 100.0 | 3.4 | 0.08 | 380 |
| Grades 8-11 | 20.8 | 0.56 | 2.2 | 0.04 | 23.0 | 0.56 | 32.4 | 42.8 | 24.8 | 100.0 | 3.8 | 0.05 | 1 360 |
| Grades 12 | 17.6 | 0.64 | 2.2 | 0.05 | 19.8 | 0.64 | 39.1 | 47.0 | 13.9 | 100.0 | 3.9 | 0.08 | 700 |
| Higher | 17.8 | 0.99 | 2.0 | 0.09 | 19.8 | 0.97 | 40.6 | 49.3 | 10.2 | 100.0 | 3.8 | 0.12 | 308 |
| Population group | | | | | | | | | | | | | |
| African | 20.8 | 0.40 | 2.2 | 0.03 | 23.0 | 0.40 | 34.2 | 38.4 | 27.4 | 100.0 | 3.6 | 0.04 | 2 812 |
| Afr. urban | 19.3 | 0.56 | 2.2 | 0.04 | 21.5 | 0.56 | 38.4 | 39.2 | 22.4 | 100.0 | 3.7 | 0.05 | 1 725 |
| Afr. non-urban | 23.3 | 0.48 | 2.1 | 0.04 | 25.4 | 0.48 | 27.7 | 37.1 | 35.2 | 100.0 | 3.5 | 0.05 | 1 088 |
| Coloured | 21.4 | 1.55 | 2.0 | 0.07 | 23.4 | 1.56 | 27.9 | 52.5 | 19.6 | 100.0 | 3.9 | 0.13 | 264 |
| White | 19.1 | 0.72 | 1.7 | 0.10 | 20.8 | 0.73 | 28.4 | 68.9 | 2.7 | 100.0 | 3.7 | 0.13 | 220 |
| Indian | 23.0 | 2.29 | 1.3 | 0.13 | 24.3 | 2.18 | 21.6 | 61.7 | 16.7 | 100.0 | 3.5 | 0.20 | 83 |
| Total | 20.8 | 0.40 | 2.1 | 0.03 | 22.9 | 0.40 | 33.1 | 42.1 | 24.9 | 100 | 3.7 | 0.04 | 3 379 |

Only cases with complete information on education and population group are included.

1. This score ranged from 0 to 45 points with a low score indicating a better intake micronutrients.

2. This score ranged from 1 to 6 points with a low score indicating a lower fat intake.

3. This score combines the micronutrient and fat scores (45 + 6). A low score is indicative of a better quality diet.

4. This score ranges from 0-11 with a low score indicating a lower salt intake.

Table 13.15 Dietary intake of adult women

Mean and standard error of the micronutrient, fat, and salt intake scores for women aged 15 years and above by background characteristics, South Africa 2003

| Background characteristics | Micronutrient score ¹ | | Fat score ² | | Total dietary score ³ | | Total dietary score categorised | | Salt score ⁴ | | Number of men | |
|----------------------------|----------------------------------|------|------------------------|------|----------------------------------|------|---------------------------------|------------------------------|-------------------------|-------|---------------|------|
| | Mean | SE | Mean | SE | Mean | SE | Good 0-13.8 | Intermediate >13.8-27.6-45 % | Poor >= 66.67 % | Total | | Mean |
| Age | | | | | | | | | | | | |
| 15-24 | 21.3 | 0.56 | 2.2 | 0.04 | 23.6 | 0.55 | 30.6 | 42.6 | 26.8 | 100.0 | 3.9 | 0.06 |
| 25-34 | 20.1 | 0.59 | 2.0 | 0.04 | 22.1 | 0.59 | 35.6 | 40.2 | 24.2 | 100.0 | 3.8 | 0.06 |
| 35-44 | 19.5 | 0.56 | 2.0 | 0.04 | 21.5 | 0.56 | 38.0 | 40.9 | 21.2 | 100.0 | 3.5 | 0.06 |
| 45-54 | 20.9 | 0.56 | 1.7 | 0.05 | 22.6 | 0.57 | 33.6 | 42.8 | 23.6 | 100.0 | 3.1 | 0.06 |
| 55-64 | 19.7 | 0.75 | 1.7 | 0.06 | 21.4 | 0.74 | 38.5 | 39.2 | 22.4 | 100.0 | 3.1 | 0.07 |
| 65+ | 21.3 | 0.81 | 1.6 | 0.06 | 22.9 | 0.82 | 38.2 | 35.6 | 26.3 | 100.0 | 2.9 | 0.06 |
| Residence | | | | | | | | | | | | |
| Urban | 18.5 | 0.49 | 1.9 | 0.03 | 20.4 | 0.49 | 40.0 | 42.2 | 17.8 | 100.0 | 3.7 | 0.04 |
| Non-urban | 24.0 | 0.43 | 2.1 | 0.03 | 26.0 | 0.43 | 26.0 | 38.6 | 35.4 | 100.0 | 3.3 | 0.04 |
| Province | | | | | | | | | | | | |
| Western Cape | 21.7 | 0.76 | 1.6 | 0.07 | 23.4 | 0.79 | 30.0 | 48.4 | 21.6 | 100.0 | 3.5 | 0.08 |
| Eastern Cape | 27.0 | 0.85 | 2.2 | 0.06 | 29.2 | 0.87 | 17.3 | 39.4 | 43.4 | 100.0 | 3.3 | 0.08 |
| Northern Cape | 28.7 | 0.83 | 1.8 | 0.05 | 30.5 | 0.84 | 11.3 | 43.6 | 45.1 | 100.0 | 3.1 | 0.06 |
| Free State | 25.1 | 0.80 | 1.8 | 0.06 | 27.0 | 0.83 | 20.8 | 40.3 | 39.0 | 100.0 | 3.3 | 0.07 |
| KwaZulu-Natal | 11.2 | 0.62 | 2.0 | 0.08 | 13.2 | 0.58 | 64.2 | 31.7 | 4.0 | 100.0 | 4.0 | 0.08 |
| North West | 26.8 | 0.52 | 1.9 | 0.05 | 28.7 | 0.52 | 12.7 | 53.1 | 34.3 | 100.0 | 3.2 | 0.06 |
| Gauteng | 13.5 | 0.71 | 1.8 | 0.05 | 15.3 | 0.71 | 56.2 | 37.5 | 6.4 | 100.0 | 3.7 | 0.09 |
| Mpumalanga | 29.9 | 0.81 | 2.2 | 0.05 | 32.1 | 0.79 | 6.5 | 42.5 | 51.0 | 100.0 | 3.5 | 0.07 |
| Limpopo | 28.2 | 0.62 | 2.1 | 0.05 | 30.3 | 0.62 | 10.7 | 47.1 | 42.1 | 100.0 | 3.1 | 0.05 |
| Education | | | | | | | | | | | | |
| No education | 24.6 | 0.63 | 1.9 | 0.05 | 26.5 | 0.62 | 24.1 | 39.3 | 36.6 | 100.0 | 3.0 | 0.06 |
| Grades 1-5 | 22.4 | 0.65 | 1.8 | 0.06 | 24.2 | 0.66 | 33.1 | 35.1 | 31.8 | 100.0 | 3.1 | 0.06 |
| Grades 6-7 | 22.2 | 0.65 | 2.0 | 0.05 | 24.2 | 0.66 | 29.1 | 41.1 | 29.7 | 100.0 | 3.4 | 0.08 |
| Grades 8-11 | 20.7 | 0.51 | 2.0 | 0.03 | 22.7 | 0.51 | 35.1 | 40.1 | 24.8 | 100.0 | 3.7 | 0.04 |
| Grades 12 | 16.9 | 0.63 | 1.9 | 0.05 | 18.8 | 0.63 | 44.0 | 41.9 | 14.2 | 100.0 | 3.9 | 0.07 |
| Higher | 17.6 | 0.76 | 1.7 | 0.08 | 19.3 | 0.75 | 38.3 | 52.4 | 9.3 | 100.0 | 3.7 | 0.09 |
| Population group | | | | | | | | | | | | |
| African | 20.4 | 0.38 | 2.1 | 0.02 | 22.5 | 0.38 | 35.5 | 38.8 | 25.7 | 100.0 | 3.6 | 0.04 |
| Afr. urban | 17.9 | 0.52 | 2.0 | 0.03 | 20.0 | 0.53 | 27.9 | 53.7 | 18.4 | 100.0 | 3.7 | 0.05 |
| Afr. non-urban | 23.9 | 0.44 | 2.1 | 0.03 | 26.0 | 0.43 | 27.6 | 43.8 | 28.6 | 100.0 | 3.3 | 0.04 |
| Coloured | 21.5 | 0.95 | 1.6 | 0.07 | 23.1 | 0.99 | 31.1 | 46.1 | 22.8 | 100.0 | 3.5 | 0.08 |
| White | 18.7 | 0.93 | 1.3 | 0.08 | 20.0 | 0.93 | 37.9 | 54.1 | 8.0 | 100.0 | 3.5 | 0.14 |
| Indian | 23.4 | 1.14 | 0.9 | 0.06 | 24.4 | 1.15 | 21.2 | 61.4 | 17.5 | 100.0 | 3.1 | 0.06 |
| Total | 20.5 | 0.37 | 2.0 | 0.02 | 22.5 | 0.37 | 34.9 | 40.9 | 24.2 | 100.0 | 3.5 | 0.03 |

Only cases with complete information on education and population group are included.

1. This score ranged from 0 to 45 points with a low score indicating a better intake micronutrients.

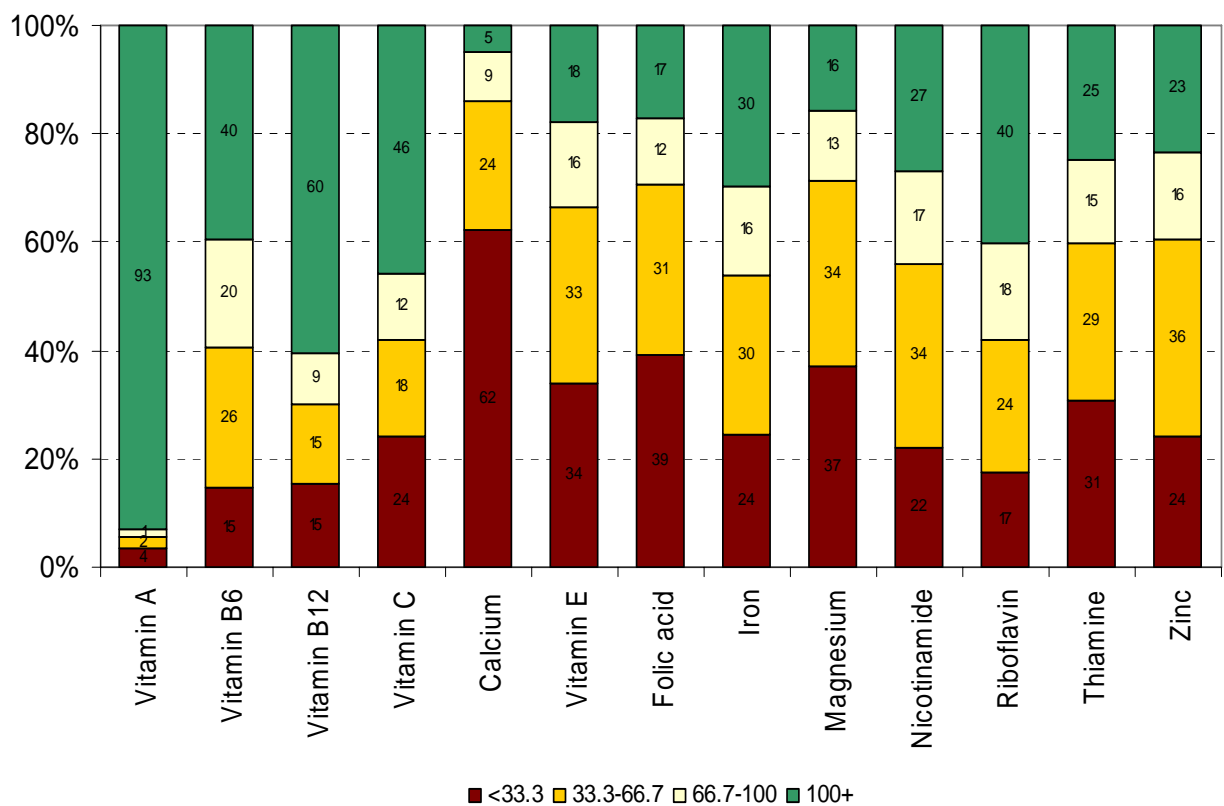
2. This score ranged from 1 to 6 points with a low score indicating a lower fat intake.

3. This score combines the micronutrient and fat scores (45 + 6). A low score is indicative of a better quality diet.

4. This score ranges from 0-11 with a low score indicating a lower salt intake.

In Figure 13.6 it is shown that more than half of adults have a RDA value of less than 67 percent of the recommended dietary allowance (RDA) for calcium, folate, magnesium, vitamin E, thiamine, niacin and iron. Further, more than 60 percent have a calcium value less than 33 percent of the RDA. Micronutrients which are deficient to a lesser degree are vitamin A, vitamin B6, vitamin B12 and vitamin C. These patterns are repeated in all the provinces and in urban-rural areas to different degrees. Overall the nutrient density of the diet consumed by the participants is low in micronutrients.

Figure 13.6 Nutrient intake (% of RDA) for adults, SADHS 2003



For all nutrients, African participants show a higher prevalence of deficiency than white participants (not shown). Despite this, calcium intake is deficient in all groups. This data highlights the need for supplementing the diet of South Africans with essential micronutrients. A National programme for the mandatory fortification of maize and wheat flour was initiated after the DHS survey at the end of 2003. Currently, all maize and wheat flour in South Africa are fortified to provide a person 10 years and older with the following percentage of the RDA (per 200 g raw flour): vitamin A 31 percent; thiamine 25 percent; niacin 25 percent; vitamin B6 25 percent; riboflavin 17 percent; folic acid; iron 25 percent; and zinc 20 percent. Hence one would expect the mean values of these micronutrients to be increased after 2003. The next SADHS dietary results will hopefully show an improvement in the mean values of micronutrients being added to maize and wheat flour.

Table 13.16 Eating fatty and salty foods

Percentage distribution of frequency of eating selected fatty and salty foods for men and women 15 years and above, South Africa 2003

| Food item | Men | Women | Total |
|-------------------------------|-------|-------|-------|
| Chicken | | | |
| With skin | 78.1 | 71.9 | 74.5 |
| Without skin | 19.8 | 26.3 | 23.6 |
| None | 2.0 | 1.5 | 1.7 |
| Missing | 0.1 | 0.3 | 0.2 |
| Red meat | | | |
| Fatty meat | 57.2 | 46.9 | 51.3 |
| Lean meat | 34.6 | 43.4 | 39.7 |
| None | 7.7 | 9.2 | 8.6 |
| Missing | 0.5 | 0.5 | 0.5 |
| Spread | | | |
| Butter | 24.4 | 24.1 | 24.2 |
| Hard margarine | 31.6 | 34.2 | 33.1 |
| Soft margarine | 31.2 | 29.0 | 30.0 |
| None | 12.2 | 11.6 | 11.9 |
| Missing | 0.6 | 1.0 | 0.8 |
| Milk | | | |
| Full cream | 74.8 | 72.9 | 73.7 |
| Low fat | 10.1 | 9.9 | 10.0 |
| Skim | 3.2 | 3.8 | 3.5 |
| Blends | 4.0 | 4.5 | 4.3 |
| None | 7.2 | 8.2 | 7.8 |
| Missing | 0.7 | 0.8 | 0.8 |
| Fried food | | | |
| Occasionally | 56.0 | 57.5 | 56.9 |
| Weekly | 35.5 | 36.2 | 35.9 |
| Daily | 8.0 | 5.7 | 6.7 |
| Missing | 0.5 | 0.6 | 0.6 |
| Chips | | | |
| Occasionally | 65.3 | 61.0 | 62.8 |
| Weekly | 26.6 | 30.0 | 28.6 |
| Daily | 6.3 | 6.5 | 6.4 |
| Missing | 1.8 | 2.5 | 2.2 |
| Processed meat | | | |
| Occasionally | 62.0 | 63.2 | 62.7 |
| Weekly | 28.9 | 29.3 | 29.1 |
| Daily | 8.4 | 7.0 | 7.6 |
| Missing | 0.7 | 0.5 | 0.6 |
| Usually eat salty food | | | |
| Very salty | 12.3 | 11.1 | 11.6 |
| Lightly salted | 83.3 | 83.4 | 83.3 |
| Not salted | 3.8 | 4.9 | 4.5 |
| DK/Missing | 0.5 | 0.7 | 0.6 |
| Usually add salt | | | |
| Never | 31.0 | 41.6 | 37.1 |
| After tasting | 61.2 | 53.0 | 56.5 |
| Before tasting | 6.5 | 3.8 | 5.0 |
| DK/Missing | 1.3 | 1.6 | 1.5 |
| Eat salty snack | | | |
| Yes | 36.4 | 33.9 | 35.0 |
| No | 63.1 | 65.4 | 64.4 |
| Missing | 0.6 | 0.7 | 0.6 |
| Total | 100.0 | 100.0 | 100.0 |
| Number | 3 422 | 4 693 | 8 115 |

From Tables 13.14 and 13.15 it can be seen that the mean fat scores are lowest in Western Cape, Free State and Northern Cape. In addition, mean fat scores improve linearly with age. Table 13.16 shows the frequency of eating selected fatty foods and Figure 13.7 presents the overall fat intake based on a score from these questions. Out of a possible six fatty items on customary fat intake about 40 percent answer more than three questions positively, indicative of an overall moderate fat intake.

This is further illustrated in Figure 13.8 which indicates that about 30 percent of adults consume fatty foods on a weekly basis and less than 10 percent on a daily basis.

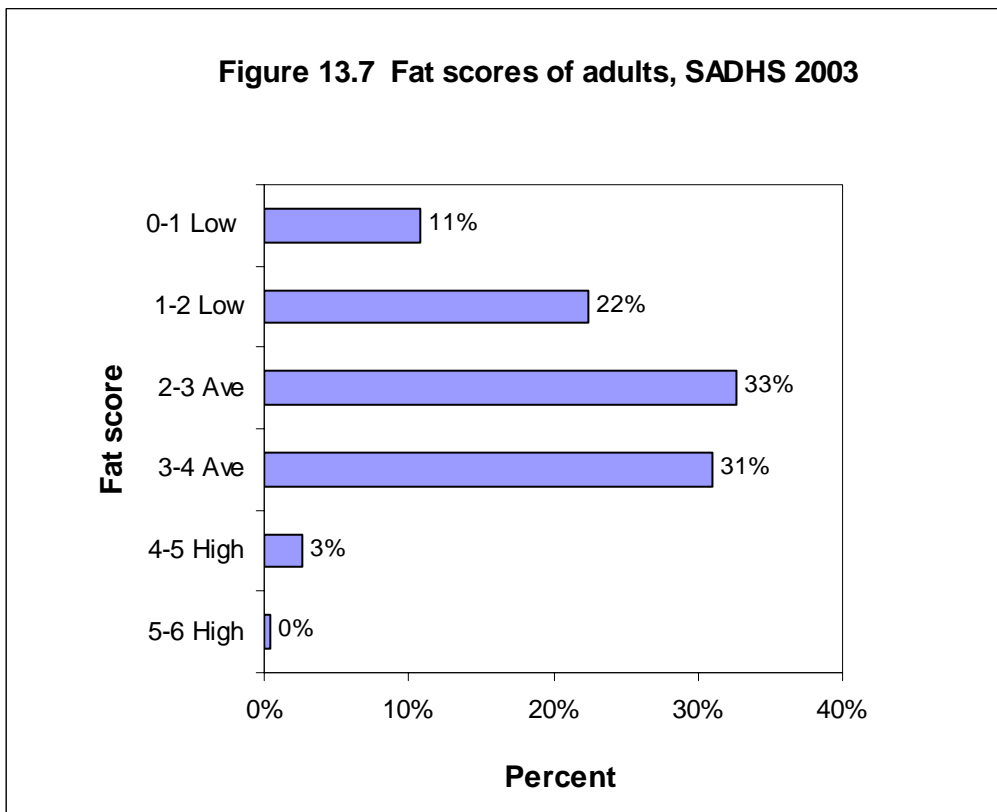
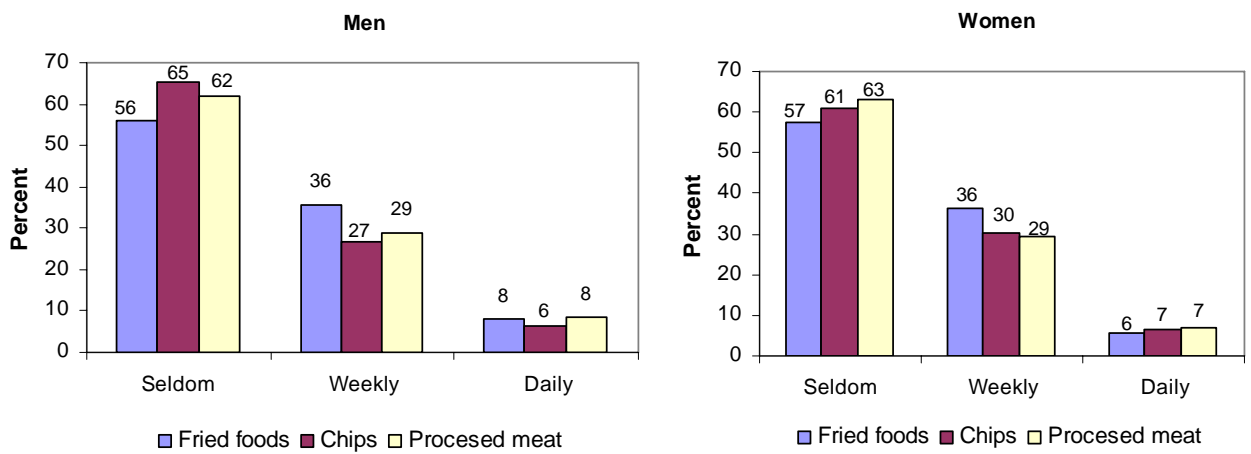
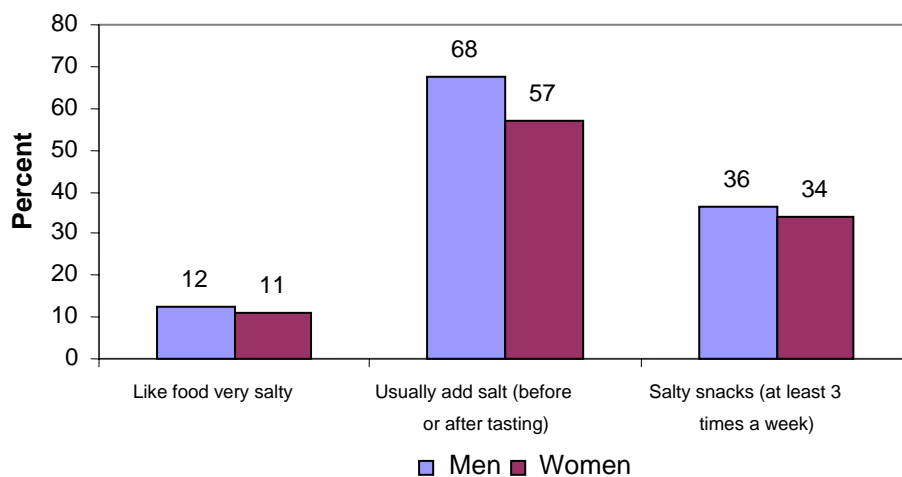


Figure 13.8 Frequency of consuming fatty foods among adults 15+ years, SADHS 2003



Tables 13.14 and 13.15 also show that salt scores improve linearly with age. Salt scores are worst (mean scores of 3.7-3.9) in those with higher levels of education and lowest in those with little education (mean scores of 3.0-3.1). Coloured men and African urban women have the highest salt scores (3.9 and 3.7, respectively) and non-urban residents have a better salt score than urban ones (3.5 and 3.8, respectively). With regard to habits on salt, more than 30 percent indicate that they add salt to food at the table (additional to that in cooking) and that they consume salty snacks 3 or more times a week (Figure 13.9).

Figure 13.9 Salt use habits of adults by sex, SADHS 2003



13.11 Physical Activity Levels of Adults

The WHO Global Strategy for Diet and Physical Activity for Health (WHO, 2004) identified the need for national surveillance of levels of activity. Since 1998, the WHO has been involved in collaborative initiatives to enable comparison of physical activity levels as a risk factor for chronic diseases on a global scale. Instruments that have been validated in multiple country sites include the International Physical Activity Questionnaire (IPAQ) developed by Craig *et al.* (2003) and the Global Physical Activity Questionnaire (GPAQ) (Tshabangu *et al.*, in preparation), and have been found to be similarly reliable and valid. The GPAQ, introduced as part of the WHO STEP-wise approach to surveillance, provides for an overall measure of physical activity on the basis of intensity and duration, as well as physical activity levels within specific domains, including occupation, transport, and leisure time. The validated GPAQ was used in this survey and has previously been evaluated in South Africa. Of a sample of 215 men and women studied in South Africa, the GPAQ was found to be reliable ($r = 0.74$; $r = 0.74$; $r = 0.71$ for occupational, transport and leisure time physical activity respectively), with reasonable concurrent and criterion validity (Tshabangu, unpublished data). The same investigator involved in the initial validation study conducted training of the field workers for SADHS.

Subjects were excluded if they had physical impairments, which prevented them from participating in physical activity, or if they were innumerate and unable to report times adequately. Maximum duration 'cut-points' were devised for the reported activity domains for this survey. All subjects who reported duration of physical activity exceeding those indicated below were excluded from final analysis:

Occupational domain

- 12 hours (720 minutes) work time
- 8 hours (480 minutes) moderate or vigorous occupational activity

Leisure domain

- 4 hours (240 minutes) vigorous activity
- 8 hours (480 minutes) moderate activity

Transport

- 5 hours (300 minutes) transport time

Sedentary

- 12 hours (720 minutes) inactive time (sitting, sleeping etc).

Of the adults that participated in this survey, complete and valid data were analysed on 6 909 adults (2 778 men and 4 131 women) who also had data on education and population group. Only those physical activities, which were maintained for at least 10 consecutive minutes were included in the calculations of the activity levels. This has been done using METs (multiples of the resting metabolic rate) to yield a score in MET-minutes, which is computed by multiplying the MET score (8 for vigorous and 4 for moderate activity and transport related walking/cycling) by the minutes performed. A MET-minute is approximately equal to 3.5ml O₂ per kg of body weight per minute (Brooks *et al.*, 1999). For purposes of this survey, the following definitions, as taken from the IPAQ Committee Scoring Protocol, November 2005 (<http://www.ipaq.ki.se>) are used for the overall reported activity:

Low (Category 1)/Inactive or insufficiently active

No activity is reported OR

Some activity is reported but not enough to meet Categories 2 or 3 OR < 600 MET-minutes/wk

Moderate (Category 2)/Minimally active

Any one of the following criteria:

Three or more days of vigorous activity of at least 20 minutes per day OR 5 or more days of moderate-intensity activity or walking of at least 30 minutes per day OR 5 or more days.

High (Category 3)/ Sufficiently active

Any one of the following 2 criteria:

Vigorous-intensity activity on at least 3 days and accumulating at least 1500 MET-minutes/week OR 7 or more days of any combination of walking, moderate-intensity or vigorous intensity activities achieving a minimum of at least 3000 MET-minutes/week.

The prevalence of inactivity/insufficient activity (< 600 MET-minutes/wk) minimal activity (600- <3000 MET-minutes/week) and sufficient activity (>3000 MET-minutes/week) are presented by background characteristics in Table 13.17. Overall, 48 percent of adult men and 63 percent of adult women are reportedly inactive (Table 13.17). The World Health Survey (WHS) conducted in 2003 by the WHO found that 43 percent of men and 49 percent of women were inactive. While the WHS used a different methodology, it highlighted that SA had the third highest prevalence of inactivity, after Mauritania and the United Arab Emirates among the thirty-eight participating developing countries (WHO-WHS Report, 2005). These are the first national surveys that have collected such data for South Africa. Researchers are encouraged by the robustness of the measurements, which suggests that the instruments were understood across levels of education, language and age. As physical activity was not included in the 1998 SADHS, no comparisons could be made to determine patterns within the past five years.

The 2003 SADHS shows a strong gender pattern. A quarter of men (24 percent), and only 14 percent of women are sufficiently active. As expected, levels of activity decline with increasing age. For men, the prevalence of sufficiently active decreases from 34 percent among the 15-24 year olds to 7 percent among the 65+ group. In the case of women, the prevalence is consistently lower than that for men and decreases from 18 percent in the youngest group to 8 percent in the oldest group. While part of this decrease may result from functional limitations that occur with ageing, the high rates of inactivity, even at relatively young ages, are a matter of concern.

The Youth Risk Behaviour Survey of Grade 8-11 learners (Reddy *et al.*, 2003) observed a similar gender pattern to that observed in the SADHS. In the Youth Risk Behaviour Survey, 34 percent of boys and 43 percent of girls reported that they did not participate in the seven days preceding the survey in health-benefiting physical activity. The youngest age group in the 2003 SADHS (15-24 years) reported that 36 percent of men and 52 percent of women are inactive. The differences between the surveys in the prevalence of inactivity may be a result of the different ages of the respondents in the surveys, but is more likely to be a result of different indicators.

From Table 13.17, it can also be seen that the prevalence of inactivity is higher in the urban than non-urban dwelling adults. The prevalence of inactivity among urban adults is 49 percent for men and 66 percent for women while that for the non-urban men and women is 46 percent and 59 percent respectively. This highlights the contribution of inactivity to increased risk of chronic diseases in the urban population.

There appears to be province-specific patterns of inactivity. However, it is difficult to interpret the differences in levels of activity by province, as they represent mixed contributions of urban and non-urban populations. KwaZulu-Natal has the highest levels of inactivity for both men and women

(66 percent and 81 percent respectively) followed by Northern Cape (58 percent and 78 percent respectively). A “coastal effect” has been described previously in which persons living in a coastal catchment area tend to have higher levels of activity. In a survey by Bauman *et al.* (1999), it was found that participants who lived in the coastal areas in New South Wales, Australia, were 23 percent less likely to be classified as sedentary, 27 percent more likely to report activity adequate for health, and 38 percent more likely to report high levels of physical activity than those who lived inland. The country’s provinces, generally, do not reflect this coastal effect, with the coastal KwaZulu-Natal and the landlocked Limpopo, in particular, challenging the existence of the coastal effect in the SADHS data. However, this would be confounded with the urban/rural effect.

Table 13.17 Physical activity of adult men and women

Percentage distribution across physical activity categories of inactive, minimally active and sufficiently active for adult men and women based on MET-minutes* per week by background characteristics, South Africa 2003

| Background characteristic | MEN | | | | Number of men | WOMEN | | | | Number of women |
|---------------------------|-------------------------|------------------------------------|-------------------------------------|-------|---------------|-----------------------|------------------------------------|------------------------------------|-------|-----------------|
| | Inactive 0-<600 MET-min | Minimally active 600-<3000 MET-min | Sufficiently active >=3000MET T-min | Total | | Inactive <600 MET-min | Minimally active 600-<3000 MET-min | Sufficiently active >=3000 MET-min | Total | |
| Age | | | | | | | | | | |
| 15-24 | 36.3 | 29.7 | 34.0 | 100.0 | 935 | 52.3 | 29.8 | 18.0 | 100.0 | 1 104 |
| 25-34 | 47.2 | 27.3 | 25.4 | 100.0 | 553 | 68.5 | 18.6 | 12.9 | 100.0 | 854 |
| 35-44 | 50.3 | 30.6 | 19.1 | 100.0 | 480 | 63.7 | 22.0 | 14.2 | 100.0 | 788 |
| 45-54 | 56.2 | 30.1 | 13.7 | 100.0 | 387 | 64.1 | 23.7 | 12.2 | 100.0 | 610 |
| 55-64 | 67.0 | 16.8 | 16.2 | 100.0 | 241 | 67.3 | 20.1 | 12.6 | 100.0 | 429 |
| 65+ | 62.1 | 30.8 | 7.1 | 100.0 | 182 | 76.6 | 15.5 | 8.0 | 100.0 | 346 |
| Residence | | | | | | | | | | |
| Urban | 49.2 | 29.6 | 21.3 | 100.0 | 1 788 | 65.8 | 22.1 | 12.1 | 100.0 | 2 578 |
| Non-urban | 45.9 | 26.2 | 27.8 | 100.0 | 990 | 58.8 | 24.2 | 17.0 | 100.0 | 1 553 |
| Province | | | | | | | | | | |
| Western Cape | 36.5 | 41.7 | 21.9 | 100.0 | 249 | 66.3 | 26.2 | 7.5 | 100.0 | 476 |
| Eastern Cape | 24.6 | 34.0 | 41.3 | 100.0 | 313 | 48.2 | 28.1 | 23.7 | 100.0 | 521 |
| Northern Cape | 58.1 | 26.3 | 15.7 | 100.0 | 55 | 78.3 | 16.7 | 5.0 | 100.0 | 87 |
| Free State | 53.5 | 29.8 | 16.7 | 100.0 | 198 | 66.8 | 25.2 | 8.0 | 100.0 | 299 |
| KwaZulu-Natal | 66.0 | 19.4 | 14.6 | 100.0 | 674 | 80.5 | 13.4 | 6.0 | 100.0 | 810 |
| North West | 45.1 | 30.0 | 24.9 | 100.0 | 220 | 74.6 | 19.7 | 5.8 | 100.0 | 333 |
| Gauteng | 57.2 | 24.8 | 18.0 | 100.0 | 644 | 67.2 | 18.7 | 14.1 | 100.0 | 852 |
| Mpumalanga | 31.4 | 34.8 | 33.8 | 100.0 | 182 | 49.2 | 30.3 | 20.5 | 100.0 | 270 |
| Limpopo | 24.1 | 35.1 | 40.8 | 100.0 | 243 | 35.1 | 34.8 | 30.1 | 100.0 | 483 |
| Education | | | | | | | | | | |
| No education | 60.3 | 27.8 | 11.9 | 100.0 | 241 | 68.4 | 19.6 | 11.9 | 100.0 | 522 |
| Grades 1-5 | 49.8 | 29.7 | 20.5 | 100.0 | 277 | 65.1 | 20.2 | 14.6 | 100.0 | 420 |
| Grades 6-7 | 46.6 | 28.9 | 24.5 | 100.0 | 321 | 62.4 | 23.9 | 13.8 | 100.0 | 456 |
| Grades 8-11 | 45.7 | 27.8 | 26.5 | 100.0 | 1 126 | 60.7 | 25.1 | 14.2 | 100.0 | 1 658 |
| Grades 12 | 48.0 | 26.1 | 26.0 | 100.0 | 563 | 65.9 | 19.6 | 14.5 | 100.0 | 786 |
| Higher | 46.5 | 34.5 | 19.0 | 100.0 | 250 | 58.8 | 27.1 | 14.1 | 100.0 | 290 |
| Population group | | | | | | | | | | |
| African | 47.7 | 27.6 | 24.6 | 100.0 | 2 310 | 62.6 | 22.7 | 14.7 | 100.0 | 3 428 |
| Afr. urban | 49.4 | 28.5 | 22.2 | 100.0 | 1 355 | 66.0 | 21.6 | 12.4 | 100.0 | 1 947 |
| Afr. non-urban | 45.4 | 26.5 | 28.1 | 100.0 | 955 | 58.3 | 24.1 | 17.6 | 100.0 | 1 481 |
| Coloured | 41.2 | 39.9 | 18.9 | 100.0 | 201 | 66.0 | 25.6 | 8.4 | 100.0 | 382 |
| Indian | 43.1 | 33.4 | 23.4 | 100.0 | 72 | 62.6 | 20.5 | 17.0 | 100.0 | 109 |
| White | 60.2 | 23.3 | 16.5 | 100.0 | 195 | 66.8 | 22.4 | 10.8 | 100.0 | 212 |
| Total | 48.0 | 28.4 | 23.6 | 100.0 | 2 778 | 63.2 | 22.9 | 14.0 | 100.0 | 4 131 |

*METs are multiples of the resting metabolic rate and yield a score in MET-minutes, which is computed by multiplying the MET score (8 for vigorous and 4 for moderate activity and transport related walking/cycling) by the minutes performed.

Various researchers have debated the influence of the level of education on physical activity. It has been argued that lack of education may influence the choice not to engage in physical activity due to not knowing and understanding its value. However, not engaging in physical activity may be confounded with lower socio-economic status associated with lack of education. In this survey, the highest reported prevalence of inactivity is seen in men and women with no formal education (60 percent and 68 percent respectively).

The highest prevalence of inactivity is noted in white men (60 percent) and women (67 percent), while population group variations are not marked for the non-white men, neither for the women.

One of the unique opportunities of this survey was to characterise levels of activity across the various domains of activity, e.g. occupational, transport and leisure time. Tables 13.18 and 13.19 depict physical inactivity prevalence in the three domains, as mean MET-minutes/wk and as a percentage of total moderate and vigorous physical activity (total MET-minutes/wk). These show that the overall contribution of occupational activity to total activity is 18 percent in both men and women. Leisure time energy expenditure accounts for 48 percent in men and 54 percent in women, while transport accounts for 34 percent in men and 28 percent in women. The transport domain is less than expected, but this may be, in part, attributed to environmental factors. South Africa has few dedicated walking and cycling paths that may encourage people to walk and cycle more to get to and from places. The other factor could be that of safety and security discussed in other chapters of this survey.

Table 13.18 Physical activity domains of adult men

Average MET-minutes per week in work, leisure and transport domains and proportion of total physical activity of each domain for adult men 15 years and older, SADHS 2003

| Background characteristics | Mean MET-minutes/wk | | | Total | Percentage of total physical activity | | |
|----------------------------|---------------------|----------------|--------------|----------------|---------------------------------------|-------------|-------------|
| | Work | Leisure | Transport | | Work | Leisure | Transport |
| Age | | | | | | | |
| 15-24 | 170.2 | 1 316.7 | 1 264.9 | 2 751.8 | 6.2 | 47.8 | 46.0 |
| 25-34 | 601.4 | 1 083.7 | 745.1 | 2 430.2 | 24.7 | 44.6 | 30.7 |
| 35-44 | 613.6 | 914.1 | 461.3 | 1 989.0 | 30.8 | 46.0 | 23.2 |
| 45-54 | 389.1 | 771.3 | 284.6 | 1 445.0 | 26.9 | 53.4 | 19.7 |
| 55-64 | 395.5 | 721.5 | 250.9 | 1 367.9 | 28.9 | 52.7 | 18.3 |
| 65+ | 289.3 | 659.6 | 170.6 | 1 119.5 | 25.8 | 58.9 | 15.2 |
| Residence | | | | | | | |
| Urban | 347.8 | 987.6 | 665.5 | 2 000.9 | 17.4 | 49.4 | 33.3 |
| Non-urban | 467.4 | 1 107.1 | 836.9 | 2 411.5 | 19.4 | 45.9 | 34.7 |
| Province | | | | | | | |
| Western Cape | 490.4 | 1 045.1 | 817.7 | 2 353.2 | 20.8 | 44.4 | 34.7 |
| Eastern Cape | 698.8 | 1 984.6 | 974.4 | 3 657.8 | 19.1 | 54.3 | 26.6 |
| Northern Cape | 537.9 | 530.0 | 498.3 | 1 566.2 | 34.3 | 33.8 | 31.8 |
| Free State | 275.2 | 849.2 | 551.1 | 1 675.4 | 16.4 | 50.7 | 32.9 |
| KwaZulu-Natal | 263.7 | 462.5 | 475.1 | 1 201.3 | 22.0 | 38.5 | 39.5 |
| North West | 1 223.0 | 642.1 | 693.7 | 2 558.8 | 47.8 | 25.1 | 27.1 |
| Gauteng | 110.1 | 1 017.1 | 587.1 | 1 714.2 | 6.4 | 59.3 | 34.2 |
| Mpumalanga | 537.6 | 1 511.8 | 1 032.2 | 3 081.6 | 17.4 | 49.1 | 33.5 |
| Limpopo | 180.8 | 1 646.2 | 1 376.8 | 3 203.8 | 5.6 | 51.4 | 43.0 |
| Education | | | | | | | |
| No education | 335.5 | 675.8 | 298.5 | 1 309.8 | 25.6 | 51.6 | 22.8 |
| Grades 1-5 | 452.7 | 1 137.9 | 409.0 | 1 999.6 | 22.6 | 56.9 | 20.5 |
| Grades 6-7 | 540.8 | 1 132.4 | 607.6 | 2 280.8 | 23.7 | 49.6 | 26.6 |
| Grades 8-11 | 366.4 | 1 146.5 | 875.4 | 2 388.3 | 15.3 | 48.0 | 36.7 |
| Grade 12 | 465.9 | 944.7 | 778.7 | 2 189.3 | 21.3 | 43.2 | 35.6 |
| Higher | 120.0 | 789.5 | 855.1 | 1 764.6 | 6.8 | 44.7 | 48.5 |
| Population group | | | | | | | |
| African | 368.0 | 1 100.0 | 730.8 | 2 198.8 | 16.7 | 50.0 | 33.2 |
| Afr. urban | 484.1 | 1 110.9 | 833.0 | 2 427.9 | 19.9 | 45.8 | 34.3 |
| Afr. non-urban | 286.1 | 1 092.3 | 658.7 | 2 037.1 | 14.0 | 53.6 | 32.3 |
| Coloured | 531.1 | 1 019.3 | 647.7 | 2 198.1 | 24.2 | 46.4 | 29.5 |
| Indian | 603.8 | 722.5 | 854.1 | 2 180.4 | 27.7 | 33.1 | 39.2 |
| White | 432.5 | 329.3 | 710.8 | 1 472.6 | 29.4 | 22.4 | 48.3 |
| Total | 390.4 | 1 030.2 | 726.6 | 2 147.2 | 18.2 | 48.0 | 33.8 |

From Tables 13.18 and 13.19, it can be seen that the 65+ age group in both men and women report the highest levels (59 and 60 percent respectively) of leisure time activity as compared to all the age groups in the study. This can be attributed to the stage they are at in their lives, i.e. when the relative contributions from work and transport activity are generally reduced as people grow older.

In both men and women, the highest transport-related components of total activity are reported in Limpopo and KwaZulu-Natal. Gauteng (59 percent) and Eastern Cape (54 percent) men, and Northern Cape (79 percent) and Free State (73 percent) women report the highest relative contribution of leisure time activity compared to the other provinces. People with less education tend to do more physically-active labour. This is reflected in the men's work-related data which shows that 26 percent of total physical activity in men with no education is made up of work-related activity, in contrast to 7 percent of men with a post-matric education. However this does not hold in the case of women. These data suggest further investigation into factors that may play a role in work-related physical activity.

| Table 13.19 Physical activity domains of adult women | | | | | | | |
|---|---------------------|---------|-----------|---------|---------------------------------------|---------|-----------|
| Average MET-minutes per week in work, leisure and transport domains and proportion of total physical activity of each domain for adult women 15 years and older, SADHS 2003 | | | | | | | |
| Background characteristics | Mean MET-minutes/wk | | | | Percentage of total physical activity | | |
| | Work | Leisure | Transport | Total | Work | Leisure | Transport |
| Age | | | | | | | |
| 15-24 | 178.7 | 882.0 | 536.4 | 1 597.0 | 11.2 | 55.2 | 33.6 |
| 25-34 | 242.6 | 633.8 | 306.7 | 1 183.1 | 20.5 | 53.6 | 25.9 |
| 35-44 | 174.5 | 778.8 | 366.8 | 1 320.1 | 13.2 | 59.0 | 27.8 |
| 45-54 | 398.8 | 630.4 | 344.0 | 1 373.2 | 29.0 | 45.9 | 25.1 |
| 55-64 | 382.7 | 640.9 | 251.9 | 1 275.4 | 30.0 | 50.2 | 19.8 |
| 65+ | 164.6 | 447.8 | 138.6 | 751.0 | 21.9 | 59.6 | 18.5 |
| Residence | | | | | | | |
| Urban | 201.4 | 683.5 | 310.7 | 1 195.6 | 16.8 | 57.2 | 26.0 |
| Non-urban | 313.8 | 760.3 | 455.8 | 1 529.8 | 20.5 | 49.7 | 29.8 |
| Province | | | | | | | |
| Western Cape | 217.0 | 501.0 | 226.9 | 944.9 | 23.0 | 53.0 | 24.0 |
| Eastern Cape | 628.0 | 967.0 | 605.6 | 2 200.6 | 28.5 | 43.9 | 27.5 |
| Northern Cape | 24.0 | 440.5 | 94.9 | 559.3 | 4.3 | 78.8 | 17.0 |
| Free State | 49.0 | 606.7 | 180.0 | 835.7 | 5.9 | 72.6 | 21.5 |
| KwaZulu-Natal | 98.9 | 297.3 | 219.5 | 615.7 | 16.1 | 48.3 | 35.7 |
| North West | 91.3 | 373.8 | 166.8 | 631.8 | 14.5 | 59.2 | 26.4 |
| Gauteng | 194.4 | 856.0 | 252.8 | 1 303.2 | 14.9 | 65.7 | 19.4 |
| Mpumalanga | 494.0 | 1 076.3 | 178.7 | 1 749.0 | 28.2 | 61.5 | 10.2 |
| Limpopo | 310.3 | 1 233.0 | 1 089.2 | 2 632.5 | 11.8 | 46.8 | 41.4 |
| Education | | | | | | | |
| No education | 240.8 | 640.3 | 341.3 | 1 222.4 | 19.7 | 52.4 | 27.9 |
| Grades 1-5 | 461.8 | 653.4 | 321.1 | 1 436.2 | 32.2 | 45.5 | 22.4 |
| Grades 6-7 | 272.2 | 729.3 | 466.8 | 1 468.3 | 18.5 | 49.7 | 31.8 |
| Grades 8-11 | 196.2 | 720.2 | 350.5 | 1 266.9 | 15.5 | 56.8 | 27.7 |
| Grade 12 | 226.7 | 777.3 | 326.9 | 1 331.0 | 17.0 | 58.4 | 24.6 |
| Higher | 205.1 | 679.8 | 500.4 | 1 385.4 | 14.8 | 49.1 | 36.1 |
| Population group | | | | | | | |
| African | 229.1 | 752.3 | 355.0 | 1 336.4 | 17.1 | 56.3 | 26.6 |
| Afr. urban | 306.4 | 775.8 | 476.5 | 1 558.7 | 19.7 | 49.8 | 30.6 |
| Afr. non-urban | 170.3 | 734.4 | 262.6 | 1 167.3 | 14.6 | 62.9 | 22.5 |
| Coloured | 295.0 | 515.4 | 303.7 | 1 114.1 | 26.5 | 46.3 | 27.3 |
| Indian | 116.7 | 462.6 | 816.2 | 1 395.5 | 8.4 | 33.1 | 58.5 |
| White | 451.5 | 550.2 | 409.9 | 1 411.6 | 32.0 | 39.0 | 29.0 |
| Total | 243.6 | 712.4 | 365.2 | 1 321.2 | 18.4 | 53.9 | 27.6 |

For men, the reported relative contribution of physical activity in the various domains is more or less similar across the four population groups, except for African men showing a particularly low work-related contribution (17 percent), white men showing a particularly low leisure (22 percent) and a particularly large transport (48 percent) contribution. For women, the relative contribution in the various domains indicate a slight measure of similarity across the population groups, but Indian women report a considerably lower proportion of work (8 percent) and leisure activity (33 percent) compared to the other population groups, but a particularly high proportion of transport activity.

The new national data on physical activity illustrates that a large proportion of South African adults have an unhealthy lifestyle with no or insufficient physical activity. This finding corresponds with the high levels of overweight and obesity observed among adults, particularly among women. The new data also shows some unexpected patterns and differences with the WHS results, offering opportunity for further analyses and research.

13.12 Discussion

This chapter presents data on risk factors for chronic diseases including tobacco use, alcohol use, anthropometry, nutrient intake and physical inactivity. Monitoring these risk factors is timely in South Africa as we undergo the health transition, and is the first step in responding to reducing the burden of chronic diseases. A recent Lancet series acknowledges that developing countries with stressed health systems may be faced with a difficult task to address the escalating demands of chronic disease and their risk factors, but also argues that every country, regardless of the level of its resources, has the potential to make improvements in preventing and controlling chronic disease (Epping-Jordon *et al.*, 2005).

The data presented in this chapter make it clear that there is a need for a national strategy that comprehensively promotes healthy lifestyles, including programmes that promote appropriate, health-enhancing physical activity among all citizens, prevents tobacco use and alcohol abuse, and promotes a healthy diet. Otherwise, the current trends in South African lifestyles can be expected to contribute to the continued development of high blood glucose, hypertension and high blood lipids, which will ultimately result in chronic diseases such as heart disease, stroke, type 2 diabetes mellitus and some cancers. South Africa, like several other developing countries, has been highlighted as experiencing a unique demographic moment to focus on introducing policies that will reduce the future impact of chronic disease, and to minimise the rise in cardiovascular disease in particular (Leeder *et al.*, 2004).

CHAPTER 14

OLDER PERSONS

14.1 Introduction

Older persons usually do not form part of DHS reporting. However, this SADHS report includes a chapter on older persons as a result of the increasing recognition of both individual and population ageing that is taking place in South Africa. ‘Individual ageing’ refers to the ageing process within a person, whereas ‘population ageing’ refers to the ageing process within a country or region when the number of older persons becomes a proportionally larger part of a country’s or region’s total population.

The population of South Africa is ageing at a rapid rate, with the older population currently growing at a pace over four times the rate of the total population (ASSA, 2004). Population Census 2001 counted 3.28 million older persons, then accounting for 7.3% of the total population (Statistics South Africa, 2003). These figures mean that by the turn of the century, South Africa housed in terms of numbers the second largest population 60 years or older, and in terms of proportions, the third oldest population in sub-Saharan Africa (United Nations, 2002a). Despite the demographic impact of HIV/AIDS, the proportion and numbers are projected to increase over the next two decades, and by 2025 more than one in ten persons will be 60 years or older, then expected to count 5.23 million people (Joubert & Bradshaw, 2006).

Population ageing and older persons’ health, well-being and their protection are central to various international instruments such as the International Year for Older Persons, the Madrid International Plan of Action on Ageing, the United Nations Principles for Older Persons, the Valetta Declaration, the WHO Policy Framework on Active Ageing and the African Union’s Policy Framework and Plan of Action on Ageing. The central themes of the Madrid Plan include the achievement of secure ageing which involves eradicating poverty in old age; the empowerment of older persons to fully participate in the economic, political and social lives of their societies; the provision of opportunities for individual development, self-fulfilment and well-being throughout life, through for example, access to lifelong learning; ensuring the full enjoyment of economic, social, cultural, civil and political rights and the elimination of all forms of violence and discrimination against older persons; commitment to gender equality among older persons; and the provision of health care, support and social protection for older persons, including preventive and rehabilitative health care (United Nations, 2002b).

The South African government has shown commitment towards older persons and their interests through various policy and legislative measures. Various acts contain provisions of either direct or indirect relevance to older persons, including the Constitution Act of 1996, Aged Persons Amendment Act of 1998, Domestic Violence Act of 1998, Housing Development Schemes Act for Retired Persons of 1988 and Social Assistance Act of 2004. Provisions in the Constitution’s Bill of Rights that are relevant to older persons include prohibition against unfair discrimination on the ground of age; freedom from all forms of violence; the right to have one’s dignity respected and protected; the right to bodily and psychological integrity; equality before the law; and the right to have access to food, water, social security and adequate housing. Similar to the approach underlying the United Nations Principles for Older Persons, these provisions provide the foundation for a rights-based approach to issues affecting older persons.

The government has furthermore observed the 1999 International Year for Older Persons with its theme “A society for all ages”; is signatory to the 2002 Political Declaration that commits countries to the Madrid Plan; has recently participated in the drafting of the Valetta Declaration at the Commonwealth Heads of Government Meeting in Malta in November 2005; and has shown remarkable support to various international responses by integrating these aims and principles into the different drafts of the South African policy for older persons which has culminated in the Older Persons Bill. In March 2006, the Older Persons Bill was passed by Parliament, and in November 2006 the State President signed the Older Persons Act, Act no. 13 of 2006. The Department of Social Development will develop regulations for the implementation of the act.

The Government provides social services for older persons directly facilitated by the Department of Social Development, and by subsidies to a range of NGO’s. These services include social work services such as counselling, organisation of community and inter-sectoral programmes, and subsidies to community-based care that provides support to older persons who live in the community, or who visit luncheon clubs and community centres. A particularly important and longstanding governmental commitment is the provision of the non-contributory Older Persons Grant. In a poor continent like Africa, the social security offered to older South Africans through this grant, and the economic impacts thereof, are extraordinary and incomparable (Institute of Development and Policy Management & HelpAge International, 2003; Case & Deaton, 1998). At the policy and legislative level, it is clear that South Africa has a strong commitment towards the well-being of its older persons.

Increased age in adulthood is generally associated with a larger demand for health and related care by the individual, and an ageing population usually contributes to a rise in health care costs (Mendelson & Schwartz, 1993; National Academy of Science, 2001; WHO, 2002). For planning purposes, it therefore becomes important to describe older persons’ socio-demographic characteristics, health service utilization patterns and health status. This chapter makes use of the data available in the 2003 SADHS to serve as an indication of the extent to which the macro-level commitment has filtered through to the community, institutional and individual level by describing selected socio-demographic characteristics, and reported health-related experiences and health conditions of older persons.

14.2 Characteristics of the Older Population

Age and Residence

The broad age distribution of the household population as well as the median age in this survey is compared with the 1998 SADHS and 1996 and 2001 Censuses (Table 14.1). The 2003 SADHS appears to have less under-representation of the 15-59 year age group than in 1998. Comparing the 1996 and 2001 Census data shows an increase in the proportion of persons 60+, 65+, 70+ and 80+, compared to a decrease in the proportion of children under 15 years. Changes in the composition of the broad age groups between the 1998 and 2003 SADHS surveys also show decreasing proportions in the young (under 15 years) compared to increasing proportions in those 15 years or older. However, the median age shows an unusually large increase for a 5-year period between these surveys, and further analysis could indicate whether this is an effect of a rapidly ageing population, the way individuals were selected into the sample, or the way they were listed onto the questionnaire.

Table 14.1 Comparison of broad age structures

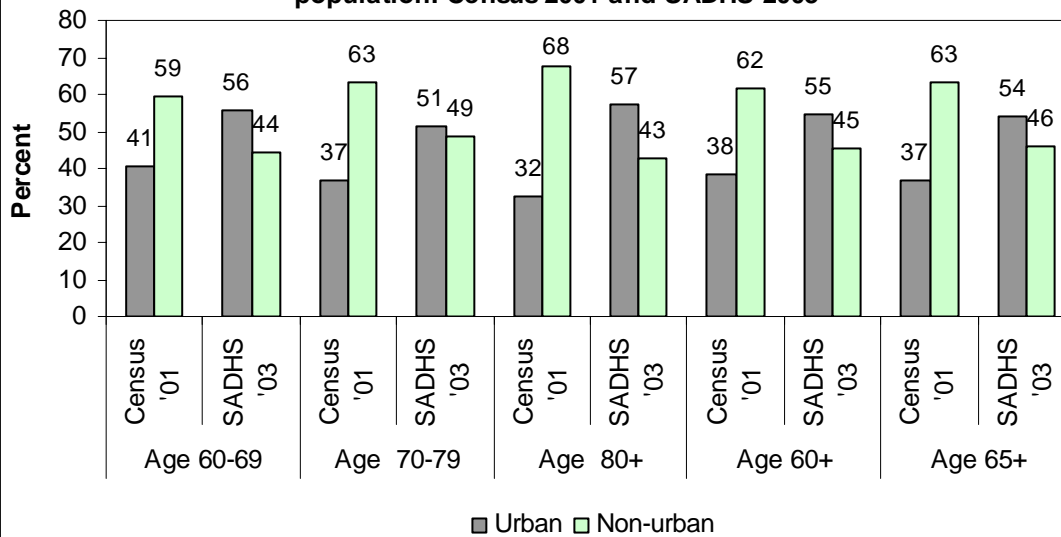
Percentage distribution of the population in broad age groups, and the median age as indicated by 1998 SADHS, 1996 Census, 2003 SADHS and 2001 Census

| | SADHS 1998 | Census 1996 ¹ | SADHS 2003 | Census 2001 ¹ |
|--------------------|---------------|-----------------------------|---------------|-----------------------------|
| MALES | | | | |
| Less than 15 years | 40.1 | 35.2 | 34.9 | 33.4 |
| 15-59 years | 52.8 | 57.8 | 57.2 | 60.7 |
| 60+ years | 7.0 | 5.7 | 7.9 | 5.9 |
| Missing | 0.2 | 1.3 | 0.0 | 0.0 |
| Total | 100.0 | 100.0 | 100.0 | 100.0 |
| 65+ | 4.6 | 3.8 | 5.0 | 3.8 |
| 70+ | 2.5 | 2.3 | 2.7 | 2.4 |
| 80+ | 0.6 | 0.5 | 0.6 | 0.7 |
| Number | 24 340 | 19 490 045 | 13 713 | 21 404 934 |
| FEMALES | | | | |
| Less than 15 years | 35.9 | 32.8 | 30.2 | 30.7 |
| 15-59 years | 53.8 | 57.9 | 60.0 | 60.6 |
| 60+ years | 10.1 | 8.2 | 9.7 | 8.7 |
| Missing | 0.1 | 1.1 | 0.0 | 0.0 |
| Total | 100.0 | 100.0 | 100.0 | 100.0 |
| 65+ | 6.7 | 5.7 | 6.1 | 6.0 |
| 70+ | 4.1 | 3.5 | 3.7 | 4.0 |
| 80+ | 1.1 | 1.0 | 1.1 | 1.3 |
| Number | 27 632 | 21 088 844 | 5 864 | 23 363 750 |
| PERSONS | | | | |
| Less than 15 years | 37.8 | 34.0 | 32.4 | 32.0 |
| 15-59 years | 53.4 | 57.9 | 58.7 | 60.7 |
| 60+ years | 8.6 | 7.0 | 8.8 | 7.3 |
| Missing | 0.2 | 1.2 | 0.0 | 0.0 |
| Total | 100.0 | 100.0 | 100.0 | 100.0 |
| 65+ | 5.8 | 4.8 | 5.6 | 5.0 |
| 70+ | 3.4 | 2.9 | 3.2 | 3.2 |
| 80+ | 0.9 | 0.8 | 0.9 | 1.0 |
| Median age | 21.2 | 22.7 | 23.7 | 23.5 |
| Number | 51 972 | 40 578 889 | 29 577 | 44 768 684 |

¹ Source: Statistics South Africa.

Table 14.2 shows the distribution by urban/non-urban residence of the *de facto* older household population according to sex, ten-year age groups and selected older-age categories. Over half of older persons in all age groups and categories were listed as urban-living, with small differences between older men and women. However, older populations worldwide are generally urbanizing at a slower pace than younger age groups. Given the substantial urbanization delay of Africans over the past 100 years, and considering that Africans constitute the great majority of the older population, it is likely that Table 14.2 reflects a substantial urban bias in the sample. This is confirmed when comparing the data with the 2001 Census data (Figure 14.1). The 2001 Census data, in all mentioned age groups, also suggest a larger sex difference than reported in the 2003 survey, with older men than women living in urban areas.

Figure 14.1 Urban/non-urban residence of the older household population: Census 2001 and SADHS 2003



| Table 14.2 Residence of older population | | | | | |
|---|-------|-------|--------|-------|-------|
| Percentage distribution of urban/non-urban residence of the <i>de facto</i> household older population by ten-year age groups, 80+, 60+ and 65+, and sex, South Africa 2003 | | | | | |
| Age group | 60-69 | 70-79 | 80+ | 60+ | 65+ |
| MEN | | | | | |
| Urban | 55.1 | 51.6 | (61.9) | 54.7 | 55.9 |
| Non-urban | 44.9 | 48.4 | (38.1) | 45.3 | 44.1 |
| Total | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| Number | 708 | 283 | 81 | 1 072 | 673 |
| WOMEN | | | | | |
| Urban | 55.9 | 50.7 | 55.4 | 54.5 | 52.8 |
| Non-urban | 44.1 | 49.3 | 44.6 | 45.5 | 47.2 |
| Total | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| Number | 942 | 405 | 176 | 1 523 | 963 |
| PERSONS | | | | | |
| Urban | 55.6 | 51.1 | 57.4 | 54.6 | 54.1 |
| Non-urban | 44.4 | 48.9 | 42.6 | 45.4 | 45.9 |
| Total | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| Number | 1 650 | 688 | 257 | 2 594 | 1 636 |
| Note: Figures in parentheses are based on 25-49 unweighted cases. | | | | | |
| The data in this table reflect a considerable urban bias in the sampling and/or fieldwork procedure. See related text and Figure 14.1. This urban bias is likely to influence other findings related to the older population. | | | | | |

Educational Level and Population Group

Table 14.3 shows the highest completed educational level of the older household population. A discouraging picture is portrayed, showing that 42 percent of older females and 36 percent of older males have had no education, starkly contrasted by 12 percent of all females and 10 percent of all males aged six years or older enumerated in the household population (compare Table 2.5 in Chapter 2). For several background characteristics, the largest proportions of older persons are seen in the “no education” category. Generally, increasing age shows a negative relationship with education for all levels of education, whereas for “no education”, the proportions of older persons increase as age increase. A male advantage is illustrated as more older males (6.7 percent) than females (5.2 percent) completed Grade 12 level education, and almost double the proportion of older males (7.2 percent) compared to females (4.1 percent) have a tertiary qualification. In contrast, more females (42 percent) than males (36 percent) have never been to school.

Substantial differences exist between the provinces, particularly in terms of having had no education and having completed Grade 12. Seventeen percent of Western Cape older females compared to 72 percent of Limpopo older females have had no education, and 17 percent of Western Cape older males compared to 0.8 percent of Eastern Cape older males completed Grade 12. Vast differences show up between urban and non-urban residence, for example, 27 percent of urban females compared to 60 percent of non-urban females have had no education, and though somewhat less pronounced, a considerable urban/non-urban difference is reflected in males too where 23 percent of urban versus 50 percent of non-urban males have had no education. This could be a reflection of residential differences related to access to educational institutions, affordability and the need for education to make a living.

Table 14.3 Level of education and population group of older persons

Percentage distribution of the highest education completed, and population group of the de facto household population 60 years or older by sex, South Africa 2003

| Background characteristic | Education | | | | | | Population | | | | | Total | Other/ missing | Number |
|---------------------------|-----------------|---------------|---------------|----------------|--------|---------|------------|---------|----------|--------|-------|-------|-------------------|--------|
| | Education | | | | | | Population | | | | | | | |
| | No Education | Grades 1-5 | Grades 6-7 | Grades 8-11 | Higher | Unknown | Total | African | Coloured | Indian | White | | | |
| WOMEN | | | | | | | | | | | | | | |
| Age | | | | | | | | | | | | | | |
| 60-64 | 33.8 | 18.4 | 11.9 | 23.6 | 6.5 | 4.9 | 0.9 | 75.3 | 7.5 | 3.1 | 14.1 | 0.0 | 100.0 | 560 |
| 65-69 | 39.7 | 18.2 | 13.2 | 18.8 | 5.1 | 4.3 | 0.7 | 81.6 | 5.7 | 1.6 | 10.8 | 0.3 | 100.0 | 382 |
| 70-74 | 46.4 | 18.8 | 13.6 | 14.8 | 4.6 | 1.8 | 0.0 | 85.2 | 6.3 | 2.2 | 6.3 | 0.0 | 100.0 | 263 |
| 75-79 | 54.2 | 14.6 | 5.7 | 15.4 | 4.9 | 2.9 | 2.2 | 79.9 | 5.9 | 2.4 | 11.8 | 0.0 | 100.0 | 142 |
| 80-89 | 56.5 | 12.1 | 12.1 | 7.9 | 2.6 | 5.9 | 2.9 | 85.7 | 4.6 | 2.5 | 7.2 | 0.0 | 100.0 | 155 |
| 90+ | (58.3) | (12.1) | (6.0) | (4.2) | (0.0) | (5.5) | (13.8) | (87.1) | (12.9) | (0.0) | (0.0) | (0.0) | 100.0 | 21 |
| Residence | | | | | | | | | | | | | | |
| Urban | 26.8 | 15.4 | 14.0 | 26.7 | 8.4 | 6.8 | 2.0 | 66.4 | 10.0 | 4.3 | 19.1 | 0.2 | 100.0 | 830 |
| Non-urban | 60.3 | 19.6 | 9.4 | 8.2 | 1.3 | 1.0 | 0.2 | 96.8 | 2.2 | 0.1 | 0.9 | 0.0 | 100.0 | 693 |
| Province | | | | | | | | | | | | | | |
| Western Cape | 16.7 | 12.0 | 17.8 | 32.3 | 9.6 | 9.6 | 1.9 | 25.7 | 46.7 | 2.6 | 24.0 | 1.0 | 100.0 | 119 |
| Eastern Cape | 44.6 | 17.0 | 15.5 | 18.7 | 0.5 | 3.0 | 0.8 | 96.1 | 0.7 | 0.0 | 3.2 | 0.0 | 100.0 | 270 |
| Northern Cape | 32.7 | 20.7 | 17.1 | 20.2 | 4.4 | 2.8 | 2.1 | 31.8 | 59.2 | 0.7 | 7.6 | 0.7 | 100.0 | 28 |
| Free State | 41.9 | 29.9 | 8.1 | 10.2 | 3.5 | 6.3 | 0.0 | 87.2 | 1.6 | 0.0 | 11.2 | 0.0 | 100.0 | 86 |
| KwaZulu-Natal | 36.5 | 25.4 | 10.5 | 22.9 | 2.7 | 1.9 | 0.0 | 77.4 | 6.8 | 9.1 | 6.7 | 0.0 | 100.0 | 308 |
| North West | 41.9 | 21.0 | 18.7 | 15.7 | 1.2 | 1.0 | 0.4 | 97.0 | 0.0 | 0.0 | 3.0 | 0.0 | 100.0 | 146 |
| Gauteng | 24.4 | 9.2 | 11.3 | 22.3 | 18.5 | 9.8 | 4.5 | 66.4 | 0.0 | 2.0 | 31.5 | 0.0 | 100.0 | 262 |
| Mpumalanga | 69.9 | 13.1 | 4.9 | 9.1 | 1.5 | 1.5 | 0.0 | 94.2 | 2.1 | 0.0 | 3.7 | 0.0 | 100.0 | 95 |
| Limpopo | 72.0 | 12.8 | 6.0 | 6.8 | 0.7 | 1.2 | 0.5 | 97.8 | 0.0 | 0.0 | 2.2 | 0.0 | 100.0 | 209 |
| Total 60+ | 42.0 | 17.3 | 11.9 | 18.2 | 5.2 | 4.1 | 1.2 | 80.2 | 6.5 | 2.4 | 10.8 | 0.1 | 100.0 | 1 523 |
| Total 65+ | 46.8 | 16.7 | 11.9 | 15.1 | 4.4 | 3.7 | 1.4 | 83.1 | 5.9 | 2.0 | 8.9 | 0.1 | 100.0 | 963 |
| MEN | | | | | | | | | | | | | | |
| Age | | | | | | | | | | | | | | |
| 60-64 | 24.1 | 21.5 | 13.5 | 24.9 | 6.8 | 7.4 | 1.8 | 72.0 | 10.5 | 3.4 | 14.2 | 0.0 | 100.0 | 399 |
| 65-69 | 37.0 | 18.9 | 7.4 | 19.1 | 6.8 | 8.5 | 2.2 | 74.2 | 4.8 | 1.9 | 18.7 | 0.4 | 100.0 | 309 |
| 70-74 | 47.6 | 16.0 | 5.8 | 15.3 | 7.2 | 6.9 | 1.2 | 84.6 | 2.3 | 2.3 | 10.8 | 0.0 | 100.0 | 197 |
| 75-79 | 50.7 | 17.2 | 8.2 | 15.9 | 1.4 | 5.9 | 0.5 | 88.5 | 6.9 | 2.4 | 2.2 | 0.0 | 100.0 | 86 |
| 80-89 | 42.2 | 19.9 | 8.1 | 14.2 | 10.6 | 3.5 | 1.5 | 76.8 | 4.7 | 1.5 | 16.9 | 0.2 | 100.0 | 76 |
| 90+ | * | * | * | * | * | * | * | * | * | * | * | * | * | 5 |
| Residence | | | | | | | | | | | | | | |
| Urban | 23.4 | 15.6 | 8.4 | 28.3 | 10.5 | 12.1 | 1.7 | 61.1 | 9.8 | 4.4 | 24.5 | 0.2 | 100.0 | 586 |
| Non-urban | 50.4 | 23.8 | 10.7 | 10.0 | 2.2 | 1.3 | 1.6 | 95.5 | 2.8 | 0.3 | 1.4 | 0.0 | 100.0 | 486 |
| Province | | | | | | | | | | | | | | |
| Western Cape | 23.6 | 21.9 | 8.6 | 20.1 | 17.0 | 6.4 | 2.6 | 29.2 | 44.3 | 2.0 | 23.0 | 1.4 | 100.0 | 89 |
| Eastern Cape | 38.6 | 19.3 | 18.9 | 18.1 | 0.8 | 3.6 | 0.8 | 91.1 | 2.6 | 0.8 | 5.5 | 0.0 | 100.0 | 156 |
| Northern Cape | 37.3 | 13.9 | 12.8 | 25.5 | 5.1 | 4.6 | 0.8 | 36.6 | 49.1 | 0.8 | 13.5 | 0.0 | 100.0 | 24 |
| Free State | 44.6 | 18.2 | 5.8 | 16.2 | 7.7 | 5.5 | 1.9 | 86.4 | 1.9 | 0.0 | 11.6 | 0.0 | 100.0 | 62 |
| KwaZulu-Natal | 34.9 | 22.3 | 11.3 | 23.1 | 6.6 | 1.6 | 0.2 | 83.2 | 2.3 | 6.3 | 8.3 | 0.0 | 100.0 | 273 |
| North West | 50.4 | 18.4 | 10.6 | 14.0 | 2.6 | 3.3 | 0.7 | 97.1 | 0.0 | 0.0 | 2.9 | 0.0 | 100.0 | 91 |
| Gauteng | 16.5 | 17.0 | 3.0 | 25.9 | 11.1 | 23.6 | 2.9 | 59.2 | 2.8 | 1.9 | 36.1 | 0.0 | 100.0 | 206 |
| Mpumalanga | 52.2 | 22.3 | 4.8 | 13.9 | 3.4 | 3.4 | 0.0 | 85.7 | 3.1 | 0.0 | 11.2 | 0.0 | 100.0 | 64 |
| Limpopo | 51.8 | 14.9 | 7.4 | 13.3 | 3.8 | 3.3 | 5.6 | 92.8 | 0.0 | 2.9 | 4.3 | 0.0 | 100.0 | 107 |
| Total 60+ | 35.6 | 19.3 | 9.5 | 20.0 | 6.7 | 7.2 | 1.7 | 76.7 | 6.6 | 2.5 | 14.1 | 0.1 | 100.0 | 1 072 |
| Total 65+ | 42.4 | 18.0 | 7.1 | 17.1 | 6.7 | 7.1 | 1.6 | 79.5 | 4.3 | 2.1 | 14.0 | 0.2 | 100.0 | 673 |

Population group unknown for two women and two men.

Note: Figures in parentheses are based on 25-49 unweighted cases, and asterisks are based on <25 unweighted cases.

A slight improvement is suggested in the 2003 educational levels of the population 65+ compared to the 1998 levels as slightly more males and females completed Grade 12 in the 2003 survey. However, unexpectedly, in the 2003 survey, slightly more males (42 percent) and females (47 percent) in the population 65+ have had no education compared to the 1998 survey when 39 percent of males and 45 percent of females reported to have had no education.

Table 14.3 also shows the percent distribution of older females and males by population group. Africans account for 80 percent of older females and 77 percent of older males and the data generally show increased proportions of Africans at each of the older age cut-offs. Whites and coloureds account for the second and third largest proportions of older persons, and Indians for the smallest. Of the non-urban older population, 97 percent are African. Except for the Western Cape and Northern Cape where coloureds show the largest proportions, the large majority of the provincial older populations are African.

Grants and Pensions

The percentage of older males and females receiving a grant, pension or allowance, is indicated in Table 14.4. The grants offered to the South African eligible population, include the older persons, disability, war veteran, care dependency, foster child, child support and social relief of distress grants. Males aged 65 years or older and females aged 60 years or older may apply for an older persons grant provided their income is below a specified level. The majority of females 65 years or older (87 percent) and males 65 years or older (71 percent) report receiving a grant. In both older males and females, the proportion receiving a grant generally increases with age. A general pattern of decreasing proportions is shown as educational level increases. Among the population groups, African older males and females have the highest proportions of grant recipients, followed by Indians, coloureds and whites. Compared to the other population groups, small proportions of older whites receive a grant. In both males and females, a considerably larger proportion of non-urban compared to urban older persons receive a grant. The only provinces with less than 6 in 10 older males receiving a grant, are the Western Cape and Gauteng where about 4 in 10 older males receive a grant. Similarly are the Western Cape and Gauteng the only provinces where about 6 in 10 older females receive a grant, compared to 8-9 in 10 older females in the other provinces.

From the 1998 to the 2003 survey, the percentage of the female population 65 years or older that receive a grant has increased from 81 to 87 percent, and the male proportion has increased from 66 to 71 percent.

Table 14.4 Grants and pensions of older persons

Percentage distribution receiving a grant or pension among the *de facto* household population 60 years or older by sex, South Africa 2003

| Background characteristic | MEN | | | | | WOMEN | | | | |
|---------------------------|------|------|---------|-------|--------|--------|--------|---------|-------|--------|
| | Yes | No | Missing | Total | Number | Yes | No | Missing | Total | Number |
| Age | | | | | | | | | | |
| 60-64 | 33.7 | 65.1 | 1.2 | 100 | 399 | 64.9 | 35.1 | 0.0 | 100 | 560 |
| 65-69 | 57.9 | 41.9 | 0.2 | 100 | 309 | 83.3 | 15.8 | 0.9 | 100 | 382 |
| 70-74 | 77.2 | 22.8 | 0.0 | 100 | 197 | 90.5 | 9.5 | 0.0 | 100 | 263 |
| 75-79 | 81.8 | 18.2 | 0.0 | 100 | 86 | 87.3 | 12.5 | 0.2 | 100 | 142 |
| 80-89 | 91.9 | 8.0 | 0.2 | 100 | 76 | 92.3 | 7.7 | 0.0 | 100 | 155 |
| 90+ | * | * | * | 100 | 5 | (86.2) | (13.8) | 0.0 | 100 | 21 |
| Residence | | | | | | | | | | |
| Urban | 50 | 49.8 | 0.2 | 100 | 586 | 71.8 | 27.8 | 0.5 | 100 | 830 |
| Non-urban | 65.2 | 33.9 | 0.8 | 100 | 486 | 87.9 | 12.1 | 0.0 | 100 | 693 |
| Province | | | | | | | | | | |
| Western Cape | 41.1 | 58.8 | 0.1 | 100 | 89 | 64.5 | 35.5 | 0.0 | 100 | 119 |
| Eastern Cape | 64.6 | 33.8 | 1.6 | 100 | 156 | 86.5 | 13.5 | 0.0 | 100 | 270 |
| Northern Cape | 69.1 | 30.9 | 0.0 | 100 | 24 | 85.9 | 14.1 | 0.0 | 100 | 28 |
| Free State | 60.9 | 37.2 | 1.9 | 100 | 62 | 82.8 | 17.2 | 0.0 | 100 | 86 |
| KwaZulu-Natal | 60.1 | 39.8 | 0.0 | 100 | 273 | 76.9 | 23.1 | 0.0 | 100 | 308 |
| North West | 66.4 | 32.9 | 0.7 | 100 | 91 | 89.1 | 10.9 | 0.0 | 100 | 146 |
| Gauteng | 40.8 | 59.2 | 0.0 | 100 | 206 | 60.6 | 38.2 | 1.2 | 100 | 262 |
| Mpumalanga | 60.6 | 39.4 | 0.0 | 100 | 64 | 88.7 | 11.3 | 0.0 | 100 | 95 |
| Limpopo | 66.2 | 32.8 | 0.9 | 100 | 107 | 90.6 | 9.1 | 0.3 | 100 | 209 |
| Education | | | | | | | | | | |
| No education | 70.8 | 28.8 | 0.5 | 100 | 382 | 87.4 | 12.1 | 0.6 | 100 | 640 |
| Grades 1-5 | 62.3 | 36.8 | 0.9 | 100 | 207 | 89.3 | 10.7 | 0.0 | 100 | 264 |
| Grades 6-7 | 63.7 | 35.1 | 1.2 | 100 | 102 | 86.4 | 13.5 | 0.1 | 100 | 181 |
| Grades 8-11 | 53.4 | 46.4 | 0.3 | 100 | 214 | 69 | 31 | 0.0 | 100 | 278 |
| Grade 12 | 14.8 | 85.2 | 0.0 | 100 | 72 | 27.9 | 72.1 | 0.0 | 100 | 79 |
| Higher | 19.3 | 80.7 | 0.0 | 100 | 77 | 46.5 | 53.5 | 0.0 | 100 | 63 |
| Population group | | | | | | | | | | |
| African | 64.3 | 35.1 | 0.6 | 100 | 822 | 86.3 | 13.4 | 0.3 | 100 | 1 222 |
| African urban | 62.4 | 37.2 | 0.3 | 100 | 358 | 83.9 | 15.5 | 0.6 | 100 | 551 |
| African non-urban | 65.7 | 33.4 | 0.9 | 100 | 464 | 88.3 | 11.7 | 0.0 | 100 | 671 |
| Coloured | 44.3 | 55.7 | 0.0 | 100 | 71 | 71.9 | 28.1 | 0.0 | 100 | 98 |
| Indian | 56.2 | 43.8 | 0.0 | 100 | 27 | 82.9 | 16.4 | 0.7 | 100 | 37 |
| White | 22.4 | 77.6 | 0.0 | 100 | 151 | 28.8 | 71.2 | 0.0 | 100 | 165 |
| Total age 60+ | 56.9 | 42.6 | 0.5 | 100 | 1 072 | 79.1 | 20.7 | 0.2 | 100 | 1 523 |
| Total age 65+ | 70.7 | 29.2 | 0.1 | 100 | 673 | 87.4 | 12.3 | 0.4 | 100 | 963 |

Population group unknown for two men and two women. Education unknown for 17 men and 31 women.

Note: Figures in parentheses are based on 25-49 unweighted cases, and asterisks are based on <25 unweighted cases.

14.3 Housing Characteristics and Household Durable Goods of Older Persons

Housing Characteristics

Table 14.5 shows the proportions of older persons according to the characteristics of the households in which older persons usually live for both urban and non-urban areas, contrasted with the 1998 survey. Nearly all urban older persons live in households that have access to electricity (92 percent). Just over half of the non-urban-living older population (53 percent) have such access, which is considerably lower than the urban access, but which reflects a narrowing in the urban/non-urban gap in electricity access from 1998. In 1998, only 34 percent of the older persons in non-urban households had access (Table 14.5).

Table 14.5 Housing characteristics of older persons

Percentage distribution of the *de jure* persons 60 years or older, by selected housing characteristics, according to residence, South Africa 2003 and South Africa 1998

| Housing characteristic | 2003 SADHS | | | 1998 SADHS | | |
|--|------------|-----------|-------|------------|-----------|-------|
| | Urban | Non-urban | Total | Urban | Non-urban | Total |
| Electricity | | | | | | |
| Yes | 92.1 | 53.4 | 74.5 | 90.8 | 33.8 | 62.6 |
| No | 7.9 | 46.6 | 25.5 | 8.7 | 65.6 | 36.8 |
| Missing | - | - | - | 0.6 | 0.6 | 0.6 |
| Total | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| Fuel used for cooking | | | | | | |
| Electricity | 91.7 | 53.0 | 74.1 | 79.0 | 20.0 | 49.8 |
| Gas | 0.1 | 0.2 | 0.2 | 2.1 | 3.5 | 2.8 |
| Paraffin/ Kerosene | 1.6 | 12.2 | 6.4 | 12.3 | 34.3 | 23.2 |
| Charcoal/Coal | 0.7 | 0.8 | 0.8 | 2.8 | 3.6 | 3.6 |
| Other | 0.2 | 0.7 | 0.4 | 3.1 | 37.8 | 19.8 |
| Missing | 5.6 | 33.1 | 18.1 | 0.9 | 0.8 | 0.9 |
| Total | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| Source of drinking water | | | | | | |
| Piped into dwelling | 64.4 | 10.6 | 40.0 | 64.4 | 8.8 | 36.9 |
| Piped into yard/ plot | 28.7 | 13.8 | 21.9 | 27.4 | 14.5 | 21.0 |
| Public tap | 5.3 | 37.0 | 19.7 | 6.8 | 30.2 | 18.4 |
| Well in dwelling/borehole | 0.3 | 6.6 | 3.2 | 0.1 | 7.1 | 3.6 |
| Dam/river/stream/spring | 0.1 | 24.7 | 11.2 | 0.4 | 32.5 | 16.2 |
| Other | 0.3 | 7.0 | 3.3 | 0.4 | 6.3 | 3.3 |
| Missing | 1.0 | 0.3 | 0.7 | 0.6 | 0.6 | 0.6 |
| Total | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| Time to water source | | | | | | |
| Longer than 15 minutes | 2.4 | 53.4 | 25.6 | 2.2 | 45.9 | 23.8 |
| Sanitation facility | | | | | | |
| Flush toilet (sewage or septic not indicated) | 84.5 | 5.3 | 48.6 | 84.1 | 6.8 | 45.9 |
| Pit latrine or bucket | 13.2 | 77.1 | 42.3 | 13.7 | 67.1 | 40.0 |
| No facility, bush, field | 0.8 | 16.8 | 8.1 | 1.1 | 25.3 | 13.1 |
| Other | 0.0 | 0.0 | 0.0 | 0.1 | 0.2 | 0.2 |
| Missing | 1.4 | 0.7 | 1.1 | 1.0 | 0.6 | 0.8 |
| Total | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| Main floor material | | | | | | |
| Earth, sand, dung | 7.4 | 33.0 | 19.0 | 5.0 | 37.3 | 21.0 |
| Parquet, polished wood/wood planks | 5.0 | 1.3 | 3.3 | 5.1 | 1.0 | 3.1 |
| Vinyl, linoleum | 7.5 | 3.9 | 5.9 | 27.5 | 11.8 | 19.7 |
| Ceramic tiles | 25.8 | 3.7 | 15.8 | 9.6 | 1.0 | 5.3 |
| Cement | 27.8 | 50.1 | 37.9 | 16.9 | 40.4 | 28.5 |
| Carpet | 25.4 | 7.5 | 17.3 | 34.7 | 7.9 | 21.4 |
| Other | 0.1 | 0.0 | 0.1 | 0.6 | 0.1 | 0.3 |
| Missing | 1.0 | 0.5 | 0.8 | 0.7 | 0.6 | 0.7 |
| Total | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| Main wall material | | | | | | |
| Mud | 1.8 | 26.3 | 1.8 | 2.2 | 37.0 | 19.4 |
| Mud and cement | 11.2 | 19.9 | 11.2 | 4.5 | 16.0 | 10.2 |
| Corrugated iron/zinc | 5.7 | 1.9 | 5.7 | 6.7 | 1.8 | 4.3 |
| Prefab | 0.2 | 0.5 | 0.2 | 0.2 | 0.1 | 0.1 |
| Bare brick or cement block | 15.3 | 18.6 | 15.3 | 10.7 | 11.5 | 11.1 |
| Plaster/finished | 61.5 | 30.1 | 61.5 | 72.0 | 31.1 | 51.8 |
| Other | 2.8 | 1.3 | 2.8 | 2.3 | 0.9 | 1.6 |
| Missing | 1.5 | 1.3 | 1.5 | 1.3 | 1.6 | 1.4 |
| Total | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| Persons per room (2003); sleeping room (1998) | | | | | | |
| 1-2 | 95.3 | 94.2 | 94.9 | 80.9 | 75.0 | 78.0 |
| 3-4 | 2.5 | 4.8 | 3.4 | 13.6 | 17.4 | 15.4 |
| 5-6 | 0.4 | 0.0 | 0.3 | 2.9 | 4.5 | 3.7 |
| 7+ | 0.0 | 0.1 | 0.0 | 1.4 | 1.7 | 1.6 |
| Missing | 1.8 | 1.0 | 1.5 | 1.3 | 1.4 | 1.3 |
| Total | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| Mean | 1.1 | 1.2 | 1.1 | 2.1 | 2.2 | 2.1 |
| Number | 1 416 | 1 179 | 2 594 | 2 258 | 2 209 | 4 468 |

Since 1998, the proportion of older persons in households using electricity for cooking has increased for both urban and non-urban older persons, but particularly so in the non-urban areas where the proportion has more than doubled by 2003. Table 14.5 shows a strong consistency between access to electricity and using electricity as the main source of energy for cooking. Generally there has been a decrease in the utilization of charcoal/coal and paraffin/kerosene for cooking in both urban and non-urban areas. Data related to fuel used for cooking are missing for 6 percent of urban and 33 percent of non-urban households, which is unfortunate as this may have influenced the figures regarding cooking fuel in Table 14.5.

Changes in access to piped water for drinking are much less marked than the changes in access to electricity. In both surveys, almost two-thirds of urban older persons have access to piped water and over a quarter have piped water in their yard (Table 14.5), showing limited change from 1998. The proportion of non-urban households with access to piped water into the dwelling or yard remains small (less than one-quarter), with limited change since 1998. Members of such households have to spend an amount of time to obtain water from sources outside the dwelling or yard. Over half of the non-urban households (53 percent) take more than 15 minutes to get to the water source, get water, and come back. This proportion was lower in 1998 (46 percent), meaning that, in 2003, there are more households than in 1998 that spend more than 15 minutes to get to the water source.

The majority urban older persons (85 percent) have access to flush toilets, but in stark contrast, only 5 percent living in non-urban areas have access to a flush facility while 77 percent depend on a pit latrine or bucket. Almost no change since 1998 is shown for urban older persons, but some improvement over time is reflected among non-urban older persons in that about 8 percent less of them have no sanitation facility, while 10 percent more have access to a pit or bucket facility (Table 14.5).

The most common flooring material in the urban areas is cement, followed by ceramic tiles and carpets. In the non-urban areas, it was mainly cement and earth/sand. Nationally, cement and ceramic tiles are found more frequently now than was the case in 1998, with ceramic tile flooring having tripled since 1998. It is noted that the proportion of older persons living in urban homes with an earth/sand flooring, has increased from 5 percent in 1998 to 7.4 percent in 2003 (Table 14.5).

Overall, there has been little change in the housing type of older persons between 1998 and 2003. However, there are differences between households in urban areas and non-urban areas. Among urban older persons, plaster (62 percent) and bare brick/cement blocks (15 percent) are the most common wall materials of their households. In contrast, the most common materials among non-urban older persons are plastered walls (30 percent) and mud walls (26 percent). Since 1998, there has been a marked decline in the frequency of plaster walls in the urban areas accompanied by an increase in the frequency of bare brick and walls of mud and cement.

The vast majority of older persons (95 percent), with almost no difference among urban and non-urban persons, live in households that houses less than three persons per room. Very small proportions of older persons live in households housing 3-4 persons per room and negligible proportions in households housing more persons per room. Related 1998 SADHS data can not be compared, as the 1998 questionnaire obtained information about the number of persons per room *used for sleeping*.

Household Durable Goods

This section reports on the household ownership of selected durable goods that would play a role in enabling older persons to fully participate in and gain from societal life.

Table 14.6 shows that, as in 1998, considerable differences exist between urban and non-urban older persons in terms of most household durable goods included in the SADHS surveys. About 8 in 10 urban older persons live in households with a radio, television and refrigerator in working condition, compared to 69 percent of non-urban older persons living in a household with a radio, and less than 4 in 10 non-urban older persons living in a household with a television or refrigerator. Over three times less non-urban older persons (11 percent) than urban (38 percent) have access to a car or truck, whereas more non-urban compared to urban older persons have access to a bicycle and donkey or horse. Over 50 percent of urban older persons have access to each of a telephone and cell phone in their households, but the proportions for non-urban older persons are substantially smaller. About 24 percent of urban older persons do not have access to a phone, compared to 38 percent of non-urban older persons. Thirteen percent of non-urban, compared to 5 percent of urban older persons have access to none of the durable goods mentioned in Table 14.6.

Table 14.6 Household durable goods of older persons

Percentage of *de jure* persons 60 years or older living in households possessing selected durable goods and with phone access, by residence, South Africa 2003 and South Africa 1998

| Goods and access | 2003 SADHS | | | 1998 SADHS | | |
|-------------------------------|------------|-----------|-------|------------|-----------|-------|
| | Urban | Non-urban | Total | Urban | Non-urban | Total |
| Durable consumer goods | | | | | | |
| Radio | 82.2 | 69.1 | 76.3 | 85.2 | 74.7 | 80.0 |
| Television | 79.1 | 38.0 | 60.4 | 79.3 | 31.7 | 55.7 |
| Refrigerator | 78.4 | 36.3 | 59.3 | 75.5 | 23.0 | 49.5 |
| Bicycle | 13.6 | 16.3 | 14.8 | 13.0 | 10.3 | 11.7 |
| Motorcycle/scooter | 3.4 | 1.2 | 2.4 | 1.7 | 1.0 | 1.4 |
| Car/truck | 38.1 | 11.0 | 25.8 | 37.1 | 12.0 | 24.7 |
| Computer | 15.3 | 1.7 | 9.1 | 6.4 | 0.5 | 3.5 |
| Donkey/Horse | 0.5 | 6.7 | 3.3 | 0.6 | 7.2 | 3.8 |
| Sheep/Cattle | 1.8 | 32.0 | 15.5 | 1.6 | 32.6 | 16.9 |
| Telephone | 50.6 | 6.2 | 30.4 | 57.1 | 6.9 | 32.3 |
| Cell phone | 55.4 | 35.7 | 46.5 | - | - | - |
| None of above | 5.2 | 12.9 | 8.7 | 6.0 | 14.9 | 10.4 |
| Phone access | | | | | | |
| Own phone | 50.6 | 6.2 | 30.4 | 57.1 | 6.9 | 32.3 |
| At a neighbour nearby | 3.3 | 5.1 | 4.1 | 6.6 | 14.5 | 10.5 |
| At a public telephone nearby | 21.4 | 36.1 | 28.1 | 15.2 | 44.4 | 29.6 |
| Somewhere else nearby | 0.9 | 14.7 | 7.2 | 19.8 | 32.7 | 26.2 |
| No access | 23.8 | 37.9 | 30.2 | 1.4 | 1.5 | 1.4 |
| Number of households | 1 416 | 1 179 | 2 594 | 2 258 | 2 209 | 4 468 |

Compared with 1998, Table 14.6 shows that there are generally few changes in the proportions of older persons with access to household amenities. There was a slight increase in urban older persons having access to a refrigerator, motor-cycle, car/truck, computer, sheep/cattle and a nearby public telephone, but a stagnation or decrease in access to the remaining consumer goods. For non-urban older persons, an increase is shown in access to a television, refrigerator, bicycle and computer, but a stagnation or decrease with regard to access to the remaining amenities mentioned. There has been little change in the proportion of older persons with a phone in the

household but there has been a substantial increase in the proportion living in a household that considers that they do not have access to a phone nearby. Given the importance of access to a telephone in the older population, it is worrying that in 2003 a third of older persons live in households that do not have access to a phone. Further assessment is needed to assess whether this is a real deterioration or whether it may relate to a difference in the questionnaire.

14.4 Illness, Disability and Injuries among Older Persons

The lack of information on chronic disease in adults was recognized in the planning of the 1998 SADHS and a module was developed to provide national-level data to fill this knowledge gap. A clinical examination of respondents was not possible, but hypertension and lung disease were

identified as sentinel conditions which could be measured objectively by lay interviewers and used as indicators for chronic diseases. The adult health module therefore focused on information related to hypertension and lung disease, but also includes selected risk factors and/or behaviours for chronic disease, self-reported chronic conditions and oral health. The risk factor profile in the 2003 SADHS was extended to include information on physical activity and dietary intake, as well as violence.

14.4.1 Self-reported Prevalence of Chronic Conditions

Figure 14.2 reflects the self-reported prevalence of selected commonly-occurring chronic conditions in persons 60 years or older. Study participants were asked if a doctor, nurse or staff member at a clinic or hospital had ever informed them that they have had or have a chronic condition. Data from such self-reported conditions by participants should be treated with caution as they are frequently under-reported or incorrectly reported.

Similar to the 1998 survey, the 2003 results indicate that high blood pressure is by far the most commonly reported chronic condition among both older men and women, with a large gender differential between men (24 percent) and women (44 percent). Arthritis was included in the 2003 survey, presenting in both sexes as the second-most commonly reported chronic condition. Prevalence for most conditions is similar to that found in 1998, except for a considerably lower reporting of bronchitis in older men and ischaemic heart disease (IHD) in older women. IHD prevalence in men is usually expected to be higher than among women, and the higher reporting in both surveys among older women (13 and 8 percent) than men (8 and 6 percent) may be indicative of the inaccuracy of self-reported IHD. It is also possible that IHD is interpreted more so by female than male older respondents to mean 'all heart disease'.

The self-reported prevalence of diabetes and osteoporosis among women is about twice as high as that in men. While, from 1998 to 2003, the overall self-reported diabetes prevalence in the general adult population (≥ 15 years) remained unchanged at about 2.5 percent for men and about 3.8 percent for women (Chapter 10, Tables 10.2 and 10.3), the self-reported diabetes prevalence in women 60 years or older shows a slight increase (Figure 14.2). It is expected that the self-reported prevalence of chronic conditions would increase with increasing age, and the 2003 older male and female prevalence of the reported chronic conditions (Figure 14.2) are generally indeed more than double the total adult male and female prevalences (Tables 10.2 and 10.3). An exception relates to high cholesterol, bronchitis and tuberculosis in men, and tuberculosis in women, for which the older persons' prevalence is still higher than that of the total adult population, but for which the difference between the older population and the total adult population is much smaller.

Figure 14.2 Self-reported prevalence of chronic disease among older persons, SADHS 1998 and 2003

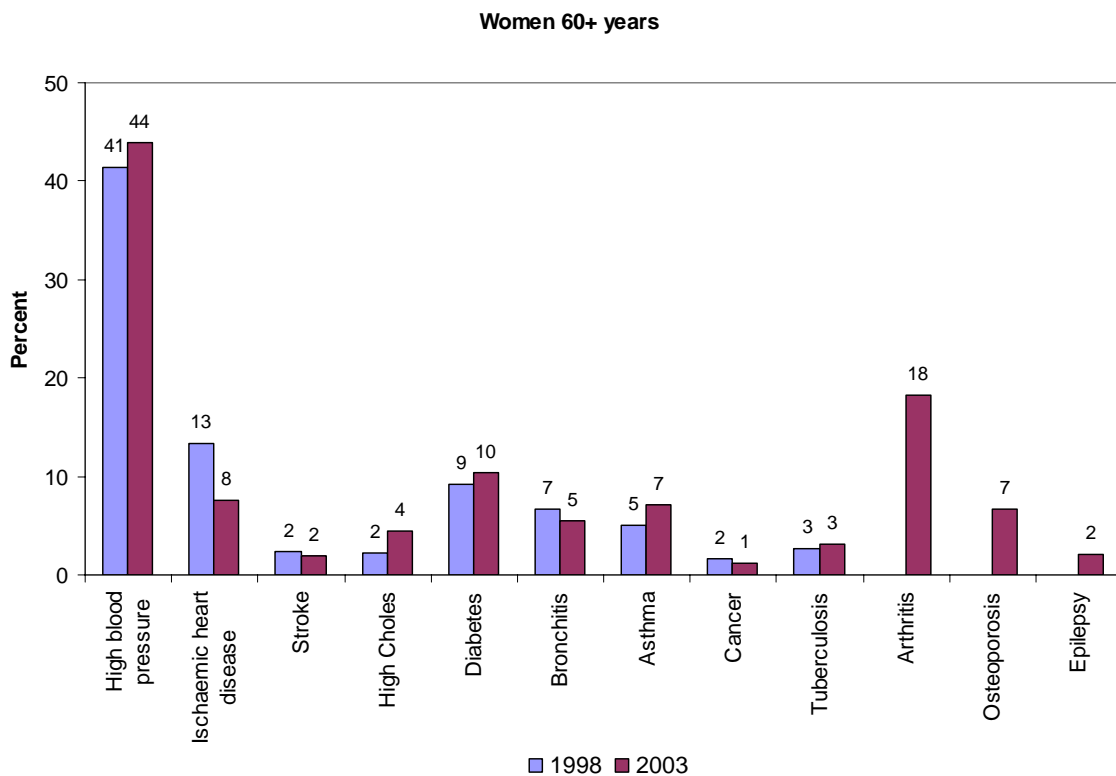
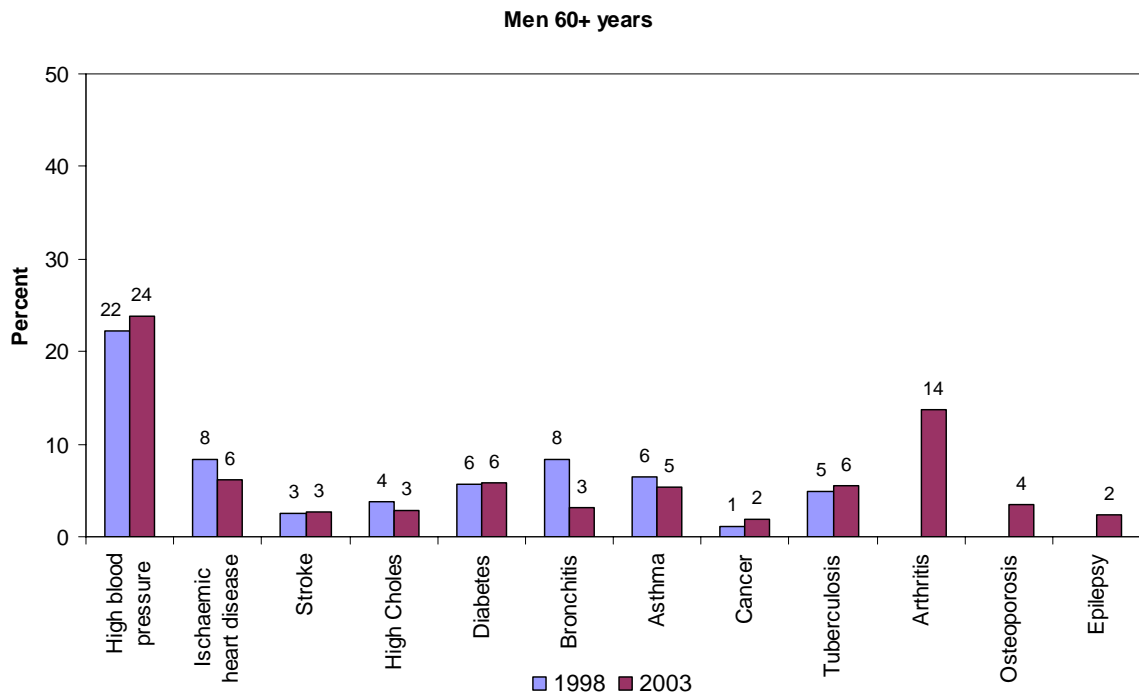
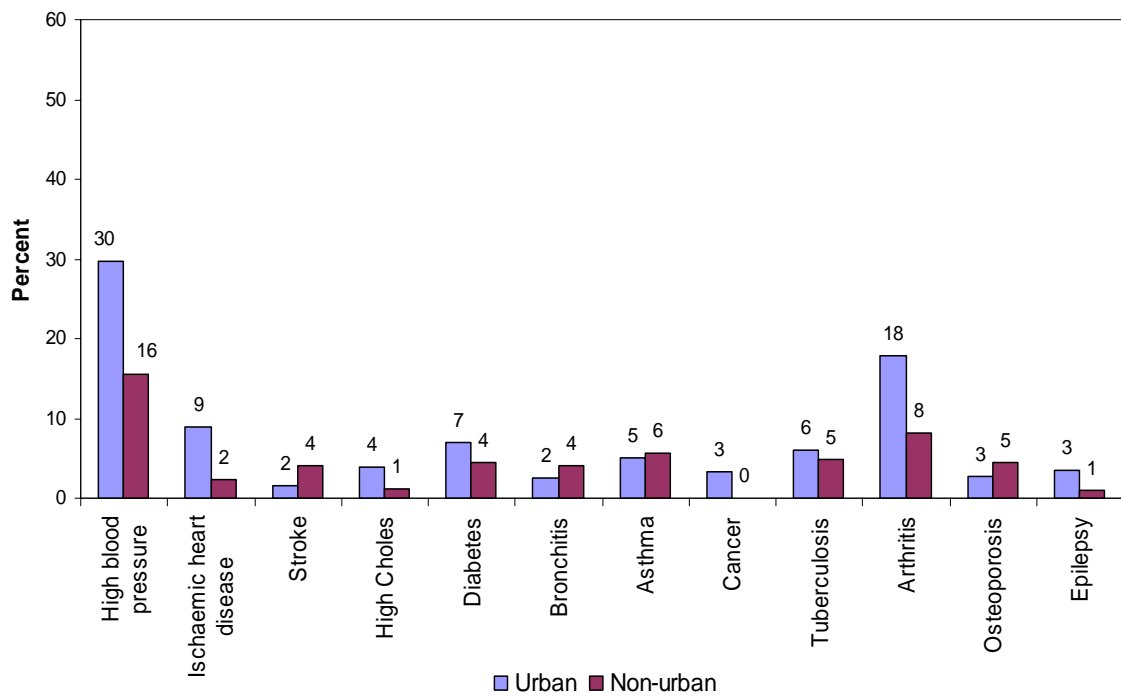


Figure 14.3 shows the self-reported prevalence of the same chronic conditions for men and women 60 years or older by urban/non-urban residence. Among older men, most conditions are less prevalent in non-urban areas, except for stroke, bronchitis, asthma and osteoporosis which show higher prevalences in non-urban areas. Among older women, too, most conditions are less prevalent

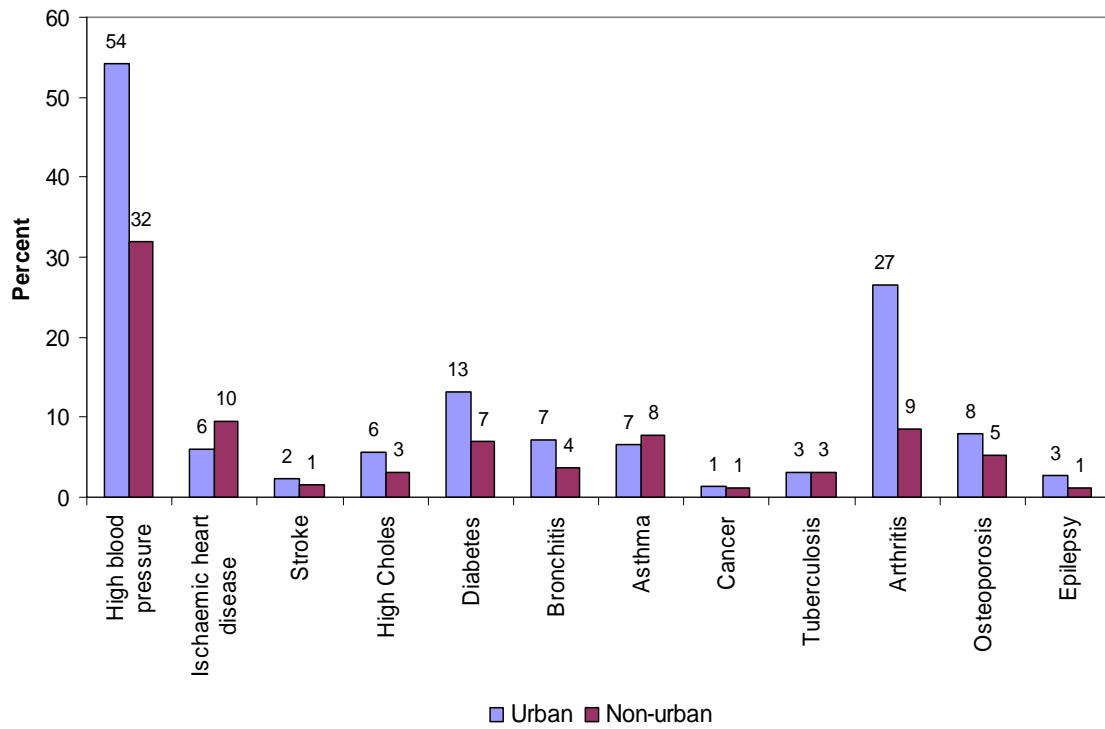
in non-urban areas. However, asthma and tuberculosis are slightly higher in non-urban areas. In both older men and women, the prevalence of arthritis is substantially higher in urban than non-urban areas. In older women, the almost two times higher urban than non-urban prevalence of high blood pressure, diabetes, bronchitis and epilepsy are noticed. Considering that IHD is generally more common in urban settings, it is particularly noticeable that IHD is higher among non-urban than urban older women. Again, this is suggestive of inaccuracy of self-reported IHD. The generally higher prevalence of chronic conditions in urban areas might be a result of better access to health care and more opportunity for being diagnosed with a condition, or from epidemiological differences.

Figure 14.3 Self-reported prevalence of chronic disease among older persons by area of residence, SADHS 2003

Men 60+ years



Women 60+ years



14.4.2 Symptoms of Chest Conditions

Airflow limitation

Airflow limitation is a symptom complex made up of wheezing/tight chest with breathlessness in the past 12 months, with sleep interruption by wheezing/tight chest or by coughing. As the questionnaire did not probe reversibility, the definition can be regarded as suggestive of, but not equivalent to asthma. The prevalence of airflow limitation is 13 percent in older men, slightly higher than the 12 percent in older women and is similar to that in 1998 with a slight increase in men (12 percent in 1998), and a small decrease in women (14 percent in 1998). As in 1998, the prevalence of airflow limitation increases markedly with age (compare Table 12.8 in Chapter 12), and the 2003 prevalence in older men (13.4 percent) and women (12.4 percent) is higher than that reported in the total adult ≥ 15 year male (7.2 percent) and female (8.1 percent) population (compare Table 12.8 in Chapter 12).

| Condition | 2003 SADHS | | | | 1998 SADHS | | | |
|------------------------------|--------------|--------|------------|--------|------------|-----------|------------|-----------|
| | MEN | | WOMEN | | MEN | | WOMEN | |
| | Percentage | Number | Percentage | Number | Percentage | Number | Percentage | Number |
| Lung disease symptoms | | | | | | | | |
| Airflow limitation | 13.4 | 375 | 12.4 | 607 | 12.0 | 760 | 14.1 | 1 272 |
| Chronic bronchitis | 4.8 | 375 | 3.1 | 607 | 3.9 | 760 | 5.3 | 1 272 |
| Abnormal peak flow rates | 10.8 | 375 | 17.7 | 607 | 7.2 | 760 | 8.0 | 1 272 |
| Reported Disability | | | | | | | | |
| | 2001 CENSUS* | | | | | | | |
| Sight | 1.5 | 1 074 | 2.5 | 1 537 | 4.8 | 1 255 003 | 5.3 | 2 025 509 |
| Hearing | 1.0 | 1 074 | 0.9 | 1 537 | 2.2 | 1 255 003 | 2.2 | 2 025 509 |
| Communication/speech | 0.3 | 1 074 | 0.01 | 1 537 | 0.4 | 1 255 003 | 0.3 | 2 025 509 |
| Physical | 4.2 | 1 074 | 3.9 | 1 537 | 4.6 | 1 255 003 | 4.2 | 2 025 509 |
| Intellectual | 0.5 | 1 074 | 0.01 | 1 537 | 0.5 | 1 255 003 | 0.5 | 2 025 509 |
| Emotional | 0.4 | 1 074 | 0.2 | 1 537 | 1.1 | 1 255 003 | 1.1 | 2 025 509 |
| Multiple | - | - | - | - | 2.3 | 1 255 003 | 2.8 | 2 025 509 |
| Any disability | 7.9 | 1074 | 7.6 | 1 537 | 16.0 | 1 255 003 | 16.4 | 2 025 509 |

* Source: Statistics South Africa: Population Census 2001.

Chronic bronchitis

The “chronic bronchitis” symptom complex is defined by chronic cough with phlegm every day for at least three months a year, for at least two successive years. The prevalence of chronic bronchitis is 4.8 percent among older men and 3.1 percent among older women. The prevalence among men has increased by about 1 percent compared with the 1998 SADHS, but in women the prevalence has declined from 5.3 percent to 3.1 percent (Table 14.7).

Abnormal peak flow rates

Peak expiratory flow rate (PEFR) is the maximum rate of flow of air expelled during a forced expiration. It is less sensitive and more variable than lung function measured by more sophisticated but less mobile equipment, and is strongly dependent on how hard the study participant tries. The advantage of using PEFR is that it can be measured with a simple portable meter suitable for field studies. It should therefore be regarded as a crude measure of airways function.

The PEFR is expressed as a percentage of a predicted or reference value derived from the healthy subjects in the 1998 survey (Department of Health, MRC & Measure DHS+, 2002). Values that are more than 2 standard deviations below the predicted mean for a given age, sex and height are

considered abnormal. The proportions of the 2003 survey population falling below this abnormal threshold value are reported in Table 14.7. Much higher results of the proportion of older persons with an abnormal peak flow are found in the 2003 survey, with males showing an increase from 7.2 percent in 1998 to 10.8 percent in 2003, and females from 8.0 percent to 17.7 percent. These very high increases would be cause for concern. However, similar increases are not observed in the prevalence of lung symptoms, suggesting that technical factors related to the data collection in 1998, and not biological factors related to the participants, are most likely responsible for the large differences between surveys as discussed in section 12.11 of Chapter 12.

Table 14.8 compares the urban and non-urban proportions of older men and women who report symptoms of lung disease. In both older men and women, the urban proportions of reported symptoms of airflow limitation, chronic bronchitis and abnormal peak flow rates are higher than the non-urban proportions, except for symptoms of chronic bronchitis in women. These results tend to confirm the observed residential differences in self-reported symptoms. While the sample size is small, the higher prevalence of chronic bronchitis in non-urban areas might be associated with higher exposures to indoor smoke, or less access to optimal treatment.

Table 14.8 Lung disease and reported disability of older persons by residence

Percentage of men and women aged 60 years or older who report symptoms of airflow limitation, or chronic bronchitis or who have abnormal peak flow rates, and who report different types of disability by urban and non-urban residence, South Africa 2003

| Condition | Urban | | | | Non-urban | | | |
|------------------------------|------------|--------|------------|--------|------------|--------|------------|--------|
| | MEN | | WOMEN | | MEN | | WOMEN | |
| | Percentage | Number | Percentage | Number | Percentage | Number | Percentage | Number |
| Lung disease symptoms | | | | | | | | |
| Airflow limitation | 14.0 | 219 | 13.5 | 325 | 12.6 | 156 | 11.1 | 281 |
| Chronic bronchitis | 4.9 | 219 | 2.4 | 325 | 4.6 | 156 | 3.9 | 281 |
| Abnormal peak flow rates | 11.4 | 219 | 23.6 | 325 | 9.9 | 156 | 10.8 | 281 |
| Reported Disability | | | | | | | | |
| Sight | 0.6 | 590 | 1.6 | 843 | 2.5 | 484 | 3.7 | 694 |
| Hearing | 0.7 | 590 | 1.2 | 843 | 1.4 | 484 | 0.7 | 694 |
| Communication/speech | 0.1 | 590 | 0.0 | 843 | 0.5 | 484 | 0.0 | 694 |
| Physical | 5.2 | 590 | 3.6 | 843 | 2.9 | 484 | 4.3 | 694 |
| Intellectual | 0.6 | 590 | 0.0 | 843 | 0.5 | 484 | 0.0 | 694 |
| Emotional | 0.1 | 590 | 0.2 | 843 | 0.8 | 484 | 0.1 | 694 |
| Any disability | 7.2 | 590 | 6.5 | 843 | 8.6 | 484 | 8.9 | 694 |

14.4.3 Disability

Respondents were asked whether household members have any serious disability that prevents his/her full participation in activities such as work, education and social life. The questionnaire allowed mentioning only one type of disability. About 8 percent of older men and women reported that they live with a disability. Table 14.7 shows that physical disabilities are the most frequently reported form of disability in both older men and women, followed by sight and hearing disabilities. The prevalence of physical and hearing disability is approximately equally common in men than women, whereas sight disability is slightly more common in women than men. Table 14.7 also shows self-reported disability as reported during the 2001 Census. Considerably higher proportions were reported during the Census for almost all types of disability, but the Census methodology allowed people to indicate more than one disability per person. Sight, physical and hearing disability, were also in the census the three types of disability that showed the highest values in both older men and women.

Table 14.8 shows the urban and non-urban prevalence of reported disability in older men and women for the 2003 survey. In both men and women, proportions of “Any disability” are higher in the non-urban compared to the urban areas. Almost one in ten non-urban older women has a disability. In both urban and non-urban settings, physical disability is the most frequently reported type of disability in both men and women. Sight disability is more common in non-urban than urban older women and men. Although reported less often, hearing, communication/speech and emotional disability are generally reported more frequently among non-urban than urban older men.

Table 14.9 Injuries among older persons

Percent distribution of the *de facto* male and female household population 60 years or older, by whether injured in the 30 days preceding the survey, South Africa 2003

| Background characteristic | MEN | | | | WOMEN | | | | | |
|---------------------------|-----|------|---------|-------|--------|-----|--------|---------|-------|--------|
| | Yes | No | Missing | Total | Number | Yes | No | Missing | Total | Number |
| Age | | | | | | | | | | |
| 60-64 | 1.5 | 97.3 | 1.3 | 100 | 399 | 1.5 | 98.5 | 0.0 | 100 | 560 |
| 65-69 | 2.8 | 97.0 | 0.2 | 100 | 309 | 1.3 | 97.3 | 1.3 | 100 | 382 |
| 70-74 | 1.6 | 97.8 | 0.6 | 100 | 197 | 3.9 | 95.6 | 0.5 | 100 | 263 |
| 75-79 | 0.7 | 97.5 | 1.7 | 100 | 86 | 5.0 | 94.8 | 0.2 | 100 | 142 |
| 80-89 | 1.5 | 98.3 | 0.2 | 100 | 76 | 1.3 | 97.9 | 0.8 | 100 | 155 |
| 90+ | * | * | * | 100 | 5 | 0.0 | (86.2) | (13.8) | 100 | 21 |
| Residence | | | | | | | | | | |
| Urban | 1.9 | 97.6 | 0.5 | 100 | 586 | 2.1 | 97.1 | 0.8 | 100 | 830 |
| Non-urban | 1.8 | 97.0 | 1.2 | 100 | 486 | 2.2 | 97.2 | 0.5 | 100 | 693 |
| Province | | | | | | | | | | |
| Western Cape | 3.9 | 96.0 | 0.1 | 100 | 89 | 3.8 | 96.2 | 0.0 | 100 | 119 |
| Eastern Cape | 4.4 | 94.1 | 1.6 | 100 | 156 | 3.6 | 96.0 | 0.5 | 100 | 270 |
| Northern Cape | 3.0 | 97.0 | 0.0 | 100 | 24 | 1.5 | 98.1 | 0.4 | 100 | 28 |
| Free State | 1.0 | 99.0 | 0.0 | 100 | 62 | 1.4 | 98.6 | 0.0 | 100 | 86 |
| KwaZulu-Natal | 0.7 | 98.7 | 0.6 | 100 | 273 | 0.9 | 98.7 | 0.4 | 100 | 308 |
| North West | 4.7 | 94.6 | 0.7 | 100 | 91 | 1.9 | 98.1 | 0.0 | 100 | 146 |
| Gauteng | 0.0 | 98.8 | 1.2 | 100 | 206 | 2.2 | 95.4 | 2.4 | 100 | 262 |
| Mpumalanga | 0.8 | 99.2 | 0.0 | 100 | 64 | 0.0 | 100.0 | 0.0 | 100 | 95 |
| Limpopo | 1.9 | 97.2 | 0.9 | 100 | 107 | 2.9 | 96.4 | 0.8 | 100 | 209 |
| Education | | | | | | | | | | |
| No education | 1.9 | 97.7 | 0.5 | 100 | 382 | 1.8 | 97.0 | 1.2 | 100 | 640 |
| Grades 1-5 | 1.6 | 97.1 | 1.3 | 100 | 207 | 1.4 | 98.6 | 0.0 | 100 | 264 |
| Grades 6-7 | 3.5 | 93.1 | 3.4 | 100 | 102 | 2.3 | 97.6 | 0.1 | 100 | 181 |
| Grades 8-11 | 1.4 | 98.4 | 0.2 | 100 | 214 | 2.7 | 97.3 | 0.0 | 100 | 278 |
| Grade 12 | 1.6 | 98.4 | 0.0 | 100 | 72 | 6.3 | 93.7 | 0.0 | 100 | 79 |
| Higher | 1.1 | 98.9 | 0.0 | 100 | 77 | 1.8 | 98.2 | 0.0 | 100 | 63 |
| Population group | | | | | | | | | | |
| African | 1.9 | 97.2 | 1.0 | 100 | 822 | 2.1 | 97.1 | 0.8 | 100 | 1 222 |
| African urban | 2.2 | 97.2 | 0.6 | 100 | 358 | 1.8 | 97.1 | 1.2 | 100 | 551 |
| Africa non-urban | 1.7 | 97.1 | 1.2 | 100 | 464 | 2.3 | 97.2 | 0.5 | 100 | 671 |
| Coloured | 3.8 | 96.2 | 0.0 | 100 | 71 | 1.2 | 98.7 | 0.1 | 100 | 98 |
| Indian | 0.0 | 98.2 | 1.8 | 100 | 27 | 4.7 | 93.9 | 1.3 | 100 | 37 |
| White | 1.3 | 98.7 | 0.0 | 100 | 151 | 3.0 | 97.0 | 0.0 | 100 | 165 |
| Total age 60+ | 1.9 | 97.3 | 0.8 | 100 | 1072 | 2.2 | 97.1 | 0.7 | 100 | 1 523 |
| Total age 65+ | 2.1 | 97.4 | 0.5 | 100 | 673 | 2.5 | 96.4 | 1.1 | 100 | 963 |

Population group unknown for two men and two women. Education unknown for 17 men and 31 women.
Note: Figures in parentheses are based on 25-49 unweighted cases, and asterisks are based on <25 unweighted cases.

14.4.4 Injuries

As people age, they become more vulnerable to accidental injuries with the rates of falls and burns increasing. Approximately 2 percent of the older population experienced a serious injury in the preceding 30 days, with slightly more women than men reporting injuries (Table 14.9). In both older men and women, the urban and non-urban incidences are very similar. Among the provinces, the highest female incidences are reported in the Western Cape, Eastern Cape and Limpopo, and the highest male incidences in North West, Eastern Cape and Western Cape. Compared to the other population groups, Table 14.9 shows that high incidences were reported among Indian older females (4.7 percent) and older coloured men (3.8 percent).

14.4.5 Violence Against Older Persons

To measure the frequency of violent attacks in the adult population, and to assist in controlling and preventing violence and crime which have become national priorities in South Africa, questions on physical attacks were included in the SADHS questionnaire for the first time in 2003. One respondent per household was selected according to specified criteria, and fieldworkers were trained to ensure privacy during the interview, otherwise not to ask the violence questions.

Due to small numbers, the violence data for persons 60 years or older are not presented in the tables. Of the 393 persons 60 years or older selected to report on violence, 4.6 percent report being attacked physically over the past 12 months. Older women seem slightly more vulnerable as 5.2 percent of them compared to 4.2 percent of older men 60 report being attacked. Of the 18 older persons who were attacked, 14 report physical effects in the form of having aches and pains, 11 had bruises, and three had broken bones or other types of injuries. Of the 14 who report physical effects, four sought medical attention, two were admitted to hospital, and four were of the opinion that alcohol or drugs contributed to the attack.

More information about persons 65 years or older is provided in Chapter 10, showing that of the 114 men 65 years or older who were interviewed about violence, 3.8 percent report that they were attacked physically one or more times during the past 12 months. Most commonly, these attacks on men 65 years or older were in the form of pushing or shaking or throwing something at the victim (2.2 percent). The more severe attacks of punching with a fist (1.4 percent), kicking or dragging (1.4 percent) and attempts to strangle or burn the victim (1.4 percent), happened less frequently to these men (Table 10.5). Table 10.6 shows that nearly half of male victims 65 years or older were attacked at home (44 percent), or on a public road (41 percent).

Of the 162 women 65 years or older who were asked the violence questions, 3.5 percent report that they were attacked physically one or more times during the past 12 months. Table 10.5 shows that being threatened with a knife, gun or other weapon is reported most commonly (2 percent) in these women, followed by being pushed, shaken or thrown with an object (1.4 percent). Table 10.6 shows that the places where women 65 years or older were attacked, differ from men, with 71 percent indicating that they were attacked in their homes, 20 percent in a crowded venue, and 10 percent on a public road.

14.5 Health Service Utilization in Older Persons

This section describes the older population's utilisation of health services over the last 30 days when seeking medical care for themselves, as well as their satisfaction with such services. It also reports on access to a medical aid and use of chronic medication.

14.5.1 Health Service Utilization and Satisfaction

Table 14.10 shows that 31 percent of persons 60 years or older report seeking health care at facilities or providers in the public sector, compared to 19 percent seeking care in the private sector. Care at a chemist, traditional healer, faith healer or dentist was sought by noticeably smaller proportions. Despite the general anticipation that attendance at a health care facility would increase with age among older persons, no

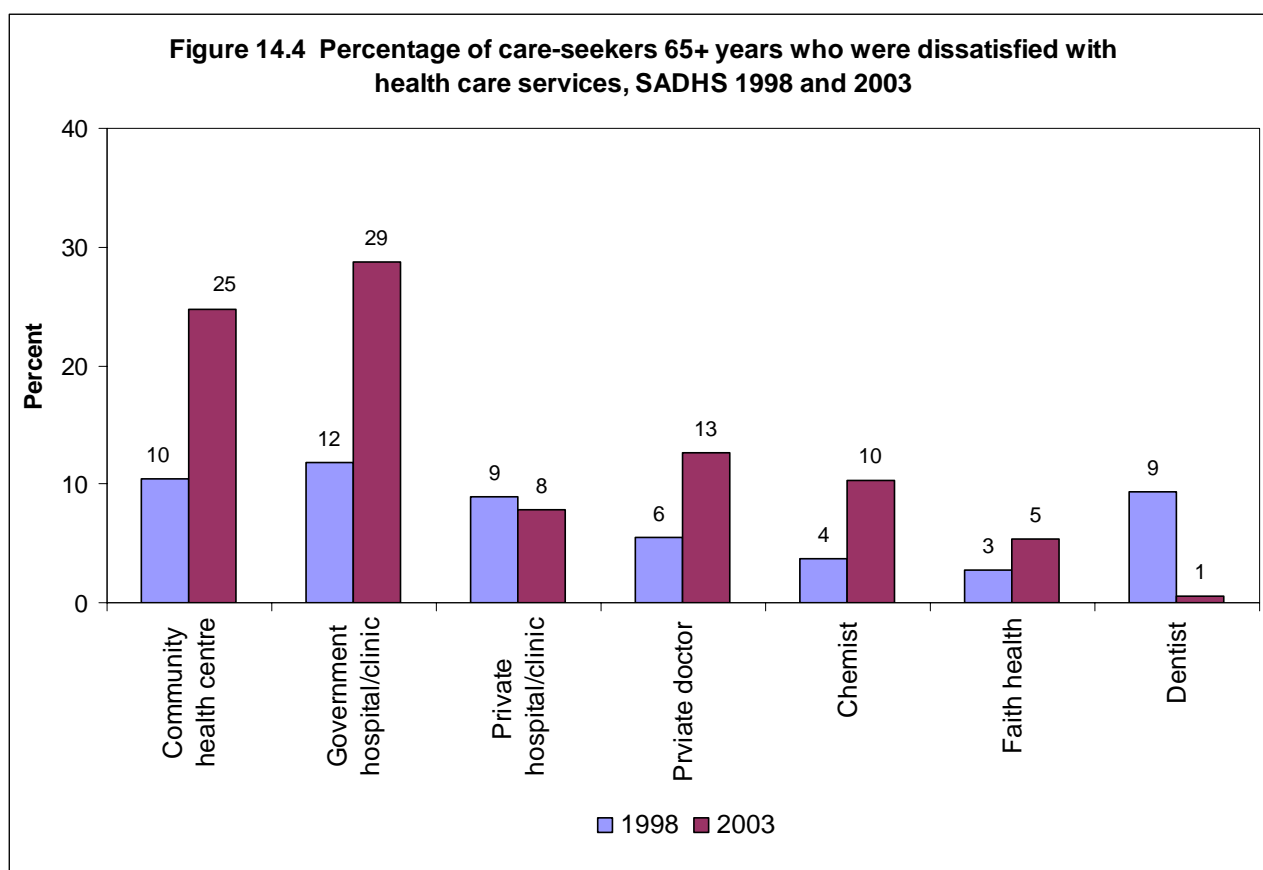
Table 14.10 Health services attended by older persons

Percentage of persons 60 years or older who sought care in last 30 days at facilities/providers in the public sector and the private sector, at a chemist, traditional healer, faith healer and dentist by selected background characteristics, South Africa 2003

| Background characteristic | Public sector | Private sector | Chemist | Traditional healer | Faith healer | Dentist | Number |
|---------------------------|---------------|----------------|---------|--------------------|--------------|---------|--------|
| Age | | | | | | | |
| 60-69 | 28.9 | 18.1 | 8.6 | 4.5 | 5.0 | 4.6 | 627 |
| 70-79 | 35.7 | 18.7 | 8.0 | 2.2 | 2.6 | 1.7 | 273 |
| 80+ | 30.8 | 21.2 | 9.0 | 4.7 | 4.5 | 0.8 | 82 |
| 60+ | 30.9 | 18.5 | 8.4 | 3.9 | 4.3 | 3.5 | 981 |
| 65+ | 31.0 | 19.5 | 8.6 | 4.4 | 4.1 | 3.4 | 617 |
| Sex | | | | | | | |
| Male | 27.2 | 17.3 | 9.7 | 4.2 | 2.6 | 4.0 | 374 |
| Female | 33.2 | 19.2 | 7.7 | 3.7 | 5.3 | 3.2 | 607 |
| Residence | | | | | | | |
| Urban | 33.1 | 20.4 | 13.0 | 2.6 | 3.1 | 4.6 | 544 |
| Non-urban | 28.2 | 16.2 | 2.8 | 5.6 | 5.7 | 2.2 | 437 |

clear such pattern is reflected from the age categories provided in Table 14.10. A higher proportion of older women than older men sought care at a public, private and faith healer service, while more older men than older women sought care from a chemist, traditional healer and dentist. Slightly higher proportions of urban than non-urban older persons attended health care services in the past 30 days, excepting the case of a traditional and a faith healer from whom higher proportions of non-urban than urban-living older persons sought care. A much higher proportion of older persons in urban areas sought care from a chemist (13 percent) than in non-urban areas (2.8 percent). In order to compare with the survey of 1998, it is necessary to consider persons 65 years or older. The proportion of older persons using public health and chemist services is similar to that of 1998, while a slight increase over time is seen in private sector services and a considerable increase in services sought from a traditional and faith healer.

Table 14.11 shows the proportion of older care seekers who report being dissatisfied with selected health services in the public and private sector. Over a quarter of them express dissatisfaction with the service they received at either a community health centre or a government hospital or clinic, while about 11 percent report dissatisfaction with service provided by each of a private hospital/clinic and a chemist. Compared to the proportions of the total adult population 15 years or older, dissatisfaction with health services seems often more pertinent among older persons (compare Table 14.11 and the last row of Table 11.3 in Chapter 11). In both the 1998 and 2003 surveys, dissatisfaction with public health services among the population 65 years or older are more prominent than dissatisfaction with private sector services. Compared with 1998, substantially higher proportions of persons 65 years or older are dissatisfied in 2003 with health services generally, excepting services from a private hospital/clinic where the 2003 and 1998 proportions are similar, and dentist services for which there are significantly lower proportions in 2003 who are dissatisfied (Figure 14.4).



The non-urban numbers are small at times, but, generally, higher proportions of urban than non-urban older persons express dissatisfaction with health service delivery, except in the case of services provided by a private hospital or clinic (Table 14.11). About one-third of urban older persons are dissatisfied with the health services delivered by a community health centre or government hospital/clinic. In the non-urban areas, a fifth of older persons express dissatisfaction with services at government hospitals/clinics.

Table 14.11 Dissatisfaction with health service among older persons

Percentage of care-seekers 60 years or older who were dissatisfied by selected care services, South Africa 2003

| Care service | Urban | | Non-urban | | Total | |
|----------------------------|----------------|--------|----------------|--------|----------------|--------|
| | % Dissatisfied | Number | % Dissatisfied | Number | % Dissatisfied | Number |
| Public sector | | | | | | |
| Community health centre | 32.4 | 56 | (6.1) | 20 | 25.5 | 75 |
| Government hospital/clinic | 30.3 | 155 | 20.0 | 111 | 26.0 | 266 |
| Private sector | | | | | | |
| Private hospital/clinic | 9.6 | 56 | 12.8 | 43 | 11.0 | 99 |
| Private doctor | 19.4 | 67 | (9.2) | 33 | 16.0 | 100 |
| Chemist | 12.8 | 71 | * | 12 | 11.7 | 83 |

Note: Parentheses indicate that a figure is based on 25-49 respondents. An asterisk indicates that a figure is based on fewer than 25 respondents and has been suppressed.

Older participants' reasons for dissatisfaction in public sector community health centres and government hospitals/clinics are similar to the concerns of the total adult population. The data are not presented here, but analysis shows that long waiting times is the most commonly reported reason for dissatisfaction in both community health centres and government hospitals/clinics. Staff attitude and perceived short consultations are also important reasons for dissatisfaction in both type of facilities, as are the unavailability of prescribed drugs in government hospitals/clinics.

Table 14.12 Access to medical aid among older persons

Percentage of persons 60 years or older who report that they have medical aid by selected background characteristics, South Africa 2003

| Background characteristic | Percentage with medical aid | Number |
|---------------------------|-----------------------------|------------|
| Age | | |
| 60-69 | 14.5 | 627 |
| 70-79 | 11.2 | 273 |
| 80+ | 8.3 | 82 |
| 60+ | 13.1 | 981 |
| 65+ | 10.5 | 618 |
| Sex | | |
| Men | 16.4 | 375 |
| Women | 11.0 | 607 |
| Residence | | |
| Urban | 20.7 | 544 |
| Non-urban | 3.6 | 437 |
| Province | | |
| Western Cape | 30.1 | 83 |
| Eastern Cape | 10.8 | 138 |
| Northern Cape | 12.1 | 22 |
| Free State | 5.5 | 67 |
| KwaZulu-Natal | 6.9 | 227 |
| North West | 3.8 | 91 |
| Gauteng | 31.2 | 178 |
| Mpumalanga | 7.7 | 72 |
| Limpopo | 1.8 | 103 |
| Education | | |
| No education | 3.4 | 385 |
| Grades 1-5 | 4.2 | 194 |
| Grades 6-7 | 5.3 | 97 |
| Grades 8-11 | 17.6 | 187 |
| Grade 12 | 57.2 | 49 |
| Higher | 68.2 | 60 |
| Population Group | | |
| African | 3.8 | 782 |
| Afr. urban | 5.1 | 364 |
| Afr. non-urban | 2.7 | 418 |
| Coloured | 28.1 | 74 |
| White | 74.8 | 99 |
| Indian | 13.9 | 27 |
| Total | 13.1 | 981 |

Education is unknown for eight persons, and population group for three persons.

14.5.2 Access to Medical Aid

Thirteen percent of persons 60 years or older report that they are covered by a medical aid or medical benefit scheme or any scheme that helps them pay for health-care or drug services (Table 14.12). Among persons 65 years or older, 11 percent report being covered by medical aid compared to 13 percent in 1998. Table 14.12 shows a decline in coverage with increasing age, and a huge disparity in access to medical aid according to urban/non-urban residence. Access to medical aid is five to six times greater among urban older persons compared to those in non-urban areas.

Differential access is evident among the provinces with lowest access reported in Limpopo (2 percent) and North West (4 percent), and highest in Gauteng (31 percent) and the Western Cape (30 percent). Access to medical aid shows to be positively associated with educational level, with a stronger association reflected among those with a post-primary school education. Stark differences show up among the population groups, with 75 percent of whites, 28 percent of coloureds, 14 percent of Indians, and 4 percent of Africans reporting access.

While 13 percent of persons 60 years or older report cover by a medical aid or scheme (Table 14.12), 19 percent report attending private sector services in the month preceding the survey (Table 14.10). Sixteen percent of older men and 11 percent of older women have access to a medical aid, compared to 29 percent of older men and 38 percent of older women taking prescribed medication daily or regularly (Table 14.13).

14.5.3 Use of Medication for Chronic Conditions

Medication for chronic conditions

Table 14.13 presents the proportion of older men and women (≥ 60 years), as well as the proportion men and women ≥ 65 years, who indicate that they regularly use any medicine that a doctor or nurse has prescribed. A higher proportion of women than men report that they take prescribed medication. The urban/non-urban data are for men and women 60 years or older. The proportion of urban older

women taking prescribed medicine regularly is about double that in non-urban older women (48 percent compared to 26 percent). A similar urban/non-urban difference is seen in the proportion of older women for whom a chronic medication could be recorded by the interviewer during the interview.

Persons 65 years or older are considered to compare the 2003 survey with that of 1998. The proportions are relatively similar between the surveys with a slight decrease among men (29 percent in 2003 compared to 32 percent in 1998), and almost no change among women (36 percent in 2003 compared to 37 percent in 1998) who take prescribed medication. In 2003, a noticeably lower proportion of older men and women had their medications listed by the interviewer, indicating data quality concerns. While 29 percent of men 60 years or older reported taking prescribed medication, only 21 percent had their drugs listed. In the case of women of the same age group 38 percent reported taking prescribed medication while 32 percent had them listed.

| Table 14.13 Medication for chronic conditions for older persons | | | | | | | |
|--|---|-------------------------|--------|-----------------------------------|-------------------------------|----------------------------------|--------------------------|
| Percentage of men and women 60 years or older who report taking prescribed medication, and who could be listed by interviewers, and of these, percentage distribution by number of medications listed, South Africa 2003 | | | | | | | |
| | % who reported taking prescribed medication | % who have listed drugs | Number | Among those with medicine listed: | | | Number with listed drugs |
| | | | | % who had 1 listed drug | % who had 2 or 3 listed drugs | % who had 4 or more listed drugs | |
| MEN | | | | | | | |
| Age | | | | | | | |
| 60+ | 28.8 | 21.3 | 375 | 29.4 | 41.8 | 28.8 | 80 |
| 65+ | 29.3 | 22.3 | 240 | 32.7 | 44.9 | 22.3 | 53 |
| Residence | | | | | | | |
| Urban | 37.7 | 30.0 | 219 | 30.8 | 39.8 | 29.4 | 66 |
| Non-urban | * | * | * | * | * | * | * |
| WOMEN | | | | | | | |
| Age | | | | | | | |
| 60+ | 37.9 | 31.7 | 606 | 27.8 | 44.4 | 27.8 | 193 |
| 65+ | 36.1 | 31.0 | 377 | 24.2 | 42.9 | 32.9 | 117 |
| Residence | | | | | | | |
| Urban | 48.4 | 40.5 | 325 | 23.9 | 46.9 | 29.2 | 132 |
| Non-urban | 25.9 | 21.6 | 281 | 36.1 | 39.2 | 24.7 | 61 |

Asterisks are based on <25 unweighted cases.

Among those older persons (≥ 60 years) for whom medications were listed 71 percent of men and 72 percent of women report using more than one prescribed drug. Over 40 percent of both older men and women take two or three listed drugs, and about equal proportions (just under 30 percent) take either one, or four or more listed drugs (Table 14.13). There is an urban/non-urban difference with 76 percent of urban compared to 64 percent of non-urban women 60 years or older report using more than one prescribed drug. This difference may indicate one or more of different reasons, including less access to relevant health services and less availability of drugs in the non-urban areas, or better health conditions in non-urban women and hence a lesser need for more medication. In 2003, proportionally fewer women 65 years or older report using more than one drug (76 percent) compared to 1998 (82 percent). Among men aged 65 years or older, a considerably smaller proportion report using more than one drug (67 percent compared to 79 percent in 1998) (data not presented here). However, it should be noted that the number of respondents is relatively small.

Payment for prescribed medication

Table 14.14 shows the party or person who paid for most of the medication prescribed by a doctor or nurse. The majority of older persons (50 percent of men and 60 percent of women) in this age group receive their chronic medication from the public sector. Comparing persons 65 years or older

with the 1998 SADHS suggests that there has been a sizeable increase in the proportion of older people who receive their medication from the public sector. Fifty-six percent in 2003 compared with 46 percent of men in 1998, and 60 percent in 2003 compared with 44 percent of women in 1998 receive their prescribed medication from the public sector. Compared to 27 percent in 1998, lower proportions of men aged 65 years or older report payment for medication by a medical aid in 2003 (18 percent). Among women, the proportion declined by half from 19 percent in 1998 to 9 percent in 2003. For the 2003 survey, the largest gender difference is found in the proportion reporting payment by their medical aid, with double the proportion of men 65 years or older (18 percent) to women (9 percent) having their medication paid by their medical aid.

Table 14.14 Payment for medication for chronic conditions in older persons

Percentage of men and women 60 years or older taking regular prescription medication, according to source of payment, by selected age cut-offs and residence, South Africa 2003

| | MEN | | | | | | WOMEN | | | | | | |
|------------------|-----------------|--------|----------------|----------------------------|--------------|--------|-----------------|--------|----------------|----------------------------|--------------|-------|--------|
| | Respon- dent | Family | Medical Aid | Public health sector | Mis- sing | Number | Respon- dent | Family | Medical Aid | Public health sector | Mis- sing | Other | Number |
| Age | | | | | | | | | | | | | |
| 60+ | 27.8 | 2.0 | 18.2 | 49.9 | 2.1 | 108 | 18.8 | 2.7 | 9.6 | 60.3 | 8.0 | 0.6 | 230 |
| 65+ | 21.1 | 1.9 | 17.6 | 56.2 | 3.2 | 70 | 22.0 | 2.5 | 8.6 | 59.5 | 7.4 | 0.0 | 136 |
| Residence | | | | | | | | | | | | | |
| Urban | 20.9 | 2.6 | 23.9 | 50.3 | 2.3 | 82 | 18.0 | 3.3 | 12.7 | 57.8 | 7.4 | 0.9 | 157 |
| Non-urban | * | * | * | * | * | 25 | 20.6 | 1.4 | 2.9 | 65.9 | 9.3 | 0.0 | 73 |

Asterisks are based on <25 unweighted cases.

Among women 60 years or older, the largest urban/non-urban differential is found in medical aid payments. Table 14.14 shows that 13 percent of urban, compared to 3 percent of non-urban women have their prescribed medication being paid by a medical aid fund. Self-payment and public sector payment are relatively more prevalent in the non-urban than in the urban areas. In contrast, family and medical aid support are relatively more prevalent in the urban than in the non-urban areas. This suggests a greater need of non-urban women to rely upon themselves or the public sector, while urban women are in a better position to rely on their families and medical aid too.

Prescribed ATC-coded medication for common chronic diseases

Anatomical Therapeutic Chemical Classification (ATC) codes were used to classify the medications listed for selected chronic conditions. Table 14.15 shows the results of the ATC-coded prescribed medications used by respondents 60 years or older for asthma and chronic bronchitis, diabetes, hypertension, osteoporosis, and other chronic conditions (i.e. the medications for which there were sufficient numbers of respondents). Overall, a higher proportion of older women (29 percent) compared to older men (19 percent) indicate that they use ATC-coded drugs regularly for any chronic condition, with the largest proportions of both men and women taking medication for hypertension. Across these conditions, larger proportions of women than men report taking ATC-coded medication. Table 14.15 shows that older respondents presented with a total of 603 different ATC-coded drug items, constituting 36 percent of the total number of drug items identified in the total adult respondents 15 years or older. In contrast, respondents 60 years or older constitute 12 percent of the adult sample (the latter two proportions were calculated from totals in other chapters). In both older men and women, the most-commonly prescribed drugs are for hypertension, followed by diabetes, then asthma and chronic bronchitis, and then osteoporosis (Table 14.15).

Table 14.15 Use of prescribed medication for four common chronic conditions among older persons

The number and percentage of men and women 60 years or older, using prescribed medication regularly and the number and percentage of all regularly used prescribed medications for asthma and chronic bronchitis, diabetes, hypertension, osteoporosis, and other chronic conditions combined, using Anatomical Therapeutic Classification (ATC) codes, South Africa 2003

| Chronic conditions | ATC Code | People taking chronic medication | | | | | | Medication taken | | | | | |
|-------------------------------|---|----------------------------------|------|--------|------|--------|------|------------------|-------|--------|-------|--------|-------|
| | | Men | | Women | | Total | | Men | | Women | | Total | |
| | | Number | % | Number | % | Number | % | Number | % | Number | % | Number | % |
| Asthma and chronic bronchitis | R03 | 9 | 2.3 | 26 | 4.3 | 35 | 3.6 | 14 | 8.6 | 38 | 8.7 | 52 | 8.6 |
| Diabetes | A10 | 12 | 3.2 | 40 | 6.6 | 52 | 5.3 | 17 | 10.4 | 59 | 13.4 | 76 | 12.6 |
| Hypertension | C02/03/07/08/09 | 56 | 15.0 | 142 | 23.4 | 198 | 20.2 | 89 | 53.5 | 252 | 57.7 | 341 | 56.5 |
| Osteoporosis | A12, M05B | 4 | 1.1 | 11 | 1.8 | 15 | 1.5 | 4 | 2.6 | 11 | 2.6 | 16 | 2.6 |
| Other conditions | chronic J04A, C10A, B01AC/C01A/B/DA, M01A/B/c, M04, N03 | 31 | 8.2 | 65 | 10.8 | 96 | 9.8 | 42 | 24.9 | 77 | 17.6 | 118 | 19.6 |
| Any condition | | 69 | 18.5 | 178 | 29.4 | 248 | 25.2 | 167 | 100.0 | 437 | 100.0 | 603 | 100.0 |

Knowledge of chronic disease drugs taken by older patients

Patients' knowledge of the chronic drugs they are taking is shown in Table 11.13 in Chapter 11 for the total adult population 15 years or older for asthma and chronic bronchitis drugs, diabetes drugs, hypertension drugs and arthritis drugs. A similar analysis for persons 60 years or older has not been undertaken as there are an insufficient number of respondents. However, Table 11.13 shows that high proportions of older respondents taking chronic medication for hypertension (94 percent) know for which conditions the drugs are taken. Of the older respondents taking diabetes drugs, 16 percent report no knowledge about the drugs, and of those taking arthritis drugs, about half report no knowledge about the drugs. Given that the largest proportions of all adult men and women who report taking prescribed drugs are those in the older age groups (Tables 11.7 and 11.8), and given that the drugs need to be taken daily, usually for long periods of time, the levels of knowledge in this older age groups is of concern.

14.6 Risk Factors for Chronic Diseases in Older Persons

Selected aspects of the smoking and drinking behaviour of persons 60 years or older are summarised in Table 14.16. The data on tobacco use were collected using the questionnaire that is part of the WHO STEPS surveillance programme (Bonita *et al.* 2002). Participants were also asked about their exposure to environmental tobacco smoke and their exposure to other fumes and dust. The questionnaire included questions about alcohol use, as well as a four-item measure of alcohol dependence. In accordance with the training and techniques followed in the WHO STEPS surveillance programme, anthropometric measurements were taken during the SADHS. For the first time in a SADHS, comprehensive nationally-representative data on adult dietary intake and on physical activity in its different domains have been included in the 2003 survey, because of their importance in the global health strategy for the prevention and management of chronic diseases (WHO, 2004). Information on the methods related to these risk behaviours are described under the relevant sections in Chapter 13.

Tobacco Use

Table 14.16 presents the prevalence of tobacco use among men and women 60 years or older who currently smoke daily and occasionally, showing that about a quarter of these men are current daily smokers, and that both daily and occasional smoking are about three times as common in men compared to women. Current daily use of smokeless tobacco, in contrast, is about three times as common in women compared to men. Occasional use of smokeless tobacco is negligible in men, while 2 percent of women report using this substance.

Comparing with the 1998 survey, a large decline in the prevalence of male daily and occasional smoking is seen, compared to a slight increase in female daily smoking and maintenance of previous levels of female occasional smoking (Table 14.16).

Table 14.16 Risk factors for disease in older persons, comparing 2003 and 1998 SADHS

Percentage of men and women aged 60 years or older who currently smoke daily and occasionally, use smokeless tobacco daily and occasionally, live with smokers, and work in dust and/or fumes, and who show signs of alcohol dependence; percentage distribution by body mass index categories, and by physical activity category; percentage who are measured as being hypertensive using the cut-off point of 140/90, and among those being measured as hypertensive, the percentage who are aware that they are hypertensive, who use medication, and who have controlled hypertension, South Africa 2003 and South Africa 1998

| Risk factor | 2003 SADHS | | | | 1998 SADHS | | | |
|--|------------|--------|------------|--------|------------|--------|------------|--------|
| | MEN | | WOMEN | | MEN | | WOMEN | |
| | Percentage | Number | Percentage | Number | Percentage | Number | Percentage | Number |
| Tobacco use | | | | | | | | |
| Currently smoking daily | 24.3 | 375 | 8.4 | 607 | 36.8 | 760 | 7.5 | 1 272 |
| Currently smoking occasionally | 2.9 | 375 | 1.1 | 607 | 5.0 | 760 | 1.1 | 1 272 |
| Currently smokeless tobacco daily | 3.1 | 375 | 16.6 | 607 | - | - | - | - |
| Currently smokeless tob. occasionally | 0.1 | 375 | 2.0 | 607 | - | - | - | - |
| Among smokers: | | | | | | | | |
| Mean duration of smoking, in years | 42.4 | 91 | 35.8 | 51 | 36.1 | 496 | 34.5 | 202 |
| Environmental conditions | | | | | | | | |
| % of all persons who live with smokers | 18.9 | 375 | 21.9 | 607 | 22.7 | 760 | 30.7 | 1 272 |
| % of all persons who work in dust/fumes | 26.2 | 375 | 11.7 | 607 | 43.4 | 760 | 14.5 | 1 272 |
| Alcohol use | | | | | | | | |
| Signs of alcohol dependence ¹ | 21.0 | 375 | 7.0 | 607 | 25.4 | 760 | 11.0 | 1272 |
| Hazardous and harmful weekend drinking in past seven days ² | 0.9 | 375 | 1.7 | 607 | - | - | - | - |
| Body Mass Index | | | | | | | | |
| Underweight | 10.4 | 347 | 5.3 | 574 | 9.8 | 732 | 6.2 | 1 230 |
| Normal weight | 41.7 | 347 | 29.6 | 574 | 49.1 | 732 | 30.9 | 1 230 |
| Overweight | 32.7 | 347 | 34.5 | 574 | 28.9 | 732 | 25.3 | 1 230 |
| Obese | 15.2 | 347 | 30.5 | 574 | 12.2 | 732 | 37.6 | 1 230 |
| Total | 100.0 | 347 | 100.0 | 574 | 100.0 | 732 | 100.0 | 1 230 |
| Physical activity | | | | | | | | |
| Inactive (0 - <600 METS) | 64.3 | 298 | 74.0 | 557 | - | - | - | - |
| Minimally active (600 - <3000 METS) | 25.2 | 298 | 16.9 | 557 | - | - | - | - |
| Sufficiently active (≥ 3000 METS) | 10.5 | 298 | 9.2 | 557 | - | - | - | - |
| Total | 100.0 | 298 | 100.0 | 557 | - | - | - | - |
| Hypertension* | | | | | | | | |
| Hypertensive (bp >140/90 or on meds) | 27.5 | 375 | 34.6 | 607 | 50.3 | 760 | 58.3 | 1 272 |
| Among people with hypertension: | | | | | | | | |
| Aware of condition | 36.1 | 103 | 47.4 | 210 | 35.7 | 383 | 56.8 | 741 |
| On medication | 54.4 | 103 | 67.7 | 210 | 29.8 | 383 | 42.3 | 741 |
| Condition controlled | 22.6 | 103 | 23.3 | 210 | 52.5 | 383 | 54.5 | 741 |

¹ Alcohol dependence has been identified using the four CAGE screening questions that indirectly inquire about alcohol use. Affirmative answers to two or more questions is classified as alcohol dependence. See Chapter 13 for further details.

² For men, "hazardous drinking" is defined as four to less than six standard drinks per day, and "harmful drinking" as more than six standard drinks per day. For women, "hazardous drinking" is defined as two to less than four standard drinks per day, and "harmful drinking" as more than four standard drinks per day.

- indicates that no comparative data are available.

*The hypertension data should be read with caution. See text in Chapter 12.

Among those 60 years or older who ever smoked daily, the mean duration of smoking for men is 42 years and for women 36 years, reflecting extensive periods of exposure to substances that are highly harmful to health. Both the male and female values for 2003 are higher than those for 1998, which may indicate that the cohort 55-59 years of 1998 have initiated smoking earlier than had the cohort 60 years or older of 1998, or that those who quit smoking in the 60 years or older cohort of 2003 on average quit at a later age than did the 60 years or older cohort of 1998.

Table 14.17 presents the risk factor data, and Figure 14.5 the smoking data for older men and women by urban/non-urban residence. It shows that a higher proportion of non-urban than urban older men smoke daily and use smokeless tobacco daily. In contrast, a higher proportion of urban than non-urban women smoke daily. A particularly high proportion of non-urban older women, about a quarter, use smokeless tobacco daily. The mean duration of smoking is longer among urban men compared to non-urban men, but there are no differences among urban and non-urban women.

Table 14.17 Risk factors for disease in older persons by residence

Percentage of men and women aged 60 years or older who currently smoke daily and occasionally, use smokeless tobacco daily and occasionally, live with smokers, and work in dust and/or fumes; and who show signs of alcohol dependence; percentage distribution by body mass index categories, and by physical activity category; percentage who are measured as being hypertensive using the cut-off point of 140/90, and among those being measured as hypertensive, the percentage who are aware that they are hypertensive, who use medication, and who have controlled hypertension, by urban and non-urban residence, South Africa 2003

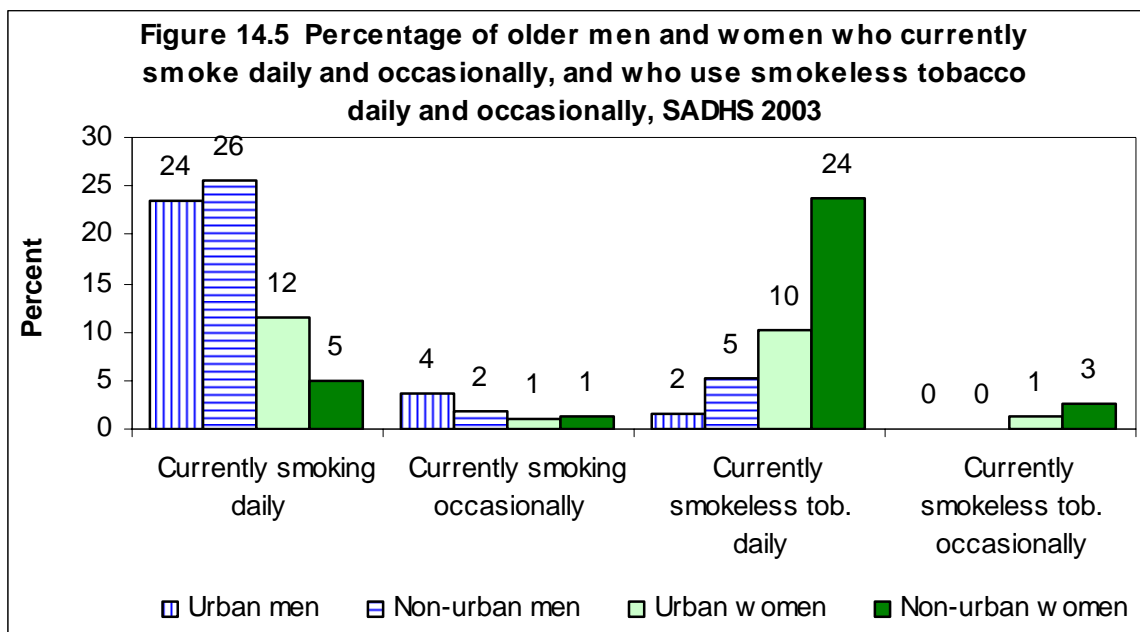
| Risk factor | Urban | | | | Non-urban | | | |
|--|------------|--------|------------|--------|------------|--------|------------|--------|
| | MEN | | WOMEN | | MEN | | WOMEN | |
| | Percentage | Number | Percentage | Number | Percentage | Number | Percentage | Number |
| Tobacco use | | | | | | | | |
| Currently smoking daily | 23.5 | 219 | 11.5 | 325 | 25.5 | 156 | 4.9 | 281 |
| Currently smoking occasionally | 3.7 | 219 | 1.0 | 325 | 1.9 | 156 | 1.3 | 281 |
| Currently smokeless tobacco daily | 1.6 | 219 | 10.3 | 325 | 5.2 | 156 | 23.8 | 281 |
| Currently smokeless tobacco occasionally | 0.1 | 219 | 1.4 | 325 | 0.0 | 156 | 2.7 | 281 |
| Among smokers: | | | | | | | | |
| Mean duration of smoking, in years | 43.6 | 51 | 35.7 | 37 | 40.6 | 40 | 36.0 | 14 |
| Environmental conditions | | | | | | | | |
| % of all men/women who live with smokers | 23.1 | 219 | 23.8 | 325 | 12.9 | 156 | 19.8 | 281 |
| % of all men/women who work in dust/fumes | 27.0 | 219 | 18.0 | 325 | 25.0 | 156 | 4.5 | 281 |
| Alcohol use | | | | | | | | |
| Signs of alcohol dependence ¹ | 20.7 | 219 | 6.8 | 325 | 21.4 | 156 | 7.2 | 281 |
| Hazardous and harmful weekend drinking in past seven days ² | 0.2 | 219 | 2.2 | 325 | 1.9 | 156 | 1.2 | 281 |
| Body Mass Index | | | | | | | | |
| Underweight | 8.7 | 200 | 4.3 | 311 | 12.8 | 147 | 6.5 | 263 |
| Normal weight | 38.2 | 200 | 24.1 | 311 | 46.4 | 147 | 36.2 | 263 |
| Overweight | 34.1 | 200 | 34.4 | 311 | 30.8 | 147 | 34.7 | 263 |
| Obese | 19.0 | 200 | 37.1 | 311 | 10.0 | 147 | 22.6 | 263 |
| Total | 100.0 | 200 | 100.0 | 311 | 100.0 | 147 | 100.0 | 263 |
| Physical activity | | | | | | | | |
| Inactive (0 - <600 METS) | 66.8 | 129 | 74.0 | 260 | 62.4 | 170 | 73.9 | 297 |
| Minimally active (600 - <3000 METS) | 20.4 | 129 | 14.7 | 260 | 28.9 | 170 | 18.8 | 297 |
| Sufficiently active (≥ 3000 METS) | 12.8 | 129 | 11.3 | 260 | 8.8 | 170 | 7.3 | 297 |
| Total | 100.0 | 129 | 100.0 | 260 | 100.0 | 170 | 100.0 | 297 |
| Hypertension* | | | | | | | | |
| Hypertension (bp>140/90, or on medicine) | 34.0 | 219 | 42.2 | 325 | 18.4 | 156 | 25.9 | 281 |
| Among people with hypertension: | | | | | | | | |
| aware of condition | 44.9 | 74 | 53.5 | 137 | 13.4 | 29 | 35.8 | 73 |
| on medication | 63.6 | 74 | 70.5 | 137 | 30.4 | 29 | 62.5 | 73 |
| condition controlled | 24.2 | 74 | 26.1 | 137 | 18.5 | 29 | 18.0 | 73 |

¹ Alcohol dependence has been identified using the four CAGE screening questions that indirectly inquire about alcohol use. Affirmative answers to two or more questions is classified as alcohol dependence. See Chapter 13 for further details.

² For men, "hazardous drinking" is defined as four to less than six standard drinks per day, and "harmful drinking" as more than six standard drinks per day. For women, "hazardous drinking" is defined as two to less than four standard drinks per day, and "harmful drinking" as more than four standard drinks per day.

- indicates that no comparative data are available.

* The hypertension data should be read with caution. See text in Chapter 12.



Exposure to environmental tobacco smoke and dust/fumes

Respondents were asked whether they live in a house where other persons smoke cigarettes regularly, in other words whether they are exposed to environmental tobacco smoke in the home setting regularly. Table 14.16 shows that about 19 percent of men and 22 percent of women 60 years or older are exposed in such a way, and that such exposure has declined since 1998 for both sexes.

Participants were also asked whether they have ever worked in a job where they were regularly exposed to smoke, dust, fumes or strong smells. About 12 percent of older women report having ever worked in such exposure, compared to more than double the proportion in men. Compared to the 1998 SADHS, declining exposures are reported (Table 14.16).

Proportionally more urban than non-urban older men and women live with smokers. In terms of dust/fumes, both urban men and urban women are worse off than their non-urban counterparts (Table 14.17).

Alcohol dependence, and hazardous and harmful drinking

The questionnaire had several questions about alcohol use and a four-item measure of alcohol dependence, using the CAGE measurement with four screening questions that indirectly inquire about alcohol use (Erwing, 1984). Affirmative answers to two or more questions is classified as alcohol dependence and according hereto, 21 percent of alcohol-taking men and 7 percent of alcohol-taking women 60 years or older show signs of alcohol dependence (Table 14.16). These levels are somewhat lower than those recorded for the 1998 SADHS. Across urban and non-urban settings, no differences regarding alcohol dependence show up among older men and older women (Table 14.17).

Of the persons 60 years or older, 0.9 percent of men and 1.7 percent of women reported hazardous and harmful drinking over the past weekend (Table 14.16). In light of mobility issues, the presumed

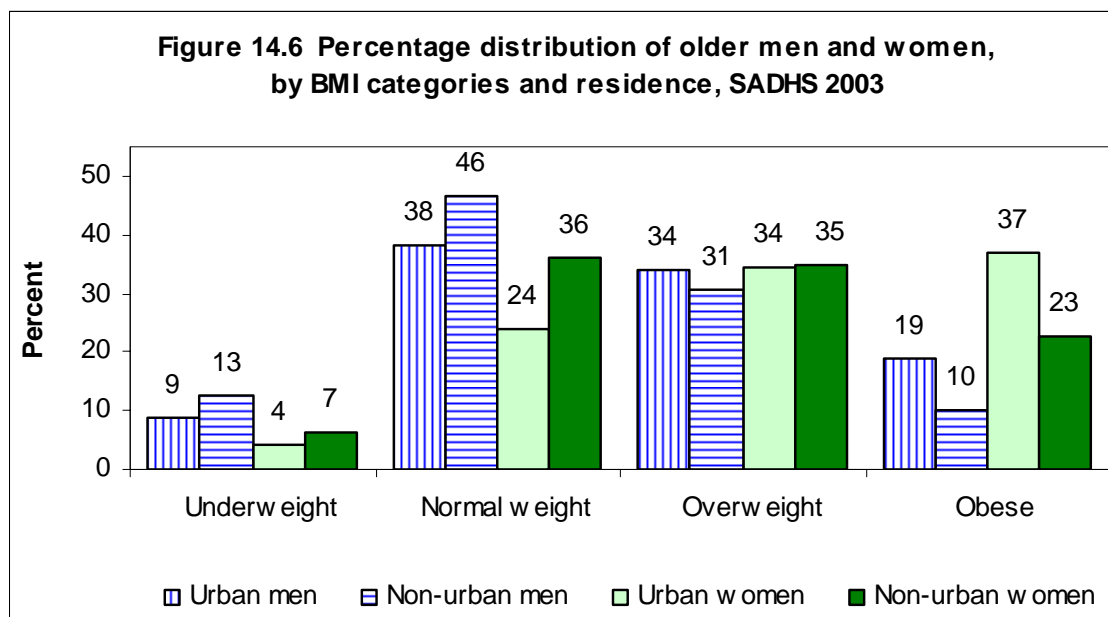
greater and more common consumption of medication in the older population, and the potential influence of alcohol use in combination with some medication, these rates are a matter of concern. The proportion of non-urban older men (1.9 percent) partaking in hazardous and harmful weekend drinking is about nine times higher as the proportion of urban older men (0.2 percent). For older women, the situation is the other way round, as more urban (2.2 percent) than non-urban (1.2 percent) women report this practice (Table 14.17).

Body mass index

The body mass index (BMI) is a measure of nutritional status that combines height and weight data. It is calculated as a person’s weight in kilograms divided by the square of his/her height in metres (kg/m^2). Although acknowledged to provide a crude index of body fatness, BMI has been considered the most appropriate simple indicator by which weight-for-height can be related to health outcomes (James *et al.*, 2004). In agreement with the World Health Organization’s recommendations, a person is defined as “underweight” if the BMI is less than $18.5 \text{ kg}/\text{m}^2$, “overweight” if the BMI values range from 25.0 to $29.9 \text{ kg}/\text{m}^2$, and “obese” if the BMI values are over $30 \text{ kg}/\text{m}^2$.

Table 14.6 shows the 2003 and 1998 proportions of the population 60 years or older that is underweight, normal weight, overweight and obese. Among older women, the 2003 survey found that about one-third are overweight, and about another third obese. Among older men, about one-third is overweight, and 15 percent obese. These figures imply that about half of older men and almost two-thirds of older women have BMIs that are associated with increased risk of various chronic conditions. The proportion overweight or obese, remained more or less at the same level from 1998, but an increase is shown for older men.

Whereas underweight for both older men and older women is more prevalent in the non-urban than urban settings, Figure 14.6 shows that obesity is considerably more prevalent in urban than non-urban older persons. Slightly more urban than non-urban men are overweight, while almost no difference between urban and non-urban living is shown for overweight women (Figure 14.5).



Micronutrient intake

A total micronutrient score was based on dietary intake of 13 nutrients: vitamin A, vitamin C, folic acid, vitamin B1, B2, B3, B6, B12, vitamin E, calcium, iron, zinc, magnesium, as well as a score for fat intake. Cut-offs for three equal size groups of the population based on this score were calculated and are reported in Tables 13.14 and 13.15 of Chapter 13. Compared to the other age groups these show higher proportions of men and women 65 years or older in the poor diet category. The total dietary score also shows that among persons 65 years or older, a much higher proportion of men (35.6 percent) are in the poor diet category (Table 13.14) compared to women (26.3 percent) (Table 13.15).

Physical inactivity

Physical activity was not measured in the 1998 survey, but the validated Global Physical Activity Questionnaire (GPAQ) was used to measure such activity in the 2003 survey. This questionnaire was introduced as part of the WHO STEP-wise approach to non-communicable disease surveillance and provides for an overall measure of physical activity on the basis of intensity and duration, as well as physical activity levels within specific domains, including occupation, transport, and leisure time (See Chapter 13 for more detail). For maintaining mobility and the ability to perform activities of daily living and for reducing the impact of chronic disease, physical activity is of particular importance in older age.

The results in Table 14.16 show that close to two-thirds of men, and almost three-quarters of women 60 years or older are inactive, and that about one in ten older men and women are sufficiently active. Although the results of the total adult population show that inactivity tends to increase as individuals grow older, and that all the age groups indicate a relatively high prevalence of inactivity compared to minimal and sufficient activity (see Chapter 13), the older persons' data points to a worrisome inactivity prevalence in the country, particularly so in light of the number of chronic conditions attributable at least in part to physical inactivity.

Table 14.17 shows urban/non-urban differences in physical activeness among older men and women. It demonstrates that physical inactivity in older men is somewhat higher in urban than non-urban areas, but that there is no residential difference among older women regarding inactivity. Higher proportions of non-urban men and women are minimally active, in contrast to higher proportions of urban men and women who are sufficiently active.

Hypertension

Details about the blood pressure measurements and instruments, procedures in the field, and data quality are available in Chapter 12. Chapter 12 indicates considerable concern about the quality of the blood pressure data, as the recorded blood pressures, particularly the diastolic measurements, were much lower than those recorded in the 1998 SADHS. The consequence of this is that the apparent prevalence rate of hypertension in 2003 was reduced by almost half, which is highly unlikely to reflect the reality in the field. This unrealistic finding prompted a series of exploratory analyses to attempt an explanation for this phenomenon, including assessing whether the risk factor profile was significantly different from 1998, or whether the use of anti-hypertensive medication had changed since 1998. These analyses show no major changes since 1998, and further examination of the data indicates the likelihood that the measurements were not taken correctly in the field.

The results must therefore be considered with caution as it is likely that they do not reflect the true hypertension situation in the country. Furthermore, the proportion of participants with hypertension who are taking drugs and those with controlled blood pressure, are unrealistically increased by the lower blood pressure results.

The analysis of the 2003 SADHS data has made use of the new South African hypertension guidelines (Seedat *et al.*, 2006) and the World Health Organisation International Society of Hypertension Guidelines for the Management of Hypertension (WHO Guidelines Sub-committee, 1999) that suggest that a person be considered as hypertensive with a blood pressure $\geq 140/90$ mmHg, or if he/she is taking anti-hypertensive medication. Table 14.16 shows the prevalence of hypertension in the population 60 years or older, and the awareness and treatment status achieved for hypertensive men and women in this age group. Over a quarter of older men and over a third of older women appears to be hypertensive according to the 2003 results, reflecting a highly unlikely decline from the figures for 1998. Of these older men and women, respectively, a mere 36 and 47 percent are aware of their condition, suggesting that, similar to the results in the total adult population, more older women than older men are aware of their condition.

The results from Table 14.16 furthermore indicate that 54 percent of hypertensive older men and 68 percent of hypertensive older women are on medication, and that about 23 percent of older persons have their condition controlled. Given the concerns about the blood pressure values, these figures should not be used as indicators of the quality of hypertension care.

Table 14.17 shows that considerably higher proportions of urban older men (34 percent) compared to non-urban older men (18 percent), and considerably higher proportions of urban older women (42 percent) compared to non-urban older women (26 percent) are hypertensive. While there are uncertainties in the data, the results in Table 14.17 would suggest that levels of awareness, treatment and control of hypertension are generally worse among the non-urban older men and women.

14.7 Oral Health of Older Persons

In the adult health module of both the 1998 and 2003 surveys, a few questions deal with oral health problems, utilisation of oral health services, oral health practices and oral health care. Given inconsistencies in the content of the oral health sub-module between 1998 and 2003, it is not always possible to directly compare variables across time, however an attempt is made in Table 14.18.

Table 14.18 Oral health of older persons

Percentage of men and women 60 years or older who experience selected problems with their teeth and gums; who ever visited a dentist or who visited a dentist in the last month; who brush their teeth, rinse their mouth or visit a dentist to look after their teeth or mouth; who reported a problem in their mouth according to how they responded to the problem, South Africa 2003 and South Africa 1998

| | 2003 SADHS | | 1998 SADHS | |
|---|------------|-------|------------|-------|
| | Men | Women | Men | Women |
| Oral health problems¹ | | | | |
| Any problem | 20.9 | 24.6 | 42.2 | 56.2 |
| Teeth | 15.1 | 16.7 | 38.4 | 50.9 |
| Gums | 4.7 | 8.7 | 5.6 | 8.2 |
| Other | 2.0 | 1.9 | 2.0 | 3.4 |
| Lost all teeth | 36.0 | 36.4 | - | - |
| Lost Any Teeth | - | - | 88.3 | 90.9 |
| Oral health service utilisation | | | | |
| Visit dentist in last month | 4.0 | 3.2 | 1.9 | 1.9 |
| Ever visit dentist | - | - | 14.7 | 14.1 |
| Oral health practice | | | | |
| Clean/brush teeth ² | 76.1 | 77.0 | 68.0 | 65.7 |
| Visit the dentist/other ² | 6.2 | 4.1 | 14.7 | 14.1 |
| Rinse mouth ³ | 33.7 | 34.3 | 21.4 | 22.3 |
| Oral health care | | | | |
| Tablets | 28.7 | 26.3 | - | - |
| Dentist/oral hygienist/dental therapist | 30.8 | 24.0 | - | - |
| Doctor | 20.0 | 24.2 | - | - |
| Traditional healer | 6.0 | 0.6 | - | - |
| Nothing | 10.5 | 24.8 | - | - |
| Number | 375 | 607 | 760 | 1 272 |

1. The period was the past 6 months in SADHS 2003, while in SADHS 1998 the period considered current.

2. Out of all respondents in SADHS 2003, and out of respondents who have lost no natural teeth in SADHS 1998.

3. Out of all respondents in SADHS 2003, and out of respondents who have lost all natural teeth in SADHS 1998.

- indicates that no comparative data are available.

In 2003, over 20 percent of persons 60 years or older indicate having a problem with their teeth *over the past six months*, compared to about half of persons 60 years or older who indicated having a problem *currently* in the 1998 survey. In 2003, about 15 percent experienced problems with their teeth over the past six months, compared to two to three times more in 1998 who indicated that they had a problem with their teeth at the time of the interview. For both years, considerably smaller proportions indicate problems with their gums compared to problems with their teeth. It is noticed that across these problems, in both surveys, larger proportions of women than men reported oral health problems.

The proportion of men and women 60 years or older who visited a dentist in the month preceding the survey, increased

from 1998 to 2003. To look after their teeth or mouth, over three-quarters of all men and women 60 years or older report cleaning or brushing their teeth in the 2003 survey, about a third rinse their mouth, and about one in twenty older persons report visiting the dentist.

Participants 60 years or older who indicated in 2003 that they have had oral health problems in the last six months, were asked what they did when they experienced such problems. Over one-quarter report that they took tablets, and between 20 and 30 percent visited an oral health practitioner or a doctor. Eleven percent of older men, and more than double this proportion among older women, report doing nothing. This latter finding may explain part of the finding that more women than men report oral health problems.

Finding improvement or deterioration between the two surveys is very difficult given the differences between the sub-modules in each survey.

However, the increased proportions of older men and women who report visiting a dentist in the last month is promising.

14.8 Discussion

The SADHS, although aimed to study the demographics and health of women, children and adults in general, offers a valuable opportunity to study selected socio-demographic and health concerns of older persons. The Minimum Data Set on Ageing in sub-Saharan Africa based in four African countries has provided a framework for comparative data collection relating to the health and well-being of older persons (Kowal, Rao & Mathers, 2004). In an initiative led by the Department of Health, a 24-indicator minimum data set was identified for South Africa (Department of Health, 2005). Fifteen of these indicators can be fully populated and one partly populated by data generated by the 2003 SADHS, one by the demographic modelling work of the Actuarial Society of South Africa and one by the National Burden of Disease Study of the MRC. Data for the indicators referring to depression, subjective evaluation of personal health, general life satisfaction, home-based care continue to be lacking, as well as data for assessing older persons activity of daily living, post-reproductive health, quality of life and measured presence of chronic disease other than blood pressure, asthma and chronic bronchitis. Data for some of these indicators may be included in the envisaged study on ageing to be conducted by the Department of Health in collaboration with the HSRC and MRC. The sample size of older persons in the 2003 SADHS, however, is a concern in some analyses, as it is not always possible to examine the older age groups carefully, neither other stratifications. In addition, the concerns about data quality that affect the overall survey apply to the older persons as well. Where possible, the results have been interpreted in conjunction with other data sources.

The Madrid Plan for Action on Ageing emphasizes the necessity to remove all barriers that prevent older persons from contributing fully to and benefiting equally from development and the importance of eliminating whatever excludes or discriminates against older persons from society. Several findings in this chapter suggest that South Africa has done well to improve selected aspects of older persons' living conditions and health, but they also suggest that the country still has a long way to go to remove the remaining barriers that prevent optimal health status, living conditions and health service delivery among older persons, particularly in the non-urban areas.

Large proportions of older men and women continue to have no school education (about 40 percent) and no improvement is shown since 1998. Unfortunately, the questionnaire did not provide for the assessment of literacy levels among men older than 59 years and women older than 49 years. There is therefore no indication whether there have been any improvements in the levels of literacy. The current level of educational attainment in older persons has implications in the South African society. Generally, educational attainment may impact on individual development and the optimal empowerment of older persons to fully participate in their family and community life. However, in light of the recognized caregiver and social nurturer role that older women often play in families, the level of no education among older women is of particular concern. Older persons' level of education may also present particular challenges to effective health promotion and disease management and materials developed for this purpose need to take the high levels of no formal education into account when targeting the older population.

The survey shows a clear urban/non-urban distinction in terms of household amenities for older persons that reflects underlying differences in living conditions between urban and non-urban areas. Access to electricity in urban areas is satisfactory, but although the urban/non-urban gap in such access has been reduced since 1998, nearly half of the non-urban older persons still have no access to electricity. Access to piped water for drinking are still limited for both urban and non-urban older persons, and limited change from 1998 is reflected in the findings. Very limited improvement in terms of sanitation facilities is shown, and of particular concern is the great majority of non-urban older persons who still have no access to a flush facility. Since 1998, improvement is reflected in the flooring materials of older persons' dwellings, but little change is suggested regarding the

walling materials. An increase in access from 1998 is shown for selected household durable goods in both urban and non-urban older persons, but there were more amenities with decreased or stagnated access than amenities with increased access. These findings pose a number of challenges to older persons whose ambulence, mobility and physical abilities are generally declining with increasing age, and may impact on their well-being and health.

While these socio-economic indicators are not optimal in the older population, a very large proportion of the older population has access to a social grant and this access has increased since 1998. However, it is important to note, too, that the high utilisation of social grants also reflects the magnitude of monetary poverty among the older population and is indicative of the enormous challenge to eradicate poverty in older age. Research has shown that higher proportions of older people as well as substantial numbers of persons related to these older grant recipients have benefited from the substantial volumes of cash carried into poor households (Ardington & Lund, 1995; Case & Deaton, 1998; Institute of Development and Policy Management & Help Age International, 2003). The SADHS data have shown that, although being a woman, being African, and living in non-urban areas are often associated with disadvantages in the South African older population (compare also Joubert and Bradshaw, 2004), access to a social grant is more favourable for precisely these subpopulations.

The Madrid Plan emphasizes the importance of communication for older persons to fully and actively participate in societal life. A recommendation under the objective 'equality of opportunity throughout life' is to ensure that the benefits of new technologies, especially information and communication technologies are available to all citizens (United Nations, 2002b). Not only can access to a phone be useful in participating in various domains of societal life and so contribute to the maintenance of personal well-being, but also be critical in sickness, emergency or loneliness. The decrease since 1998 in access to a phone among older persons needs further investigation. Having a radio or television facilitates access to information and some form of leisure or recreation. Given the large proportion of older persons without formal education, these mediums have an important purpose in disseminating visual and audio health and well-being information (Joubert & Bradshaw, 2004).

A multitude of international instruments, including the Madrid Plan, accentuate the protection and physical safety of older persons through the elimination of all forms of elder abuse and violence against them. Various sources have revealed pervasive levels of violence against older South Africans, including research reports (e.g. Keikelame & Ferreira, 2000; Bryan, Joubert & Lindgren, 2001); a governmental report (Department of Social Development, 2001); the South African National Burden of Disease Study (Bradshaw *et al.*, 2003); and analyses of the National Injury Mortality Surveillance System (NIMSS) (Joubert *et al.*, 2004). Compared to the Global Burden of Disease Study (Mathers *et al.*, 2002), extremely high levels of homicide for the year 2000 were found among South Africans including people who are 60 years or older. The male homicide rates for older South Africans were estimated to be five times the global average rate, and the female homicide rates were nearly four times the global average rate of older women. While suicides in older persons globally are a more prominent cause of death than homicide, homicides in South African older persons are considerably more prominent than suicide (Norman *et al.*, forthcoming). The 2003 SADHS data suggest that older women are as vulnerable as older men, or more so, to being a victim of a violent physical attack, while at younger ages, more men than women report having been physically attacked. The particular vulnerability of older persons is demonstrated by the data showing that older persons, more than any other age group, tend to be attacked in their homes, a finding that is supported by previous analyses of data from NIMSS (Joubert *et al.*, 2004). Ensuring the safety of older persons warrants insistent attention and a strong political will at *all* levels of governance, spread over different sectors, to translate legislation and policy into effective interventions.

In the five-year period between the surveys, there has been no discernable trend in the prevalence of self-reported chronic conditions among older persons. Hypertension, as in 1998, remains the major chronic condition in the older population. Arthritis increases with age, as do hypertension and the respiratory conditions assessed in the survey. This means that, for many conditions, the prevalence in older persons is considerably higher than in the total adult population, showing on the one hand the explicit need for health care services to address and manage chronic conditions in older persons, and on the other hand, the need to promote healthy ageing messages in the total population.

In terms of self-reported chronic disease prevalences, it is not straightforward to assess urban/non-urban differences as they may be related to access to health care. However, with the exception of chronic bronchitis in women, the proportions of reported symptoms of airflow limitation, chronic bronchitis and abnormal peak flow rates as well as hypertension are higher in the urban areas than the non-urban areas, suggesting that chronic diseases are more common in the urban setting. The prevalence of disabilities, in contrast, is generally more prominent in non-urban than urban areas. No urban/non-urban differences are seen with regard to injuries in older persons. Proportionally more urban than non-urban older persons attend public and private sector health services, and dissatisfaction with these services are generally much higher among urban than non-urban older persons. Considerably more urban than non-urban older women are taking prescribed chronic medication and have listed drugs.

Access to medical aid and taking prescribed medication for chronic conditions in the older population show little difference between the two surveys. The proportion of older persons using public health services is similar to that of 1998, while a slight increase is seen in private sector services and a considerable increase in services sought from a traditional and faith healer. A considerable decline over time is seen in medical aid payment for chronic medication, with an increase in the proportion paid for by the public sector. It is important to bear in mind that the number of older persons has been growing at a rapid and increasing rate over the past decade, and that similar proportions using public services in 1998 and 2003 indeed represent increased numbers of older persons between these surveys, and therefore an increased load on public services. Medical aid coverage among adults increases with age up to age 45, but for the age groups older than 45 years, coverage declines with increasing age. Thus, at a time when a person is likely to have increasing medical expenses, access to medical aid is declining, suggesting that the state will have to bear increasing costs. Huge urban/non-urban and population group disparities exist in older persons' access to medical aid.

Dissatisfaction with both public and selected private care services has increased since 1998. The increase is particularly marked for the public sector hospitals. Higher levels of dissatisfaction exist in urban compared to non-urban older persons. Older participants' reasons for dissatisfaction in public sector community health centres and government hospitals/clinics are similar to the concerns of the total adult population and relate to long waiting times, staff attitude and perceived short consultations and the unavailability of prescribed drugs. This warrants more in-depth assessment.

Although changes in cohabitation with other household members cannot be assessed as indicated earlier in the chapter, trends in the living arrangements of older South Africans should be monitored as such arrangements have a particular meaning for older persons who may, due to restricted mobility or declining physical and cognitive abilities, rely on family members to assist as informal carers helping with household and health care tasks. Previous research in South Africa has indeed shown some older persons' perceptions of how the urbanization of their off-spring have left them deprived of the traditional family support they had, including help with errands and psycho-social and financial support (Ferreira, Charlton & Mosaval, 1998; Joubert, Swart & Reddy, 1998).

This chapter refers to various commitments at the policy and legislative level that reflect considerable keenness to enhance health and well-being in older South Africans. These commitments are a good foundation, but the data indicate that more needs to be done to optimise the country's commitments to the Madrid Plan, and to ensure that the keenness at policy level is translated into budgetary allocations and effective implementation and interventions in communities and service organisations that will enhance the health, well-being and safety of the country's older persons.

CHAPTER 15

ORAL HEALTH AND ORAL CARE IN ADULTS

15.1 Introduction

Oral health means more than good teeth. It is integral to general health and essential to well-being. It implies being free from chronic dental diseases. Dental diseases are a costly burden to health services and although not life-threatening, dental diseases have a detrimental effect on the quality of life in childhood through to old age, having an impact on self-esteem, eating ability, nutrition and general health (Sheiham, 2001). In modern society, a significant role of teeth is to enhance appearance; facial appearance is very important in determining an individual's integration into society, and teeth also play an essential role in speech and communication. Oral diseases are associated with considerable pain, anxiety and impaired social functioning. Dental decay may result in tooth loss, which reduces the ability to eat a nutritious diet, the enjoyment of food, the confidence to socialise and the quality of life (Kelly, 2000; Chen *et al.*, 1997).

Despite great achievements in the oral health of populations globally, problems still remain in many communities. Advances in knowledge and technology and preventive interventions in health could virtually eliminate the pain, suffering and loss of quality of life that accompany oral diseases. In South Africa, the availability of such advances is not universal and their full use by health professionals and their families is not widespread. The distribution and severity of oral disease varies in different parts of the country.

Numerous studies to determine the oral health of South African have been carried out in the past. Most of these studies examined school children and a few examined adults. Only four studies were conducted on a national scale. Williams (1984) reported on the oral health of 12 year old children representing the entire country. The national Department of Health conducted a national Oral Health Survey in 1988/89 to determine the oral health status of adults and children in the five metropolitan areas in South Africa (Department of Health, 1994). In 1998, data was collected on adults, 15 years and older, from the South African Demographic and Health Survey, relating to perceptions of oral health (Naidoo *et al.*, 2001). The most recent National Oral Health Survey was conducted on children 4-15 years old (van Wyk & van Wyk, 2004).

This chapter reports on the 2003 data collected on adults, 15 years and older, relating to perceptions of oral health. The few related questions in the adult health module deal with oral health problems, utilisation of oral health services, loss of natural teeth and oral health practices. The results are discussed in terms of age, gender, education, urban and non-urban residence, province and self-reported classification in terms of the previous population registration act.

15.2 Perceptions of oral health problems

Table 15.1 shows the response to the question "Have you had pain or problems in your mouth and/or teeth in the last 6 months?" Sixteen percent of the sample indicate that they had problems, of which 10 percent were related to teeth and about 4 percent to the gums. The data show no gender differences between the reported problems with respondents' mouth, teeth or gums. However, reporting of symptoms increased with increasing age. Proportionally less younger adults report any problems with their teeth and gums (13 percent) than older adults (24 percent).

Table 15.1 Oral health practices and problems among adults

Percentage of all men and women age 15 years and older who experience complete tooth loss and problems with their mouth, teeth or gums; who report oral health practices; who report visiting a dentist/oral hygienist/oral therapist in the previous month, and who report membership of a medical aid according to background characteristic, South Africa 2003

| Background characteristic | Lost all own teeth | Problems | | | | Oral practices | | | | Visit dental practitioner | Medical Aid | Number |
|---------------------------|--------------------|--------------|------|-------|-------|----------------|---------|-------|-------|---------------------------|-------------|--------|
| | | Any problems | Gums | Other | Teeth | Brush | Dentist | Other | Rinse | | | |
| Age | | | | | | | | | | | | |
| 15-24 | 21.0 | 12.9 | 2.8 | 2.1 | 7.9 | 21.0 | 72.7 | 0.2 | 23.2 | 1.1 | 11.0 | 2 377 |
| 25-34 | 22.4 | 15.7 | 3.3 | 2.4 | 10.0 | 22.4 | 63.5 | 0.3 | 31.2 | 1.8 | 13.9 | 1 714 |
| 35-44 | 23.0 | 16.5 | 3.4 | 2.1 | 11.0 | 23.0 | 64.8 | 0.5 | 30.1 | 3.0 | 18.2 | 1 476 |
| 45-54 | 25.9 | 18.1 | 3.2 | 2.7 | 12.3 | 25.9 | 63.9 | 0.1 | 29.8 | 2.8 | 16.5 | 1 152 |
| 55-64 | 33.6 | 19.8 | 6.0 | 3.1 | 10.6 | 33.6 | 58.7 | 1.6 | 29.1 | 2.7 | 16.2 | 779 |
| 65+ | 37.7 | 24.2 | 5.4 | 4.2 | 14.7 | 37.6 | 53.8 | 0.4 | 32.6 | 3.4 | 10.5 | 618 |
| Sex | | | | | | | | | | | | |
| Male | 24.2 | 15.8 | 3.6 | 2.0 | 10.2 | 66.1 | 0.4 | 28.2 | 5.3 | 1.8 | 14.2 | 3 422 |
| Female | 25.3 | 16.8 | 3.6 | 2.8 | 10.4 | 64.7 | 0.4 | 28.4 | 6.5 | 2.5 | 14.1 | 4 693 |
| Residence | | | | | | | | | | | | |
| Urban | 22.7 | 16.0 | 3.9 | 2.2 | 9.9 | 22.7 | 61.8 | 0.5 | 31.9 | 2.5 | 18.5 | 5 285 |
| Non-urban | 28.7 | 17.2 | 3.0 | 3.0 | 11.2 | 28.8 | 71.8 | 0.4 | 21.6 | 1.6 | 6.2 | 2 830 |
| Province | | | | | | | | | | | | |
| Western Cape | 26.4 | 17.5 | 3.1 | 1.1 | 13.4 | 26.4 | 55.7 | 0.3 | 34.2 | 2.0 | 20.3 | 910 |
| Eastern Cape | 12.2 | 18.3 | 3.7 | 3.2 | 11.4 | 12.2 | 73.8 | 0.2 | 14.8 | 2.6 | 10.3 | 929 |
| Northern Cape | 15.1 | 19.5 | 2.1 | 1.8 | 15.6 | 15.1 | 67.9 | 0.1 | 24.6 | 2.1 | 15.8 | 152 |
| Free State | 8.1 | 16.8 | 2.6 | 2.3 | 11.9 | 8.1 | 64.6 | 0.2 | 29.1 | 2.4 | 11.0 | 537 |
| KwaZulu-Natal | 56.8 | 6.9 | 2.1 | 1.8 | 3.1 | 56.7 | 51.4 | 0.6 | 40.3 | 1.9 | 9.6 | 1 669 |
| North West | 12.1 | 19.9 | 3.1 | 3.3 | 13.5 | 12.1 | 77.3 | 0.2 | 20.6 | 1.2 | 9.4 | 621 |
| Gauteng | 12.2 | 15.2 | 4.6 | 2.1 | 8.6 | 12.2 | 58.9 | 0.7 | 36.7 | 3.6 | 22.0 | 1 988 |
| Mpumalanga | 38.0 | 30.6 | 3.2 | 2.8 | 24.6 | 38.0 | 85.1 | 0.2 | 11.6 | 0.6 | 12.5 | 509 |
| Limpopo | 17.0 | 23.0 | 6.4 | 5.3 | 11.4 | 17.0 | 89.2 | 0.1 | 8.1 | 0.7 | 8.4 | 800 |
| Education | | | | | | | | | | | | |
| No education | 29.1 | 24.7 | 4.7 | 3.8 | 16.2 | 29.1 | 65.5 | 0.2 | 24.4 | 1.0 | 4.1 | 874 |
| Grades 1-5 | 25.7 | 20.1 | 4.2 | 3.4 | 12.5 | 25.7 | 65.7 | 0.2 | 26.7 | 2.4 | 3.9 | 783 |
| Grades 6-7 | 24.0 | 19.7 | 4.6 | 3.8 | 11.3 | 24.0 | 70.0 | 0.3 | 23.6 | 2.2 | 5.8 | 884 |
| Grades 8-11 | 24.3 | 15.3 | 3.4 | 2.5 | 9.4 | 24.3 | 68.3 | 0.3 | 25.5 | 1.8 | 10.4 | 3 239 |
| Grade 12 | 26.3 | 11.6 | 3.1 | 1.2 | 7.2 | 26.3 | 60.2 | 0.9 | 34.1 | 2.5 | 21.2 | 1 626 |
| Higher | 19.0 | 13.5 | 1.8 | 0.8 | 10.9 | 19.0 | 57.3 | 0.5 | 40.3 | 4.5 | 53.0 | 653 |
| Population group | | | | | | | | | | | | |
| African | 24.8 | 16.6 | 3.9 | 2.7 | 10.0 | 24.8 | 68.9 | 0.3 | 25.0 | 1.8 | 9.2 | 6 695 |
| Afr. urban | 22.4 | 16.0 | 4.5 | 2.4 | 9.2 | 22.4 | 66.0 | 0.2 | 27.8 | 2.0 | 11.5 | 3 997 |
| Afr. non-urban | 28.3 | 17.5 | 3.0 | 3.2 | 11.3 | 28.3 | 73.1 | 0.4 | 20.9 | 1.7 | 5.8 | 2 698 |
| Coloured | 33.6 | 17.5 | 2.5 | 2.4 | 12.6 | 33.6 | 56.6 | 0.4 | 33.2 | 1.4 | 19.8 | 724 |
| Indian | 13.5 | 19.2 | 3.8 | 1.6 | 13.8 | 13.5 | 38.1 | 0.0 | 58.8 | 6.0 | 31.8 | 195 |
| White | 16.3 | 11.3 | 1.3 | 0.4 | 9.6 | 16.3 | 38.8 | 2.6 | 54.8 | 6.3 | 68.0 | 477 |
| Total | 24.8 | 16.4 | 3.6 | 2.5 | 10.3 | 24.8 | 65.3 | 0.4 | 28.3 | 2.2 | 14.2 | 8 115 |

Note: One respondent had education unknown, and two respondents had population group unknown

From Table 15.1, it can also be seen that there are no reported differences in oral health problems between the urban and non-urban areas. Those in the higher education groups report fewer problems than persons in the lower educational groups (14 percent compared with 25 percent), with most complaints related to their teeth. Less than 7 percent in KwaZulu-Natal express problems with their oral health. This is very low compared with the other provinces that range from 15 percent in Gauteng to 31 percent in Mpumalanga. There are differences in reported oral health problems between population groups, with the largest proportion of complaints by Indians (19 percent), and the smallest by whites (11 percent).

These results in terms of the perceptions of tooth problems are similar, though lower, than those from the previous SADHS (Naidoo *et al*, 2001), but differ in terms of age and education levels group in the reporting of gum problems. Previously, the lowest age group and highest education category complained of gum problems. Higher educational levels are usually related to the reporting of more symptoms, while low education is was generally associated with lower quality of life and this phenomenon may be due the greater propensity of those in higher education groups to report their symptoms than to experience such symptoms (Chen & Andersen, 1997). Females are more likely to report oral disease symptoms. However, this is not observed in this survey.

15.3 Utilisation of health services

Table 15.1 additionally shows the response to the questions (i) “During the last month have you been to any of the following health services for medical care yourself: dentist/oral hygienist/oral therapist” and (ii) “Are you on medical aid?”

Just over 2 percent of the respondents report that they had visited an oral health care worker in the last month. Slightly more women (2.5 percent) than men (1.8 percent) report having made such a visit in the last month. Reporting of dental visits generally increases with increasing age. A higher proportion of urban than non-urban respondents report utilisation of services. This is a similar pattern to the proportion of adults with access to a medical aid. Nearly 20 percent of the respondents in urban areas report membership of a medical aid compared to 6 percent in the non-urban areas.

Generally, higher proportions of persons with higher education compared to those with lower education visit dental services, generally. A higher proportion of persons with post matric education, compared to those with Grade 12 or lower, report visiting a dental care provider in the last month (5 percent). This coincides with the group that has the highest access to medical aid. More than half of those with the highest educational level have medical aid. The highest number of dental visits in the past month were in Gauteng and the lowest in Mpumalanga and Limpopo. More whites and Indians report utilizing dental services within the past month than Africans and coloureds. Sixty-eight percent of the whites have access to medical aid, compared to 32 percent of Indians. The other groups report much lower use of dental services, and also have much lower access to medical aid.

Mostly people in the 35-44 year and 65+ age groups, from the urban areas, in Gauteng and the Eastern Cape, with the highest education qualification, white and Indian had visited the dentist in the past month. Several studies have demonstrated that females are more likely than males to have made an oral health visit in the past year than males (Gift, 1984), but this survey shows a similar likelihood among men and women. The present survey results are similar to the ICS II study in terms of age, where adults in the 35-44 age group used services more frequently. The literature indicates that utilisation of health services is positively correlated with an individual’s level of education (Gift, 1984). People from the higher education group in the SADHS 2003 visited the dentist more in the last month, but this correlation is not all that clear in the other educational classifications. Gaps in utilisation were generally found to be greater between individuals with

poorer education and those with moderate levels of education, than between the moderate and high levels of education (Gift, 1986).

People who reported a problem in their mouth in the past six months were asked a further question: “What did you do when you had problems in your mouth?”. Table 15.2 shows the response to this question. The most common response is to go to a dentist (29 percent) followed by taking a tablet (24 percent). Nearly a quarter of respondents with a problem did nothing, and nearly a fifth went to a doctor.

| Table 15.2 Care for oral health problem | | | | | | | |
|--|---------------|-------------|-------------|--------------------|------------|-------------|---------------------------------------|
| Percentage of men and women aged 15 years and older who reported a problem in their mouth according to how they responded to the problem by background characteristic, South Africa 2003 | | | | | | | |
| Background characteristic | Took a tablet | Dentist | Doctor | Traditional healer | Other | Nothing | Number with problems in last 6 months |
| Age | | | | | | | |
| 15-24 | 20.6 | 32.1 | 13.3 | 1.1 | 5.7 | 30.3 | 307 |
| 25-34 | 24.6 | 20.9 | 20.2 | 1.6 | 4.2 | 32.3 | 269 |
| 35-44 | 23.1 | 32.0 | 23.9 | 3.9 | 6.6 | 13.2 | 243 |
| 45-54 | 22.4 | 33.5 | 21.7 | 5.9 | 7.6 | 13.2 | 209 |
| 55-64 | 34.4 | 24.6 | 19.7 | 3.5 | 7.6 | 14.4 | 154 |
| 65+ | 23.6 | 28.5 | 21.2 | 1.9 | 5.2 | 26.5 | 150 |
| Sex | | | | | | | |
| Male | 23.1 | 29.7 | 16.9 | 4.0 | 5.6 | 24.7 | 542 |
| Female | 24.8 | 28.2 | 21.4 | 2.0 | 6.3 | 21.2 | 789 |
| Residence | | | | | | | |
| Urban | 22.9 | 34.6 | 16.3 | 1.9 | 6.3 | 20.6 | 845 |
| Non-urban | 26.1 | 18.6 | 25.3 | 4.5 | 5.5 | 26.1 | 486 |
| Province | | | | | | | |
| Western Cape | 24.9 | 39.0 | 6.9 | 0.9 | 1.9 | 27.5 | 160 |
| Eastern Cape | 25.6 | 19.4 | 25.8 | 4.9 | 9.4 | 18.7 | 170 |
| Northern Cape | 33.8 | 34.6 | 12.5 | 0.6 | 5.4 | 15.4 | 30 |
| Free State | 24.0 | 43.1 | 13.0 | 1.1 | 6.7 | 19.3 | 90 |
| KwaZulu-Natal | 42.0 | 26.2 | 23.0 | 3.9 | 7.3 | 15.8 | 115 |
| North West | 18.0 | 24.1 | 30.3 | 2.3 | 6.5 | 18.9 | 123 |
| Gauteng | 19.7 | 37.3 | 15.6 | 1.0 | 6.9 | 20.7 | 302 |
| Mpumalanga | 20.9 | 20.2 | 22.5 | 5.7 | 6.8 | 25.7 | 156 |
| Limpopo | 23.3 | 18.7 | 23.8 | 4.0 | 3.0 | 32.2 | 184 |
| Education | | | | | | | |
| No education | 24.7 | 21.9 | 23.2 | 5.0 | 7.0 | 23.2 | 216 |
| Grades 1-5 | 28.1 | 25.1 | 17.1 | 3.9 | 6.8 | 23.7 | 157 |
| Grades 6-7 | 22.4 | 16.8 | 30.3 | 6.4 | 8.5 | 18.7 | 174 |
| Grades 8-11 | 23.9 | 29.7 | 15.8 | 1.3 | 6.1 | 26.9 | 496 |
| Grade 12 | 26.0 | 36.7 | 19.3 | 1.0 | 4.2 | 17.5 | 188 |
| Higher | 15.3 | 52.7 | 15.9 | 1.2 | 1.7 | 15.3 | 88 |
| Unknown | 32.2 | 39.1 | 19.0 | 0.0 | 0.0 | 9.8 | 11 |
| Population group | | | | | | | |
| African | 23.9 | 25.2 | 22.0 | 3.2 | 6.1 | 23.6 | 1 112 |
| Afr. Urban | 22.3 | 29.8 | 19.4 | 2.1 | 6.5 | 22.3 | 641 |
| Afr. non-urban | 26.1 | 18.9 | 25.6 | 4.6 | 5.6 | 25.4 | 471 |
| Coloured | 33.5 | 34.1 | 7.7 | 1.7 | 4.4 | 21.8 | 126 |
| Indian | 21.2 | 53.8 | 6.1 | 0.6 | 9.4 | 15.1 | 37 |
| White | 7.9 | 71.1 | 6.6 | 0.0 | 5.3 | 9.1 | 54 |
| Total | 24.1 | 28.8 | 19.6 | 2.8 | 6.0 | 22.6 | 1 331 |
| Note: 1 respondent had population group missing | | | | | | | |

15.4 Satisfaction with the services

Satisfaction with the quality of care was measured by one question concerning the overall quality of the visit. Of the 177 adults who reported visiting a dentist in the previous month, a high proportion indicated that they were satisfied (86 percent). Levels of satisfaction among adults in all groups varied from 78 percent in the 15-24 year age group to 98 percent in 34-44 year age group (data not shown). Females (82 percent) and people living in urban areas (84 percent) were slightly less satisfied than males (94 percent) and people living in non-urban areas (93 percent). Based on the question "Why were you not satisfied with the care you received?" more than a quarter reported that the staff were rude or unkind to them. Although the numbers of respondents is small (only 24), the reasons as to why people were dissatisfied with the dentist are shown in Table 15.3. It can be seen that the long wait, the expense and the short consultation time were concerns.

| Reason for dissatisfaction | Percent |
|----------------------------|---------|
| Long wait | 21 |
| Short consultation | 16 |
| Staff rude/unkind | 26 |
| Too expensive | 21 |
| Other | 16 |
| Number dissatisfied | 24 |

It has been recognised that health services in general are difficult for patients to evaluate (Delene, 1992). This may be due to the fact that few patients who receive medical and dental services have the knowledge to assess quality of the care they receive and therefore rely on other cues and processes to express their experiences. Satisfaction increases with increasing age, is higher in males, in the non-urban population, and in the Western and Eastern Cape.

Dissatisfaction is related to the attitude and behaviour of staff, cost and the long waiting time. At a time of heightened consumer rights and awareness of health related issues, these complaints appear to be particularly significant. The reasons why patients were not satisfied is very similar to a study by Calnan *et al.* (1999) who cited poor quality of treatment, service and attitude of staff and excessive charges as the most common complaints of dental patients.

The fact that staff attitude and behaviour is highest on the complaints list is a cause for concern and has been found in a previous study in the Limpopo Province (Mashego & Peltzer, 2005). This may be due, in part, to the shortage of health care workers, and the unequal distribution of staff between the urban and rural areas and the public and private sectors (Health Systems Trust, 2005). Besides technical expertise, the success of dental care depends on the behaviour of the oral health care worker and the patient and the way they interact with each other. Since communication is involved in the process of care, in many ways it is a 'key' concept of this interaction. As patient satisfaction and quality care are closely related with the oral health care worker's positive attitudes and communicative skills, they need to focus on patients as 'individuals' and have 'real' communication with them (Mashego & Peltzer, 2005; Yamalik, 2005). Cost of dental services may be a barrier to accessibility.

Long waiting times are a serious problem for patients using public sector health facilities (Mahomed & Bachmann, 1998). Bachmann and Barron (1997) looked at long waiting times in a South African urban health centre and found that simple research can be used to identify the reasons for long waits and inform and measure changes. This may be required to avoid long waits that obstruct care, impose time costs on patients, deter appropriate utilisation and cause patient dissatisfaction.

15.5 Loss of natural teeth

Table 15.1 shows the response to the questions: “Have you lost all of your own teeth?” A quarter of the respondents report that they had lost all their natural teeth. There are no gender differences, but edentulousness increased with increasing age. Loss of all natural teeth increased from 21 percent in the younger age group to 38 percent in the 65+ age group. Slightly more respondents in urban areas had lost all their teeth than respondents in the non-urban areas. With increased levels of education edentulousness declines from 29 percent in the lowest educational category to 19 percent in the higher education category. Provinces reporting highest edentulousness are KwaZulu-Natal—though this province’s figure seems implausible—Mpumalanga and the Western Cape, with the Free State reporting the lowest. About a quarter of the African respondents had lost their own teeth, compared to 34 percent of the coloured group and 16 percent of whites.

15.6 Oral Health Practices

Table 15.2 shows the response to the questions (i) “What did you do when you had problems in your mouth” and (ii) “What do you usually do to look after your teeth/mouth”

Twenty nine percent report having visited a dentist when they had problems with their mouth, 24 percent took a tablet, 23 percent did nothing, 20 percent visited a doctor and 3 percent a traditional healer. A higher proportion of urban people (35 percent) report visiting a dentist than rural (19 percent), but a higher proportion of rural people (25 percent) visited a doctor than the urban group (16 percent). Twenty five percent and 28 percent of the respondents report brushing and rinsing respectively, and 65 percent report visiting a dentist/dental therapist or oral hygienist at least once a year to look after their teeth. There were no trends in terms of age, gender, residence, province, education and race.

In a previous study by Rudolph *et al.* (1994), the medical practitioner was the first person that was consulted when the person presented with a mouth problem, however, in the present survey the pattern of health seeking behaviour appears to have shifted with over a third of the urban population reporting having visited a dentist, but the rural group still sought care from a medical doctor. Medical practitioners and other primary care providers play a pivotal role in preventing oral disease, especially among minority and underserved populations who have limited access to dental services and poorer oral health status (Drum *et al.*, 1998). Given their role in promoting and protecting overall health and their role in serving minority and underserved families, general practitioners occupy a unique position to assure equity, access, and improvement in oral health for all South Africans.

There are a number of individual, professional and community preventive measures that are effective for preventing most oral diseases (Cohen & Gift, 1995). Oral health care professionals recommend brushing teeth one or more times a day to control plaque growth (Frandsen, 1986). Oral health care professionals also recommend the regular use of oral health services to prevent or treat oral diseases (Frazier *et al.*, 1977; Horowitz, 1983). The two types of oral health behaviour have very different characteristics. Toothbrushing and rinsing are usually practiced by the individual at home. They are daily habits developed from early childhood and are probably related to social and cultural aspects of society (Gift, 1986). In contrast, the use of oral health services requires the individual to seek professional help outside the home. Here the resources and organisation of the oral health care system are important additional factors affecting behaviour (Gift, 1984). Access to oral health services, as well as social, cultural and economic conditions is an important determinant for service utilisation (Gift, 1984). For preventive visits, additional factors, such as preventive orientation of the oral health care system and of society to preventive care may also play significant roles (Gift 1984). However, optimal intervention in relation to oral diseases may not be universally

available or affordable due to escalating costs and limited resources and this together with insufficient emphasis on primary prevention, poses considerable challenges (Petersen, 2004).

15.7 Discussion

Nearly one in six adults experienced oral health problems, and higher proportions of these problems were related to teeth compared to gums. This might be due to the fact that toothache is recognised as an abnormal symptom, and pain from the gums may not be regarded as such. Teeth problems are most commonly reported in the higher age groups, non-urban areas, Mpumalanga, Northern Cape, Western Cape and the North West, people with no education and those classified as Indian or coloured. Gum problems are most commonly reported in the 55-64 age group, urban areas, Limpopo and Gauteng, people in lowest education categories and those classified as African urban. The relatively high perceived oral health problems implies that oral health should be given a greater priority; the prevention and control of oral diseases deserves greater attention as the adverse impact of poor oral health (pain, suffering, impairment of function, quality of life) on the individuals is underestimated.

Despite the fact that nearly a quarter of the “no education” group report oral health problems, only one percent had actually visited the dentist. The reasons for the low utilisation of services may be due to factors of accessibility, affordability and the type of services provided. Some of these were highlighted by Gugushe (1999) who found that there were problems in (i) the structure and management of oral health services in most of the provinces, (ii) the dentist driven dental public health services, (iii) the palliative and demand driven nature of the services, (iv) the inequities in oral health care in the provinces, and importantly (v) the fact that the oral health care services are essentially urban based. This situation does not seem to have changed much since then, except for the fact that community dental service has become compulsory for newly-graduated dentists. However, perceived access to health care per se in South Africa does appear to have improved between 1994 and 1998, partially determined along racial lines (Lalloo *et al.*, 2004).

Edentulousness is highest in the older age groups, non-urban areas, KwaZulu-Natal, Mpumalanga and the Western Cape, generally among respondents with lower educational qualifications, and mostly among Coloureds and non-urban Africans. These levels of edentulousness are unacceptably high. The high percentages of tooth loss is of concern as dental caries and periodontal disease are not only preventable and avoidable conditions, but also because of the increased risk to blood borne infections such as HIV/AIDS and Hepatitis, in a region where these conditions are rife. A shift from the endemic curative philosophy to a more promotive integrated oral health care approach, both among the public and health care professionals is urgently required.

Clinical and public health research has shown that a number of individual, professional and community preventive measures are effective in preventing most oral diseases (Cohen & Gift, 1995). However, optimal intervention in relation to oral disease is not universally available or affordable because of escalating costs and limited resources. This, together with insufficient emphasis on primary prevention or oral diseases, poses a considerable challenge.

Most evidence relates to dental caries prevention and control of periodontal diseases. Gingivitis can be prevented by good personal oral hygiene practices, including brushing and flossing. Community water fluoridation is effective in preventing dental caries in both children and adults, regardless of their social or economic status. The introduction of affordable fluoridated toothpaste has been shown to be a valuable strategy, ensuring that people are exposed appropriately to fluorides. With appropriate diet and nutrition, primary prevention of many oral and dental diseases can be achieved. Lifestyle behaviours that affects general health such as tobacco use, excessive alcohol consumption and poor dietary choices affect oral and craniofacial health as well. These individual behaviours are

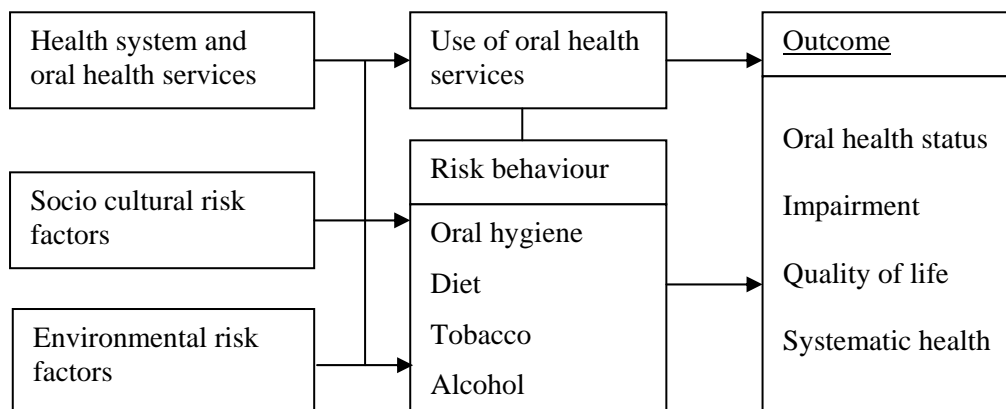
associated with an increased risk of craniofacial birth defects, oral and pharyngeal cancers, periodontal disease, dental caries and other conditions.

Opportunities exist to expand oral disease prevention and health promotion knowledge and practices among the public through community programmes and in health settings. Health care providers can play a role in promoting a healthy lifestyle by incorporating tobacco cessation programmes and nutritional counselling into their practices. The major challenges for the future will be to translate knowledge and experiences of disease prevention into action programmes. Social, economic and cultural factors together with the changing population demographics all impact on the delivery of oral health services. Reducing disparities requires far-reaching, wide-ranging approaches that target populations at risk from specific oral diseases, and involves improving access to existing care.

15.8 Policy implications

The key socio-economic factors involved in the promotion of oral health are outlined in Figure 15.1, together with some modifiable risk behaviours (Peterson, 2004). High relative risk of oral disease relates to socio-cultural determinants such as poor living conditions, low education levels and the lack of traditions, beliefs and cultures in support of oral health. Communities without exposure to fluorides have a higher risk of dental caries. Poor access to safe water or sanitary facilities are environmental risk factors to oral health as well as general health. Prevention and control of oral diseases also depends on the availability and accessibility of oral health facilities, but reduction in risks to disease is only possible if services are oriented towards primary health care and prevention. In addition to the socio-cultural and environmental factors, the intermediate, modifiable risk behaviours like oral hygiene practices, sugar consumption (amount, frequency of intake and types) as well as tobacco use and excessive alcohol consumption have a role to play.

Figure 15.1. The risk factor approach to the promotion of oral health



Source: Petersen, 2004

Government and health policy makers need to make use of this framework to reduce the burden of oral diseases, especially in the poor and marginalized populations. In particular, they need to:

- Promote healthy lifestyles and reduce the common risk factors (such as sugar, alcohol and tobacco) that arise from environmental, economic, social and behavioural causes.
- Develop oral health systems that equitably improve oral health outcomes, respond to people's legitimate demands, and are financially fair.
- Promulgate universal infection control guidelines as a matter of urgency.
- Increase utilisation of low, frequent doses of fluoride such as fluoridated toothpaste and water fluoridation.
- Develop oral health policies, based on the integration of oral health into general health national and community programmes.

15.9 Future Research

Building and strengthening research capacity is one of the most effective, efficient and sustainable strategies for enabling advances in knowledge. Oral health research should be targeted at:

- Development of socio-dental indicators for measuring and demonstrating the comprehensive impact of oral disease on the individual.
- Identification of health determinants and improving capacity to design and implement appropriate interventions to promote oral health.
- Development of effective modern oral health care systems and self care products such as low cost toothpastes and improving nutrition.
- HIV and oral health: Training to understand, diagnose and manage oral impact of HIV/AIDS.
- Health services research of utilization, satisfaction and barriers to service uptake.

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APPENDIX A

SAMPLE DESIGN AND IMPLEMENTATION

A1 Introduction

The 2003 SADHS covered the population living in private households in the country. It was designed as a representative probability sample principally to produce reliable estimates of demographic rates (particularly fertility and childhood mortality rates), of maternal and child health indicators, of contraceptive knowledge and use and of sexual behaviour for the country as a whole, for urban and non-urban areas separately, for the nine provinces and for the four South African population groups. The design for the SADHS called for approximately 10,000 completed individual interviews with women between the ages of 15 and 49 to provide sufficiently narrow confidence intervals around key indicators.

In addition to the main survey of households and women 15-49 years, care-givers of children under the age of 6 years whose mothers were not interviewed were interviewed for information about the health of the child. In addition, a questionnaire was administered to men 15-59 years in half of the sampled households and an adult health questionnaire was administered to all the adults aged 15 and over in the alternate households.

A2 Sampling Frame

The sampling frame for the SADHS was the list of approximately 86,000 enumeration areas (EAs) used by Statistics South Africa for the Census conducted on 9-10 October 2001. The EAs ranged from about 100 to 250 households, and were stratified by province and by urban and non-urban based on the four geo-types of urban formal, urban informal, rural formal and tribal area. The urban formal together with urban informal comprise the urban category and the rural formal and tribal area comprise the non-urban category. As the Indian population constitutes a very small fraction of the South African population, specific arrangements were made in the sample design to obtain a sufficiently large number of respondents from this population group. For the purpose of the sample design, an EA was identified as Indian if the proportion of persons who classified themselves as Indian during Census 2001 enumeration in that EA was 80 percent or more, otherwise it was classified as Non-Indian. EAs were stratified into Indian and non-Indian EAs and the Indian group was considered as a stratum on its own.

A3 Characteristics of the SADHS Sample

The sample for the SADHS was selected in two stages. Due to confidentiality of the census data, the sampling was carried out by experts in Statistics South Africa according to specifications developed by members of the SADHS sampling team. Within each stratum, a two-stage sample was selected. The primary sampling units (PSUs), correspond to the EAs and were selected with probability proportional to size (PPS), the size being the number of households residing in the EA, or, where this was not available, the number of census visiting points in the EA. These numbers were taken from the '09 books' used in the census enumeration. A sample of 1 000 households was targeted for the Indian stratum and for each of the 9 provinces. Within the provinces, the sample was stratified into geo-type and a proportional sample was drawn in each. Within the Indian stratum, EAs were sorted by descending proportion of persons classified as Indian and a sample of households was drawn with PPS systematic sampling. As some provinces and non-urban areas have a very small proportion of the Indian population, this stratum was not stratified further by province or urban/non-urban.

Results of other demographic and health surveys have shown that a minimum sample of 1 000 women is required in order to obtain estimates of fertility and childhood mortality rates at an acceptable level of sampling error. It was therefore decided that a sample of 9 000 women 15-49 with complete interviews allocated equally to the nine provinces would be adequate to provide estimates for each province separately and a further 1 000 women 15-49 years with complete interviews would be adequate for the Indian stratum.

The design effects from the 1998 SADHS for urban and non-urban sub-samples were examined to assess how many households would have to be enumerated per EA without compromising the precision of the results. In 1998, the sample take in an urban EA was 10 while the take in a non-urban EA was 20 and the design effects were consequently slightly higher in the non-urban stratum compared with urban. Due to the fact that the design effects for most key health and demographic indicators, except for TFR, were close to one, a sample take of 16 households per drawn EA in all strata was deemed to be appropriate for this survey.

This led to 630 PSUs being selected for the SADHS (368 in urban areas and 262 in non-urban areas). Stats SA drew the EAs for the sample and provided global positioning system (GPS) latitudes and longitudes for each visiting point based on a systematic sample of 16 visiting points in each of the selected EAs. The survey team then interviewed the household in the selected visiting point. If there were two households in the selected visiting point, both households were interviewed. If there were three or more households, then the team was instructed to randomly select one household for interview, noting the total number of households in the visiting point so as to allow for adjustment of the sample weights. In each selected household, a household questionnaire was administered; all women between the ages of 15 and 49 were identified and interviewed with a woman's questionnaire. In half of the selected households, all men between the ages of 15 and 59 years were identified and interviewed with a men's questionnaire and in the alternate households, all adults over 15 years of age were identified and interviewed with an adult health questionnaire. Anthropometry of all children under the age of 6 years was meant to be assessed by the field team as well as the anthropometry, blood pressure and peak flow of the adults selected for the adult questionnaires.

A4 Sample Allocation

Tables A.1 and A.2 show the estimated distribution of the households of South Africa, broken down by province and urban /non-urban, as of October 2001, based on the 2001 census.

Table A.1 Number of households in South Africa, October 2001

| Province | Urban | Non-urban | Total |
|---------------------|------------------|------------------|-------------------|
| Western Cape | 1 059 398 | 113 906 | 1 173 303 |
| Eastern Cape | 650 095 | 862 570 | 1 512 664 |
| Northern Cape | 157 881 | 48 960 | 206 842 |
| Free State | 577 680 | 155 620 | 733 301 |
| KwaZulu-Natal | 1 106 393 | 979 858 | 2 086 250 |
| North-West | 392 225 | 536 778 | 929 004 |
| Gauteng | 2 558 681 | 92 563 | 2 651 244 |
| Mpumalanga | 332 286 | 400 845 | 733 131 |
| Northern | 154 471 | 1 025 494 | 1 179 965 |
| South Africa | 6 989 109 | 4 216 596 | 11 205 705 |

Table A.2 Percent distribution of households in South Africa, October 2001

| Province | Urban | Non-urban | Total |
|---------------------|--------------|--------------|---------------|
| Western Cape | 9.5% | 1.0% | 10.5% |
| Eastern Cape | 5.8% | 7.7% | 13.5% |
| Northern Cape | 1.4% | 0.4% | 1.8% |
| Free State | 5.2% | 1.4% | 6.5% |
| KwaZulu-Natal | 9.9% | 8.7% | 18.6% |
| North West | 3.5% | 4.8% | 8.3% |
| Gauteng | 22.8% | 0.8% | 23.7% |
| Mpumalanga | 3.0% | 3.6% | 6.5% |
| Limpopo | 1.4% | 9.2% | 10.5% |
| South Africa | 62.4% | 37.6% | 100.0% |

The number of households to be selected for each stratum was calculated as follows:

$$\text{Number of HHs} = \frac{\text{Target number of women 15 - 49}}{\text{Number of women 15 - 49 per HH} \times \text{Overall response rate}}$$

According to the 2001 Census, the estimated number of women 15-49 per households is 1.2. The overall response rate was assumed to be 80 percent, i.e., of the households selected for the survey only 90 percent would be successfully interviewed, and of the women identified in the households with completed interviews, only 90 percent would have a complete woman questionnaire. Using these two parameters in the above equation, we would expect to select approximately 10 500 households in order to yield the target sample of women. The number of sample points (or clusters) to be selected for each stratum is calculated by dividing the number of households in the stratum by the average "take" in the cluster. In SADHS, each cluster corresponded to a census EA. Analytical studies of surveys of the same nature suggest that the optimum number of women to be interviewed is around 20-25 in each urban cluster and 30-35 in each non-urban cluster. However it was decided that these numbers would be lower for the SADHS, given the practice of small cluster "take" in surveys conducted in South Africa and that the field cost is generally reasonable. If we selected 16 households in each cluster, the distribution of sample points or EAs would be as indicated in Table A.3.

Table A.3 Number of EAs selected by province

| Province | Urban | Non-urban | Total |
|---------------------|------------|------------|------------|
| Western Cape | 59 | 7 | 66 |
| Eastern Cape | 18 | 45 | 63 |
| Northern Cape | 45 | 18 | 63 |
| Free State | 44 | 19 | 63 |
| KwaZulu-Natal | 79 | 37 | 116 |
| North-West | 22 | 41 | 63 |
| Gauteng | 68 | 2 | 70 |
| Mpumalanga | 26 | 37 | 63 |
| Limpopo | 7 | 56 | 63 |
| South Africa | 368 | 262 | 630 |

A5 Stratification and Systematic Selection of EAs

Within each EA type, the EAs were ordered according to geographic or administrative units as adopted by Stats SA for the census. EAs that contain only institutions such as prisons and mine hostels were excluded from the sampling frame. The number of EAs was then selected independently within each explicit stratum and with probability proportional to size. The measure of size used for selection was the number of households enumerated in each EA by the census.

The selection procedure that SSA used in each explicit stratum was as follows:

$$I = \frac{\sum_i M_i}{a}$$

1. calculating the selection interval for the EAs:
where $\sum M_i$ is the size of the stratum (total number of households or population in the stratum according to the census) and a is the number of EAs to be selected in the stratum;
2. calculating the cumulated size of each EA;
3. calculating the series of sampling numbers $R, R+I, R+2I, \dots, R+(a-1)I$, where R is a random number between 1 and I ;
4. comparing each sampling number with the cumulated sizes.

The first EA to be selected was the first EA on the list whose cumulated size was equal or greater than the first sampling number. The second EA to be selected was the next EA on the list (after the first selected one) whose cumulated size was equal or greater than the second sampling number, and so on.

A6 Sampling Probabilities

The sampling probabilities were calculated separately for each sampling stage, and independently for each stratum. The following notations will be used:

- P_1 : first-stage sampling probability (EAs)
 P_2 : second-stage sampling probability (households)

Let a_h be the number of EAs selected in stratum h , M_{hi} the size (number of households according to the sampling frame) of the i^{th} EA in stratum h , and $\sum M_{hi}$ the total size of the stratum (number of households according to the sampling frame). The probability of inclusion of the i^{th} EA in the sample is calculated as follows:

$$P_{1hi} = \frac{a_h \times M_{hi}}{\sum_i M_{hi}}$$

In the second stage, we will select a number b_{hi} households from the number M_{hi} of households in the i^{th} EA. We then have:

$$P_{1hi} \cdot P_{2hi} = \frac{a_h \cdot M_{hi}}{\sum_i M_{hi}} \times \frac{b_{hi}}{M_{hi}}$$

In order for the sample to be self-weighting within the stratum, the overall probability $f_h = P_{1hi} \cdot P_{2hi}$ must be the same for each household within the stratum, where f_h is the sampling fraction calculated separately for stratum h :

$$f_h = \frac{n_h}{N_h}$$

where n_h is the number of households selected in stratum h , and N_h is the number of households that exist in stratum h .

A7 Sample Implementation

Results of the sample implementation are given in Table A.4 for the women's interviews, Table A.5 for the men's interviews and Table A.6 for the adult health interviews. A total of 630 EAs were selected for the 2003 SADHS (368 in urban areas and 262 in non-urban areas) which included 10 080 households (630x16). However, due to the addition of some extra households living in the selected visiting points, the total came to 10 214. Fieldwork in nine EAs was not implemented.

Overall 10 percent of selected households were not valid households; for 2 percent of households, the entire household was absent for an extended period of time, 5 percent were vacant or invalid addresses, and the dwelling was destroyed in 2 percent of cases. In both Eastern Cape and Limpopo, 19 percent of the selected households were found to be non-existent in the field. The proportion of invalid households was very high compared with that found in the 1998 SADHS. In the 1998 survey, out of the 12 860 households selected, 12 638 were identified as occupied households. A total of 1.7 percent were not valid with 1.1 percent vacant or destroyed and 0.6 percent absent.

Of the valid households in the 2003 SADHS, 85 percent were successfully interviewed. The main reasons for not successfully interviewing the households were refusals (11 percent) and respondents not being home (3 percent).

From Table A.4, it can be seen that in the households visited, there were 7 966 eligible women aged 15-49 years among whom 88 percent were successfully interviewed. There were 6 percent who refused to be interviewed and a further 4 percent were not at home. The proportion of eligible women who refused was highest in the Western Cape (15 percent). The overall response rate for the women's questionnaire is thus 75 percent, far lower than the 92 percent in the 1998 SADHS.

Table A.4 Results of household and women interviews

Percent distribution of households and eligible women by results of the household and individual interviews, and household, eligible women and overall response rates, according to urban-rural residence and region, South Africa 2003

| Result | Province | | | | | | | | | Residence | | Total |
|--|--------------|--------------|---------------|------------|---------------|------------|---------|------------|---------|-----------|-----------|--------|
| | Western Cape | Eastern Cape | Northern Cape | Free State | KwaZulu-Natal | North West | Gauteng | Mpumalanga | Limpopo | Urban | Non-urban | |
| Selected households | | | | | | | | | | | | |
| Completed (C) | 67.4 | 66.5 | 83.1 | 85.8 | 75.2 | 85.6 | 66.0 | 79.2 | 76.7 | 74.7 | 77.7 | 75.9 |
| No competent respondent at home (HP) | 5.0 | 3.4 | 2.0 | 1.3 | 5.2 | 0.2 | 1.9 | 2.5 | 1.3 | 3.6 | 1.5 | 2.8 |
| Postponed | 0.8 | 0.0 | 0.2 | 0.1 | 0.1 | 0.1 | 0.4 | 0.0 | 0.0 | 0.3 | 0.1 | 0.2 |
| Refused (R) | 16.6 | 10.8 | 8.4 | 6.6 | 11.7 | 7.0 | 22.2 | 7.2 | 3.3 | 13.7 | 6.4 | 10.7 |
| Dwelling not found | 0.1 | 0.0 | 0.0 | 0.1 | 1.1 | 0.2 | 0.9 | 0.0 | 0.0 | 0.5 | 0.1 | 0.3 |
| Household absent (HA) | 0.9 | 3.7 | 3.2 | 1.0 | 0.9 | 2.7 | 3.2 | 1.9 | 4.7 | 2.0 | 2.8 | 2.3 |
| Dwelling vacant | 8.1 | 12.1 | 2.4 | 3.7 | 2.3 | 2.3 | 3.9 | 4.6 | 11.8 | 3.7 | 7.8 | 5.4 |
| Dwelling destroyed (DD) | 0.5 | 3.2 | 0.6 | 1.1 | 2.3 | 1.9 | 1.4 | 4.3 | 2.2 | 1.0 | 3.3 | 2.0 |
| Other (O) | 0.6 | 0.2 | 0.1 | 0.4 | 1.3 | 0.1 | 0.1 | 0.3 | 0.0 | 0.4 | 0.5 | 0.4 |
| Total percent | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| Number | 1 084 | 1 018 | 1 022 | 1 022 | 1 893 | 1 019 | 1 128 | 1 015 | 1 013 | 6 003 | 4 211 | 10 214 |
| Household response rate (HRR)^a | 75.0 | 82.4 | 88.7 | 91.4 | 80.7 | 92.0 | 72.3 | 89.1 | 94.4 | 80.5 | 90.6 | 84.5 |
| Eligible women | | | | | | | | | | | | |
| Completed (EWC) | 79.0 | 86.0 | 92.3 | 92.2 | 84.8 | 90.7 | 86.0 | 94.3 | 92.9 | 85.7 | 92.4 | 88.4 |
| Not at home (EWNH) | 4.6 | 4.3 | 1.4 | 2.3 | 7.6 | 1.7 | 4.8 | 1.0 | 2.3 | 4.9 | 1.8 | 3.6 |
| Postponed (EWP) | 0.0 | 0.0 | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Refused (EWR) | 14.6 | 6.1 | 4.3 | 3.1 | 5.8 | 4.4 | 6.7 | 1.9 | 3.3 | 7.1 | 3.4 | 5.6 |
| Partly completed | 0.7 | 0.2 | 0.6 | 0.6 | 0.3 | 0.4 | 1.2 | 0.7 | 0.2 | 0.7 | 0.3 | 0.5 |
| Incapacitated (EWI) | 0.7 | 2.7 | 1.0 | 1.2 | 1.0 | 2.8 | 0.4 | 1.6 | 1.0 | 1.0 | 1.7 | 1.3 |
| Other (EWO) | 0.4 | 0.7 | 0.4 | 0.6 | 0.5 | 0.1 | 1.1 | 0.5 | 0.4 | 0.6 | 0.4 | 0.5 |
| Total percent | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| Number | 905 | 587 | 842 | 863 | 1 438 | 826 | 840 | 823 | 842 | 4 776 | 3 190 | 7 966 |
| Eligible women response rate (EWRR)^b | 79.0 | 86.0 | 92.3 | 92.2 | 84.8 | 90.7 | 86.0 | 94.3 | 92.9 | 85.7 | 92.4 | 88.4 |
| Overall response rate (ORR)^c | 59.2 | 70.9 | 81.9 | 84.3 | 68.4 | 83.4 | 62.1 | 84.0 | 87.7 | 69.0 | 83.7 | 74.7 |

^a Using the number of households falling into specific response categories, the household response rate (HRR) is calculated as:

$$\frac{C}{C + HP + P + R + DNF}$$

^b Using the number of eligible women falling into specific response categories, the eligible woman response rate (EWRR) is calculated as:

$$\frac{EWC}{EWC + EWNH + EWP + EWR + EWPC}$$

^c The overall response rate (ORR) is calculated as:

$$ORR = HRR * EWRR$$

Table A.5 presents the results for the men survey. Of the 5 155 households selected for the men survey, 77 percent were completed. Invalid households accounted for part of the poor response together with the 10 percent that refused. The response rate for households was 85.4 percent once the appropriate exclusions were made. At the individual level, 79 percent of eligible men were interviewed. There were 10 percent who refused and a further 6.7 percent were not at home. The overall response rate for the men survey was 68 percent. It was lower in the urban areas (60 percent) than the non-urban areas (81 percent) with lowest overall response rates in the Western Cape (42 percent) and Gauteng (58 percent).

| Table A.5 Results of household and men interventions | | | | | | | | | | | | |
|--|--------------|--------------|---------------|------------|---------------|------------|---------|------------|---------|-----------|-----------|-------|
| Percent distribution of households and eligible men by results of the household and individual interviews, and household, eligible men and overall response rates, according to urban-rural residence and region South Africa 2003 | | | | | | | | | | | | |
| Result | Province | | | | | | | | | Residence | | |
| | Western Cape | Eastern Cape | Northern Cape | Free State | KwaZulu-Natal | North West | Gauteng | Mpumalanga | Limpopo | Urban | Non-urban | Total |
| Selected households | | | | | | | | | | | | |
| Completed (C) | 68.4 | 68.0 | 83.2 | 87.8 | 76.2 | 86.6 | 66.7 | 79.7 | 77.5 | 75.7 | 78.5 | 76.9 |
| No competent respondent at home (HP) | 5.3 | 3.1 | 2.9 | 0.8 | 4.8 | 0.0 | 2.0 | 1.9 | 1.0 | 3.7 | 1.1 | 2.6 |
| Postponed (P) | 0.6 | 0.0 | 0.2 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 | 0.0 | 0.1 |
| Refused (R) | 15.6 | 10.5 | 7.4 | 5.5 | 11.2 | 6.0 | 22.1 | 7.2 | 2.6 | 13.1 | 5.7 | 10.1 |
| Dwelling not found (DNF) | 0.2 | 0.0 | 0.0 | 0.2 | 1.1 | 0.2 | 0.5 | 0.0 | 0.0 | 0.4 | 0.1 | 0.3 |
| Household absent (HA) | 1.1 | 2.7 | 3.7 | 1.0 | 0.8 | 2.5 | 3.2 | 1.2 | 4.3 | 2.1 | 2.3 | 2.2 |
| Dwelling vacant/address not a dwelling (DV) | 7.9 | 11.7 | 2.0 | 3.2 | 2.2 | 2.5 | 4.1 | 5.1 | 12.5 | 3.5 | 8.1 | 5.4 |
| Dwelling destroy (DD) | 0.4 | 3.7 | 0.6 | 1.4 | 2.5 | 2.1 | 1.2 | 4.7 | 2.2 | 1.1 | 3.6 | 2.1 |
| Other (O) | 0.6 | 0.2 | 0.0 | 0.2 | 1.2 | 0.0 | 0.2 | 0.2 | 0.0 | 0.3 | 0.5 | 0.4 |
| Total | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| Number of sampled households | 544 | 512 | 511 | 507 | 946 | 514 | 562 | 513 | 506 | 3 004 | 2 111 | 5 115 |
| Household response rate (HRR)^a | 75.9 | 83.3 | 88.7 | 93.1 | 81.7 | 93.3 | 73.1 | 89.7 | 95.6 | 81.3 | 91.8 | 85.4 |
| Eligible men | | | | | | | | | | | | |
| Completed (EMC) | 55.6 | 73.3 | 89.7 | 85.1 | 76.9 | 92.4 | 79.4 | 84.6 | 80.4 | 74.4 | 88.1 | 79.3 |
| Not at home (EMNH) | 8.2 | 8.4 | 2.4 | 4.5 | 12.2 | 1.4 | 6.4 | 2.7 | 8.0 | 8.8 | 3.0 | 6.7 |
| Postponed (EMP) | 0.2 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.2 | 0.0 | 0.0 | 0.1 | 0.1 |
| Refused (EMR) | 33.6 | 10.3 | 5.0 | 6.1 | 9.3 | 2.8 | 10.3 | 6.8 | 5.9 | 13.2 | 4.9 | 10.2 |
| Partly completed (EMPC) | 0.2 | 2.3 | 0.7 | 0.9 | 0.3 | 0.0 | 1.8 | 1.7 | 0.3 | 0.9 | 0.8 | 0.8 |
| Incapacitated (EMI) | 1.4 | 3.4 | 1.7 | 2.6 | 1.1 | 2.2 | 0.5 | 3.2 | 3.5 | 1.7 | 2.3 | 1.9 |
| Other (EMO) | 0.7 | 2.3 | 0.5 | 0.7 | 0.2 | 1.1 | 1.6 | 0.7 | 1.7 | 0.9 | 0.9 | 0.9 |
| Total | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| Number of men | 426 | 262 | 417 | 424 | 913 | 357 | 436 | 409 | 286 | 2 518 | 1 412 | 3 930 |
| Eligible men response rate (EMRR)^b | 55.6 | 73.3 | 89.7 | 85.1 | 76.9 | 92.4 | 79.4 | 84.6 | 80.4 | 74.4 | 88.1 | 79.3 |
| Overall response rate (ORR)^c | 42.2 | 61.0 | 79.6 | 79.3 | 62.9 | 86.2 | 58.0 | 75.9 | 76.9 | 60.5 | 80.9 | 67.8 |

^a Using the number of households falling into specific response categories, the household response rate (HRR) is calculated as:

$$\frac{C}{C + HP + P + R + DNF}$$

^b Using the number of eligible women falling into specific response categories, the eligible woman response rate (EWRR) is calculated as:

$$\frac{EMC}{EMC + EMNH + EMP + EMR + EMPC}$$

^c The overall response rate (ORR) is calculated as:

$$ORR = HRR * EMRR$$

Table A.6 presents the results for the Adult Health survey. Of the 5 099 households selected for the adult survey, 75 percent were completed. This is also lower than the 95 percent completed in the 1998 SADHS. Again, invalid households accounted for part of the poor response together with the 11.3 percent who refused. The response rate for households was 84 percent once the appropriate exclusions were made. At the individual level, 84 percent of eligible adults were included in the survey, although not all of them had all the measurements taken. There were 7 percent who refused and a further 5 percent of the respondents were not at home. The overall response rate for the adult survey was 71 percent, lower than the 90 percent in the 1998 SADHS. The overall response rate was substantially lower in the Western Cape (49 percent) where a large proportion of adults refused (24 percent). The response rate was higher in the non-urban area (81 percent) than the urban area (64 percent).

Table A.6 Results of the household and individual interviews by residence and province for adult health survey

Percent distribution of households and eligible adults in the sample by results of the household and individual interviews, and households, eligible adults and overall response rates, according to province and residence, South Africa 2003

| Result | Province | | | | | | | | | Residence | | Total |
|---|--------------|--------------|---------------|------------|---------------|------------|---------|------------|---------|-----------|-----------|-------|
| | Western Cape | Eastern Cape | Northern Cape | Free State | KwaZulu-Natal | North West | Gauteng | Mpumalanga | Limpopo | Urban | Non-urban | |
| Selected households | | | | | | | | | | | | |
| Completed (C) | 66.5 | 65.0 | 83.0 | 83.9 | 74.2 | 84.6 | 65.4 | 78.7 | 75.9 | 73.7 | 76.8 | 75.0 |
| No competent respondent at home (HP) | 4.6 | 3.8 | 1.0 | 1.7 | 5.6 | 0.4 | 1.8 | 3.0 | 1.6 | 3.6 | 1.8 | 2.9 |
| Postponed | 1.1 | 0.0 | 0.2 | 0.2 | 0.1 | 0.2 | 0.9 | 0.0 | 0.0 | 0.4 | 0.1 | 0.3 |
| Refused (R) | 17.6 | 11.1 | 9.4 | 7.6 | 12.1 | 7.9 | 22.3 | 7.2 | 3.9 | 14.2 | 7.0 | 11.3 |
| Dwelling not found (DNF) | 0.0 | 0.0 | 0.0 | 0.0 | 1.1 | 0.2 | 1.2 | 0.0 | 0.0 | 0.6 | 0.0 | 0.4 |
| Household absent (HA) | 0.7 | 4.7 | 2.7 | 1.0 | 1.0 | 3.0 | 3.2 | 2.6 | 5.1 | 2.0 | 3.2 | 2.5 |
| Dwelling vacant | 8.3 | 12.5 | 2.9 | 4.3 | 2.4 | 2.0 | 3.7 | 4.2 | 11.2 | 4.0 | 7.4 | 5.4 |
| Dwelling destroyed (DD) | 0.6 | 2.8 | 0.6 | 0.8 | 2.1 | 1.6 | 1.6 | 4.0 | 2.2 | 1.0 | 3.0 | 1.8 |
| Other (O) | 0.6 | 0.2 | 0.2 | 0.6 | 1.4 | 0.2 | 0.0 | 0.4 | 0.0 | 0.5 | 0.5 | 0.5 |
| Total percent | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| Number | 540 | 506 | 511 | 515 | 947 | 505 | 566 | 502 | 507 | 2 999 | 2 100 | 5 099 |
| Household response rate (HRR)^a | | | | | | | | | | | | |
| | 74.0 | 81.4 | 88.7 | 89.8 | 79.7 | 90.7 | 71.4 | 88.6 | 93.2 | 79.7 | 89.5 | 83.5 |
| Eligible adults | | | | | | | | | | | | |
| Completed (EAC) | 66.3 | 85.9 | 89.3 | 90.9 | 81.0 | 89.7 | 80.6 | 91.9 | 88.0 | 80.5 | 90.3 | 84.4 |
| Not at home (EANH) | 6.6 | 4.5 | 3.2 | 3.8 | 9.8 | 1.3 | 6.3 | 1.5 | 4.2 | 7.1 | 2.2 | 5.2 |
| Postponed (EAP) | 0.0 | 0.0 | 0.1 | 0.2 | 0.0 | 0.0 | 0.1 | 0.0 | 0.0 | 0.1 | 0.0 | 0.0 |
| Refused (EAR) | 24.3 | 4.8 | 4.8 | 2.7 | 7.1 | 4.0 | 9.0 | 4.1 | 4.7 | 9.3 | 4.3 | 7.3 |
| Partly completed (EAPC) | 0.8 | 0.3 | 1.1 | 0.4 | 0.3 | 0.7 | 1.3 | 0.3 | 0.7 | 0.6 | 0.6 | 0.6 |
| Incapacitated (EAI) | 0.8 | 4.0 | 1.2 | 1.6 | 1.0 | 4.0 | 1.6 | 2.1 | 1.7 | 1.6 | 2.2 | 1.8 |
| Other | 1.2 | 0.5 | 0.3 | 0.5 | 0.7 | 0.2 | 1.0 | 0.1 | 0.7 | 0.7 | 0.4 | 0.6 |
| Total percent | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| Number | 977 | 750 | 1 023 | 1 032 | 2 024 | 942 | 995 | 951 | 920 | 5 765 | 3 849 | 9 614 |
| Eligible adults response rate (EARR)^b | | | | | | | | | | | | |
| | 66.3 | 85.9 | 89.3 | 90.9 | 81.0 | 89.7 | 80.6 | 91.9 | 88.0 | 80.5 | 90.3 | 84.4 |
| Overall response rate (ORR)^c | | | | | | | | | | | | |
| | 49.1 | 69.9 | 79.3 | 81.6 | 64.6 | 81.3 | 57.6 | 81.4 | 82.1 | 64.1 | 80.7 | 70.5 |

^a Using the number of households falling into specific response categories, the household response rate (HRR) is calculated as:

$$\frac{C}{C + HP + P + R + DNF}$$

^b Using the number of eligible women falling into specific response categories, the eligible woman response rate (EWRR) is calculated as:

$$\frac{EWC}{EAC + EANH + EAP + EAR + EAPC}$$

^c The overall response rate (ORR) is calculated as:

$$ORR = HRR * EARR$$

A8 Fieldwork

The questionnaires were pre-tested in a “behind-the-glass” setting and revisions were made as necessary. The questionnaires were then translated into all eleven official languages in South Africa. The protocol was reviewed and approved by the MRC ethics committee.

It is generally accepted protocol for respondents to be interviewed by interviewers of the same gender, age range and ethnic group, especially when sensitive questions are part of the survey. Consequently, both male and female field staff trainees were recruited from various provinces and population groups. In September 15-30 2003, the group responsible for the field work (Africa Strategic Research Corporation) arranged for training the fieldworkers with support from ORC Macro, HSRC, MRC and DOH. The field teams were given an overview of the content of the questionnaires and the objectives and design of the survey, as well as brief training on editing questionnaires. Training of the 125 candidates for field staff positions consisted of plenary sessions with breakout sessions into smaller groups for practice on anthropometric measurements. There was also intensive training in anthropometric measurements, taking blood pressure and measuring lung capacity. One day towards the end of the training course was set aside for field practice interviewing.

Unfortunately, AFRC was not able to recruit any white interviewers in time for the first training. Moreover, in the first training, it was apparent that there were too many male interviewers in some provinces and not enough women. For these two reasons, AFRC organized a second training for an additional 49 trainees during the week of October 6-11. Most of the same trainers covered the same topics in the second training. Despite the smaller size of the class, it was challenging to try to cover all the material in six days.

In each province there was a provincial manager who was an overall supervisor of the fieldwork operations. However, the team structure was variable during the fieldwork. During the set-up phase of the survey, support was provided by DOH, HSRC, MRC and ORC Macro. The HSRC conducted quality control visits during the fieldwork as well as periodic visits by the DOH. Fieldwork commenced in October 2003 and was completed in August 2004.

A9 Data Processing

Preliminary processing of the questionnaires began in November, 2003 so as to provide some feedback to field teams; however, due to delays in arranging for tenders, funding and contracts with HSRC, formal data processing did not commence until February 2004. Completed questionnaires were returned periodically from the field to ASRC, which in turn submitted them to HSRC. The processing operation consisted of office editing, coding of open-ended questions, initial data entry and subsequent re-entry of all questionnaires (100 percent verification) to ensure correct data capture, and finally editing inconsistencies found by the computer program. The SADHS data entry and editing programs were written using CSPro by staff from ORC Macro. Data editing and cleaning were completed in October 2004.

APPENDIX B

ESTIMATES OF SAMPLING ERRORS

B1 Sampling Error

The estimates from a sample survey are affected by two types of errors: (1) nonsampling errors, and (2) sampling errors. Nonsampling errors are the results of mistakes made in implementing data collection and data processing, such as failure to locate and interview the correct household, misunderstanding of the questions on the part of either the interviewer or the respondent, and data entry errors. Although efforts were made during the implementation of the 2003 South Africa Demographic and Health Survey (SADHS) to minimize this type of error, nonsampling errors are impossible to avoid and difficult to evaluate statistically.

Sampling errors, on the other hand, can be evaluated statistically. The sample of respondents selected in the 2003 SADHS is only one of many samples that could have been selected from the same population, using the same design and expected size. Each of these samples would yield results that differ somewhat from the results of the actual sample selected. Sampling errors are a measure of the variability between all possible samples. Although the degree of variability is not known exactly, it can be estimated from the survey results.

A sampling error is usually measured in terms of the *standard error* for a particular statistic (mean, percentage, etc.), which is the square root of the variance. The standard error can be used to calculate confidence intervals within which the true value for the population can reasonably be assumed to fall. For example, for any given statistic calculated from a sample survey, the value of that statistic will fall within a range of plus or minus two times the standard error of that statistic in 95 percent of all possible samples of identical size and design.

If the sample of respondents had been selected as a simple random sample, it would have been possible to use straightforward formulas for calculating sampling errors. However, the SADHS sample is the result of a multi-stage stratified design, and, consequently, it was necessary to use more complex formulae. The computer software used to calculate sampling errors for the 2003 SADHS is the ISSA Sampling Error Module. This module used the Taylor linearization method of variance estimation for survey estimates that are means or proportions. The Jackknife repeated replication method is used for variance estimation of more complex statistics such as fertility and mortality rates.

The Taylor linearization method treats any percentage or average as a ratio estimate, $r = y/x$, where y represents the total sample value for variable y , and x represents the total number of cases in the group or subgroup under consideration. The variance of r is computed using the formula given below, with the standard error being the square root of the variance:

$$SE^2(r) = var(r) = \frac{1-f}{x^2} \sum_{h=1}^H \left[\frac{m_h}{m_h - 1} \left(\sum_{i=1}^{m_h} z_{hi}^2 - \frac{z_h^2}{m_h} \right) \right]$$

in which

$$z_{hi} = y_{hi} - rx_{hi}, \text{ and } z_h = y_h - rx_h$$

where h represents the stratum which varies from 1 to H ,
 m_h is the total number of clusters selected in the h^{th} stratum,
 y_{hi} is the sum of the weighted values of variable y in the i^{th} cluster in the h^{th} stratum,
 x_{hi} is the sum of the weighted number of cases in the i^{th} cluster in the h^{th} stratum, and
 f is the overall sampling fraction, which is so small that it is ignored.

The Jackknife repeated replication method derives estimates of complex rates from each of several replications of the parent sample, and calculates standard errors for these estimates using simple formulae. Each replication considers *all but one* cluster in the calculation of the estimates. Pseudo-independent

replications are thus created. In the SADHS, there were 621 non-empty clusters. Hence, 621 replications were created. The variance of a rate r is calculated as follows:

$$SE^2(r) = var(r) = \frac{1}{k(k-1)} \sum_{i=1}^k (r_i - r)^2$$

in which

$$r_i = kr - (k-1)r_{(i)}$$

where r is the estimate computed from the full sample of 621 clusters,
 $r_{(i)}$ is the estimate computed from the reduced sample of 620 clusters (i^{th} cluster excluded),
 k is the total number of clusters.

In addition to the standard error, ISSA computes the design effect (DEFT) for each estimate, which is defined as the ratio between the standard error using the given sample design and the standard error that would result if a simple random sample had been used. A DEFT value of 1.0 indicates that the sample design is as efficient as a simple random sample, while a value greater than 1.0 indicates the increase in the sampling error due to the use of a more complex and less statistically efficient design. ISSA also computes the relative error and confidence limits for the estimates. In the case of indicators from the adult health module, SAS has been used to calculate these parameters.

Sampling errors for the 2003 SADHS are calculated for a few selected variables considered to be of primary interest. The results are presented in this appendix for the country as a whole and for urban and rural areas and for each province. For each variable, the type of statistic (mean, proportion, or rate) and the base population are given in Table B.1. Tables B.2 to B.13 present the value of the statistic (R), its standard error (SE), the number of unweighted (N) and weighted (WN) cases, the design effect (DEFT), the relative standard error (SE/R), and the 95 percent confidence limits ($R \pm 2SE$), for each variable. The DEFT is considered undefined when the standard error considering simple random sample is zero (when the estimate is close to 0 or 1).

The confidence interval (e.g., as calculated for *had an HIV test and received results in the 12 months preceding the survey*) can be interpreted as follows: the overall average from the national sample is 8.5 percent for women and its standard error is 0.005. Therefore, to obtain the 95 percent confidence limits, one adds and subtracts twice the standard error to the sample estimate, i.e., $0.085 \pm 2 \times 0.005$. There is a high probability (95 percent) that the *true* proportion of women age 15-49 in South Africa who had an HIV test and received the results in the 12 months prior to the survey is between 7.5 and 9.5 percent.

The relative standard errors (SE/R) for women at the national level range between 0.5 percent and 12.5 percent; the highest relative standard errors are for estimates of very low values (e.g., *Had two or more sexual partners in last 12 months*). In general, the relative standard error for most estimates for the country as a whole is small, except for estimates of very small proportions. Sampling errors are higher for subpopulations, e.g., urban and rural, than they are for the national population as a whole.

For the total sample, the value of the design effect (DEFT) for women at the national level, averaged over all variables is 1.36, which means that, due to multi-stage clustering of the sample, the average standard error is increased by a factor of 1.36 over that in an equivalent simple random sample.

Table B.1 List of selected variables for sampling errors, South Africa 2003

| Variable | Type | Base population |
|---|------------|--|
| WOMEN QUESTIONNAIRE | | |
| Urban residence | Proportion | All women 15-49 |
| No education | Proportion | All women 15-49 |
| Reached Grade 8 or higher | Proportion | All women 15-49 |
| Never married (in union) | Proportion | All women 15-49 |
| Currently married/living together (in union) | Proportion | All women 15-49 |
| Married before age 20 | Proportion | All women 15-49 |
| Had sex before age 18 | Proportion | All women 15-49 |
| Children ever born | Mean | All women 15-49 |
| Children ever born to women over 40 | Mean | All women 40-49 |
| Children surviving | Mean | All women 15-49 |
| Ever used any contraceptive method | Proportion | Sexually active women 15-49 |
| Currently using any contraceptive method | Proportion | Sexually active women 15-49 |
| Currently using a modern contraceptive method | Proportion | Sexually active women 15-49 |
| Currently using female sterilization | Proportion | Sexually active women 15-49 |
| Currently using pill | Proportion | Sexually active women 15-49 |
| Currently using 2 monthly injectables | Proportion | Sexually active women 15-49 |
| Currently using 3 monthly injectables | Proportion | Sexually active women 15-49 |
| Using a public sector source | Proportion | Current users of modern method |
| Want no more children | Proportion | Currently married women 15-49 |
| Want to delay at least 2 years | Proportion | Currently married women 15-49 |
| Ideal number of children | Mean | All women 15-49 |
| Mothers received tetanus injection | Proportion | Births in last 5 years |
| Mothers received medical care at birth | Proportion | Births in last 5 years |
| Had diarrhoea in the last 2 weeks | Proportion | Children under 5 |
| Having health card | Proportion | Children 12-23 months |
| Fully immunised | Proportion | Children 12-23 months |
| Had two or more sexual partners in last 12 months | Proportion | Women 15-49 who had sex in the last 12 months |
| Had higher risk sex (with a non-marital, non-cohabiting partner) in the last 12 months | Proportion | Women 15-49 who had sex in the last 12 months |
| Condom use at last higher risk sex-all | Proportion | Women 15-49 having higher risk sex in last 12 months |
| Condom use at last higher risk sex-youth | Proportion | All women/ having higher risk sex in last 12 months |
| Abstinence among youth (never had sex) | Proportion | Never-married women |
| Sexual activity in last 12 months among never-married youth | Proportion | Never-married women |
| Had HIV test and received results in last 12 months | Proportion | All women 15-49 |
| Accepting attitudes towards people with HIV (would care for a relative with AIDS, would buy vegetables from an HIV-positive vendor, believes a teacher with HIV should continue teaching and would not want to keep secret if a family member got infected) | Proportion | All women 15-49 who have heard of HIV/AIDS |
| Total fertility rate (3 years) | Rate | Woman-years of exposure |
| Neonatal mortality rate (10 years) | Rate | Children exposed to death |
| Postneonatal mortality rate (10 years) | Rate | Children exposed to death |
| Infant mortality rate (10 years) | Rate | Children exposed to death |
| Child mortality rate (10 years) | Rate | Children exposed to death |
| Under five mortality rate (10 years) | Rate | Children exposed to death |
| MEN QUESTIONNAIRE | | |
| Urban residence | Proportion | Men 15-59 |
| No education | Proportion | Men 15-59 |
| Reached Grade 8 or higher | Proportion | Men 15-59 |
| Never married (in union) | Proportion | Men 15-59 |
| Currently married/living together (in union) | Proportion | Men 15-59 |
| Had sex before age 18 | Proportion | Men 15-59 |
| Had two or more sexual partners in last 12 months | Proportion | Men 15-49 who had sex in the last 12 months |
| Had higher risk sex (with a non-marital, non-cohabiting partner) in the last 12 months | Proportion | Men 15-49 who had sex in the last 12 months |
| Condom use at last higher risk sex-all | Proportion | Men 15-49 having higher risk sex in last 12 months |
| Condom use at last higher risk sex-youth | Proportion | Men 15-24 having higher risk sex in last 12 months |
| Abstinence among youth (never had sex) | Proportion | Men 15-24 |
| Sexual activity in last 12 months among never-married youth | Proportion | Men 15-24 |
| Ever had HIV test and received results | Proportion | All men 15-49 |
| Circumcision | Proportion | All men 15-49 |

| Variable | Type | Base population |
|--|------------|---------------------------|
| ADULT QUESTIONNAIRE | | |
| Systolic Blood Pressure (men) | Mean | Adult men over 15 years |
| Systolic Blood Pressure (women) | Mean | Adult women over 15 years |
| Diastolic Blood Pressure (men) | Mean | Adult men over 15 years |
| Diastolic Blood Pressure (women) | Mean | Adult women over 15 years |
| Pulse (men) | Mean | Adult men over 15 years |
| Pulse (women) | Mean | Adult women over 15 years |
| Hypertension (men) | Proportion | Adult men over 15 years |
| Hypertension (women) | Proportion | Adult women over 15 years |
| Airflow Limitation (men) | Proportion | Adult men over 15 years |
| Airflow Limitation (women) | Proportion | Adult women over 15 years |
| Chronic Bronchitis (men) | Proportion | Adult men over 15 years |
| Chronic Bronchitis (women) | Proportion | Adult women over 15 years |
| Abnormal Peak Flow (men) | Proportion | Adult men over 15 years |
| Abnormal Peak Flow (women) | Proportion | Adult women over 15 years |
| Currently smoking (occasionally/daily) (men) | Proportion | Adult men over 15 years |
| Currently smoking (occasionally/daily) (women) | Proportion | Adult women over 15 years |
| Abstainers - alcohol intake in last 12 months (men) | Proportion | Adult men over 15 years |
| Abstainers - alcohol intake in last 12 months (women) | Proportion | Adult women over 15 years |
| Responsible - alcohol intake in last 12 months (men) | Proportion | Adult men over 15 years |
| Responsible - alcohol intake in last 12 months (women) | Proportion | Adult women over 15 years |
| Hazardous - alcohol intake in last 12 months (men) | Proportion | Adult men over 15 years |
| Hazardous - alcohol intake in last 12 months (women) | Proportion | Adult women over 15 years |
| Harmful - alcohol intake in last 12 months (men) | Proportion | Adult men over 15 years |
| Harmful - alcohol intake in last 12 months (women) | Proportion | Adult women over 15 years |
| Adequate nutrient (men) | Proportion | Adult men over 15 years |
| Adequate nutrient (women) | Proportion | Adult women over 15 years |
| Weight (men) | Mean | Adult men over 15 years |
| Weight (women) | Mean | Adult women over 15 years |
| Height (men) | Mean | Adult men over 15 years |
| Height (women) | Mean | Adult women over 15 years |
| Waist/hip ratio (men) | Mean | Adult men over 15 years |
| Waist/hip ratio (women) | Mean | Adult women over 15 years |
| Hip circumference (men) | Mean | Adult men over 15 years |
| Hip circumference (women) | Mean | Adult women over 15 years |
| Body Mass Index (men) | Mean | Adult men over 15 years |
| Body Mass Index (women) | Mean | Adult women over 15 years |
| Overweight (men) | Proportion | Adult men over 15 years |
| Overweight (women) | Proportion | Adult women over 15 years |
| Obesity (men) | Proportion | Adult men over 15 years |
| Obesity (women) | Proportion | Adult women over 15 years |
| Nutrient intake (men) | Proportion | Adult men over 15 years |
| Nutrient intake (women) | Proportion | Adult women over 15 years |
| Physically inactive (men) | Proportion | Adult men over 15 years |
| Physically inactive (women) | Proportion | Adult women over 15 years |
| Total MET-minutes/wk (men) | Mean | Adult men over 15 years |
| Total MET-minutes/wk (women) | Mean | Adult women over 15 years |

Table B2 Sampling errors: Total sample, South Africa 2003

| Variable | Number of cases | | | | Design effect (DEFT) | Relative error (SE/R) | Confidence intervals | |
|---|-----------------|---------------------|----------------|---------------|----------------------|-----------------------|----------------------|-------------------|
| | Value (R) | Standard error (SE) | Unweighted (N) | Weighted (WN) | | | Value- SE (R-2SE) | Value+ 2SE (R+2E) |
| WOMEN QUESTIONNAIRE | | | | | | | | |
| Urban residence | 0.664 | 0.010 | 7 041 | 7 041 | 1.705 | 0.014 | 0.645 | 0.684 |
| No education | 0.043 | 0.004 | 7 041 | 7 041 | 1.465 | 0.083 | 0.036 | 0.050 |
| Reached Grade 8 or higher | 0.792 | 0.007 | 7 041 | 7 041 | 1.506 | 0.009 | 0.778 | 0.807 |
| Never married (in union) | 0.543 | 0.008 | 7 041 | 7 041 | 1.321 | 0.014 | 0.527 | 0.558 |
| Currently married (in union) | 0.377 | 0.008 | 7 041 | 7 041 | 1.321 | 0.020 | 0.362 | 0.393 |
| Had first sex before age 18 | 0.418 | 0.009 | 5 591 | 5 646 | 1.387 | 0.022 | 0.400 | 0.436 |
| Married before age 20 | 0.200 | 0.008 | 5 591 | 5 646 | 1.483 | 0.040 | 0.184 | 0.216 |
| Children ever born | 1.610 | 0.026 | 7 041 | 7 041 | 1.264 | 0.016 | 1.558 | 1.663 |
| Children surviving | 1.522 | 0.025 | 7 041 | 7 041 | 1.281 | 0.016 | 1.472 | 1.572 |
| Children ever born to women 40-49 | 3.276 | 0.071 | 1 472 | 1 480 | 1.360 | 0.022 | 3.134 | 3.418 |
| Knowing any contraceptive method | 0.964 | 0.004 | 3 183 | 3 256 | 1.354 | 0.005 | 0.955 | 0.973 |
| Knowing any modern contraceptive method | 0.964 | 0.004 | 3 183 | 3 256 | 1.354 | 0.005 | 0.955 | 0.973 |
| Ever used any contraceptive method | 0.853 | 0.008 | 3 183 | 3 256 | 1.235 | 0.009 | 0.837 | 0.868 |
| Currently using any contraceptive method | 0.647 | 0.010 | 3 183 | 3 256 | 1.167 | 0.015 | 0.627 | 0.666 |
| Currently using a modern method | 0.647 | 0.010 | 3 183 | 3 256 | 1.167 | 0.015 | 0.627 | 0.666 |
| Currently using pill | 0.122 | 0.008 | 3 183 | 3 256 | 1.304 | 0.062 | 0.107 | 0.137 |
| Currently using 2 monthly injectables | 0.139 | 0.008 | 3 183 | 3 256 | 1.377 | 0.061 | 0.123 | 0.156 |
| Currently using 3 monthly injectables | 0.191 | 0.009 | 3 183 | 3 256 | 1.244 | 0.045 | 0.173 | 0.208 |
| Currently using female sterilization | 0.101 | 0.008 | 3 183 | 3 256 | 1.407 | 0.074 | 0.086 | 0.116 |
| Obtained method from public sector source | 0.826 | 0.012 | 3 456 | 3 527 | 1.887 | 0.015 | 0.802 | 0.850 |
| Want no more children | 0.607 | 0.014 | 2 770 | 2 658 | 1.546 | 0.024 | 0.579 | 0.636 |
| Want to delay birth at least 2 years | 0.084 | 0.006 | 2 770 | 2 658 | 1.116 | 0.070 | 0.072 | 0.095 |
| Ideal number of children | 2.484 | 0.022 | 6 924 | 6 857 | 1.381 | 0.009 | 2.440 | 2.527 |
| Mothers received tetanus injection for last birth | 0.450 | 0.017 | 1 953 | 1 859 | 1.443 | 0.037 | 0.417 | 0.483 |
| Mothers received medical care at delivery | 0.912 | 0.010 | 2 221 | 2 120 | 1.377 | 0.011 | 0.892 | 0.932 |
| Child had diarrhea in the last 2 weeks | 0.079 | 0.007 | 2 121 | 2 016 | 1.190 | 0.092 | 0.065 | 0.094 |
| Treated with ORS packets | 0.376 | 0.047 | 204 | 159 | 1.218 | 0.125 | 0.282 | 0.471 |
| Consulted medical personnel | 0.557 | 0.043 | 204 | 159 | 1.085 | 0.078 | 0.470 | 0.644 |
| Child having health card, seen | 0.711 | 0.030 | 449 | 408 | 1.289 | 0.042 | 0.651 | 0.770 |
| Child received BCG vaccination | 0.812 | 0.027 | 449 | 408 | 1.334 | 0.033 | 0.758 | 0.865 |
| Child received DPT vaccination (3 doses) | 0.658 | 0.032 | 449 | 408 | 1.313 | 0.048 | 0.595 | 0.721 |
| Child received polio vaccination (3 doses) | 0.643 | 0.032 | 449 | 408 | 1.313 | 0.050 | 0.579 | 0.707 |
| Child received measles vaccination | 0.620 | 0.032 | 449 | 408 | 1.320 | 0.052 | 0.555 | 0.685 |
| Child fully immunized | 0.522 | 0.034 | 449 | 408 | 1.364 | 0.066 | 0.453 | 0.590 |
| Had two or more sexual partners in last 12 months | 0.036 | 0.004 | 4 815 | 4 891 | 1.301 | 0.096 | 0.029 | 0.044 |
| Had higher risk sex in the last 12 months | 0.576 | 0.011 | 4 827 | 4 904 | 1.478 | 0.018 | 0.555 | 0.597 |
| Condom use at last higher risk sex-all | 0.462 | 0.013 | 2 539 | 2 823 | 1.270 | 0.027 | 0.436 | 0.487 |
| Condom use at last higher risk sex-youth | 0.517 | 0.020 | 1 195 | 1 260 | 1.417 | 0.040 | 0.476 | 0.558 |
| Abstinence among youth (never had sex) | 0.416 | 0.014 | 2 341 | 2 319 | 1.340 | 0.033 | 0.388 | 0.443 |
| Sexual activity in last 12 months | 0.487 | 0.014 | 2 341 | 2 319 | 1.352 | 0.029 | 0.459 | 0.515 |
| Had HIV test & received results in last 12 months | 0.085 | 0.005 | 7 041 | 7 041 | 1.542 | 0.060 | 0.075 | 0.095 |
| Accepting attitudes towards people with HIV | 0.383 | 0.009 | 6 585 | 6 580 | 1.527 | 0.024 | 0.365 | 0.402 |
| Total fertility rate (last 3 years) | 2.087 | 0.091 | na | 21 185 | 1.562 | 0.044 | 1.905 | 2.269 |
| Neonatal mortality (last 5 years) | 14.972 | 3.705 | 2 246 | 2 140 | 1.425 | 0.247 | 7.562 | 22.382 |
| Post-neonatal mortality (last 5 years) | 28.067 | 6.054 | 2 251 | 2 144 | 1.374 | 0.216 | 15.960 | 40.174 |
| Infant mortality (last 5 years) | 43.039 | 6.807 | 2 251 | 2 144 | 1.350 | 0.158 | 29.424 | 56.653 |
| Child mortality (last 5 years) | 15.948 | 3.148 | 2 257 | 2 155 | 1.196 | 0.197 | 9.651 | 22.245 |
| Under-five mortality (last 5 years) | 58.300 | 7.547 | 2 262 | 2 159 | 1.337 | 0.129 | 43.206 | 73.395 |
| MEN QUESTIONNAIRE | | | | | | | | |
| Urban residence | 0.690 | 0.011 | 3 118 | 3 118 | 1.360 | 0.016 | 0.667 | 0.712 |
| No education | 0.045 | 0.005 | 3 118 | 3 118 | 1.349 | 0.111 | 0.035 | 0.055 |
| Reached Grade 8 or higher | 0.780 | 0.011 | 3 118 | 3 118 | 1.426 | 0.014 | 0.759 | 0.801 |
| Never married (in union) | 0.557 | 0.013 | 3 118 | 3 118 | 1.486 | 0.024 | 0.531 | 0.584 |
| Currently married (in union) | 0.390 | 0.013 | 3 118 | 3 118 | 1.472 | 0.033 | 0.364 | 0.415 |
| Had sex before 18 | 0.453 | 0.014 | 2 469 | 2 515 | 1.356 | 0.030 | 0.426 | 0.480 |
| Had two or more sexual partners in last 12 months | 0.199 | 0.013 | 2 069 | 2 125 | 1.458 | 0.064 | 0.173 | 0.225 |
| Had higher risk sex in the last 12 months | 0.654 | 0.015 | 2 076 | 2 133 | 1.415 | 0.023 | 0.624 | 0.683 |
| Condom use at last higher risk sex-all | 0.689 | 0.016 | 1 326 | 1 395 | 1.294 | 0.024 | 0.656 | 0.722 |
| Condom use at last higher risk sex-youth | 0.715 | 0.026 | 611 | 609 | 1.407 | 0.036 | 0.664 | 0.767 |
| Abstinence among youth (never had sex) | 0.381 | 0.019 | 1 097 | 1 053 | 1.271 | 0.049 | 0.344 | 0.418 |
| Sexual activity in last 12 months | 0.537 | 0.018 | 1 097 | 1 053 | 1.222 | 0.034 | 0.500 | 0.574 |
| Ever had HIV test and received results | 0.201 | 0.011 | 2 760 | 2 780 | 1.446 | 0.055 | 0.179 | 0.223 |
| Circumcision | 0.447 | 0.015 | 3115 | 3113 | 1.769 | 0.034 | 0.417 | 0.478 |

| Variable | Number of cases | | | | Design effect (DEFT) | Relative error (SE/R) | Confidence intervals | |
|---|-----------------|---------------------|----------------|---------------|----------------------|-----------------------|----------------------|-------------------|
| | Value (R) | Standard error (SE) | Unweighted (N) | Weighted (WN) | | | Value- SE (R-2SE) | Value+ 2SE (R+2E) |
| ADULT QUESTIONNAIRE | | | | | | | | |
| Systolic Blood Pressure (men) | 123.379 | 0.460 | 3 258 | 3 334 | 1.160 | 0.004 | 122.476 | 124.282 |
| Systolic Blood Pressure (women) | 121.332 | 0.399 | 4 646 | 4 536 | 1.079 | 0.003 | 120.549 | 122.116 |
| Diastolic Blood Pressure (men) | 73.170 | 0.361 | 3 267 | 3 347 | 1.227 | 0.005 | 72.462 | 73.879 |
| Diastolic Blood Pressure (women) | 74.876 | 0.235 | 4 667 | 4 568 | 0.992 | 0.003 | 74.415 | 75.337 |
| Pulse (men) | 72.089 | 0.329 | 3 265 | 3 345 | 1.215 | 0.005 | 71.443 | 72.736 |
| Pulse (women) | 76.915 | 0.259 | 4 665 | 4 563 | 1.187 | 0.003 | 76.406 | 77.425 |
| Hypertensive (men) | 0.087 | 0.009 | 3 328 | 3 422 | 1.364 | 0.101 | 0.070 | 0.104 |
| Hypertensive (women) | 0.135 | 0.006 | 4 787 | 4 693 | 0.983 | 0.045 | 0.123 | 0.147 |
| Airflow Limitation (men) | 0.072 | 0.006 | 3 328 | 3 422 | 1.028 | 0.078 | 0.061 | 0.083 |
| Airflow Limitation (women) | 0.081 | 0.005 | 4 787 | 4 693 | 1.015 | 0.060 | 0.071 | 0.090 |
| Chronic Bronchitis (men) | 0.023 | 0.003 | 3 328 | 3 422 | 1.017 | 0.144 | 0.017 | 0.030 |
| Chronic Bronchitis (women) | 0.020 | 0.002 | 4 787 | 4 693 | 1.077 | 0.124 | 0.015 | 0.024 |
| Abnormal Peak Flow (men) | 0.079 | 0.006 | 3 328 | 3 422 | 1.041 | 0.081 | 0.067 | 0.092 |
| Abnormal Peak Flow (women) | 0.109 | 0.007 | 4 787 | 4 693 | 1.198 | 0.066 | 0.095 | 0.123 |
| Currently smoking (occasionally of daily) (men) | 0.351 | 0.012 | 3 328 | 3 422 | 1.184 | 0.035 | 0.327 | 0.375 |
| Currently smoking (occasionally of daily) (women) | 0.102 | 0.007 | 4 787 | 4 693 | 1.277 | 0.069 | 0.088 | 0.116 |
| Abstainers - alcohol intake in last 12 months (men) | 0.609 | 0.014 | 3 328 | 3 422 | 1.274 | 0.022 | 0.582 | 0.636 |
| Abstainers - alcohol intake in last 12 months (women) | 0.845 | 0.009 | 4 787 | 4 693 | 1.365 | 0.011 | 0.827 | 0.863 |
| Responsible - alcohol intake in last 12 months (men) | 0.310 | 0.013 | 3 328 | 3 422 | 1.259 | 0.041 | 0.285 | 0.335 |
| Responsible - alcohol intake in last 12 months (women) | 0.122 | 0.008 | 4 787 | 4 693 | 1.245 | 0.063 | 0.107 | 0.137 |
| Hazardous - alcohol intake in last 12 months (men) | 0.024 | 0.004 | 3 328 | 3 422 | 1.045 | 0.155 | 0.017 | 0.031 |
| Hazardous - alcohol intake in last 12 months (women) | 0.010 | 0.002 | 4 787 | 4 693 | 1.074 | 0.184 | 0.006 | 0.013 |
| Harmful drinkers - alcohol intake in last 12 months (men) | 0.024 | 0.003 | 3 328 | 3 422 | 1.008 | 0.139 | 0.018 | 0.031 |
| Harmful drinkers - alcohol intake in last 12 months (women) | 0.011 | 0.002 | 4 787 | 4 693 | 1.027 | 0.170 | 0.007 | 0.014 |
| Adequate nutrient (men) | 0.331 | 0.014 | 3 293 | 3 379 | 1.300 | 0.042 | 0.303 | 0.358 |
| Adequate nutrient (women) | 0.349 | 0.013 | 4 758 | 4 656 | 1.459 | 0.038 | 0.323 | 0.375 |
| Weight (men) | 65.774 | 0.419 | 3 200 | 3 256 | 1.296 | 0.006 | 64.950 | 66.597 |
| Weight (women) | 67.921 | 0.405 | 4 598 | 4 481 | 1.215 | 0.006 | 67.124 | 68.717 |
| Height (men) | 1.682 | 0.002 | 3 215 | 3 275 | 1.224 | 0.001 | 1.677 | 1.687 |
| Height (women) | 1.588 | 0.002 | 4 598 | 4 481 | 1.209 | 0.001 | 1.585 | 1.592 |
| Waist/hip ratio (men) | 0.929 | 0.023 | 3 196 | 3 248 | 1.259 | 0.025 | 0.884 | 0.973 |
| Waist/hip ratio (women) | 0.998 | 0.029 | 4 561 | 4 427 | 1.320 | 0.029 | 0.941 | 1.056 |
| Hip circumference (men) | 91.387 | 0.466 | 3 196 | 3 248 | 1.167 | 0.005 | 90.471 | 92.303 |
| Hip circumference (women) | 100.332 | 0.593 | 4 566 | 4 436 | 1.254 | 0.006 | 99.168 | 101.496 |
| Body Mass Index (men) | 23.321 | 0.153 | 3 215 | 3 275 | 1.323 | 0.007 | 23.021 | 23.621 |
| Body Mass Index (women) | 26.956 | 0.161 | 4 598 | 4 481 | 1.224 | 0.006 | 26.640 | 27.273 |
| Overweight (men) | 0.210 | 0.009 | 3 215 | 3 275 | 1.031 | 0.045 | 0.192 | 0.228 |
| Overweight (women) | 0.275 | 0.009 | 4 598 | 4 481 | 1.071 | 0.032 | 0.258 | 0.292 |
| Obesity (men) | 0.088 | 0.008 | 3 215 | 3 275 | 1.241 | 0.092 | 0.072 | 0.103 |
| Obesity (women) | 0.274 | 0.009 | 4 598 | 4 481 | 1.099 | 0.034 | 0.256 | 0.292 |
| Nutrient intake (men) | 22.932 | 0.397 | 3 293 | 3 379 | 1.419 | 0.017 | 22.152 | 23.712 |
| Nutrient intake (women) | 22.461 | 0.372 | 4 758 | 4 656 | 1.589 | 0.017 | 21.730 | 23.192 |
| Physically inactive or minimally active (men) | 0.765 | 0.010 | 2 840 | 2 809 | 1.011 | 0.013 | 0.746 | 0.785 |
| Physically inactive or minimally active (women) | 0.860 | 0.007 | 4 373 | 4 162 | 1.055 | 0.008 | 0.847 | 0.874 |
| Total mets (men) | 2 134.290 | 86.953 | 2 840 | 2 809 | 1.089 | 0.041 | 1 963.504 | 2 305.077 |
| Total mets (women) | 1 319.466 | 56.862 | 4 373 | 4 162 | 1.060 | 0.043 | 1 207.788 | 1 431.143 |

Table B2 Sampling errors: Urban sample, 2003

| Variable | Number of cases | | | | Design effect (DEFT) | Relative error (SE/R) | Confidence intervals | |
|---|-----------------|---------------------|----------------|---------------|----------------------|-----------------------|----------------------|-------------------|
| | Value (R) | Standard error (SE) | Unweighted (N) | Weighted (WN) | | | Value- SE (R-2SE) | Value+ 2SE (R+2E) |
| WOMEN QUESTIONNAIRE | | | | | | | | |
| Urban residence | 1.000 | 0.000 | 4 095 | 4 678 | na | 0.000 | 1.000 | 1.000 |
| No education | 0.037 | 0.005 | 4 095 | 4 678 | 1.628 | 0.130 | 0.027 | 0.047 |
| With secondary education or higher | 0.828 | 0.009 | 4 095 | 4 678 | 1.483 | 0.011 | 0.810 | 0.845 |
| Never married (in union) | 0.514 | 0.011 | 4 095 | 4 678 | 1.349 | 0.020 | 0.493 | 0.535 |
| Currently married (in union) | 0.396 | 0.010 | 4 095 | 4 678 | 1.351 | 0.026 | 0.375 | 0.417 |
| Had first sex before age 18 | 0.407 | 0.012 | 3 348 | 3 859 | 1.383 | 0.029 | 0.383 | 0.430 |
| Married before age 20 | 0.190 | 0.010 | 3 348 | 3 859 | 1.546 | 0.055 | 0.169 | 0.211 |
| Children ever born | 1.583 | 0.035 | 4 095 | 4 678 | 1.355 | 0.022 | 1.514 | 1.653 |
| Children surviving | 1.500 | 0.033 | 4 095 | 4 678 | 1.381 | 0.022 | 1.433 | 1.567 |
| Children ever born to women 40-49 | 3.041 | 0.089 | 928 | 1 054 | 1.461 | 0.029 | 2.864 | 3.219 |
| Knowing any contraceptive method | 0.963 | 0.006 | 1 962 | 2 299 | 1.366 | 0.006 | 0.951 | 0.974 |
| Knowing any modern contraceptive method | 0.963 | 0.006 | 1 962 | 2 299 | 1.366 | 0.006 | 0.951 | 0.974 |
| Ever used any contraceptive method | 0.862 | 0.010 | 1 962 | 2 299 | 1.236 | 0.011 | 0.843 | 0.881 |
| Currently using any contraceptive method | 0.658 | 0.012 | 1 962 | 2 299 | 1.153 | 0.019 | 0.634 | 0.683 |
| Currently using a modern method | 0.658 | 0.012 | 1 962 | 2 299 | 1.153 | 0.019 | 0.634 | 0.683 |
| Currently using pill | 0.130 | 0.010 | 1 962 | 2 299 | 1.306 | 0.076 | 0.110 | 0.150 |
| Currently using 2 monthly injectables | 0.130 | 0.011 | 1 962 | 2 299 | 1.454 | 0.085 | 0.108 | 0.153 |
| Currently using 3 monthly injectables | 0.180 | 0.011 | 1 962 | 2 299 | 1.228 | 0.059 | 0.158 | 0.201 |
| Currently using female sterilization | 0.120 | 0.010 | 1 962 | 2 299 | 1.397 | 0.085 | 0.100 | 0.141 |
| Obtained method from public sector source | 0.781 | 0.017 | 2 085 | 2 427 | 1.925 | 0.022 | 0.746 | 0.816 |
| Want no more children | 0.614 | 0.019 | 1 728 | 1 852 | 1.645 | 0.031 | 0.576 | 0.653 |
| Want to delay birth at least 2 years | 0.071 | 0.007 | 1 728 | 1 852 | 1.177 | 0.102 | 0.056 | 0.085 |
| Ideal number of children | 2.346 | 0.028 | 4 019 | 4 534 | 1.458 | 0.012 | 2.290 | 2.402 |
| Mothers received tetanus injection for last birth | 0.380 | 0.022 | 1 081 | 1 219 | 1.500 | 0.059 | 0.335 | 0.424 |
| Mothers received medical care at delivery | 0.944 | 0.009 | 1 226 | 1 383 | 1.211 | 0.009 | 0.927 | 0.962 |
| Child had diarrhea in the last 2 weeks | 0.075 | 0.010 | 1 177 | 1 322 | 1.234 | 0.129 | 0.056 | 0.095 |
| Treated with ORS packets | 0.411 | 0.065 | 119 | 99 | 1.221 | 0.159 | 0.280 | 0.541 |
| Consulted medical personnel | 0.603 | 0.057 | 119 | 99 | 1.073 | 0.095 | 0.488 | 0.717 |
| Child having health card, seen | 0.665 | 0.043 | 240 | 258 | 1.330 | 0.065 | 0.578 | 0.751 |
| Child received BCG vaccination | 0.781 | 0.039 | 240 | 258 | 1.355 | 0.050 | 0.703 | 0.858 |
| Child received DPT vaccination (3 doses) | 0.625 | 0.045 | 240 | 258 | 1.382 | 0.073 | 0.534 | 0.716 |
| Child received polio vaccination (3 doses) | 0.597 | 0.046 | 240 | 258 | 1.377 | 0.077 | 0.505 | 0.689 |
| Child received measles vaccination | 0.588 | 0.046 | 240 | 258 | 1.378 | 0.079 | 0.496 | 0.681 |
| Child fully immunized | 0.477 | 0.048 | 240 | 258 | 1.435 | 0.102 | 0.380 | 0.573 |
| Had two or more sexual partners in last 12 months | 0.034 | 0.004 | 2 815 | 3 299 | 1.257 | 0.126 | 0.026 | 0.043 |
| Had higher risk sex in the last 12 months | 0.571 | 0.014 | 2 821 | 3 305 | 1.516 | 0.025 | 0.542 | 0.599 |
| Condom use at last higher risk sex-all | 0.494 | 0.016 | 1 392 | 1 886 | 1.213 | 0.033 | 0.462 | 0.527 |
| Condom use at last higher risk sex-youth | 0.583 | 0.028 | 622 | 810 | 1.420 | 0.048 | 0.527 | 0.639 |
| Abstinence among youth (never had sex) | 0.402 | 0.020 | 1 249 | 1 428 | 1.427 | 0.049 | 0.362 | 0.442 |
| Sexual activity in last 12 months | 0.502 | 0.020 | 1 249 | 1 428 | 1.444 | 0.041 | 0.461 | 0.543 |
| Had HIV test & received results in last 12 months | 0.100 | 0.007 | 4 095 | 4 678 | 1.528 | 0.071 | 0.086 | 0.115 |
| Accepting attitudes towards people with HIV | 0.417 | 0.012 | 3 937 | 4 450 | 1.536 | 0.029 | 0.393 | 0.441 |
| Total fertility rate (last 3 years) | 2.067 | 0.116 | na | 13 244 | 1.569 | 0.056 | 1.835 | 2.299 |
| Neonatal mortality (last 10 years) | 20.470 | 4.413 | 2 613 | 2 993 | 1.427 | 0.216 | 11.644 | 29.296 |
| Post-neonatal mortality (last 10 years) | 20.891 | 5.261 | 2 615 | 2 996 | 1.349 | 0.252 | 10.369 | 31.413 |
| Infant mortality (last 10 years) | 41.361 | 6.784 | 2 615 | 2 996 | 1.389 | 0.164 | 27.793 | 54.930 |
| Child mortality (last 10 years) | 10.433 | 2.377 | 2 615 | 2 995 | 1.183 | 0.228 | 5.678 | 15.187 |
| Under-five mortality (last 10 years) | 51.363 | 7.395 | 2 617 | 2 998 | 1.430 | 0.144 | 36.572 | 66.153 |
| MEN QUESTIONNAIRE | | | | | | | | |
| Urban residence | 1.000 | 0.000 | 1 874 | 2 151 | na | 0.000 | 1.000 | 1.000 |
| No education | 0.040 | 0.007 | 1 874 | 2 151 | 1.443 | 0.164 | 0.027 | 0.053 |
| Secondary education or higher | 0.816 | 0.013 | 1 874 | 2 151 | 1.497 | 0.016 | 0.789 | 0.842 |
| Never married (in union) | 0.532 | 0.018 | 1 874 | 2 151 | 1.574 | 0.034 | 0.495 | 0.568 |
| Currently married (in union) | 0.418 | 0.018 | 1 874 | 2 151 | 1.542 | 0.042 | 0.383 | 0.453 |
| Had sex before 18 | 0.485 | 0.018 | 1 555 | 1 803 | 1.403 | 0.037 | 0.450 | 0.521 |
| Had two or more sexual partners in last 12 months | 0.199 | 0.016 | 1 304 | 1 533 | 1.467 | 0.081 | 0.167 | 0.232 |
| Had higher risk sex in the last 12 months | 0.632 | 0.019 | 1 307 | 1 537 | 1.439 | 0.030 | 0.593 | 0.670 |
| Condom use at last higher risk sex-all | 0.716 | 0.020 | 793 | 971 | 1.245 | 0.028 | 0.676 | 0.756 |
| Condom use at last higher risk sex-youth | 0.749 | 0.033 | 346 | 412 | 1.417 | 0.044 | 0.683 | 0.815 |
| Abstinence among youth (never had sex) | 0.332 | 0.025 | 594 | 669 | 1.285 | 0.075 | 0.282 | 0.381 |
| Sexual activity in last 12 months | 0.583 | 0.025 | 594 | 669 | 1.215 | 0.042 | 0.534 | 0.632 |
| Ever had HIV test and received results | 0.241 | 0.015 | 1 653 | 1 919 | 1.419 | 0.062 | 0.212 | 0.271 |
| Circumcision | 0.429 | 0.021 | 1 873 | 2 148 | 1.861 | 0.048 | 0.389 | 0.469 |

| | Number of cases | | | | Design effect (DEFT) | Relative error (SE/R) | Confidence intervals | |
|--|-----------------|---------------------|----------------|---------------|----------------------|-----------------------|----------------------|---------------------|
| | Value (R) | Standard error (SE) | Unweighted (N) | Weighted (WN) | | | Value (R) | Standard error (SE) |
| ADULT QUESTIONNAIRE | | | | | | | | |
| Systolic Blood Pressure (men) | 124.740 | 0.631 | 1 906 | 2 230 | 1.178 | 0.005 | 123.500 | 125.980 |
| Systolic Blood Pressure (women) | 121.323 | 0.548 | 2 610 | 2 886 | 1.083 | 0.005 | 120.246 | 122.400 |
| Diastolic Blood Pressure (men) | 74.062 | 0.497 | 1 912 | 2 240 | 1.249 | 0.007 | 73.085 | 75.038 |
| Diastolic Blood Pressure (women) | 75.436 | 0.321 | 2 624 | 2 912 | 0.980 | 0.004 | 74.804 | 76.068 |
| Pulse (men) | 72.691 | 0.447 | 1 910 | 2 238 | 1.229 | 0.006 | 71.813 | 73.570 |
| Pulse (women) | 77.131 | 0.344 | 2 621 | 2 906 | 1.150 | 0.004 | 76.455 | 77.806 |
| Hypertensive (men) | 0.105 | 0.013 | 1 947 | 2 289 | 1.402 | 0.120 | 0.080 | 0.130 |
| Hypertensive (women) | 0.154 | 0.009 | 2 694 | 2 995 | 0.965 | 0.056 | 0.137 | 0.170 |
| Airflow Limitation (men) | 0.078 | 0.008 | 1 947 | 2 289 | 1.024 | 0.098 | 0.063 | 0.093 |
| Airflow Limitation (women) | 0.087 | 0.007 | 2 694 | 2 995 | 0.989 | 0.076 | 0.074 | 0.100 |
| Chronic Bronchitis (men) | 0.025 | 0.004 | 1 947 | 2 289 | 0.991 | 0.178 | 0.016 | 0.034 |
| Chronic Bronchitis (women) | 0.016 | 0.003 | 2 694 | 2 995 | 1.055 | 0.184 | 0.010 | 0.022 |
| Abnormal Peak Flow (men) | 0.094 | 0.009 | 1 947 | 2 289 | 1.060 | 0.097 | 0.076 | 0.112 |
| Abnormal Peak Flow (women) | 0.138 | 0.011 | 2 694 | 2 995 | 1.205 | 0.077 | 0.117 | 0.159 |
| Currently smoking (occasionally of daily) (men) | 0.387 | 0.017 | 1 947 | 2 289 | 1.219 | 0.044 | 0.353 | 0.420 |
| Currently smoking (occasionally of daily) (women) | 0.127 | 0.011 | 2 694 | 2 995 | 1.339 | 0.084 | 0.106 | 0.148 |
| Abstainers - alcohol intake in last 12 months (men) | 0.565 | 0.019 | 1 947 | 2 289 | 1.348 | 0.034 | 0.527 | 0.603 |
| Abstainers - alcohol intake in last 12 months (women) | 0.805 | 0.014 | 2 694 | 2 995 | 1.448 | 0.018 | 0.777 | 0.833 |
| Responsible - alcohol intake in last 12 months (men) | 0.352 | 0.018 | 1 947 | 2 289 | 1.334 | 0.052 | 0.316 | 0.388 |
| Responsible - alcohol intake in last 12 months (women) | 0.159 | 0.012 | 2 694 | 2 995 | 1.303 | 0.074 | 0.136 | 0.183 |
| Hazardous - alcohol intake in last 12 months (men) | 0.029 | 0.005 | 1 947 | 2 289 | 1.054 | 0.179 | 0.019 | 0.040 |
| Hazardous - alcohol intake in last 12 months (women) | 0.012 | 0.003 | 2 694 | 2 995 | 1.080 | 0.217 | 0.007 | 0.018 |
| Harmful - alcohol intake in last 12 months (men) | 0.027 | 0.005 | 1 947 | 2 289 | 1.003 | 0.177 | 0.017 | 0.036 |
| Harmful - alcohol intake in last 12 months (women) | 0.011 | 0.002 | 2 694 | 2 995 | 1.012 | 0.224 | 0.006 | 0.015 |
| Adequate nutrient (men) | 0.357 | 0.019 | 1 917 | 2 252 | 1.317 | 0.053 | 0.319 | 0.394 |
| Adequate nutrient (women) | 0.400 | 0.018 | 2 670 | 2 963 | 1.461 | 0.046 | 0.364 | 0.436 |
| Weight (men) | 67.143 | 0.585 | 1 868 | 2 171 | 1.320 | 0.009 | 65.992 | 68.294 |
| Weight (women) | 63.033 | 0.426 | 1 332 | 1 085 | 1.140 | 0.007 | 62.194 | 63.871 |
| Height (men) | 1.689 | 0.003 | 1 881 | 2 189 | 1.274 | 0.002 | 1.682 | 1.695 |
| Height (women) | 1.586 | 0.002 | 2 597 | 2 864 | 1.196 | 0.001 | 1.581 | 1.591 |
| Waist/hip ratio (men) | 0.943 | 0.032 | 1 866 | 2 166 | 1.276 | 0.034 | 0.880 | 1.006 |
| Waist/hip ratio (women) | 1.048 | 0.043 | 2 573 | 2 825 | 1.314 | 0.041 | 0.964 | 1.133 |
| Hip circumference (men) | 92.593 | 0.643 | 1 866 | 2 166 | 1.179 | 0.007 | 91.327 | 93.858 |
| Hip circumference (women) | 101.537 | 0.862 | 2 576 | 2 832 | 1.258 | 0.008 | 99.842 | 103.232 |
| Body Mass Index (men) | 23.653 | 0.215 | 1 881 | 2 189 | 1.335 | 0.009 | 23.231 | 24.075 |
| Body Mass Index (women) | 27.577 | 0.222 | 2 597 | 2 864 | 1.195 | 0.008 | 27.141 | 28.014 |
| Overweight (men) | 0.203 | 0.012 | 1 881 | 2 189 | 1.001 | 0.059 | 0.180 | 0.227 |
| Overweight (women) | 0.271 | 0.012 | 2 597 | 2 864 | 1.041 | 0.043 | 0.248 | 0.294 |
| Obesity (men) | 0.106 | 0.011 | 1 881 | 2 189 | 1.256 | 0.109 | 0.083 | 0.128 |
| Obesity (women) | 0.310 | 0.012 | 2 597 | 2 864 | 1.050 | 0.040 | 0.286 | 0.334 |
| Nutrient intake (men) | 21.708 | 0.520 | 1 917 | 2 252 | 1.446 | 0.024 | 20.685 | 22.731 |
| Nutrient intake (women) | 20.415 | 0.492 | 2 670 | 2 963 | 1.628 | 0.024 | 19.447 | 21.383 |
| Physically inactive (men) | 0.722 | 0.015 | 1 210 | 995 | 1.093 | 0.021 | 0.692 | 0.752 |
| Physically inactive (women) | 0.830 | 0.010 | 1 929 | 1 558 | 1.122 | 0.012 | 0.810 | 0.851 |
| Total mets (men) | 2 407.483 | 135.664 | 1 210 | 995 | 1.141 | 0.056 | 2 140.234 | 2 674.733 |
| Total mets (women) | 1 526.061 | 90.259 | 1929 | 1 558 | 1.193 | 0.059 | 1 348.272 | 1 703.850 |

Table B4 Sampling errors: Rural 2003

| Variable | Number of cases | | | | Design effect (DEFT) | Relative error (SE/R) | Confidence intervals | |
|---|-----------------|---------------------|----------------|---------------|----------------------|-----------------------|----------------------|-------------------|
| | Value (R) | Standard error (SE) | Unweighted (N) | Weighted (WN) | | | Value- SE (R-2SE) | Value+ 2SE (R+2E) |
| WOMEN QUESTIONNAIRE | | | | | | | | |
| Urban residence | 0.000 | 0.000 | 2 946 | 2 363 | na | na | 0.000 | 0.000 |
| No education | 0.055 | 0.005 | 2 946 | 2 363 | 1.086 | 0.083 | 0.046 | 0.064 |
| With secondary education or higher | 0.721 | 0.013 | 2 946 | 2 363 | 1.542 | 0.018 | 0.696 | 0.747 |
| Never married (in union) | 0.599 | 0.011 | 2 946 | 2 363 | 1.204 | 0.018 | 0.577 | 0.621 |
| Currently married (in union) | 0.341 | 0.010 | 2 946 | 2 363 | 1.152 | 0.030 | 0.321 | 0.361 |
| Had first sex before age 18 | 0.442 | 0.014 | 2 243 | 1 787 | 1.318 | 0.031 | 0.415 | 0.470 |
| Married before age 20 | 0.221 | 0.011 | 2 243 | 1 787 | 1.237 | 0.049 | 0.200 | 0.243 |
| Children ever born | 1.663 | 0.038 | 2 946 | 2 363 | 1.054 | 0.023 | 1.588 | 1.739 |
| Children surviving | 1.565 | 0.034 | 2 946 | 2 363 | 1.029 | 0.022 | 1.497 | 1.634 |
| Children ever born to women 40-49 | 3.857 | 0.113 | 544 | 426 | 1.171 | 0.029 | 3.632 | 4.082 |
| Knowing any contraceptive method | 0.967 | 0.006 | 1 221 | 957 | 1.136 | 0.006 | 0.955 | 0.979 |
| Knowing any modern contraceptive method | 0.967 | 0.006 | 1 221 | 957 | 1.136 | 0.006 | 0.955 | 0.979 |
| Ever used any contraceptive method | 0.831 | 0.013 | 1 221 | 957 | 1.208 | 0.016 | 0.805 | 0.857 |
| Currently using any contraceptive method | 0.618 | 0.016 | 1 221 | 957 | 1.157 | 0.026 | 0.586 | 0.651 |
| Currently using a modern method | 0.618 | 0.016 | 1 221 | 957 | 1.157 | 0.026 | 0.586 | 0.651 |
| Currently using pill | 0.103 | 0.010 | 1 221 | 957 | 1.174 | 0.099 | 0.083 | 0.124 |
| Currently using 2 monthly injectables | 0.161 | 0.012 | 1 221 | 957 | 1.101 | 0.072 | 0.138 | 0.184 |
| Currently using 3 monthly injectables | 0.217 | 0.015 | 1 221 | 957 | 1.261 | 0.069 | 0.187 | 0.247 |
| Currently using female sterilization | 0.055 | 0.008 | 1 221 | 957 | 1.265 | 0.151 | 0.038 | 0.071 |
| Obtained method from public sector source | 0.925 | 0.009 | 1 371 | 1 100 | 1.231 | 0.009 | 0.908 | 0.943 |
| Want no more children | 0.591 | 0.016 | 1 042 | 806 | 1.074 | 0.028 | 0.558 | 0.624 |
| Want to delay birth at least 2 years | 0.113 | 0.010 | 1 042 | 806 | 0.994 | 0.087 | 0.093 | 0.132 |
| Ideal number of children | 2.752 | 0.032 | 2 905 | 2 324 | 1.233 | 0.012 | 2.688 | 2.816 |
| Mothers received tetanus injection for last birth | 0.584 | 0.017 | 872 | 640 | 0.968 | 0.029 | 0.550 | 0.617 |
| Mothers received medical care at delivery | 0.852 | 0.022 | 995 | 736 | 1.545 | 0.026 | 0.807 | 0.896 |
| Child had diarrhea in the last 2 weeks | 0.087 | 0.010 | 944 | 694 | 1.019 | 0.114 | 0.067 | 0.106 |
| Treated with ORS packets | 0.320 | 0.061 | 85 | 60 | 1.126 | 0.191 | 0.198 | 0.442 |
| Consulted medical personnel | 0.482 | 0.062 | 85 | 60 | 1.061 | 0.129 | 0.357 | 0.606 |
| Child having health card, seen | 0.791 | 0.031 | 209 | 149 | 1.051 | 0.040 | 0.728 | 0.853 |
| Child received BCG vaccination | 0.865 | 0.028 | 209 | 149 | 1.112 | 0.032 | 0.810 | 0.921 |
| Child received DPT vaccination (3 doses) | 0.716 | 0.035 | 209 | 149 | 1.026 | 0.048 | 0.647 | 0.785 |
| Child received polio vaccination (3 doses) | 0.723 | 0.033 | 209 | 149 | 0.995 | 0.046 | 0.657 | 0.790 |
| Child received measles vaccination | 0.675 | 0.038 | 209 | 149 | 1.081 | 0.056 | 0.600 | 0.751 |
| Child fully immunized | 0.600 | 0.041 | 209 | 149 | 1.117 | 0.068 | 0.518 | 0.681 |
| Had two or more sexual partners in last 12 months | 0.041 | 0.006 | 2 000 | 1 592 | 1.369 | 0.148 | 0.029 | 0.053 |
| Had higher risk sex in the last 12 months | 0.587 | 0.014 | 2 006 | 1 598 | 1.255 | 0.024 | 0.559 | 0.614 |
| Condom use at last higher risk sex-all | 0.396 | 0.019 | 1 147 | 937 | 1.292 | 0.047 | 0.359 | 0.433 |
| Condom use at last higher risk sex-youth | 0.397 | 0.024 | 573 | 450 | 1.182 | 0.061 | 0.349 | 0.445 |
| Abstinence among youth (never had sex) | 0.438 | 0.016 | 1 092 | 891 | 1.061 | 0.036 | 0.406 | 0.470 |
| Sexual activity in last 12 months | 0.463 | 0.015 | 1 092 | 891 | 1.025 | 0.033 | 0.432 | 0.494 |
| Had HIV test & received results in last 12 months | 0.054 | 0.006 | 2 946 | 2 363 | 1.333 | 0.103 | 0.043 | 0.065 |
| Accepting attitudes towards people with HIV | 0.313 | 0.012 | 2 648 | 2 130 | 1.307 | 0.038 | 0.289 | 0.337 |
| Total fertility rate (last 3 years) | 2.154 | 0.148 | na | 6 557 | 1.517 | 0.069 | 1.859 | 2.449 |
| Neonatal mortality (last 10 years) | 18.448 | 3.472 | 2 143 | 1 657 | 1.071 | 0.188 | 11.503 | 25.393 |
| Post-neonatal mortality (last 10 years) | 26.406 | 5.705 | 2 143 | 1 657 | 1.433 | 0.216 | 14.996 | 37.817 |
| Infant mortality (last 10 years) | 44.854 | 6.483 | 2 143 | 1 657 | 1.245 | 0.145 | 31.889 | 57.820 |
| Child mortality (last 10 years) | 12.291 | 2.382 | 2 149 | 1 661 | 0.943 | 0.194 | 7.526 | 17.055 |
| Under-five mortality (last 10 years) | 56.594 | 7.292 | 2 149 | 1 661 | 1.256 | 0.129 | 42.011 | 71.177 |
| MEN QUESTIONNAIRE | | | | | | | | |
| Urban residence | 0.000 | 0.000 | 1244 | 967 | na | na | 0.000 | 0.000 |
| No education | 0.058 | 0.007 | 1244 | 967 | 1.108 | 0.127 | 0.043 | 0.073 |
| Secondary education or higher | 0.702 | 0.016 | 1244 | 967 | 1.229 | 0.023 | 0.670 | 0.734 |
| Never married (in union) | 0.615 | 0.016 | 1244 | 967 | 1.129 | 0.025 | 0.583 | 0.646 |
| Currently married (in union) | 0.327 | 0.015 | 1244 | 967 | 1.150 | 0.047 | 0.296 | 0.357 |
| Had sex before 18 | 0.373 | 0.016 | 914 | 713 | 0.996 | 0.043 | 0.341 | 0.404 |
| Had two or more sexual partners in last 12 months | 0.198 | 0.018 | 765 | 592 | 1.281 | 0.093 | 0.161 | 0.235 |
| Had higher risk sex in the last 12 months | 0.711 | 0.019 | 769 | 596 | 1.167 | 0.027 | 0.672 | 0.749 |
| Condom use at last higher risk sex-all | 0.628 | 0.028 | 533 | 423 | 1.312 | 0.044 | 0.573 | 0.683 |
| Condom use at last higher risk sex-youth | 0.645 | 0.038 | 265 | 198 | 1.285 | 0.059 | 0.569 | 0.720 |
| Abstinence among youth (never had sex) | 0.467 | 0.025 | 503 | 384 | 1.136 | 0.054 | 0.417 | 0.518 |
| Sexual activity in last 12 months | 0.457 | 0.025 | 503 | 384 | 1.142 | 0.056 | 0.406 | 0.508 |
| Ever had HIV test and received results | 0.112 | 0.013 | 1107 | 861 | 1.353 | 0.115 | 0.086 | 0.138 |
| Circumcision | 0.488 | 0.020 | 1242 | 965 | 1.409 | 0.041 | 0.449 | 0.527 |

| Variable | Number of cases | | | | Design effect (DEFT) | Relative error (SE/R) | Confidence intervals | |
|--|-----------------|---------------------|----------------|---------------|----------------------|-----------------------|----------------------|---------------------|
| | Value (R) | Standard error (SE) | Unweighted (N) | Weighted (WN) | | | Value (R) | Standard error (SE) |
| ADULTS QUESTIONNAIRE | | | | | | | | |
| Systolic Blood Pressure (men) | 120.631 | 0.576 | 1 352 | 1 104 | 1.165 | 0.005 | 119.497 | 121.765 |
| Systolic Blood Pressure (women) | 121.348 | 0.534 | 2 036 | 1 649 | 1.067 | 0.004 | 120.297 | 122.399 |
| Diastolic Blood Pressure (men) | 71.367 | 0.447 | 1 355 | 1 107 | 1.214 | 0.006 | 70.486 | 72.247 |
| Diastolic Blood Pressure (women) | 73.892 | 0.325 | 2 043 | 1 656 | 1.071 | 0.004 | 73.251 | 74.532 |
| Pulse (men) | 70.872 | 0.423 | 1 355 | 1 107 | 1.189 | 0.006 | 70.039 | 71.705 |
| Pulse (women) | 76.537 | 0.384 | 2 044 | 1 657 | 1.300 | 0.005 | 75.781 | 77.294 |
| Hypertensive (men) | 0.051 | 0.008 | 1 381 | 1 133 | 1.163 | 0.151 | 0.036 | 0.067 |
| Hypertensive (women) | 0.103 | 0.008 | 2 093 | 1 697 | 1.057 | 0.074 | 0.088 | 0.118 |
| Airflow Limitation (men) | 0.061 | 0.008 | 1 381 | 1 133 | 1.068 | 0.123 | 0.046 | 0.076 |
| Airflow Limitation (women) | 0.070 | 0.007 | 2 093 | 1 697 | 1.111 | 0.095 | 0.057 | 0.083 |
| Chronic Bronchitis (men) | 0.019 | 0.005 | 1 381 | 1 133 | 1.149 | 0.237 | 0.010 | 0.029 |
| Chronic Bronchitis (women) | 0.026 | 0.004 | 2 093 | 1 697 | 1.116 | 0.162 | 0.018 | 0.034 |
| Abnormal Peak Flow (men) | 0.049 | 0.006 | 1 381 | 1 133 | 0.986 | 0.128 | 0.037 | 0.062 |
| Abnormal Peak Flow (women) | 0.058 | 0.006 | 2 093 | 1 697 | 1.014 | 0.095 | 0.047 | 0.069 |
| Currently smoking (occasionally of daily) (men) | 0.279 | 0.015 | 1 381 | 1 133 | 1.170 | 0.056 | 0.248 | 0.309 |
| Currently smoking (occasionally of daily) (women) | 0.058 | 0.007 | 2 093 | 1 697 | 1.146 | 0.121 | 0.044 | 0.072 |
| Abstainers - alcohol intake in last 12 months (men) | 0.698 | 0.016 | 1 381 | 1 133 | 1.183 | 0.023 | 0.667 | 0.729 |
| Abstainers - alcohol intake in last 12 months (women) | 0.917 | 0.007 | 2 093 | 1 697 | 1.154 | 0.008 | 0.902 | 0.932 |
| Responsible - alcohol intake in last 12 months (men) | 0.224 | 0.014 | 1 381 | 1 133 | 1.164 | 0.063 | 0.197 | 0.252 |
| Responsible - alcohol intake in last 12 months (women) | 0.057 | 0.006 | 2 093 | 1 697 | 1.173 | 0.111 | 0.045 | 0.069 |
| Hazardous - alcohol intake in last 12 months (men) | 0.012 | 0.003 | 1 381 | 1 133 | 0.970 | 0.256 | 0.006 | 0.018 |
| Hazardous - alcohol intake in last 12 months (women) | 0.005 | 0.002 | 2 093 | 1 697 | 1.040 | 0.294 | 0.002 | 0.008 |
| Harmful - alcohol intake in last 12 months (men) | 0.020 | 0.004 | 1 381 | 1 133 | 1.053 | 0.187 | 0.012 | 0.027 |
| Harmful - alcohol intake in last 12 months (women) | 0.011 | 0.003 | 2 093 | 1 697 | 1.062 | 0.257 | 0.005 | 0.016 |
| Adequate nutrient (men) | 0.278 | 0.016 | 1 376 | 1 127 | 1.122 | 0.056 | 0.247 | 0.309 |
| Adequate nutrient (women) | 0.260 | 0.014 | 2 088 | 1 693 | 1.244 | 0.053 | 0.232 | 0.287 |
| Weight (men) | 69.227 | 0.557 | 2 597 | 2 864 | 1.198 | 0.008 | 68.132 | 70.323 |
| Weight (women) | 65.605 | 0.485 | 2 001 | 1 616 | 1.186 | 0.007 | 64.651 | 66.560 |
| Height (men) | 1.668 | 0.003 | 1 334 | 1 086 | 1.033 | 0.002 | 1.663 | 1.674 |
| Height (women) | 1.593 | 0.003 | 2 001 | 1 616 | 1.242 | 0.002 | 1.587 | 1.598 |
| Waist/hip ratio (men) | 0.900 | 0.024 | 1 330 | 1 082 | 1.151 | 0.026 | 0.854 | 0.947 |
| Waist/hip ratio (women) | 0.911 | 0.027 | 1 988 | 1 602 | 1.271 | 0.030 | 0.857 | 0.964 |
| Hip circumference (men) | 88.974 | 0.534 | 1 330 | 1 082 | 1.114 | 0.006 | 87.922 | 90.027 |
| Hip circumference (women) | 98.206 | 0.617 | 1 990 | 1 604 | 1.270 | 0.006 | 96.991 | 99.421 |
| Body Mass Index (men) | 22.651 | 0.147 | 1 334 | 1 086 | 1.181 | 0.007 | 22.361 | 22.941 |
| Body Mass Index (women) | 25.856 | 0.185 | 2 001 | 1 616 | 1.214 | 0.007 | 25.492 | 26.220 |
| Overweight (men) | 0.224 | 0.015 | 1 334 | 1 086 | 1.141 | 0.066 | 0.195 | 0.253 |
| Overweight (women) | 0.282 | 0.013 | 2 001 | 1 616 | 1.162 | 0.046 | 0.256 | 0.307 |
| Obesity (men) | 0.051 | 0.007 | 1 334 | 1 086 | 1.127 | 0.145 | 0.037 | 0.066 |
| Obesity (women) | 0.210 | 0.012 | 2 001 | 1 616 | 1.189 | 0.056 | 0.187 | 0.233 |
| Nutrient intake (men) | 25.376 | 0.484 | 1 376 | 1 127 | 1.182 | 0.019 | 24.424 | 26.329 |
| Nutrient intake (women) | 26.043 | 0.430 | 2 088 | 1 693 | 1.308 | 0.017 | 25.196 | 26.890 |
| Physically inactive (men) | 0.789 | 0.013 | 1 630 | 1 814 | 0.976 | 0.016 | 0.765 | 0.814 |
| Physically inactive (women) | 0.878 | 0.009 | 2 444 | 2 604 | 1.022 | 0.010 | 0.861 | 0.896 |
| Total mets (men) | 1 984.429 | 111.532 | 1 630 | 1 814 | 1.064 | 0.056 | 1 765.034 | 2 203.825 |
| Total mets (women) | 1 195.881 | 72.872 | 2 444 | 2 604 | 1.001 | 0.061 | 1 052.553 | 1 339.209 |

Table B5 Sampling errors: Western Cape 2003

| Variable | Number of cases | | | | Design effect (DEFT) | Relative error (SE/R) | Confidence intervals | |
|---|-----------------|---------------------|----------------|---------------|----------------------|-----------------------|----------------------|-------------------|
| | Value (R) | Standard error (SE) | Unweighted (N) | Weighted (WN) | | | Value- SE (R-2SE) | Value+ 2SE (R+2E) |
| WOMEN QUESTIONNAIRE | | | | | | | | |
| Urban residence | 0.897 | 0.017 | 715 | 892 | 1.521 | 0.019 | 0.862 | 0.932 |
| No education | 0.017 | 0.006 | 715 | 892 | 1.144 | 0.325 | 0.006 | 0.028 |
| With secondary education or higher | 0.836 | 0.015 | 715 | 892 | 1.075 | 0.018 | 0.806 | 0.866 |
| Never married (in union) | 0.466 | 0.021 | 715 | 892 | 1.099 | 0.044 | 0.425 | 0.507 |
| Currently married (in union) | 0.453 | 0.018 | 715 | 892 | 0.957 | 0.039 | 0.418 | 0.489 |
| Had first sex before age 18 | 0.377 | 0.030 | 586 | 729 | 1.502 | 0.080 | 0.317 | 0.437 |
| Married before age 20 | 0.154 | 0.020 | 586 | 729 | 1.323 | 0.128 | 0.114 | 0.193 |
| Children ever born | 1.703 | 0.065 | 715 | 892 | 1.026 | 0.038 | 1.572 | 1.833 |
| Children surviving | 1.625 | 0.058 | 715 | 892 | 0.961 | 0.036 | 1.510 | 1.741 |
| Children ever born to women 40-49 | 3.042 | 0.158 | 161 | 196 | 1.164 | 0.052 | 2.725 | 3.358 |
| Knowing any contraceptive method | 0.974 | 0.007 | 335 | 413 | 0.793 | 0.007 | 0.960 | 0.988 |
| Knowing any modern contraceptive method | 0.974 | 0.007 | 335 | 413 | 0.793 | 0.007 | 0.960 | 0.988 |
| Ever used any contraceptive method | 0.842 | 0.018 | 335 | 413 | 0.910 | 0.022 | 0.806 | 0.879 |
| Currently using any contraceptive method | 0.634 | 0.028 | 335 | 413 | 1.055 | 0.044 | 0.578 | 0.689 |
| Currently using a modern method | 0.634 | 0.028 | 335 | 413 | 1.055 | 0.044 | 0.578 | 0.689 |
| Currently using pill | 0.135 | 0.023 | 335 | 413 | 1.251 | 0.174 | 0.088 | 0.181 |
| Currently using 2 monthly injectables | 0.098 | 0.019 | 335 | 413 | 1.199 | 0.200 | 0.059 | 0.137 |
| Currently using 3 monthly injectables | 0.144 | 0.019 | 335 | 413 | 0.965 | 0.129 | 0.107 | 0.181 |
| Currently using female sterilization | 0.216 | 0.022 | 335 | 413 | 0.997 | 0.104 | 0.171 | 0.261 |
| Obtained method from public sector source | 0.836 | 0.028 | 359 | 446 | 1.424 | 0.033 | 0.781 | 0.892 |
| Want no more children | 0.634 | 0.027 | 330 | 404 | 1.010 | 0.042 | 0.580 | 0.688 |
| Want to delay birth at least 2 years | 0.067 | 0.014 | 330 | 404 | 1.024 | 0.211 | 0.038 | 0.095 |
| Ideal number of children | 2.193 | 0.052 | 700 | 872 | 1.155 | 0.024 | 2.088 | 2.298 |
| Mothers received tetanus injection for last birth | 0.118 | 0.023 | 215 | 275 | 1.062 | 0.196 | 0.072 | 0.164 |
| Mothers received medical care at delivery | 0.910 | 0.039 | 253 | 323 | 1.341 | 0.043 | 0.831 | 0.988 |
| Child had diarrhea in the last 2 weeks | 0.132 | 0.027 | 240 | 306 | 1.212 | 0.205 | 0.078 | 0.186 |
| Treated with ORS packets | 0.378 | 0.113 | 31 | 40 | 1.304 | 0.300 | 0.151 | 0.604 |
| Consulted medical personnel | 0.675 | 0.072 | 31 | 40 | 0.859 | 0.106 | 0.532 | 0.819 |
| Child having health card, seen | 0.522 | 0.081 | 46 | 60 | 1.087 | 0.155 | 0.360 | 0.683 |
| Child received BCG vaccination | 0.784 | 0.058 | 46 | 60 | 0.961 | 0.074 | 0.668 | 0.899 |
| Child received DPT vaccination (3 doses) | 0.613 | 0.075 | 46 | 60 | 1.045 | 0.122 | 0.463 | 0.763 |
| Child received polio vaccination (3 doses) | 0.492 | 0.085 | 46 | 60 | 1.141 | 0.172 | 0.323 | 0.662 |
| Child received measles vaccination | 0.571 | 0.084 | 46 | 60 | 1.136 | 0.147 | 0.403 | 0.740 |
| Child fully immunized | 0.430 | 0.091 | 46 | 60 | 1.244 | 0.211 | 0.248 | 0.612 |
| Had two or more sexual partners in last 12 months | 0.028 | 0.007 | 480 | 598 | 0.893 | 0.240 | 0.015 | 0.042 |
| Had higher risk sex in the last 12 months | 0.471 | 0.034 | 481 | 600 | 1.485 | 0.072 | 0.404 | 0.539 |
| Condom use at last higher risk sex-all | 0.383 | 0.041 | 221 | 283 | 1.238 | 0.106 | 0.302 | 0.464 |
| Condom use at last higher risk sex-youth | 0.473 | 0.061 | 115 | 149 | 1.315 | 0.130 | 0.350 | 0.596 |
| Abstinence among youth (never had sex) | 0.406 | 0.042 | 228 | 289 | 1.274 | 0.102 | 0.323 | 0.489 |
| Sexual activity in last 12 months | 0.465 | 0.046 | 228 | 289 | 1.376 | 0.098 | 0.374 | 0.556 |
| Had HIV test & received results in last 12 months | 0.167 | 0.015 | 715 | 892 | 1.044 | 0.087 | 0.138 | 0.196 |
| Accepting attitudes towards people with HIV | 0.334 | 0.022 | 675 | 841 | 1.234 | 0.067 | 0.290 | 0.379 |
| Total fertility rate (last 3 years) | 2.611 | 0.244 | na | 2 535 | 1.058 | 0.093 | 2.123 | 3.098 |
| Neonatal mortality (last 10 years) | 5.299 | 3.192 | 514 | 648 | 1.067 | 0.602 | 0.000 | 11.683 |
| Post-neonatal mortality (last 10 years) | 39.805 | 14.494 | 514 | 648 | 1.190 | 0.364 | 10.817 | 68.794 |
| Infant mortality (last 10 years) | 45.104 | 14.583 | 514 | 648 | 1.162 | 0.323 | 15.939 | 74.269 |
| Child mortality (last 10 years) | 13.740 | 4.799 | 515 | 649 | 0.932 | 0.349 | 4.141 | 23.339 |
| Under-five mortality (last 10 years) | 58.224 | 15.960 | 515 | 649 | 1.197 | 0.274 | 26.304 | 90.145 |
| MEN QUESTIONNAIRE | | | | | | | | |
| Urban residence | 0.929 | 0.012 | 237 | 379 | 0.712 | 0.013 | 0.905 | 0.953 |
| No education | 0.021 | 0.010 | 237 | 379 | 1.049 | 0.462 | 0.002 | 0.041 |
| Secondary education or higher | 0.787 | 0.034 | 237 | 379 | 1.262 | 0.043 | 0.719 | 0.854 |
| Never married (in union) | 0.403 | 0.024 | 237 | 379 | 0.758 | 0.060 | 0.354 | 0.451 |
| Currently married (in union) | 0.546 | 0.026 | 237 | 379 | 0.811 | 0.048 | 0.493 | 0.599 |
| Had sex before 18 | 0.543 | 0.041 | 205 | 330 | 1.178 | 0.076 | 0.461 | 0.625 |
| Had two or more sexual partners in last 12 months | 0.177 | 0.043 | 173 | 278 | 1.470 | 0.241 | 0.092 | 0.263 |
| Had higher risk sex in the last 12 months | 0.516 | 0.035 | 173 | 278 | 0.930 | 0.069 | 0.445 | 0.587 |
| Condom use at last higher risk sex-all | 0.631 | 0.049 | 85 | 144 | 0.938 | 0.078 | 0.532 | 0.730 |
| Condom use at last higher risk sex-youth | 0.765 | 0.081 | 35 | 59 | 1.114 | 0.106 | 0.602 | 0.927 |
| Abstinence among youth (never had sex) | 0.356 | 0.057 | 57 | 90 | 0.889 | 0.160 | 0.242 | 0.470 |
| Sexual activity in last 12 months | 0.577 | 0.072 | 57 | 90 | 1.090 | 0.125 | 0.433 | 0.721 |
| Ever had HIV test and received results | 0.404 | 0.035 | 216 | 344 | 1.043 | 0.086 | 0.334 | 0.474 |
| Circumcision | 0.675 | 0.041 | 230 | 228 | 1.345 | 0.060 | 0.593 | 0.756 |

| Variable | Number of cases | | | | Design effect (DEFT) | Relative error (SE/R) | Confidence intervals | |
|--|-----------------|---------------------|----------------|---------------|----------------------|-----------------------|----------------------|-----------|
| | Value (R) | Standard error (SE) | Unweighted (N) | Weighted (WN) | | | Variable | Value (R) |
| ADULT QUESTIONNAIRE | | | | | | | | |
| Systolic Blood Pressure (men) | 124.954 | 1.403 | 236 | 332 | 1.186 | 0.011 | 122.142 | 127.765 |
| Systolic Blood Pressure (women) | 120.584 | 1.328 | 394 | 564 | 1.219 | 0.011 | 117.925 | 123.242 |
| Diastolic Blood Pressure (men) | 74.773 | 1.188 | 237 | 333 | 1.290 | 0.016 | 72.393 | 77.152 |
| Diastolic Blood Pressure (women) | 75.771 | 0.633 | 395 | 565 | 0.978 | 0.008 | 74.504 | 77.038 |
| Pulse (men) | 71.075 | 0.874 | 237 | 333 | 1.080 | 0.012 | 69.324 | 72.827 |
| Pulse (women) | 76.398 | 0.734 | 395 | 565 | 1.230 | 0.010 | 74.927 | 77.868 |
| Hypertensive (men) | 0.118 | 0.021 | 243 | 337 | 0.955 | 0.177 | 0.076 | 0.160 |
| Hypertensive (women) | 0.144 | 0.020 | 405 | 573 | 1.002 | 0.136 | 0.105 | 0.184 |
| Airflow Limitation (men) | 0.128 | 0.024 | 243 | 337 | 1.038 | 0.186 | 0.080 | 0.176 |
| Airflow Limitation (women) | 0.179 | 0.021 | 405 | 573 | 1.257 | 0.118 | 0.137 | 0.221 |
| Chronic Bronchitis (men) | 0.142 | 0.023 | 243 | 337 | 1.538 | 0.162 | 0.096 | 0.188 |
| Chronic Bronchitis (women) | 0.125 | 0.018 | 405 | 573 | 2.234 | 0.146 | 0.088 | 0.162 |
| Abnormal Peak Flow (men) | 0.053 | 0.015 | 243 | 337 | 0.706 | 0.282 | 0.023 | 0.083 |
| Abnormal Peak Flow (women) | 0.029 | 0.010 | 405 | 573 | 0.578 | 0.363 | 0.008 | 0.049 |
| Currently smoking (occasionally of daily) (men) | 0.498 | 0.046 | 243 | 337 | 1.378 | 0.092 | 0.406 | 0.589 |
| Currently smoking (occasionally of daily) (women) | 0.287 | 0.033 | 405 | 573 | 1.411 | 0.114 | 0.221 | 0.352 |
| Abstainers - alcohol intake in last 12 months (men) | 0.449 | 0.044 | 243 | 337 | 1.325 | 0.097 | 0.362 | 0.537 |
| Abstainers - alcohol intake in last 12 months (women) | 0.712 | 0.025 | 405 | 573 | 1.112 | 0.036 | 0.661 | 0.763 |
| Responsible - alcohol intake in last 12 months (men) | 0.482 | 0.043 | 243 | 337 | 1.296 | 0.089 | 0.396 | 0.567 |
| Responsible - alcohol intake in last 12 months (women) | 0.229 | 0.024 | 405 | 573 | 1.135 | 0.105 | 0.181 | 0.277 |
| Hazardous - alcohol intake in last 12 months (men) | 0.028 | 0.010 | 243 | 337 | 0.969 | 0.362 | 0.008 | 0.049 |
| Hazardous - alcohol intake in last 12 months (women) | 0.019 | 0.009 | 405 | 573 | 1.321 | 0.464 | 0.001 | 0.037 |
| Harmful - alcohol intake in last 12 months (men) | 0.020 | 0.009 | 243 | 337 | 0.977 | 0.434 | 0.003 | 0.038 |
| Harmful - alcohol intake in last 12 months (women) | 0.016 | 0.007 | 405 | 573 | 1.066 | 0.439 | 0.002 | 0.029 |
| Adequate nutrient (men) | 0.197 | 0.030 | 235 | 328 | 1.129 | 0.154 | 0.136 | 0.258 |
| Adequate nutrient (women) | 0.300 | 0.031 | 398 | 564 | 1.323 | 0.104 | 0.238 | 0.362 |
| Weight (men) | 67.994 | 1.242 | 236 | 330 | 1.181 | 0.018 | 65.508 | 70.481 |
| Weight (women) | 67.398 | 1.123 | 391 | 559 | 1.144 | 0.017 | 65.151 | 69.646 |
| Height (men) | 1.678 | 0.007 | 237 | 331 | 1.226 | 0.004 | 1.664 | 1.691 |
| Height (women) | 1.573 | 0.004 | 391 | 559 | 1.096 | 0.003 | 1.565 | 1.582 |
| Waist/hip ratio (men) | 0.955 | 0.091 | 232 | 326 | 1.661 | 0.095 | 0.774 | 1.137 |
| Waist/hip ratio (women) | 1.105 | 0.110 | 382 | 548 | 1.499 | 0.100 | 0.885 | 1.325 |
| Hip circumference (men) | 92.245 | 1.310 | 232 | 326 | 1.347 | 0.014 | 89.622 | 94.869 |
| Hip circumference (women) | 100.900 | 2.172 | 383 | 549 | 1.294 | 0.022 | 96.553 | 105.246 |
| Body Mass Index (men) | 24.095 | 0.383 | 237 | 331 | 1.115 | 0.016 | 23.328 | 24.861 |
| Body Mass Index (women) | 27.254 | 0.416 | 391 | 559 | 1.084 | 0.015 | 26.421 | 28.087 |
| Overweight (men) | 0.236 | 0.029 | 237 | 331 | 1.027 | 0.123 | 0.178 | 0.294 |
| Overweight (women) | 0.259 | 0.025 | 391 | 559 | 1.101 | 0.096 | 0.209 | 0.309 |
| Obesity (men) | 0.145 | 0.023 | 237 | 331 | 0.991 | 0.157 | 0.099 | 0.190 |
| Obesity (women) | 0.303 | 0.025 | 391 | 559 | 1.071 | 0.084 | 0.252 | 0.354 |
| Nutrient intake (men) | 26.827 | 0.847 | 235 | 328 | 1.270 | 0.032 | 25.131 | 28.523 |
| Nutrient intake (women) | 23.381 | 0.791 | 398 | 564 | 1.395 | 0.034 | 21.798 | 24.963 |
| Physically inactive (men) | 0.787 | 0.036 | 182 | 256 | 1.163 | 0.046 | 0.715 | 0.859 |
| Physically inactive (women) | 0.923 | 0.017 | 339 | 483 | 1.146 | 0.018 | 0.890 | 0.957 |
| Total mets (men) | 2 299.822 | 310.371 | 182 | 256 | 1.077 | 0.135 | 1 678.074 | 2 921.570 |
| Total mets (women) | 950.033 | 136.955 | 339 | 483 | 1.058 | 0.144 | 675.887 | 1 224.179 |

Table B6 Sampling errors: Eastern Cape 2003

| Variable | Number of cases | | | | Design effect (DEFT) | Relative error (SE/R) | Confidence intervals | |
|---|-----------------|---------------------|----------------|---------------|----------------------|-----------------------|----------------------|-------------------|
| | Value (R) | Standard error (SE) | Unweighted (N) | Weighted (WN) | | | Value- SE (R-2SE) | Value+ 2SE (R+2E) |
| WOMEN QUESTIONNAIRE | | | | | | | | |
| Urban residence | 0.502 | 0.033 | 505 | 804 | 1.489 | 0.066 | 0.436 | 0.568 |
| No education | 0.031 | 0.009 | 505 | 804 | 1.162 | 0.291 | 0.013 | 0.048 |
| With secondary education or higher | 0.749 | 0.030 | 505 | 804 | 1.557 | 0.040 | 0.689 | 0.810 |
| Never married (in union) | 0.588 | 0.027 | 505 | 804 | 1.241 | 0.046 | 0.533 | 0.642 |
| Currently married (in union) | 0.294 | 0.028 | 505 | 804 | 1.365 | 0.094 | 0.238 | 0.349 |
| Had first sex before age 18 | 0.493 | 0.027 | 382 | 616 | 1.056 | 0.055 | 0.439 | 0.547 |
| Married before age 20 | 0.196 | 0.023 | 382 | 616 | 1.124 | 0.117 | 0.150 | 0.242 |
| Children ever born | 1.748 | 0.075 | 505 | 804 | 0.851 | 0.043 | 1.597 | 1.899 |
| Children surviving | 1.601 | 0.071 | 505 | 804 | 0.879 | 0.044 | 1.459 | 1.742 |
| Children ever born to women 40-49 | 3.909 | 0.160 | 113 | 182 | 0.768 | 0.041 | 3.589 | 4.229 |
| Knowing any contraceptive method | 0.972 | 0.011 | 186 | 305 | 0.890 | 0.011 | 0.951 | 0.994 |
| Knowing any modern contraceptive method | 0.972 | 0.011 | 186 | 305 | 0.890 | 0.011 | 0.951 | 0.994 |
| Ever used any contraceptive method | 0.891 | 0.025 | 186 | 305 | 1.082 | 0.028 | 0.841 | 0.940 |
| Currently using any contraceptive method | 0.624 | 0.043 | 186 | 305 | 1.197 | 0.068 | 0.539 | 0.709 |
| Currently using a modern method | 0.624 | 0.043 | 186 | 305 | 1.197 | 0.068 | 0.539 | 0.709 |
| Currently using pill | 0.085 | 0.024 | 186 | 305 | 1.149 | 0.278 | 0.038 | 0.132 |
| Currently using 2 monthly injectables | 0.208 | 0.043 | 186 | 305 | 1.427 | 0.205 | 0.123 | 0.293 |
| Currently using 3 monthly injectables | 0.183 | 0.027 | 186 | 305 | 0.960 | 0.149 | 0.129 | 0.238 |
| Currently using female sterilization | 0.069 | 0.022 | 186 | 305 | 1.205 | 0.326 | 0.024 | 0.114 |
| Obtained method from public sector source | 0.881 | 0.036 | 236 | 393 | 1.680 | 0.040 | 0.810 | 0.952 |
| Want no more children | 0.648 | 0.041 | 151 | 236 | 1.054 | 0.063 | 0.566 | 0.730 |
| Want to delay birth at least 2 years | 0.072 | 0.020 | 151 | 236 | 0.940 | 0.275 | 0.032 | 0.112 |
| Ideal number of children | 2.426 | 0.090 | 487 | 776 | 1.412 | 0.037 | 2.246 | 2.606 |
| Mothers received tetanus injection for last birth | 0.634 | 0.045 | 148 | 225 | 1.108 | 0.071 | 0.544 | 0.724 |
| Mothers received medical care at delivery | 0.835 | 0.043 | 178 | 266 | 1.356 | 0.051 | 0.750 | 0.921 |
| Child had diarrhea in the last 2 weeks | 0.088 | 0.021 | 165 | 246 | 0.936 | 0.241 | 0.046 | 0.130 |
| Treated with ORS packets | 0.610 | 0.142 | 15 | 22 | 1.071 | 0.232 | 0.327 | 0.894 |
| Consulted medical personnel | 0.775 | 0.123 | 15 | 22 | 1.089 | 0.159 | 0.529 | 1.000 |
| Child having health card, seen | 0.744 | 0.093 | 31 | 47 | 1.160 | 0.125 | 0.558 | 0.931 |
| Child received BCG vaccination | 0.796 | 0.089 | 31 | 47 | 1.193 | 0.111 | 0.619 | 0.973 |
| Child received DPT vaccination (3 doses) | 0.641 | 0.087 | 31 | 47 | 0.983 | 0.136 | 0.467 | 0.815 |
| Child received polio vaccination (3 doses) | 0.617 | 0.121 | 31 | 47 | 1.352 | 0.197 | 0.374 | 0.859 |
| Child received measles vaccination | 0.693 | 0.088 | 31 | 47 | 1.031 | 0.127 | 0.517 | 0.868 |
| Child fully immunized | 0.565 | 0.123 | 31 | 47 | 1.349 | 0.218 | 0.318 | 0.811 |
| Had two or more sexual partners in last 12 months | 0.066 | 0.012 | 329 | 521 | 0.908 | 0.189 | 0.041 | 0.090 |
| Had higher risk sex in the last 12 months | 0.617 | 0.028 | 329 | 521 | 1.032 | 0.045 | 0.562 | 0.673 |
| Condom use at last higher risk sex-all | 0.405 | 0.048 | 197 | 321 | 1.369 | 0.119 | 0.309 | 0.501 |
| Condom use at last higher risk sex-youth | 0.404 | 0.054 | 104 | 166 | 1.125 | 0.135 | 0.295 | 0.513 |
| Abstinence among youth (never had sex) | 0.320 | 0.022 | 186 | 290 | 0.653 | 0.070 | 0.276 | 0.365 |
| Sexual activity in last 12 months | 0.552 | 0.035 | 186 | 290 | 0.954 | 0.063 | 0.483 | 0.622 |
| Had HIV test & received results in last 12 months | 0.103 | 0.025 | 505 | 804 | 1.815 | 0.239 | 0.054 | 0.152 |
| Accepting attitudes towards people with HIV | 0.492 | 0.028 | 470 | 754 | 1.192 | 0.056 | 0.437 | 0.547 |
| Total fertility rate (last 3 years) | 2.292 | 0.249 | na | 2251 | 1.096 | 0.109 | 1.793 | 2.790 |
| Neonatal mortality (last 10 years) | 12.163 | 5.946 | 393 | 594 | 1.060 | 0.489 | 0.272 | 24.055 |
| Post-neonatal mortality (last 10 years) | 55.054 | 21.139 | 393 | 594 | 1.301 | 0.384 | 12.776 | 97.331 |
| Infant mortality (last 10 years) | 67.217 | 21.745 | 393 | 594 | 1.234 | 0.323 | 23.728 | 110.706 |
| Child mortality (last 10 years) | 12.025 | 5.173 | 395 | 596 | 0.896 | 0.430 | 1.679 | 22.371 |
| Under-five mortality (last 10 years) | 78.434 | 21.669 | 395 | 596 | 1.155 | 0.276 | 35.095 | 121.772 |
| MEN QUESTIONNAIRE | | | | | | | | |
| Urban residence | 0.550 | 0.034 | 192 | 313 | 0.933 | 0.061 | 0.483 | 0.617 |
| No education | 0.039 | 0.012 | 192 | 313 | 0.852 | 0.305 | 0.015 | 0.063 |
| Secondary education or higher | 0.741 | 0.036 | 192 | 313 | 1.147 | 0.049 | 0.668 | 0.814 |
| Never married (in union) | 0.700 | 0.046 | 192 | 313 | 1.385 | 0.066 | 0.608 | 0.791 |
| Currently married (in union) | 0.250 | 0.038 | 192 | 313 | 1.216 | 0.152 | 0.174 | 0.327 |
| Had sex before 18 | 0.446 | 0.064 | 144 | 240 | 1.540 | 0.144 | 0.318 | 0.574 |
| Had two or more sexual partners in last 12 months | 0.249 | 0.049 | 115 | 196 | 1.201 | 0.195 | 0.152 | 0.347 |
| Had higher risk sex in the last 12 months | 0.811 | 0.033 | 116 | 198 | 0.917 | 0.041 | 0.744 | 0.878 |
| Condom use at last higher risk sex-all | 0.721 | 0.049 | 91 | 161 | 1.030 | 0.068 | 0.624 | 0.819 |
| Condom use at last higher risk sex-youth | 0.675 | 0.065 | 43 | 76 | 0.893 | 0.096 | 0.545 | 0.804 |
| Abstinence among youth (never had sex) | 0.396 | 0.084 | 81 | 132 | 1.536 | 0.212 | 0.228 | 0.564 |
| Sexual activity in last 12 months | 0.567 | 0.082 | 81 | 132 | 1.472 | 0.144 | 0.404 | 0.730 |
| Ever had HIV test and received results | 0.196 | 0.055 | 165 | 268 | 1.775 | 0.281 | 0.086 | 0.306 |
| Circumcision | 0.438 | 0.056 | 237 | 379 | 1.750 | 0.128 | 0.325 | 0.550 |

| Variable | Number of cases | | | | Design effect (DEFT) | Relative error (SE/R) | Confidence intervals | |
|--|-----------------|---------------------|----------------|---------------|----------------------|-----------------------|----------------------|-----------|
| | Value (R) | Standard error (SE) | Unweighted (N) | Weighted (WN) | | | Variable | Value (R) |
| ADULTS QUESTIONNAIRE | | | | | | | | |
| Systolic Blood Pressure (men) | 126.163 | 1.369 | 246 | 359 | 1.042 | 0.011 | 123.419 | 128.907 |
| Systolic Blood Pressure (women) | 123.793 | 0.957 | 382 | 544 | 0.887 | 0.008 | 121.877 | 125.709 |
| Diastolic Blood Pressure (men) | 73.037 | 0.975 | 248 | 362 | 1.182 | 0.013 | 71.082 | 74.992 |
| Diastolic Blood Pressure (women) | 75.434 | 0.605 | 383 | 548 | 0.879 | 0.008 | 74.224 | 76.644 |
| Pulse (men) | 72.093 | 0.753 | 247 | 360 | 0.908 | 0.010 | 70.584 | 73.601 |
| Pulse (women) | 75.935 | 0.694 | 384 | 549 | 1.083 | 0.009 | 74.547 | 77.324 |
| Hypertensive (men) | 0.174 | 0.026 | 251 | 367 | 1.482 | 0.147 | 0.123 | 0.226 |
| Hypertensive (women) | 0.177 | 0.019 | 393 | 562 | 1.000 | 0.105 | 0.140 | 0.214 |
| Airflow Limitation (men) | 0.068 | 0.021 | 251 | 367 | 1.084 | 0.308 | 0.026 | 0.109 |
| Airflow Limitation (women) | 0.139 | 0.018 | 393 | 562 | 1.050 | 0.128 | 0.104 | 0.175 |
| Chronic Bronchitis (men) | 0.098 | 0.021 | 251 | 367 | 1.373 | 0.214 | 0.056 | 0.139 |
| Chronic Bronchitis (women) | 0.112 | 0.014 | 393 | 562 | 1.410 | 0.123 | 0.085 | 0.140 |
| Abnormal Peak Flow (men) | 0.055 | 0.017 | 251 | 367 | 0.629 | 0.300 | 0.022 | 0.088 |
| Abnormal Peak Flow (women) | 0.040 | 0.011 | 393 | 562 | 0.508 | 0.261 | 0.019 | 0.061 |
| Currently smoking (occasionally of daily) (men) | 0.439 | 0.039 | 251 | 367 | 1.159 | 0.088 | 0.361 | 0.516 |
| Currently smoking (occasionally of daily) (women) | 0.089 | 0.021 | 393 | 562 | 1.296 | 0.235 | 0.047 | 0.131 |
| Abstainers - alcohol intake in last 12 months (men) | 0.575 | 0.045 | 251 | 367 | 1.346 | 0.078 | 0.486 | 0.665 |
| Abstainers - alcohol intake in last 12 months (women) | 0.895 | 0.017 | 393 | 562 | 1.009 | 0.019 | 0.860 | 0.930 |
| Responsible - alcohol intake in last 12 months (men) | 0.351 | 0.041 | 251 | 367 | 1.267 | 0.116 | 0.269 | 0.432 |
| Responsible - alcohol intake in last 12 months (women) | 0.071 | 0.014 | 393 | 562 | 0.960 | 0.200 | 0.042 | 0.099 |
| Hazardous - alcohol intake in last 12 months (men) | 0.012 | 0.008 | 251 | 367 | 0.944 | 0.664 | 0.000 | 0.027 |
| Hazardous - alcohol intake in last 12 months (women) | 0.008 | 0.005 | 393 | 562 | 0.976 | 0.596 | 0.000 | 0.017 |
| Harmful - alcohol intake in last 12 months (men) | 0.036 | 0.011 | 251 | 367 | 0.850 | 0.320 | 0.013 | 0.059 |
| Harmful - alcohol intake in last 12 months (women) | 0.006 | 0.004 | 393 | 562 | 1.002 | 0.745 | 0.000 | 0.014 |
| Adequate nutrient (men) | 0.201 | 0.040 | 247 | 360 | 1.473 | 0.200 | 0.120 | 0.281 |
| Adequate nutrient (women) | 0.172 | 0.025 | 392 | 560 | 1.178 | 0.143 | 0.123 | 0.222 |
| Weight (men) | 64.554 | 1.433 | 244 | 355 | 1.333 | 0.022 | 61.682 | 67.426 |
| Weight (women) | 69.818 | 1.026 | 370 | 527 | 0.977 | 0.015 | 67.765 | 71.871 |
| Height (men) | 1.670 | 0.009 | 244 | 355 | 1.457 | 0.005 | 1.652 | 1.687 |
| Height (women) | 1.581 | 0.005 | 370 | 527 | 1.243 | 0.003 | 1.571 | 1.591 |
| Waist/hip ratio (men) | 0.854 | 0.007 | 243 | 352 | 1.053 | 0.008 | 0.841 | 0.867 |
| Waist/hip ratio (women) | 0.905 | 0.045 | 368 | 525 | 0.910 | 0.049 | 0.815 | 0.994 |
| Hip circumference (men) | 91.345 | 1.102 | 243 | 352 | 1.333 | 0.012 | 89.138 | 93.553 |
| Hip circumference (women) | 102.030 | 1.188 | 368 | 525 | 1.096 | 0.012 | 99.653 | 104.406 |
| Body Mass Index (men) | 23.204 | 0.672 | 244 | 355 | 1.670 | 0.029 | 21.858 | 24.551 |
| Body Mass Index (women) | 27.932 | 0.439 | 370 | 527 | 1.078 | 0.016 | 27.053 | 28.811 |
| Overweight (men) | 0.165 | 0.027 | 244 | 355 | 1.100 | 0.164 | 0.111 | 0.219 |
| Overweight (women) | 0.282 | 0.021 | 370 | 527 | 0.869 | 0.075 | 0.239 | 0.324 |
| Obesity (men) | 0.088 | 0.033 | 244 | 355 | 1.553 | 0.370 | 0.023 | 0.154 |
| Obesity (women) | 0.319 | 0.030 | 370 | 527 | 1.145 | 0.094 | 0.259 | 0.379 |
| Nutrient intake (men) | 28.281 | 1.349 | 247 | 360 | 1.514 | 0.048 | 25.578 | 30.985 |
| Nutrient intake (women) | 29.152 | 0.866 | 392 | 560 | 1.337 | 0.030 | 27.418 | 30.885 |
| Physically inactive (men) | 0.586 | 0.032 | 217 | 320 | 0.919 | 0.055 | 0.521 | 0.651 |
| Physically inactive (women) | 0.844 | 0.027 | 331 | 55 | 1.296 | 0.031 | 0.791 | 0.897 |
| Total mets (men) | 3 645.271 | 318.908 | 217 | 320 | 1.025 | 0.087 | 3 006.166 | 4 284.376 |
| Total mets (women) | 1 561.754 | 266.919 | 331 | 55 | 1.494 | 0.171 | 1 027.651 | 2 095.857 |

Table B7 Sampling errors: Northern Cape 2003

| Variable | Value (R) | Standard error (SE) | Number of cases | | Design effect (DEFT) | Relative error (SE/R) | Confidence intervals | |
|---|-----------|---------------------|-----------------|---------------|----------------------|-----------------------|----------------------|-------------------|
| | | | Unweighted (N) | Weighted (WN) | | | Value- 2SE (R-2SE) | Value+ 2SE (R+2E) |
| WOMEN QUESTIONNAIRE | | | | | | | | |
| Urban residence | 0.788 | 0.021 | 777 | 125 | 1.436 | 0.027 | 0.746 | 0.830 |
| No education | 0.085 | 0.013 | 777 | 125 | 1.308 | 0.154 | 0.058 | 0.111 |
| With secondary education or higher | 0.708 | 0.022 | 777 | 125 | 1.344 | 0.031 | 0.664 | 0.752 |
| Never married (in union) | 0.475 | 0.020 | 777 | 125 | 1.095 | 0.041 | 0.436 | 0.515 |
| Currently married (in union) | 0.408 | 0.021 | 777 | 125 | 1.196 | 0.052 | 0.366 | 0.450 |
| Had first sex before age 18 | 0.322 | 0.025 | 610 | 98 | 1.306 | 0.077 | 0.273 | 0.372 |
| Married before age 20 | 0.166 | 0.016 | 610 | 98 | 1.074 | 0.098 | 0.133 | 0.198 |
| Children ever born | 1.692 | 0.066 | 777 | 125 | 1.097 | 0.039 | 1.559 | 1.824 |
| Children surviving | 1.594 | 0.063 | 777 | 125 | 1.108 | 0.039 | 1.469 | 1.719 |
| Children ever born to women 40-49 | 3.228 | 0.159 | 192 | 31 | 1.232 | 0.049 | 2.911 | 3.545 |
| Knowing any contraceptive method | 0.976 | 0.006 | 312 | 49 | 0.663 | 0.006 | 0.965 | 0.988 |
| Knowing any modern contraceptive method | 0.976 | 0.006 | 312 | 49 | 0.663 | 0.006 | 0.965 | 0.988 |
| Ever used any contraceptive method | 0.868 | 0.016 | 312 | 49 | 0.833 | 0.018 | 0.836 | 0.900 |
| Currently using any contraceptive method | 0.601 | 0.024 | 312 | 49 | 0.861 | 0.040 | 0.553 | 0.649 |
| Currently using a modern method | 0.601 | 0.024 | 312 | 49 | 0.861 | 0.040 | 0.553 | 0.649 |
| Currently using pill | 0.091 | 0.020 | 312 | 49 | 1.198 | 0.214 | 0.052 | 0.130 |
| Currently using 2 monthly injectables | 0.050 | 0.015 | 312 | 49 | 1.214 | 0.299 | 0.020 | 0.080 |
| Currently using 3 monthly injectables | 0.238 | 0.025 | 312 | 49 | 1.025 | 0.104 | 0.189 | 0.288 |
| Currently using female sterilization | 0.150 | 0.021 | 312 | 49 | 1.054 | 0.142 | 0.107 | 0.192 |
| Obtained method from public sector source | 0.867 | 0.025 | 363 | 58 | 1.412 | 0.029 | 0.816 | 0.917 |
| Want no more children | 0.694 | 0.032 | 320 | 51 | 1.259 | 0.047 | 0.629 | 0.759 |
| Want to delay birth at least 2 years | 0.098 | 0.019 | 320 | 51 | 1.152 | 0.195 | 0.060 | 0.137 |
| Ideal number of children | 2.456 | 0.057 | 774 | 124 | 1.125 | 0.023 | 2.343 | 2.569 |
| Mothers received tetanus injection for last birth | 0.615 | 0.033 | 257 | 41 | 1.088 | 0.054 | 0.549 | 0.681 |
| Mothers received medical care at delivery | 0.942 | 0.012 | 288 | 46 | 0.920 | 0.013 | 0.918 | 0.967 |
| Child had diarrhea in the last 2 weeks | 0.156 | 0.023 | 280 | 45 | 1.001 | 0.148 | 0.110 | 0.202 |
| Treated with ORS packets | 0.404 | 0.093 | 44 | 7 | 1.174 | 0.229 | 0.219 | 0.589 |
| Consulted medical personnel | 0.548 | 0.104 | 44 | 7 | 1.247 | 0.190 | 0.339 | 0.756 |
| Child having health card, seen | 0.847 | 0.045 | 58 | 9 | 0.929 | 0.053 | 0.758 | 0.936 |
| Child received BCG vaccination | 0.934 | 0.033 | 58 | 9 | 1.010 | 0.036 | 0.867 | 1.000 |
| Child received DPT vaccination (3 doses) | 0.868 | 0.047 | 58 | 9 | 1.042 | 0.054 | 0.773 | 0.962 |
| Child received polio vaccination (3 doses) | 0.855 | 0.040 | 58 | 9 | 0.842 | 0.046 | 0.776 | 0.934 |
| Child received measles vaccination | 0.806 | 0.059 | 58 | 9 | 1.117 | 0.073 | 0.688 | 0.924 |
| Child fully immunized | 0.740 | 0.057 | 58 | 9 | 0.976 | 0.077 | 0.626 | 0.854 |
| Had two or more sexual partners in last 12 months | 0.005 | 0.003 | 498 | 80 | 1.044 | 0.686 | 0.000 | 0.011 |
| Had higher risk sex in the last 12 months | 0.468 | 0.027 | 498 | 80 | 1.197 | 0.057 | 0.414 | 0.521 |
| Condom use at last higher risk sex-all | 0.354 | 0.028 | 230 | 37 | 0.885 | 0.079 | 0.298 | 0.410 |
| Condom use at last higher risk sex-youth | 0.433 | 0.050 | 118 | 19 | 1.096 | 0.116 | 0.333 | 0.534 |
| Abstinence among youth (never had sex) | 0.428 | 0.041 | 237 | 38 | 1.269 | 0.095 | 0.347 | 0.510 |
| Sexual activity in last 12 months | 0.433 | 0.038 | 237 | 38 | 1.172 | 0.087 | 0.358 | 0.509 |
| Had HIV test & received results in last 12 months | 0.116 | 0.016 | 777 | 125 | 1.425 | 0.141 | 0.083 | 0.149 |
| Accepting attitudes towards people with HIV | 0.420 | 0.025 | 705 | 115 | 1.331 | 0.059 | 0.370 | 0.469 |
| Total fertility rate (last 3 years) | 2.768 | 0.172 | na | 354 | 0.894 | 0.062 | 2.425 | 3.112 |
| Neonatal mortality (last 10 years) | 18.429 | 5.313 | 543 | 87 | 0.933 | 0.288 | 7.803 | 29.055 |
| Post-neonatal mortality (last 10 years) | 10.494 | 4.327 | 543 | 87 | 1.003 | 0.412 | 1.840 | 19.148 |
| Infant mortality (last 10 years) | 28.923 | 5.885 | 543 | 87 | 0.840 | 0.203 | 17.152 | 40.694 |
| Child mortality (last 10 years) | 10.458 | 4.020 | 545 | 87 | 0.948 | 0.384 | 2.417 | 18.499 |
| Under-five mortality (last 10 years) | 39.078 | 7.918 | 545 | 87 | 0.970 | 0.203 | 23.242 | 54.914 |
| MEN QUESTIONNAIRE | | | | | | | | |
| Urban residence | 0.791 | 0.023 | 374 | 59 | 1.073 | 0.029 | 0.746 | 0.836 |
| No education | 0.077 | 0.014 | 374 | 59 | 0.998 | 0.179 | 0.050 | 0.105 |
| Secondary education or higher | 0.718 | 0.026 | 374 | 59 | 1.106 | 0.036 | 0.667 | 0.770 |
| Never married (in union) | 0.500 | 0.026 | 374 | 59 | 1.006 | 0.052 | 0.448 | 0.552 |
| Currently married (in union) | 0.416 | 0.025 | 374 | 59 | 0.991 | 0.061 | 0.366 | 0.467 |
| Had sex before 18 | 0.575 | 0.027 | 293 | 46 | 0.939 | 0.047 | 0.520 | 0.629 |
| Had two or more sexual partners in last 12 months | 0.174 | 0.027 | 236 | 38 | 1.097 | 0.156 | 0.120 | 0.229 |
| Had higher risk sex in the last 12 months | 0.614 | 0.025 | 236 | 38 | 0.795 | 0.041 | 0.563 | 0.664 |
| Condom use at last higher risk sex-all | 0.582 | 0.036 | 143 | 23 | 0.860 | 0.061 | 0.511 | 0.654 |
| Condom use at last higher risk sex-youth | 0.697 | 0.061 | 58 | 9 | 0.996 | 0.087 | 0.576 | 0.818 |
| Abstinence among youth (never had sex) | 0.456 | 0.044 | 123 | 19 | 0.973 | 0.096 | 0.368 | 0.544 |
| Sexual activity in last 12 months | 0.451 | 0.047 | 123 | 19 | 1.050 | 0.105 | 0.356 | 0.545 |
| Ever had HIV test and received results | 0.258 | 0.030 | 330 | 52 | 1.228 | 0.115 | 0.198 | 0.317 |
| Circumcision | 0.341 | 0.031 | 330 | 216 | 1.183 | 0.091 | 0.279 | 0.403 |

| Variable | Number of cases | | | | Design effect (DEFT) | Relative error (SE/R) | Confidence intervals | |
|--|-----------------|---------------------|----------------|---------------|----------------------|-----------------------|----------------------|-----------|
| | Value (R) | Standard error (SE) | Unweighted (N) | Weighted (WN) | | | Variable | Value (R) |
| ADULT QUESTIONNAIRE | | | | | | | | |
| Systolic Blood Pressure (men) | 128.267 | 1.018 | 349 | 58 | 0.953 | 0.008 | 126.227 | 130.307 |
| Systolic Blood Pressure (women) | 126.237 | 1.074 | 536 | 89 | 1.113 | 0.009 | 124.089 | 128.384 |
| Diastolic Blood Pressure (men) | 74.761 | 0.932 | 349 | 58 | 1.231 | 0.012 | 72.895 | 76.627 |
| Diastolic Blood Pressure (women) | 77.933 | 0.589 | 536 | 89 | 1.005 | 0.008 | 76.756 | 79.109 |
| Pulse (men) | 73.969 | 0.926 | 348 | 58 | 1.238 | 0.013 | 72.114 | 75.824 |
| Pulse (women) | 81.344 | 0.718 | 536 | 89 | 1.227 | 0.009 | 79.908 | 82.780 |
| Hypertensive (men) | 0.147 | 0.018 | 362 | 60 | 0.981 | 0.124 | 0.110 | 0.183 |
| Hypertensive (women) | 0.220 | 0.020 | 552 | 92 | 1.149 | 0.092 | 0.179 | 0.260 |
| Airflow Limitation (men) | 0.138 | 0.016 | 362 | 60 | 1.004 | 0.115 | 0.106 | 0.169 |
| Airflow Limitation (women) | 0.211 | 0.016 | 552 | 92 | 1.167 | 0.074 | 0.180 | 0.242 |
| Chronic Bronchitis (men) | 0.096 | 0.016 | 362 | 60 | 1.701 | 0.170 | 0.064 | 0.129 |
| Chronic Bronchitis (women) | 0.108 | 0.014 | 552 | 92 | 2.305 | 0.128 | 0.080 | 0.135 |
| Abnormal Peak Flow (men) | 0.033 | 0.009 | 362 | 60 | 0.457 | 0.258 | 0.016 | 0.051 |
| Abnormal Peak Flow (women) | 0.019 | 0.006 | 552 | 92 | 0.341 | 0.317 | 0.007 | 0.031 |
| Currently smoking (occasionally of daily) (men) | 0.514 | 0.026 | 362 | 60 | 0.984 | 0.051 | 0.461 | 0.566 |
| Currently smoking (occasionally of daily) (women) | 0.350 | 0.028 | 552 | 92 | 1.369 | 0.080 | 0.294 | 0.406 |
| Abstainers - alcohol intake in last 12 months (men) | 0.482 | 0.028 | 362 | 60 | 1.061 | 0.059 | 0.426 | 0.539 |
| Abstainers - alcohol intake in last 12 months (women) | 0.707 | 0.023 | 552 | 92 | 1.158 | 0.032 | 0.661 | 0.752 |
| Responsible - alcohol intake in last 12 months (men) | 0.403 | 0.030 | 362 | 60 | 1.161 | 0.076 | 0.342 | 0.464 |
| Responsible - alcohol intake in last 12 months (women) | 0.223 | 0.019 | 552 | 92 | 1.041 | 0.084 | 0.186 | 0.261 |
| Hazardous - alcohol intake in last 12 months (men) | 0.039 | 0.012 | 362 | 60 | 1.167 | 0.309 | 0.015 | 0.063 |
| Hazardous - alcohol intake in last 12 months (women) | 0.026 | 0.006 | 552 | 92 | 0.961 | 0.248 | 0.013 | 0.039 |
| Harmful - alcohol intake in last 12 months (men) | 0.046 | 0.012 | 362 | 60 | 1.062 | 0.255 | 0.022 | 0.069 |
| Harmful - alcohol intake in last 12 months (women) | 0.029 | 0.009 | 552 | 92 | 1.280 | 0.319 | 0.011 | 0.048 |
| Adequate nutrient (men) | 0.109 | 0.028 | 359 | 59 | 1.626 | 0.256 | 0.053 | 0.165 |
| Adequate nutrient (women) | 0.113 | 0.026 | 547 | 91 | 1.819 | 0.227 | 0.062 | 0.164 |
| Weight (men) | 60.393 | 0.989 | 344 | 57 | 1.254 | 0.016 | 58.411 | 62.374 |
| Weight (women) | 62.808 | 0.839 | 538 | 89 | 1.070 | 0.013 | 61.129 | 64.486 |
| Height (men) | 1.663 | 0.005 | 348 | 58 | 1.163 | 0.003 | 1.652 | 1.674 |
| Height (women) | 1.560 | 0.004 | 538 | 89 | 1.299 | 0.003 | 1.551 | 1.568 |
| Waist/hip ratio (men) | 0.877 | 0.029 | 347 | 57 | 1.122 | 0.033 | 0.818 | 0.935 |
| Waist/hip ratio (women) | 0.832 | 0.027 | 537 | 89 | 0.979 | 0.032 | 0.779 | 0.885 |
| Hip circumference (men) | 89.725 | 0.786 | 347 | 57 | 1.131 | 0.009 | 88.149 | 91.301 |
| Hip circumference (women) | 99.786 | 0.864 | 537 | 89 | 1.147 | 0.009 | 98.059 | 101.513 |
| Body Mass Index (men) | 21.789 | 0.294 | 348 | 58 | 1.139 | 0.013 | 21.200 | 22.378 |
| Body Mass Index (women) | 25.821 | 0.282 | 538 | 89 | 0.888 | 0.011 | 25.256 | 26.385 |
| Overweight (men) | 0.138 | 0.022 | 348 | 58 | 1.189 | 0.164 | 0.093 | 0.183 |
| Overweight (women) | 0.216 | 0.014 | 538 | 89 | 0.772 | 0.064 | 0.189 | 0.244 |
| Obesity (men) | 0.054 | 0.014 | 348 | 58 | 1.117 | 0.258 | 0.026 | 0.082 |
| Obesity (women) | 0.242 | 0.018 | 538 | 89 | 0.947 | 0.074 | 0.206 | 0.278 |
| Nutrient intake (men) | 30.975 | 0.885 | 359 | 59 | 1.626 | 0.029 | 29.204 | 32.745 |
| Nutrient intake (women) | 30.513 | 0.838 | 547 | 91 | 1.953 | 0.027 | 28.837 | 32.188 |
| Physically inactive (men) | 0.764 | 0.023 | 365 | 523 | 0.990 | 0.030 | 0.718 | 0.810 |
| Physically inactive (women) | 0.950 | 0.009 | 526 | 87 | 0.921 | 0.009 | 0.933 | 0.968 |
| Total mets (men) | 2 196.422 | 201.029 | 365 | 523 | 1.008 | 0.092 | 1 794.1642 | 598.681 |
| Total mets (women) | 555.788 | 56.617 | 526 | 87 | 1.001 | 0.102 | 442.498 | 669.077 |

Table B8 Sampling errors: Free State 2003

| Variable | Number of cases | | | | Design effect (DEFT) | Relative error (SE/R) | Confidence intervals | |
|---|-----------------|---------------------|----------------|---------------|----------------------|-----------------------|----------------------|-------------------|
| | Value (R) | Standard error (SE) | Unweighted (N) | Weighted (WN) | | | Value- SE (R-2SE) | Value+ 2SE (R+2E) |
| WOMEN QUESTIONNAIRE | | | | | | | | |
| Urban residence | 0.815 | 0.020 | 796 | 443 | 1.444 | 0.024 | 0.776 | 0.855 |
| No education | 0.044 | 0.009 | 796 | 443 | 1.299 | 0.215 | 0.025 | 0.063 |
| With secondary education or higher | 0.709 | 0.027 | 796 | 443 | 1.696 | 0.039 | 0.654 | 0.763 |
| Never married (in union) | 0.521 | 0.023 | 796 | 443 | 1.304 | 0.044 | 0.475 | 0.567 |
| Currently married (in union) | 0.377 | 0.026 | 796 | 443 | 1.491 | 0.068 | 0.326 | 0.428 |
| Had first sex before age 18 | 0.428 | 0.024 | 624 | 348 | 1.199 | 0.055 | 0.381 | 0.476 |
| Married before age 20 | 0.221 | 0.025 | 624 | 348 | 1.484 | 0.112 | 0.171 | 0.270 |
| Children ever born | 1.524 | 0.078 | 796 | 443 | 1.306 | 0.051 | 1.368 | 1.679 |
| Children surviving | 1.416 | 0.071 | 796 | 443 | 1.292 | 0.050 | 1.273 | 1.558 |
| Children ever born to women 40-49 | 3.342 | 0.201 | 165 | 92 | 1.317 | 0.060 | 2.940 | 3.744 |
| Knowing any contraceptive method | 0.934 | 0.024 | 307 | 167 | 1.688 | 0.026 | 0.886 | 0.982 |
| Knowing any modern contraceptive method | 0.934 | 0.024 | 307 | 167 | 1.688 | 0.026 | 0.886 | 0.982 |
| Ever used any contraceptive method | 0.777 | 0.030 | 307 | 167 | 1.244 | 0.038 | 0.718 | 0.836 |
| Currently using any contraceptive method | 0.597 | 0.026 | 307 | 167 | 0.932 | 0.044 | 0.545 | 0.649 |
| Currently using a modern method | 0.597 | 0.026 | 307 | 167 | 0.932 | 0.044 | 0.545 | 0.649 |
| Currently using pill | 0.131 | 0.024 | 307 | 167 | 1.246 | 0.184 | 0.083 | 0.179 |
| Currently using 2 monthly injectables | 0.071 | 0.015 | 307 | 167 | 0.995 | 0.205 | 0.042 | 0.101 |
| Currently using 3 monthly injectables | 0.240 | 0.025 | 307 | 167 | 1.022 | 0.104 | 0.190 | 0.290 |
| Currently using female sterilization | 0.081 | 0.017 | 307 | 167 | 1.069 | 0.205 | 0.048 | 0.115 |
| Obtained method from public sector source | 0.900 | 0.020 | 374 | 204 | 1.273 | 0.022 | 0.860 | 0.939 |
| Want no more children | 0.674 | 0.031 | 304 | 167 | 1.153 | 0.046 | 0.612 | 0.736 |
| Want to delay birth at least 2 years | 0.106 | 0.016 | 304 | 167 | 0.921 | 0.154 | 0.073 | 0.138 |
| Ideal number of children | 2.176 | 0.055 | 786 | 437 | 1.242 | 0.025 | 2.067 | 2.285 |
| Mothers received tetanus injection for last birth | 0.669 | 0.030 | 212 | 117 | 0.924 | 0.045 | 0.608 | 0.729 |
| Mothers received medical care at delivery | 0.916 | 0.018 | 235 | 130 | 0.935 | 0.019 | 0.880 | 0.952 |
| Child had diarrhea in the last 2 weeks | 0.167 | 0.030 | 218 | 121 | 1.191 | 0.181 | 0.106 | 0.227 |
| Treated with ORS packets | 0.550 | 0.100 | 37 | 20 | 1.211 | 0.182 | 0.349 | 0.750 |
| Consulted medical personnel | 0.501 | 0.098 | 37 | 20 | 1.178 | 0.196 | 0.305 | 0.697 |
| Child having health card, seen | 0.703 | 0.075 | 48 | 29 | 1.176 | 0.107 | 0.553 | 0.853 |
| Child received BCG vaccination | 0.837 | 0.047 | 48 | 29 | 0.922 | 0.057 | 0.742 | 0.932 |
| Child received DPT vaccination (3 doses) | 0.683 | 0.080 | 48 | 29 | 1.226 | 0.117 | 0.524 | 0.842 |
| Child received polio vaccination (3 doses) | 0.690 | 0.078 | 48 | 29 | 1.210 | 0.113 | 0.534 | 0.846 |
| Child received measles vaccination | 0.663 | 0.058 | 48 | 29 | 0.877 | 0.087 | 0.547 | 0.779 |
| Child fully immunized | 0.509 | 0.054 | 48 | 29 | 0.767 | 0.105 | 0.402 | 0.616 |
| Had two or more sexual partners in last 12 months | 0.026 | 0.007 | 506 | 279 | 1.010 | 0.273 | 0.012 | 0.041 |
| Had higher risk sex in the last 12 months | 0.501 | 0.031 | 509 | 280 | 1.381 | 0.061 | 0.440 | 0.562 |
| Condom use at last higher risk sex-all | 0.434 | 0.032 | 255 | 140 | 1.025 | 0.073 | 0.370 | 0.498 |
| Condom use at last higher risk sex-youth | 0.523 | 0.049 | 129 | 72 | 1.099 | 0.093 | 0.426 | 0.620 |
| Abstinence among youth (never had sex) | 0.376 | 0.034 | 281 | 157 | 1.184 | 0.091 | 0.307 | 0.444 |
| Sexual activity in last 12 months | 0.409 | 0.029 | 281 | 157 | 0.996 | 0.072 | 0.351 | 0.468 |
| Had HIV test & received results in last 12 months | 0.070 | 0.011 | 796 | 443 | 1.255 | 0.162 | 0.047 | 0.093 |
| Accepting attitudes towards people with HIV | 0.419 | 0.019 | 758 | 424 | 1.045 | 0.045 | 0.381 | 0.456 |
| Total fertility rate (last 3 years) | 2.044 | 0.164 | na | 1250 | 1.150 | 0.080 | 1.717 | 2.372 |
| Neonatal mortality (last 10 years) | 32.838 | 9.201 | 504 | 278 | 1.120 | 0.280 | 14.436 | 51.240 |
| Post-neonatal mortality (last 10 years) | 15.081 | 8.740 | 504 | 278 | 1.321 | 0.580 | 0.000 | 32.562 |
| Infant mortality (last 10 years) | 47.919 | 14.113 | 504 | 278 | 1.315 | 0.295 | 19.693 | 76.145 |
| Child mortality (last 10 years) | 20.864 | 6.119 | 505 | 279 | 0.948 | 0.293 | 8.625 | 33.103 |
| Under-five mortality (last 10 years) | 67.783 | 15.262 | 505 | 279 | 1.257 | 0.225 | 37.260 | 98.307 |
| MEN QUESTIONNAIRE | | | | | | | | |
| Urban residence | 0.813 | 0.020 | 361 | 199 | 0.969 | 0.024 | 0.774 | 0.853 |
| No education | 0.075 | 0.019 | 361 | 199 | 1.356 | 0.250 | 0.038 | 0.113 |
| Secondary education or higher | 0.649 | 0.032 | 361 | 199 | 1.278 | 0.050 | 0.585 | 0.713 |
| Never married (in union) | 0.536 | 0.029 | 361 | 199 | 1.088 | 0.053 | 0.479 | 0.593 |
| Currently married (in union) | 0.390 | 0.027 | 361 | 199 | 1.040 | 0.069 | 0.337 | 0.444 |
| Had sex before 18 | 0.454 | 0.036 | 291 | 161 | 1.223 | 0.079 | 0.382 | 0.525 |
| Had two or more sexual partners in last 12 months | 0.173 | 0.031 | 236 | 131 | 1.271 | 0.181 | 0.110 | 0.236 |
| Had higher risk sex in the last 12 months | 0.613 | 0.035 | 236 | 131 | 1.092 | 0.057 | 0.543 | 0.682 |
| Condom use at last higher risk sex-all | 0.631 | 0.046 | 144 | 80 | 1.141 | 0.073 | 0.539 | 0.723 |
| Condom use at last higher risk sex-youth | 0.687 | 0.057 | 71 | 38 | 1.036 | 0.083 | 0.573 | 0.802 |
| Abstinence among youth (never had sex) | 0.369 | 0.052 | 133 | 74 | 1.231 | 0.140 | 0.266 | 0.472 |
| Sexual activity in last 12 months | 0.530 | 0.047 | 133 | 74 | 1.074 | 0.088 | 0.437 | 0.623 |
| Ever had HIV test and received results | 0.142 | 0.023 | 314 | 174 | 1.179 | 0.164 | 0.095 | 0.188 |
| Circumcision | 0.709 | 0.056 | 191 | 312 | 1.691 | 0.079 | 0.597 | 0.822 |

| Variable | Number of cases | | | | Design effect (DEFT) | Relative error (SE/R) | Confidence intervals | |
|--|-----------------|---------------------|----------------|---------------|----------------------|-----------------------|----------------------|-----------|
| | Value (R) | Standard error (SE) | Unweighted (N) | Weighted (WN) | | | Variable | Value (R) |
| ADULT QUESTIONNAIRE | | | | | | | | |
| Systolic Blood Pressure (men) | 124.719 | 0.994 | 391 | 222 | 0.008 | 0.986 | 122.728 | 126.709 |
| Systolic Blood Pressure (women) | 123.791 | 1.003 | 528 | 302 | 0.008 | 1.041 | 121.786 | 125.796 |
| Diastolic Blood Pressure (men) | 72.355 | 0.639 | 391 | 222 | 0.009 | 1.039 | 71.075 | 73.634 |
| Diastolic Blood Pressure (women) | 76.038 | 0.658 | 529 | 303 | 0.009 | 1.073 | 74.722 | 77.354 |
| Pulse (men) | 73.430 | 0.832 | 391 | 222 | 0.011 | 1.197 | 71.765 | 75.096 |
| Pulse (women) | 79.096 | 0.707 | 529 | 303 | 0.009 | 1.119 | 77.683 | 80.509 |
| Hypertensive (men) | 0.085 | 0.011 | 393 | 224 | 0.130 | 0.811 | 0.063 | 0.107 |
| Hypertensive (women) | 0.100 | 0.016 | 545 | 313 | 0.156 | 0.904 | 0.069 | 0.132 |
| Airflow Limitation (men) | 0.080 | 0.014 | 393 | 224 | 0.173 | 0.849 | 0.052 | 0.108 |
| Airflow Limitation (women) | 0.185 | 0.021 | 545 | 313 | 0.112 | 1.740 | 0.144 | 0.227 |
| Chronic Bronchitis (men) | 0.111 | 0.018 | 393 | 224 | 0.163 | 2.320 | 0.075 | 0.147 |
| Chronic Bronchitis (women) | 0.077 | 0.012 | 545 | 313 | 0.157 | 1.675 | 0.053 | 0.101 |
| Abnormal Peak Flow (men) | 0.025 | 0.008 | 393 | 224 | 0.331 | 0.557 | 0.008 | 0.041 |
| Abnormal Peak Flow (women) | 0.025 | 0.006 | 545 | 313 | 0.255 | 0.491 | 0.012 | 0.037 |
| Currently smoking (occasionally of daily) (men) | 0.406 | 0.028 | 393 | 224 | 0.068 | 1.064 | 0.350 | 0.461 |
| Currently smoking (occasionally of daily) (women) | 0.117 | 0.017 | 545 | 313 | 0.145 | 1.148 | 0.083 | 0.150 |
| Abstainers - alcohol intake in last 12 months (men) | 0.541 | 0.029 | 393 | 224 | 0.053 | 1.088 | 0.483 | 0.598 |
| Abstainers - alcohol intake in last 12 months (women) | 0.790 | 0.022 | 545 | 313 | 0.028 | 1.211 | 0.745 | 0.835 |
| Responsible - alcohol intake in last 12 months (men) | 0.342 | 0.026 | 393 | 224 | 0.075 | 1.025 | 0.291 | 0.393 |
| Responsible - alcohol intake in last 12 months (women) | 0.134 | 0.018 | 545 | 313 | 0.135 | 1.212 | 0.098 | 0.170 |
| Hazardous - alcohol intake in last 12 months (men) | 0.028 | 0.009 | 393 | 224 | 0.331 | 1.104 | 0.010 | 0.047 |
| Hazardous - alcohol intake in last 12 months (women) | 0.034 | 0.009 | 545 | 313 | 0.273 | 1.049 | 0.015 | 0.052 |
| Harmful - alcohol intake in last 12 months (men) | 0.055 | 0.015 | 393 | 224 | 0.272 | 1.132 | 0.025 | 0.085 |
| Harmful - alcohol intake in last 12 months (women) | 0.028 | 0.008 | 545 | 313 | 0.287 | 0.987 | 0.012 | 0.043 |
| Adequate nutrient (men) | 0.205 | 0.028 | 386 | 219 | 0.137 | 1.325 | 0.149 | 0.261 |
| Adequate nutrient (women) | 0.208 | 0.024 | 544 | 313 | 0.116 | 1.375 | 0.159 | 0.256 |
| Weight (men) | 62.497 | 1.131 | 381 | 217 | 0.018 | 1.455 | 60.234 | 64.760 |
| Weight (women) | 64.806 | 0.834 | 518 | 298 | 0.013 | 1.083 | 63.139 | 66.473 |
| Height (men) | 1.664 | 0.005 | 381 | 217 | 0.003 | 1.107 | 1.654 | 1.674 |
| Height (women) | 1.568 | 0.003 | 518 | 298 | 0.002 | 0.952 | 1.562 | 1.575 |
| Waist/hip ratio (men) | 0.872 | 0.024 | 381 | 217 | 0.027 | 0.943 | 0.824 | 0.919 |
| Waist/hip ratio (women) | 1.041 | 0.060 | 516 | 297 | 0.057 | 1.081 | 0.922 | 1.160 |
| Hip circumference (men) | 91.461 | 0.964 | 381 | 217 | 0.011 | 1.421 | 89.530 | 93.391 |
| Hip circumference (women) | 98.499 | 1.194 | 516 | 297 | 0.012 | 1.107 | 96.112 | 100.886 |
| Body Mass Index (men) | 22.592 | 0.340 | 381 | 217 | 0.015 | 1.272 | 21.911 | 23.274 |
| Body Mass Index (women) | 26.382 | 0.314 | 518 | 298 | 0.012 | 1.003 | 25.754 | 27.010 |
| Overweight (men) | 0.134 | 0.020 | 381 | 217 | 0.151 | 1.146 | 0.094 | 0.175 |
| Overweight (women) | 0.233 | 0.019 | 518 | 298 | 0.083 | 0.980 | 0.195 | 0.272 |
| Obesity (men) | 0.086 | 0.020 | 381 | 217 | 0.231 | 1.294 | 0.046 | 0.126 |
| Obesity (women) | 0.262 | 0.021 | 518 | 298 | 0.079 | 1.015 | 0.221 | 0.304 |
| Nutrient intake (men) | 27.201 | 1.050 | 386 | 219 | 0.039 | 1.613 | 25.098 | 29.303 |
| Nutrient intake (women) | 26.969 | 0.830 | 544 | 313 | 0.031 | 1.491 | 25.309 | 28.629 |
| Physically inactive (men) | 0.837 | 0.019 | 354 | 202 | 0.022 | 0.889 | 0.799 | 0.874 |
| Physically inactive (women) | 0.920 | 0.014 | 520 | 300 | 0.015 | 1.086 | 0.892 | 0.948 |
| Total mets (men) | 1 658.078 | 157.392 | 354 | 202 | 0.095 | 0.9331 | 342.905 | 1 973.251 |
| Total mets (women) | 834.592 | 73.735 | 520 | 300 | 0.088 | 0.990 | 687.150 | 982.034 |

Table B9 Sampling errors: KwaZulu-Natal 2003

| Variable | Value (R) | Standard error (SE) | Number of cases | | Design effect (DEFT) | Relative error (SE/R) | Confidence intervals | |
|---|-----------|---------------------|-----------------|---------------|----------------------|-----------------------|----------------------|-------------------|
| | | | Unweighted (N) | Weighted (WN) | | | Value- (R-2SE) | Value+ 2SE (R+2E) |
| WOMEN QUESTIONNAIRE | | | | | | | | |
| Urban residence | 0.539 | 0.033 | 1 219 | 1 177 | 2.302 | 0.061 | 0.473 | 0.605 |
| No education | 0.020 | 0.004 | 1 219 | 1 177 | 1.085 | 0.219 | 0.011 | 0.028 |
| With secondary education or higher | 0.850 | 0.017 | 1 219 | 1 177 | 1.622 | 0.020 | 0.816 | 0.883 |
| Never married (in union) | 0.637 | 0.025 | 1 219 | 1 177 | 1.818 | 0.039 | 0.587 | 0.687 |
| Currently married (in union) | 0.329 | 0.024 | 1 219 | 1 177 | 1.747 | 0.071 | 0.282 | 0.376 |
| Had first sex before age 18 | 0.313 | 0.020 | 995 | 942 | 1.384 | 0.065 | 0.273 | 0.354 |
| Married before age 20 | 0.152 | 0.014 | 995 | 942 | 1.269 | 0.095 | 0.123 | 0.181 |
| Children ever born | 1.071 | 0.042 | 1 219 | 1 177 | 1.165 | 0.039 | 0.987 | 1.154 |
| Children surviving | 1.051 | 0.041 | 1 219 | 1 177 | 1.152 | 0.039 | 0.969 | 1.133 |
| Children ever born to women 40-49 | 2.329 | 0.117 | 270 | 226 | 1.427 | 0.050 | 2.095 | 2.563 |
| Knowing any contraceptive method | 0.987 | 0.007 | 640 | 583 | 1.453 | 0.007 | 0.974 | 1.000 |
| Knowing any modern contraceptive method | 0.987 | 0.007 | 640 | 583 | 1.453 | 0.007 | 0.974 | 1.000 |
| Ever used any contraceptive method | 0.883 | 0.016 | 640 | 583 | 1.279 | 0.018 | 0.851 | 0.916 |
| Currently using any contraceptive method | 0.768 | 0.021 | 640 | 583 | 1.244 | 0.027 | 0.726 | 0.809 |
| Currently using a modern method | 0.768 | 0.021 | 640 | 583 | 1.244 | 0.027 | 0.726 | 0.809 |
| Currently using pill | 0.140 | 0.017 | 640 | 583 | 1.261 | 0.124 | 0.105 | 0.174 |
| Currently using 2 monthly injectables | 0.134 | 0.022 | 640 | 583 | 1.645 | 0.166 | 0.089 | 0.178 |
| Currently using 3 monthly injectables | 0.293 | 0.024 | 640 | 583 | 1.335 | 0.082 | 0.245 | 0.341 |
| Currently using female sterilization | 0.076 | 0.014 | 640 | 583 | 1.357 | 0.187 | 0.048 | 0.105 |
| Obtained method from public sector source | 0.853 | 0.016 | 676 | 664 | 1.208 | 0.019 | 0.820 | 0.886 |
| Want no more children | 0.545 | 0.036 | 528 | 387 | 1.659 | 0.066 | 0.473 | 0.617 |
| Want to delay birth at least 2 years | 0.052 | 0.013 | 528 | 387 | 1.387 | 0.258 | 0.025 | 0.079 |
| Ideal number of children | 2.355 | 0.044 | 1 210 | 1 168 | 1.336 | 0.019 | 2.268 | 2.442 |
| Mothers received tetanus injection for last birth | 0.554 | 0.050 | 145 | 107 | 1.054 | 0.090 | 0.454 | 0.653 |
| Mothers received medical care at delivery | 0.911 | 0.032 | 164 | 117 | 1.238 | 0.035 | 0.847 | 0.976 |
| Child had diarrhea in the last 2 weeks | 0.009 | 0.004 | 160 | 114 | 0.477 | 0.465 | 0.001 | 0.017 |
| Treated with ORS packets | 0.270 | 0.176 | 6 | 1 | 0.404 | 0.653 | 0.000 | 0.623 |
| Consulted medical personnel | 0.163 | 0.152 | 6 | 1 | 0.416 | 0.927 | 0.000 | 0.466 |
| Child having health card, seen | 0.558 | 0.100 | 43 | 25 | 1.033 | 0.180 | 0.358 | 0.759 |
| Child received BCG vaccination | 0.785 | 0.100 | 43 | 25 | 1.243 | 0.127 | 0.585 | 0.985 |
| Child received DPT vaccination (3 doses) | 0.558 | 0.100 | 43 | 25 | 1.033 | 0.180 | 0.358 | 0.759 |
| Child received polio vaccination (3 doses) | 0.558 | 0.100 | 43 | 25 | 1.033 | 0.180 | 0.358 | 0.759 |
| Child received measles vaccination | 0.596 | 0.081 | 43 | 25 | 0.840 | 0.135 | 0.435 | 0.758 |
| Child fully immunized | 0.470 | 0.069 | 43 | 25 | 0.711 | 0.148 | 0.331 | 0.609 |
| Had two or more sexual partners in last 12 months | 0.013 | 0.004 | 824 | 790 | 0.949 | 0.284 | 0.006 | 0.021 |
| Had higher risk sex in the last 12 months | 0.614 | 0.029 | 828 | 797 | 1.709 | 0.047 | 0.556 | 0.672 |
| Condom use at last higher risk sex-all | 0.577 | 0.033 | 357 | 489 | 1.277 | 0.058 | 0.510 | 0.643 |
| Condom use at last higher risk sex-youth | 0.654 | 0.045 | 108 | 146 | 0.987 | 0.069 | 0.563 | 0.745 |
| Abstinence among youth (never had sex) | 0.622 | 0.032 | 374 | 404 | 1.293 | 0.052 | 0.557 | 0.687 |
| Sexual activity in last 12 months | 0.361 | 0.034 | 374 | 404 | 1.349 | 0.093 | 0.294 | 0.428 |
| Had HIV test & received results in last 12 months | 0.043 | 0.010 | 1 219 | 1 177 | 1.655 | 0.223 | 0.024 | 0.063 |
| Accepting attitudes towards people with HIV | 0.286 | 0.026 | 1 137 | 1 069 | 1.949 | 0.091 | 0.233 | 0.338 |
| Total fertility rate (last 3 years) | 0.623 | 0.107 | na | 3 304 | 1.523 | 0.171 | 0.410 | 0.836 |
| Neonatal mortality (last 10 years) | 23.089 | 8.782 | 515 | 437 | 1.084 | 0.380 | 5.526 | 40.652 |
| Post-neonatal mortality (last 10 years) | 6.842 | 4.639 | 516 | 439 | 1.330 | 0.678 | 0.000 | 16.121 |
| Infant mortality (last 10 years) | 29.931 | 11.964 | 516 | 439 | 1.430 | 0.400 | 6.004 | 53.858 |
| Child mortality (last 10 years) | 3.318 | 2.191 | 515 | 437 | 1.001 | 0.660 | 0.000 | 7.699 |
| Under-five mortality (last 10 years) | 33.150 | 12.031 | 516 | 439 | 1.376 | 0.363 | 9.087 | 57.212 |
| MEN QUESTIONNAIRE | | | | | | | | |
| Urban residence | 0.535 | 0.043 | 702 | 701 | 2.305 | 0.081 | 0.448 | 0.622 |
| No education | 0.021 | 0.006 | 702 | 701 | 1.122 | 0.293 | 0.008 | 0.033 |
| Secondary education or higher | 0.886 | 0.016 | 702 | 701 | 1.361 | 0.018 | 0.853 | 0.919 |
| Never married (in union) | 0.630 | 0.023 | 702 | 701 | 1.269 | 0.037 | 0.584 | 0.677 |
| Currently married (in union) | 0.326 | 0.022 | 702 | 701 | 1.222 | 0.066 | 0.283 | 0.369 |
| Had sex before 18 | 0.354 | 0.021 | 575 | 566 | 1.062 | 0.060 | 0.312 | 0.397 |
| Had two or more sexual partners in last 12 months | 0.165 | 0.034 | 445 | 447 | 1.951 | 0.208 | 0.096 | 0.234 |
| Had higher risk sex in the last 12 months | 0.682 | 0.033 | 446 | 448 | 1.488 | 0.048 | 0.616 | 0.748 |
| Condom use at last higher risk sex-all | 0.773 | 0.031 | 270 | 306 | 1.212 | 0.040 | 0.711 | 0.835 |
| Condom use at last higher risk sex-youth | 0.729 | 0.065 | 99 | 102 | 1.456 | 0.090 | 0.598 | 0.860 |
| Abstinence among youth (never had sex) | 0.518 | 0.040 | 218 | 232 | 1.179 | 0.077 | 0.438 | 0.598 |
| Sexual activity in last 12 months | 0.427 | 0.039 | 218 | 232 | 1.171 | 0.092 | 0.348 | 0.505 |
| Ever had HIV test and received results | 0.175 | 0.023 | 594 | 612 | 1.461 | 0.130 | 0.129 | 0.220 |
| Circumcision | 0.268 | 0.026 | 361 | 199 | 1.124 | 0.099 | 0.215 | 0.321 |

| Variable | Number of cases | | | | Design effect (DEFT) | Relative error (SE/R) | Confidence intervals | |
|--|-----------------|---------------------|----------------|---------------|----------------------|-----------------------|----------------------|-----------|
| | Value (R) | Standard error (SE) | Unweighted (N) | Weighted (WN) | | | Variable | Value (R) |
| ADULT QUESTIONNAIRE | | | | | | | | |
| Systolic Blood Pressure (men) | 119.193 | 0.828 | 712 | 751 | 0.007 | 1.281 | 117.551 | 120.834 |
| Systolic Blood Pressure (women) | 118.598 | 0.949 | 877 | 851 | 0.008 | 1.149 | 116.718 | 120.478 |
| Diastolic Blood Pressure (men) | 72.840 | 0.635 | 716 | 757 | 0.009 | 1.121 | 71.581 | 74.099 |
| Diastolic Blood Pressure (women) | 74.358 | 0.513 | 886 | 864 | 0.007 | 0.951 | 73.342 | 75.374 |
| Pulse (men) | 71.536 | 0.754 | 716 | 757 | 0.011 | 1.333 | 70.042 | 73.030 |
| Pulse (women) | 74.819 | 0.539 | 885 | 862 | 0.007 | 1.106 | 73.751 | 75.887 |
| Hypertensive (men) | 0.032 | 0.008 | 731 | 781 | 0.254 | 0.772 | 0.016 | 0.048 |
| Hypertensive (women) | 0.038 | 0.013 | 909 | 888 | 0.336 | 1.200 | 0.013 | 0.064 |
| Airflow Limitation (men) | 0.066 | 0.011 | 731 | 781 | 0.172 | 2.649 | 0.044 | 0.089 |
| Airflow Limitation (women) | 0.085 | 0.011 | 909 | 888 | 0.130 | 1.762 | 0.063 | 0.108 |
| Chronic Bronchitis (men) | 0.014 | 0.004 | 731 | 781 | 0.309 | 10.953 | 0.006 | 0.023 |
| Chronic Bronchitis (women) | 0.035 | 0.008 | 909 | 888 | 0.226 | 26.721 | 0.019 | 0.051 |
| Abnormal Peak Flow (men) | 0.001 | 0.000 | 731 | 781 | 0.598 | 0.056 | 0.000 | 0.001 |
| Abnormal Peak Flow (women) | 0.000 | 0.000 | 909 | 888 | 1.008 | 0.056 | 0.000 | 0.001 |
| Currently smoking (occasionally of daily) (men) | 0.210 | 0.022 | 731 | 781 | 0.106 | 1.256 | 0.166 | 0.255 |
| Currently smoking (occasionally of daily) (women) | 0.042 | 0.010 | 909 | 888 | 0.240 | 1.180 | 0.022 | 0.061 |
| Abstainers - alcohol intake in last 12 months (men) | 0.859 | 0.018 | 731 | 781 | 0.021 | 1.216 | 0.823 | 0.895 |
| Abstainers - alcohol intake in last 12 months (women) | 0.964 | 0.008 | 909 | 888 | 0.008 | 1.196 | 0.949 | 0.979 |
| Responsible - alcohol intake in last 12 months (men) | 0.078 | 0.013 | 731 | 781 | 0.168 | 1.206 | 0.052 | 0.104 |
| Responsible - alcohol intake in last 12 months (women) | 0.030 | 0.007 | 909 | 888 | 0.223 | 1.205 | 0.017 | 0.044 |
| Hazardous - alcohol intake in last 12 months (men) | 0.016 | 0.005 | 731 | 781 | 0.338 | 0.962 | 0.005 | 0.027 |
| Hazardous - alcohol intake in last 12 months (women) | 0.000 | - | 909 | 888 | . | . | . | . |
| Harmful - alcohol intake in last 12 months (men) | 0.002 | 0.001 | 731 | 781 | 0.484 | 1.017 | 0.000 | 0.003 |
| Harmful - alcohol intake in last 12 months (women) | 0.003 | 0.002 | 909 | 888 | 0.699 | 0.988 | 0.000 | 0.007 |
| Adequate nutrient (men) | 0.546 | 0.029 | 728 | 777 | 0.053 | 1.323 | 0.489 | 0.604 |
| Adequate nutrient (women) | 0.642 | 0.025 | 907 | 887 | 0.039 | 1.329 | 0.592 | 0.692 |
| Weight (men) | 68.011 | 0.594 | 698 | 729 | 0.009 | 1.113 | 66.834 | 69.188 |
| Weight (women) | 70.598 | 0.973 | 869 | 831 | 0.014 | 1.386 | 68.669 | 72.526 |
| Height (men) | 1.671 | 0.006 | 701 | 734 | 0.004 | 1.209 | 1.659 | 1.682 |
| Height (women) | 1.622 | 0.005 | 869 | 831 | 0.003 | 1.337 | 1.611 | 1.632 |
| Waist/hip ratio (men) | 1.003 | 0.061 | 695 | 723 | 0.061 | 1.221 | 0.882 | 1.124 |
| Waist/hip ratio (women) | 1.305 | 0.105 | 863 | 822 | 0.080 | 1.316 | 1.098 | 1.513 |
| Hip circumference (men) | 90.007 | 1.089 | 695 | 723 | 0.012 | 1.231 | 87.849 | 92.165 |
| Hip circumference (women) | 93.631 | 1.708 | 863 | 822 | 0.018 | 1.249 | 90.247 | 97.014 |
| Body Mass Index (men) | 24.522 | 0.265 | 701 | 734 | 0.011 | 1.213 | 23.997 | 25.047 |
| Body Mass Index (women) | 26.935 | 0.411 | 869 | 831 | 0.015 | 1.485 | 26.121 | 27.749 |
| Overweight (men) | 0.319 | 0.020 | 701 | 734 | 0.063 | 0.952 | 0.280 | 0.359 |
| Overweight (women) | 0.330 | 0.022 | 869 | 831 | 0.068 | 1.139 | 0.286 | 0.375 |
| Obesity (men) | 0.090 | 0.015 | 701 | 734 | 0.172 | 1.188 | 0.059 | 0.121 |
| Obesity (women) | 0.245 | 0.022 | 869 | 831 | 0.089 | 1.180 | 0.202 | 0.288 |
| Nutrient intake (men) | 15.469 | 0.704 | 728 | 777 | 0.046 | 1.441 | 14.075 | 16.864 |
| Nutrient intake (women) | 13.227 | 0.580 | 907 | 887 | 0.044 | 1.440 | 12.077 | 14.377 |
| Physically inactive (men) | 0.855 | 0.014 | 629 | 678 | 0.017 | 0.868 | 0.827 | 0.883 |
| Physically inactive (women) | 0.940 | 0.010 | 852 | 810 | 0.011 | 1.060 | 0.920 | 0.960 |
| Total mets (men) | 1 193.476 | 103.280 | 629 | 678 | 0.087 | 0.926 | 988.779 | 1 398.174 |
| Total mets (women) | 615.535 | 98.180 | 852 | 810 | 0.160 | 1.053 | 420.985 | 810.084 |

Table B10 Sampling errors: North West 2003

| Variable | Number of cases | | | | Design effect (DEFT) | Relative error (SE/R) | Confidence intervals | |
|---|-----------------|---------------------|----------------|---------------|----------------------|-----------------------|----------------------|-------------------|
| | Value (R) | Standard error (SE) | Unweighted (N) | Weighted (WN) | | | Value- SE (R-2SE) | Value+ 2SE (R+2E) |
| WOMEN QUESTIONNAIRE | | | | | | | | |
| Urban residence | 0.432 | 0.020 | 749 | 523 | 1.116 | 0.047 | 0.392 | 0.472 |
| No education | 0.069 | 0.009 | 749 | 523 | 1.021 | 0.137 | 0.050 | 0.088 |
| With secondary education or higher | 0.691 | 0.020 | 749 | 523 | 1.157 | 0.028 | 0.652 | 0.730 |
| Never married (in union) | 0.659 | 0.022 | 749 | 523 | 1.263 | 0.033 | 0.616 | 0.703 |
| Currently married (in union) | 0.279 | 0.022 | 749 | 523 | 1.348 | 0.079 | 0.235 | 0.323 |
| Had first sex before age 18 | 0.490 | 0.026 | 613 | 429 | 1.273 | 0.053 | 0.438 | 0.541 |
| Married before age 20 | 0.151 | 0.018 | 613 | 429 | 1.256 | 0.120 | 0.115 | 0.187 |
| Children ever born | 1.596 | 0.056 | 749 | 523 | 0.922 | 0.035 | 1.484 | 1.708 |
| Children surviving | 1.491 | 0.054 | 749 | 523 | 0.942 | 0.036 | 1.383 | 1.599 |
| Children ever born to women 40-49 | 3.489 | 0.160 | 131 | 91 | 1.051 | 0.046 | 3.169 | 3.808 |
| Knowing any contraceptive method | 0.978 | 0.009 | 322 | 227 | 1.069 | 0.009 | 0.961 | 0.996 |
| Knowing any modern contraceptive method | 0.978 | 0.009 | 322 | 227 | 1.069 | 0.009 | 0.961 | 0.996 |
| Ever used any contraceptive method | 0.895 | 0.023 | 322 | 227 | 1.343 | 0.026 | 0.849 | 0.941 |
| Currently using any contraceptive method | 0.605 | 0.026 | 322 | 227 | 0.949 | 0.043 | 0.553 | 0.657 |
| Currently using a modern method | 0.605 | 0.026 | 322 | 227 | 0.949 | 0.043 | 0.553 | 0.657 |
| Currently using pill | 0.134 | 0.016 | 322 | 227 | 0.844 | 0.120 | 0.102 | 0.166 |
| Currently using 2 monthly injectables | 0.126 | 0.018 | 322 | 227 | 0.968 | 0.142 | 0.090 | 0.162 |
| Currently using 3 monthly injectables | 0.186 | 0.021 | 322 | 227 | 0.986 | 0.115 | 0.143 | 0.228 |
| Currently using female sterilization | 0.069 | 0.015 | 322 | 227 | 1.082 | 0.221 | 0.039 | 0.100 |
| Obtained method from public sector source | 0.879 | 0.020 | 363 | 254 | 1.188 | 0.023 | 0.838 | 0.920 |
| Want no more children | 0.686 | 0.035 | 208 | 146 | 1.081 | 0.051 | 0.616 | 0.755 |
| Want to delay birth at least 2 years | 0.106 | 0.018 | 208 | 146 | 0.857 | 0.173 | 0.069 | 0.143 |
| Ideal number of children | 2.529 | 0.044 | 745 | 521 | 1.056 | 0.017 | 2.442 | 2.616 |
| Mothers received tetanus injection for last birth | 0.540 | 0.026 | 247 | 173 | 0.818 | 0.048 | 0.488 | 0.592 |
| Mothers received medical care at delivery | 0.933 | 0.017 | 275 | 192 | 1.000 | 0.018 | 0.899 | 0.966 |
| Child had diarrhea in the last 2 weeks | 0.072 | 0.014 | 262 | 183 | 0.867 | 0.193 | 0.044 | 0.100 |
| Treated with ORS packets | 0.419 | 0.106 | 19 | 13 | 0.934 | 0.253 | 0.207 | 0.631 |
| Consulted medical personnel | 0.408 | 0.097 | 19 | 13 | 0.856 | 0.237 | 0.214 | 0.601 |
| Child having health card, seen | 0.637 | 0.060 | 57 | 40 | 0.932 | 0.093 | 0.518 | 0.757 |
| Child received BCG vaccination | 0.741 | 0.059 | 57 | 40 | 1.008 | 0.079 | 0.624 | 0.858 |
| Child received DPT vaccination (3 doses) | 0.629 | 0.060 | 57 | 40 | 0.931 | 0.095 | 0.510 | 0.749 |
| Child received polio vaccination (3 doses) | 0.651 | 0.063 | 57 | 40 | 0.989 | 0.096 | 0.525 | 0.776 |
| Child received measles vaccination | 0.672 | 0.049 | 57 | 40 | 0.785 | 0.073 | 0.574 | 0.770 |
| Child fully immunized | 0.560 | 0.056 | 57 | 40 | 0.851 | 0.100 | 0.448 | 0.673 |
| Had two or more sexual partners in last 12 months | 0.045 | 0.010 | 515 | 360 | 1.054 | 0.214 | 0.026 | 0.064 |
| Had higher risk sex in the last 12 months | 0.658 | 0.027 | 516 | 361 | 1.293 | 0.041 | 0.604 | 0.712 |
| Condom use at last higher risk sex-all | 0.434 | 0.027 | 341 | 237 | 1.009 | 0.062 | 0.380 | 0.488 |
| Condom use at last higher risk sex-youth | 0.550 | 0.048 | 153 | 105 | 1.180 | 0.087 | 0.455 | 0.645 |
| Abstinence among youth (never had sex) | 0.315 | 0.025 | 274 | 190 | 0.900 | 0.080 | 0.264 | 0.366 |
| Sexual activity in last 12 months | 0.555 | 0.028 | 274 | 190 | 0.939 | 0.051 | 0.498 | 0.611 |
| Had HIV test & received results in last 12 months | 0.073 | 0.008 | 749 | 523 | 0.866 | 0.112 | 0.057 | 0.090 |
| Accepting attitudes towards people with HIV | 0.549 | 0.017 | 676 | 475 | 0.885 | 0.031 | 0.515 | 0.583 |
| Total fertility rate (last 3 years) | 2.524 | 0.171 | na | 1495 | 0.994 | 0.068 | 2.182 | 2.866 |
| Neonatal mortality (last 10 years) | 26.525 | 9.654 | 529 | 368 | 1.218 | 0.364 | 7.217 | 45.832 |
| Post-neonatal mortality (last 10 years) | 35.022 | 8.328 | 530 | 369 | 1.004 | 0.238 | 18.366 | 51.679 |
| Infant mortality (last 10 years) | 61.547 | 14.348 | 530 | 369 | 1.237 | 0.233 | 32.850 | 90.244 |
| Child mortality (last 10 years) | 15.564 | 5.214 | 530 | 368 | 0.934 | 0.335 | 5.136 | 25.992 |
| Under-five mortality (last 10 years) | 76.153 | 15.869 | 531 | 369 | 1.232 | 0.208 | 44.415 | 107.891 |
| MEN QUESTIONNAIRE | | | | | | | | |
| Urban residence | 0.445 | 0.027 | 330 | 216 | 0.976 | 0.060 | 0.392 | 0.499 |
| No education | 0.092 | 0.017 | 330 | 216 | 1.069 | 0.185 | 0.058 | 0.126 |
| Secondary education or higher | 0.679 | 0.029 | 330 | 216 | 1.107 | 0.042 | 0.622 | 0.736 |
| Never married (in union) | 0.670 | 0.025 | 330 | 216 | 0.963 | 0.037 | 0.621 | 0.720 |
| Currently married (in union) | 0.257 | 0.028 | 330 | 216 | 1.143 | 0.107 | 0.202 | 0.312 |
| Had sex before 18 | 0.495 | 0.033 | 256 | 169 | 1.060 | 0.067 | 0.428 | 0.561 |
| Had two or more sexual partners in last 12 months | 0.283 | 0.038 | 224 | 149 | 1.250 | 0.133 | 0.207 | 0.358 |
| Had higher risk sex in the last 12 months | 0.772 | 0.032 | 226 | 150 | 1.157 | 0.042 | 0.707 | 0.837 |
| Condom use at last higher risk sex-all | 0.774 | 0.034 | 173 | 116 | 1.077 | 0.044 | 0.705 | 0.843 |
| Condom use at last higher risk sex-youth | 0.838 | 0.032 | 90 | 61 | 0.827 | 0.039 | 0.774 | 0.903 |
| Abstinence among youth (never had sex) | 0.289 | 0.044 | 147 | 97 | 1.168 | 0.152 | 0.201 | 0.376 |
| Sexual activity in last 12 months | 0.632 | 0.046 | 147 | 97 | 1.165 | 0.074 | 0.539 | 0.725 |
| Ever had HIV test and received results | 0.162 | 0.023 | 298 | 196 | 1.091 | 0.144 | 0.115 | 0.208 |
| Circumcision | 0.328 | 0.031 | 346 | 208 | 1.229 | 0.094 | 0.266 | 0.389 |

| Variable | Number of cases | | | | Design effect (DEFT) | Relative error (SE/R) | Confidence intervals | |
|--|-----------------|---------------------|----------------|---------------|----------------------|-----------------------|----------------------|-----------|
| | Value (R) | Standard error (SE) | Unweighted (N) | Weighted (WN) | | | Variable | Value (R) |
| ADULT QUESTIONNAIRE | | | | | | | | |
| Systolic Blood Pressure (men) | 121.710 | 1.017 | 333 | 247 | 0.008 | 1.034 | 119.675 | 123.746 |
| Systolic Blood Pressure (women) | 122.220 | 1.166 | 496 | 362 | 0.010 | 1.091 | 119.887 | 124.553 |
| Diastolic Blood Pressure (men) | 72.085 | 0.913 | 333 | 247 | 0.013 | 1.240 | 70.258 | 73.911 |
| Diastolic Blood Pressure (women) | 74.882 | 0.603 | 498 | 364 | 0.008 | 1.015 | 73.676 | 76.088 |
| Pulse (men) | 70.786 | 0.859 | 333 | 247 | 0.012 | 1.191 | 69.067 | 72.504 |
| Pulse (women) | 78.062 | 0.661 | 498 | 364 | 0.008 | 1.231 | 76.741 | 79.384 |
| Hypertensive (men) | 0.053 | 0.011 | 335 | 248 | 0.208 | 0.714 | 0.031 | 0.075 |
| Hypertensive (women) | 0.074 | 0.013 | 510 | 373 | 0.181 | 0.827 | 0.047 | 0.101 |
| Airflow Limitation (men) | 0.080 | 0.016 | 335 | 248 | 0.197 | 1.088 | 0.048 | 0.111 |
| Airflow Limitation (women) | 0.152 | 0.014 | 510 | 373 | 0.096 | 1.185 | 0.123 | 0.181 |
| Chronic Bronchitis (men) | 0.074 | 0.013 | 335 | 248 | 0.178 | 1.958 | 0.048 | 0.100 |
| Chronic Bronchitis (women) | 0.078 | 0.012 | 510 | 373 | 0.154 | 1.430 | 0.054 | 0.102 |
| Abnormal Peak Flow (men) | 0.016 | 0.007 | 335 | 248 | 0.453 | 0.619 | 0.002 | 0.031 |
| Abnormal Peak Flow (women) | 0.036 | 0.008 | 510 | 373 | 0.218 | 0.665 | 0.020 | 0.051 |
| Currently smoking (occasionally of daily) (men) | 0.376 | 0.032 | 335 | 248 | 0.086 | 1.209 | 0.311 | 0.441 |
| Currently smoking (occasionally of daily) (women) | 0.073 | 0.015 | 510 | 373 | 0.206 | 1.253 | 0.043 | 0.102 |
| Abstainers - alcohol intake in last 12 months (men) | 0.475 | 0.029 | 335 | 248 | 0.062 | 1.060 | 0.416 | 0.533 |
| Abstainers - alcohol intake in last 12 months (women) | 0.818 | 0.022 | 510 | 373 | 0.027 | 1.246 | 0.774 | 0.862 |
| Responsible - alcohol intake in last 12 months (men) | 0.418 | 0.031 | 335 | 248 | 0.075 | 1.152 | 0.355 | 0.481 |
| Responsible - alcohol intake in last 12 months (women) | 0.142 | 0.019 | 510 | 373 | 0.134 | 1.195 | 0.104 | 0.180 |
| Hazardous - alcohol intake in last 12 months (men) | 0.019 | 0.009 | 335 | 248 | 0.482 | 1.180 | 0.001 | 0.036 |
| Hazardous - alcohol intake in last 12 months (women) | 0.015 | 0.005 | 510 | 373 | 0.368 | 0.964 | 0.004 | 0.025 |
| Harmful - alcohol intake in last 12 months (men) | 0.063 | 0.015 | 335 | 248 | 0.242 | 1.160 | 0.032 | 0.094 |
| Harmful - alcohol intake in last 12 months (women) | 0.020 | 0.006 | 510 | 373 | 0.299 | 0.944 | 0.008 | 0.032 |
| Adequate nutrient (men) | 0.140 | 0.029 | 334 | 248 | 0.207 | 1.493 | 0.082 | 0.197 |
| Adequate nutrient (women) | 0.127 | 0.019 | 509 | 372 | 0.147 | 1.224 | 0.089 | 0.164 |
| Weight (men) | 62.553 | 0.799 | 328 | 243 | 0.013 | 1.110 | 60.955 | 64.152 |
| Weight (women) | 65.937 | 0.932 | 494 | 361 | 0.014 | 1.108 | 64.072 | 67.802 |
| Height (men) | 1.684 | 0.005 | 328 | 243 | 0.003 | 1.169 | 1.673 | 1.694 |
| Height (women) | 1.581 | 0.004 | 494 | 361 | 0.003 | 1.264 | 1.573 | 1.589 |
| Waist/hip ratio (men) | 0.861 | 0.005 | 327 | 242 | 0.006 | 1.157 | 0.850 | 0.872 |
| Waist/hip ratio (women) | 0.829 | 0.023 | 492 | 360 | 0.028 | 0.980 | 0.782 | 0.875 |
| Hip circumference (men) | 88.796 | 0.578 | 327 | 242 | 0.007 | 0.963 | 87.639 | 89.953 |
| Hip circumference (women) | 103.447 | 0.969 | 492 | 360 | 0.009 | 1.179 | 101.510 | 105.385 |
| Body Mass Index (men) | 22.081 | 0.264 | 328 | 243 | 0.012 | 1.051 | 21.552 | 22.610 |
| Body Mass Index (women) | 26.363 | 0.349 | 494 | 361 | 0.013 | 1.089 | 25.665 | 27.061 |
| Overweight (men) | 0.175 | 0.023 | 328 | 243 | 0.132 | 1.080 | 0.129 | 0.222 |
| Overweight (women) | 0.251 | 0.023 | 494 | 361 | 0.091 | 1.144 | 0.205 | 0.296 |
| Obesity (men) | 0.048 | 0.012 | 328 | 243 | 0.256 | 1.004 | 0.023 | 0.072 |
| Obesity (women) | 0.244 | 0.017 | 494 | 361 | 0.070 | 0.868 | 0.210 | 0.277 |
| Nutrient intake (men) | 28.257 | 0.833 | 334 | 248 | 0.029 | 1.529 | 26.591 | 29.923 |
| Nutrient intake (women) | 28.702 | 0.522 | 509 | 372 | 0.018 | 1.220 | 27.658 | 29.746 |
| Physically inactive (men) | 0.752 | 0.027 | 298 | 221 | 0.036 | 1.056 | 0.698 | 0.806 |
| Physically inactive (women) | 0.942 | 0.012 | 457 | 334 | 0.012 | 1.051 | 0.919 | 0.966 |
| Total mets (men) | 2 551.413 | 320.162 | 298 | 221 | 0.125 | 1.133 | 1 910.993 | 3 191.832 |
| Total mets (women) | 630.481 | 70.251 | 457 | 334 | 0.111 | 1.031 | 489.957 | 771.005 |

Table B11 Sampling errors: Gauteng 2003

| Variable | Number of cases | | | | Design effect (DEFT) | Relative error (SE/R) | Confidence intervals | |
|---|-----------------|---------------------|----------------|---------------|----------------------|-----------------------|----------------------|-------------------|
| | Value (R) | Standard error (SE) | Unweighted (N) | Weighted (WN) | | | Value- SE (R-2SE) | Value+ 2SE (R+2E) |
| WOMEN QUESTIONNAIRE | | | | | | | | |
| Urban residence | 0.993 | 0.004 | 722 | 1854 | 1.358 | 0.004 | 0.984 | 1.000 |
| No education | 0.055 | 0.010 | 722 | 1854 | 1.231 | 0.190 | 0.034 | 0.076 |
| With secondary education or higher | 0.839 | 0.015 | 722 | 1854 | 1.118 | 0.018 | 0.809 | 0.870 |
| Never married (in union) | 0.481 | 0.014 | 722 | 1854 | 0.742 | 0.029 | 0.453 | 0.509 |
| Currently married (in union) | 0.425 | 0.015 | 722 | 1854 | 0.809 | 0.035 | 0.395 | 0.455 |
| Had first sex before age 18 | 0.432 | 0.020 | 615 | 1577 | 0.978 | 0.045 | 0.392 | 0.471 |
| Married before age 20 | 0.210 | 0.020 | 615 | 1577 | 1.219 | 0.095 | 0.170 | 0.250 |
| Children ever born | 1.708 | 0.063 | 722 | 1854 | 1.009 | 0.037 | 1.581 | 1.834 |
| Children surviving | 1.629 | 0.063 | 722 | 1854 | 1.063 | 0.039 | 1.502 | 1.755 |
| Children ever born to women 40-49 | 3.115 | 0.170 | 177 | 452 | 1.155 | 0.055 | 2.775 | 3.456 |
| Knowing any contraceptive method | 0.941 | 0.012 | 382 | 973 | 0.951 | 0.012 | 0.918 | 0.964 |
| Knowing any modern contraceptive method | 0.941 | 0.012 | 382 | 973 | 0.951 | 0.012 | 0.918 | 0.964 |
| Ever used any contraceptive method | 0.833 | 0.018 | 382 | 973 | 0.933 | 0.021 | 0.798 | 0.869 |
| Currently using any contraceptive method | 0.631 | 0.020 | 382 | 973 | 0.794 | 0.031 | 0.592 | 0.671 |
| Currently using a modern method | 0.631 | 0.020 | 382 | 973 | 0.794 | 0.031 | 0.592 | 0.671 |
| Currently using pill | 0.129 | 0.018 | 382 | 973 | 1.028 | 0.137 | 0.094 | 0.164 |
| Currently using 2 monthly injectables | 0.131 | 0.017 | 382 | 973 | 1.005 | 0.132 | 0.097 | 0.166 |
| Currently using 3 monthly injectables | 0.167 | 0.017 | 382 | 973 | 0.873 | 0.100 | 0.133 | 0.200 |
| Currently using female sterilization | 0.105 | 0.018 | 382 | 973 | 1.161 | 0.174 | 0.068 | 0.141 |
| Obtained method from public sector source | 0.713 | 0.038 | 360 | 938 | 1.612 | 0.054 | 0.636 | 0.790 |
| Want no more children | 0.597 | 0.037 | 321 | 788 | 1.352 | 0.062 | 0.523 | 0.671 |
| Want to delay birth at least 2 years | 0.058 | 0.012 | 321 | 788 | 0.932 | 0.209 | 0.034 | 0.083 |
| Ideal number of children | 2.397 | 0.046 | 683 | 1753 | 0.998 | 0.019 | 2.305 | 2.489 |
| Mothers received tetanus injection for last birth | 0.288 | 0.038 | 203 | 515 | 1.197 | 0.133 | 0.211 | 0.365 |
| Mothers received medical care at delivery | 0.952 | 0.015 | 231 | 588 | 0.970 | 0.016 | 0.921 | 0.983 |
| Child had diarrhea in the last 2 weeks | 0.039 | 0.014 | 222 | 563 | 1.075 | 0.359 | 0.011 | 0.067 |
| Treated with ORS packets | 0.264 | 0.158 | 9 | 22 | 1.044 | 0.596 | 0.000 | 0.579 |
| Consulted medical personnel | 0.352 | 0.166 | 9 | 22 | 1.017 | 0.472 | 0.020 | 0.685 |
| Child having health card, seen | 0.727 | 0.083 | 40 | 101 | 1.082 | 0.114 | 0.562 | 0.893 |
| Child received BCG vaccination | 0.730 | 0.082 | 40 | 101 | 1.076 | 0.113 | 0.566 | 0.894 |
| Child received DPT vaccination (3 doses) | 0.534 | 0.096 | 40 | 101 | 1.170 | 0.180 | 0.341 | 0.727 |
| Child received polio vaccination (3 doses) | 0.563 | 0.086 | 40 | 101 | 1.049 | 0.153 | 0.391 | 0.735 |
| Child received measles vaccination | 0.484 | 0.098 | 40 | 101 | 1.196 | 0.203 | 0.288 | 0.680 |
| Child fully immunized | 0.426 | 0.098 | 40 | 101 | 1.209 | 0.229 | 0.231 | 0.622 |
| Had two or more sexual partners in last 12 months | 0.030 | 0.009 | 532 | 1378 | 1.142 | 0.280 | 0.013 | 0.047 |
| Had higher risk sex in the last 12 months | 0.586 | 0.024 | 532 | 1378 | 1.112 | 0.041 | 0.539 | 0.634 |
| Condom use at last higher risk sex-all | 0.513 | 0.023 | 292 | 808 | 0.783 | 0.045 | 0.467 | 0.559 |
| Condom use at last higher risk sex-youth | 0.620 | 0.051 | 120 | 330 | 1.152 | 0.083 | 0.517 | 0.722 |
| Abstinence among youth (never had sex) | 0.400 | 0.041 | 190 | 499 | 1.149 | 0.102 | 0.318 | 0.482 |
| Sexual activity in last 12 months | 0.523 | 0.042 | 190 | 499 | 1.152 | 0.080 | 0.439 | 0.606 |
| Had HIV test & received results in last 12 months | 0.085 | 0.012 | 722 | 1854 | 1.117 | 0.136 | 0.062 | 0.108 |
| Accepting attitudes towards people with HIV | 0.409 | 0.021 | 680 | 1742 | 1.128 | 0.052 | 0.367 | 0.452 |
| Total fertility rate (last 3 years) | 2.259 | 0.243 | na | 5261 | 1.326 | 0.107 | 1.773 | 2.745 |
| Neonatal mortality (last 10 years) | 24.187 | 9.403 | 490 | 1259 | 1.153 | 0.389 | 5.382 | 42.992 |
| Post-neonatal mortality (last 10 years) | 9.312 | 5.485 | 490 | 1259 | 1.026 | 0.589 | 0.000 | 20.282 |
| Infant mortality (last 10 years) | 33.499 | 10.549 | 490 | 1259 | 1.088 | 0.315 | 12.402 | 54.596 |
| Child mortality (last 10 years) | 9.355 | 4.559 | 490 | 1259 | 1.010 | 0.487 | 0.237 | 18.473 |
| Under-five mortality (last 10 years) | 42.541 | 12.834 | 490 | 1259 | 1.218 | 0.302 | 16.873 | 68.208 |
| MEN QUESTIONNAIRE | | | | | | | | |
| Urban residence | 0.994 | 0.000 | 346 | 815 | 0.097 | 0.000 | 0.993 | 0.995 |
| No education | 0.056 | 0.015 | 346 | 815 | 1.178 | 0.261 | 0.027 | 0.085 |
| Secondary education or higher | 0.805 | 0.025 | 346 | 815 | 1.174 | 0.031 | 0.755 | 0.855 |
| Never married (in union) | 0.499 | 0.037 | 346 | 815 | 1.379 | 0.074 | 0.424 | 0.573 |
| Currently married (in union) | 0.462 | 0.037 | 346 | 815 | 1.390 | 0.081 | 0.387 | 0.536 |
| Had sex before 18 | 0.480 | 0.029 | 296 | 692 | 0.986 | 0.060 | 0.423 | 0.537 |
| Had two or more sexual partners in last 12 months | 0.179 | 0.021 | 258 | 603 | 0.892 | 0.119 | 0.137 | 0.222 |
| Had higher risk sex in the last 12 months | 0.605 | 0.034 | 258 | 603 | 1.104 | 0.056 | 0.538 | 0.673 |
| Condom use at last higher risk sex-all | 0.679 | 0.038 | 150 | 365 | 0.993 | 0.056 | 0.603 | 0.755 |
| Condom use at last higher risk sex-youth | 0.738 | 0.068 | 61 | 152 | 1.202 | 0.093 | 0.601 | 0.874 |
| Abstinence among youth (never had sex) | 0.293 | 0.039 | 95 | 233 | 0.834 | 0.134 | 0.215 | 0.371 |
| Sexual activity in last 12 months | 0.589 | 0.036 | 95 | 233 | 0.714 | 0.062 | 0.516 | 0.661 |
| Ever had HIV test and received results | 0.172 | 0.019 | 310 | 730 | 0.864 | 0.108 | 0.135 | 0.209 |
| Circumcision | 0.252 | 0.031 | 374 | 59 | 1.419 | 0.124 | 0.190 | 0.315 |

| Variable | Number of cases | | | | Design effect (DEFT) | Relative error (SE/R) | Confidence intervals | |
|--|-----------------|---------------------|----------------|---------------|----------------------|-----------------------|----------------------|-----------|
| | Value (R) | Standard error (SE) | Unweighted (N) | Weighted (WN) | | | Variable | Value (R) |
| ADULT QUESTIONNAIRE | | | | | | | | |
| Systolic Blood Pressure (men) | 126.285 | 1.237 | 359 | 884 | 0.010 | 1.175 | 123.813 | 128.758 |
| Systolic Blood Pressure (women) | 122.001 | 0.953 | 409 | 1 017 | 0.008 | 0.964 | 120.095 | 123.907 |
| Diastolic Blood Pressure (men) | 75.595 | 1.018 | 360 | 887 | 0.013 | 1.320 | 73.560 | 77.630 |
| Diastolic Blood Pressure (women) | 75.891 | 0.669 | 413 | 1 028 | 0.009 | 1.006 | 74.554 | 77.228 |
| Pulse (men) | 73.236 | 0.821 | 360 | 887 | 0.011 | 1.235 | 71.594 | 74.879 |
| Pulse (women) | 77.771 | 0.711 | 412 | 1 025 | 0.009 | 1.173 | 76.350 | 79.191 |
| Hypertensive (men) | 0.097 | 0.017 | 370 | 914 | 0.174 | 0.932 | 0.063 | 0.131 |
| Hypertensive (women) | 0.170 | 0.023 | 432 | 1 074 | 0.132 | 1.217 | 0.125 | 0.215 |
| Airflow Limitation (men) | 0.122 | 0.028 | 370 | 914 | 0.227 | 1.949 | 0.067 | 0.178 |
| Airflow Limitation (women) | 0.157 | 0.016 | 432 | 1 074 | 0.105 | 1.312 | 0.124 | 0.190 |
| Chronic Bronchitis (men) | 0.075 | 0.013 | 370 | 914 | 0.180 | 1.686 | 0.048 | 0.102 |
| Chronic Bronchitis (women) | 0.065 | 0.011 | 432 | 1 074 | 0.173 | 2.444 | 0.043 | 0.088 |
| Abnormal Peak Flow (men) | 0.021 | 0.007 | 370 | 914 | 0.342 | 0.448 | 0.007 | 0.036 |
| Abnormal Peak Flow (women) | 0.008 | 0.004 | 432 | 1 074 | 0.555 | 0.234 | 0.000 | 0.017 |
| Currently smoking (occasionally of daily) (men) | 0.385 | 0.029 | 370 | 914 | 0.074 | 1.079 | 0.328 | 0.442 |
| Currently smoking (occasionally of daily) (women) | 0.094 | 0.017 | 432 | 1 074 | 0.180 | 1.149 | 0.060 | 0.128 |
| Abstainers - alcohol intake in last 12 months (men) | 0.516 | 0.034 | 370 | 914 | 0.065 | 1.229 | 0.449 | 0.583 |
| Abstainers - alcohol intake in last 12 months (women) | 0.790 | 0.032 | 432 | 1 074 | 0.041 | 1.558 | 0.726 | 0.854 |
| Responsible - alcohol intake in last 12 months (men) | 0.398 | 0.032 | 370 | 914 | 0.080 | 1.187 | 0.334 | 0.461 |
| Responsible - alcohol intake in last 12 months (women) | 0.186 | 0.027 | 432 | 1 074 | 0.143 | 1.356 | 0.133 | 0.239 |
| Hazardous - alcohol intake in last 12 months (men) | 0.036 | 0.011 | 370 | 914 | 0.307 | 1.080 | 0.014 | 0.059 |
| Hazardous - alcohol intake in last 12 months (women) | 0.008 | 0.004 | 432 | 1 074 | 0.550 | 0.956 | 0.000 | 0.017 |
| Harmful - alcohol intake in last 12 months (men) | 0.028 | 0.009 | 370 | 914 | 0.329 | 1.001 | 0.010 | 0.047 |
| Harmful - alcohol intake in last 12 months (women) | 0.008 | 0.004 | 432 | 1 074 | 0.539 | 0.973 | 0.000 | 0.017 |
| Adequate nutrient (men) | 0.479 | 0.032 | 363 | 900 | 0.067 | 1.162 | 0.415 | 0.542 |
| Adequate nutrient (women) | 0.562 | 0.030 | 423 | 1 053 | 0.053 | 1.183 | 0.502 | 0.621 |
| Weight (men) | 67.630 | 1.212 | 347 | 854 | 0.018 | 1.398 | 65.207 | 70.053 |
| Weight (women) | 69.419 | 1.052 | 412 | 1 25 | 0.015 | 1.149 | 67.315 | 71.522 |
| Height (men) | 1.701 | 0.006 | 352 | 865 | 0.004 | 1.249 | 1.689 | 1.714 |
| Height (women) | 1.591 | 0.004 | 412 | 1 025 | 0.003 | 1.096 | 1.583 | 1.599 |
| Waist/hip ratio (men) | 0.943 | 0.057 | 350 | 859 | 0.061 | 1.228 | 0.828 | 1.058 |
| Waist/hip ratio (women) | 0.937 | 0.060 | 405 | 1 006 | 0.064 | 1.196 | 0.818 | 1.056 |
| Hip circumference (men) | 94.796 | 1.262 | 350 | 859 | 0.013 | 1.110 | 92.272 | 97.320 |
| Hip circumference (women) | 104.252 | 1.485 | 407 | 1 012 | 0.014 | 1.232 | 101.282 | 107.221 |
| Body Mass Index (men) | 23.485 | 0.392 | 352 | 865 | 0.017 | 1.305 | 22.702 | 24.269 |
| Body Mass Index (women) | 27.513 | 0.435 | 412 | 1 025 | 0.016 | 1.163 | 26.644 | 28.382 |
| Overweight (men) | 0.202 | 0.022 | 352 | 865 | 0.107 | 0.959 | 0.158 | 0.245 |
| Overweight (women) | 0.282 | 0.026 | 412 | 1 025 | 0.091 | 1.105 | 0.230 | 0.333 |
| Obesity (men) | 0.097 | 0.021 | 352 | 865 | 0.216 | 1.249 | 0.055 | 0.139 |
| Obesity (women) | 0.301 | 0.025 | 412 | 1 025 | 0.084 | 1.066 | 0.250 | 0.351 |
| Nutrient intake (men) | 18.046 | 0.784 | 363 | 900 | 0.043 | 1.222 | 16.479 | 19.612 |
| Nutrient intake (women) | 15.349 | 0.713 | 423 | 1 053 | 0.046 | 1.316 | 13.924 | 16.773 |
| Physically inactive (men) | 0.821 | 0.024 | 270 | 650 | 0.029 | 0.967 | 0.773 | 0.869 |
| Physically inactive (women) | 0.858 | 0.018 | 359 | 870 | 0.020 | 0.894 | 0.823 | 0.893 |
| Total mets (men) | 1 698.757 | 206.292 | 270 | 650 | 0.121 | 1.056 | 1 285.967 | 2 111.547 |
| Total mets (women) | 1 301.545 | 136.205 | 359 | 870 | 0.105 | 0.879 | 1 029.094 | 1 573.996 |

Table B12 Sampling errors: Mpumalanga 2003

| Variable | Number of cases | | | | Design effect (DEFT) | Relative error (SE/R) | Confidence intervals | |
|---|-----------------|---------------------|----------------|---------------|----------------------|-----------------------|----------------------|-------------------|
| | Value (R) | Standard error (SE) | Unweighted (N) | Weighted (WN) | | | Value- SE (R-2SE) | Value+ 2SE (R+2E) |
| WOMEN QUESTIONNAIRE | | | | | | | | |
| Urban residence | 0.469 | 0.025 | 776 | 451 | 1.387 | 0.053 | 0.419 | 0.519 |
| No education | 0.058 | 0.011 | 776 | 451 | 1.330 | 0.193 | 0.036 | 0.080 |
| With secondary education or higher | 0.749 | 0.024 | 776 | 451 | 1.558 | 0.032 | 0.700 | 0.797 |
| Never married (in union) | 0.517 | 0.027 | 776 | 451 | 1.497 | 0.052 | 0.463 | 0.571 |
| Currently married (in union) | 0.395 | 0.025 | 776 | 451 | 1.445 | 0.064 | 0.345 | 0.446 |
| Had first sex before age 18 | 0.520 | 0.029 | 613 | 358 | 1.450 | 0.056 | 0.461 | 0.579 |
| Married before age 20 | 0.256 | 0.024 | 613 | 358 | 1.362 | 0.094 | 0.208 | 0.304 |
| Children ever born | 1.842 | 0.091 | 776 | 451 | 1.347 | 0.049 | 1.660 | 2.024 |
| Children surviving | 1.724 | 0.084 | 776 | 451 | 1.323 | 0.048 | 1.557 | 1.891 |
| Children ever born to women 40-49 | 3.756 | 0.163 | 138 | 81 | 0.918 | 0.043 | 3.430 | 4.082 |
| Knowing any contraceptive method | 0.983 | 0.007 | 390 | 229 | 1.099 | 0.007 | 0.968 | 0.997 |
| Knowing any modern contraceptive method | 0.983 | 0.007 | 390 | 229 | 1.099 | 0.007 | 0.968 | 0.997 |
| Ever used any contraceptive method | 0.839 | 0.023 | 390 | 229 | 1.230 | 0.027 | 0.793 | 0.885 |
| Currently using any contraceptive method | 0.623 | 0.027 | 390 | 229 | 1.083 | 0.043 | 0.570 | 0.677 |
| Currently using a modern method | 0.623 | 0.027 | 390 | 229 | 1.083 | 0.043 | 0.570 | 0.677 |
| Currently using pill | 0.116 | 0.017 | 390 | 229 | 1.066 | 0.149 | 0.081 | 0.151 |
| Currently using 2 monthly injectables | 0.156 | 0.018 | 390 | 229 | 0.962 | 0.113 | 0.121 | 0.192 |
| Currently using 3 monthly injectables | 0.160 | 0.016 | 390 | 229 | 0.887 | 0.103 | 0.127 | 0.193 |
| Currently using female sterilization | 0.088 | 0.018 | 390 | 229 | 1.266 | 0.207 | 0.052 | 0.124 |
| Obtained method from public sector source | 0.853 | 0.025 | 385 | 226 | 1.409 | 0.030 | 0.802 | 0.904 |
| Want no more children | 0.585 | 0.029 | 303 | 178 | 1.014 | 0.049 | 0.527 | 0.642 |
| Want to delay birth at least 2 years | 0.105 | 0.017 | 303 | 178 | 0.972 | 0.163 | 0.071 | 0.139 |
| Ideal number of children | 2.958 | 0.072 | 773 | 449 | 1.438 | 0.024 | 2.814 | 3.102 |
| Mothers received tetanus injection for last birth | 0.631 | 0.032 | 253 | 144 | 1.058 | 0.051 | 0.566 | 0.696 |
| Mothers received medical care at delivery | 0.925 | 0.015 | 296 | 169 | 0.957 | 0.017 | 0.895 | 0.956 |
| Child had diarrhea in the last 2 weeks | 0.068 | 0.018 | 287 | 164 | 1.165 | 0.257 | 0.033 | 0.103 |
| Treated with ORS packets | 0.210 | 0.089 | 19 | 11 | 0.960 | 0.424 | 0.032 | 0.389 |
| Consulted medical personnel | 0.430 | 0.107 | 19 | 11 | 0.948 | 0.249 | 0.216 | 0.644 |
| Child having health card, seen | 0.777 | 0.056 | 58 | 33 | 1.002 | 0.072 | 0.665 | 0.888 |
| Child received BCG vaccination | 0.951 | 0.028 | 58 | 33 | 0.963 | 0.029 | 0.896 | 1.000 |
| Child received DPT vaccination (3 doses) | 0.925 | 0.037 | 58 | 33 | 1.047 | 0.040 | 0.852 | 0.999 |
| Child received polio vaccination (3 doses) | 0.818 | 0.051 | 58 | 33 | 0.992 | 0.062 | 0.716 | 0.920 |
| Child received measles vaccination | 0.784 | 0.056 | 58 | 33 | 1.027 | 0.072 | 0.672 | 0.897 |
| Child fully immunized | 0.620 | 0.062 | 58 | 33 | 0.963 | 0.100 | 0.496 | 0.744 |
| Had two or more sexual partners in last 12 months | 0.021 | 0.006 | 577 | 336 | 0.943 | 0.269 | 0.010 | 0.032 |
| Had higher risk sex in the last 12 months | 0.560 | 0.026 | 577 | 336 | 1.275 | 0.047 | 0.507 | 0.613 |
| Condom use at last higher risk sex-all | 0.402 | 0.038 | 325 | 188 | 1.383 | 0.094 | 0.326 | 0.477 |
| Condom use at last higher risk sex-youth | 0.422 | 0.050 | 159 | 89 | 1.284 | 0.120 | 0.321 | 0.523 |
| Abstinence among youth (never had sex) | 0.374 | 0.038 | 255 | 144 | 1.249 | 0.101 | 0.298 | 0.450 |
| Sexual activity in last 12 months | 0.536 | 0.038 | 255 | 144 | 1.217 | 0.071 | 0.460 | 0.612 |
| Had HIV test & received results in last 12 months | 0.071 | 0.009 | 776 | 451 | 0.962 | 0.125 | 0.054 | 0.089 |
| Accepting attitudes towards people with HIV | 0.355 | 0.024 | 752 | 437 | 1.380 | 0.068 | 0.307 | 0.403 |
| Total fertility rate (last 3 years) | 2.266 | 0.177 | na | 1248 | 1.065 | 0.078 | 1.912 | 2.620 |
| Neonatal mortality (last 10 years) | 21.432 | 6.707 | 633 | 366 | 1.021 | 0.313 | 8.018 | 34.845 |
| Post-neonatal mortality (last 10 years) | 19.058 | 5.732 | 633 | 366 | 1.012 | 0.301 | 7.594 | 30.523 |
| Infant mortality (last 10 years) | 40.490 | 9.649 | 633 | 366 | 1.109 | 0.238 | 21.192 | 59.788 |
| Child mortality (last 10 years) | 12.511 | 4.798 | 634 | 366 | 0.918 | 0.384 | 2.914 | 22.107 |
| Under-five mortality (last 10 years) | 52.494 | 9.583 | 634 | 366 | 0.987 | 0.183 | 33.329 | 71.659 |
| MEN QUESTIONNAIRE | | | | | | | | |
| Urban residence | 0.520 | 0.033 | 346 | 208 | 1.237 | 0.064 | 0.454 | 0.587 |
| No education | 0.057 | 0.013 | 346 | 208 | 1.065 | 0.233 | 0.031 | 0.084 |
| Secondary education or higher | 0.700 | 0.028 | 346 | 208 | 1.139 | 0.040 | 0.643 | 0.756 |
| Never married (in union) | 0.635 | 0.023 | 346 | 208 | 0.904 | 0.037 | 0.589 | 0.682 |
| Currently married (in union) | 0.296 | 0.023 | 346 | 208 | 0.950 | 0.079 | 0.249 | 0.343 |
| Had sex before 18 | 0.495 | 0.034 | 253 | 153 | 1.074 | 0.068 | 0.427 | 0.562 |
| Had two or more sexual partners in last 12 months | 0.241 | 0.032 | 238 | 143 | 1.164 | 0.134 | 0.176 | 0.305 |
| Had higher risk sex in the last 12 months | 0.682 | 0.032 | 239 | 144 | 1.066 | 0.047 | 0.617 | 0.746 |
| Condom use at last higher risk sex-all | 0.709 | 0.036 | 163 | 98 | 1.012 | 0.051 | 0.637 | 0.781 |
| Condom use at last higher risk sex-youth | 0.755 | 0.053 | 89 | 52 | 1.164 | 0.071 | 0.648 | 0.862 |
| Abstinence among youth (never had sex) | 0.363 | 0.038 | 156 | 92 | 0.982 | 0.104 | 0.287 | 0.439 |
| Sexual activity in last 12 months | 0.569 | 0.034 | 156 | 92 | 0.844 | 0.059 | 0.502 | 0.636 |
| Ever had HIV test and received results | 0.205 | 0.019 | 323 | 194 | 0.858 | 0.094 | 0.166 | 0.243 |
| Circumcision | 0.363 | 0.029 | 701 | 700 | 1.683 | 0.081 | 0.305 | 0.422 |

| Variable | Number of cases | | | | Design effect (DEFT) | Relative error (SE/R) | Confidence intervals | |
|--|-----------------|---------------------|----------------|---------------|----------------------|-----------------------|----------------------|-----------|
| | Value (R) | Standard error (SE) | Unweighted (N) | Weighted (WN) | | | Variable | Value (R) |
| ADULT QUESTIONNAIRE | | | | | | | | |
| Systolic Blood Pressure (men) | 122.495 | 1.133 | 355 | 207 | 0.009 | 1.236 | 120.227 | 124.762 |
| Systolic Blood Pressure (women) | 122.507 | 0.994 | 508 | 296 | 0.008 | 1.020 | 120.520 | 124.494 |
| Diastolic Blood Pressure (men) | 69.485 | 0.745 | 356 | 207 | 0.011 | 1.114 | 67.994 | 70.976 |
| Diastolic Blood Pressure (women) | 74.627 | 0.540 | 509 | 296 | 0.007 | 0.960 | 73.547 | 75.706 |
| Pulse (men) | 72.513 | 0.859 | 356 | 207 | 0.012 | 1.298 | 70.795 | 74.231 |
| Pulse (women) | 77.299 | 0.695 | 509 | 296 | 0.009 | 1.286 | 75.908 | 78.689 |
| Hypertensive (men) | 0.019 | 0.007 | 359 | 209 | 0.365 | 0.625 | 0.005 | 0.033 |
| Hypertensive (women) | 0.043 | 0.009 | 515 | 300 | 0.204 | 0.642 | 0.025 | 0.060 |
| Airflow Limitation (men) | 0.045 | 0.013 | 359 | 209 | 0.277 | 0.878 | 0.020 | 0.070 |
| Airflow Limitation (women) | 0.102 | 0.015 | 515 | 300 | 0.146 | 1.063 | 0.072 | 0.132 |
| Chronic Bronchitis (men) | 0.077 | 0.017 | 359 | 209 | 0.228 | 2.834 | 0.042 | 0.112 |
| Chronic Bronchitis (women) | 0.109 | 0.016 | 515 | 300 | 0.149 | 3.508 | 0.077 | 0.142 |
| Abnormal Peak Flow (men) | 0.012 | 0.006 | 359 | 209 | 0.499 | 0.860 | 0.000 | 0.025 |
| Abnormal Peak Flow (women) | 0.010 | 0.005 | 515 | 300 | 0.524 | 0.607 | 0.000 | 0.021 |
| Currently smoking (occasionally of daily) (men) | 0.334 | 0.026 | 359 | 209 | 0.079 | 1.045 | 0.282 | 0.387 |
| Currently smoking (occasionally of daily) (women) | 0.040 | 0.008 | 515 | 300 | 0.195 | 0.883 | 0.025 | 0.056 |
| Abstainers - alcohol intake in last 12 months (men) | 0.590 | 0.031 | 359 | 209 | 0.052 | 1.172 | 0.529 | 0.652 |
| Abstainers - alcohol intake in last 12 months (women) | 0.917 | 0.011 | 515 | 300 | 0.013 | 0.918 | 0.894 | 0.940 |
| Responsible - alcohol intake in last 12 months (men) | 0.347 | 0.031 | 359 | 209 | 0.089 | 1.218 | 0.285 | 0.409 |
| Responsible - alcohol intake in last 12 months (women) | 0.064 | 0.011 | 515 | 300 | 0.169 | 0.980 | 0.042 | 0.085 |
| Hazardous - alcohol intake in last 12 months (men) | 0.023 | 0.008 | 359 | 209 | 0.325 | 0.922 | 0.008 | 0.038 |
| Hazardous - alcohol intake in last 12 months (women) | 0.008 | 0.005 | 515 | 300 | 0.606 | 1.210 | 0.000 | 0.019 |
| Harmful - alcohol intake in last 12 months (men) | 0.014 | 0.006 | 359 | 209 | 0.436 | 0.972 | 0.002 | 0.026 |
| Harmful - alcohol intake in last 12 months (women) | 0.007 | 0.004 | 515 | 300 | 0.552 | 0.958 | 0.000 | 0.014 |
| Adequate nutrient (men) | 0.073 | 0.026 | 359 | 209 | 0.360 | 1.889 | 0.021 | 0.126 |
| Adequate nutrient (women) | 0.065 | 0.021 | 513 | 299 | 0.322 | 1.873 | 0.023 | 0.107 |
| Weight (men) | 63.523 | 0.893 | 352 | 205 | 0.014 | 1.249 | 61.738 | 65.309 |
| Weight (women) | 67.154 | 0.931 | 504 | 294 | 0.014 | 1.243 | 65.292 | 69.016 |
| Height (men) | 1.687 | 0.004 | 354 | 206 | 0.002 | 1.040 | 1.679 | 1.695 |
| Height (women) | 1.587 | 0.003 | 504 | 294 | 0.002 | 1.097 | 1.581 | 1.594 |
| Waist/hip ratio (men) | 0.908 | 0.040 | 352 | 205 | 0.044 | 0.947 | 0.828 | 0.988 |
| Waist/hip ratio (women) | 0.820 | 0.021 | 503 | 293 | 0.025 | 0.966 | 0.779 | 0.862 |
| Hip circumference (men) | 88.664 | 0.720 | 352 | 205 | 0.008 | 0.977 | 87.222 | 90.106 |
| Hip circumference (women) | 102.014 | 0.894 | 503 | 293 | 0.009 | 1.137 | 100.225 | 103.802 |
| Body Mass Index (men) | 22.303 | 0.277 | 354 | 206 | 0.012 | 1.231 | 21.750 | 22.857 |
| Body Mass Index (women) | 26.653 | 0.361 | 504 | 294 | 0.014 | 1.254 | 25.931 | 27.376 |
| Overweight (men) | 0.163 | 0.023 | 354 | 206 | 0.143 | 1.182 | 0.116 | 0.209 |
| Overweight (women) | 0.259 | 0.023 | 504 | 294 | 0.088 | 1.164 | 0.214 | 0.305 |
| Obesity (men) | 0.060 | 0.012 | 354 | 206 | 0.209 | 0.978 | 0.035 | 0.085 |
| Obesity (women) | 0.280 | 0.020 | 504 | 294 | 0.072 | 0.997 | 0.239 | 0.320 |
| Nutrient intake (men) | 32.429 | 0.887 | 359 | 209 | 0.027 | 1.761 | 30.655 | 34.204 |
| Nutrient intake (women) | 32.079 | 0.793 | 513 | 299 | 0.025 | 1.897 | 30.493 | 33.665 |
| Physically inactive (men) | 0.662 | 0.031 | 312 | 182 | 0.046 | 1.135 | 0.601 | 0.723 |
| Physically inactive (women) | 0.796 | 0.019 | 464 | 271 | 0.024 | 1.043 | 0.757 | 0.835 |
| Total mets (men) | 3 081.575 | 260.922 | 312 | 182 | 0.085 | 1.069 | 2 559.829 | 3 603.321 |
| Total mets (women) | 1 741.380 | 168.777 | 464 | 271 | 0.097 | 1.207 | 1 403.776 | 2 078.983 |

Table B13 Sampling errors: Limpopo 2003

| Variable | Number of cases | | | | Design effect (DEFT) | Relative error (SE/R) | Confidence intervals | |
|---|-----------------|---------------------|----------------|---------------|----------------------|-----------------------|----------------------|-------------------|
| | Value (R) | Standard error (SE) | Unweighted (N) | Weighted (WN) | | | Value- SE (R-2SE) | Value+ 2SE (R+2E) |
| WOMEN QUESTIONNAIRE | | | | | | | | |
| Urban residence | 0.131 | 0.029 | 782 | 772 | 2.431 | 0.224 | 0.072 | 0.189 |
| No education | 0.057 | 0.009 | 782 | 772 | 1.139 | 0.165 | 0.038 | 0.076 |
| With secondary education or higher | 0.740 | 0.023 | 782 | 772 | 1.448 | 0.031 | 0.695 | 0.786 |
| Never married (in union) | 0.548 | 0.016 | 782 | 772 | 0.910 | 0.030 | 0.516 | 0.581 |
| Currently married (in union) | 0.388 | 0.016 | 782 | 772 | 0.934 | 0.042 | 0.356 | 0.421 |
| Had first sex before age 18 | 0.418 | 0.026 | 553 | 549 | 1.225 | 0.062 | 0.366 | 0.469 |
| Married before age 20 | 0.312 | 0.022 | 553 | 549 | 1.100 | 0.070 | 0.269 | 0.355 |
| Children ever born | 1.861 | 0.080 | 782 | 772 | 1.052 | 0.043 | 1.700 | 2.022 |
| Children surviving | 1.736 | 0.070 | 782 | 772 | 1.000 | 0.041 | 1.595 | 1.876 |
| Children ever born to women 40-49 | 4.476 | 0.255 | 125 | 129 | 1.165 | 0.057 | 3.965 | 4.987 |
| Knowing any contraceptive method | 0.963 | 0.011 | 309 | 309 | 1.058 | 0.012 | 0.940 | 0.986 |
| Knowing any modern contraceptive method | 0.963 | 0.011 | 309 | 309 | 1.058 | 0.012 | 0.940 | 0.986 |
| Ever used any contraceptive method | 0.853 | 0.020 | 309 | 309 | 1.002 | 0.024 | 0.812 | 0.893 |
| Currently using any contraceptive method | 0.586 | 0.034 | 309 | 309 | 1.197 | 0.057 | 0.519 | 0.653 |
| Currently using a modern method | 0.586 | 0.034 | 309 | 309 | 1.197 | 0.057 | 0.519 | 0.653 |
| Currently using pill | 0.086 | 0.015 | 309 | 309 | 0.964 | 0.179 | 0.055 | 0.117 |
| Currently using 2 monthly injectables | 0.212 | 0.022 | 309 | 309 | 0.958 | 0.105 | 0.167 | 0.256 |
| Currently using 3 monthly injectables | 0.135 | 0.030 | 309 | 309 | 1.536 | 0.221 | 0.075 | 0.195 |
| Currently using female sterilization | 0.051 | 0.018 | 309 | 309 | 1.411 | 0.348 | 0.015 | 0.086 |
| Obtained method from public sector source | 0.899 | 0.018 | 340 | 345 | 1.127 | 0.020 | 0.863 | 0.936 |
| Want no more children | 0.570 | 0.033 | 305 | 300 | 1.170 | 0.058 | 0.503 | 0.636 |
| Want to delay birth at least 2 years | 0.184 | 0.023 | 305 | 300 | 1.013 | 0.122 | 0.139 | 0.229 |
| Ideal number of children | 3.145 | 0.071 | 766 | 757 | 1.283 | 0.023 | 3.002 | 3.288 |
| Mothers received tetanus injection for last birth | 0.633 | 0.025 | 273 | 261 | 0.848 | 0.040 | 0.583 | 0.683 |
| Mothers received medical care at delivery | 0.876 | 0.016 | 301 | 288 | 0.802 | 0.018 | 0.844 | 0.908 |
| Child had diarrhea in the last 2 weeks | 0.084 | 0.014 | 287 | 274 | 0.823 | 0.169 | 0.055 | 0.112 |
| Treated with ORS packets | 0.161 | 0.081 | 24 | 23 | 1.046 | 0.499 | 0.000 | 0.322 |
| Consulted medical personnel | 0.556 | 0.111 | 24 | 23 | 1.025 | 0.199 | 0.334 | 0.778 |
| Child having health card, seen | 0.889 | 0.043 | 68 | 65 | 1.119 | 0.049 | 0.802 | 0.976 |
| Child received BCG vaccination | 0.929 | 0.036 | 68 | 65 | 1.136 | 0.039 | 0.857 | 1.000 |
| Child received DPT vaccination (3 doses) | 0.787 | 0.057 | 68 | 65 | 1.062 | 0.072 | 0.674 | 0.900 |
| Child received polio vaccination (3 doses) | 0.815 | 0.051 | 68 | 65 | 1.010 | 0.063 | 0.712 | 0.918 |
| Child received measles vaccination | 0.673 | 0.068 | 68 | 65 | 1.130 | 0.101 | 0.538 | 0.809 |
| Child fully immunized | 0.645 | 0.072 | 68 | 65 | 1.177 | 0.111 | 0.501 | 0.788 |
| Had two or more sexual partners in last 12 months | 0.080 | 0.014 | 554 | 549 | 1.252 | 0.180 | 0.051 | 0.109 |
| Had higher risk sex in the last 12 months | 0.578 | 0.023 | 557 | 552 | 1.099 | 0.040 | 0.532 | 0.624 |
| Condom use at last higher risk sex-all | 0.363 | 0.036 | 321 | 319 | 1.356 | 0.100 | 0.290 | 0.436 |
| Condom use at last higher risk sex-youth | 0.393 | 0.048 | 189 | 184 | 1.351 | 0.123 | 0.297 | 0.489 |
| Abstinence among youth (never had sex) | 0.371 | 0.037 | 316 | 308 | 1.357 | 0.100 | 0.297 | 0.445 |
| Sexual activity in last 12 months | 0.536 | 0.030 | 316 | 308 | 1.059 | 0.056 | 0.476 | 0.595 |
| Had HIV test & received results in last 12 months | 0.052 | 0.009 | 782 | 772 | 1.178 | 0.179 | 0.034 | 0.071 |
| Accepting attitudes towards people with HIV | 0.289 | 0.022 | 732 | 722 | 1.323 | 0.077 | 0.245 | 0.334 |
| Total fertility rate (last 3 years) | 2.718 | 0.226 | na | 2102 | 1.148 | 0.083 | 2.265 | 3.170 |
| Neonatal mortality (last 10 years) | 20.034 | 5.841 | 635 | 613 | 0.976 | 0.292 | 8.352 | 31.716 |
| Post-neonatal mortality (last 10 years) | 14.096 | 4.530 | 635 | 613 | 0.987 | 0.321 | 5.036 | 23.156 |
| Infant mortality (last 10 years) | 34.130 | 7.273 | 635 | 613 | 0.988 | 0.213 | 19.584 | 48.677 |
| Child mortality (last 10 years) | 9.906 | 4.120 | 635 | 613 | 1.046 | 0.416 | 1.667 | 18.146 |
| Under-five mortality (last 10 years) | 43.698 | 7.583 | 635 | 613 | 0.921 | 0.174 | 28.533 | 58.864 |
| MEN QUESTIONNAIRE | | | | | | | | |
| Urban residence | 0.127 | 0.018 | 230 | 228 | 0.819 | 0.142 | 0.091 | 0.163 |
| No education | 0.044 | 0.017 | 230 | 228 | 1.258 | 0.386 | 0.010 | 0.079 |
| Secondary education or higher | 0.710 | 0.037 | 230 | 228 | 1.231 | 0.052 | 0.636 | 0.784 |
| Never married (in union) | 0.460 | 0.038 | 230 | 228 | 1.164 | 0.083 | 0.383 | 0.537 |
| Currently married (in union) | 0.464 | 0.040 | 230 | 228 | 1.199 | 0.085 | 0.385 | 0.543 |
| Had sex before 18 | 0.394 | 0.038 | 156 | 157 | 0.962 | 0.096 | 0.318 | 0.469 |
| Had two or more sexual partners in last 12 months | 0.263 | 0.041 | 144 | 141 | 1.102 | 0.154 | 0.182 | 0.344 |
| Had higher risk sex in the last 12 months | 0.716 | 0.042 | 146 | 143 | 1.130 | 0.059 | 0.632 | 0.801 |
| Condom use at last higher risk sex-all | 0.461 | 0.066 | 107 | 103 | 1.373 | 0.144 | 0.328 | 0.594 |
| Condom use at last higher risk sex-youth | 0.502 | 0.080 | 65 | 60 | 1.284 | 0.160 | 0.342 | 0.663 |
| Abstinence among youth (never had sex) | 0.372 | 0.045 | 87 | 84 | 0.858 | 0.120 | 0.283 | 0.462 |
| Sexual activity in last 12 months | 0.490 | 0.054 | 87 | 84 | 0.994 | 0.109 | 0.383 | 0.597 |
| Ever had HIV test and received results | 0.125 | 0.035 | 210 | 208 | 1.552 | 0.284 | 0.054 | 0.196 |
| Circumcision | 0.477 | 0.036 | 345 | 812 | 1.327 | 0.075 | 0.405 | 0.548 |

| Variable | Number of cases | | | | Design effect (DEFT) | Relative error (SE/R) | Confidence intervals | |
|--|---------------------|---------------------|----------------|---------------|----------------------|-----------------------|----------------------|-----------|
| | Value (R) | Standard error (SE) | Unweighted (N) | Weighted (WN) | | | Variable | Value (R) |
| | ADULT QUESTIONNAIRE | | | | | | | |
| Systolic Blood Pressure (men) | 119.990 | 0.949 | 277 | 274 | 0.008 | 0.990 | 118.091 | 121.890 |
| Systolic Blood Pressure (women) | 119.131 | 1.233 | 516 | 509 | 0.010 | 1.288 | 116.666 | 121.597 |
| Diastolic Blood Pressure (men) | 68.562 | 0.899 | 277 | 274 | 0.013 | 1.237 | 66.762 | 70.362 |
| Diastolic Blood Pressure (women) | 71.041 | 0.766 | 518 | 511 | 0.011 | 1.337 | 69.509 | 72.574 |
| Pulse (men) | 70.508 | 0.917 | 277 | 274 | 0.013 | 1.146 | 68.671 | 72.344 |
| Pulse (women) | 77.255 | 0.784 | 517 | 510 | 0.010 | 1.393 | 75.687 | 78.823 |
| Hypertensive (men) | 0.030 | 0.010 | 284 | 282 | 0.344 | 0.824 | 0.009 | 0.051 |
| Hypertensive (women) | 0.039 | 0.010 | 526 | 519 | 0.254 | 0.759 | 0.019 | 0.059 |
| Airflow Limitation (men) | 0.040 | 0.012 | 284 | 282 | 0.309 | 0.795 | 0.015 | 0.064 |
| Airflow Limitation (women) | 0.088 | 0.013 | 526 | 519 | 0.147 | 1.041 | 0.062 | 0.115 |
| Chronic Bronchitis (men) | 0.066 | 0.015 | 284 | 282 | 0.234 | 1.576 | 0.035 | 0.097 |
| Chronic Bronchitis (women) | 0.092 | 0.014 | 526 | 519 | 0.157 | 1.780 | 0.063 | 0.120 |
| Abnormal Peak Flow (men) | 0.025 | 0.012 | 284 | 282 | 0.466 | 1.087 | 0.002 | 0.049 |
| Abnormal Peak Flow (women) | 0.036 | 0.008 | 526 | 519 | 0.233 | 0.860 | 0.019 | 0.052 |
| Currently smoking (occasionally of daily) (men) | 0.249 | 0.032 | 284 | 282 | 0.128 | 1.195 | 0.186 | 0.313 |
| Currently smoking (occasionally of daily) (women) | 0.038 | 0.011 | 526 | 519 | 0.299 | 1.186 | 0.015 | 0.060 |
| Abstainers - alcohol intake in last 12 months (men) | 0.664 | 0.029 | 284 | 282 | 0.044 | 1.015 | 0.606 | 0.722 |
| Abstainers - alcohol intake in last 12 months (women) | 0.887 | 0.020 | 526 | 519 | 0.023 | 1.354 | 0.847 | 0.928 |
| Responsible - alcohol intake in last 12 months (men) | 0.238 | 0.024 | 284 | 282 | 0.100 | 0.924 | 0.191 | 0.286 |
| Responsible - alcohol intake in last 12 months (women) | 0.082 | 0.016 | 526 | 519 | 0.190 | 1.199 | 0.051 | 0.114 |
| Hazardous - alcohol intake in last 12 months (men) | 0.013 | 0.007 | 284 | 282 | 0.549 | 0.942 | 0.000 | 0.028 |
| Hazardous - alcohol intake in last 12 months (women) | 0.002 | 0.002 | 526 | 519 | 0.994 | 0.994 | 0.000 | 0.005 |
| Harmful - alcohol intake in last 12 months (men) | 0.010 | 0.007 | 284 | 282 | 0.670 | 0.952 | 0.000 | 0.023 |
| Harmful - alcohol intake in last 12 months (women) | 0.010 | 0.006 | 526 | 519 | 0.613 | 1.217 | 0.000 | 0.022 |
| Adequate nutrient (men) | 0.085 | 0.018 | 282 | 280 | 0.210 | 1.081 | 0.049 | 0.121 |
| Adequate nutrient (women) | 0.107 | 0.015 | 525 | 518 | 0.142 | 1.121 | 0.077 | 0.138 |
| Weight (men) | 61.076 | 0.780 | 270 | 268 | 0.013 | 1.030 | 59.515 | 62.637 |
| Weight (women) | 63.601 | 1.133 | 502 | 496 | 0.018 | 1.349 | 61.336 | 65.866 |
| Height (men) | 1.684 | 0.005 | 270 | 268 | 0.003 | 1.052 | 1.674 | 1.693 |
| Height (women) | 1.574 | 0.004 | 502 | 496 | 0.003 | 1.259 | 1.566 | 1.583 |
| Waist/hip ratio (men) | 0.882 | 0.036 | 269 | 267 | 0.041 | 0.982 | 0.809 | 0.954 |
| Waist/hip ratio (women) | 0.827 | 0.014 | 495 | 488 | 0.017 | 0.999 | 0.798 | 0.855 |
| Hip circumference (men) | 87.894 | 0.712 | 269 | 267 | 0.008 | 1.005 | 86.469 | 89.319 |
| Hip circumference (women) | 98.942 | 0.944 | 497 | 490 | 0.010 | 1.375 | 97.053 | 100.830 |
| Body Mass Index (men) | 21.520 | 0.239 | 270 | 268 | 0.011 | 0.962 | 21.041 | 21.998 |
| Body Mass Index (women) | 25.629 | 0.427 | 502 | 496 | 0.017 | 1.367 | 24.775 | 26.483 |
| Overweight (men) | 0.110 | 0.020 | 270 | 268 | 0.181 | 1.024 | 0.070 | 0.149 |
| Overweight (women) | 0.242 | 0.017 | 502 | 496 | 0.071 | 0.872 | 0.207 | 0.276 |
| Obesity (men) | 0.046 | 0.013 | 270 | 268 | 0.274 | 0.946 | 0.021 | 0.071 |
| Obesity (women) | 0.218 | 0.021 | 502 | 496 | 0.095 | 1.076 | 0.177 | 0.259 |
| Nutrient intake (men) | 31.054 | 0.676 | 282 | 280 | 0.022 | 1.235 | 29.700 | 32.407 |
| Nutrient intake (women) | 30.344 | 0.616 | 525 | 518 | 0.020 | 1.440 | 29.112 | 31.576 |
| Physically inactive (men) | 0.595 | 0.039 | 247 | 245 | 0.065 | 1.217 | 0.517 | 0.673 |
| Physically inactive (women) | 0.699 | 0.026 | 491 | 484 | 0.037 | 1.215 | 0.648 | 0.751 |
| Total mets (men) | 3 189.133 | 300.943 | 247 | 245 | 0.094 | 1.259 | 2 586.2723 | 791.995 |
| Total mets (women) | 2 627.448 | 212.838 | 491 | 484 | 0.081 | 1.273 | 2 201.8533 | 053.044 |

APPENDIX C

DATA QUALITY

C1 Introduction

The extent of sampling error for selected indicators measured in SADHS is provided in Appendix B. However, this does not reflect the extent of other errors or bias that may have occurred in the survey. Several tables are presented in this Appendix, which can be used to assess non-sampling errors in the SADHS. Such errors arise from inaccurate recording by the interviewers or inaccurate reporting by the respondents and include digit preference, rounding or heaping on certain ages or dates, omission of events occurring further in the past or deliberate distortion of information by some interviewers in an attempt to lighten their workloads. In addition, selective non-response also creates non-sampling error in the measurement.

C2 Age of Household Respondents

The distribution of the de facto household population by single year of age is presented in Table C.1. Only 2 cases had missing information, which accounted for less than 0.1 percent. The data show little evidence of “age heaping” or digit preference to ages ending in zeros and fives as is commonly observed in countries where the population do not know their age. However, there are strong irregularities in the age distribution with a strong displacement of women aged 15-49 years being shifted to outside the range 15-49 years, presumably in order to avoid the need to interview them using the detailed women questionnaire. Similarly, there is displacement of men aged 15-59 years being shifted to outside the range 15-59 years.

The displacement is particularly noticeable at the younger age. For women, the number who were 14 years old (506) was somewhat bigger than the number who were 13 years (404) and 15 years old (238) respectively. One would expect a much smoother range in the numbers at each exact age. Similarly, for men, the number of 14 year olds was 515 compared with 438 who were 13 years old and 329 who were 15 years old.

There appears to be a general under-representation of children 6 years and younger as discussed in Chapter 3. There appears to be an over-representation in the age range 7-14 years. This has serious consequence on the estimates of fertility in the years preceding the survey and is particularly marked in KwaZulu-Natal. It is possible that the requirement to measure young children created an incentive to leave such children off the household roster.

Table C.1 Household age distribution

Single-year age distribution of the de facto household population by sex (weighted), South Africa 2003

| Age | Female | | Male | |
|--------------------|--------|---------|--------|---------|
| | Number | Percent | Number | Percent |
| 0 | 221 | 1.6 | 265 | 1.7 |
| 1 | 199 | 1.5 | 233 | 1.5 |
| 2 | 238 | 1.7 | 207 | 1.3 |
| 3 | 251 | 1.8 | 226 | 1.4 |
| 4 | 248 | 1.8 | 237 | 1.5 |
| 5 | 251 | 1.8 | 215 | 1.4 |
| 6 | 255 | 1.9 | 258 | 1.6 |
| 7 | 394 | 2.9 | 335 | 2.1 |
| 8 | 348 | 2.6 | 369 | 2.3 |
| 9 | 347 | 2.5 | 379 | 2.4 |
| 10 | 365 | 2.7 | 335 | 2.1 |
| 11 | 318 | 2.3 | 344 | 2.2 |
| 12 | 358 | 2.6 | 390 | 2.5 |
| 13 | 404 | 3.0 | 438 | 2.8 |
| 14 | 506 | 3.7 | 515 | 3.3 |
| 15 | 238 | 1.7 | 329 | 2.1 |
| 16 | 327 | 2.4 | 316 | 2.0 |
| 17 | 309 | 2.3 | 312 | 2.0 |
| 18 | 327 | 2.4 | 354 | 2.2 |
| 19 | 290 | 2.1 | 281 | 1.8 |
| 20 | 296 | 2.2 | 311 | 2.0 |
| 21 | 266 | 2.0 | 348 | 2.2 |
| 22 | 248 | 1.8 | 249 | 1.6 |
| 23 | 274 | 2.0 | 250 | 1.6 |
| 24 | 205 | 1.5 | 262 | 1.7 |
| 25 | 257 | 1.9 | 194 | 1.2 |
| 26 | 169 | 1.2 | 235 | 1.5 |
| 27 | 203 | 1.5 | 234 | 1.5 |
| 28 | 216 | 1.6 | 251 | 1.6 |
| 29 | 173 | 1.3 | 229 | 1.5 |
| 30 | 238 | 1.7 | 259 | 1.6 |
| 31 | 150 | 1.1 | 233 | 1.5 |
| 32 | 194 | 1.4 | 189 | 1.2 |
| 33 | 142 | 1.0 | 209 | 1.3 |
| 34 | 174 | 1.3 | 171 | 1.1 |
| 35 | 200 | 1.5 | 251 | 1.6 |
| 36 | 190 | 1.4 | 219 | 1.4 |
| 37 | 146 | 1.1 | 197 | 1.3 |
| 38 | 188 | 1.4 | 218 | 1.4 |
| 39 | 144 | 1.1 | 262 | 1.7 |
| 40 | 192 | 1.4 | 217 | 1.4 |
| 41 | 156 | 1.1 | 189 | 1.2 |
| 42 | 144 | 1.1 | 182 | 1.2 |
| 43 | 155 | 1.1 | 173 | 1.1 |
| 44 | 127 | 0.9 | 156 | 1.0 |
| 45 | 168 | 1.2 | 204 | 1.3 |
| 46 | 116 | 0.9 | 159 | 1.0 |
| 47 | 104 | 0.8 | 157 | 1.0 |
| 48 | 115 | 0.8 | 146 | 0.9 |
| 49 | 139 | 1.0 | 119 | 0.8 |
| 50 | 96 | 0.7 | 223 | 1.4 |
| 51 | 92 | 0.7 | 172 | 1.1 |
| 52 | 108 | 0.8 | 170 | 1.1 |
| 53 | 77 | 0.6 | 154 | 1.0 |
| 54 | 102 | 0.8 | 130 | 0.8 |
| 55 | 98 | 0.7 | 155 | 1.0 |
| 56 | 71 | 0.5 | 98 | 0.6 |
| 57 | 78 | 0.6 | 111 | 0.7 |
| 58 | 85 | 0.6 | 111 | 0.7 |
| 59 | 66 | 0.5 | 103 | 0.7 |
| 60 | 129 | 0.9 | 145 | 0.9 |
| 61 | 60 | 0.4 | 99 | 0.6 |
| 62 | 70 | 0.5 | 121 | 0.8 |
| 63 | 76 | 0.6 | 112 | 0.7 |
| 64 | 62 | 0.5 | 78 | 0.5 |
| 65 | 106 | 0.8 | 133 | 0.8 |
| 66 | 49 | 0.4 | 53 | 0.3 |
| 67 | 41 | 0.3 | 70 | 0.4 |
| 68 | 52 | 0.4 | 60 | 0.4 |
| 69 | 60 | 0.4 | 63 | 0.4 |
| 70+ | 360 | 2.6 | 573 | 3.6 |
| Don't know/missing | 1 | 0.0 | 2 | 0.0 |
| Total | 13 624 | 100.0 | 15 746 | 100.0 |

C3 Response Rate for Women and Men

The age distribution of eligible women from the *de facto* household population is compared with the age distribution of the sampled women interviewed in Table C.2 and that for men in Table C.3. For women, the response rate was fairly constant over all age groups and ranged from 85.1 percent in the oldest age group to 88.9 percent in the preceding age group (40-44 years). For men, the response rate was more erratic across age groups. However, there was no clear age pattern in the response rate.

| Table C.2 Age distribution of eligible and interviewed women | | | | |
|---|---|-----------------------------|---------|------------------|
| De facto household population of women age 10-54, interviewed women age 15-49, and percentage of eligible women who were interviewed (weighted), by five-year age groups, South Africa 2003 | | | | |
| Age group | Household population of women age 10-54 | Interviewed women age 15-49 | | |
| | | Number | Percent | Percent of women |
| 10-14 | 2 039 | - | - | - |
| 15-19 | 1 604 | 1 395 | 19.8 | 87.0 |
| 20-24 | 1 416 | 1 242 | 17.6 | 87.7 |
| 25-29 | 1 143 | 1 015 | 14.4 | 88.8 |
| 30-34 | 1 056 | 918 | 13.0 | 87.0 |
| 35-39 | 1 143 | 991 | 14.1 | 86.7 |
| 40-44 | 913 | 812 | 11.5 | 88.9 |
| 45-49 | 784 | 668 | 9.5 | 85.1 |
| 50-54 | 848 | - | - | - |
| 15-49 | 8 060 | 7 041 | 100.0 | 87.4 |

Note: The *de facto* population includes all residents and nonresidents who stayed in the household the night before the interview. Weights for both household population of women and interviewed women are household weights. Age is based on the household schedule.
na = Not applicable.

| Table C3 Age distribution of eligible and interviewed men | | | | |
|---|---------------------------------------|---------------------------|---------|----------------|
| De facto household population of men aged 10-64, interviewed men aged 15-59 and percent of eligible men who were interviewed (weighted), South Africa 2003-2004 | | | | |
| Age group | Household population of men age 10-64 | Interviewed men age 15-59 | | |
| | | Number | Percent | Percent of men |
| 10-14 | 1 057 | - | - | - |
| 15-19 | 756 | 603 | 19.3 | 79.7 |
| 20-24 | 666 | 527 | 16.9 | 79.1 |
| 25-29 | 506 | 416 | 13.3 | 82.1 |
| 30-34 | 464 | 348 | 11.2 | 75.0 |
| 35-39 | 461 | 340 | 10.9 | 73.7 |
| 40-44 | 410 | 323 | 10.4 | 78.9 |
| 45-49 | 304 | 224 | 7.2 | 73.7 |
| 50-54 | 249 | 184 | 5.9 | 73.8 |
| 55-59 | 198 | 155 | 5.0 | 78.0 |
| 60-64 | 232 | - | - | - |
| 15-59 | 4 014 | 3 118 | 100.0 | 77.7 |

Note: The *de facto* population includes all residents and nonresidents who stayed in the household the night before the interview. Weights for both household population of women and interviewed women are household weights. Age is based on the household schedule.
na = Not applicable.

C4 Response Rate for Adults

The age distribution of eligible adult men and women from the *de facto* household population is compared with the age distribution of the sampled adults interviewed in Table C.4. The age distributions are roughly the same. However, the response rate for men was consistently lower (80.4 percent) than that for women (87.0 percent).

| Age | Adult men 15+ | | | | | Adult women 15+ | | | | |
|-------|---------------|------------|-----------------|------------|------------------------|-----------------|------------|-------------------|------------|------------------------|
| | Household | | Men interviewed | | | Household | | Women interviewed | | |
| | Number | Percentage | Number | Percentage | Percentage interviewed | Number | Percentage | Number | Percentage | Percentage interviewed |
| 15-24 | 1 350 | 31.7 | 1121 | 32.8 | 83.0 | 1 439 | 26.7 | 1256 | 26.8 | 87.3 |
| 25-34 | 928 | 21.8 | 735 | 21.5 | 79.2 | 1 125 | 20.9 | 979 | 20.9 | 87.0 |
| 35-44 | 753 | 17.7 | 593 | 17.3 | 78.7 | 997 | 18.5 | 883 | 18.8 | 88.6 |
| 45-54 | 556 | 13.1 | 438 | 12.8 | 78.7 | 843 | 15.6 | 714 | 15.2 | 84.7 |
| 55-64 | 367 | 8.6 | 297 | 8.7 | 80.8 | 535 | 9.9 | 483 | 10.3 | 90.1 |
| 65+ | 301 | 7.1 | 240 | 7.0 | 79.7 | 456 | 8.5 | 378 | 8.1 | 82.9 |
| 15+ | 4 256 | 100.0 | 3 422 | 100.0 | 80.4 | 5 395 | 100.0 | 4 693 | 100.0 | 87.0 |

C5 Response of Children

The numbers of children included in the survey through their mother's interview or as an additional child through an interview with the carer are shown in Table C5. Simple data checks based on basic demographic trends in South Africa indicate that there are problems with the child sample. The provincial ranking of the number of children under-five is not borne out in the number of children captured in each province with KwaZulu-Natal and Eastern Cape having the highest numbers but the lowest numbers interviewed in the survey. It is not clear what the implications are of the uneven response rate for children. However, these data should be interpreted carefully. Furthermore, it should be noted that the anthropometry was collected only for children whose mother was interviewed.

| Background Characteristic | Child in household | | | All children in household | Child not in household | All children interviewed (mother or carer) |
|---------------------------|--------------------|-----------------|---------|---------------------------|------------------------|--|
| | Mother interview | Carer interview | No data | | Mother interview | |
| Province | | | | | | |
| Western Cape | 215 | 18 | 56 | 289 | 25 | 233 |
| Eastern Cape | 146 | 40 | 20 | 206 | 19 | 186 |
| Northern Cape | 260 | 44 | 22 | 326 | 20 | 304 |
| Free State | 204 | 43 | 33 | 280 | 14 | 247 |
| KwaZulu-Natal | 153 | 11 | 52 | 216 | 7 | 164 |
| North West | 238 | 63 | 24 | 325 | 24 | 301 |
| Gauteng | 195 | 16 | 17 | 228 | 27 | 211 |
| Mpumalanga | 262 | 50 | 18 | 330 | 25 | 312 |
| Limpopo | 271 | 58 | 28 | 357 | 16 | 329 |
| Total | 1 944 | 343 | 270 | 2 557 | 177 | 2 417 |
| Data type | | | | | | |
| Immunisation and illness | 1 912 | 343 | 270 | 2 557 | 162 | 2 417 |
| Anthropometry | 1 615 | 0 | 942 | 2 557 | - | - |
| Valid anthropometry | 1 361 | 0 | 1 196 | 2 557 | - | - |

From Table C.6, it can be seen that some of the data for selected demographic and child health indicators have high proportions missing. In particular, the age at death of 21 percent of the deaths in the last 15 years are missing and about a third of children have anthropometry missing.

| <u>Table C.6 Completeness of reporting</u> | | | |
|--|---|-------------------------------------|-----------------|
| Percentage of observations missing information for selected demographic and health questions (weighted), South Africa 2003 | | | |
| Subject | Reference group | Percentage with missing information | Number of cases |
| Birth date | Last 15 years | | |
| Month only | | 1.3 | 7 221 |
| Month and year | | 0.8 | 7 221 |
| Age at death | Death to births in last 15 years | 21.4 | 341 |
| Age/date at first union ¹ | Ever-married women | 21.5 | 3 220 |
| Respondent's education | All women 15-49 | 0.0 | 7 041 |
| Child's size at birth | Births in last 59 months who were weighed | 27.0 | 2 018 |
| Diarrhoea in last 2 weeks | Living children under 59 months | 6.4 | 2 016 |
| Anthropometry | Living children under 59 months | | |
| Height | | 33.2 | 2 016 |
| Weight | | 29.5 | 2 016 |
| Height for weight | | 33.7 | 2 016 |
| ¹ Both year and age missing. | | | |

C6 Birth History Details

The number of births, the proportion with complete birth details, the sex ratio at birth and the calendar year ratio are shown for each year before the survey in Table C.7. Examining the trends in all of these indicators gives insight into the quality of the data and identification of possible types of error. The number of births by 5-year period before the survey reveals that the most recent period 2000-2004 suffers a substantial deficit of reported births compared to earlier periods. The sex ratios at birth for both living and dead children show patterns in the 5-year period that are difficult to explain. The sex ratio at birth reported in this survey for the period 2000-2004 bears little resemblance to the general consensus of 101-103 that has been used by most demographers for South African demographic estimates. There seems to be displacement of births from year 1998 to 1997, presumably a deliberate attempt on the part of the interviewer to avoid having to fill the lengthy section on pregnancy and delivery and child health for birth that occurred since 1998.

Table C.7 Births by calendar years

Number of births, percentage with complete birth date, sex ratio at birth, and calendar year ratio by calendar year, according to living (L), dead (D), and total (T) children (weighted), South Africa 2003-2004

| Calendar year | Number of births | | | | Percentage with complete birth date ¹ | | | | Sex ratio at birth ² | | | | Calendar year ratio ³ | | | | | |
|---------------|------------------|-----|--------|-------|--|-------|-------|-------|---------------------------------|-------|-------|-------|----------------------------------|-------|-------|-------|-------|-------|
| | L | | D | | T | | L | | D | | T | | L | | D | | T | |
| | | | | | | | | | | | | | | | | | | |
| 2004 | 51 | 1 | 52 | 100.0 | 100.0 | 100.0 | 94.8 | - | 100.2 | - | - | - | - | - | - | - | - | - |
| 2003 | 411 | 22 | 433 | 100.0 | 71.7 | 89.0 | 97.7 | 89.0 | 97.2 | - | - | - | - | - | - | - | - | - |
| 2002 | 430 | 26 | 456 | 99.7 | 85.1 | 45.9 | 81.1 | 45.9 | 78.6 | 107.9 | 132.9 | 109.1 | 109.1 | 109.1 | 109.1 | 109.1 | 109.1 | 109.1 |
| 2001 | 386 | 17 | 403 | 99.3 | 97.0 | 227.6 | 103.3 | 227.6 | 106.7 | 91.9 | 68.2 | 90.5 | 90.5 | 90.5 | 90.5 | 90.5 | 90.5 | 90.5 |
| 2000 | 411 | 24 | 435 | 100.0 | 83.9 | 171.3 | 103.4 | 171.3 | 106.3 | 107.5 | 159.8 | 109.5 | 109.5 | 109.5 | 109.5 | 109.5 | 109.5 | 109.5 |
| 1999 | 378 | 13 | 391 | 99.7 | 88.9 | 68.1 | 118.2 | 68.1 | 116.0 | 98.7 | 50.7 | 95.7 | 95.7 | 95.7 | 95.7 | 95.7 | 95.7 | 95.7 |
| 1998 | 355 | 28 | 383 | 98.9 | 98.9 | 199.1 | 91.8 | 199.1 | 96.9 | 80.3 | 135.1 | 82.7 | 82.7 | 82.7 | 82.7 | 82.7 | 82.7 | 82.7 |
| 1997 | 507 | 28 | 534 | 98.5 | 84.5 | 141.0 | 116.9 | 141.0 | 118.1 | 116.3 | 80.5 | 113.7 | 113.7 | 113.7 | 113.7 | 113.7 | 113.7 | 113.7 |
| 1996 | 516 | 41 | 557 | 97.1 | 67.7 | 159.1 | 106.6 | 159.1 | 109.8 | 103.2 | 192.0 | 106.9 | 106.9 | 106.9 | 106.9 | 106.9 | 106.9 | 106.9 |
| 1995 | 493 | 15 | 508 | 99.0 | 79.0 | 99.3 | 79.8 | 99.3 | 80.3 | 95.9 | 43.2 | 92.5 | 92.5 | 92.5 | 92.5 | 92.5 | 92.5 | 92.5 |
| 2000-2004 | 1 689 | 91 | 1 780 | 99.8 | 84.0 | 107.9 | 95.6 | 107.9 | 96.2 | - | - | - | - | - | - | - | - | - |
| 1995-1999 | 2 249 | 125 | 2 374 | 98.5 | 81.9 | 139.8 | 101.5 | 139.8 | 103.2 | - | - | - | - | - | - | - | - | - |
| 1990-1994 | 2 498 | 111 | 2 609 | 97.8 | 86.1 | 194.0 | 94.7 | 194.0 | 97.6 | - | - | - | - | - | - | - | - | - |
| 1985-1989 | 2 008 | 79 | 2 088 | 97.7 | 86.3 | 178.1 | 99.7 | 178.1 | 101.9 | - | - | - | - | - | - | - | - | - |
| < 1985 | 2 273 | 215 | 2 488 | 94.3 | 79.9 | 135.6 | 104.0 | 135.6 | 106.3 | - | - | - | - | - | - | - | - | - |
| All | 10 717 | 621 | 11 338 | 97.5 | 82.8 | 145.2 | 99.1 | 145.2 | 101.2 | - | - | - | - | - | - | - | - | - |

- = Not applicable.

¹ Both year and month of birth given.

² $(B_m/B_f) \times 100$, where B_m and B_f are the numbers of male and female births, respectively.

³ $[2B_x / (B_{x-1} + B_{x+1})] \times 100$, where B_x is the number of births in calendar year x .

Table C.8 compares the average parities of women who responded to the birth history questionnaire in the 1998 SADHS with those of women who responded in the 2003 SADHS. The average parity in the 1998 SADHS was 1.95 compared with only 0.78 in 2003. The 1998 data show the typical trend displayed by women’s parities increasing with age. The oldest cohort of women had on average 4.2 births by the time they reached the end of the reproductive cycle. In contrast the average parities from the 2003 survey show far too few births being reported for each age cohort of women, indicating serious omissions of births reported in the birth histories across all ages of women.

| Age group | 1998 SADHS Average parities | 2003 SADHS Average parities |
|-----------|--------------------------------|--------------------------------|
| 15-19 | 0.15 | 0.10 |
| 20-24 | 0.80 | 0.56 |
| 25-29 | 1.62 | 1.19 |
| 30-34 | 2.50 | 1.99 |
| 35-39 | 3.32 | 2.64 |
| 40-44 | 3.57 | 3.12 |
| 45-49 | 4.20 | 3.46. |
| 15-49 | 1.95 | 1.61 |

Tables C.9 and C.10 provide information about the age at death of children provided in the birth histories. The proportion of neonates who die within the first 6 days of life is shown in Table C.9. The trend by five- year periods preceding the survey date shows a broadly consistent trend over time with about 88 percent of neonatal deaths occurring in the first week (early neonatal). Table C.10 shows the proportion of infant deaths that occur in the first month (neonatal) based on the reported age at death. Again it shows that the overall number of deaths reported in the most recent period before the survey is lower than the other periods. The data do not show a consistent trend in the reported number of reported infant deaths, but show a decreasing percentage of neonatal deaths during the last 15 years.

Table C.9 Reporting of age at death in days

Distribution of reported deaths under one month of age by age at death in days and the percentage of neonatal deaths reported to occur at ages 0-6 days, for five-year periods of birth preceding the survey (weighted), South Africa 2003

| Age at death (days) | Number of years preceding the survey | | | | Total 0-19 |
|-------------------------------------|--------------------------------------|------|-------|-------|------------|
| | 0-4 | 5-9 | 10-14 | 15-19 | |
| <1 | 9 | 12 | 7 | 13 | 43 |
| 1 | 4 | 13 | 11 | 2 | 29 |
| 2 | 2 | 3 | 2 | 4 | 12 |
| 3 | 1 | 0 | 4 | 1 | 6 |
| 4 | 4 | 1 | 2 | 0 | 7 |
| 5 | 3 | 5 | 0 | 1 | 9 |
| 6 | 0 | 1 | 1 | 0 | 2 |
| 7 | 1 | 2 | 0 | 3 | 6 |
| 8 | 1 | 0 | 1 | 0 | 2 |
| 9 | 0 | 1 | 2 | 0 | 3 |
| 10 | 0 | 2 | 1 | 0 | 2 |
| 11 | 2 | 0 | 0 | 0 | 2 |
| 12 | 0 | 0 | 0 | 1 | 1 |
| 14 | 1 | 2 | 3 | 0 | 5 |
| 17 | 0 | 1 | 0 | 0 | 1 |
| 18 | 0 | 0 | 1 | 0 | 1 |
| 19 | 0 | 0 | 1 | 0 | 1 |
| 21 | 0 | 5 | 0 | 0 | 5 |
| 30 | 0 | 0 | 1 | 0 | 1 |
| 31+ | 0 | 1 | 0 | 0 | 1 |
| Missing | 0 | 1 | 1 | 1 | 2 |
| Total 0-30 | 29 | 46 | 37 | 26 | 138 |
| Percent early neonatal ¹ | 81.5 | 74.9 | 74.0 | 83.5 | 77.6 |

¹Percent early neonatal: 0-6 days/0-30 days

Table C.10 Reporting of age at death in months

Distribution of reported deaths under two years of age by age at death in months and the percentage of infant deaths reported to occur at age under one month, for five-year periods of birth preceding the survey, South Africa 2003

| Age at death (months) | Number of years preceding the survey | | | | Total 0-19 |
|-------------------------------|--------------------------------------|------|-------|-------|------------|
| | 0-4 | 5-9 | 10-14 | 15-19 | |
| <1 ^a | 29 | 48 | 38 | 27 | 141 |
| 1 | 4 | 4 | 4 | 1 | 12 |
| 2 | 1 | 3 | 1 | 3 | 8 |
| 3 | 8 | 9 | 7 | 4 | 28 |
| 4 | 7 | 7 | 0 | 3 | 17 |
| 5 | 4 | 2 | 2 | 2 | 11 |
| 6 | 4 | 4 | 2 | 1 | 11 |
| 7 | 4 | 5 | 0 | 1 | 10 |
| 8 | 1 | 1 | 2 | 1 | 5 |
| 9 | 3 | 1 | 3 | 1 | 8 |
| 10 | 0 | 0 | 1 | 0 | 1 |
| 11 | 2 | 2 | 0 | 0 | 4 |
| 12 | 1 | 0 | 0 | 1 | 2 |
| 15 | 0 | 0 | 0 | 2 | 2 |
| 18 | 2 | 0 | 2 | 1 | 4 |
| 20 | 0 | 0 | 1 | 1 | 2 |
| 1 Year | 8 | 4 | 3 | 5 | 19 |
| Total 0-11 ^b | 67 | 85 | 59 | 46 | 257 |
| Percent neonatal ^c | 43.1 | 56.4 | 64.0 | 58.7 | 55.1 |

^a Includes deaths under one month reported in days

^b Includes cases for which age at death (in exact months) is not known

^c Deaths under one month divided by deaths under one year multiplied by 100

C7 Adult Anthropometry and Blood Pressure

Heights and weights

The data capture did not have predefined range of feasible heights and weights that would be accepted. A scatter plot of height and weight values for adults showed that many fell outside an acceptable measurement range. Further investigation revealed some cases clearly had the height and weight measurements swapped (29). Some cases had a misplaced decimal point (weights 467 and heights 112). These data could be corrected. However, applying the cut points of $12 < \text{BMI} < 60$ (as in 1998 SADHS) and height > 1.3 m there were 146 cases that needed to be excluded from the BMI calculation. This left 7 809 cases where the BMI could be calculated as compared with the preliminary report that excluded more cases and analysed only 6 974 cases (Table C.11).

| | Men | Women | Total |
|--|-------|-------|-------|
| Heights | | | |
| Respondents measured | 3 268 | 4 685 | 7 953 |
| Corrected | | | |
| Swapped with weight | 14 | 15 | 29 |
| Decimal place corrected | 40 | 72 | 112 |
| Exclusions | | | |
| Impossible against cut point where $12 < \text{BMI} < 60$ and height > 1.3 m | 57 | 87 | 144 |
| Weights | | | |
| Respondents measured | 3 266 | 4 687 | 7 953 |
| Corrected | | | |
| Swapped with weight | 14 | 15 | 29 |
| Decimal place corrected | 173 | 284 | 467 |
| Exclusions | | | |
| Impossible against cut point where $12 < \text{BMI} < 60$ and height > 1.3 m | 57 | 89 | 146 |
| Acceptable for BMI analysis | | | |
| Number of cases | 3 211 | 4 598 | 7 809 |
| Number of cases in preliminary report | 3 051 | 3 896 | 6 947 |

Waist and hip circumference

Waist circumference was measured on 3 258 men and 4 655 women, while hip circumference was measured on 3 254 men and 4 657 women. Obvious measurements where the decimal place was incorrect were corrected (186). The same criteria for exclusion as in the 1998 SADHS were applied. These included $12 < \text{BMI} < 60$ and height > 1.30 m. The hip and waist circumferences were then checked by a sex specific regression analysis, using the BMI values to predict waist and hip. Values of waist or hip size that are more than 2SDs away from the predicted value for the given BMI, were excluded. In this way, 404 males and 348 females were further excluded (Table C.12).

| | Men | Women | Total |
|---|-------|-------|-------|
| Waist circumference | | | |
| Respondents measured | 3 258 | 4 655 | 7 913 |
| Corrected | | | |
| Decimal place corrected | 28 | 76 | 104 |
| Exclusions | | | |
| More than 2SD from predicted value based on BMI | 175 | 188 | 363 |
| Hip circumference | | | |
| Respondents measured | 3 254 | 4 657 | 7 911 |
| Corrected | | | |
| Decimal place corrected | 25 | 57 | 82 |
| Exclusions | | | |
| More than 2SD from predicted value based on BMI | 358 | 291 | 649 |
| Acceptable for BMI analysis | | | |
| Number of cases | 2 854 | 4 307 | 7 161 |

Blood pressure

The protocol required three blood pressure readings to be taken on each individual. From Table C.13 it can be seen that there were 178 cases that had no blood pressure readings and 3 258 men and 4 646 women with at least one systolic reading and 3 267 men and 4 667 females with at least one diastolic reading. Examination of the blood pressure readings revealed numerous obvious outliers. In 10 cases, the outlier blood pressure reading was corrected by verifying it against the other 2 blood pressure measurements taken on that individual. However, some values were not possible to interpret and had to be dropped from analysis (66). The WHO standard of taking the lowest diastolic and the corresponding systolic value was used to determine the blood pressure measurement for analysis. This enabled the use of records where only one pair of blood pressure readings was made. At least one systolic and diastolic blood pressure measurement was taken on 3 268 men and 4 668 women respectively. In addition, there were 605 respondents on blood pressure medication. Hypertension (blood pressure $> 140/90$ and/or medication) was identified in 643 males and 1 215 females.

Table C.13 Adult blood pressure

The number (unweighted) of respondents with blood pressure readings and the number excluded from analysis, by sex, South Africa 2003

| | Men | Women | Total |
|---|-------|-------|-------|
| Assessment of blood pressure | | | |
| Blood pressure measured (with at least one reading) | 3 268 | 4 668 | 7 936 |
| Systolic pressure | 3 258 | 4 646 | 7 904 |
| Three readings in range | 3 245 | 4 623 | 7 868 |
| Two readings in range | 12 | 26 | 38 |
| One reading in range | 9 | 18 | 27 |
| No readings in range | 2 | 2 | 4 |
| No readings done | 60 | 118 | 178 |
| Diastolic pressure | 3 267 | 4 667 | 7 934 |
| Three readings in range | 3 247 | 4 638 | 7 885 |
| Two readings in range | 12 | 12 | 24 |
| One reading in range | 8 | 17 | 25 |
| No readings in range | 1 | 1 | 2 |
| No readings done | 60 | 118 | 178 |
| Corrected | | | |
| Outlier readings corrected against other readings | 8 | 2 | 10 |
| Exclusions | | | |
| Outliers – systolic | 14 | 28 | 42 |
| – diastolic | 12 | 12 | 24 |
| Assessment of hypertension | | | |
| Hypertensive (> 140/90 or on medication) | 643 | 1 215 | 1 858 |
| Hypertension medication | 155 | 450 | 605 |
| Systolic blood pressure >140 | 464 | 806 | 1 270 |
| Diastolic blood pressure >90 | 288 | 609 | 897 |
| Normotensive | 2 628 | 3 467 | 6 095 |
| Unknown | 57 | 105 | 162 |

APPENDIX D

THE NUTRITION INDEX (N-INDEX)

D1 Introduction

A Nutrient Index (N-Index) that consists of a short 30 item food frequency questionnaire reflecting specified micronutrients and 7 questions concerning fat intake was developed by Senekal and Steyn (1997). The micronutrients represented: calcium, magnesium, zinc, iron, vitamin A, vitamin E, thiamine, riboflavin, niacin, vitamin B6, vitamin B12, folate and vitamin C. The food frequency data are converted into an overall score (N-Index) that represents the quality of nutritional intake in terms of the adequacy of these micronutrients and fat intake.

In the development of the N-Index the main food sources of the selected micronutrients and fat in the South African context were identified from the South African Food Composition Tables and various text books. A review of dietary studies undertaken in South Africa over the past 30 years (Nel and Steyn, 2002) helped to identify the foods commonly eaten by different ethnic groups in South Africa. A comprehensive quantified food frequency questionnaire which consisted of 86 food items that reflect the micronutrient and fat intake of South Africans was subsequently developed. Frequency categories ranging from none through a number of times consumed per month to times consumed per day were specified. A restricted recall period of one month was used in order to reduce memory constraints.

A short list of foods/groups from the 86 items was then identified to best predict the selected micronutrient and fat intake based on data collected from randomly selected sample of 2 100 adult subjects representing all provinces, urban and rural settings and all population groups. In a final step, the validity of the N-Index was assessed on a convenience sample of 165 adult subjects. More details concerning these last two steps follow in the next two sections.

The intake of salt/salty foods was included in the SADHS. Three questions that focus on the intake of salty food, salty snacks and salt added to food developed specifically for the purposes of the SADHS. These are not incorporated in the N-Index.

D2 Generating the N-Index from the Comprehensive 86 Item Food Frequency Questionnaire

Sample and sampling procedure: The sample was randomly drawn from the South African National Database, which is the largest consumer database in South Africa and comprised a sampling frame of more than 7 million economically active adults (ie consumers between the ages of 18 and 65) at the time of the study. The sampling frame included names and addresses of 52 percent white, 30 percent coloured, 11 percent Indian and 6 percent Black South Africans. A random sample of 2 100 was drawn to be proportionally representative of all ethnic groups in the database, and to include at least one small town and one city from each of the nine provinces in the final sample.

Data collection: The food frequency questionnaire was mailed to the randomly selected adults together with a prepaid return envelope. After the due date for return of questionnaires had passed, a reminder was mailed to the non-responders. A second reminder followed the first one. A final total of 554 respondents returned the questionnaire. An expert in dietary methodology scrutinized each questionnaire for completeness and quality. A questionnaire was excluded from analyses if the following was found: whole page(s) not completed, the same frequency of intake indicated for a number of consecutive items on the list, and unrealistically high frequencies indicated.

Data analysis: Statistical analyses were conducted using the SAS statistical software package version 6.11 (SAS Institute, 2004). The following steps were executed in the data analysis process:

Step 1: The Foodfinder Nutrient Analysis Programme (South African Medical Research Council, 2002) was used to compute energy and nutrient intake from the frequency questionnaire. The mean energy intake was compared to the reference standards (Institute of Medicine 1998) to determine whether the generated data fell within a realistic range.

Step2: To identify those food items, which were the most important sources of each nutrient in question, stepwise regression analyses were performed for the total group as well as separately for the four ethnic groups. The regression model was designed to firstly identify the one food code with the strongest correlation with a particular nutrient (= best one-item model). In the process a R^2 value is generated which is indicative of the correlation coefficient. The model carries on by adding and replacing food items in a stepwise fashion to supply the best two-item model, then three-item model and so forth. When the R^2 reached 0.7, which is indicative of a correlation coefficient of 0.84, the food codes (=food items) in the model were taken as the best sources of a particular nutrient. The regression analyses were completed for the total group as well as each ethnic group separately. Prominent differences in the rankings of food items between the four ethnic groups were taken into consideration in the final selection of food items/questions to be included in the N-Index.

Step 3: A table was drawn up to indicate the most important nutrients provided by each food item that was selected as an important source of one or more of the nutrients based on the regression analyses. This was followed by the final selection of the food items/questions to be included in the N-Index.

The final N-Index consisted of a brief 30 item food frequency questionnaire (30-item FFQ) reflecting the intake of specified micronutrients are used in the SADHS Adult Health questionnaire. The recall period of the 30-item FFQ is limited to one week and frequency categories range from times consumed per week to times consumed per day. Respondents do not have to indicate a portion size. For quantification purposes and nutrition risk assessment standardized portion sizes, as shown in Table D.1, were used. These were derived both from our survey and mean portion sizes reported for South Africans by other researchers (Nel and Steyn, 2002). The old and new food codes from the South African Food Composition Tables are shown in Table D.1. The food intakes were converted into grams per week using the assumed frequencies for the categories as listed in Table D.2. The food intake was then converted into the micronutrient intake using the South African Food Composition Tables values.

Table D.1 Portion size and food code for M-Index

Assumed average portion size and old and new codes of M-Index items according to the South African Food Composition Table

| Food item | Portions size (g) | Food code (old) | Food code (new) |
|---|-------------------|-----------------|-----------------|
| Red meat (any type) | 75 | 1 524 | 2 929 |
| Chicken (any type) | 75 | 1 646 | 3 027 |
| Tinned fish | 75 | 2 539 | 3 087 |
| Organ meat eg liver, tripe | 75 | 1 551 | 2 956 |
| Eggs (any type) | 50 | 1 012 | 2 877 |
| Milk/yoghurt/maas | 125 | 0 069 | 2 772 |
| Milk tea/coffee | 25 | 0 069 | 2 772 |
| Cheese (except cottage cheese) | 30 | 0 010 | 2 722 |
| Legumes eg baked beans, lentils | 135 | 3 513 | 3 183 |
| Peanuts/nuts | 35 | 6 007 | 3 458 |
| Brown/ww bread/rolls | 40 | 4 002 | 3 211 |
| Breakfast cereal (not cooked) | 30 | 4 046 | 3 252 |
| Oat-porridge | 125 | 4 032 | 3 239 |
| Soft margarine (tub) | 5 | 6 521 | 3 496 |
| Broccoli, cauliflower, Brussles sprouts | 75 | 8 114 | 3 805 |
| Spinach/morogo | 90 | 8 071 | 3 761 |
| Carrots | 75 | 8 067 | 3 757 |
| Tomato (raw/cooked) | 100 | 8 059 | 3 750 |
| Green peas | 85 | 8 026 | 3 719 |
| Green beans | 80 | 8 002 | 3 696 |
| Mixed vegetables | 75 | 8 035 | 3 727 |
| Pumpkin/butternut | 105 | 8 069 | 3 759 |
| Sweet potato | 145 | 8 214 | 3 903 |
| Potato (any preparation) | 80 | 8 301 | 3 979 |
| Citrus | 150 | 7 031 | 3 560 |
| Pure orange/guava juice (not others) | 200 | 7 112 | 3 637 |
| Bananas | 75 | 7 009 | 3 540 |
| Mangoes | 350 | 7 026 | 3 556 |
| Apples/pears | 150 | 7 001 | 3 532 |
| Avocado | 72 | 7 132 | 3 656 |

Table D.2 Frequency for M-Index

Assumed frequency per week for each frequency category in M-Index questionnaire

| Frequency category | Frequency per week for M-Index |
|--------------------|--------------------------------|
| Never | 0 |
| 1-3 times per week | 2/7 |
| 4-6 times per week | 5/7 |
| 1 times per day | 1 |
| 2 times per day | 2 |
| 3+ times per day | 3 |

D3 Validity of the N-Index

With respect to validity, the underlying question that needed to be answered was whether the N-Index would provide a true reflection of the usual intake of the specified nutrients by an individual. The process that was followed in the development of the instrument was structured in such a way that the face and content validity of the instrument were ensured i.e. whether it actually reflected the usual intake of the nutrients in question. A further aspect, which could influence the reliability and validity, is whether the concept of “frequency of intake” is well understood and whether the frequency indicated in the questionnaire is a true reflection of actual frequency of intake.

To evaluate this aspect the following procedure was executed:

Sample and sampling procedure: A convenience sample of 66 black and 84 white adults of both genders were recruited by word of mouth.

Procedures and methods: According to Brants *et al.* (1997) research indicates that dietary records are the best comparison/calibration method for a food frequency questionnaire since sources of error associated with both methods are largely independent. In order to determine usual frequency of intake of the food items included in the questionnaire, the respondents were requested to keep a 7-day estimated food record. Each participant received a booklet, which included the necessary recording guidelines. The latter were explained to each participant by a fieldworker (registered dietitian trained for this purpose). The respondents completed the 30-item FFQ two weeks after completion of the seven-day record during a personal session with the fieldworker.

Data processing and analysis: Statistical analyses were conducted using the SAS statistical software package version 6.11 (SAS Institute, 1989). The records were analyzed to generate an indication of frequency of intake of specific food items. A food record coding form, which was based on the items included in 30-item FFQ was designed for this purpose e.g. number of times red meat was eaten during the recording week was counted, irrespective of the preparation methods, to generate an indication of frequency of red meat intake. Spearman correlation coefficients were computed to determine the relationship between the frequency of intake indicated in the 30-item FFQ for a particular food item and the frequency of intake derived from the seven-day records.

Results: Significant correlations between the frequency indicated on the 30-item FFQ and the frequency of intake computed from the estimated records were found for 22 out of the 30 items (with the r-value ranging from 0.24 to 0.62). The best correlations were found for red meat, milk, cheese, bread, breakfast cereal, margarine, some vegetables (broccoli, spinach, carrots, green beans and pumpkin/butternut), citrus fruit, bananas, apples/pears, and avocados. The poorest correlations were found for other vegetables (peas, tomatoes, mixed vegetables, sweet potatoes and potatoes), tinned fish, legumes and orange/guava juice. When considering these results it should be born in mind that the 30-item FFQ reflects the intake of the “past week”. As the seven-day food record was completed two weeks before the 30-item FFQ, food items that are consumed only two times or less frequently per month could have been recorded using the one method, but not the other, which could explain low and non-significant correlations.

D4 Calculation of the N-Index score

The calculated nutrient intakes are compared with the Recommended Daily Allowance (RDA) reference values for selected age and sex groups as shown in Table D.3. For each micronutrient, a zero score is allocated for those that are 100% or more of the RDA cut-off, a score of 1 is allocated for those that are between 66%-100% of the RDA cut-off, a score of 2 is allocated for those that are between 33%-66% and a score of 3 is for those that are below 33%. The scores are added together with double scores for Vitamin A and iron giving a range from 0 to 45. A 0 represents good nutrient intake while a score of 45 is poor.

Table D.3 Recommended daily allowance (RDA)

Recommended daily allowance (RDA) for selected nutrients by age and sex

| Nutrient | MALES | | | | FEMALES | | | |
|-------------------|-------------|-------------|-------------|-----------|-------------|-------------|-------------|-----------|
| | 14-18 years | 19-30 years | 31-50 years | 51+ years | 14-18 years | 19-30 years | 31-50 years | 51+ years |
| Calcium (mg) | 1 300 | 1 000 | 1 000 | 1 200 | 1 300 | 1 000 | 1 000 | 1 200 |
| Magnesium (mg) | 410 | 400 | 420 | 420 | 360 | 310 | 320 | 320 |
| Zinc (mg) | 11 | 11 | 11 | 11 | 9 | 8 | 8 | 8 |
| Iron (mg) | 11 | 8 | 8 | 8 | 15 | 18 | 18 | 8 |
| Vitamin A (µg RE) | 900 | 900 | 900 | 900 | 700 | 700 | 700 | 700 |
| Vitamin C (mg) | 75 | 90 | 90 | 90 | 65 | 75 | 75 | 75 |
| Vitamin E (mg) | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 |
| Thiamin (mg) | 1.2 | 1.2 | 1.2 | 1.2 | 1.0 | 1.1 | 1.1 | 1.1 |
| Riboflavin (mg) | 1.3 | 1.3 | 1.3 | 1.3 | 1.0 | 1.1 | 1.1 | 1.1 |
| Niacin (mg) | 16 | 16 | 16 | 16 | 14 | 14 | 14 | 14 |
| Vitamin B6 (mg) | 1.3 | 1.3 | 1.3 | 1.7 | 1.2 | 1.3 | 1.3 | 1.5 |
| Vitamin B12 (µg) | 2.4 | 2.4 | 2.4 | 2.4 | 2.4 | 2.4 | 2.4 | 2.4 |
| Folic acid (µg) | 400 | 400 | 400 | 400 | 400 | 400 | 400 | 400 |

mg – milligram

µg RE– microgram retinol equivalent

µg - microgram

The seven additional questions that focus on the intake of chicken skin, fatty meat, type of spread, type of milk, fried foods, crisps and processed meats are included for the N-Index as an assessment of the risk associated with fat intake. The responses are scored according to the categories shown in Table D.4. Thus the overall N-Index ranges from 0 to 51 with a low score representing good nutritional intake and a high score representing poor nutritional intake.

Table D.4 Fat score

Points allocated to the questions for the fat score for each response category

| Food | Response | Points |
|--|-------------------------------|--------|
| <u>Which</u> of the following do you USUALLY eat? | | |
| Chicken/Poultry | With skin | 1 |
| | Without skin | 0 |
| | None | 0 |
| Red Meat | Fatty meat | 1 |
| | Lean meat | 0 |
| | None | 0 |
| Spread (Butter/Margarine) | Butter | 1 |
| | Hard margarine (brick) | 1 |
| | Soft margarine (tub) | 0 |
| | None | 0 |
| Milk/Milk Products in powder form | Full cream | 1 |
| | 2% or low fat | 0.5 |
| | Skim/fat free | 0 |
| | Blends | 0 |
| | None | 0 |
| <u>How often</u> do you USUALLY eat the following? | | |
| Fried foods, e.g. chips, fish, potatoes, doughnuts, eggs | Occasionally/Never | 0 |
| | Weekly (at least once a week) | 0.25 |
| | Daily | 0.5 |
| Chips, e.g. packet of 'SIMBA' chips or other salty snacks | Occasionally/Never | 0 |
| | Weekly (at least once a week) | 0.25 |
| | Daily | 0.5 |
| Processed meat, e.g. polony, viennas, meat pies, sausage rolls | Occasionally/Never | 0 |
| | Weekly (at least once a week) | 0.5 |
| | Daily | 1 |

APPENDIX E

PERSONS INVOLVED IN THE 2003 SOUTH AFRICA DEMOGRAPHIC AND HEALTH SURVEY

Members of the Management Committee

| | |
|-----------------------------------|---|
| Prof Debbie Bradshaw | Medical Research Council, Cape Town |
| Ms Rika du Plessis (Co-ordinator) | National Department of Health |
| †Mr Bruce Hibbert | National Department of Social Development |
| Dr Lindiwe Makubalo (Chair) | National Department of Health |
| Mr Johan van Zyl | Human Sciences Research Council, Pretoria |

Members of the Project Technical Team

| | |
|-------------------------|--|
| Prof Debbie Bradshaw | Medical Research Council, Cape Town |
| Ms Annie Cross | Macro International, Calverton, Maryland, US |
| †Mr Bruce Hibbert | National Department of Social Development |
| Ms Jané Joubert | Medical Research Council, Cape Town |
| Prof Demetre Labadarios | University of Stellenbosch |
| Ms Ria Laubscher | Medical Research Council, Cape Town |
| Dr Jonathan Levin | Medical Research Council, Pretoria |
| Dr Lindiwe Makubalo | National Department of Health |
| Ms Corney Molomo | National Department of Health (Formerly) |
| Mr Phuti Sekwati | National Department of Health (Formerly) |
| Prof Krisela Steyn | Medical Research Council, Cape Town |
| Mr Johan van Zyl | Human Sciences Research Council, Pretoria |

Members of the Sampling Technical Team

| | |
|------------------------|---|
| Dr Jairo Arrow | Statistics South Africa |
| Mr Pieter Bossert | Statistics South Africa |
| Prof Debbie Bradshaw | Medical Research Council, Cape Town |
| Ms Alexan Carrilho | Statistics South Africa |
| Ms Rika du Plessis | National Department of Health |
| †Mr Bruce Hibbert | Department of Social Development |
| Dr Jonathan Levin | Medical Research Council, Pretoria |
| Ms Nthabiseng Makhatha | Statistics South Africa |
| Ms Corney Molomo | National Department of Health (Formerly) |
| Ms Marlize Pistorius | Statistics South Africa |
| Mr Phuti Sekwati | National Department of Health (Formerly) |
| Prof David Stoker | Statistics South Africa |
| Mr Johan van Zyl | Human Sciences Research Council, Pretoria |

Technical Consultant

Dr. Don Inambao

Report-writing Coordination Team

| | |
|--------------------------------|-------------------------------------|
| Prof Debbie Bradshaw | Medical Research Council, Cape Town |
| Ms Elize de Kock | Medical Research Council, Cape Town |
| Ms Jané Joubert (Co-ordinator) | Medical Research Council, Cape Town |
| Ms Ria Laubscher | Medical Research Council, Cape Town |
| Ms Phakama Makeba | Medical Research Council, Cape Town |
| Mr Muzi Maponya | Medical Research Council, Cape Town |

Ms Desirèe Pieterse
Mr Jovial Wessie

Medical Research Council, Cape Town
Medical Research Council, Cape Town

Contributors to Report (Chapters)

Dr Mags Beksinska (4, 5, 9)
Mr David Bourne (6)
Prof Debbie Bradshaw (All)
Dr Mickey Chopra (7, 8)
Ms Annie Cross (All)
Prof Rob Dorrington (10)
Ms Rika du Plessis (All)
Ms Gretchen du Plessis (4)
Prof Rodney Ehrlich (9, 12)
Mr Siyabonga Jikwana (11)
Ms Jané Joubert (2, 14)
Dr Danuta Kielkowski (10)
Prof Vicki Lambert (9, 13)
Ms Zonke Mabude (4, 5, 9)
Dr Lindiwe Makubalo (All)
Ms Phakama Makeba (2)
Dr Sandra Marais (10)
Mr Richard Matzopoulos (9, 10)
Dr Tom Moultrie (3)
Dr Mmabatho Mqhayi (4, 5, 9)
Dr Sudeshni Naidoo (15)
Ms Nadine Nannan (6)
Mr Nhlanhla Ntuli (11)
Prof Charles Parry (9, 13)
Dr Nasheeta Peer (10, 12 13)
Ms Desirèe Pieterse (1, 9)
Prof Thandi Puoane (13)
Mr Niel Roux (2)
Dr Maylene Shung King (8)
Dr Thabo Sibeko (11)
Dr Jenni Smit (4, 5, 9)
Dr Nelia Steyn (9, 13)
Prof Krisela Steyn (10, 11, 12, 13)
Ms Ezera Tshabangu (9, 13)
Mr Jovial Wessie (2)

Reproductive Health Research Unit
University of Cape Town
Medical Research Council, Cape Town
Medical Research Council, Cape Town
Macro International, Calverton, Maryland, US
University of Cape Town
National Department of Health
UNISA
University of Cape Town
National Department of Health
Medical Research Council, Cape Town
National Department of Health
University of Cape Town
Reproductive Health Research Unit
National Department of Health
Medical Research Council, Cape Town
Medical Research Council, Cape Town
Medical Research Council, Cape Town
University of Cape Town
Reproductive Health Research Unit
University of Western Cape
Medical Research Council, Cape Town
National Department of Health
Medical Research Council, Cape Town
Medical Research Council, Cape Town
Medical Research Council, Cape Town
University of Western Cape
National Department of Social Development
University of Cape Town
National Department of Health
Reproductive Health Research Unit
Medical Research Council, Cape Town
Medical Research Council, Cape Town
University of Cape Town
Medical Research Council, Cape Town

Data Processing

Mr Martin Wulfe
Mr Johan van Zyl

Macro International Calverton Maryland US
Human Sciences Research Council, Pretoria

Fieldwork Agency

Prof D Chimere-Dan

Africa Strategic Research Corporation

Fieldwork Teams

Eastern Cape

Bidla Nikiwe
Boti Buyiswa
Boti Zet Zanele

Daweti Milie

Mbowane Thandabantu
Mjekula Nomava
Mtekula Sipiwe
Ndamase Vuyiswa
Ndokwe Vuyokazi
Notshaya Anele
Ntenti Sipiwo
Nxasana Andile
Nxasana Siphokazi
Toni Mvuyisi
Twatwa Veliswa

Free State

Chaela Annah
Johnson Vuyisile Enoch
Kopane Semakaleng Patricia
Madito Pearl Faith Tumelo
Maleeme Joshua Thabo
Maleeme Selina
Maluloko Kelebongile
Mampe Keleaperi Emily

Mashilo Kate

Moche Kelebonile
Mokhitli Khoabane Abram
Montaung Jean
Morobi Serinah
Ndungane Zwelethemba
Pearl Maleeme Dimakatso
Plaatjies Nomsa Vivacious
Plaatjies Willem

Seekoe Eunice Pinky

Sephapo Sylvia

Gauteng

Hato Lumky
Kgaphola Mantoampe Pheladi
Khosa Edward
Krawe Nolundi
Lebokela Clifford
Lebokela Malopa
Loti Daniel
Mabaso Terrance
Maffodi Phuti
Makama Moumakoe Judah

Makola Samuel
Manaledi Lesego
Manona Nompucuko
Mashiane Sindi
Matsane Cornelia
Matsena Asmath
Mchomobe Lesego
Mgubeni Nompumele
Mngadi Nkosinathi
Mongatane Mpho
Mongo Martha
Morongwa Mona Kgweedi
Morwaswi Selina
Moyo Sakhile
Mshwelezi Kenny Themba
Nkosi Billy
Nlatebeni Zola
Phola Kagiso
Pillay Tony John
Sebesho Mamotsidike Molgadi Magdeline

KwaZulu-Natal

Duncan Mandlenkosi Sibongiseni
Khuzwayo Pumlani Edgar
Memela Nozipho Esmerald
Nene Princess Nompumelelo
Ngwane Bekithemba Siyanda Collin
Ngwane Maria Nombuso

Ntlabathi Pumla

Phumla Prudence
Sphumelele Thokozani

Limpopo

Mafikeng John
Makgabo Setshedi Johannah
Makosha Given
Meletse Lebogaang
Meletse M. E
Meletse Olitta
Mmaselaelo Sebola Doris
Rammutla Alfred
Romoroka Phuti Eric
Seila Selolo Martha
Tshepho Glenrick Malose

Mpumalanga

Chawane Bongani
Chiloane Gift
Dlamini Fortunate
Malatji Morkwape Gladys
Mashaba Nelly

Mashile Wilfred

Monyane Jimmy
 Msizi Ernest
 Mthebula Aphina Phuti
 Ndziyane Ishmael Lawrence
 Ngomane Simon Roy
 Vuma Siphon

Northern Cape

Bock Nikeyn
 Fisher Faith
 James Louisa
 Modise Goi Tseone Emmanuel
 Mohudi Othusitse Sheldon
 Mokwana Frank Brendon
 Molaeng Babuile
Nkoane Julia
 Solomans Colin Ashford
 Terrence Julie
 Tshazibane Tebogo

North West

Khanyi Nhlanhla Patrick
 Mogotsi Neo Edna
 Mogukabe Lebogang Anna
 Mokgadi Lorraine Ennacham
 Motene Marcia Matshepo
 Mphahlele Basetsana Christina
 Nompumelelo Glenrose Faith
 Sikwe Doreen Dimakutso
 Trevlyn Ntuma Kerwane

Tshukudu Lesedi**Western Cape**

Arens Griselda
 Barnard Caroline
 Basson Christina
 Basson Lindi
 Cupido Desiree
 Daniels A
 Darries Janice
 De Gois Rosemary
 Dlaba Nomakhwezi
 Fortuin Martin
 Hector David
 Jende Timothy
 Jeptha Celeste
 Kaiser Alison

Kielblock Elize

Mbulelo Atwell
 Mbulelo Ka Tunce
 Philander George
 Poloushy Layne
 Schulltz Gareth
 Sgagayi Vuyiseka
 Solomons Brenda
 Van der Bergh Leon
 Vigus Stephen
 William Ernest
 Williams Vincent
 Wooduff Anthea

Indian Areas

Archary Jayne
Archary Kesaval
 Francis Pamela
 John Ashley
 John Gary
Mcgregor Zarina
 Naidoo Noami
 Naidoo Ravendran
 Naithoo Ishwar
 Rajoo Sheron
 Renu Chandragasen
 Vanumogan Banoo

White Areas

Bianchi Bianca
 Burley Daryl
 De Bruin Rob
 De Saddeleer Tyrone
 Du Preez Marius
 Engels Mariska
 Hogg Michelle
 Kent Mark
 Kuhn Linda
 Kuhn Rick
Langman Tyrone
 Lowth Tarryn
 Malherbe Mel
 Meaden Tracy
 Mommsen Jane
 Peters Tyrone
 Rippon Claire
 Smith Gareth

Fieldwork Training

| | |
|-------------------------------|---|
| Prof Debbie Bradshaw | Medical Research Council, Cape Town |
| Dr D. Chimere-Dan | Africa Strategic Research Corporation |
| Ms Annie Cross | Macro International, Calverton, Maryland, US |
| Ms Rika du Plessis | National Department of Health |
| Ms Debbie Johathan | Medical Research Council, Cape Town |
| Dr Danuta Kielkowski | National Department of Health |
| Dr Jonathan Levin | Medical Research Council, Pretoria |
| Dr Sandra Marais | Medical Research Council, Cape Town |
| Dr Dan Monyeke | Medical Research Council, Cape Town |
| Dr Elizabeth Omoluabi-Siegert | Union for African Population Studies (Formerly) |
| Ms Ezera Tshabangu | Medical Research Council, Cape Town |
| Mr Johan van Zyl | Human Sciences Research Council, Pretoria |

SOUTH AFRICA DEMOGRAPHIC AND HEALTH SURVEY
HOUSEHOLD QUESTIONNAIRE

IDENTIFICATION

| | |
|--|---|
| PROVINCE ¹ _____ | <input style="width: 20px; height: 20px;" type="text"/> |
| DISTRICT _____ | <input style="width: 20px; height: 20px;" type="text"/> <input style="width: 20px; height: 20px;" type="text"/> <input style="width: 20px; height: 20px;" type="text"/> |
| EA NUMBER | <input style="width: 20px; height: 20px;" type="text"/> <input style="width: 20px; height: 20px;" type="text"/> <input style="width: 20px; height: 20px;" type="text"/> |
| EA TYPE (URBAN FORMAL=1; URBAN INFORMAL=2; RURAL FORMAL=3; TRIBAL AREA=4)..... | <input style="width: 20px; height: 20px;" type="text"/> |
| SADHS CLUSTER NUMBER..... | <input style="width: 20px; height: 20px;" type="text"/> <input style="width: 20px; height: 20px;" type="text"/> |
| STAND NUMBER..... | <input style="width: 20px; height: 20px;" type="text"/> <input style="width: 20px; height: 20px;" type="text"/> |
| NUMBER OF HOUSEHOLDS IN STAND..... | <input style="width: 20px; height: 20px;" type="text"/> <input style="width: 20px; height: 20px;" type="text"/> |
| HOUSEHOLD NUMBER | <input style="width: 20px; height: 20px;" type="text"/> <input style="width: 20px; height: 20px;" type="text"/> |
| NAME OF HOUSEHOLD HEAD _____ | <input style="width: 20px; height: 20px;" type="text"/> |
| IS THE HOUSEHOLD SELECTED FOR ADULT HEALTH QUESTIONNAIRE? (YES=1, NO=2) | <input style="width: 20px; height: 20px;" type="text"/> |
| IS THE HOUSEHOLD SELECTED FOR MAN QUESTIONNAIRE? (YES=1, NO=2) | <input style="width: 20px; height: 20px;" type="text"/> |

INTERVIEWER VISITS

| | 1 | 2 | 3 | FINAL VISIT |
|-------------------------------|----------------|----------------|-------|---|
| DATE | _____ | _____ | _____ | DAY <input style="width: 20px; height: 20px;" type="text"/> MONTH <input style="width: 20px; height: 20px;" type="text"/> YEAR <input style="width: 20px; height: 20px; text-align: center; border: 1px solid black;" type="text" value="2"/> <input style="width: 20px; height: 20px; text-align: center; border: 1px solid black;" type="text" value="0"/> <input style="width: 20px; height: 20px; text-align: center; border: 1px solid black;" type="text" value="0"/> |
| INTERVIEWER'S NAME | _____ | _____ | _____ | INT. CODE <input style="width: 20px; height: 20px;" type="text"/> <input style="width: 20px; height: 20px;" type="text"/> |
| RESULT* | _____ | _____ | _____ | RESULT <input style="width: 20px; height: 20px;" type="text"/> |
| NEXT VISIT: DATE TIME | _____ _____ | _____ _____ | | TOTAL NO. OF VISITS <input style="width: 20px; height: 20px;" type="text"/> |

***RESULT CODES:**

- 1 COMPLETED
- 2 NO HOUSEHOLD MEMBER AT HOME OR NO COMPETENT RESPONDENT AT HOME AT TIME OF VISIT
- 3 ENTIRE HOUSEHOLD ABSENT FOR EXTENDED PERIOD OF TIME
- 4 POSTPONED
- 5 REFUSED
- 6 DWELLING VACANT OR ADDRESS NOT A DWELLING
- 7 DWELLING DESTROYED
- 8 DWELLING NOT FOUND
- 9 OTHER _____
(SPECIFY)

| | |
|--|---|
| TOTAL PERSONS IN HOUSEHOLD | <input style="width: 20px; height: 20px;" type="text"/> <input style="width: 20px; height: 20px;" type="text"/> |
| TOTAL ELIGIBLE WOMEN | <input style="width: 20px; height: 20px;" type="text"/> <input style="width: 20px; height: 20px;" type="text"/> |
| TOTAL ELIGIBLE MEN | <input style="width: 20px; height: 20px;" type="text"/> <input style="width: 20px; height: 20px;" type="text"/> |
| TOTAL ADDITIONAL CHILDREN | <input style="width: 20px; height: 20px;" type="text"/> <input style="width: 20px; height: 20px;" type="text"/> |
| TOTAL ELIGIBLE ADULTS | <input style="width: 20px; height: 20px;" type="text"/> <input style="width: 20px; height: 20px;" type="text"/> |
| LINE NO. OF RESP. TO HOUSEHOLD QUESTION. | <input style="width: 20px; height: 20px;" type="text"/> <input style="width: 20px; height: 20px;" type="text"/> |

LANGUAGE OF QUESTIONNAIRE: **ENGLISH**

| SUPERVISOR | FIELD EDITOR | OFFICE EDITOR | KEYED BY |
|--------------------------|--------------------------|---|---|
| NAME _____ DATE _____ | NAME _____ DATE _____ | <input style="width: 20px; height: 20px;" type="text"/> <input style="width: 20px; height: 20px;" type="text"/> | <input style="width: 20px; height: 20px;" type="text"/> <input style="width: 20px; height: 20px;" type="text"/> |

¹PROVINCE: WESTERN CAPE=1; EASTERN CAPE=2; NORTHERN CAPE=3; FREE STATE=4; KWAZULU-NATAL=5; NORTHWEST=6; GAUTENG=7; MPUMALANGA=8; LIMPOPO=9

HOUSEHOLD SCHEDULE

Now we would like some information about the people who usually live in your household or who are staying with you now.

| LINE NO. | USUAL RESIDENTS AND VISITORS | RELATIONSHIP TO HEAD OF HOUSEHOLD | SEX | RESIDENCE | | AGE | ELIGIBILITY | | | | POPULATION GROUP | PARENTAL SURVIVORSHIP AND RESIDENCE FOR PERSONS LESS THAN 13 YEARS OLD** | | | | | | EDUCATION | | GRANTS | | | INJURIES IN THE LAST MONTH | | DISABILITY |
|----------|------------------------------|-----------------------------------|-----|--------------------------------|--|-----|--------------------|---|--|--------------------------------------|------------------|--|-------------|-----------------------------------|----------|--|-----------------------------|--------------------|---|-------------------|---|------------------------------|--|------|------------|
| | | | | Does (NAME) usually live here? | Did (NAME) usually stay here last night? | | How old is (NAME)? | CIRCLE LINE NO. OF ALL CHILDREN UNDER AGE 6 | CIRCLE LINE NO. OF ALL WOMEN AGE 15-49 | CIRCLE LINE NO. OF ALL MEN AGE 15-59 | | CIRCLE LINE NO. OF ALL CHILDREN UNDER AGE 6 WHOSE MOTHER IS NOT ALIVE OR WHOSE NATURAL MOTHER DOESN'T LIVE IN THIS HOUSEHOLD | Eligibility | Is (NAME)'s natural father alive? | IF ALIVE | Does (NAME)'s natural father live in this household? IF YES, what is his name? RECORD FATHER'S LINE NUMBER | Has (NAME) attended school? | IF ATTENDED SCHOOL | Does (NAME) receive any type of grants? | IF RECEIVES GRANT | DI (NAME) injured in an injury that was treated by a doctor or nurse during the last month? | IF INJURED IN THE LAST MONTH | Does (NAME) have any serious problems that prevent his/her full participation in life activities (such as education, work, social life)? IF YES, ASK What kind of disability does (NAME) have? | | |
| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | (12) | (13) | (14) | (15) | (16) | (17) | (18) | (19) | (20) | (21) | (22) | (23) | (24) | (25) | (26) |
| 01 | | | 1 | 2 | 1 | 2 | 01 | 01 | 01 | 01 | | 1 | | 01 | 1 | | 1 | | 1 | 2 | | | 1 | 2 | |
| 02 | | | 1 | 2 | 1 | 2 | 02 | 02 | 02 | 02 | | 1 | | 02 | 1 | | 1 | | 1 | 2 | | | 1 | 2 | |
| 03 | | | 1 | 2 | 1 | 2 | 03 | 03 | 03 | 03 | | 1 | | 03 | 1 | | 1 | | 1 | 2 | | | 1 | 2 | |
| 04 | | | 1 | 2 | 1 | 2 | 04 | 04 | 04 | 04 | | 1 | | 04 | 1 | | 1 | | 1 | 2 | | | 1 | 2 | |
| 05 | | | 1 | 2 | 1 | 2 | 05 | 05 | 05 | 05 | | 1 | | 05 | 1 | | 1 | | 1 | 2 | | | 1 | 2 | |
| 06 | | | 1 | 2 | 1 | 2 | 06 | 06 | 06 | 06 | | 1 | | 06 | 1 | | 1 | | 1 | 2 | | | 1 | 2 | |

**** Q. 13 THROUGH 17: THESE QUESTIONS REFER TO THE BIOLOGICAL PARENTS OF THE CHILD. IN Q. 14 AND Q. 17 RECORD '00' IF PARENT NOT LISTED IN HOUSEHOLD SCHEDULE.**

**** CODES FOR Q. 19 EDUCATION LEVEL:**
 00 = LESS THAN ONE YEAR
 01 = SUB GRADE 2
 02 = GRADE 2
 03 = STANDARD 1/GRADE 3
 04 = STANDARD 2/GRADE 4
 05 = STANDARD 3/GRADE 5
 06 = STANDARD 4/GRADE 6
 07 = STANDARD 5/GRADE 7
 08 = STANDARD 6/GRADE 8
 09 = STANDARD 7/GRADE 9
 10 = STANDARD 8/GRADE 10
 11 = STANDARD 9/GRADE 11
 12 = STANDARD 10/GRADE 12
 13 = FURTHER STUDIES INCOMPLETE
 14 = DIPLOMA/OTHER POST-SCHOOL COMPLETE
 15 = FURTHER DEGREE COMPLETE
 98 = DON'T KNOW

***** CODES FOR Q. 22 TYPE OF GRANT:**
 01 = OLD AGE
 02 = DISABILITY
 03 = VETERAN
 04 = CARE DEPENDENCY
 05 = FOSTER CHILD
 06 = CHILD SUPPORT
 07 = FOSTER CARE
 08 = DISTRESS
 09 = DON'T KNOW

****** CODES FOR Q. 23 WHERE COLLECTS MONEY:**
 01 = BANK
 02 = PROCU-POST
 03 = POST OFFICE
 04 = INSTI-TUTION
 05 = ACCIDENTAL FALL
 06 = FOUNTAIN WORK
 07 = OTHER
 08 = DONT KNOW

******* CODES FOR Q. 25 TYPE OF INJURY:**
 01 = ASSAULT AT HOME
 02 = ASSAULT AWAY FROM HOME
 03 = SELF-INFLICTED VIOLENCE
 04 = TRAFFIC ACCIDENT
 05 = ACCIDENT AT WORK
 06 = SPORTS INJURY
 07 = ACCIDENTAL BURNS (NOT AT WORK)
 08 = ACCIDENTAL FALL
 09 = ACCIDENTAL POISONING (NOT AT WORK)
 10 = OTHER

CODES FOR Q. 26: TYPES OF DISABILITY
 0=NONE
 1=SIGHT
 2=HEARING
 3=SPEECH
 4=PHYSICAL
 5=INTELLECTUAL
 6=EMOTIONAL
 7=OTHER

*** CODES FOR Q. 3 RELATIONSHIP TO HEAD OF HOUSEHOLD:**
 01 = HEAD OF HOUSEHOLD OR PARTNER
 02 = WIFE OR HUSBAND
 03 = SON OR DAUGHTER
 04 = SON-IN-LAW OR DAUGHTER-IN-LAW
 05 = GRANDCHILD
 06 = PARENT
 07 = BROTHER OR SISTER
 08 = BROTHER OR SISTER IN-LAW
 09 = NEPHEW/NIECE
 10 = OTHER RELATIVE
 11 = ADOPTED FOSTER/STEPCHILD
 12 = OTHER UNRELATED
 98 = DON'T KNOW

| LINE NO. | USUAL RESIDENTS AND VISITORS | RELATIONSHIP TO HEAD OF HOUSEHOLD | SEX | RESIDENCE | | AGE | ELIGIBILITY | | | | POPULATION GROUP | PARENTAL SURVIVORSHIP AND RESIDENCE FOR PERSONS LESS THAN 15 YEARS OLD** | | | | | | EDUCATION | | | GRANTS | | | INJURIES IN THE LAST MONTH | | DISABILITY |
|----------|------------------------------|-----------------------------------|-------|--------------------------------|----------------------------------|-----|--------------------|---|--------------------------------------|--|------------------|--|-----------------------------------|----------|-------------|-----------------------------------|--------------|---------------------------------|--------------------|---|-------------------|--|------------------------------|---|------|------------|
| | | | | Does (NAME) usually live here? | Did (NAME) stay here last night? | | How old is (NAME)? | CIRCLE LINE NO. OF ALL CHILDREN UNDER AGE 6 | CIRCLE LINE NO. OF ALL MEN AGE 15-49 | CIRCLE LINE NO. OF ALL MEN AND WOMEN AGE 15-59 AND ABOVE | | How would (NAME) describe himself/herself in terms of population group? | Is (NAME)'s natural mother alive? | IF ALIVE | ELIGIBILITY | Is (NAME)'s natural father alive? | IF ALIVE | Hs (NAME) ever attended school? | IF ATTENDED SCHOOL | Does (NAME) receive any type of grants? | IF RECEIVES GRANT | Did (NAME) have an injury that was treated by a doctor or nurse during the last month? | IF INJURED IN THE LAST MONTH | Does (NAME) have any serious disability that prevents his/her full participation in life activities (such as education, work, social life)? IF YES, ASK What kind of disability does (NAME) have? | | |
| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | (12) | (13) | (14) | (15) | (16) | (17) | (18) | (19) | (20) | (21) | (22) | (23) | (24) | (25) | (26) | |
| 07 | | | 1 2 1 | 2 1 2 | | | 07 | 07 | 07 | 07 | | 1 2 8 | | 07 | 1 2 8 | | 1 GO J TO 21 | | 1 2 GO J TO 24 | | | | 1 2 GO J TO 26 | | | |
| 08 | | | 1 2 1 | 2 1 2 | | | 08 | 08 | 08 | 08 | | 1 2 8 | | 08 | 1 2 8 | | 1 GO J TO 21 | | 1 2 GO J TO 24 | | | | 1 2 GO J TO 26 | | | |
| 09 | | | 1 2 1 | 2 1 2 | | | 09 | 09 | 09 | 09 | | 1 2 8 | | 09 | 1 2 8 | | 1 GO J TO 21 | | 1 2 GO J TO 24 | | | | 1 2 GO J TO 26 | | | |
| 10 | | | 1 2 1 | 2 1 2 | | | 10 | 10 | 10 | 10 | | 1 2 8 | | 10 | 1 2 8 | | 1 GO J TO 21 | | 1 2 GO J TO 24 | | | | 1 2 GO J TO 26 | | | |
| 11 | | | 1 2 1 | 2 1 2 | | | 11 | 11 | 11 | 11 | | 1 2 8 | | 11 | 1 2 8 | | 1 GO J TO 21 | | 1 2 GO J TO 24 | | | | 1 2 GO J TO 26 | | | |
| 12 | | | 1 2 1 | 2 1 2 | | | 12 | 12 | 12 | 12 | | 1 2 8 | | 12 | 1 2 8 | | 1 GO J TO 21 | | 1 2 GO J TO 24 | | | | 1 2 GO J TO 26 | | | |

* CODES FOR Q.3 RELATIONSHIP TO HEAD OF HOUSEHOLD:
01 = HEAD
02 = WIFE OR HUSBAND OR PARTNER
03 = SON-IN-LAW OR DAUGHTER-IN-LAW
04 = SON-IN-LAW OR DAUGHTER-IN-LAW
05 = GRANDCHILD
06 = PARENT-IN-LAW
07 = PARENT-IN-LAW
08 = BROTHER OR SISTER
09 = NEPHEW/NIECE
10 = OTHER RELATIVE
11 = STEPCHILD/STEP-SISTER/STEP-BROTHER
12 = NOT RELATED
98 = DON'T KNOW

CODES FOR Q.26: TYPES OF DISABILITY
0=NONE
1=SIGHT
2=HEARING
3=SPEECH
4=PHYSICAL
5=INTELLECTUAL
6=EMOTIONAL
7=OTHER

** Q.13 THROUGH 17: THESE QUESTIONS REFER TO THE BIOLOGICAL PARENTS OF THE CHILD. IN Q.14 AND Q.17 RECORD '00' IF PARENT NOT LISTED IN HOUSEHOLD SCHEDULE.

*** CODES FOR Q.19 EDUCATION LEVEL:
09 = LESS THAN ONE YEAR
01 = SUB 1/GRADE 1
02 = SUB 2/GRADE 2
03 = STANDARD 1/GRADE 3
04 = STANDARD 2/GRADE 4
05 = STANDARD 3/GRADE 5
06 = STANDARD 4/GRADE 6
07 = STANDARD 5/GRADE 7
08 = STANDARD 6/GRADE 8
09 = STANDARD 7/GRADE 9
10 = STANDARD 8/GRADE 10
11 = STANDARD 9/GRADE 11
12 = STANDARD 10/GRADE 12
13 = FURTHER STUDIES INCOMPLETE
14 = DIPLOMA/OTHER POST-SCHOOL COMPLETE
15 = OTHER DEGREE COMPLETE
98 = DON'T KNOW

**** CODES FOR Q.22 TYPE OF GRANT:
01 = OLD AGE
02 = DISABILITY
03 = WAR VETERAN
04 = CARE
05 = DEPENDENCY
06 = FOSTER CHILD
07 = SOCIAL RELIEF
08 = DISTRESS
09 = DON'T KNOW

***** CODES FOR Q.23 PLACE WHERE CONTACTS GRANT MONEY:
01 = BANK
02 = FINANCIAL INSTITUTION
03 = FACTORY
04 = OFFICE
05 = INSTITUTION
06 = PAYROLL
07 = OTHER
08 = ACCIDENTAL FALL
09 = ACCIDENTAL POISONING (NOT AT WORK)
10 = OTHER

***** CODES FOR Q.25 TYPE OF INJURY:
01 = ASSAULT AT HOME
02 = ASSAULT AWAY FROM HOME
03 = SELF-INFLICTED VIOLENCE
04 = TRAFFIC ACCIDENT
05 = WORK
06 = SPORTS INJURY
07 = ACCIDENTAL BURNS (NOT AT WORK)
08 = ACCIDENTAL FALL (NOT AT WORK)
09 = ACCIDENTAL POISONING (NOT AT WORK)
10 = OTHER

TICK HERE IF CONTINUATION SHEET USED

Just to make sure that I have a complete listing:

- | | | | | | | |
|--|-----|--------------------------|---|---------------------|----|--------------------------|
| 1) Are there any other persons such as small children or infants that we have not listed? | YES | <input type="checkbox"/> | → | ENTER EACH IN TABLE | NO | <input type="checkbox"/> |
| 2) In addition, are there any other people who may not be members of your family, such as domestic servants, lodgers or friends who usually live here? | YES | <input type="checkbox"/> | → | ENTER EACH IN TABLE | NO | <input type="checkbox"/> |
| 3) Are there any guests or temporary visitors staying here, or anyone else who slept here last night, who have not been listed? | YES | <input type="checkbox"/> | → | ENTER EACH IN TABLE | NO | <input type="checkbox"/> |

| NO. | QUESTIONS AND FILTERS | CODING CATEGORIES | SKIP |
|-----|--|---|--|
| 27 | TYPE OF DWELLING. RECORD OBSERVATION. | STAND-ALONE HOUSE OR STRUCTURE 11 TOWN HOUSE/CLUSTER HOUSE/ SEMI-DETACHED HOUSE 12 FLAT IN BLOCK OF FLATS 13 TRADITIONAL DWELLING/HUT/ STRUCTURE MADE OF TRADITIONAL MATERIALS 14 HOUSE/FLAT/ROOM IN BACK YARD .. 15 INFORMAL DWELLING/SHACK IN BACK YARD 16 INFORMAL DWELLING/SHACK <u>NOT</u> IN BACK YARD 17 ROOM/FLATLET NOT IN BACK YARD BUT ON A SHARED PROPERTY 18 CARAVAN OR TENT 19 PRIVATE SHIP/BOAT 20 OTHER 96 (SPECIFY) | |
| 28 | What is the main source of drinking water for members of your household? | PIPED WATER PIPED INTO DWELLING 11 PIPED INTO SITE/YARD 12 PUBLIC TAP 13 WATER FROM OPEN WELL 21 WATER FROM COVERED WELL OR BOREHOLE 31 SURFACE WATER SPRING 41 RIVER/STREAM 42 POND/LAKE 43 POOL/STAGNANT WATER 44 DAM 45 RAINWATER 51 WATER SUPPLIER/CARRIER/ TANKER 61 WATER VENDOR/BOTTLED WATER... 71 OTHER 96 (SPECIFY) | → 30 → 30 → 30 → 30 |
| 29 | How long does it take you to go there, get water, and come back? | MINUTES <input type="text"/> <input type="text"/> <input type="text"/> ON PREMISES 996 | |
| 30 | What kind of toilet facilities does your household have? | FLUSH TOILET (CONNECTED TO SEWAGE) 11 FLUSH TOILET (WITH SEPTIC TANK) 12 PIT TOILET/LATRINE TRADITIONAL PIT TOILET 21 VENTILATED IMPROVED PIT (VIP) LATRINE 22 NO FACILITY/BUSH/FIELD 31 OTHER 96 (SPECIFY) | → 32 |
| 31 | Do you share these facilities with other households? | YES 1 NO 2 | |

| NO. | QUESTIONS AND FILTERS | CODING CATEGORIES | SKIP | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--------------------------|---|--|-----------------|----------------|----------------|-----------------|-------------------|---|-----------------|---|-----------|----------------|---|---|--------------------|---|---|--------------------------|-----------|---|------------------|---|--------------|---|--|--|-------------------------|---|---|---|------------------|---|---|---|-------------|----|----|----|--|----------------|----------------|-----------------|--|-----------|--|--|--|
| 32 | Does your household have any of the following items in working condition? A radio? A television? A computer? A refrigerator? A landline telephone? A cell phone? | <table style="width: 100%; border-collapse: collapse;"> <tr> <td></td> <td style="text-align: right;">YES</td> <td style="text-align: right;">NO</td> </tr> <tr> <td>RADIO</td> <td style="text-align: right;">1</td> <td style="text-align: right;">2</td> </tr> <tr> <td>TELEVISION.....</td> <td style="text-align: right;">1</td> <td style="text-align: right;">2</td> </tr> <tr> <td>COMPUTER</td> <td style="text-align: right;">1</td> <td style="text-align: right;">2</td> </tr> <tr> <td>REFRIGERATOR</td> <td style="text-align: right;">1</td> <td style="text-align: right;">2</td> </tr> <tr> <td>LANDLINE TELEPHONE</td> <td style="text-align: right;">1</td> <td style="text-align: right;">2</td> </tr> <tr> <td>CELL PHONE</td> <td style="text-align: right;">1</td> <td style="text-align: right;">2</td> </tr> </table> | | YES | NO | RADIO | 1 | 2 | TELEVISION..... | 1 | 2 | COMPUTER | 1 | 2 | REFRIGERATOR | 1 | 2 | LANDLINE TELEPHONE | 1 | 2 | CELL PHONE | 1 | 2 | | | | | | | | | | | | | | | | | | | | | | | | |
| | YES | NO | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| RADIO | 1 | 2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TELEVISION..... | 1 | 2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| COMPUTER | 1 | 2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| REFRIGERATOR | 1 | 2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| LANDLINE TELEPHONE | 1 | 2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| CELL PHONE | 1 | 2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 33 | CHECK 32: HOUSEHOLD HAS NO LANDLINE TELEPHONE AND NO CELL PHONE <input type="checkbox"/> | HOUSEHOLD HAS EITHER LANDLINE TELEPHONE OR CELL PHONE <input type="checkbox"/> | →35 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 34 | Where do members of your household use a telephone when they need one? | AT A NEIGHBOR NEARBY..... 1 AT A PUBLIC TELEPHONE NEARBY 2 AT ANOTHER LOCATION NEARBY 3 SOMEWHERE ELSE NOT NEARBY 4 NOWHERE..... 5 OTHER _____ 6 (SPECIFY) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 35 | What type of fuel does your household mainly use for cooking, heating and lighting: Electricity? Gas? Paraffin? Coal? Candles? Firewood, straw? Animal dung? Other? | <table style="width: 100%; border-collapse: collapse;"> <tr> <td></td> <td style="text-align: center;"><u>COOKING</u></td> <td style="text-align: center;"><u>HEATING</u></td> <td style="text-align: center;"><u>LIGHTING</u></td> </tr> <tr> <td>ELECTRICITY</td> <td style="text-align: right;">1</td> <td style="text-align: right;">1</td> <td style="text-align: right;">1</td> </tr> <tr> <td>GAS</td> <td style="text-align: right;">2</td> <td style="text-align: right;">2</td> <td style="text-align: right;">2</td> </tr> <tr> <td>PARAFFIN.....</td> <td style="text-align: right;">3</td> <td style="text-align: right;">3</td> <td style="text-align: right;">3</td> </tr> <tr> <td>COAL.....</td> <td style="text-align: right;">4</td> <td style="text-align: right;">4</td> <td style="text-align: right;">4</td> </tr> <tr> <td>CANDLES.....</td> <td style="text-align: right;">5</td> <td></td> <td></td> </tr> <tr> <td>FIREWOOD/ STRAW.....</td> <td style="text-align: right;">6</td> <td style="text-align: right;">6</td> <td style="text-align: right;">6</td> </tr> <tr> <td>ANIMAL DUNG.....</td> <td style="text-align: right;">7</td> <td style="text-align: right;">7</td> <td style="text-align: right;">7</td> </tr> <tr> <td>OTHER _____</td> <td style="text-align: right;">96</td> <td style="text-align: right;">96</td> <td style="text-align: right;">96</td> </tr> <tr> <td></td> <td style="text-align: center;"><u>COOKING</u></td> <td style="text-align: center;"><u>HEATING</u></td> <td style="text-align: center;"><u>LIGHTING</u></td> </tr> <tr> <td></td> <td colspan="3" style="text-align: center;">(SPECIFY)</td> </tr> </table> | | <u>COOKING</u> | <u>HEATING</u> | <u>LIGHTING</u> | ELECTRICITY | 1 | 1 | 1 | GAS | 2 | 2 | 2 | PARAFFIN..... | 3 | 3 | 3 | COAL..... | 4 | 4 | 4 | CANDLES..... | 5 | | | FIREWOOD/ STRAW..... | 6 | 6 | 6 | ANIMAL DUNG..... | 7 | 7 | 7 | OTHER _____ | 96 | 96 | 96 | | <u>COOKING</u> | <u>HEATING</u> | <u>LIGHTING</u> | | (SPECIFY) | | | |
| | <u>COOKING</u> | <u>HEATING</u> | <u>LIGHTING</u> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ELECTRICITY | 1 | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| GAS | 2 | 2 | 2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| PARAFFIN..... | 3 | 3 | 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| COAL..... | 4 | 4 | 4 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| CANDLES..... | 5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| FIREWOOD/ STRAW..... | 6 | 6 | 6 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ANIMAL DUNG..... | 7 | 7 | 7 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| OTHER _____ | 96 | 96 | 96 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | <u>COOKING</u> | <u>HEATING</u> | <u>LIGHTING</u> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | (SPECIFY) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 36 | How many rooms does your household have, including kitchen or cooking area? Exclude bathrooms, sheds, garages, stables, or any other rooms unless people live in them. | ROOMS..... <input style="width: 40px; height: 20px;" type="text"/> <input style="width: 40px; height: 20px;" type="text"/> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 37 | CHECK 36: HOUSEHOLD HAS ONLY ONE ROOM <input type="checkbox"/> | HOUSEHOLD HAS TWO OR MORE ROOMS <input type="checkbox"/> | →39 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 38 | Do you share this room with other households? | YES..... 1 NO 2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 39 | MAIN MATERIAL OF THE FLOOR. RECORD OBSERVATION. | NATURAL FLOOR EARTH/SAND/DUNG..... 11 RUDIMENTARY FLOOR BARE WOOD PLANKS 21 FINISHED FLOOR PARQUET OR POLISHED WOOD 31 VINYL OR ASPHALT STRIPS 32 CERAMIC TILES 33 CEMENT 34 CARPET 35 OTHER _____ 96 (SPECIFY) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

| NO. | QUESTIONS AND FILTERS | CODING CATEGORIES | SKIP | | | | | | | | | | | | | | | | | | |
|--------------------------|--|--|------|-----|----|---------------|---|---|-------------------------|---|---|----------------|---|---|-------------------|---|---|--------------------------|---|---|--|
| 40 | MAIN MATERIAL OF THE WALLS. RECORD OBSERVATION. | PLASTIC/CARDBOARD..... 11 MUD..... 12 MUD AND CEMENT..... 13 CORRUGATED IRON/ZINC..... 21 PREFAB 22 BARE BRICK OR CEMENT BLOCKS.... 23 PLASTER/FINISHED..... 31 OTHER _____ 96 (SPECIFY) | | | | | | | | | | | | | | | | | | | |
| 41 | Does any member of your household own: A bicycle? A motorcycle or motor scooter? A car or truck? A donkey or a horse? Sheep/goat or cattle? | <table style="width: 100%; border-collapse: collapse;"> <tr> <td></td> <td style="text-align: center;">YES</td> <td style="text-align: center;">NO</td> </tr> <tr> <td>BICYCLE</td> <td style="text-align: center;">1</td> <td style="text-align: center;">2</td> </tr> <tr> <td>MOTORCYCLE/SCOOTER.....</td> <td style="text-align: center;">1</td> <td style="text-align: center;">2</td> </tr> <tr> <td>CAR/TRUCK.....</td> <td style="text-align: center;">1</td> <td style="text-align: center;">2</td> </tr> <tr> <td>DONKEY/HORSE.....</td> <td style="text-align: center;">1</td> <td style="text-align: center;">2</td> </tr> <tr> <td>SHEEP/CATTLE/GOATS</td> <td style="text-align: center;">1</td> <td style="text-align: center;">2</td> </tr> </table> | | YES | NO | BICYCLE | 1 | 2 | MOTORCYCLE/SCOOTER..... | 1 | 2 | CAR/TRUCK..... | 1 | 2 | DONKEY/HORSE..... | 1 | 2 | SHEEP/CATTLE/GOATS | 1 | 2 | |
| | YES | NO | | | | | | | | | | | | | | | | | | | |
| BICYCLE | 1 | 2 | | | | | | | | | | | | | | | | | | | |
| MOTORCYCLE/SCOOTER..... | 1 | 2 | | | | | | | | | | | | | | | | | | | |
| CAR/TRUCK..... | 1 | 2 | | | | | | | | | | | | | | | | | | | |
| DONKEY/HORSE..... | 1 | 2 | | | | | | | | | | | | | | | | | | | |
| SHEEP/CATTLE/GOATS | 1 | 2 | | | | | | | | | | | | | | | | | | | |
| 42 | How is the refuse or rubbish in this household <u>mainly</u> disposed of? | REMOVED BY LOCAL AUTHORITIES AT LEAST ONCE A WEEK 11 REMOVED BY LOCAL AUTHORITIES LESS THAN ONCE A WEEK 12 COMMUNAL REFUSE DUMP..... 13 OWN REFUSE DUMP..... 14 BURN REFUSE/RUBBISH..... 15 NO RUBBISH DISPOSAL 16 OTHER _____ 96 (SPECIFY) | | | | | | | | | | | | | | | | | | | |
| 43 | Do you know where you can get forms to apply for a government grant? | YES..... 1 NO 2 | → 45 | | | | | | | | | | | | | | | | | | |
| 44 | Do you know where you can get forms to apply for a government grant? | POST OFFICE..... A BANK..... B MAGISTRATES COURT C DEPARTMENT OF WELFARE/ SOCIAL DEVELOPMENT OFFICES... D PAY POINT..... E OTHER _____ X (SPECIFY) DON'T KNOW..... Z | | | | | | | | | | | | | | | | | | | |
| 45 | Has anyone in your household been diagnosed with malaria in the last 12 months? | YES..... 1 NO 2 DON'T KNOW/UNSURE 8 | ↳52 | | | | | | | | | | | | | | | | | | |
| 46 | Who was the last person who was diagnosed with malaria in the last 12 months? RECORD NAME AND LINE NUMBER FROM THE HOU SHEOLD SCHEDULE. IF PERSON DOES NOT CURRENTLY LIVE IN THE HOUSEHOLD, RECORD '00'. | NAME _____ LINE NUMBER..... <table border="1" style="display: inline-table; vertical-align: middle;"> <tr> <td style="width: 20px; height: 20px;"></td> <td style="width: 20px; height: 20px;"></td> </tr> </table> | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | |
| 47 | Did (NAME from Q.46) receive advice or treatment for malaria? | YES..... 1 NO 2 DON'T KNOW/UNSURE 8 | ↳52 | | | | | | | | | | | | | | | | | | |

| NO. | QUESTIONS AND FILTERS | CODING CATEGORIES | SKIP |
|-----|--|---|------|
| 48 | <p>Where did (NAME) go for advice or treatment?</p> <p>IF SOURCE IS HOSPITAL, HEALTH CENTER, OR CLINIC, WRITE THE NAME OF THE PLACE. PROBE TO IDENTIFY THE TYPE OF SOURCE AND CIRCLE THE APPROPRIATE CODE.</p> <p>_____</p> <p>(NAME OF PLACE)</p> <p>Any other place?</p> <p>RECORD ALL PLACES MENTIONED.</p> | <p>PUBLIC SECTOR</p> <p>GOVERNMENT HOSPITAL..... A</p> <p>DAY HOSPITAL/CLINIC/ COMMUNITY HEALTH CENTRE B</p> <p>FAMILY PLANNING CLINIC C</p> <p>MOBILE CLINIC D</p> <p>COMMUNITY HEALTH WORKER..... E</p> <p>OTHER PUBLIC _____ F (SPECIFY)</p> <p>PRIVATE MEDICAL SECTOR</p> <p>PRIVATE HOSPITAL/CLINIC G</p> <p>PHARMACY H</p> <p>PRIVATE DOCTOR I</p> <p>OTHER PRIVATE MEDICAL _____ J (SPECIFY)</p> <p>OTHER SOURCE</p> <p>WORKPLACE K</p> <p>COMMUNITY-BASED DISTRIBUTOR..... L</p> <p>SHOP/HOTEL/SCHOOL/CINEMA M</p> <p>FRIENDS/RELATIVES N</p> <p>OTHER _____ X (SPECIFY)</p> <p>DON'T KNOW/UNSURE Z</p> | |
| 49 | <p>What drugs did (NAME) take for malaria?</p> <p>RECORD ALL MENTIONED. IF TYPE OF DRUG IS NOT DETERMINED, SHOW TYPICAL ANTIMALARIAL DRUGS TO RESPONDENT.</p> | <p>COARTEM..... A</p> <p>ARSUMAX B</p> <p>FANSIDAR..... C</p> <p>ORAL QUININE D</p> <p>UNKNOWN DRUG/ E</p> <p>OTHER _____ X (SPECIFY)</p> | |
| 50 | <p>How long after fever/first symptoms did (NAME) seek advice or treatment?</p> | <p>SAME DAY 0</p> <p>NEXT DAY..... 1</p> <p>TWO DAYS AFTER THE FEVER 2</p> <p>THREE OR MORE DAYS AFTER THE FEVER..... 3</p> <p>DON'T KNOW/UNSURE 8</p> | |
| 51 | <p>For how many days did (NAME) take the drugs?</p> <p>IF 7 OR MORE DAYS, RECORD '7'.</p> | <p>DAYS..... <input type="text"/></p> <p>DON'T KNOW/UNSURE 8</p> | |
| 52 | <p>Does anyone in your household do anything to prevent getting bitten by mosquitoes?</p> | <p>YES..... 1</p> <p>NO 2</p> <p>DON'T KNOW/UNSURE 8</p> | ↳54 |
| 53 | <p>What do members of your household do to prevent getting bitten by mosquitoes?</p> <p>RECORD ALL MENTIONED.</p> | <p>SLEEP UNDER MOSQUITO NET..... A</p> <p>USE COILS..... B</p> <p>USE MOSQUITO REPELLENT LOTIONS/SPRAYS/CANDLES C</p> <p>OTHER _____ X (SPECIFY)</p> <p>DON'T KNOW/UNSURE Z</p> | |
| 54 | <p>Did anyone in your household take any drugs to prevent malaria in the last 12 months?</p> | <p>YES..... 1</p> <p>NO 2</p> <p>DON'T KNOW/UNSURE 8</p> | ↳57 |

| 58B | ASK RESPONDENT ABOUT EACH MOSQUITO NET. IF MORE THAN 3 NETS, USE AN ADDITIONAL QUESTIONNAIRE. | NET # 1 | NET # 2 | NET # 3 |
|-----|---|---|---|---|
| 58C | How long ago did your household obtain the mosquito net? | MOS AGO ... <input type="text"/> MORE THAN 3 YEARS AGO.....95 | MOS AGO ... <input type="text"/> MORE THAN 3 YEARS AGO.....95 | MOS AGO ... <input type="text"/> MORE THAN 3 YEARS AGO.....95 |
| 58D | Since you got the mosquito net, was it ever soaked or dipped in a liquid to repel mosquitoes or bugs? | YES..... 1 NO 2 (SKIP TO 58F) ← NOT SURE 8 | YES 1 NO 2 (SKIP TO 58F) ← NOT SURE 8 | YES..... 1 NO 2 (SKIP TO 58F) ← NOT SURE 8 |
| 58E | How long ago was the net last soaked or dipped? IF LESS THAN 1 MONTH, RECORD '00'. | MOS AGO ... <input type="text"/> MORE THAN 3 YEARS AGO.....95 NOT SURE 98 | MOS AGO ... <input type="text"/> MORE THAN 3 YEARS AGO 95 NOT SURE 98 | MOS AGO ... <input type="text"/> MORE THAN 3 YEARS AGO.....95 NOT SURE 98 |
| 58F | Did anyone sleep under this mosquito net last night? | YES..... 1 NO 2 (SKIP TO 58H) ← NOT SURE 8 | YES 1 NO 2 (SKIP TO 58H) ← NOT SURE 8 | YES..... 1 NO 2 (SKIP TO 58H) ← NOT SURE 8 |
| 58G | Who slept under this mosquito net last night? RECORD THE RESPECTIVE LINE NUMBER FROM THE HOUSEHOLD SCHEDULE. | NAME _____ LINE NO.... <input type="text"/> .. NAME _____ LINE NO.... <input type="text"/> NAME _____ LINE NO.... <input type="text"/> NAME _____ LINE NO.... <input type="text"/> NAME _____ LINE NO.... <input type="text"/> | NAME _____ LINE NO.... <input type="text"/> .. NAME _____ LINE NO.... <input type="text"/> NAME _____ LINE NO.... <input type="text"/> NAME _____ LINE NO.... <input type="text"/> NAME _____ LINE NO.... <input type="text"/> | NAME _____ LINE NO.... <input type="text"/> .. NAME _____ LINE NO.... <input type="text"/> NAME _____ LINE NO.... <input type="text"/> NAME _____ LINE NO.... <input type="text"/> NAME _____ LINE NO.... <input type="text"/> |
| 58H | | GO BACK TO 58B FOR NEXT NET; OR, IF NO MORE NETS, GO TO 59. | GO BACK TO 58B FOR NEXT NET; OR, IF NO MORE NETS, GO TO 59. | GO BACK TO 58B IN THE FIRST COLUMN OF NEW QUESTIONNAIRE; OR, IF NO MORE NETS, GO TO 59. |
| 59 | Was your household sprayed with any substance that repels/kills mosquitoes in the last 12 months? | YES..... 1 NO 2 DON'T KNOW/UNSURE 8 | | |
| 60 | The last time your household was sprayed with a substance that repels/kills mosquitoes, who did the spraying? | SOMEONE FROM A GOV'T TEAM 01 SOMEONE FROM A PRIVATE COMPANY..... 02 HOUSEHOLD MEMBER 03 SELF..... 04 NEIGHBOR..... 05 OTHER _____ 96 (SPECIFY) DON'T KNOW/UNSURE 98 | | |

**WEIGHT AND HEIGHT MEASUREMENT
FOR CHILDREN UNDER AGE 6**

CHECK COLUMNS (7) AND (8): RECORD THE LINE NUMBER, NAME AND AGE OF ALL CHILDREN UNDER AGE 6.

| CHILDREN UNDER AGE 6 | | | | WEIGHT AND HEIGHT MEASUREMENT OF CHILDREN BORN IN 1998 OR LATER | | | |
|--------------------------------------|----------------------|----------------------|--|---|---|--|--|
| LINE NO. FROM COL.(9) | NAME FROM COL.(2) | AGE FROM COL.(7) | What is (NAME)'s date of birth?* | WEIGHT (KILOGRAMS) | HEIGHT (CENTIMETERS) | MEASURED LYING DOWN OR STANDING UP | RESULT 1 MEASURED 2 NOT PRESENT 3 REFUSED 6 OTHER |
| (61) | (62) | (63) | (64) | (65) | (66) | (67) | (68) |
| | | | DAY MONTH YEAR | | | LYING STAND. | |
| <input type="text"/> | | <input type="text"/> | <input type="text"/> <input type="text"/> <input type="text"/> | <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> | <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> | 1 2 | <input type="text"/> |
| <input type="text"/> | | <input type="text"/> | <input type="text"/> <input type="text"/> <input type="text"/> | <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> | <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> | 1 2 | <input type="text"/> |
| <input type="text"/> | | <input type="text"/> | <input type="text"/> <input type="text"/> <input type="text"/> | <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> | <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> | 1 2 | <input type="text"/> |
| <input type="text"/> | | <input type="text"/> | <input type="text"/> <input type="text"/> <input type="text"/> | <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> | <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> | 1 2 | <input type="text"/> |
| <input type="text"/> | | <input type="text"/> | <input type="text"/> <input type="text"/> <input type="text"/> | <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> | <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> | 1 2 | <input type="text"/> |
| <input type="text"/> | | <input type="text"/> | <input type="text"/> <input type="text"/> <input type="text"/> | <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> | <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> | 1 2 | <input type="text"/> |
| TICK HERE IF CONTINUATION SHEET USED | | | | <input type="checkbox"/> | | | |

- FOR CHILDREN NOT INCLUDED IN ANY BIRTH HISTORY, ASK DAY, MONTH AND YEAR. FOR ALL OTHER CHILDREN, COPY MONTH AND YEAR FROM 215 IN MOTHER'S BIRTH HISTORY AND ASK DAY.

TABLE OF THE SELECTION OF ADULTS FOR THE VIOLENCE QUESTIONS IN THE ADULT HEALTH QUESTIONNAIRE

Take the last digit of the sequential questionnaire number. This is the number of the row you should go to. See the total number of eligible adults in Column 11 of the household schedule. This is the number of the column you should go to. Find the box where the row and the column meet. Circle the number that appears in the box. This is the number of the adult who will be asked the violence questions. Then, go to Column 11 in the household schedule and circle the corresponding line number of the eligible adult (e.g. if the number in the box is '2' and there are three adults in the household whose line numbers are '02', '03', and '07', the line number of the eligible adult for the violence questions is '03').

| Last digit of the questionnaire number | Total number of eligible adults in the household | | | | | | | | | |
|--|--|---|---|---|---|---|---|---|---|-----|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10+ |
| 0 | 1 | 2 | 2 | 4 | 3 | 6 | 5 | 4 | 3 | 1 |
| 1 | 1 | 1 | 3 | 1 | 4 | 1 | 6 | 5 | 1 | 2 |
| 2 | 1 | 2 | 1 | 2 | 5 | 2 | 7 | 6 | 2 | 3 |
| 3 | 1 | 1 | 2 | 3 | 1 | 3 | 1 | 7 | 3 | 4 |
| 4 | 1 | 2 | 3 | 4 | 2 | 4 | 2 | 8 | 4 | 5 |
| 5 | 1 | 1 | 1 | 1 | 3 | 5 | 3 | 1 | 5 | 6 |
| 6 | 1 | 2 | 2 | 2 | 4 | 6 | 4 | 2 | 6 | 7 |
| 7 | 1 | 1 | 3 | 3 | 5 | 1 | 5 | 3 | 7 | 8 |
| 8 | 1 | 2 | 1 | 4 | 1 | 2 | 6 | 4 | 8 | 9 |
| 9 | 1 | 1 | 2 | 1 | 2 | 3 | 7 | 5 | 9 | 10 |

**SOUTH AFRICA DEMOGRAPHIC AND HEALTH SURVEY 2003
ADULT HEALTH QUESTIONNAIRE**

| IDENTIFICATION | | | | |
|--|--------------------|-------------------------|----------------|--|
| PROVINCE* _____ | [] | | | |
| DISTRICT _____ | [][] | | | |
| EA NUMBER..... | [][][][] | | | |
| EA TYPE (URBAN FORMAL=1; URBAN INFORMAL=2; RURAL FORMAL=3; TRIBAL AREA=4)..... | [] | | | |
| SADHS CLUSTER NUMBER | [][] | | | |
| STAND NUMBER | [] | | | |
| HOUSEHOLD NUMBER..... | [][] | | | |
| NAME OF HOUSEHOLD HEAD _____ | | | | |
| NAME AND LINE NUMBER OF ADULT _____ | [][] | | | |
| INTERVIEWER VISITS | | | | |
| | 1 | 2 | 3 | FINAL VISIT |
| DATE | _____ | _____ | _____ | DAY [][] MONTH [][] YEAR [2][0][0][] INT.CODE [][] RESULT [] |
| INTERVIEWER'S NAME | _____ | _____ | _____ | |
| RESULT** | _____ | _____ | _____ | |
| NEXT VISIT: DATE | _____ | _____ | | TOTAL NO. OF VISITS [] |
| TIME | _____ | _____ | | |
| ** RESULT CODES: | | | | |
| 1 COMPLETED | 4 REFUSED | 7 OTHER _____ (SPECIFY) | | |
| 2 NOT AT HOME | 5 PARTLY COMPLETED | | | |
| 3 POSTPONED | 6 INCAPACITATED | | | |
| LANGUAGE | | | | |
| LANGUAGE OF QUESTIONNAIRE: ENGLISH | | | | [0][1] |
| LANGUAGE OF INTERVIEW *** _____ | | | | [][] |
| HOME LANGUAGE OF RESPONDENT*** _____ | | | | [][] |
| WAS A TRANSLATOR USED? (YES=1, NO=2) | | | | [] |
| *** LANGUAGE CODES: | | | | |
| 01 ENGLISH | 04 isiZULU | 07 SePEDI | 10 XITSONGA | |
| 02 AFRIKAANS | 05 SeSOTHO | 08 SiSWATI | 11 isiNDEBELA | |
| 03 isiXHOSA | 06 SeTSWANA | 09 TshiVENDA | 12 OTHER _____ | |
| (SPECIFY) | | | | |
| SUPERVISOR | FIELD EDITOR | OFFICE EDITOR | KEYED BY | |
| NAME _____ [][] | NAME _____ [][] | [][] | [][] | |
| DATE _____ [][] | DATE _____ [][] | [][] | [][] | |

*PROVINCE: WESTERN CAPE=1; EASTERN CAPE=2; NORTHERN CAPE=3; FREE STATE=4; KWAZULU-NATAL=5; NORTHWEST=6; GAUTENG=7; MPUMALANGA=8; LIMPOPO=9

SECTION 1: HEALTH SERVICE UTILIZATION

| NO. | QUESTIONS AND FILTERS | | | | | CODING CATEGORIES | | | | | | | | |
|-----|--|----------|--|-----------------------------------|--|--|--|--|--|--|--|--|--|--|
| 101 | RECORD THE TIME. | | | | | HOUR..... <table border="1" style="display: inline-table; vertical-align: middle;"><tr><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td></tr><tr><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td></tr></table> MINUTES <table border="1" style="display: inline-table; vertical-align: middle;"><tr><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td></tr><tr><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td></tr></table> | | | | | | | | |
| | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |
| 1 | During the last month have you been to any of the following health services for medical care for yourself : PROBE. | | 2. Were you satisfied with the care you received at (PLACE)? | | 3. Why were you not satisfied with the care you received at (PLACE)? DO NOT READ ANSWERS TO RESPONDENT. | | | | | | | | | |
| 1A | Community Health Centre? | YES 1 | NO 2 <input type="checkbox"/> | YES 1 <input type="checkbox"/> | NO 2 LONG WAIT 01 SHORT CONSULTATION..... 02 STAFF RUDE/UNKIND 03 DIDN'T SEE DOCTOR..... 04 NO PRESCRIBED DRUGS AVAILABLE 05 OTHER..... 96 (SPECIFY) | | | | | | | | | |
| 1B | Government Hospital/Government Clinic? | YES 1 | NO 2 <input type="checkbox"/> | YES 1 <input type="checkbox"/> | NO 2 LONG WAIT 01 SHORT CONSULTATION..... 02 STAFF RUDE/UNKIND 03 DIDN'T SEE DOCTOR..... 04 NO PRESCRIBED DRUGS AVAILABLE 05 OTHER..... 96 (SPECIFY) | | | | | | | | | |
| 1C | Private Hospital/Private Clinic? | YES 1 | NO 2 <input type="checkbox"/> | YES 1 <input type="checkbox"/> | NO 2 LONG WAIT 01 SHORT CONSULTATION..... 02 STAFF RUDE/UNKIND 03 DIDN'T SEE DOCTOR..... 04 TOO EXPENSIVE 05 OTHER..... 96 (SPECIFY) | | | | | | | | | |
| 1D | Private Doctor? | YES 1 | NO 2 <input type="checkbox"/> | YES 1 <input type="checkbox"/> | NO 2 LONG WAIT 01 SHORT CONSULTATION..... 02 STAFF RUDE/UNKIND 03 TOO EXPENSIVE 04 OTHER..... 96 (SPECIFY) | | | | | | | | | |
| 1E | Chemist/Pharmacist? | YES 1 | NO 2 <input type="checkbox"/> | YES 1 <input type="checkbox"/> | NO 2 LONG WAIT 01 SHORT CONSULTATION..... 02 STAFF RUDE/UNKIND 03 DIDN'T SEE PHARMACIST..... 04 DRUGS TOO EXPENSIVE 05 OTHER..... 96 (SPECIFY) | | | | | | | | | |
| 1F | Faith Healer? | YES 1 | NO 2 <input type="checkbox"/> | YES 1 <input type="checkbox"/> | NO 2 LONG WAIT 01 SHORT CONSULTATION..... 02 STAFF RUDE/UNKIND 03 OTHER..... 96 (SPECIFY) | | | | | | | | | |
| 1G | Traditional Healer or Herbalist? | YES 1 | NO 2 <input type="checkbox"/> | YES 1 <input type="checkbox"/> | NO 2 LONG WAIT 01 SHORT CONSULTATION..... 02 STAFF RUDE/UNKIND 03 TOO EXPENSIVE 04 OTHER..... 96 (SPECIFY) | | | | | | | | | |
| 1H | Health Services at the Workplace? | YES 1 | NO 2 <input type="checkbox"/> | YES 1 <input type="checkbox"/> | NO 2 LONG WAIT 01 SHORT CONSULTATION..... 02 STAFF RUDE/UNKIND 03 DIDN'T SEE DOCTOR..... 04 OTHER..... 96 (SPECIFY) | | | | | | | | | |

| NO. | QUESTIONS AND FILTERS | | | | CODING CATEGORIES | |
|-----|--|----------|-----------|---|-------------------|---|
| 1I | Have you had visits by Home-Based Care Services/House visits/Community-Based Care? | YES 1 | NO 2 ↘ | YES 1 ↘ | NO 2 | LONG WAIT 01 SHORT CONSULTATION..... 02 STAFF RUDE/UNKIND 03 OTHER 96 (SPECIFY) |
| 1J | Dentist/Oral Hygienist/Oral Therapist? | YES 1 | NO 2 ↘ | YES 1 ↘ | NO 2 | LONG WAIT 01 SHORT CONSULTATION..... 02 STAFF RUDE/UNKIND 03 TOO EXPENSIVE 04 OTHER 96 (SPECIFY) |
| 1K | Rehabilitation Therapists? (e.g. physiotherapists; occupational therapists; speech, hearing and language therapists; orthotists/prosthetists; or optometrist). | YES 1 | NO 2 ↘ | YES 1 ↘ | NO 2 | LONG WAIT 01 SHORT CONSULTATION..... 02 STAFF RUDE/UNKIND 03 TOO EXPENSIVE 04 OTHER 96 (SPECIFY) |
| 1L | Other? (SPECIFY) | YES 1 | NO 2 ↘ | | | |
| 4 | Sometimes, one misses appointments with a health-service provider. What were the most common reasons that you missed an appointment with a health-service provider the last time this happened? RECORD ALL MENTIONED. DO NOT READ ANSWERS TO RESPONDENT. | | | LACK OF MONEY A LACK OF TIME B I FORGOT C I FELT BETTER D CANNOT TAKE TIME FROM WORK E NO TRANSPORT AVAILABLE F TOO ILL TO TRAVEL G OTHER RESPONSIBILITIES H DO NOT WANT TO GO BACK TO THE HEALTH-CARE PROVIDER I HAVE NOT MISSED APPOINTMENTS J OTHER X (SPECIFY) | | |
| 5 | Are you covered by a Medical Aid or Medical Benefit Scheme or any scheme that helps you pay for health-care/drug services? | | | YES 1 NO 2 | | |
| 6 | Have you had your blood pressure measured in the past 12 months? | | | YES 1 NO 2 | | |
| 7 | Do you know what your blood pressure is? | | | YES 1 NO 2 | | →9 |
| 8 | Is it high, normal or low? | | | HIGH 1 NORMAL 2 LOW 3 DON'T KNOW 8 | | |

SECTION 2: FAMILY MEDICAL HISTORY

| NO. | QUESTIONS AND FILTERS | CODING CATEGORIES | SKIP |
|-----|---|--|--------|
| 9 | Now I would like to ask you about your family. Do you have a close blood relative (father, mother, brother, sister or child) who has ever had any of the following conditions: | | |
| 9A | High Blood Pressure? | YES.....1 NO.....2 DON'T KNOW.....8 | |
| 9B | Heart attack or angina or chest pain when exerting himself/herself? | YES.....1 NO.....2 DON'T KNOW.....8 |] > 9D |
| 9C | Was this relative younger or older than 50 years old when they first had a heart attack, angina or chest pain? | YOUNGER THAN 50 YEARS.....1 OLDER THAN 50 YEARS.....2 DON'T KNOW.....8 | |
| 9D | Stroke? | YES.....1 NO.....2 DON'T KNOW.....8 | |

SECTION 3 : QUALITY OF LIFE AND CLINICAL CONDITIONS

| NO. | QUESTIONS AND FILTERS | CODING CATEGORIES | SKIP | | |
|-----|--|---|------|--|-----|
| 10A | Did you grow up in a household where people smoked cigarettes, pipe or other tobacco products every day? | YES.....1 NO.....2 DON'T KNOW.....8 | | | |
| 10B | Would you say your health is poor, average, good, or very good/excellent ? | POOR1 AVERAGE2 GOOD3 VERY GOOD/EXCELLENT4 | | | |
| 10C | Do you personally think that you are underweight, normal weight or overweight? | UNDERWEIGHT1 NORMAL WEIGHT2 OVERWEIGHT.....3 DON'T KNOW.....8 | | | |
| 11 | Has a doctor or nurse or health worker at a clinic or hospital told you that you have or have had any of the following conditions: | | | | |
| 11A | High Blood Pressure? | YES.....1 NO.....2 DON'T KNOW.....8 | | | |
| 11B | Heart attack or angina (chest pains)? | YES.....1 NO.....2 DON'T KNOW.....8 | | | |
| 11C | Stroke? | YES.....1 NO.....2 DON'T KNOW.....8 | | | |
| 11D | High blood cholesterol or fats in the blood? | YES.....1 NO.....2 DON'T KNOW.....8 | | | |
| 11E | Diabetes or Blood Sugar? | YES.....1 NO.....2 DON'T KNOW.....8 | | | |
| 11F | Emphysema/Bronchitis? | YES.....1 NO.....2 DON'T KNOW.....8 | | | |
| 11G | Asthma? | YES.....1 NO.....2 DON'T KNOW.....8 | | | |
| 11H | Sore joints, e.g. Arthritis, gout? | YES.....1 NO.....2 DON'T KNOW.....8 | | | |
| 11I | Osteoporosis? | YES.....1 NO.....2 DON'T KNOW.....8 | | | |
| 11J | Epilepsy / fits? | YES.....1 NO.....2 DON'T KNOW.....8 | | | |
| 11K | TB? | YES.....1 NO.....2 DON'T KNOW.....8 | | | |
| 11L | How many episodes of TB have you ever been treated for? | NUMBER OF TB EPISODES..... <table border="1" data-bbox="1110 1879 1243 1946" style="display: inline-table; vertical-align: middle;"><tr><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td></tr></table> | | | 11M |
| | | | | | |
| 11M | Cancer? | YES.....1 NO.....2 DON'T KNOW.....8 | | | |

| NO. | QUESTIONS AND FILTERS | CODING CATEGORIES | SKIP | | |
|-----|--|--|--------|--|--|
| 12 | Now I would like to ask you about chest conditions . | | | | |
| 12A | Do you feel you have less breath when exerting (exercising or moving a lot) yourself when compared to other people your age? | YES.....1 NO.....2 DON'T KNOW.....8 | | | |
| 12B | During the last 12 months have you had wheezing (difficult breathing) or tightness of your chest? | YES.....1 NO.....2 DON'T KNOW.....8 | ↓> 12D | | |
| 12C | Were you also short of breath? | YES.....1 NO.....2 DON'T KNOW.....8 | | | |
| 12D | Do you usually get wheezing (difficult breathing) when you have a cold? | YES.....1 NO.....2 DON'T KNOW.....8 | | | |
| 12E | Is your sleep ever interrupted by wheezing or a tight chest? | YES.....1 NO.....2 DON'T KNOW.....8 | | | |
| 12F | Is your sleep ever interrupted by your coughing? | YES.....1 NO.....2 DON'T KNOW.....8 | | | |
| 12G | Do you usually cough (on most days)? | YES.....1 NO.....2 DON'T KNOW.....8 | ↓> 13A | | |
| 12H | When you cough, do you usually bring up phlegm from your chest? | YES.....1 NO.....2 DON'T KNOW.....8 | ↓> 13A | | |
| 12I | Have you brought up phlegm every day for at least three months during the last year? | YES.....1 NO.....2 DON'T KNOW.....8 | ↓> 13A | | |
| 12J | For how many years have you brought up phlegm in this way? | NUMBER OF YEARS..... <table border="1" data-bbox="1110 1323 1243 1391" style="display: inline-table; vertical-align: middle;"> <tr> <td style="width: 20px; height: 20px;"></td> <td style="width: 20px; height: 20px;"></td> </tr> </table> | | | |
| | | | | | |

SECTION 4: DENTAL HEALTH

| NO. | QUESTIONS AND FILTERS | CODING CATEGORIES | SKIP |
|-----|---|--|------|
| 13A | Have you lost all of your own teeth? | YES1 NO.....2 | |
| 13B | Have you had pain or problems with your mouth and/or teeth in the last 6 months ? | YES1 NO.....2 | →13E |
| 13C | Please indicate which part of your mouth was affected. RECORD ALL MENTIONED. | TEETH A GUMS B ULCERS /SORES IN THE MOUTH..... C DENTURES D OTHER _____ X <p align="center">(SPECIFY)</p> | |
| 13D | What did you do when you had problems in your mouth? RECORD ALL MENTIONED. | TOOK A TABLET A WENT TO THE DENTIST/ORAL HYGIENIST/DENTAL THERAPIST B WENT TO THE DOCTOR..... C WENT TO THE TRADITIONAL HEALER D NOTHING E OTHER _____ X <p align="center">(SPECIFY)</p> | |
| 13E | What do you usually do to look after your teeth/mouth? RECORD ALL MENTIONED. DO NOT READ ANSWERS TO RESPONDENT. | RINSE MOUTH..... A CLEAN/BRUSH/FLOSS..... B EAT LESS SWEET FOOD/DRINK LESS SWEET DRINKS... C VISIT DENTIST/DENTAL THERAPIST/ORAL HYGIENIST/ ORAL THERAPIST AT LEAST ONCE A YEAR D NOTHING E OTHER _____ X <p align="center">(SPECIFY)</p> | |

SECTION 5: OCCUPATIONAL HEALTH

| NO. | QUESTIONS AND FILTERS | CODING CATEGORIES | SKIP | | |
|-----|---|--|------|--|--|
| 14 | In the past 12 months , have you worked for payment? | YES1 NO.....2 | →15 | | |
| 14A | In the past 12 months , have you had any injury or health problem caused by your work? | YES1 NO.....2 | →15 | | |
| 14B | Did you stay away from work because of this injury or problem? | YES1 NO.....2 | →14D | | |
| 14C | For how many days did you stay away? | NUMBER OF DAYS..... <table border="1" style="display: inline-table; vertical-align: middle;"><tr><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td></tr></table> | | | |
| | | | | | |
| 14D | What was the injury or health problem? WRITE THE ANSWER. | _____ _____ _____ _____ | | | |

SECTION 6: VIOLENCE

| NO. | QUESTIONS AND FILTERS | CODING CATEGORIES | SKIP | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|----------|---|---|-----------------------|------------|-----------|----------|---|---|----------|---|---|----------|---|---|----------|---|---|----------|---|---|----------|---|---|----------|---|---|----------|---|---|--|
| 15 | <p>CHECK COL 11 AND LAST PAGE OF HOUSEHOLD QUESTIONNAIRE TO SEE IF RESPONDENT IS ELIGIBLE FOR THIS SECTION.</p> <p>CHECK FOR PRESENCE OF OTHERS: DO NOT CONTINUE UNTIL RESPONDENT IS ALONE.</p> <p>RESPONDENT ALONE <input type="checkbox"/></p> <p>RESPONDENT NOT ALONE <input type="checkbox"/></p> <hr/> <p>AND ELIGIBLE FOR Qs. 15A-15I <input type="checkbox"/></p> <p>RESPONDENT NOT ELIGIBLE FOR Qs. 15A-15I <input type="checkbox"/></p> | | <p>→16</p> <p>→16</p> | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 15A | <p>Now I would like to ask you some questions about violence.</p> <p>In the last 12 months, has anyone, someone you know or a stranger, physically attacked you in any of the following ways:</p> <p>a) By pushing, shaking or throwing something at you?</p> <p>b) By slapping you or twisting your arm?</p> <p>c) By punching you with their fist or something that could hurt you?</p> <p>d) By kicking or dragging you?</p> <p>e) By trying to strangle or burn you?</p> <p>f) By threatening you with a knife, gun, or other type of weapon?</p> <p>g) By shooting or stabbing you?</p> <p>h) In any other way?</p> | <table border="0"> <thead> <tr> <th></th> <th align="center"><u>YES</u></th> <th align="center"><u>NO</u></th> </tr> </thead> <tbody> <tr> <td>a)</td> <td align="center">1</td> <td align="center">2</td> </tr> <tr> <td>b)</td> <td align="center">1</td> <td align="center">2</td> </tr> <tr> <td>c)</td> <td align="center">1</td> <td align="center">2</td> </tr> <tr> <td>d)</td> <td align="center">1</td> <td align="center">2</td> </tr> <tr> <td>e)</td> <td align="center">1</td> <td align="center">2</td> </tr> <tr> <td>f)</td> <td align="center">1</td> <td align="center">2</td> </tr> <tr> <td>g)</td> <td align="center">1</td> <td align="center">2</td> </tr> <tr> <td>h)</td> <td align="center">1</td> <td align="center">2</td> </tr> </tbody> </table> | | <u>YES</u> | <u>NO</u> | a) | 1 | 2 | b) | 1 | 2 | c) | 1 | 2 | d) | 1 | 2 | e) | 1 | 2 | f) | 1 | 2 | g) | 1 | 2 | h) | 1 | 2 | |
| | <u>YES</u> | <u>NO</u> | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| a) | 1 | 2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| b) | 1 | 2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| c) | 1 | 2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| d) | 1 | 2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| e) | 1 | 2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| f) | 1 | 2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| g) | 1 | 2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| h) | 1 | 2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 15B | <p>CHECK 15A:</p> <p>AT LEAST ONE "YES" CIRCLED <input type="checkbox"/></p> <p>NOT ONE SINGLE "YES" CIRCLED <input type="checkbox"/></p> | | →16 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 15C | <p>In the last 12 months, how many times did this (TYPE OF ATTACK FROM 15A) happen to you?</p> <p>RECORD THE NUMBER OF ALL KINDS OF ATTACK EVENTS IN THE LAST 12 MONTHS.</p> | <p>NUMBER OF TIMES..... <input type="text"/> <input type="text"/></p> | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 15D | <p>Where were you attacked the last time it happened?</p> <p>DO NOT READ ANSWERS TO RESPONDENT.</p> | <p>PUBLIC ROAD01</p> <p>PLACE OF WORK.....02</p> <p>PLACE OF EDUCATION.....03</p> <p>CLUB/SHEBEEN/DISCO/BAR04</p> <p>CROWDED VENUE (E.G. SOCCER GAME, CONCERT, ETC.)05</p> <p>HOME06</p> <p>OTHER _____ 96</p> <p align="center">(SPECIFY)</p> | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 15E | <p>As a result of this attack did you have any of the following:</p> <p>a) Aches and pains?</p> <p>b) Bruises or cuts that bled?</p> <p>c) Broken bones or other types of injuries?</p> <p>d) Collapsed or went into a coma?</p> | <table border="0"> <thead> <tr> <th></th> <th align="center"><u>YES</u></th> <th align="center"><u>NO</u></th> </tr> </thead> <tbody> <tr> <td>a)</td> <td align="center">1</td> <td align="center">2</td> </tr> <tr> <td>b)</td> <td align="center">1</td> <td align="center">2</td> </tr> <tr> <td>c)</td> <td align="center">1</td> <td align="center">2</td> </tr> <tr> <td>d)</td> <td align="center">1</td> <td align="center">2</td> </tr> </tbody> </table> | | <u>YES</u> | <u>NO</u> | a) | 1 | 2 | b) | 1 | 2 | c) | 1 | 2 | d) | 1 | 2 | | | | | | | | | | | | | |
| | <u>YES</u> | <u>NO</u> | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| a) | 1 | 2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| b) | 1 | 2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| c) | 1 | 2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| d) | 1 | 2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 15F | <p>CHECK 15E:</p> <p>AT LEAST ONE "YES" CIRCLED <input type="checkbox"/></p> <p>NOT ONE SINGLE "YES" CIRCLED <input type="checkbox"/></p> | | →16 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 15G | <p>On the last occasion you had (INJURY FROM 15E), did you seek medical attention?</p> | <p>YES1</p> <p>NO2</p> | →15I | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 15H | <p>Were you admitted to hospital for more than one day due to injuries from this attack?</p> | <p>YES1</p> <p>NO</p> | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

| | | | |
|-----|---|---|--|
| | | 2 | |
| 15I | In your view, did alcohol or drugs contribute to this attack? | YES1 NO2 DON'T KNOW/NOT SURE..... 8 | |

SECTION 7: MEDICATION

| NO. | QUESTIONS AND FILTERS | CODING CATEGORIES | SKIP |
|-----|--|---|------|
| 16 | Now I want to ask you about any medication you take. | | |
| 16A | Do you use any medicine regularly or daily that a doctor or nurse has prescribed? | YES1 NO2 DON'T KNOW8 | → 17 |
| 16B | How many different medicines do you use regularly (more than once a month)? | NUMBER OF MEDICINES..... <input type="text"/> <input type="text"/> | |
| 16C | Who pays for most of the medication, prescribed by a doctor or nurse, that you use? READ THE ANSWER CATEGORIES TO RESPONDENT. | RESPONDENT01 FAMILY02 MEDICAL AID03 PROVIDED AT CLINIC OR PUBLIC HOSPITAL.....04 EMPLOYER05 OTHER _____ 96 (SPECIFY) | |

CONTINUE WITH COMPLETING THE CHART ON THE NEXT PAGE. RECORD ALL THE DRUGS MENTIONED AND WHAT THEY ARE TAKEN FOR.

| Name of drug | WHAT IS IT FOR? (UNPROMPTED) | | | | | | | | | | | | | OFFICE USE | | |
|--------------|------------------------------|------------------------|--------|--------------------------------------|-----------------------|-----------------------|--------|-------------------------|--------------|----|----------|--------|------------|------------|----------|---|
| | High Blood Pressure | Heart attack or angina | Stroke | High cholesterol or other Blood fats | Diabetes, Blood sugar | Emphysema, Bronchitis | Asthma | Sore joints (arthritis) | Osteoporosis | TB | Epilepsy | Cancer | Don't know | Other | ATC Code | Correct = 1 Incorrect = 2 N/A = 3 |
| | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | | | |
| | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | | | |
| | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | | | |
| | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | | | |
| | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | | | |
| | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | | | |
| | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | | | |
| | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | | | |
| | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | | | |
| | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | | | |
| | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | | | |
| | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | | | |
| | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | | | |
| | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | | | |
| | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | | | |
| | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | | | |
| | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | | | |

SECTION 8: HABITS AND LIFESTYLE

8A: PHYSICAL ACTIVITY

| NO. | QUESTIONS AND FILTERS | CODING CATEGORIES | SKIP |
|-----|--|--|-------------|
| 17 | The next questions are about the time you spend doing different types of physical activities. This includes activities you do at home, at work, travelling from place to place and during your spare time . You are requested to answer the questions even if you don't consider yourself to be an active person. | | |
| | Occupation-Related Physical Activity (paid or unpaid work): When answering the following questions, think back over the past 12 months and consider (think of) a usual week . | | |
| 18 | Does your work involve <u>mostly</u> sitting or standing still, OR walking for very short periods (less than 10 minutes)? | MOSTLY SITTING1 MOSTLY STANDING STILL2 MOSTLY WALKING FOR VERY SHORT PERIODS.....3 MOSTLY DOING MODERATE/VIGOROUS ACTIVITY4 NONE OF THE ABOVE5 | →21 →22A |
| 19A | Does your work involve <u>vigorous</u> activities, (<u>like</u> heavy lifting, digging, or heavy construction) for at least 10 minutes at a time? | YES1 NO.....2 | →20A |
| 19B | In a usual week , how many days do you do <u>vigorous</u> activities as part of your work? | DAYS <input type="text"/> <input type="text"/> | |
| 19C | On a usual day on which you do <u>vigorous</u> activities, how much time do you spend doing such work? | HOURS 1 <input type="text"/> <input type="text"/> MINUTES..... 2 <input type="text"/> <input type="text"/> <input type="text"/> | |
| 20A | Does your work involve <u>moderate-intensity</u> activities (<u>like</u> brisk walking or carrying light loads) for at least 10 minutes at a time? | YES1 NO.....2 | →21 |
| 20B | In a usual week , how many days do you do <u>moderate-intensity</u> activities as part of your work? | DAYS <input type="text"/> <input type="text"/> | |
| 20C | On a usual day on which you do <u>moderate-intensity</u> activities, how much time do you spend doing such work? | HOURS 1 <input type="text"/> <input type="text"/> MINUTES..... 2 <input type="text"/> <input type="text"/> <input type="text"/> | |
| 21 | How long is your usual workday? | HOURS 1 <input type="text"/> <input type="text"/> MINUTES..... 2 <input type="text"/> <input type="text"/> <input type="text"/> | |

| NO. | QUESTIONS AND FILTERS | CODING CATEGORIES | SKIP |
|--|---|---|------|
| <p>Travel-Related Physical Activity: Other than activities that you've already mentioned, I would like to ask you about the way you travel to and from places (to work, to shopping, to market, to church, etc.).</p> | | | |
| 22A | Do you walk or use a bicycle (pedal cycle) for at least 10 minutes at a time to get to and from places? | YES1 NO.....2 | →23 |
| 22B | In a usual week , how many days do you walk or cycle for at least 10 minutes to get to and from places? | DAYS <input type="text"/> <input type="text"/> | |
| 22C | On a usual day , how much time do you spend walking or cycling for travel? | HOURS 1 <input type="text"/> <input type="text"/> MINUTES 2 <input type="text"/> <input type="text"/> <input type="text"/> | |
| <p>Non-Work Related and Leisure Time Physical Activity: The next questions ask about activities you do in your leisure or spare time, for recreation or fitness. Do not include the physical activities you do at work or for travel already mentioned.</p> | | | |
| 23 | In your leisure or spare time do you do any vigorous or moderate-intensity physical activity lasting more than 10 minutes at a time? | YES1 NO.....2 | →26 |
| 24A | In your leisure or spare time, do you do any <u>vigorous</u> activities (<u>like</u> running or strenuous sports, weightlifting) for at least 10 minutes at a time? | YES1 NO.....2 | →25A |
| 24B | In a usual week , how many days do you do <u>vigorous</u> activities as part of your leisure or spare time? | DAYS <input type="text"/> <input type="text"/> | |
| 24C | How much time do you spend doing this on a usual day ? | HOURS 1 <input type="text"/> <input type="text"/> MINUTES 2 <input type="text"/> <input type="text"/> <input type="text"/> | |
| 25A | In your leisure or spare time, do you do any <u>moderate-intensity</u> activities (<u>like</u> brisk walking, cycling or swimming) for at least 10 minutes at a time? | YES1 NO.....2 | →26 |
| 25B | In a usual week , how many days do you do <u>moderate-intensity</u> activities as part of your leisure or spare time? | DAYS <input type="text"/> <input type="text"/> | |
| 25C | How much time do you spend doing this on a usual day ? | HOURS 1 <input type="text"/> <input type="text"/> MINUTES 2 <input type="text"/> <input type="text"/> <input type="text"/> | |
| <p>Sitting / Resting Activity: Now I would like to ask you about the time spent sitting or resting, not including sleeping, in the past 7 days. This may include time sitting at a desk, visiting friends, reading, or sitting down to watch television during working hours and leisure or spare time.</p> | | | |
| 26 | Over the past 7 days , how much time did you spend sitting or reclining (lying) on a usual day (excluding sleeping) ? | HOURS 1 <input type="text"/> <input type="text"/> MINUTES 2 <input type="text"/> <input type="text"/> <input type="text"/> | |

8B: DIETARY INTAKE

| NO. | QUESTIONS AND FILTERS | CODING CATEGORIES | SKIP |
|-----|--|--|------|
| | Now, I would like to ask you some questions about the foods that you eat. There are no right or wrong answers so please feel free to give us your information as it is. | | |
| 27 | Which of the following do you USUALLY eat? MARK ONE PER COLUMN. | | |
| 27A | Chicken/Poultry | WITH SKIN 1 WITHOUT SKIN..... 2 NONE..... 3 | |
| 27B | Red Meat | FATTY MEAT 1 LEAN MEAT 2 NONE..... 3 | |
| 27C | Spread: (Butter/ Margarine) | BUTTER..... 1 HARD MARGARINE (BRICK)..... 2 SOFT MARGARINE (TUB)..... 3 NONE..... 4 | |
| 27D | Milk/Milk Products in powder form | FULL CREAM 1 2% OR LOW FAT 2 SKIM/FAT FREE..... 3 BLENDS 4 NONE..... 5 | |
| 28 | How often do you USUALLY eat the following? | | |
| 28A | Fried foods, e.g. chips, fish, potatoes, doughnuts, eggs | OCCASIONALLY/NEVER 1 WEEKLY (AT LEAST ONCE A WEEK) 2 DAILY..... 3 | |
| 28B | Chips, e.g. packet of 'Simba' chips or other salty snacks | OCCASIONALLY/NEVER 1 WEEKLY (AT LEAST ONCE A WEEK) 2 DAILY..... 3 | |
| 28C | Processed meat, e.g. polony, viennas, meat pies, sausage rolls | OCCASIONALLY/NEVER 1 WEEKLY (AT LEAST ONCE A WEEK) 2 DAILY..... 3 | |
| 29 | Do you usually eat your food <u>very salty</u> , <u>lightly salted</u> or <u>not salted</u> ? | VERY SALTY 1 LIGHTLY SALTED 2 NOT SALTED 3 DON'T KNOW..... 8 | |
| 30 | Do you usually add salt or Aromat/Fondor to your serving of food? IF YES, ASK: Before or after tasting the food? | NO, I NEVER ADD SALT/AROMAT 1 YES, BUT I TASTE FIRST AND THEN ADD..... 2 YES, EVEN BEFORE HAVING TASTED FOOD..... 3 DON'T KNOW..... 8 | |
| 31 | Do you eat <u>salty snacks</u> more often than three times per week (Such as chips, niknaks, salted peanuts, salty biscuits, biltong, dried sausage, dried fish)? | YES..... 1 NO..... 2 | |

| We are interested in how often people eat certain kinds of foods. Now think about your food intake... | | | | | | | | |
|---|---|-------|--------------------|--------------------|--------------|---------------|----------------|------|
| 32 | <p>During the PAST 7 days (1 week), did you eat any of the following?</p> <p>IF YES, ASK HOW OFTEN.</p> <p>IF NO, CIRCLE 'NEVER'.</p> <p>DO NOT READ ANSWER CATEGORIES TO RESPONDENT.</p> | | | | | | | |
| | Food item | NEVER | NOT DAILY | | EVERY DAY | | | CODE |
| | | | 1-3 TIMES PER WEEK | 4-6 TIMES PER WEEK | 1 TIME A DAY | 2 TIMES A DAY | 3+ TIMES A DAY | |
| A1 | Red meat (any type) | 0 | 1 | 2 | 3 | 4 | 5 | |
| B1 | Chicken (any type) | 0 | 1 | 2 | 3 | 4 | 5 | |
| C1 | Tinned fish | 0 | 1 | 2 | 3 | 4 | 5 | |
| D1 | Organ meat, e.g. liver, tripe | 0 | 1 | 2 | 3 | 4 | 5 | |
| E1 | Eggs (any type) | 0 | 1 | 2 | 3 | 4 | 5 | |
| F1 | Milk / yoghurt / maas to drink on cereals | 0 | 1 | 2 | 3 | 4 | 5 | |
| G1 | Milk in tea / coffee | 0 | 1 | 2 | 3 | 4 | 5 | |
| H1 | Cheese (except cottage cheese) | 0 | 1 | 2 | 3 | 4 | 5 | |
| I1 | Legumes, e.g. baked beans, lentils | 0 | 1 | 2 | 3 | 4 | 5 | |
| J1 | Peanuts and nuts | 0 | 1 | 2 | 3 | 4 | 5 | |
| K1 | Brown / whole wheat bread or rolls | 0 | 1 | 2 | 3 | 4 | 5 | |
| L1 | Breakfast cereal (instant, not cooked) | 0 | 1 | 2 | 3 | 4 | 5 | |
| M1 | Oat-porridge | 0 | 1 | 2 | 3 | 4 | 5 | |
| N1 | Soft margarine (tub) | 0 | 1 | 2 | 3 | 4 | 5 | |
| O1 | Broccoli, cauliflower, Brussels sprouts | 0 | 1 | 2 | 3 | 4 | 5 | |
| P1 | Spinach and/or morogo | 0 | 1 | 2 | 3 | 4 | 5 | |
| Q1 | Carrots | 0 | 1 | 2 | 3 | 4 | 5 | |
| R1 | Tomato (raw / cooked) | 0 | 1 | 2 | 3 | 4 | 5 | |
| S1 | Green peas | 0 | 1 | 2 | 3 | 4 | 5 | |
| T1 | Green beans | 0 | 1 | 2 | 3 | 4 | 5 | |
| U1 | Mixed vegetables | 0 | 1 | 2 | 3 | 4 | 5 | |
| V1 | Pumpkin / butternut | 0 | 1 | 2 | 3 | 4 | 5 | |
| W1 | Sweet potato | 0 | 1 | 2 | 3 | 4 | 5 | |
| X1 | Potato (any preparation) | 0 | 1 | 2 | 3 | 4 | 5 | |
| Y1 | Citrus fruit, e.g. orange, grape fruit | 0 | 1 | 2 | 3 | 4 | 5 | |
| Z1 | Pure orange / guava juice (not others) (sweetened/unsweetend) | 0 | 1 | 2 | 3 | 4 | 5 | |
| A2 | Bananas | 0 | 1 | 2 | 3 | 4 | 5 | |
| B2 | Mangoes | 0 | 1 | 2 | 3 | 4 | 5 | |
| C2 | Apples / pears | 0 | 1 | 2 | 3 | 4 | 5 | |
| D2 | Avocado | 0 | 1 | 2 | 3 | 4 | 5 | |

8C: TOBACCO USE

| NO. | QUESTIONS AND FILTERS | CODING CATEGORIES | SKIP |
|-----|---|--|------|
| 33A | Do you currently smoke any tobacco products, such as cigarettes, cigars, or pipes? | YES1 NO.....2 | →36 |
| 33B | Do you currently smoke tobacco products daily ? | YES1 NO.....2 | →36 |
| 34A | How old were you when you first started smoking daily? | YEARS OLD..... <input type="text"/> <input type="text"/> DON'T REMEMBER/NOT SURE.....98 | →35 |
| 34B | Do you remember how long ago it was when you first started to smoke daily? | WEEKS AGO.....1 <input type="text"/> <input type="text"/> MONTHS AGO.....2 <input type="text"/> <input type="text"/> YEARS AGO.....3 <input type="text"/> <input type="text"/> | |
| 35 | On average, how many of the following items do you smoke each day? Manufactured cigarettes? Hand-rolled cigarettes? Pipes full of tobacco? Cigars/Cheroots/Cigarillos? IF NONE, RECORD '00'. | MANUFACTURED CIGARETTES..... <input type="text"/> <input type="text"/> HAND-ROLLED CIGARETTES..... <input type="text"/> <input type="text"/> PIPES FULL OF TOBACCO..... <input type="text"/> <input type="text"/> CIGARS/CHEROOTS/CIGARILLOS..... <input type="text"/> <input type="text"/> | →38A |
| 36 | In the past , did you ever smoke daily? | YES1 NO.....2 | →38A |
| 37A | How old were you when you stopped smoking daily? | YEARS OLD..... <input type="text"/> <input type="text"/> DON'T REMEMBER/NOT SURE.....98 | →38A |
| 37B | Do you remember how long ago it was when you stopped smoking daily? | WEEKS AGO.....1 <input type="text"/> <input type="text"/> MONTHS AGO.....2 <input type="text"/> <input type="text"/> YEARS AGO.....3 <input type="text"/> <input type="text"/> | |

| NO. | QUESTIONS AND FILTERS | CODING CATEGORIES | SKIP |
|-----|--|---|------|
| 38A | Do you currently use any smokeless tobacco, such as snuff or chewing tobacco? | YES1 NO.....2 | →40 |
| 38B | Do you currently use smokeless tobacco daily ? | YES1 NO.....2 | →40 |
| 39 | On average, how many times do you use each of the following items per day? Snuff (by mouth)? Snuff (by nose)? Chewing tobacco? IF NONE, RECORD '00'. | SNUFF (BY MOUTH)..... <input type="text"/> <input type="text"/> SNUFF (BY NOSE)..... <input type="text"/> <input type="text"/> CHEWING TOBACCO..... <input type="text"/> <input type="text"/> | →41 |
| 40 | In the past , did you ever use smokeless tobacco, such as snuff or chewing tobacco daily? | YES1 NO.....2 | |
| 41A | Do you live in a house where other people smoke cigarettes regularly? | YES1 NO.....2 | |
| 41B | Do you currently work in a job where other people smoke cigarettes around you? | YES1 NO.....2 | |
| 41C | Have you ever worked in a job where you were regularly exposed to smoke, dust, fumes or strong smells? | YES1 NO.....2 | →42A |
| 41D | How long did you work in that job? IF LESS THAN 1 YEAR, WRITE '00'. | YEARS..... <input type="text"/> <input type="text"/> | |

8D: ALCOHOL USE

| NO. | QUESTIONS AND FILTERS | CODING CATEGORIES | SKIP |
|-----|--|---|------|
| 42A | Have you ever consumed a drink that contains alcohol such as beer, wine, spirits or sorghum beer? | YES1 NO.....2 | →46 |
| 42B | Was this within the past 12 months ? | YES1 NO.....2 | →46 |
| 43 | In the past 12 months, how frequently have you had at least one drink? READ ANSWER CATEGORIES TO RESPONDENT. USE SHOWCARD. | 5 OR MORE DAYS A WEEK1 1-4 DAYS PER WEEK2 1-3 DAYS A MONTH.....3 LESS THAN ONCE A MONTH4 | |
| 44A | When you drink alcohol, on average , how many drinks do you have during one day? | DRINKS..... <input type="text"/> <input type="text"/> DON'T KNOW98 | |
| 44B | During the past 7 days , how many standard drinks of any alcoholic drink did you have each day? RECORD FOR EACH DAY. USE SHOWCARD. IF NONE, RECORD '00'. | MONDAY..... <input type="text"/> <input type="text"/> TUESDAY..... <input type="text"/> <input type="text"/> WEDNESDAY..... <input type="text"/> <input type="text"/> THURSDAY..... <input type="text"/> <input type="text"/> FRIDAY..... <input type="text"/> <input type="text"/> SATURDAY..... <input type="text"/> <input type="text"/> SUNDAY..... <input type="text"/> <input type="text"/> | |
| 45A | Have you ever felt that you should cut down on your drinking? | YES1 NO.....2 | |
| 45B | Have people annoyed you by criticizing your drinking? | YES1 NO.....2 | |
| 45C | Have you ever felt bad or guilty about your drinking? | YES1 NO.....2 | |
| 45D | Have you ever had a drink first thing in the morning to steady your nerves or get rid of a hangover? | YES1 NO.....2 | |
| 46 | How old were you at your last birthday? | AGE IN COMPLETED YEARS..... <input type="text"/> <input type="text"/> DON'T KNOW98 | |
| 47 | Which population group do you consider yourself? | BLACK/AFRICAN1 COLOURED.....2 WHITE3 ASIAN/INDIAN4 NO REPLY/NOT SURE8 | |

ADULT DEMOGRAPHIC AND HEALTH SURVEY
ANTHROPOMETRIC DATA SHEET

| | | | | | | | | | |
|----|-------------------------------|----------------------|----------------------|----------------------|----------------------|---|---|---|----------------------|
| 48 | DATE | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | 2 | 0 | 0 | <input type="text"/> |
| | | d | d | m | m | y | y | y | y |
| 49 | FIELDWORKER NUMBER | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | | | | |
| 50 | WEIGHT (KG) | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | | | | |
| 51 | HEIGHT (CM) | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | | | | |
| 53 | WAIST CIRCUMFERENCE (CM) | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | | | | |
| 54 | HIP CIRCUMFERENCE (CM) | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | | | | |
| 55 | SYSTOLIC BLOOD PRESSURE 1 | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | | | | |
| 56 | DIASTOLIC BLOOD PRESSURE 1 | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | | | | |
| 57 | PULSE 1 | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | | | | |
| 58 | SYSTOLIC BLOOD PRESSURE 2 | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | | | | |
| 59 | DIASTOLIC BLOOD PRESSURE 2 | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | | | | |
| 60 | PULSE 2 | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | | | | |
| 61 | SYSTOLIC BLOOD PRESSURE 3 | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | | | | |
| 62 | DIASTOLIC BLOOD PRESSURE 3 | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | | | | |
| 63 | PULSE 3 | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | | | | |
| 64 | PEAK EXPIRATORY FLOW RATE (1) | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | | | | |
| | (2) | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | | | | |

SOUTH AFRICA DEMOGRAPHIC AND HEALTH SURVEY 2003
QUESTIONNAIRE FOR CHILDREN YOUNGER THAN SIX YEARS OLD WHOSE
BIOLOGICAL MOTHER DOES NOT LIVE IN THE HOUSEHOLD

| IDENTIFICATION | | | | | | | | | | | | | | |
|---|---|--|---|---|---|---|--|--|--|--|--|--|--|--|
| PROVINCE* _____ | <table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td style="width: 20px; height: 20px;"></td></tr> <tr><td style="width: 20px; height: 20px;"></td></tr> <tr><td style="width: 20px; height: 20px;"></td></tr> <tr><td style="width: 20px; height: 20px;"></td></tr> <tr><td style="width: 20px; height: 20px;"></td></tr> <tr><td style="width: 20px; height: 20px;"></td></tr> <tr><td style="width: 20px; height: 20px;"></td></tr> <tr><td style="width: 20px; height: 20px;"></td></tr> <tr><td style="width: 20px; height: 20px;"></td></tr> <tr><td style="width: 20px; height: 20px;"></td></tr> </table> | | | | | | | | | | | | | |
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| DISTRICT _____ | | | | | | | | | | | | | | |
| EA NUMBER..... | | | | | | | | | | | | | | |
| EA TYPE (URBAN FORMAL=1; URBAN INFORMAL=2; RURAL FORMAL=3; TRIBAL AREA=4)..... | | | | | | | | | | | | | | |
| SADHS CLUSTER NUMBER..... | | | | | | | | | | | | | | |
| STAND NUMBER..... | | | | | | | | | | | | | | |
| HOUSEHOLD NUMBER..... | | | | | | | | | | | | | | |
| NAME OF HOUSEHOLD HEAD _____ | | | | | | | | | | | | | | |
| NAME AND LINE NUMBER OF CHILD _____ | | | | | | | | | | | | | | |
| NAME AND LINE NUMBER OF GUARDIAN/FOSTER PARENT/OTHER _____ | | | | | | | | | | | | | | |
| INTERVIEWER VISITS | | | | | | | | | | | | | | |
| | 1 | 2 | 3 | FINAL VISIT | | | | | | | | | | |
| DATE | | | | DAY <table border="1" style="width: 20px; height: 20px;"></table> MONTH <table border="1" style="width: 20px; height: 20px;"></table> YEAR <table border="1" style="width: 20px; height: 20px; text-align: center;">2</table> <table border="1" style="width: 20px; height: 20px; text-align: center;">0</table> <table border="1" style="width: 20px; height: 20px; text-align: center;">0</table> INT.CODE <table border="1" style="width: 20px; height: 20px;"></table> RESULT <table border="1" style="width: 20px; height: 20px;"></table> | | | | | | | | | | |
| INTERVIEWER'S NAME | | | | | | | | | | | | | | |
| RESULT** | | | | | | | | | | | | | | |
| NEXT VISIT: DATE | | | | TOTAL NO. OF VISITS <table border="1" style="width: 20px; height: 20px;"></table> | | | | | | | | | | |
| TIME | | | | | | | | | | | | | | |
| ** RESULT CODES: 1 COMPLETED 4 REFUSED 7 OTHER _____ (SPECIFY) 2 NOT AT HOME 5 PARTLY COMPLETED 3 POSTPONED 6 INCAPACITATED | | | | | | | | | | | | | | |
| LANGUAGE | | | | | | | | | | | | | | |
| LANGUAGE OF QUESTIONNAIRE: ENGLISH | | | | <table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td style="width: 20px; height: 20px; text-align: center;">0</td><td style="width: 20px; height: 20px; text-align: center;">1</td></tr> <tr><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td></tr> <tr><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td></tr> <tr><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td></tr> </table> | 0 | 1 | | | | | | | | |
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| LANGUAGE OF INTERVIEW *** _____ | | | | | | | | | | | | | | |
| HOME LANGUAGE OF RESPONDENT*** _____ | | | | | | | | | | | | | | |
| WAS A TRANSLATOR USED? (YES=1, NO=2) | | | | | | | | | | | | | | |
| *** LANGUAGE CODES: 01 ENGLISH 04 isiZULU 07 SePEDI 10 XITSONGA 12 OTHER _____ (SPECIFY) 02 AFRIKAANS 05 SeSOTHO 08 SiSWATI 11 isiNDEBELE 03 isiXHOSA 06 SeTSWANA 09 TshiVENDA | | | | | | | | | | | | | | |
| SUPERVISOR | | FIELD EDITOR | | OFFICE EDITOR | | | | | | | | | | |
| NAME _____ <table border="1" style="width: 20px; height: 20px;"></table> | | NAME _____ <table border="1" style="width: 20px; height: 20px;"></table> | | <table border="1" style="width: 20px; height: 20px;"></table> | | | | | | | | | | |
| DATE _____ <table border="1" style="width: 20px; height: 20px;"></table> | | DATE _____ <table border="1" style="width: 20px; height: 20px;"></table> | | <table border="1" style="width: 20px; height: 20px;"></table> | | | | | | | | | | |

*PROVINCE: WESTERN CAPE=1; EASTERN CAPE=2; NORTHERN CAPE=3; FREE STATE=4; KWAZULU-NATAL=5; NORTHWEST=6; GAUTENG=7; MPUMALANGA=8; LIMPOPO=9

SECTION 1: BACKGROUND INFORMATION OF THE CHILD

| NO. | QUESTIONS AND FILTERS | CODING CATEGORIES | SKIP |
|-----|---|--|------|
| 101 | RECORD THE TIME. | HOUR <input type="text"/> <input type="text"/> MINUTES..... <input type="text"/> <input type="text"/> | |
| 102 | RECORD LINE NUMBER AND NAME FROM COVER PAGE OF THIS QUESTIONNAIRE. | NAME _____ LINE NUMBER <input type="text"/> <input type="text"/> | |
| 103 | In what month and year was (NAME from Q.102) born? | MONTH <input type="text"/> <input type="text"/> DOES NOT KNOW MONTH 98 YEAR..... <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> DOES NOT KNOW YEAR..... 9998 | |
| 104 | How old was (NAME) at his/her last birthday? COMPARE AND CORRECT 103 AND/OR 104 IF INCONSISTENT. | AGE IN COMPLETED YEARS <input type="text"/> <input type="text"/> | |
| 105 | Is (NAME) a boy or a girl? | MALE 1 FEMALE 2 | |
| 106 | Which population group does (NAME) belong to? | BLACK/AFRICAN 1 COLOURED 2 WHITE 3 ASIAN/INDIAN..... 4 OTHER _____ 6 (SPECIFY) | |
| 107 | What is your relationship to (NAME)? | BIOLOGICAL FATHER 11 ADOPTIVE PARENT 12 FOSTER PARENT 13 STEP PARENT 14 GRANDPARENT 15 SISTER/BROTHER 16 OTHER FAMILY (e.g. aunt, etc.)..... 17 UNRELATED CAREGIVER/ GUARDIAN..... 18 OTHER _____ 96 (SPECIFY) | |
| 108 | Why is (NAME)'s biological mother not living with the child? | MOTHER DIED 1 MOTHER LEFT TO SEEK EMPLOYMENT/WORK ELSEWHERE 2 MOTHER SENT CHILD HERE FOR CARE (LIVES ELSEWHERE)..... 3 MOTHER IN HOSPITAL..... 4 OTHER _____ 6 (SPECIFY) | |

SECTION 2: IMMUNIZATION, HEALTH AND NUTRITION

| NO. | QUESTIONS AND FILTERS | CODING CATEGORIES/SKIP | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--------|---|--|------|-----|-------|------|-----|--|--|--|----|--|--|--|----|--|--|--|----|--|--|--|----|--|--|--|----|--|--|--|----|--|--|--|----|--|--|--|----|--|--|--|----|--|--|--|----|--|--|--|-----|--|--|--|--------|--|--|--|
| 201 | Did (NAME) receive a vitamin A dose like this during the last 6 months? SHOW AMPULE/CAPSULE. | YES 1 NO 2 DON'T KNOW 8 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 202 | Do you have a card where (NAME'S) vaccinations are written down? IF YES: May I see it please? | YES, SEEN 1 (SKIP TO 204) ◀ YES, NOT SEEN 2 (SKIP TO 206) ◀ NO CARD 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 203 | Did you ever have a vaccination card for (NAME)? | YES 1 (SKIP TO 206) ◀ NO 2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 204 | (1) COPY VACCINATION DATE FOR EACH VACCINE FROM THE CARD. (2) WRITE '44' IN 'DAY' COLUMN IF CARD SHOWS THAT A VACCINATION WAS GIVEN, BUT NO DATE IS RECORDED. BCG POLIO 0 (POLIO GIVEN AT BIRTH) POLIO 1 POLIO 2 POLIO 3 DPT 1 DPT 2 DPT 3 Hep. B 1 Hep. B 2 Hep. B 3 MEASLES VITAMIN A (MOST RECENT) | <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 15%;"></th> <th style="width: 15%;">DAY</th> <th style="width: 15%;">MONTH</th> <th style="width: 15%;">YEAR</th> </tr> </thead> <tbody> <tr><td>BCG</td><td></td><td></td><td></td></tr> <tr><td>P0</td><td></td><td></td><td></td></tr> <tr><td>P1</td><td></td><td></td><td></td></tr> <tr><td>P2</td><td></td><td></td><td></td></tr> <tr><td>P3</td><td></td><td></td><td></td></tr> <tr><td>D1</td><td></td><td></td><td></td></tr> <tr><td>D2</td><td></td><td></td><td></td></tr> <tr><td>D3</td><td></td><td></td><td></td></tr> <tr><td>H1</td><td></td><td></td><td></td></tr> <tr><td>H2</td><td></td><td></td><td></td></tr> <tr><td>H3</td><td></td><td></td><td></td></tr> <tr><td>MEA</td><td></td><td></td><td></td></tr> <tr><td>VIT. A</td><td></td><td></td><td></td></tr> </tbody> </table> | | DAY | MONTH | YEAR | BCG | | | | P0 | | | | P1 | | | | P2 | | | | P3 | | | | D1 | | | | D2 | | | | D3 | | | | H1 | | | | H2 | | | | H3 | | | | MEA | | | | VIT. A | | | |
| | DAY | MONTH | YEAR | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BCG | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| P0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| P1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| P2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| P3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| D1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| D2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| D3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| H1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| H2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| H3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| MEA | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| VIT. A | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 205 | Has (NAME) received any vaccinations that are not recorded on this card, including vaccinations received in a national immunization day campaign? RECORD 'YES' ONLY IF RESPONDENT MENTIONS BCG, POLIO 0-3, DPT 1-3, HEP 1-3, MEASLES VACCINE(S) AND/OR VITAMIN A. | YES 1 (PROBE FOR VACCINATIONS AND WRITE '66' IN THE CORRESPONDING DAY COLUMN IN Q 204) (SKIP TO 208) ◀ NO 2 (SKIP TO 208) ◀ DON'T KNOW 8 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 206 | Did (NAME) ever receive any vaccinations to prevent him/her from getting diseases, including vaccinations received in a national immunization day campaign? | YES 1 NO 2 (SKIP TO 209) ◀ DON'T KNOW 8 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

| NO. | QUESTIONS AND FILTERS | CODING CATEGORIES/SKIP |
|------|---|--|
| 207 | Please tell me if (NAME) received any of the following vaccinations: | |
| 207A | A BCG vaccination against tuberculosis, that is, an injection in the arm or shoulder that usually causes a scar? | YES..... 1 NO..... 2 DON'T KNOW..... 8 |
| 207B | Polio vaccine, that is, drops in the mouth? | YES..... 1 NO..... 2 (SKIP TO 207E) ← DON'T KNOW..... 8 |
| 207C | When was the first polio vaccine received, just after birth or later? | JUST AFTER BIRTH 1 LATER 2 |
| 207D | How many times was the polio vaccine received? | NUMBER OF TIMES..... <input type="text"/> |
| 207E | A DPT vaccination, that is, an injection given in the thigh or buttocks, sometimes at the same time as polio drops? | YES..... 1 NO..... 2 (SKIP TO 207G) ← DON'T KNOW..... 8 |
| 207F | How many times? | NUMBER OF TIMES..... <input type="text"/> |
| 207G | A Hepatitis B vaccination, that is, an injection given in the arm or shoulders, sometimes at the same time as polio drops? | YES..... 1 NO..... 2 (SKIP TO 207I) ← DON'T KNOW..... 8 |
| 207H | How many times? | NUMBER OF TIMES..... <input type="text"/> |
| 207I | An injection to prevent measles? | YES..... 1 NO..... 2 DON'T KNOW..... 8 |
| 207J | A Vitamin A dose in an ampule, capsule, tablet, or syrup? | YES..... 1 NO..... 2 DON'T KNOW..... 8 |
| 208 | Were any of the vaccinations (NAME) received during the last two years given as a part of a national immunization day campaign? | YES..... 1 NO..... 2 NO VACCINATION IN THE LAST 2 YEARS 3 DON'T KNOW..... 8 |
| 209 | Has (NAME) been ill with a fever at any time in the last 2 weeks? | YES..... 1 NO..... 2 DON'T KNOW..... 8 |
| 210 | Has (NAME) had an illness with a cough at any time in the last 2 weeks? | YES..... 1 NO..... 2 (SKIP TO 212) ← DON'T KNOW..... 8 |
| 211 | When (NAME) had an illness with a cough, did he/she breathe faster than usual with short, fast breaths? | YES..... 1 NO..... 2 DON'T KNOW..... 8 |

| NO. | QUESTIONS AND FILTERS | CODING CATEGORIES/SKIP |
|-----|--|---|
| 212 | CHECK 209 AND 210: FEVER OR COUGH? "YES" IN 209 OR 210 <input type="checkbox"/> ▼ | OTHER <input type="checkbox"/> ▼ (SKIP TO 218) |
| 213 | Did you seek advice or treatment for the fever/cough? | YES..... 1 NO..... 2 (SKIP TO 215) ← |
| 214 | Where did you seek advice or treatment? IF SOURCE IS HOSPITAL, HEALTH CENTRE OR CLINIC, WRITE THE NAME OF THE PLACE. PROBE TO IDENTIFY THE TYPE OF SOURCE AND CIRCLE THE APPROPRIATE CODE. _____ (NAME OF PLACE) Anywhere else? RECORD ALL PLACES MENTIONED. | PUBLIC SECTOR GOVT. HOSPITAL..... A DAYHOSP/CLINIC/COMMUNITY HEALTH CENTRE..... B MOBILE CLINIC C OTHER PUBLIC _____ D (SPECIFY) PRIVATE MEDICAL SECTOR PVT. HOSPITAL/CLINIC E PHARMACY F PRIVATE DOCTOR..... H MOBILE CLINIC I OTHER PRIVATE MEDICAL _____ J (SPECIFY) OTHER SOURCE SHOP..... K TRADITIONAL PRACTITIONER L OTHER _____ X (SPECIFY) |
| 215 | CHECK 209: HAD FEVER? "YES" IN 209 <input type="checkbox"/> ▼ | "NO" OR "DON'T KNOW" <input type="checkbox"/> ▼ (SKIP TO 218) |
| 216 | Did (NAME) take any drugs for the fever? | YES..... 1 NO..... 2 (SKIP TO 218) ← |
| 217 | What drugs did (NAME) take? RECORD ALL MENTIONED. ASK TO SEE DRUG(S) IF TYPE OF DRUG IS NOT KNOWN. IF TYPE OF DRUG IS STILL NOT DETERMINED, SHOW TYPICAL ANTI-MALARIAL DRUGS TO RESPONDENT. | COARTEM..... A ARSUMAX B FANSIDAR..... C ORAL QUININE D UNKNOWN DRUG/ E OTHER _____ X (SPECIFY) DON'T KNOW Z |
| 218 | Has (NAME) had diarrhoea in the last 2 weeks? | YES..... 1 NO..... 2 (END) ← DON'T KNOW 8 |
| 219 | Now I would like to know how much (NAME) was offered to drink during the diarrhoea. Was he/she offered less than usual to drink, about the same amount, or more than usual to drink? IF LESS, PROBE: Was he/she offered much less than usual to drink or somewhat less? | MUCH LESS..... 1 SOMEWHAT LESS 2 ABOUT THE SAME 3 MORE 4 NOTHING TO DRINK 5 DON'T KNOW 8 |

| NO. | QUESTIONS AND FILTERS | CODING CATEGORIES/SKIP | | | | |
|-----|--|--|--|--|--|--|
| 220 | <p>When (NAME) had diarrhoea, was he/she offered less than usual to eat, about the same amount, more than usual, or nothing to eat?</p> <p>IF LESS, PROBE: Was he/she offered much less than usual to eat or somewhat less?</p> | <p>MUCH LESS 1 SOMEWHAT LESS 2 ABOUT THE SAME 3 MORE 4 STOPPED FOOD 5 NEVER GAVE FOOD 6 DON'T KNOW 8</p> | | | | |
| 221 | <p>Was he/she given any of the following to drink:</p> <p>a A fluid made from a special packet called SORAL? b A homemade fluid containing salt sugar and water prepared according to recommendations from health personnel?</p> | <p style="text-align: right;">YES NO DK</p> <p>FLUID FROM SORAL PKT 1 2 8 HOMEMADE FLUID 1 2 8</p> | | | | |
| 222 | <p>Was anything (else) given to treat the diarrhoea?</p> | <p>YES 1 NO 2 (SKIP TO 224) ← DON'T KNOW 8</p> | | | | |
| 223 | <p>What (else) was given to treat the diarrhoea?</p> <p>Anything else?</p> <p>RECORD ALL TREATMENTS MENTIONED.</p> | <p>PILL OR SYRUP A INJECTION B (I.V.) INTRAVENOUS C HOME REMEDIES/ HERBAL MEDICINES D OTHER _____ X (SPECIFY)</p> | | | | |
| 224 | <p>Did you seek advice or treatment for the diarrhoea?</p> | <p>YES 1 NO 2 (END) ←</p> | | | | |
| 225 | <p>Where did you seek advice or treatment?</p> <p>IF SOURCE IS HOSPITAL, HEALTH CENTRE OR CLINIC, WRITE THE NAME OF THE PLACE. PROBE TO IDENTIFY THE TYPE OF SOURCE AND CIRCLE THE APPROPRIATE CODE.</p> <p>_____</p> <p>(NAME OF PLACE)</p> <p>Anywhere else?</p> <p>RECORD ALL PLACES MENTIONED.</p> | <p>PUBLIC SECTOR GOVT. HOSPITAL A DAYHOSP/CLINIC/COMMUNITY HEALTH CENTRE B MOBILE CLINIC C OTHER PUBLIC _____ D (SPECIFY)</p> <p>PRIVATE MEDICAL SECTOR PVT. HOSPITAL/CLINIC E PHARMACY F PRIVATE DOCTOR H MOBILE CLINIC I OTHER PRIVATE MEDICAL _____ J (SPECIFY)</p> <p>OTHER SOURCE SHOP K TRADITIONAL PRACTITIONER L OTHER _____ X (SPECIFY)</p> | | | | |
| 226 | <p>RECORD THE TIME</p> | <p>HOURS <table border="1" style="display: inline-table; vertical-align: middle;"><tr><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td></tr></table></p> <p>MINUTES <table border="1" style="display: inline-table; vertical-align: middle;"><tr><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td></tr></table></p> | | | | |
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SOUTH AFRICA DEMOGRAPHIC AND HEALTH SURVEY 2003
WOMAN'S QUESTIONNAIRE

| IDENTIFICATION | | | | |
|---|-------------------|---------------|----------|---|
| PROVINCE* _____ | [] | | | |
| DISTRICT _____ | [][] | | | |
| EA NUMBER..... | [][][][] | | | |
| EA TYPE (URBAN FORMAL=1; URBAN INFORMAL=2; RURAL FORMAL=3; TRIBAL AREA=4)..... | [] | | | |
| SADHS CLUSTER NUMBER..... | [][] | | | |
| STAND NUMBER..... | [][] | | | |
| HOUSEHOLD NUMBER..... | [][] | | | |
| NAME OF HOUSEHOLD HEAD _____ | | | | |
| NAME AND LINE NUMBER OF WOMAN _____ | [][] | | | |
| INTERVIEWER VISITS | | | | |
| | 1 | 2 | 3 | FINAL VISIT |
| DATE | _____ | _____ | _____ | DAY [][] MONTH [][] YEAR [2][0][0][] |
| INTERVIEWER'S NAME | _____ | _____ | _____ | INT.CODE [][] |
| RESULT** | | | | RESULT [] |
| NEXT VISIT: DATE | _____ | _____ | | TOTAL NO. OF VISITS [] |
| TIME | _____ | _____ | | |
| ** RESULT CODES: 1 COMPLETED 4 REFUSED 2 NOT AT HOME 5 PARTLY COMPLETED 7 OTHER _____ (SPECIFY) 3 POSTPONED 6 INCAPACITATED | | | | |
| LANGUAGE | | | | |
| LANGUAGE OF QUESTIONNAIRE: ENGLISH | | | | [0][1] |
| LANGUAGE OF INTERVIEW *** _____ | | | | |
| HOME LANGUAGE OF RESPONDENT*** _____ | | | | |
| WAS A TRANSLATOR USED? (YES=1, NO=2) | | | | |
| *** LANGUAGE CODES: 01 ENGLISH 04 isiZULU 07 SePEDI 10 XITSONGA 02 AFRIKAANS 05 SeSOTHO 08 SiSWATI 11 isiNDEBELE 03 isiXHOSA 06 SeTSWANA 09 TshiVENDA 12 OTHER _____ (SPECIFY) | | | | |
| SUPERVISOR | FIELD EDITOR | OFFICE EDITOR | KEYED BY | |
| NAME _____ [][] | NAME _____ [][] | [][] | [][] | |
| DATE _____ [][] | DATE _____ [][] | [][] | [][] | |

*PROVINCE: WESTERN CAPE=1; EASTERN CAPE=2; NORTHERN CAPE=3; FREE STATE=4; KWAZULU-NATAL=5; NORTHWEST=6; GAUTENG=7; MPUMALANGA=8; LIMPOPO=9

SECTION 1: RESPONDENT'S BACKGROUND

| NO. | QUESTIONS AND FILTERS | CODING CATEGORIES | SKIP |
|-----|---|--|------|
| 101 | RECORD THE TIME. | HOUR <input type="text"/> <input type="text"/> MINUTES..... <input type="text"/> <input type="text"/> | |
| 102 | First I would like to ask some questions about you and your household. For most of the time until you were 12 years old, did you live in a city, in a town, on a farm or in rural areas, in an informal settlement? | CITY 1 TOWN..... 2 RURAL/FARM 3 INFORMAL SETTLEMENT 4 | |
| 103 | How long have you been living continuously in (NAME OF CURRENT PLACE OF RESIDENCE)? IF LESS THAN ONE YEAR, RECORD '00' YEARS. | YEARS <input type="text"/> <input type="text"/> ALWAYS..... 95 VISITOR 96 | →105 |
| 104 | Just before you moved here, did you live in a city, in a town, or in a rural area/farm? | CITY 1 TOWN..... 2 RURAL/FARM 3 | |
| 105 | In what month and year were you born? | MONTH <input type="text"/> <input type="text"/> DOES NOT KNOW MONTH 98 YEAR..... <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> DOES NOT KNOW YEAR..... 9998 | |
| 106 | How old were you at your last birthday? COMPARE AND CORRECT 105 AND/OR 106 IF INCONSISTENT. | AGE IN COMPLETED YEARS <input type="text"/> <input type="text"/> | |
| 107 | Have you ever attended school? | YES 1 NO 2 | →113 |
| 108 | What is the highest (standard/grade/year) you completed? | LESS THAN 1 YEAR COMPLETED 00 SUB A/GRADE 1 01 SUB B/GRADE 2 02 STANDARD 1/GRADE 3 03 STANDARD 2/GRADE 4 04 STANDARD 3/GRADE 5 05 STANDARD 4/GRADE 6 06 STANDARD 5/GRADE 7 07 STANDARD 6/GRADE 8 08 STANDARD 7/GRADE 9 09 STANDARD 8/GRADE 10 10 STANDARD 9/GRADE 11 11 STANDARD 10/GRADE 12 12 FURTHER STUDIES INCOMPLETE 13 DIPLOMA/OTHER POSTSCHL COMPL. 14 FURTHER DEGREE COMPLETE 15 | |
| 109 | CHECK 106: AGE 24 OR BELOW <input type="checkbox"/> AGE 25 OR ABOVE <input type="checkbox"/> | | →112 |
| 110 | Are you currently attending school? | YES 1 NO 2 | →112 |

| NO. | QUESTIONS AND FILTERS | CODING CATEGORIES | SKIP |
|-----|---|---|------|
| 111 | What was the main reason you stopped attending school? | GOT MARRIED01 CARE FOR YOUNGER CHILDREN.....02 FAMILY NEEDED HELP ON FARM OR IN BUSINESS03 COULD NOT PAY SCHOOL FEES.....04 NEEDED TO EARN MONEY05 GRADUATED/HAD ENOUGH SCHOOLING.....06 DID NOT PASS ENTRANCE EXAMS.....07 DID NOT LIKE SCHOOL.....08 SCHOOL NOT ACCESSIBLE/TOO FAR09 GOT PREGNANT10 OTHER _____ 96 (SPECIFY) DO NOT KNOW98 | |
| 112 | CHECK 108: COMPLETED STD 4/ GRADE 6 OR LOWER <input type="checkbox"/> COMPLETED STD 5/ GRADE 7 OR HIGHER <input type="checkbox"/> | | →114 |
| 113 | Now I would like you to read this sentence to me. SHOW SENTENCES TO RESPONDENT. IF RESPONDENT CANNOT READ WHOLE SENTENCE, PROBE: Can you read any part of the sentence to me? | CANNOT READ AT ALL 1 CAN ONLY READ PART OF SENTENCE.....2 CAN READ WHOLE SENTENCE3 NO CARD WITH REQUIRED LANGUAGE _____ 4 (SPECIFY) | |
| 114 | Apart from your own housework, are you currently working? | YES 1 NO2 | →117 |
| 115 | As you know, some women take up jobs for which they are paid in cash or kind. Others sell things, have a small business or work on the family farm or in the family business. Are you currently doing any of these things or any other work? | YES 1 NO2 | →117 |
| 116 | Have you done any work in the last 12 months? | YES 1 NO2 | →121 |
| 117 | What is your occupation, that is, what kind of work do you mainly do? | _____ <input type="checkbox"/> <input type="checkbox"/> _____ _____ _____ | |
| 118 | Do you do this work for a family business, are you employed by someone outside the family or are you self-employed? | FOR FAMILY MEMBER1 FOR SOMEONE ELSE2 SELF-EMPLOYED3 | |
| 119 | Are you paid in cash or kind for this work or are you not paid at all? | CASH ONLY1 CASH AND KIND2 IN KIND ONLY3 NOT PAID4 | →121 |
| 120 | Who mainly decides how the money you earn will be used? | RESPONDENT1 HUSBAND/PARTNER2 RESPONDENT AND HUSBAND/PARTNER JOINTLY3 SOMEONE ELSE4 RESPONDENT AND SOMEONE ELSE JOINTLY5 | |
| 121 | Which population group do you consider yourself? | BLACK/AFRICAN 1 COLOURED2 WHITE3 ASIAN/INDIAN.....4 OTHER _____ 6 (SPECIFY) | |

SENTENCES FOR LITERACY TEST (Q. 113)

ENGLISH

1. The child is reading a book.
2. The rains came late this year.
3. Parents must care for their children.
4. Farming is hard work.

AFRIKAANS

1. Die kind lees 'n boek.
2. Die reën het hierdie jaar laat gekom.
3. Ouers moet vir hulle kinders sorg.
4. Boerdery is harde werk

SECTION 2: REPRODUCTION

| NO. | QUESTIONS AND FILTERS | CODING CATEGORIES | SKIP | | | | | | | | |
|-----|--|--|------|--|--|--|--|--|--|--|--|
| | <p>Now I would like to ask you about all the pregnancies that you have had in your lifetime. By this I mean all the children born to you, whether they were born alive or dead, whether still living or not, whether living with you or elsewhere, and all the pregnancies that you have had that did not result in a live birth. I understand that it is not easy to talk about children who have died, or pregnancies that have terminated before full term, but it is extremely important that you tell us about <u>all</u> of them, so that we can develop programs that will help the Government of South Africa improve children's health in the future.</p> | | | | | | | | | | |
| 201 | <p>Now I would like to ask about all the births you have had during your life. Have you ever given birth?</p> | <p>YES 1 NO 2</p> | →206 | | | | | | | | |
| 202 | <p>Do you have any sons or daughters to whom you have given birth who are now living with you?</p> | <p>YES 1 NO 2</p> | →204 | | | | | | | | |
| 203 | <p>How many sons live with you? And how many daughters live with you? IF NONE, RECORD '00'.</p> | <p>SONS AT HOME <table border="1" style="display: inline-table; vertical-align: middle;"><tr><td> </td><td> </td></tr><tr><td> </td><td> </td></tr></table> DAUGHTERS AT HOME..... <table border="1" style="display: inline-table; vertical-align: middle;"><tr><td> </td><td> </td></tr><tr><td> </td><td> </td></tr></table></p> | | | | | | | | | |
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| 204 | <p>Do you have any sons or daughters to whom you have given birth who are alive but do not live with you?</p> | <p>YES 1 NO 2</p> | →206 | | | | | | | | |
| 205 | <p>How many sons are alive but do not live with you? And how many daughters are alive but do not live with you? IF NONE, RECORD '00'.</p> | <p>SONS ELSEWHERE <table border="1" style="display: inline-table; vertical-align: middle;"><tr><td> </td><td> </td></tr><tr><td> </td><td> </td></tr></table> DAUGHTERS ELSEWHERE... <table border="1" style="display: inline-table; vertical-align: middle;"><tr><td> </td><td> </td></tr><tr><td> </td><td> </td></tr></table></p> | | | | | | | | | |
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| 206 | <p>Have you ever given birth to a boy or girl who was born alive but later died? IF NO, PROBE: Any baby who cried or showed signs of life but did not survive or survived only few hours or days?</p> | <p>YES 1 NO 2</p> | →208 | | | | | | | | |
| 207 | <p>How many boys have died? And how many girls have died? IF NONE, RECORD '00'.</p> | <p>BOYS DEAD..... <table border="1" style="display: inline-table; vertical-align: middle;"><tr><td> </td><td> </td></tr><tr><td> </td><td> </td></tr></table> GIRLS DEAD <table border="1" style="display: inline-table; vertical-align: middle;"><tr><td> </td><td> </td></tr><tr><td> </td><td> </td></tr></table></p> | | | | | | | | | |
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| 208 | <p>SUM ANSWERS TO 203, 205, AND 207, AND ENTER TOTAL. IF NONE, RECORD '00'.</p> | <p>TOTAL <table border="1" style="display: inline-table; vertical-align: middle;"><tr><td> </td><td> </td></tr></table></p> | | | | | | | | | |
| | | | | | | | | | | | |
| 209 | <p>CHECK 208: Just to make sure that I have this right: you have had in TOTAL _____ births during your life. Is that correct? YES <input type="checkbox"/> NO <input type="checkbox"/> → PROBE AND CORRECT 201-208 AS NECESSARY.</p> | | | | | | | | | | |
| 210 | <p>CHECK 208: ONE OR MORE BIRTHS <input type="checkbox"/> NO BIRTHS <input type="checkbox"/></p> | | →225 | | | | | | | | |

211 Now I would like to record the names of all your births, whether still alive or not, starting with the first one you had.
 RECORD NAMES OF ALL THE BIRTHS IN 212. RECORD TWINS AND TRIPLETS ON SEPARATE LINES.

| 212 | 213 | 214 | 215 | 216 | 217 IF ALIVE: | 218 IF ALIVE | 219 IF ALIVE: | 220 IF DEAD: | 221 |
|--|---------------------------------|----------------------------|---|-----------------------------------|--|----------------------------|--|--|---|
| What name was given to your (first/next) baby? (NAME) | Were any of these births twins? | Is (NAME) a boy or a girl? | In what month and year was (NAME) born? PROBE: What is his/her birthday? | Is (NAME) still alive? | How old was (NAME) at his/her last birthday? RECORD AGE IN COMPLETED YEARS. | Is (NAME) living with you? | RECORD HOUSEHOLD LINE NUMBER OF CHILD (RECORD '00' IF CHILD NOT LISTED IN HOUSEHOLD) | How old was (NAME) when he/she died? IF '1 YR', PROBE: How many months old was (NAME)? RECORD DAYS IF LESS THAN 1 MONTH; MONTHS IF LESS THAN TWO YEARS; OR YEARS. | Were there any other live births between (NAME OF PREVIOUS BIRTH) and (NAME)? |
| 01 | SING...1 MULT...2 | BOY..1 GIRL.2 | MONTH <input type="text"/> <input type="text"/> YEAR <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> | YES.....1 NO.....2 ↓ 220 | AGE IN YEARS <input type="text"/> <input type="text"/> | YES.....1 NO.....2 | LINE NUMBER <input type="text"/> <input type="text"/> ↓ (NEXT BIRTH) | DAYS.....1 <input type="text"/> <input type="text"/> MONTHS.2 <input type="text"/> <input type="text"/> YEARS....3 <input type="text"/> <input type="text"/> | |
| 02 | SING...1 MULT...2 | BOY..1 GIRL.2 | MONTH <input type="text"/> <input type="text"/> YEAR <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> | YES.....1 NO.....2 ↓ 220 | AGE IN YEARS <input type="text"/> <input type="text"/> | YES.....1 NO.....2 | LINE NUMBER <input type="text"/> <input type="text"/> ↓ (GOTO 221) | DAYS.....1 <input type="text"/> <input type="text"/> MONTHS.2 <input type="text"/> <input type="text"/> YEARS....3 <input type="text"/> <input type="text"/> | YES.....1 NO.....2 |
| 03 | SING...1 MULT...2 | BOY..1 GIRL.2 | MONTH <input type="text"/> <input type="text"/> YEAR <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> | YES.....1 NO.....2 ↓ 220 | AGE IN YEARS <input type="text"/> <input type="text"/> | YES.....1 NO.....2 | LINE NUMBER <input type="text"/> <input type="text"/> ↓ (GOTO 221) | DAYS.....1 <input type="text"/> <input type="text"/> MONTHS.2 <input type="text"/> <input type="text"/> YEARS....3 <input type="text"/> <input type="text"/> | YES.....1 NO.....2 |
| 04 | SING...1 MULT...2 | BOY..1 GIRL.2 | MONTH <input type="text"/> <input type="text"/> YEAR <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> | YES.....1 NO.....2 ↓ 220 | AGE IN YEARS <input type="text"/> <input type="text"/> | YES.....1 NO.....2 | LINE NUMBER <input type="text"/> <input type="text"/> ↓ (GOTO 221) | DAYS.....1 <input type="text"/> <input type="text"/> MONTHS.2 <input type="text"/> <input type="text"/> YEARS....3 <input type="text"/> <input type="text"/> | YES.....1 NO.....2 |
| 05 | SING...1 MULT...2 | BOY..1 GIRL.2 | MONTH <input type="text"/> <input type="text"/> YEAR <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> | YES.....1 NO.....2 ↓ 220 | AGE IN YEARS <input type="text"/> <input type="text"/> | YES.....1 NO.....2 | LINE NUMBER <input type="text"/> <input type="text"/> ↓ (GOTO 221) | DAYS.....1 <input type="text"/> <input type="text"/> MONTHS.2 <input type="text"/> <input type="text"/> YEARS....3 <input type="text"/> <input type="text"/> | YES.....1 NO.....2 |
| 06 | SING...1 MULT...2 | BOY..1 GIRL.2 | MONTH <input type="text"/> <input type="text"/> YEAR <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> | YES.....1 NO.....2 ↓ 220 | AGE IN YEARS <input type="text"/> <input type="text"/> | YES.....1 NO.....2 | LINE NUMBER <input type="text"/> <input type="text"/> ↓ (GOTO 221) | DAYS.....1 <input type="text"/> <input type="text"/> MONTHS.2 <input type="text"/> <input type="text"/> YEARS....3 <input type="text"/> <input type="text"/> | YES.....1 NO.....2 |
| 07 | SING...1 MULT...2 | BOY..1 GIRL.2 | MONTH <input type="text"/> <input type="text"/> YEAR <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> | YES.....1 NO.....2 ↓ 220 | AGE IN YEARS <input type="text"/> <input type="text"/> | YES.....1 NO.....2 | LINE NUMBER <input type="text"/> <input type="text"/> ↓ (GOTO 221) | DAYS.....1 <input type="text"/> <input type="text"/> MONTHS.2 <input type="text"/> <input type="text"/> YEARS....3 <input type="text"/> <input type="text"/> | YES.....1 NO.....2 |

| | | | | | | | | | | |
|--|---|----------------------------|---|-------------------------------------|--|----------------------------|--|--|---|--|
| 212 | 213 | 214 | 215 | 216 | 217 IF ALIVE: | 218 IF ALIVE | 219 IF ALIVE: | 220 IF DEAD: | 221 | |
| What name was given to your next baby? (NAME) | Were any of these births twins? | Is (NAME) a boy or a girl? | In what month and year was (NAME) born? PROBE: What is his/her birthday? | Is (NAME) still alive? | How old was (NAME) at his/her last birthday? RECORD AGE IN COMPLETED YEARS. | Is (NAME) living with you? | RECORD HOUSEHOLD LINE NUMBER OF CHILD (RECORD '00' IF CHILD NOT LISTED IN HOUSEHOLD) | How old was (NAME) when he/she died? IF <input type="checkbox"/> 1 YR \square , PROBE: How many months old was (NAME)? RECORD DAYS IF LESS THAN 1 MONTH; MONTHS IF LESS THAN TWO YEARS; OR YEARS. | Were there any other live births between (NAME OF PREVIOUS BIRTH) and (NAME)? | |
| 08 | SING....1 MULT...2 | BOY.. 1 GIRL . 2 | MONTH <input type="text"/> <input type="text"/> YEAR <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> | YES..... 1 NO..... 2 ↓ 220 | AGE IN YEARS <input type="text"/> <input type="text"/> | YES..... 1 NO 2 | LINE NUMBER <input type="text"/> <input type="text"/> ↓ (GOTO 221) | DAYS..... 1 <input type="text"/> <input type="text"/> MONTHS. 2 <input type="text"/> <input type="text"/> YEARS 3 <input type="text"/> <input type="text"/> | YES 1 NO 2 | |
| 09 | SING....1 MULT...2 | BOY.. 1 GIRL . 2 | MONTH <input type="text"/> <input type="text"/> YEAR <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> | YES..... 1 NO..... 2 ↓ 220 | AGE IN YEARS <input type="text"/> <input type="text"/> | YES..... 1 NO 2 | LINE NUMBER <input type="text"/> <input type="text"/> ↓ (GOTO 221) | DAYS..... 1 <input type="text"/> <input type="text"/> MONTHS. 2 <input type="text"/> <input type="text"/> YEARS 3 <input type="text"/> <input type="text"/> | YES 1 NO 2 | |
| 10 | SING....1 MULT...2 | BOY.. 1 GIRL . 2 | MONTH <input type="text"/> <input type="text"/> YEAR <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> | YES..... 1 NO..... 2 ↓ 220 | AGE IN YEARS <input type="text"/> <input type="text"/> | YES..... 1 NO 2 | LINE NUMBER <input type="text"/> <input type="text"/> ↓ (GOTO 221) | DAYS..... 1 <input type="text"/> <input type="text"/> MONTHS. 2 <input type="text"/> <input type="text"/> YEARS 3 <input type="text"/> <input type="text"/> | YES 1 NO 2 | |
| 11 | SING....1 MULT...2 | BOY.. 1 GIRL . 2 | MONTH <input type="text"/> <input type="text"/> YEAR <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> | YES..... 1 NO..... 2 ↓ 220 | AGE IN YEARS <input type="text"/> <input type="text"/> | YES..... 1 NO 2 | LINE NUMBER <input type="text"/> <input type="text"/> ↓ (GOTO 221) | DAYS..... 1 <input type="text"/> <input type="text"/> MONTHS. 2 <input type="text"/> <input type="text"/> YEARS 3 <input type="text"/> <input type="text"/> | YES 1 NO 2 | |
| 12 | SING....1 MULT...2 | BOY.. 1 GIRL . 2 | MONTH <input type="text"/> <input type="text"/> YEAR <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> | YES..... 1 NO..... 2 ↓ 220 | AGE IN YEARS <input type="text"/> <input type="text"/> | YES..... 1 NO 2 | LINE NUMBER <input type="text"/> <input type="text"/> ↓ (GOTO 221) | DAYS..... 1 <input type="text"/> <input type="text"/> MONTHS. 2 <input type="text"/> <input type="text"/> YEARS 3 <input type="text"/> <input type="text"/> | YES 1 NO 2 | |
| 222 | Have you had any live births since the birth of (NAME OF LAST BIRTH)? | | | | | YES 1 NO 2 | | | | |
| 223 | COMPARE 208 WITH NUMBER OF BIRTHS IN HISTORY ABOVE AND MARK: NUMBERS ARE SAME <input type="checkbox"/> NUMBERS ARE DIFFERENT <input type="checkbox"/> → (PROBE AND RECONCILE) CHECK: FOR EACH BIRTH: YEAR OF BIRTH IS RECORDED. FOR EACH LIVING CHILD: CURRENT AGE IS RECORDED. FOR EACH DEAD CHILD: AGE AT DEATH IS RECORDED. FOR AGE AT DEATH 12 MONTHS OR 1 YR.: PROBE TO DETERMINE EXACT NUMBER OF MONTHS. | | | | | | | | | |
| 224 | CHECK 215 AND ENTER THE NUMBER OF BIRTHS IN 1998 OR LATER. IF NONE, RECORD '0'. | | | | | | | | <input type="text"/> | |

| NO. | QUESTIONS AND FILTERS | CODING CATEGORIES | SKIP |
|-----|--|---|------|
| 225 | Are you pregnant now? | YES 1 NO 2 UNSURE 8 | ↳228 |
| 226 | How many months pregnant are you? RECORD NUMBER OF COMPLETED MONTHS. | MONTHS <input type="text"/> <input type="text"/> | |
| 227 | At the time you became pregnant did you want to become pregnant <u>then</u> , did you want to wait until <u>later</u> , or did you <u>not want</u> to have any (more) children at all? | THEN 1 LATER 2 NOT AT ALL 3 | |
| 228 | Have you ever had a pregnancy that miscarried, was aborted, or ended in a stillbirth? | YES 1 NO/ DON'T KNOW 2 | ↳236 |
| 229 | How many such pregnancies did you have? | NO. OF PREGN. DID NOT RESULT IN LIVE BIRTHS <input type="text"/> <input type="text"/> | |
| 230 | When did the last such pregnancy end? | MONTH..... <input type="text"/> <input type="text"/> YEAR..... <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> | |
| 231 | CHECK 230: LAST PREGNANCY ENDED IN <input type="checkbox"/> JAN. 2000 OR LATER | LAST PREGNANCY ENDED BEFORE <input type="checkbox"/> _____ JAN. 2000 | ↳236 |
| 232 | How many months pregnant were you when the last such pregnancy ended? RECORD NUMBER OF COMPLETED MONTHS. CODE DON'T KNOW AS "98" | MONTHS <input type="text"/> <input type="text"/> DON'T KNOW.....98 | |
| 233 | Have you ever had any other pregnancies which did not result in a live birth? | YES 1 NO 2 | ↳236 |
| 234 | When did the previous such pregnancy end? | MONTH..... <input type="text"/> <input type="text"/> YEAR..... <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> | |
| 235 | How many months pregnant were you when that pregnancy ended? RECORD NUMBER OF COMPLETED MONTHS. | MONTHS <input type="text"/> <input type="text"/> | |
| 236 | When did your last menstrual period start? _____ (DATE, IF GIVEN) | DAYS AGO 1 <input type="text"/> <input type="text"/> WEEKS AGO 2 <input type="text"/> <input type="text"/> MONTHS AGO 3 <input type="text"/> <input type="text"/> YEARS AGO 4 <input type="text"/> <input type="text"/> IN MENOPAUSE/ HAS HAD HYSTERECTOMY 994 BEFORE LAST BIRTH 995 NEVER MENSTRUATED 996 | |
| 237 | From one menstrual period to the next, is there a time when a woman is more likely to become pregnant if she has sexual relations? | YES 1 NO 2 DON'T KNOW 8 | ↳301 |

| NO. | QUESTIONS AND FILTERS | CODING CATEGORIES | SKIP |
|-----|---|---|------|
| 238 | Is this time just before her period begins, during her period, right after her period has ended, or half way between two periods? | JUST BEFORE HER PERIOD BEGINS.... 1 DURING HER PERIOD2 RIGHT AFTER HER PERIOD HAS ENDED.....3 HALF WAY BETWEEN PERIODS4 OTHER _____ 6 (SPECIFY) DON'T KNOW 8 | |

SECTION 3. CONTRACEPTION

Now I would like to talk about family planning - the various ways or methods that a couple can use to delay or avoid a pregnancy. CIRCLE CODE 1 IN 301 FOR EACH METHOD MENTIONED SPONTANEOUSLY. THEN PROCEED DOWN COLUMN 301, READING THE NAME AND DESCRIPTION OF EACH METHOD NOT MENTIONED SPONTANEOUSLY. CIRCLE CODE 1 IF METHOD IS RECOGNIZED, AND CODE 2 IF NOT RECOGNIZED. THEN, FOR EACH METHOD WITH CODE 1 CIRCLED IN 301, ASK 302.

| | | | |
|-----|---|------------------------------------|--|
| 301 | Which ways or methods have you heard about? FOR METHODS NOT MENTIONED SPONTANEOUSLY, ASK: Have you ever heard of (METHOD)? | 302 | Have you ever used (METHOD)? |
| 01 | FEMALE STERILIZATION Women can have an operation to avoid having any more children. | YES.....1 NO2 ▾ | Have you ever had an operation to avoid having any more children? YES 1 NO 2 |
| 02 | MALE STERILIZATION Men can have an operation to avoid having any more children. | YES.....1 NO2 ▾ | Have you ever had a partner who had an operation to avoid having any more children? YES 1 NO 2 |
| 03 | PILL Women can take a pill every day to avoid becoming pregnant. | YES.....1 NO2 ▾ | YES 1 NO 2 |
| 04 | IUD Women can have a loop or coil placed inside them by a doctor or a nurse. | YES.....1 NO2 ▾ | YES 1 NO 2 |
| 05 | INJECTABLES Women can have an injection by a health provider which stops them from becoming pregnant for one or more months. | YES.....1 NO2 ▾ | YES 1 NO 2 |
| 06 | IMPLANTS, NORPLANTS Women can have several small rods placed in their upper arm by a doctor or nurse which can prevent pregnancy for one or more years. | YES.....1 NO2 ▾ | YES 1 NO 2 |
| 07 | MALE CONDOM Men can put a rubber sheath on their penis before sexual intercourse. | YES.....1 NO2 ▾ | YES 1 NO 2 |
| 08 | FEMALE CONDOM Women can place a sheath in their vagina before sexual intercourse. | YES.....1 NO2 ▾ | YES 1 NO 2 |
| 09 | DIAPHRAGM, FOAM OR JELLY Women can place a sponge, a suppository, a diaphragm, jelly, or cream in their vagina before intercourse. | YES.....1 NO2 ▾ | YES 1 NO 2 |
| 10 | LACTATIONAL AMENORRHEA METHOD (LAM) Up to 6 months after childbirth, a woman can use a method that requires that she breastfeeds frequently, day and night, and that her menstrual period has not returned. | YES.....1 NO2 ▾ | YES 1 NO 2 |
| 11 | RHYTHM OR CALENDER METHOD Every month that a woman is sexually active she can avoid pregnancy by not having sexual intercourse on the days of the month she is most likely to get pregnant. | YES.....1 NO2 ▾ | YES 1 NO 2 |
| 12 | WITHDRAWAL Men can be careful and pull out before climax. | YES.....1 NO2 ▾ | YES 1 NO 2 |
| 13 | EMERGENCY CONTRACEPTION Women can take pills up to three days(72 HOURS) after unprotected sexual intercourse to avoid becoming pregnant. | YES.....1 NO2 ▾ | YES 1 NO 2 |
| 14 | Have you heard of any other ways or methods that women or men can use to avoid pregnancy? _____ (SPECIFY) _____ (SPECIFY) NO2 | YES.....1 NO2 | YES 1 NO 2 YES 1 NO 2 |
| 303 | CHECK 302: NOT A SINGLE "YES" (NEVER USED) <input type="checkbox"/> AT LEAST ONE "YES" (EVER USED) <input type="checkbox"/> | | →306 |

| NO. | QUESTIONS AND FILTERS | CODING CATEGORIES | SKIP |
|---|---|---|-------|
| 304 | Have you ever used anything or tried in any way to delay or avoid getting pregnant? | YES1 NO2 | →316 |
| 305 | What have you used or done? CORRECT 302 AND 303 (AND 301 IF NECESSARY). | | |
| 306 | Now I would like to ask you about the first time that you did something or used a method to avoid getting pregnant. How many living children did you have at that time, if any? IF NONE, RECORD '00'. | NUMBER OF CHILDREN <input type="text"/> <input type="text"/> | |
| 307 | CHECK 302 (01): WOMAN NOT STERILIZED <input type="checkbox"/> WOMAN STERILIZED <input type="checkbox"/> | | →310A |
| 308 | CHECK 225: NOT PREGNANT OR UNSURE <input type="checkbox"/> PREGNANT <input type="checkbox"/> | | →316 |
| 309 | Are you currently doing something or using any method to delay or avoid getting pregnant? | YES1 NO2 | →316 |
| 310 310A | Which method are you using? IF MORE THAN ONE METHOD MENTIONED, FOLLOW SKIP INSTRUCTION FOR HIGHEST METHOD ON LIST. CIRCLE 'A' FOR FEMALE STERILIZATION. | FEMALE STERILIZATION A MALE STERILIZATION B PILL C IUD D 2-MONTHLY INJECTABLE(NET-EN) E 3-MONTHLY INJECTABLE (DEPO) F IMPLANTS/NORPLANTS G MALE CONDOM H FEMALE CONDOM I DIAPHRAGM/FOAM/JELLY J HERBS/REMEDIES K LACTATIONAL AMEN. METHOD L PERIODIC ABSTINENCE M WITHDRAWAL N OTHER _____ X (SPECIFY) | →313A |
| 311 | In what facility did the sterilization take place? IF SOURCE IS HOSPITAL, HEALTH CENTER, OR CLINIC, WRITE THE NAME OF THE PLACE. PROBE TO IDENTIFY THE TYPE OF SOURCE AND CIRCLE THE APPROPRIATE CODE. _____ (NAME OF PLACE) | PUBLIC SECTOR GOVT. HOSPITAL11 DAY HOSPITAL/CLINIC/COMMUNITY HEALTH CENTER12 OTHER PUBLIC _____ 16 (SPECIFY) PRIVATE MEDICAL SECTOR PRIVATE HOSPITAL/CLINIC21 PRIVATE DOCTOR23 OTHER PRIVATE MEDICAL _____ 26 (SPECIFY) OTHER _____ 96 (SPECIFY) DON'T KNOW98 | |

| NO. | QUESTIONS AND FILTERS | CODING CATEGORIES | SKIP |
|------|---|--|-------------------------------------|
| 312 | <p>CHECK 310:</p> <p>CODE 'A' CIRCLED <input type="checkbox"/></p> <p>CODE 'A' NOT CIRCLED <input type="checkbox"/></p> <p>Before your sterilization operation, were you told that you would not be able to have any (more) children because of the operation?</p> <p>Before the sterilization operation, was your husband/partner told that he would not be able to have any (more) children because of the operation?</p> | <p>YES1</p> <p>NO2</p> <p>DON'T KNOW8</p> | |
| 313 | <p>In what month and year was the sterilization performed?</p> | <p>MONTH.....</p> <p>YEAR.....</p> | |
| 313A | <p>For how long have you been using (CURRENT METHOD) now without stopping?</p> <p>PROBE: In what month and year did you start using (CURRENT METHOD) continuously?</p> | <p>MONTH.....</p> <p>YEAR.....</p> | |
| 314 | <p>CHECK 310/310A:</p> <p>CIRCLE METHOD CODE:</p> <p>IF MORE THAN ONE METHOD CODE CIRCLED IN 310/310A, CIRCLE CODE FOR HIGHEST METHOD IN LIST.</p> | <p>FEMALE STERILIZATION01</p> <p>MALE STERILIZATION02</p> <p>PILL03</p> <p>IUD04</p> <p>2-MONTHLY INJECTABLE(NET-EN)05</p> <p>3-MONTHLY INJECTABLE (DEPO)06</p> <p>IMPLANTS/NORPLANTS07</p> <p>MALE CONDOM08</p> <p>FEMALE CONDOM.....09</p> <p>DIAPHRAGM/FOAM/JELLY.....10</p> <p>HERBS/REMEDIES11</p> <p>LACTATIONAL AMEN. METHOD.....12</p> <p>PERIODIC ABSTINENCE13</p> <p>WITHDRAWAL.....14</p> <p>OTHER _____ 96</p> <p>(SPECIFY)</p> | <p>→401</p> <p>→401</p> <p>→401</p> |
| 315 | <p>Where did you obtain (CURRENT METHOD) the last time?</p> <p>IF SOURCE IS HOSPITAL, HEALTH CENTER, OR CLINIC, WRITE THE NAME OF THE PLACE. PROBE TO IDENTIFY THE TYPE OF SOURCE AND CIRCLE THE APPROPRIATE CODE.</p> <p>_____</p> <p>(NAME OF PLACE)</p> | <p>PUBLIC SECTOR</p> <p>GOVERNMENT HOSPITAL 11</p> <p>DAY HOSPITAL/CLINIC/COMMUNITY HEALTH CENTRE 12</p> <p>FAMILY PLANNING CLINIC 13</p> <p>MOBILE CLINIC..... 14</p> <p>COMMUNITY HEALTH WORKER..... 15</p> <p>OTHER PUBLIC _____ 16</p> <p>(SPECIFY)</p> <p>PRIVATE MEDICAL SECTOR</p> <p>PRIVATE HOSPITAL/CLINIC 21</p> <p>PHARMACY..... 22</p> <p>PRIVATE DOCTOR 23</p> <p>OTHER PRIVATE MEDICAL _____ 26</p> <p>(SPECIFY)</p> <p>OTHER SOURCE</p> <p>WORKPLACE 31</p> <p>COMMUNITY-BASED DISTRIBUTOR .. 32</p> <p>SHOP/HOTEL/SCHOOL/CINEMA 33</p> <p>FRIENDS/RELATIVES..... 34</p> <p>OTHER _____ 96</p> <p>(SPECIFY)</p> | <p>→401</p> |
| 316 | <p>Do you know of a place where you can obtain a method of family planning?</p> | <p>YES1</p> <p>NO2</p> | <p>→401</p> |

| NO. | QUESTIONS AND FILTERS | CODING CATEGORIES | SKIP |
|-----|--|---|------|
| 317 | <p>Where is that?</p> <p>IF SOURCE IS HOSPITAL, HEALTH CENTER, OR CLINIC, WRITE THE NAME OF THE PLACE. PROBE TO IDENTIFY THE TYPE OF SOURCE AND CIRCLE THE APPROPRIATE CODE.</p> <p>_____</p> <p>(NAME OF PLACE)</p> <p>Any other place?</p> <p>RECORD ALL PLACES MENTIONED.</p> | <p>PUBLIC SECTOR</p> <p>GOVERNMENT HOSPITAL A</p> <p>DAY HOSPITAL/CLINIC/COMMUNITY HEALTH CENTRE B</p> <p>FAMILY PLANNING CLINIC C</p> <p>MOBILE CLINIC D</p> <p>COMMUNITY HEALTH WORKER E</p> <p>OTHER PUBLIC _____ F</p> <p>(SPECIFY)</p> <p>PRIVATE MEDICAL SECTOR</p> <p>PRIVATE HOSPITAL/CLINIC G</p> <p>PHARMACY H</p> <p>PRIVATE DOCTOR I</p> <p>OTHER PRIVATE MEDICAL _____ J</p> <p>(SPECIFY)</p> <p>OTHER SOURCE</p> <p>WORKPLACE K</p> <p>COMMUNITY-BASED DISTRIBUTOR L</p> <p>SHOP/HOTEL/SCHOOL/CINEMA M</p> <p>FRIENDS/RELATIVES N</p> <p>OTHER _____ X</p> <p>(SPECIFY)</p> | |

SECTION 4A. PREGNANCY, POSTNATAL CARE AND BREASTFEEDING

| | | | |
|------|--|--|--|
| 401 | CHECK 224: ONE OR MORE BIRTHS IN 1998 OR LATER <input type="checkbox"/> NO BIRTHS IN 1998 OR LATER <input type="checkbox"/> | →483 | |
| 402 | ENTER IN THE TABLE THE LINE NUMBER, NAME, AND SURVIVAL STATUS OF EACH BIRTH IN 1998 OR LATER. ASK THE QUESTIONS ABOUT ALL OF THESE BIRTHS. BEGIN WITH THE LAST BIRTH. (IF THERE ARE MORE THAN 2 BIRTHS, USE LAST COLUMN OF ADDITIONAL QUESTIONNAIRES). Now I would like to ask you some questions about the health of all your children born in the last five years. (We will talk about each separately) | | |
| 403 | LINE NUMBER FROM 212 | LAST BIRTH LINE NUMBER <input type="text"/> <input type="text"/> | NEXT-TO-LAST BIRTH LINE NUMBER..... <input type="text"/> <input type="text"/> |
| 404 | FROM 212 AND 216 | NAME _____ LIVING <input type="checkbox"/> DEAD <input type="checkbox"/> | NAME _____ LIVING <input type="checkbox"/> DEAD <input type="checkbox"/> |
| 405 | At the time you became pregnant with (NAME), did you want to become pregnant <u>then</u> , did you want to wait until <u>later</u> , or did you <u>not want</u> to have any (more) children at all? | THEN..... 1 (SKIP TO 407) ← <input type="checkbox"/> LATER..... 2 (SKIP TO 406) ← <input type="checkbox"/> NOT AT ALL..... 3 | THEN..... 1 (SKIP TO 422) ← <input type="checkbox"/> LATER..... 2 (SKIP TO 406) ← <input type="checkbox"/> NOT AT ALL..... 3 |
| 405A | Were you using a contraceptive method when you fell pregnant? | YES 1 (SKIP TO 407) ← <input type="checkbox"/> NO 2 | YES 1 (SKIP TO 422) ← <input type="checkbox"/> NO 2 |
| 406 | How much longer would you like to have waited? | MONTHS..... 1 <input type="text"/> <input type="text"/> YEARS 2 <input type="text"/> <input type="text"/> DON'T KNOW 998 | MONTHS..... 1 <input type="text"/> <input type="text"/> YEARS 2 <input type="text"/> <input type="text"/> DON'T KNOW 998 |
| 407 | Did you see anyone for antenatal care for this pregnancy? IF YES: Whom did you see? Anyone else? PROBE FOR THE TYPE OF PERSON AND RECORD ALL PERSONS SEEN. | HEALTH PROFESSIONAL DOCTOR A NURSE/MIDWIFE B OTHER PERSON TRADITIONAL BIRTH ATTENDANT C OTHER _____ X (SPECIFY) NO ONE Y (SKIP TO 415) ← <input type="checkbox"/> | |
| 407A | Where did the first antenatal care visit take place? IF SOURCE IS HOSPITAL, HEALTH CENTER, OR CLINIC, WRITE THE NAME OF THE PLACE. PROBE TO IDENTIFY THE TYPE OF SOURCE AND CIRCLE THE APPROPRIATE CODE. _____ (NAME OF PLACE) | PUBLIC SECTOR GOVT. HOSPITAL 11 DAY HOSPITAL/ CLINIC/COMMUNITY HEALTH CENTER 12 MOBILE CLINIC 13 OTHER PUBLIC _____ 15 (SPECIFY) PRIVATE MEDICAL SECTOR PVT. HOSPITAL/CLINIC 21 OTHER PVT. MEDICAL _____ 22 (SPECIFY) OTHER _____ 96 (SPECIFY) | |

| | | LAST BIRTH NAME _____ | NEXT-TO-LAST BIRTH NAME _____ | | | | | | | | | | | | | | | | | | |
|---------------------|---|---|----------------------------------|-----|----|-------------|---|---|-------------|---|---|---------------------|---|---|-------------------|---|---|-------------------|---|---|--|
| 408 | How many months pregnant were you when you first received antenatal care for this pregnancy? | MONTHS <input type="text"/> <input type="text"/> DON'T KNOW 98 | | | | | | | | | | | | | | | | | | | |
| 409 | How many times did you receive antenatal care during this pregnancy? | NO. OF TIMES <input type="text"/> <input type="text"/> DON'T KNOW 98 | | | | | | | | | | | | | | | | | | | |
| 410 | CHECK 409: NUMBER OF TIMES RECEIVED ANTENATAL CARE | ONCE <input type="checkbox"/> MORE THAN ONCE OR DK <input type="checkbox"/> (SKIP TO 412) <input type="checkbox"/> | | | | | | | | | | | | | | | | | | | |
| 411 | How many months pregnant were you the last time you received antenatal care? | MONTHS <input type="text"/> <input type="text"/> DON'T KNOW 98 | | | | | | | | | | | | | | | | | | | |
| 412 | During this pregnancy, were any of the following done at least once? Were you weighed? Was your height measured? Was your blood pressure measured? Did you give a urine sample? Did you give a blood sample? | <table style="width: 100%; border: none;"> <thead> <tr> <th></th> <th style="text-align: center;">YES</th> <th style="text-align: center;">NO</th> </tr> </thead> <tbody> <tr> <td>WEIGHT.....</td> <td style="text-align: center;">1</td> <td style="text-align: center;">2</td> </tr> <tr> <td>HEIGHT.....</td> <td style="text-align: center;">1</td> <td style="text-align: center;">2</td> </tr> <tr> <td>BLOOD PRESSURE.....</td> <td style="text-align: center;">1</td> <td style="text-align: center;">2</td> </tr> <tr> <td>URINE SAMPLE.....</td> <td style="text-align: center;">1</td> <td style="text-align: center;">2</td> </tr> <tr> <td>BLOOD SAMPLE.....</td> <td style="text-align: center;">1</td> <td style="text-align: center;">2</td> </tr> </tbody> </table> | | YES | NO | WEIGHT..... | 1 | 2 | HEIGHT..... | 1 | 2 | BLOOD PRESSURE..... | 1 | 2 | URINE SAMPLE..... | 1 | 2 | BLOOD SAMPLE..... | 1 | 2 | |
| | YES | NO | | | | | | | | | | | | | | | | | | | |
| WEIGHT..... | 1 | 2 | | | | | | | | | | | | | | | | | | | |
| HEIGHT..... | 1 | 2 | | | | | | | | | | | | | | | | | | | |
| BLOOD PRESSURE..... | 1 | 2 | | | | | | | | | | | | | | | | | | | |
| URINE SAMPLE..... | 1 | 2 | | | | | | | | | | | | | | | | | | | |
| BLOOD SAMPLE..... | 1 | 2 | | | | | | | | | | | | | | | | | | | |
| 413 | Were you told about the signs of pregnancy complications? | YES..... 1 NO..... 2 (SKIP TO 415) ← <input type="checkbox"/> DON'T KNOW..... 8 | | | | | | | | | | | | | | | | | | | |
| 414 | Were you told where to go if you had these complications? | YES..... 1 NO..... 2 DON'T KNOW..... 8 | | | | | | | | | | | | | | | | | | | |
| 415 | During this pregnancy, were you given an injection in the arm to prevent the baby from getting tetanus, that is, convulsions after birth? | YES..... 1 NO..... 2 (SKIP TO 417) ← <input type="checkbox"/> DON'T KNOW..... 8 | | | | | | | | | | | | | | | | | | | |
| 416 | During this pregnancy, how many times did you get this injection? | TIMES..... <input type="text"/> DON'T KNOW..... 8 | | | | | | | | | | | | | | | | | | | |
| 417 | During this pregnancy, were you given or did you buy any iron tablets? SHOW TABLET. | YES..... 1 NO..... 2 (SKIP TO 419) ← <input type="checkbox"/> DON'T KNOW..... 8 | | | | | | | | | | | | | | | | | | | |
| 418 | During the whole pregnancy, for how many days did you take the tablets? IF ANSWER IS NOT NUMERIC, PROBE FOR APPROXIMATE NUMBER OF DAYS. | NUMBER OF DAYS..... <input type="text"/> <input type="text"/> <input type="text"/> DON'T KNOW..... 998 | | | | | | | | | | | | | | | | | | | |
| 419 | During this pregnancy, did you have difficulty with your vision during the daylight? | YES..... 1 NO..... 2 DON'T KNOW..... 8 | | | | | | | | | | | | | | | | | | | |
| 420 | During this pregnancy, did you suffer from night blindness? | YES..... 1 NO..... 2 DON'T KNOW..... 8 | | | | | | | | | | | | | | | | | | | |

| | | LAST BIRTH | NEXT-TO-LAST BIRTH |
|------|---|---|---|
| | | NAME _____ | NAME _____ |
| 421A | During this pregnancy, did you suffer from malaria? | YES..... 1 NO..... 2 (SKIP TO 421D) ← DON'T KNOW..... 8 | |
| 421B | Did you take any drugs to treat malaria during this pregnancy? | YES..... 1 NO..... 2 (SKIP TO 421D) ← DON'T KNOW..... 8 | |
| 421C | What drugs did you take to treat malaria? RECORD ALL MENTIONED. | COARTEM..... A ARSUMAX..... B FANSIDAR..... C ORAL QUININE..... D UNKNOWN DRUG..... E OTHER _____ X (SPECIFY) | |
| 421D | During this pregnancy, did you take any drugs to prevent you from getting malaria? | YES..... 1 NO..... 2 (SKIP TO 422) ← DON'T KNOW..... 8 | |
| 421E | What drugs did you take to prevent malaria? RECORD ALL MENTIONED. | DARAMAL..... A MIRQUIN..... B NIVAQUINE..... C PLASMOQUINE..... D PALUDRINE..... E LARIAM..... F MEFLIAM..... G DOXIMAL..... H DOXITAB..... I RANDOCLIN..... J VIBRAMYCIN..... K DOXYCYL..... L DUMOCIN..... M ROLAB CHLOROQUINE..... N PHOSPHATE TABS..... O OTHER _____ X (SPECIFY) | |
| 422 | When (NAME) was born, was he/she very large, larger than average, average, smaller than average, or very small? UNPROMPTED | VERY LARGE..... 1 LARGER THAN AVERAGE..... 2 AVERAGE..... 3 SMALLER THAN AVERAGE..... 4 VERY SMALL..... 5 DON'T KNOW..... 8 | VERY LARGE..... 1 LARGER THAN AVERAGE..... 2 AVERAGE..... 3 SMALLER THAN AVERAGE..... 4 VERY SMALL..... 5 DON'T KNOW..... 8 |
| 423 | Was (NAME) weighed at birth? | YES..... 1 NO..... 2 (SKIP TO 425) ← DON'T KNOW..... 8 | YES..... 1 NO..... 2 (SKIP TO 425) ← DON'T KNOW..... 8 |
| 424 | How much did (NAME) weigh? RECORD WEIGHT FROM HEALTH CARD, IF AVAILABLE. | GRAMS FROM CARD..... 1 <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> GRAMS FROM RECALL..... 2 <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> DON'T KNOW..... 99998 | GRAMS FROM CARD..... 1 <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> GRAMS FROM RECALL..... 2 <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> DON'T KNOW..... 99998 |

| | | LAST BIRTH NAME _____ | NEXT-TO-LAST BIRTH NAME _____ |
|-----|---|--|--|
| 425 | <p>Who assisted with the delivery?</p> <p>Anyone else?</p> <p>PROBE FOR THE TYPE OF PERSON AND RECORD ALL PERSONS ASSISTING.</p> <p>IF RESPONDENT SAYS NO ONE ASSISTED, PROBE TO DETERMINE WHETHER ANY ADULTS WERE PRESENT AT THE DELIVERY.</p> | <p>HEALTH PROFESSIONAL</p> <p>DOCTOR A</p> <p>NURSE/MIDWIFE B</p> <p>OTHER PERSON</p> <p>TRADITIONAL BIRTH ATTENDANT C</p> <p>RELATIVE/FRIEND D</p> <p>OTHER _____ X (SPECIFY)</p> <p>NO ONE Y</p> | <p>HEALTH PROFESSIONAL</p> <p>DOCTOR A</p> <p>NURSE/MIDWIFE B</p> <p>OTHER PERSON</p> <p>TRADITIONAL BIRTH ATTENDANT C</p> <p>RELATIVE/FRIEND D</p> <p>OTHER _____ X (SPECIFY)</p> <p>NO ONE Y</p> |
| 426 | <p>Where did you give birth?</p> <p>IF SOURCE IS HOSPITAL, HEALTH CENTER OR CLINIC, WRITE THE NAME OF THE PLACE, PROBE TO IDENTIFY THE TYPE OF SOURCE AND CIRCLE THE APPROPRIATE CODE.</p> <p>_____</p> <p>(NAME OF PLACE)</p> | <p>HOME</p> <p>YOUR HOME 11 (SKIP TO 428) ←</p> <p>OTHER HOME 12</p> <p>PUBLIC SECTOR</p> <p>GOVT. HOSPITAL 21</p> <p>DAYHOSP/CLINIC/COMMUNITY HEALTH CENTER 22</p> <p>MOBILE CLINIC 23</p> <p>OTHER PUBLIC _____ 26 (SPECIFY)</p> <p>PRIVATE MEDICAL SECTOR</p> <p>PVT. HOSPITAL/CLINIC 31</p> <p>OTHER PVT. MEDICAL _____ 36 (SPECIFY)</p> <p>OTHER _____ 96 (SPECIFY) (SKIP TO 428) ←</p> | <p>HOME</p> <p>YOUR HOME 11 (SKIP TO 428) ←</p> <p>OTHER HOME 12</p> <p>PUBLIC SECTOR</p> <p>GOVT. HOSPITAL 21</p> <p>DAYHOSP/CLINIC/COMMUNITY HEALTH CENTER 22</p> <p>MOBILE CLINIC 23</p> <p>OTHER PUBLIC _____ 26 (SPECIFY)</p> <p>PRIVATE MEDICAL SECTOR</p> <p>PVT. HOSPITAL/CLINIC 31</p> <p>OTHER PVT. MEDICAL _____ 36 (SPECIFY)</p> <p>OTHER _____ 96 (SPECIFY) (SKIP TO 428) ←</p> |
| 427 | Was (NAME) delivered by caesarian section? | <p>YES 1 (SKIP TO 432) ←</p> <p>NO 2</p> | <p>YES 1 (SKIP TO 434) ←</p> <p>NO 2</p> |
| 428 | After (NAME) was born, did a health professional or a traditional birth attendant check on your health? (A home or at health facility) | <p>YES 1</p> <p>NO 2 (SKIP TO 432) ←</p> | <p>YES 1</p> <p>NO 2</p> |
| 429 | <p>How many days or weeks after the delivery did the first check take place?</p> <p>RECORD '00' DAYS IF SAME DAY.</p> | <p>DAYS AFTER DEL..... 1</p> <p>WEEKS AFTER DEL .. 2</p> <p>DON'T KNOW 998</p> | |
| 430 | <p>Who checked on your health at that time?</p> <p>PROBE FOR MOST QUALIFIED PERSON.</p> | <p>HEALTH PROFESSIONAL</p> <p>DOCTOR 11</p> <p>NURSE/MIDWIFE 12</p> <p>OTHER PERSON</p> <p>TRADITIONAL BIRTH ATTENDANT 21</p> <p>OTHER _____ 96 (SPECIFY)</p> | |

| | | LAST BIRTH | NEXT-TO-LAST BIRTH |
|-----|--|--|--|
| | | NAME _____ | NAME _____ |
| 431 | Where did this first check take place? IF SOURCE IS HOSPITAL, HEALTH CENTER OR CLINIC, WRITE THE NAME OF THE PLACE. PROBE TO IDENTIFY THE TYPE OF SOURCE AND CIRCLE THE APPROPRIATE CODE. _____ (NAME OF PLACE) | HOME YOUR HOME11 OTHER HOME12 PUBLIC SECTOR GOVT. HOSPITAL21 DAYHOSP/CLINIC/COMMUNITY HEALTH CENTER22 MOBILE CLINIC23 OTHER PUBLIC _____ 26 (SPECIFY) PRIVATE MEDICAL SECTOR PVT. HOSPITAL/CLINIC31 OTHER PVT. MEDICAL _____ 36 (SPECIFY) OTHER _____ 96 (SPECIFY) | |
| 432 | In the first two months after delivery, did you receive a vitamin A dose like this? SHOW AMPULE/CAPSULE. | YES 1 NO 2 | |
| 433 | Has your period returned since the birth of (NAME)? | YES1 (SKIP TO 435) ← NO2 (SKIP TO 436) ← | |
| 434 | Did your period return between the birth of (NAME) and your next pregnancy? | | YES 1 NO 2 (SKIP TO 438) ← |
| 435 | For how many months after the birth of (NAME) did you <u>not</u> have a period? | MONTHS <input type="text"/> <input type="text"/> DON'T KNOW 98 | MONTHS <input type="text"/> <input type="text"/> DON'T KNOW 98 |
| 436 | CHECK 225: IS RESPONDENT PREGNANT? | NOT PREG- <input type="checkbox"/> PREGNANT <input type="checkbox"/> NANT (SKIP TO 438) ← | |
| 437 | Have you resumed sexual intercourse since the birth of (NAME)? | YES1 NO2 (SKIP TO 439) ← | |
| 438 | For how many months after the birth of (NAME) did you <u>not</u> have sexual intercourse? | MONTHS <input type="text"/> <input type="text"/> DON'T KNOW 98 | MONTHS <input type="text"/> <input type="text"/> DON'T KNOW 98 |
| 439 | Did you ever breastfeed (NAME)? | YES 1 NO 2 (SKIP TO 446) ← | YES 1 NO 2 (SKIP TO 446) ← |
| 440 | How long after birth did you first put (NAME) to the breast? IF LESS THAN 1 HOUR, RECORD '00' HOURS. IF LESS THAN 24 HOURS, RECORD HOURS. OTHERWISE, RECORD DAYS. | IMMEDIATELY 000 HOURS 1 <input type="text"/> <input type="text"/> DAYS 2 <input type="text"/> <input type="text"/> | IMMEDIATELY 000 HOURS 1 <input type="text"/> <input type="text"/> DAYS 2 <input type="text"/> <input type="text"/> |
| 441 | In the first three days after delivery, before your milk began flowing regularly, was (NAME) given anything to drink other than breast milk? | YES1 NO/ DON'T KNOW2 (SKIP TO 443) ← | YES 1 NO/ DON'T KNOW 2 (SKIP TO 443) ← |

| | | LAST BIRTH | NEXT-TO-LAST BIRTH | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|--|---|---|-----|----|----|--------------|--------------------|---|---|-------------------|-----------------------|---|---|---------------------|---------------------|---|---|---------------|----------------------|---|---|-------------------|-------------------------|---|---|-------------------|-----------------------|---|---|---|-------------------------------------|---|---|------------------------|-----------------------|---|---|-------|--------------|---|---|-----------------------|-----------------------|---|---|--------------------------------------|----------------------------------|---|---|---|--|-----|----|----|--------------|--------------------|---|---|-------------------|-----------------------|---|---|---------------------|---------------------|---|---|---------------|----------------------|---|---|-------------------|-------------------------|---|---|-------------------|-----------------------|---|---|---|-------------------------------------|---|---|------------------------|-----------------------|---|---|-------|--------------|---|---|-----------------------|-----------------------|---|---|--------------------------------------|----------------------------------|---|---|
| | | NAME _____ | NAME _____ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 442 | What was (NAME) given to drink before your milk began flowing regularly? Anything else? RECORD ALL LIQUIDS MENTIONED | MILK (OTHER THAN BREAST MILK) A PLAIN WATER B SUGAR OR GLUCOSE WATER C GRIPE WATER D SUGAR-SALT-WATER SOLUTION E FRUIT JUICE F INFANT FORMULA G TEA/INFUSIONS H HONEY I OTHER _____ X (SPECIFY) | MILK (OTHER THAN BREAST MILK) A PLAIN WATER B SUGAR OR GLUCOSE WATER C GRIPE WATER D SUGAR-SALT-WATER SOLUTION E FRUIT JUICE F INFANT FORMULA G TEA/INFUSIONS H HONEY I OTHER _____ X (SPECIFY) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 443 | CHECK 404: IS CHILD LIVING? | LIVING <input type="checkbox"/> DEAD <input type="checkbox"/> ↓ ↓ (SKIP TO 445) | LIVING <input type="checkbox"/> DEAD <input type="checkbox"/> ↓ ↓ (SKIP TO 445) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 444 | Are you still breastfeeding (NAME)? | YES 1 (SKIP TO 447) ← NO 2 | YES 1 (SKIP TO 447) ← NO 2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 445 | For how many months did you breastfeed (NAME)? | MONTHS <input type="text"/> <input type="text"/> DON'T KNOW 98 | MONTHS <input type="text"/> <input type="text"/> DON'T KNOW 98 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 446 | CHECK 404: IS CHILD LIVING? | LIVING <input type="checkbox"/> DEAD <input type="checkbox"/> ↓ ↓ (SKIP TO 449) (GO BACK TO 404 IN NEXT COLUMN; OR, IF NO MORE BIRTHS, GO TO 451) | LIVING <input type="checkbox"/> DEAD <input type="checkbox"/> ↓ ↓ (SKIP TO 449) (GO BACK TO 404 IN NEXT COLUMN; OR, IF NO MORE BIRTHS, GO TO 451) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 447 | How many times did you breastfeed last night between sunset and sunrise? IF ANSWER IS NOT NUMERIC, PROBE FOR APPROXIMATE NUMBER. IF CONTINUOUS ACCESS CODE AS "95" | NUMBER OF NIGHTTIME FEEDINGS . <input type="text"/> <input type="text"/> | NUMBER OF NIGHTTIME FEEDINGS . <input type="text"/> <input type="text"/> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 448 | How many times did you breastfeed yesterday during the daylight hours? IF ANSWER IS NOT NUMERIC, PROBE FOR APPROXIMATE NUMBER. | NUMBER OF DAYLIGHT FEEDINGS... <input type="text"/> <input type="text"/> | NUMBER OF DAYLIGHT FEEDINGS .. <input type="text"/> <input type="text"/> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 449 | Did (NAME) drink anything from a bottle with a nipple yesterday or last night? | YES 1 NO 2 DON'T KNOW 8 | YES 1 NO 2 DON'T KNOW 8 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 450 | At any time yesterday or last night, was (NAME) given any of the following: | <table border="0"> <tr> <td></td> <td>YES</td> <td>NO</td> <td>DK</td> </tr> <tr> <td>Plain water?</td> <td>PLAIN WATER..... 1</td> <td>2</td> <td>8</td> </tr> <tr> <td>Sugar water/Juice</td> <td>SUGAR WATER/JUICE . 1</td> <td>2</td> <td>8</td> </tr> <tr> <td>Herbal tea/Rooibos?</td> <td>HERBAL/ROOIBOS TEA1</td> <td>2</td> <td>8</td> </tr> <tr> <td>Baby formula?</td> <td>BABY FORMULA 1</td> <td>2</td> <td>8</td> </tr> <tr> <td>Any kind of milk?</td> <td>ANY KIND OF MILK..... 1</td> <td>2</td> <td>8</td> </tr> <tr> <td>Any other liquid?</td> <td>OTHER LIQUIDS 1</td> <td>2</td> <td>8</td> </tr> <tr> <td>Any food made from [MAIZE or RICE or WHEAT], such as porridge or bread?</td> <td>FOOD MADE FROM MAIZE/RICE/WHEAT . 1</td> <td>2</td> <td>8</td> </tr> <tr> <td>Eggs, fish or poultry?</td> <td>EGGS/FISH/POULTRY.. 1</td> <td>2</td> <td>8</td> </tr> <tr> <td>Meat?</td> <td>MEAT 1</td> <td>2</td> <td>8</td> </tr> <tr> <td>Fruits or vegetables?</td> <td>FRUITS OR VEG. 1</td> <td>2</td> <td>8</td> </tr> <tr> <td>Any other solid or semi-solid foods?</td> <td>OTHER SOLID/ SEMI-SOLID FOODS. 1</td> <td>2</td> <td>8</td> </tr> </table> | | YES | NO | DK | Plain water? | PLAIN WATER..... 1 | 2 | 8 | Sugar water/Juice | SUGAR WATER/JUICE . 1 | 2 | 8 | Herbal tea/Rooibos? | HERBAL/ROOIBOS TEA1 | 2 | 8 | Baby formula? | BABY FORMULA 1 | 2 | 8 | Any kind of milk? | ANY KIND OF MILK..... 1 | 2 | 8 | Any other liquid? | OTHER LIQUIDS 1 | 2 | 8 | Any food made from [MAIZE or RICE or WHEAT], such as porridge or bread? | FOOD MADE FROM MAIZE/RICE/WHEAT . 1 | 2 | 8 | Eggs, fish or poultry? | EGGS/FISH/POULTRY.. 1 | 2 | 8 | Meat? | MEAT 1 | 2 | 8 | Fruits or vegetables? | FRUITS OR VEG. 1 | 2 | 8 | Any other solid or semi-solid foods? | OTHER SOLID/ SEMI-SOLID FOODS. 1 | 2 | 8 | <table border="0"> <tr> <td></td> <td>YES</td> <td>NO</td> <td>DK</td> </tr> <tr> <td>Plain water?</td> <td>PLAIN WATER..... 1</td> <td>2</td> <td>8</td> </tr> <tr> <td>Sugar water/Juice</td> <td>SUGAR WATER/JUICE . 1</td> <td>2</td> <td>8</td> </tr> <tr> <td>Herbal tea/Rooibos?</td> <td>HERBAL/ROOIBOS TEA1</td> <td>2</td> <td>8</td> </tr> <tr> <td>Baby formula?</td> <td>BABY FORMULA 1</td> <td>2</td> <td>8</td> </tr> <tr> <td>Any kind of milk?</td> <td>ANY KIND OF MILK..... 1</td> <td>2</td> <td>8</td> </tr> <tr> <td>Any other liquid?</td> <td>OTHER LIQUIDS 1</td> <td>2</td> <td>8</td> </tr> <tr> <td>Any food made from [MAIZE or RICE or WHEAT], such as porridge or bread?</td> <td>FOOD MADE FROM MAIZE/RICE/WHEAT.. 1</td> <td>2</td> <td>8</td> </tr> <tr> <td>Eggs, fish or poultry?</td> <td>EGGS/FISH/POULTRY.. 1</td> <td>2</td> <td>8</td> </tr> <tr> <td>Meat?</td> <td>MEAT 1</td> <td>2</td> <td>8</td> </tr> <tr> <td>Fruits or vegetables?</td> <td>FRUITS OR VEG. 1</td> <td>2</td> <td>8</td> </tr> <tr> <td>Any other solid or semi-solid foods?</td> <td>OTHER SOLID/ SEMI-SOLID FOODS. 1</td> <td>2</td> <td>8</td> </tr> </table> | | YES | NO | DK | Plain water? | PLAIN WATER..... 1 | 2 | 8 | Sugar water/Juice | SUGAR WATER/JUICE . 1 | 2 | 8 | Herbal tea/Rooibos? | HERBAL/ROOIBOS TEA1 | 2 | 8 | Baby formula? | BABY FORMULA 1 | 2 | 8 | Any kind of milk? | ANY KIND OF MILK..... 1 | 2 | 8 | Any other liquid? | OTHER LIQUIDS 1 | 2 | 8 | Any food made from [MAIZE or RICE or WHEAT], such as porridge or bread? | FOOD MADE FROM MAIZE/RICE/WHEAT.. 1 | 2 | 8 | Eggs, fish or poultry? | EGGS/FISH/POULTRY.. 1 | 2 | 8 | Meat? | MEAT 1 | 2 | 8 | Fruits or vegetables? | FRUITS OR VEG. 1 | 2 | 8 | Any other solid or semi-solid foods? | OTHER SOLID/ SEMI-SOLID FOODS. 1 | 2 | 8 |
| | YES | NO | DK | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Plain water? | PLAIN WATER..... 1 | 2 | 8 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Sugar water/Juice | SUGAR WATER/JUICE . 1 | 2 | 8 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Herbal tea/Rooibos? | HERBAL/ROOIBOS TEA1 | 2 | 8 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Baby formula? | BABY FORMULA 1 | 2 | 8 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Any kind of milk? | ANY KIND OF MILK..... 1 | 2 | 8 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Any other liquid? | OTHER LIQUIDS 1 | 2 | 8 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Any food made from [MAIZE or RICE or WHEAT], such as porridge or bread? | FOOD MADE FROM MAIZE/RICE/WHEAT . 1 | 2 | 8 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Eggs, fish or poultry? | EGGS/FISH/POULTRY.. 1 | 2 | 8 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Meat? | MEAT 1 | 2 | 8 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Fruits or vegetables? | FRUITS OR VEG. 1 | 2 | 8 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Any other solid or semi-solid foods? | OTHER SOLID/ SEMI-SOLID FOODS. 1 | 2 | 8 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | YES | NO | DK | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Plain water? | PLAIN WATER..... 1 | 2 | 8 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Sugar water/Juice | SUGAR WATER/JUICE . 1 | 2 | 8 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Herbal tea/Rooibos? | HERBAL/ROOIBOS TEA1 | 2 | 8 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Baby formula? | BABY FORMULA 1 | 2 | 8 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Any kind of milk? | ANY KIND OF MILK..... 1 | 2 | 8 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Any other liquid? | OTHER LIQUIDS 1 | 2 | 8 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Any food made from [MAIZE or RICE or WHEAT], such as porridge or bread? | FOOD MADE FROM MAIZE/RICE/WHEAT.. 1 | 2 | 8 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Eggs, fish or poultry? | EGGS/FISH/POULTRY.. 1 | 2 | 8 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Meat? | MEAT 1 | 2 | 8 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Fruits or vegetables? | FRUITS OR VEG. 1 | 2 | 8 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Any other solid or semi-solid foods? | OTHER SOLID/ SEMI-SOLID FOODS. 1 | 2 | 8 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 451 | | GO BACK TO 404 IN NEXT COLUMN; OR, IF NO MORE BIRTHS, GO TO 452. | GO BACK TO 404 IN LAST COLUMN OF NEW QUESTIONNAIRE; OR, IF NO MORE BIRTHS, GO TO 452. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

| | | LAST BIRTH NAME _____ | NEXT-TO-LAST BIRTH NAME _____ |
|------|--|--|--|
| 459 | Has (NAME) received any vaccinations that are not recorded on this card, including vaccinations received in a national immunization day campaign? RECORD 'YES' ONLY IF RESPONDENT MENTIONS BCG, POLIO 0-3, DPT 1-3, HEP 1-3, MEASLES VACCINE(S) AND/OR VITAMIN A. | YES 1 (PROBE FOR VACCINATIONS ← AND WRITE '66' IN THE CORRESPONDING DAY COLUMN IN 458) _____ (SKIP TO 462) ← NO 2 (SKIP TO 462) ← DON'T KNOW 8 | YES 1 (PROBE FOR VACCINATIONS ← AND WRITE '66' IN THE CORRESPONDING DAY COLUMN IN 458) _____ (SKIP TO 462) ← NO 2 (SKIP TO 462) ← DON'T KNOW 8 |
| 460 | Did (NAME) ever receive any vaccinations to prevent him/her from getting diseases, including vaccinations received in a national immunization day campaign? | YES 1 NO 2 (SKIP TO 463) ← DON'T KNOW 8 | YES 1 NO 2 (SKIP TO 463) ← DON'T KNOW 8 |
| 461 | Please tell me if (NAME) received any of the following vaccinations: | | |
| 461A | A BCG vaccination against tuberculosis, that is, an injection in the arm or shoulder that usually causes a scar? | YES 1 NO 2 DON'T KNOW 8 | YES 1 NO 2 DON'T KNOW 8 |
| 461B | Polio vaccine, that is, drops in the mouth? | YES 1 NO 2 (SKIP TO 461E) ← DON'T KNOW 8 | YES 1 NO 2 (SKIP TO 461E) ← DON'T KNOW 8 |
| 461C | When was the first polio vaccine received, just after birth or later? | JUST AFTER BIRTH 1 LATER 2 | JUST AFTER BIRTH 1 LATER 2 |
| 461D | How many times was the polio vaccine received? | NUMBER OF TIMES <input type="text"/> | NUMBER OF TIMES <input type="text"/> |
| 461E | A DPT vaccination, that is, an injection given in the thigh or buttocks, sometimes at the same time as polio drops? | YES 1 NO 2 (SKIP TO 461G) ← DON'T KNOW 8 | YES 1 NO 2 (SKIP TO 461G) ← DON'T KNOW 8 |
| 461F | How many times? | NUMBER OF TIMES <input type="text"/> | NUMBER OF TIMES <input type="text"/> |
| 461G | A Hepatitis B vaccination, that is, an injection given in the arm or shoulder, sometimes at the same time as polio drops? | YES 1 NO 2 (SKIP TO 461I) ← DON'T KNOW 8 | YES 1 NO 2 (SKIP TO 461I) ← DON'T KNOW 8 |
| 461H | How many times? | NUMBER OF TIMES <input type="text"/> | NUMBER OF TIMES <input type="text"/> |
| 461I | An injection to prevent measles? | YES 1 NO 2 DON'T KNOW 8 | YES 1 NO 2 DON'T KNOW 8 |
| 461J | A Vitamin A dose in an ampule, capsule or tablet? | YES 1 NO 2 DON'T KNOW 8 | YES 1 NO 2 DON'T KNOW 8 |
| 462 | Were any of the vaccinations (NAME) received during the last two years given as a part of a national immunization day campaign? | YES 1 NO 2 NO VACCINATION IN THE LAST 2 YEARS 3 DON'T KNOW 8 | YES 1 NO 2 NO VACCINATION IN THE LAST 2 YEARS 3 DON'T KNOW 8 |
| 463 | Has (NAME) been ill with a fever at any time in the last 2 weeks? | YES 1 NO 2 DON'T KNOW 8 | YES 1 NO 2 DON'T KNOW 8 |

| | | LAST BIRTH NAME _____ | NEXT-TO-LAST BIRTH NAME _____ |
|-----|---|--|--|
| 464 | Has (NAME) had an illness with a cough (any cough wet/dry) at any time in the last 2 weeks? | YES 1 NO 2 (SKIP TO 466) ← DO NOT KNOW 8 | YES 1 NO 2 (SKIP TO 466) ← DO NOT KNOW 8 |
| 465 | When (NAME) had an illness with a cough, did he/she breathe faster than usual with short, rapid breaths? | YES 1 NO 2 DO NOT KNOW 8 | YES 1 NO 2 DO NOT KNOW 8 |
| 466 | CHECK 463 AND 464: FEVER OR COUGH? | "YES" IN 463 OR 464 <input type="checkbox"/> ↓ (SKIP TO 472) | "YES" IN 463 OR 464 <input type="checkbox"/> ↓ (SKIP TO 472) |
| 467 | Did you seek advice or treatment for the fever/cough? | YES 1 NO 2 (SKIP TO 469) ← | YES 1 NO 2 (SKIP TO 469) ← |
| 468 | Where did you seek advice or treatment? IF SOURCE IS HOSPITAL, HEALTH CENTER OR CLINIC, WRITE THE NAME OF THE PLACE. PROBE TO IDENTIFY THE TYPE OF SOURCE AND CIRCLE THE APPROPRIATE CODE. _____ (NAME OF PLACE) Anywhere else? RECORD ALL PLACES MENTIONED. | PUBLIC SECTOR GOVT. HOSPITAL A DAYHOSP/CLINIC/COMMUNITY HEALTH CENTER B MOBILE CLINIC C OTHER PUBLIC D (SPECIFY) PRIVATE MEDICAL SECTOR PVT. HOSPITAL/CLINIC E PHARMACY F PRIVATE DOCTOR G MOBILE CLINIC H OTHER PRIVATE MEDICAL I (SPECIFY) OTHER SOURCE SHOP J TRAD. PRACTITIONER K OTHER X (SPECIFY) | PUBLIC SECTOR GOVT. HOSPITAL A DAYHOSP/CLINIC/COMMUNITY HEALTH CENTER B MOBILE CLINIC C OTHER PUBLIC D (SPECIFY) PRIVATE MEDICAL SECTOR PVT. HOSPITAL/CLINIC E PHARMACY F PRIVATE DOCTOR G MOBILE CLINIC H OTHER PRIVATE MEDICAL I (SPECIFY) OTHER SOURCE SHOP J TRAD. PRACTITIONER K OTHER X (SPECIFY) |
| 469 | CHECK 463: HAD FEVER? | "YES" IN 463 <input type="checkbox"/> ↓ (SKIP TO 472) | "NO" OR "DK" IN 463 <input type="checkbox"/> ↓ (SKIP TO 472) |
| 470 | Did (NAME) take any drugs for the fever? | YES 1 NO 2 (SKIP TO 472) ← DON'T KNOW 8 | YES 1 NO 2 (SKIP TO 472) ← DON'T KNOW 8 |
| 471 | What drugs did (NAME) take? RECORD ALL MENTIONED. ASK TO SEE DRUG(S) IF TYPE OF DRUG IS NOT KNOWN. | COARTEM A ARSUMAX B FANSIDAR C ORAL QUININE D UNKNOWN DRUG E OTHER X (SPECIFY) | COARTEM A ARSUMAX B FANSIDAR C ORAL QUININE D UNKNOWN DRUG E OTHER X (SPECIFY) |
| 472 | Has (NAME) had diarrhea in the last 2 weeks? | YES 1 NO 2 (SKIP TO 480) ← DON'T KNOW 8 | YES 1 NO 2 (SKIP TO 480) ← DON'T KNOW 8 |

| | | LAST BIRTH NAME _____ | NEXT-TO-LAST BIRTH NAME _____ |
|-----|---|--|--|
| 473 | Now I would like to know how much (NAME) was offered to drink during the diarrhea. Was he/she offered less than usual to drink, about the same amount, or more than usual to drink? IF LESS, PROBE: Was he/she offered much less than usual to drink or somewhat less? | MUCH LESS 1 SOMEWHAT LESS 2 ABOUT THE SAME 3 MORE 4 NOTHING TO DRINK 5 DON'T KNOW 8 | MUCH LESS 1 SOMEWHAT LESS 2 ABOUT THE SAME 3 MORE 4 NOTHING TO DRINK 5 DON'T KNOW 8 |
| 474 | When (NAME) had diarrhea, was he/she offered less than usual to eat, about the same amount, more than usual, or nothing to eat? IF LESS, PROBE: Was he/she offered much less than usual to eat or somewhat less? | MUCH LESS 1 SOMEWHAT LESS 2 ABOUT THE SAME 3 MORE 4 STOPPED FOOD 5 NEVER GAVE FOOD 6 DON'T KNOW 8 | MUCH LESS 1 SOMEWHAT LESS 2 ABOUT THE SAME 3 MORE 4 STOPPED FOOD 5 NEVER GAVE FOOD 6 DON'T KNOW 8 |
| 475 | Was he/she given any of the following to drink: a A fluid made from a special packet called SORAL? b A homemade fluid containing salt, sugar and water prepared according to recommendations from health personnel? | YES NO DK FLUID FROM SORAL PKT 1 2 8 HOMEMADE FLUID 1 2 8 | YES NO DK FLUID FROM SORAL PKT 1 2 8 HOMEMADE FLUID 1 2 8 |
| 476 | Was anything (else) given to treat the diarrhea? | YES 1 NO 2 (SKIP TO 478) ← DON'T KNOW 8 | YES 1 NO 2 (SKIP TO 478) ← DON'T KNOW 8 |
| 477 | What (else) was given to treat the diarrhea? Anything else? RECORD ALL TREATMENTS MENTIONED. | PILL OR SYRUP A INJECTION B (I.V.) INTRAVENOUS C HOME REMEDIES/ HERBAL MEDICINES D OTHER _____ X (SPECIFY) | PILL OR SYRUP A INJECTION B (I.V.) INTRAVENOUS C HOME REMEDIES/ HERBAL MEDICINES D OTHER _____ X (SPECIFY) |
| 478 | Did you seek advice or treatment for the diarrhea? | YES 1 NO 2 (SKIP TO 480) ← | YES 1 NO 2 (SKIP TO 480) ← |
| 479 | Where did you seek advice or treatment? IF SOURCE IS HOSPITAL, HEALTH CENTER OR CLINIC, WRITE THE NAME OF THE PLACE. PROBE TO IDENTIFY THE TYPE OF SOURCE AND CIRCLE THE APPROPRIATE CODE. _____ (NAME OF PLACE) Anywhere else? RECORD ALL PLACES MENTIONED. | PUBLIC SECTOR GOVT. HOSPITAL A DAYHOSP/CLINIC/COMMUNITY HEALTH CENTER B MOBILE CLINIC C OTHER PUBLIC _____ D (SPECIFY) PRIVATE MEDICAL SECTOR PVT. HOSPITAL/CLINIC E PHARMACY F PRIVATE DOCTOR G MOBILE CLINIC H OTHER PRIVATE MEDICAL _____ I (SPECIFY) OTHER SOURCE SHOP J TRAD. PRACTITIONER K OTHER _____ X (SPECIFY) | PUBLIC SECTOR GOVT. HOSPITAL A DAYHOSP/CLINIC/COMMUNITY HEALTH CENTER B MOBILE CLINIC C OTHER PUBLIC _____ D (SPECIFY) PRIVATE MEDICAL SECTOR PVT. HOSPITAL/CLINIC E PHARMACY F PRIVATE DOCTOR G MOBILE CLINIC H OTHER PRIVATE MEDICAL _____ I (SPECIFY) OTHER SOURCE SHOP J TRAD. PRACTITIONER K OTHER _____ X (SPECIFY) |
| 480 | | GO BACK TO 454 IN NEXT COLUMN; OR, IF NO MORE BIRTHS, GO TO 481. | GO BACK TO 454 IN LAST COLUMN OF NEW QUESTIONNAIRE; OR, IF NO MORE BIRTHS, GO TO 481. |

| NO. | QUESTIONS AND FILTERS | CODING CATEGORIES | SKIP | | | | | | | | | | | | | | | | | | | | | | | | |
|---|--|---|------|---------|---------------|----------------------|---|---|---------------------------|---|---|-------------------------------------|---|---|------------------------------------|---|---|---------------------------|---|---|--------------------------|---|---|---|---|---|--|
| 481 | CHECK 475a, ALL COLUMNS: NO CHILD RECEIVED FLUID FROM ORS PACKET <input type="checkbox"/> ANY CHILD RECEIVED FLUID FROM ORS PACKET <input type="checkbox"/> | →484 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 482 | Have you ever heard of a special product called [ORS] you can get for the treatment of diarrhea? | YES 1 NO 2 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 483 | CHECK 218: HAS ONE OR MORE CHILDREN LIVING WITH HER <input type="checkbox"/> HAS NO CHILDREN LIVING WITH HER <input type="checkbox"/> | →485 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 484 | When (your child/one of your children) is seriously ill, can you decide by yourself whether or not the child should be taken for medical treatment? IF SAYS NO CHILD EVER SERIOUSLY ILL, ASK: If (your child/one of your children) became seriously ill, could you decide by yourself whether the child should be taken for medical treatment? | YES 1 NO 2 DEPENDS 3 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 485 | Now I would like to ask you some questions about medical care for you yourself. Many different factors can prevent women from getting medical advice or treatment for themselves. When you are sick and want to get medical advice or treatment, is each of the following a big problem or not? | <table border="1"> <thead> <tr> <th></th> <th>PROBLEM</th> <th>NOT A PROBLEM</th> </tr> </thead> <tbody> <tr> <td>Knowing where to go.</td> <td>1</td> <td>2</td> </tr> <tr> <td>Getting permission to go.</td> <td>1</td> <td>2</td> </tr> <tr> <td>Getting money needed for treatment.</td> <td>1</td> <td>2</td> </tr> <tr> <td>The distance to a health facility.</td> <td>1</td> <td>2</td> </tr> <tr> <td>Having to take transport.</td> <td>1</td> <td>2</td> </tr> <tr> <td>Not wanting to go alone.</td> <td>1</td> <td>2</td> </tr> <tr> <td>Concern that there may not be a female health provider.</td> <td>1</td> <td>2</td> </tr> </tbody> </table> | | PROBLEM | NOT A PROBLEM | Knowing where to go. | 1 | 2 | Getting permission to go. | 1 | 2 | Getting money needed for treatment. | 1 | 2 | The distance to a health facility. | 1 | 2 | Having to take transport. | 1 | 2 | Not wanting to go alone. | 1 | 2 | Concern that there may not be a female health provider. | 1 | 2 | |
| | PROBLEM | NOT A PROBLEM | | | | | | | | | | | | | | | | | | | | | | | | | |
| Knowing where to go. | 1 | 2 | | | | | | | | | | | | | | | | | | | | | | | | | |
| Getting permission to go. | 1 | 2 | | | | | | | | | | | | | | | | | | | | | | | | | |
| Getting money needed for treatment. | 1 | 2 | | | | | | | | | | | | | | | | | | | | | | | | | |
| The distance to a health facility. | 1 | 2 | | | | | | | | | | | | | | | | | | | | | | | | | |
| Having to take transport. | 1 | 2 | | | | | | | | | | | | | | | | | | | | | | | | | |
| Not wanting to go alone. | 1 | 2 | | | | | | | | | | | | | | | | | | | | | | | | | |
| Concern that there may not be a female health provider. | 1 | 2 | | | | | | | | | | | | | | | | | | | | | | | | | |

SECTION 5. MARRIAGE AND SEXUAL ACTIVITY

| NO. | QUESTIONS AND FILTERS | CODING CATEGORIES | SKIP |
|-----|--|---|--------------|
| | Now I would like to ask you about your marriage and sexual relationships. | | |
| 501 | Are you currently married or living with a partner? | YES, CURRENTLY MARRIED TO MAN.. 1 YES, LIVING WITH A MAN 2 YES, MARRIED/ LIVING WITH A WOMAN 3 NO, NOT IN UNION 4 | →504 |
| 502 | Have you ever been married or lived with a man? | YES, FORMERLY MARRIED 1 YES, LIVED WITH A MAN 2 NO 3 | →508 →511 |
| 503 | What is your marital status now: are you widowed, divorced, or separated? | WIDOWED 1 DIVORCED 2 SEPARATED 3 | →508 |
| 504 | Is your husband/partner living with you now or is he staying elsewhere? | LIVING WITH HER 1 STAYING ELSEWHERE 2 | |
| 505 | <p>RECORD THE HUSBAND'S/PARTNER'S NAME AND LINE NUMBER FROM THE HOUSEHOLD QUESTIONNAIRE. IF HE IS NOT LISTED IN THE HOUSEHOLD, RECORD '00'.</p> <p>Please tell me the name of your husband (the man you are living together with as if married) now.</p> | <p>NAME _____</p> <p>LINE NO. <input type="text"/> <input type="text"/></p> | |
| 506 | Besides yourself, does your husband have other wives or does he live, with other women as if married? | YES 1 NO 2 | →508 |
| 507 | How many other wives does he have? | NO. OF OTHER WIVES. <input type="text"/> <input type="text"/> | |
| 508 | Have you been married or lived with a man only once or more than once? | ONCE 1 MORE THAN ONCE 2 | |
| 509 | <p>CHECK 508:</p> <p>MARRIED/ LIVED WITH A MAN ONLY ONCE <input type="checkbox"/></p> <p>In what month and year did you start living with your husband/partner?</p> <p>MARRIED/ LIVED WITH A MAN MORE THAN ONCE <input type="checkbox"/></p> <p>Now we will talk about your first husband/partner. In what month and year did you start living with him?</p> | <p>MONTH. <input type="text"/> <input type="text"/></p> <p>DON'T KNOW MONTH 98</p> <p>YEAR <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/></p> <p>DON'T KNOW YEAR 9998</p> | →511 |
| 510 | How old were you when you started living with him? | AGE <input type="text"/> <input type="text"/> | |
| 511 | <p>Now I need to ask you some questions about sexual activity in order to gain a better understanding of some family life issues.</p> <p>How old were you when you first had sexual intercourse (if ever)?</p> | <p>NEVER 00</p> <p>AGE IN YEARS <input type="text"/> <input type="text"/></p> <p>FIRST TIME WHEN STARTED LIVING WITH (FIRST) HUSBAND/PARTNER 95</p> | →601 |
| 512 | <p>CHECK 106:</p> <p>15 - 24 YEARS OLD <input type="checkbox"/></p> <p>25 - 49 YEARS OLD <input type="checkbox"/></p> | | →514 |
| 513 | The first time you had sexual intercourse, was a condom used? | YES 1 NO 2 | |

| NO. | QUESTIONS AND FILTERS | CODING CATEGORIES | SKIP | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|-----|---|--|------|--|--|--|------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|------|
| 514 | When was the last time you had sexual intercourse? RECORD 'YEARS AGO' ONLY IF LAST INTERCOURSE WAS ONE OR MORE YEARS AGO. IF 12 MONTHS OR MORE, ANSWER MUST ALSO BE RECORDED IN YEARS. | DAYS AGO 1 <table border="1" style="display: inline-table; vertical-align: middle;"><tr><td> </td><td> </td></tr><tr><td> </td><td> </td></tr><tr><td> </td><td> </td></tr><tr><td> </td><td> </td></tr></table> WEEKS AGO 2 <table border="1" style="display: inline-table; vertical-align: middle;"><tr><td> </td><td> </td></tr><tr><td> </td><td> </td></tr><tr><td> </td><td> </td></tr><tr><td> </td><td> </td></tr></table> MONTHS AGO 3 <table border="1" style="display: inline-table; vertical-align: middle;"><tr><td> </td><td> </td></tr><tr><td> </td><td> </td></tr><tr><td> </td><td> </td></tr><tr><td> </td><td> </td></tr></table> YEARS AGO 4 <table border="1" style="display: inline-table; vertical-align: middle;"><tr><td> </td><td> </td></tr><tr><td> </td><td> </td></tr><tr><td> </td><td> </td></tr><tr><td> </td><td> </td></tr></table> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | →601 |
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| 515 | The last time you had sexual intercourse, was a condom used? | YES 1 NO 2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 516 | What is your relationship to the man with whom you last had sex? IF MAN IS "BOYFRIEND" OR "FIANCÉ", ASK: Was your boyfriend/fiancé living with you when you last had sex with him? IF YES, CIRCLE '01'. IF NO, CIRCLE '02'. | SPOUSE/COHABITING PARTNER01 MAN IS BOYFRIEND/FIANCÉ02 OTHER FRIEND03 CASUAL ACQUAINTANCE04 RELATIVE05 COMMERCIAL SEX WORKER06 OTHER _____ 96 (SPECIFY) | →518 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 517 | For how long have you had sexual relations with this man? | DAYS 1 <table border="1" style="display: inline-table; vertical-align: middle;"><tr><td> </td><td> </td></tr><tr><td> </td><td> </td></tr><tr><td> </td><td> </td></tr><tr><td> </td><td> </td></tr></table> WEEKS 2 <table border="1" style="display: inline-table; vertical-align: middle;"><tr><td> </td><td> </td></tr><tr><td> </td><td> </td></tr><tr><td> </td><td> </td></tr><tr><td> </td><td> </td></tr></table> MONTHS 3 <table border="1" style="display: inline-table; vertical-align: middle;"><tr><td> </td><td> </td></tr><tr><td> </td><td> </td></tr><tr><td> </td><td> </td></tr><tr><td> </td><td> </td></tr></table> YEARS 4 <table border="1" style="display: inline-table; vertical-align: middle;"><tr><td> </td><td> </td></tr><tr><td> </td><td> </td></tr><tr><td> </td><td> </td></tr><tr><td> </td><td> </td></tr></table> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| 518 | CHECK 106: 15 - 24 YEARS OLD <input type="checkbox"/> 25 - 49 YEARS OLD <input type="checkbox"/> | | →521 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 519 | How old is this man? | AGE OF PARTNER <table border="1" style="display: inline-table; vertical-align: middle;"><tr><td> </td><td> </td></tr><tr><td> </td><td> </td></tr></table> DON'T KNOW98 | | | | | →521 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| 520 | Was this man younger, about the same age or older than you? IF OLDER: Do you think he was less than 10 years older than you or 10 or more years older than you? | YOUNGER THAN WOMAN1 ABOUT THE SAME AGE2 LESS THAN 10 YEARS OLDER3 10 OR MORE YEARS OLDER4 OLDER, DON'T KNOW DIFFERENCE5 DO NOT KNOW8 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 521 | The last time you had sexual intercourse, did you or your partner drink alcohol? IF YES: Who was drinking? | RESPONDENT ONLY1 PARTNER ONLY2 RESPONDENT AND PARTNER3 NEITHER4 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 522 | Have you had sex with any other man in the last 12 months? | YES1 NO2 | →601 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 523 | The last time you had sexual intercourse with another man was a condom used? | YES1 NO2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 524 | What is your relationship to this man? IF MAN IS "BOYFRIEND" OR "FIANCÉ", ASK: Was your boyfriend/fiancé living with you when you last had sex with him? IF YES, CIRCLE '01'. IF NO, CIRCLE '02'. | SPOUSE/COHABITING PARTNER01 MAN IS BOYFRIEND/FIANCÉ02 OTHER FRIEND03 CASUAL ACQUAINTANCE04 RELATIVE05 COMMERCIAL SEX WORKER06 OTHER _____ 96 (SPECIFY) | →526 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

| NO. | QUESTIONS AND FILTERS | CODING CATEGORIES | SKIP |
|-----|--|---|------|
| 525 | For how long have you had sexual relations with this man? | DAYS.....1 <input type="text"/> <input type="text"/> WEEKS.....2 <input type="text"/> <input type="text"/> MONTHS.....3 <input type="text"/> <input type="text"/> YEARS4 <input type="text"/> <input type="text"/> | |
| 526 | CHECK 106: 15 - 24 <input type="checkbox"/> YEARS OLD 25 - 49 <input type="checkbox"/> YEARS OLD | | →529 |
| 527 | How old is this man? | AGE OF PARTNER..... <input type="text"/> <input type="text"/> DON'T KNOW.....98 | →529 |
| 528 | Was this man younger, about the same age or older than you? IF OLDER: Do you think he was less than 10 years older than you or 10 or more years older than you? | YOUNGER THAN WOMAN1 ABOUT THE SAME AGE.....2 LESS THAN 10 YEARS OLDER3 10 OR MORE YEARS OLDER4 OLDER, DON'T KNOW DIFFERENCE5 DO NOT KNOW8 | |
| 529 | The last time you had sexual intercourse with this partner did you or your partner drink alcohol? IF YES: Who was drinking? | RESPONDENT ONLY1 PARTNER ONLY2 RESPONDENT AND PARTNER3 NEITHER4 | |
| 530 | In total, with how many different men have you had sex in the last 12 months? | NUMBER OF PARTNERS <input type="text"/> <input type="text"/> | |
| 531 | In the last 12 months, did any man pay you to have sex? | YES.....1 NO.....2 | →601 |
| 532 | The last time you were paid to have sex, was a condom used? | YES.....1 NO.....2 | |

| NO. | QUESTIONS AND FILTERS | CODING CATEGORIES | SKIP |
|-----|--|---|------|
| 607 | <p>CHECK 602:</p> <p>WANTS TO HAVE A/ANOTHER CHILD <input type="checkbox"/></p> <p>You have said that you do not want (a/another) child soon, but you are not using any method to avoid pregnancy. Can you tell me why?</p> <p>Any other reason?</p> <p>WANTS NO MORE/NONE <input type="checkbox"/></p> <p>You have said that you do not want any (more) children, but you are not using any method to avoid pregnancy. Can you tell me why?</p> <p>Any other reason?</p> <p>RECORD ALL REASONS MENTIONED.</p> | <p>NOT MARRIED.....A</p> <p>FERTILITY-RELATED REASONS</p> <p>NOT HAVING SEX.....B</p> <p>INFREQUENT SEX.....C</p> <p>MENOPAUSAL/HYSTERECTOMY.....D</p> <p>SUBFECUND/INFECUND.....E</p> <p>POSTPARTUM AMENORRHEIC.....F</p> <p>BREASTFEEDING.....G</p> <p>FATALISTIC.....H</p> <p>OPPOSITION TO USE</p> <p>RESPONDENT OPPOSED.....I</p> <p>HUSBAND/PARTNER OPPOSED.....J</p> <p>OTHERS OPPOSED.....K</p> <p>RELIGIOUS PROHIBITION.....L</p> <p>LACK OF KNOWLEDGE</p> <p>KNOWS NO METHOD.....M</p> <p>KNOWS NO SOURCE.....N</p> <p>METHOD-RELATED REASONS</p> <p>HEALTH CONCERNS.....O</p> <p>FEAR OF SIDE EFFECTS.....P</p> <p>LACK OF ACCESS/TOO FAR.....Q</p> <p>COSTS TOO MUCH.....R</p> <p>INCONVENIENT TO USE.....S</p> <p>INTERFERES WITH BODY'S NATURAL PROCESSES.....T</p> <p>OTHER _____ X</p> <p>(SPECIFY)</p> <p>DON'T KNOW.....Z</p> | |
| 608 | <p>In the next few weeks, if you discovered that you were pregnant, would that be a big problem, a small problem, or no problem for you?</p> | <p>BIG PROBLEM.....1</p> <p>SMALL PROBLEM.....2</p> <p>NO PROBLEM.....3</p> <p>SAYS SHE CAN'T GET PREGNANT/ NOT HAVING SEX.....4</p> | |
| 610 | <p>CHECK 216:</p> <p>HAS LIVING CHILDREN <input type="checkbox"/></p> <p>If you could go back to the time you did not have any children and could choose exactly the number of children to have in your whole life, how many would that be?</p> <p>PROBE FOR A NUMERIC RESPONSE.</p> <p>NO LIVING CHILDREN <input type="checkbox"/></p> <p>If you could choose exactly the number of children to have in your whole life, how many would that be?</p> | <p>NUMBER..... <input type="text"/> <input type="text"/></p> <p>OTHER _____ 96</p> <p>(SPECIFY)</p> | |
| 611 | <p>CHECK 501:</p> <p>YES, CURRENTLY MARRIED <input type="checkbox"/></p> <p>YES, LIVING WITH A MAN <input type="checkbox"/></p> <p>NO, NOT IN UNION <input type="checkbox"/></p> | | →617 |
| 612 | <p>CHECK 310/310A:</p> <p>ANY CODE CIRCLED <input type="checkbox"/></p> <p>NO CODE CIRCLED <input type="checkbox"/></p> | | →614 |
| 613 | <p>You have told me that you are currently using contraception. Would you say that using contraception is mainly your decision, mainly your husband's decision or did you both decide together?</p> | <p>MAINLY RESPONDENT.....1</p> <p>MAINLY HUSBAND/PARTNER.....2</p> <p>JOINT DECISION.....3</p> <p>OTHER _____ 6</p> <p>(SPECIFY)</p> | |
| 614 | <p>Now I want to ask you about your husband's/partner's views on family planning.</p> <p>Do you think that your husband/partner approves or disapproves of couples using a contraceptive method to avoid pregnancy?</p> | <p>APPROVES.....1</p> <p>DISAPPROVES.....2</p> <p>DON'T KNOW.....8</p> | |

| NO. | QUESTIONS AND FILTERS | CODING CATEGORIES | SKIP | | | | | | | | | | | | | | | | | | | | | | | | |
|-------------------|--|--|------|-----|----|----|--------------|---|---|---|------------------|---|---|---|------------------|---|---|---|-------------------|---|---|---|-----------------|---|---|---|--|
| 615 | CHECK 3101/310A: <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;"> NEITHER STERILIZED <input type="checkbox"/> </div> <div style="text-align: center;"> HE OR SHE STERILIZED <input type="checkbox"/> </div> </div> | | →617 | | | | | | | | | | | | | | | | | | | | | | | | |
| 616 | Do you think your husband/partner wants the same number of children that you want, or does he want more or fewer than you want? | SAME NUMBER..... 1 MORE CHILDREN..... 2 FEWER CHILDREN 3 DON'T KNOW..... 8 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 617 | Husbands and wives do not always agree on everything. Please tell me if you think a wife is justified (Is it OK for her) refusing to have sex with her husband when: She knows her husband has a sexually transmitted disease? She knows her husband has sex with other women? She knows her husband has sex with other wives? She has recently given birth? She is tired or not in the mood? | <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th></th> <th style="text-align: center;">YES</th> <th style="text-align: center;">NO</th> <th style="text-align: center;">DK</th> </tr> </thead> <tbody> <tr> <td>HAS STD.....</td> <td style="text-align: center;">1</td> <td style="text-align: center;">2</td> <td style="text-align: center;">8</td> </tr> <tr> <td>OTHER WOMEN.....</td> <td style="text-align: center;">1</td> <td style="text-align: center;">2</td> <td style="text-align: center;">8</td> </tr> <tr> <td>OTHER WIVES.....</td> <td style="text-align: center;">1</td> <td style="text-align: center;">2</td> <td style="text-align: center;">8</td> </tr> <tr> <td>RECENT BIRTH.....</td> <td style="text-align: center;">1</td> <td style="text-align: center;">2</td> <td style="text-align: center;">8</td> </tr> <tr> <td>TIRED/MOOD.....</td> <td style="text-align: center;">1</td> <td style="text-align: center;">2</td> <td style="text-align: center;">8</td> </tr> </tbody> </table> | | YES | NO | DK | HAS STD..... | 1 | 2 | 8 | OTHER WOMEN..... | 1 | 2 | 8 | OTHER WIVES..... | 1 | 2 | 8 | RECENT BIRTH..... | 1 | 2 | 8 | TIRED/MOOD..... | 1 | 2 | 8 | |
| | YES | NO | DK | | | | | | | | | | | | | | | | | | | | | | | | |
| HAS STD..... | 1 | 2 | 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| OTHER WOMEN..... | 1 | 2 | 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| OTHER WIVES..... | 1 | 2 | 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| RECENT BIRTH..... | 1 | 2 | 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| TIRED/MOOD..... | 1 | 2 | 8 | | | | | | | | | | | | | | | | | | | | | | | | |

SECTION 7. MATERNAL MORTALITY

| NO. | QUESTIONS AND FILTERS | CODING CATEGORIES | | | | | | SKIP |
|-----|--|--|--|--|--|--|--|------|
| 701 | Now I would like to ask you about your brothers and sisters, that is, all of the children born to your natural mother, including those who are living with you, those living elsewhere and those who have died. How many children did your mother give birth to, including you? | NUMBER OF BIRTHS TO NATURAL MOTHER..... <input type="text"/> | | | | | | |
| 702 | CHECK 701: TWO OR MORE BIRTHS <input type="checkbox"/> ONLY ONE BIRTH (RESPONDENT ONLY) <input type="checkbox"/> | | | | | | | →801 |
| 703 | How many of these births did your mother have before you were born? | NO. OF PRECEDING BIRTHS... <input type="text"/> | | | | | | |
| 704 | What was the name given to your oldest (next oldest) brother or sister? | [1] | [2] | [3] | [4] | [5] | [6] | |
| 705 | Is (NAME) male or female? | MALE1 FEMALE.....2 | MALE.....1 FEMALE.....2 | MALE.....1 FEMALE.....2 | MALE.....1 FEMALE.....2 | MALE.....1 FEMALE.....2 | MALE.....1 FEMALE.....2 | |
| 706 | Is (NAME) still alive? | YES.....1 NO.....2 GO TO 708↵ DK.....8 GO TO [2] ↵ | YES.....1 NO.....2 GO TO 708↵ DK.....8 GO TO [3] ↵ | YES.....1 NO.....2 GO TO 708↵ DK.....8 GO TO [4] ↵ | YES.....1 NO.....2 GO TO 708↵ DK.....8 GO TO [5] ↵ | YES.....1 NO.....2 GO TO 708↵ DK.....8 GO TO [6] ↵ | YES.....1 NO.....2 GO TO 708↵ DK.....8 GO TO [7] ↵ | |
| 707 | How old is (NAME)? | <input type="text"/> GO TO [2] | <input type="text"/> GO TO [3] | <input type="text"/> GO TO [4] | <input type="text"/> GO TO [5] | <input type="text"/> GO TO [6] | <input type="text"/> GO TO [7] | |
| 708 | In what year did (NAME) die? | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | |
| 709 | How many years ago did (NAME) die? | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | |
| 710 | How old was (NAME) when he/she died? | <input type="text"/> IF MALE OR DIED BEFORE AGE 12 YEARS GO TO [2] | <input type="text"/> IF MALE OR DIED BEFORE AGE 12 YEARS GO TO [3] | <input type="text"/> IF MALE OR DIED BEFORE AGE 12 YEARS GO TO [4] | <input type="text"/> IF MALE OR DIED BEFORE AGE 12 YEARS GO TO [5] | <input type="text"/> IF MALE OR DIED BEFORE AGE 12 YEARS GO TO [6] | <input type="text"/> IF MALE OR DIED BEFORE AGE 12 YEARS GO TO [7] | |
| 711 | Was (NAME) pregnant when she died? | YES.....1 GO TO 714↵ NO.....2 | YES.....1 GO TO 714↵ NO.....2 | YES.....1 GO TO 714↵ NO.....2 | YES.....1 GO TO 714↵ NO.....2 | YES.....1 GO TO 714↵ NO.....2 | YES.....1 GO TO 714↵ NO.....2 | |
| 712 | Did (NAME) die during childbirth? | YES.....1 GO TO 715↵ NO.....2 | YES.....1 GO TO 715↵ NO.....2 | YES.....1 GO TO 715↵ NO.....2 | YES.....1 GO TO 715↵ NO.....2 | YES.....1 GO TO 715↵ NO.....2 | YES.....1 GO TO 715↵ NO.....2 | |
| 713 | Did (NAME) die within two months after the end of a pregnancy or childbirth? | YES.....1 NO.....2 GO TO 715↵ | YES.....1 NO.....2 GO TO 715↵ | YES.....1 NO.....2 GO TO 715↵ | YES.....1 NO.....2 GO TO 715↵ | YES.....1 NO.....2 GO TO 715↵ | YES.....1 NO.....2 GO TO 715↵ | |
| 714 | Was her death due to complications of pregnancy or childbirth? | YES.....1 NO.....2 | YES.....1 NO.....2 | YES.....1 NO.....2 | YES.....1 NO.....2 | YES.....1 NO.....2 | YES.....1 NO.....2 | |
| 715 | How many children did (NAME) give birth to during her lifetime (before this pregnancy)? | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | |

| | | | | | | | |
|---|---|---|---|--|--|--|--|
| 704 | What was the name given to your oldest (next oldest) brother or sister? | [7] | [8] | [9] | [10] | [11] | [12] |
| 705 | Is (NAME) male or female? | MALE1 FEMALE.....2 | MALE..... 1 FEMALE 2 | MALE 1 FEMALE2 | MALE 1 FEMALE 2 | MALE..... 1 FEMALE 2 | MALE 1 FEMALE..... 2 |
| 706 | Is (NAME) still alive? | YES.....1 NO.....2 GO TO 708↵ DK.....8 GO TO [8] ↵ | YES 1 NO 2 GO TO 708↵ DK 8 GO TO [9] ↵ | YES.....1 NO2 GO TO 708↵ DK.....8 GO TO [10]↵ | YES 1 NO 2 GO TO 708↵ DK 8 GO TO [11]↵ | YES 1 NO 2 GO TO 708↵ DK.....8 GO TO [12]↵ | YES.....1 NO.....2 GO TO 708 ↵ DK8 GO TO [13] ↵ |
| 707 | How old is (NAME)? | <input type="text"/> <input type="text"/> GO TO [8] | <input type="text"/> <input type="text"/> GO TO [9] | <input type="text"/> <input type="text"/> GO TO [10] | <input type="text"/> <input type="text"/> GO TO [11] | <input type="text"/> <input type="text"/> GO TO [12] | <input type="text"/> <input type="text"/> GO TO [13] |
| 708 | In what year did (NAME) die? | <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> | <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> | <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> | <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> | <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> | <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> |
| 709 | How many years ago did (NAME) die? | <input type="text"/> <input type="text"/> | <input type="text"/> <input type="text"/> | <input type="text"/> <input type="text"/> | <input type="text"/> <input type="text"/> | <input type="text"/> <input type="text"/> | <input type="text"/> <input type="text"/> |
| 710 | How old was (NAME) when he/she died? | <input type="text"/> <input type="text"/> IF MALE OR DIED BEFORE AGE 12 YEARS GO TO [8] | <input type="text"/> <input type="text"/> IF MALE OR DIED BEFORE AGE 12 YEARS GO TO [9] | <input type="text"/> <input type="text"/> IF MALE OR DIED BEFORE AGE 12 YEARS GO TO [10] | <input type="text"/> <input type="text"/> IF MALE OR DIED BEFORE AGE 12 YEARS GO TO [11] | <input type="text"/> <input type="text"/> IF MALE OR DIED BEFORE AGE 12 YEARS GO TO [12] | <input type="text"/> <input type="text"/> IF MALE OR DIED BEFORE AGE 12 YEARS GO TO [13] |
| 711 | Was (NAME) pregnant when she died? | YES.....1 GO TO 714↵ NO.....2 | YES 1 GO TO 714↵ NO 2 | YES.....1 GO TO 714↵ NO2 | YES 1 GO TO 714↵ NO 2 | YES 1 GO TO 714↵ NO2 | YES.....1 GO TO 714↵ NO.....2 |
| 712 | Did (NAME) die during childbirth? | YES.....1 GO TO 715↵ NO.....2 | YES 1 GO TO 715↵ NO 2 | YES.....1 GO TO 715↵ NO2 | YES 1 GO TO 715↵ NO 2 | YES 1 GO TO 715↵ NO2 | YES.....1 GO TO 715↵ NO.....2 |
| 713 | Did (NAME) die within two months after the end of a pregnancy or childbirth? | YES.....1 NO.....2 GO TO 715↵ | YES 1 NO 2 GO TO 715↵ | YES.....1 NO2 GO TO 715↵ | YES 1 NO 2 GO TO 715↵ | YES 1 NO 2 GO TO 715↵ | YES.....1 NO.....2 GO TO 715↵ |
| 714 | Was her death due to complications of pregnancy or childbirth? | YES.....1 NO.....2 | YES 1 NO 2 | YES.....1 NO2 | YES 1 NO 2 | YES 1 NO 2 | YES.....1 NO.....2 |
| 715 | How many children did (NAME) give birth to during her lifetime (before this pregnancy)? | <input type="text"/> <input type="text"/> | <input type="text"/> <input type="text"/> | <input type="text"/> <input type="text"/> | <input type="text"/> <input type="text"/> | <input type="text"/> <input type="text"/> | <input type="text"/> <input type="text"/> |
| IF NO MORE BROTHERS OR SISTERS, GO TO 801 | | | | | | | |

SECTION 8: AIDS AND OTHER SEXUALLY TRANSMITTED INFECTIONS

| NO. | QUESTIONS AND FILTERS | CODING CATEGORIES | SKIP |
|-----|---|---|------|
| 801 | Now I would like to talk about some important health issues. Have you ever heard of an illness called AIDS? | YES 1 NO 2 | →836 |
| 802 | Is there anything a person can do to avoid getting AIDS or the virus that causes AIDS? | YES 1 NO 2 DON'T KNOW 8 | ↳809 |
| 803 | What can a person do? Anything else? RECORD ALL WAYS MENTIONED. | ABSTAIN FROM SEX A USE CONDOMS B LIMIT SEX TO ONE PARTNER/STAY FAITHFUL TO ONE PARTNER C LIMIT NUMBER OF SEXUAL PARTNERS D AVOID SEX WITH PROSTITUTES E AVOID SEX WITH PERSONS WHO HAVE MANY PARTNERS F AVOID SEX WITH HOMOSEXUALS G AVOID SEX WITH PERSONS WHO INJECT DRUGS INTRAVENOUSLY ... H AVOID BLOOD TRANSFUSIONS I AVOID INJECTIONS J AVOID SHARING RAZORS/BLADES K AVOID KISSING L AVOID MOSQUITO BITES M SEEK PROTECTION FROM TRADITIONAL PRACTITIONER N OTHER _____ W (SPECIFY) OTHER _____ X (SPECIFY) DON'T KNOW Z | |
| 804 | Can people reduce their chances of getting HIV (the virus that causes AIDS) by having just one sex partner who is not infected and who has no other partners? | YES 1 NO 2 DON'T KNOW 8 | |
| 805 | Can a person get HIV/AIDS from mosquito bites? | YES 1 NO 2 DON'T KNOW 8 | |
| 806 | Can people reduce their chances of getting HIV/AIDS by using a condom every time they have sex? | YES 1 NO 2 DON'T KNOW 8 | |
| 807 | Can people get HIV by sharing food with a person who has HIV/AIDS? | YES 1 NO 2 DON'T KNOW 8 | |
| 808 | Can people reduce their chance of getting HIV/AIDS by not having sex at all? | YES 1 NO 2 DON'T KNOW 8 | |
| 809 | Can people get HIV/AIDS because of witchcraft or other supernatural means? | YES 1 NO 2 DON'T KNOW 8 | |
| 810 | Is it possible for a healthy-looking person to have HIV/AIDS? | YES 1 NO 2 DON'T KNOW 8 | |
| 811 | Do you know someone personally who has the virus that causes AIDS or someone who died from AIDS? | YES 1 NO 2 | |
| 812 | Can HIV/AIDS be transmitted from a mother to a child? | YES 1 NO 2 DON'T KNOW 8 | ↳815 |

| NO. | QUESTIONS AND FILTERS | CODING CATEGORIES | SKIP |
|-----|---|--|------|
| 813 | Can HIV/AIDS be transmitted from a mother to a child: During pregnancy? During delivery? By breastfeeding? | YES NO DK DURING PREG 1 2 8 DURING DELIVERY... 1 2 8 BREASTFEEDING 1 2 8 | |
| 814 | Are there any special drugs that a pregnant woman infected with the HIV/ AIDS can take to reduce the risk of transmission to the baby? | YES 1 NO 2 DOES NOT KNOW..... 8 | |
| 815 | If you knew that a shopkeeper or vendor had HIV/AIDS would you buy fresh vegetables from them? | YES 1 NO 2 DON'T KNOW 8 | |
| 816 | If a member of your family got infected with HIV/AIDS, would you want it to remain a secret? | YES, REMAIN SECRET 1 NO 2 DO NOT KNOW 8 | |
| 817 | If a relative of yours became sick with HIV/AIDS, would you be willing to care for her or him in your own household? | YES 1 NO 2 DK/NOT SURE/DEPENDS..... 8 | |
| 818 | If a teacher has HIV/AIDS, should he or she be allowed to continue teaching in school? | CAN CONTINUE 1 SHOULD NOT CONTINUE 2 DON'T KNOW /UNSURE/DEPENDS..... 8 | |
| 819 | Should children aged 12-14 be taught about using a condom to avoid HIV/AIDS? | YES 1 NO 2 DK/NOT SURE/DEPENDS..... 8 | |
| 820 | CHECK 215: LAST BIRTH SINCE <input type="checkbox"/> JANUARY 2000 LAST BIRTH BEFORE <input type="checkbox"/> JANUARY 2000 | | →828 |
| 821 | Now I would like to ask come questions about your last birth. Did you see anyone for antenatal care during that pregnancy? | YES 1 NO 2 | →828 |
| 822 | During any of the antenatal visits for that pregnancy, did any one talk to you about: Things that you can do to prevent getting HIV/AIDS? Using family planning? | YES NO DK PREVENT AIDS 1 2 8 FAMILY PLANNING 1 2 8 | |
| 823 | I do not want to know the results, but were you tested for HIV/AIDS during any of your antenatal care visits? | YES 1 NO 2 | →828 |
| 824 | Did you yourself ask for the test, was it offered to you and you accepted, or was it required? | ASKED FOR THE TEST 1 OFFERED AND ACCEPTED 2 REQUIRED..... 3 | |
| 825 | I do not want to know the results, but did you get the results of the test? | YES 1 NO 2 | |
| 826 | Where was the test done? IF SOURCE IS HOSPITAL, HEALTH CENTRE, OR CLINIC, WRITE THE NAME OF THE PLACE. PROBE TO IDENTIFY THE TYPE OF SOURCE AND CIRCLE THE APPROPRIATE CODE. _____ (NAME OF PLACE) | PUBLIC SECTOR GOVERNMENT HOSPITAL 11 GOVT. HEALTH CENTRE/CLINIC..... 12 GOVERNMENT DISPENSARY 13 OTHER PUBLIC _____ 16 (SPECIFY) PRIVATE MEDICAL SECTOR MISSION/CHURCH HOSP. CLINIC ... 21 FP HEALTH CENTRE/CLINIC 22 PRIVATE HOSPITAL/CLINIC..... 23 PHARMACY 24 PRIVATE DOCTOR..... 25 NURSING/MATERNITY HOME..... 26 BLOOD TRANSFUSION SERVICE 31 OTHER _____ 96 (SPECIFY) | |

| NO. | QUESTIONS AND FILTERS | CODING CATEGORIES | SKIP |
|-----|--|--|--------------|
| 827 | Have you been tested again for HIV/AIDS since the time you were tested during your last pregnancy? | YES 1 NO 2 | →829 →833 |
| 828 | I do not want to know the results, but have you ever been tested to see if you have HIV/AIDS? | YES 1 NO 2 | →833 |
| 829 | When was the last time you were tested? | LESS THAN 12 MONTHS AGO 1 12-23 MONTHS AGO 2 2 YEARS OR MORE AGO 3 | |
| 830 | The last time you had the test, did you yourself ask for the test, was it offered to you and you accepted, or was it required? | ASKED FOR THE TEST 1 OFFERED AND ACCEPTED 2 REQUIRED 3 | |
| 831 | Where was the test done? IF SOURCE IS HOSPITAL, HEALTH CENTRE, OR CLINIC, WRITE THE NAME OF THE PLACE. PROBE TO IDENTIFY THE TYPE OF SOURCE AND CIRCLE THE APPROPRIATE CODE. _____ (NAME OF PLACE) | PUBLIC SECTOR GOVERNMENT HOSPITAL 11 GOVT. HEALTH CENTRE/CLINIC 12 GOVERNMENT DISPENSARY 13 OTHER PUBLIC _____ 16 (SPECIFY) PRIVATE MEDICAL SECTOR MISSION/CHURCH HOSP. CLINIC ... 21 FP HEALTH CENTRE/CLINIC 22 PRIVATE HOSPITAL/CLINIC 23 PHARMACY 24 PRIVATE DOCTOR 25 NURSING/MATERNITY HOME 26 BLOOD TRANSFUSION SERVICE 31 OTHER _____ 96 (SPECIFY) | |
| 832 | I do not want to know the results, but did you get the results of the test? | YES 1 NO 2 | →836 |
| 833 | Would you want to be tested for HIV/AIDS? | YES 1 NO 2 DK/NOT SURE/DEPENDS 8 | |
| 834 | Do you know a place where you could go to get an HIV/AIDS test? | YES 1 NO 2 | →836 |
| 835 | Where can you go for the test? IF SOURCE IS HOSPITAL, HEALTH CENTRE, OR CLINIC, WRITE THE NAME OF THE PLACE. PROBE TO IDENTIFY THE TYPE OF SOURCE AND CIRCLE THE APPROPRIATE CODE. _____ (NAME OF PLACE) | PUBLIC SECTOR GOVERNMENT HOSPITAL 11 GOVT. HEALTH CENTRE/CLINIC 12 GOVERNMENT DISPENSARY 13 OTHER PUBLIC _____ 16 (SPECIFY) PRIVATE MEDICAL SECTOR MISSION/CHURCH HOSP. CLINIC ... 21 FP HEALTH CENTRE/CLINIC 22 PRIVATE HOSPITAL/CLINIC 23 PHARMACY 24 PRIVATE DOCTOR 25 NURSING/MATERNITY HOME 26 BLOOD TRANSFUSION SERVICE 31 OTHER _____ 96 (SPECIFY) | |
| 836 | (Apart from HIV/AIDS), have you heard about other infections that can be transmitted through sexual contact? | YES 1 NO 2 | |

| NO. | QUESTIONS AND FILTERS | CODING CATEGORIES | SKIP |
|-----|---|--|------|
| 837 | <p>If a man has a sexually transmitted disease, what symptoms might he have?</p> <p>Any others?</p> <p>RECORD ALL SYMPTOMS MENTIONED.</p> | ABDOMINAL PAIN A GENITAL DISCHARGE/DRIPPING B FOUL SMELLING DISCHARGE C BURNING PAIN ON URINATION D REDNESS/INFLAMMATION IN GENITAL AREA E SWELLING IN GENITAL AREA F GENITAL SORES/ULCERS G GENITAL WARTS H GENITAL ITCHING I BLOOD IN URINE J LOSS OF WEIGHT K IMPOTENCE L OTHER _____ W (SPECIFY) OTHER _____ X (SPECIFY) NO SYMPTOMS.....Y DON'T KNOWZ | |
| 838 | <p>If a woman has a sexually transmitted disease, what symptoms might she have?</p> <p>Any others?</p> <p>RECORD ALL SYMPTOMS MENTIONED.</p> | ABDOMINAL PAIN A GENITAL DISCHARGE B FOUL SMELLING DISCHARGE C BURNING PAIN ON URINATION D REDNESS/INFLAMMATION IN GENITAL AREA E SWELLING IN GENITAL AREA F GENITAL SORES/ULCERS G GENITAL WARTS H GENITAL ITCHING I BLOOD IN URINE J LOSS OF WEIGHT K HARD TO GET PREGNANT/ HAVE A CHILD..... L OTHER _____ W (SPECIFY) OTHER _____ X (SPECIFY) NO SYMPTOMS.....Y DON'T KNOWZ | |
| 839 | CHECK 511: HAS HAD SEXUAL INTERCOURSE <input type="checkbox"/> HAS NOT HAD SEXUAL INTERCOURSE <input type="checkbox"/> | | →846 |
| 840 | <p>Now I-would like to ask you some questions about your health in the last 12 months. During the last 12 months, have you had a disease, which you got through sexual contact?</p> | YES 1 NO 2 DON'T KNOW 8 | |
| 841 | <p>Sometimes women experience a bad smelling abnormal genital discharge.</p> <p>During the last 12 months, have you had a bad smelling abnormal genital discharge?</p> | YES 1 NO 2 DON'T KNOW 8 | |
| 842 | <p>Sometimes women have a genital sore or ulcer.</p> <p>During the last 12 months, have you had a genital sore or ulcer?</p> | YES 1 NO 2 DON'T KNOW 8 | |
| 843 | CHECK 840, 841, 842: HAS HAD AN INFECTION <input type="checkbox"/> HAS NOT HAD AN INFECTION OR DOES NOT KOW <input type="checkbox"/> | | →846 |
| 844 | <p>The last time you had (PROBLEM FROM 840/841/842), did you seek any kind of advice or treatment?</p> | YES 1 NO 2 | →846 |

| NO. | QUESTIONS AND FILTERS | CODING CATEGORIES | SKIP |
|-----|--|--|------|
| 845 | <p>Where did you go?</p> <p>IF SOURCE IS HOSPITAL, HEALTH CENTER, OR CLINIC, WRITE THE NAME OF THE PLACE. PROBE TO IDENTIFY THE TYPE OF SOURCE AND CIRCLE THE APPROPRIATE CODE.</p> <p>_____</p> <p>(NAME OF PLACE)</p> | <p>PUBLIC SECTOR</p> <p>GOVERNMENT HOSPITAL..... 11</p> <p>GOVT. HEALTH CENTER 12</p> <p>FAMILY PLANNING CLINIC 13</p> <p>MOBILE CLINIC 14</p> <p>FIELDWORKER 15</p> <p>OTHER PUBLIC _____ 16</p> <p>(SPECIFY)</p> <p>PRIVATE MEDICAL SECTOR</p> <p>PRIVATE HOSPITAL/CLINIC 21</p> <p>PHARMACY 22</p> <p>PRIVATE DOCTOR 23</p> <p>MOBILE CLINIC 24</p> <p>FIELDWORKER 25</p> <p>OTHER PRIVATE</p> <p>MEDICAL _____ 26</p> <p>(SPECIFY)</p> <p>OTHER SOURCE</p> <p>SHOP 31</p> <p>CHURCH 32</p> <p>TRADITIONAL HEALER 33</p> <p>FRIEND/RELATIVE 34</p> | |
| 846 | <p>Husbands and wives or boyfriends and girlfriends do not always agree on everything.</p> <p>Please tell me if you think it is ok for a wife/girlfriend refusing to have sex with her husband/boyfriend when she knows he has a disease that can be transmitted through sexual contact?</p> | <p>YES 1</p> <p>NO 2</p> <p>DON'T KNOW 8</p> | |
| 847 | <p>When a wife/girlfriend knows her husband/boyfriend has a disease that can be transmitted through sexual contact, is ok for her to ask that they use a condom?</p> | <p>YES 1</p> <p>NO 2</p> <p>DON'T KNOW 8</p> | |

SECTION 9. HUSBAND'S BACKGROUND AND WOMAN'S WORK

| NO. | QUESTIONS AND FILTERS | CODING CATEGORIES | SKIP | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---------------------|---|--|------------------|------------------|-------------------------|-------------|--------------------|---|---|---|---------------|---|---|---|-------------------|---|---|---|---------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|--|
| 901 | CHECK 501 AND 502: CURRENTLY MARRIED/ LIVING WITH A MAN <input type="checkbox"/> FORMERLY MARRIED/ LIVED WITH A MAN <input type="checkbox"/> NEVER MARRIED AND NEVER LIVED WITH A MAN <input type="checkbox"/> | | →903 →906 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 902 | How old was your husband/partner on his last birthday? | AGE IN COMPLETED YEARS <input type="text"/> <input type="text"/> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 903 | Did your (last) husband/partner ever attend school? | YES1 NO2 | →905 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 904 | What was the highest (standard/grade/year) he completed at that level? | LESS THAN 1 YEAR COMPLETED 00 SUB A/GRADE 1 01 SUB B/GRADE 2 02 STANDARD 1/GRADE 3 03 STANDARD 2/GRADE 4 04 STANDARD 3/GRADE 5 05 STANDARD 4/GRADE 6 06 STANDARD 5/GRADE 7 07 STANDARD 6/GRADE 8 08 STANDARD 7/GRADE 9 09 STANDARD 8/GRADE 10 10 STANDARD 9/GRADE 11 11 STANDARD 10/GRADE 12 12 FURTHER STUDIES INCOMPLETE 13 DIPLOMA/OTHER POSTSCHL COMPL 14 FURTHER DEGREE COMPLETE 15 DO NOT KNOW 98 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 905 | CHECK 901: CURRENTLY MARRIED/ LIVING WITH A MAN <input type="checkbox"/> FORMERLY MARRIED/ LIVED WITH A MAN <input type="checkbox"/> What is your husband's/partner's occupation? That is, what kind of work does he mainly do? What was your (last) husband's/ partner's occupation? That is, what kind of work did he mainly do? | <input type="text"/> <input type="text"/> _____ _____ _____ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 906 | Who in your family usually has the final say on the following decisions: Your own health care? Making large household purchases? Making household purchases for daily needs? Visits to family or relatives? What food should be cooked each day? | RESPONDENT = 1 HUSBAND/PARTNER = 2 RESPONDENT & HUSBAND/PARTNER JOINTLY = 3 SOMEONE ELSE = 4 RESPONDENT & SOMEONE ELSE JOINTLY = 5 DECISION NOT MADE/NOT APPLICABLE = 6 <table border="0"> <tr> <td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td></tr> <tr> <td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td></tr> <tr> <td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td></tr> <tr> <td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td></tr> <tr> <td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td></tr> </table> | 1 | 2 | 3 | 4 | 5 | 6 | 1 | 2 | 3 | 4 | 5 | 6 | 1 | 2 | 3 | 4 | 5 | 6 | 1 | 2 | 3 | 4 | 5 | 6 | 1 | 2 | 3 | 4 | 5 | 6 | |
| 1 | 2 | 3 | 4 | 5 | 6 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | 2 | 3 | 4 | 5 | 6 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | 2 | 3 | 4 | 5 | 6 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | 2 | 3 | 4 | 5 | 6 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | 2 | 3 | 4 | 5 | 6 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 907 | PRESENCE OF OTHERS AT THIS POINT (PRESENT AND LISTENING, PRESENT BUT NOT LISTENING OR NOT PRESENT) | <table border="0"> <tr> <td></td> <td>PRES/ LISTEN.</td> <td>PRES/ NOT LISTEN.</td> <td>NOT PRES</td> </tr> <tr> <td>CHILDREN <10</td> <td>1</td> <td>2</td> <td>8</td> </tr> <tr> <td>HUSBAND</td> <td>1</td> <td>2</td> <td>8</td> </tr> <tr> <td>OTHER MALES</td> <td>1</td> <td>2</td> <td>8</td> </tr> <tr> <td>OTHER FEMALES</td> <td>1</td> <td>2</td> <td>8</td> </tr> </table> | | PRES/ LISTEN. | PRES/ NOT LISTEN. | NOT PRES | CHILDREN <10 | 1 | 2 | 8 | HUSBAND | 1 | 2 | 8 | OTHER MALES | 1 | 2 | 8 | OTHER FEMALES | 1 | 2 | 8 | | | | | | | | | | | |
| | PRES/ LISTEN. | PRES/ NOT LISTEN. | NOT PRES | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| CHILDREN <10 | 1 | 2 | 8 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| HUSBAND | 1 | 2 | 8 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| OTHER MALES | 1 | 2 | 8 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| OTHER FEMALES | 1 | 2 | 8 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

| NO. | QUESTIONS AND FILTERS | CODING CATEGORIES | SKIP | | | | | | | | | | | | | | | | | | | | | | | | |
|--------------------|---|---|------|-----|----|----|----------------|---|---|---|--------------------|---|---|---|--------------|---|---|---|-------------------|---|---|---|------------------|---|---|---|--|
| 908 | <p>Sometimes a husband is annoyed or angered by things that his wife does. In your opinion, is it ok for a husband to hit, beat, kick or push his wife in the following situations:</p> <p>If she goes out without telling him?</p> <p>If she neglects the children?</p> <p>If she argues with him?</p> <p>If she refuses to have sex with him?</p> <p>If she burns the food?</p> | <table> <thead> <tr> <th></th> <th>YES</th> <th>NO</th> <th>DK</th> </tr> </thead> <tbody> <tr> <td>GOES OUT</td> <td>1</td> <td>2</td> <td>8</td> </tr> <tr> <td>NEGL. CHILDREN ...</td> <td>1</td> <td>2</td> <td>8</td> </tr> <tr> <td>ARGUES</td> <td>1</td> <td>2</td> <td>8</td> </tr> <tr> <td>REFUSES SEX</td> <td>1</td> <td>2</td> <td>8</td> </tr> <tr> <td>BURNS FOOD</td> <td>1</td> <td>2</td> <td>8</td> </tr> </tbody> </table> | | YES | NO | DK | GOES OUT | 1 | 2 | 8 | NEGL. CHILDREN ... | 1 | 2 | 8 | ARGUES | 1 | 2 | 8 | REFUSES SEX | 1 | 2 | 8 | BURNS FOOD | 1 | 2 | 8 | |
| | YES | NO | DK | | | | | | | | | | | | | | | | | | | | | | | | |
| GOES OUT | 1 | 2 | 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| NEGL. CHILDREN ... | 1 | 2 | 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| ARGUES | 1 | 2 | 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| REFUSES SEX | 1 | 2 | 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| BURNS FOOD | 1 | 2 | 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 909 | RECORD THE TIME | <p>HOURS <table border="1" style="display: inline-table; vertical-align: middle;"><tr><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td></tr></table></p> <p>MINUTES <table border="1" style="display: inline-table; vertical-align: middle;"><tr><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td></tr></table></p> | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | |

**SOUTH AFRICA DEMOGRAPHIC AND HEALTH SURVEY 2003
MAN'S QUESTIONNAIRE**

| IDENTIFICATION | | | | |
|--|---------------------|---------------|----------|--|
| PROVINCE* _____ | [] | | | |
| DISTRICT _____ | [] [] [] [] | | | |
| EA NUMBER | [] [] [] [] [] | | | |
| EA TYPE (URBAN FORMAL=1; URBAN INFORMAL=2; RURAL FORMAL=3; TRIBAL AREA=4) | [] | | | |
| SADHS CLUSTER NUMBER..... | [] [] [] [] [] | | | |
| STAND NUMBER..... | [] [] [] [] [] | | | |
| HOUSEHOLD NUMBER | [] [] [] [] [] | | | |
| NAME OF HOUSEHOLD HEAD _____ | | | | |
| NAME AND LINE NUMBER OF MAN _____ | [] [] | | | |
| INTERVIEWER VISITS | | | | |
| | 1 | 2 | 3 | FINAL VISIT |
| DATE | _____ | _____ | _____ | DAY [] [] MONTH [] [] YEAR [2] [0] [0] [] INT.CODE [] [] [] [] RESULT [] [] [] [] |
| INTERVIEWER'S NAME | _____ | _____ | _____ | |
| RESULT** | _____ | _____ | _____ | |
| NEXT VISIT: DATE | _____ | _____ | | TOTAL NO. OF VISITS [] |
| TIME | _____ | _____ | | |
| ** RESULT CODES: 1 COMPLETED 4 REFUSED 2 NOT AT HOME 5 PARTLY COMPLETED 3 POSTPONED 6 INCAPACITATED 7 OTHER _____ (SPECIFY) | | | | |
| LANGUAGE | | | | |
| LANGUAGE OF QUESTIONNAIRE: ENGLISH | | | | [0] [1] |
| LANGUAGE OF INTERVIEW *** _____ | | | | [] [] |
| HOME LANGUAGE OF RESPONDENT*** _____ | | | | [] [] |
| WAS A TRANSLATOR USED? (YES=1, NO=2)..... | | | | [] [] |
| *** LANGUAGE CODES: 01 ENGLISH 04 isiZULU 07 SePEDI 10 XITSONGA 02 AFRIKAANS 05 SeSOTHO 08 SiSWATI 11 isiNDEBELE 03 isiXHOSA 06 SeTSWANA 09 TshiVENDA 12 OTHER _____ (SPECIFY) | | | | |
| SUPERVISOR | FIELD EDITOR | OFFICE EDITOR | KEYED BY | |
| NAME _____ [] [] | NAME _____ [] [] | [] [] | [] [] | |
| DATE _____ [] [] | DATE _____ [] [] | [] [] | [] [] | |

*PROVINCE: WESTERN CAPE=1; EASTERN CAPE=2; NORTHERN CAPE=3; FREE STATE=4; KWAZULU-NATAL=5; NORTHWEST=6; GAUTENG=7; MPUMALANGA=8; LIMPOPO=9

SECTION 1: RESPONDENT'S BACKGROUND

| NO. | QUESTIONS AND FILTERS | CODING CATEGORIES | SKIP |
|-----|---|--|------|
| 101 | RECORD THE TIME. | HOUR..... <input type="text"/> <input type="text"/> MINUTES <input type="text"/> <input type="text"/> | |
| 102 | First I would like to ask some questions about you and your household. For most of the time until you were 12 years old, did you live in a city, in a town, on a farm or in rural areas, or an informal settlement? | CITY.....1 TOWN.....2 RURAL/FARM3 INFORMAL SETTLEMENT4 | |
| 103 | How long have you been living continuously in (NAME OF CURRENT PLACE OF RESIDENCE)? IF LESS THAN ONE YEAR, RECORD '00' YEARS. | YEARS <input type="text"/> <input type="text"/> ALWAYS.....95 VISITOR96 | →105 |
| 104 | Just before you moved here, did you live in a city, in a town, or in the rural area/farm? | CITY.....1 TOWN.....2 RURAL/FARM3 | |
| 105 | In what month and year were you born? | MONTH..... <input type="text"/> <input type="text"/> DOES NOT KNOW MONTH.....98 YEAR..... <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> DOES NOT KNOW YEAR9998 | |
| 106 | How old were you at your last birthday? COMPARE AND CORRECT 105 AND/OR 106 IF INCONSISTENT. | AGE IN COMPLETED YEARS <input type="text"/> <input type="text"/> | |
| 107 | Have you ever attended school? | YES.....1 NO2 | →113 |
| 108 | What is the highest standard or grade you completed? | LESS THAN 1 YEAR COMPLETED.....00 SUB A/GRADE 101 SUB B/GRADE 202 STANDARD 1/GRADE 303 STANDARD 2/GRADE 404 STANDARD 3/GRADE 505 STANDARD 4/GRADE 606 STANDARD 5/GRADE 707 STANDARD 6/GRADE 808 STANDARD 7/GRADE 909 STANDARD 8/GRADE 1010 STANDARD 9/GRADE 1111 STANDARD 10/GRADE 1212 FURTHER STUDIES INCOMPLETE.....13 DIPLOMA/OTHER POSTSCHL COMPL. 14 FURTHER DEGREE COMPLETE.....15 | |
| 109 | CHECK 106: AGE 24 OR BELOW <input type="checkbox"/> AGE 25 OR ABOVE <input type="checkbox"/> | | →112 |
| 110 | Are you currently attending school? | YES.....1 NO2 | →112 |

| NO. | QUESTIONS AND FILTERS | CODING CATEGORIES | SKIP |
|-----|---|--|------|
| 111 | What was the main reason you stopped attending school? | GOT MARRIED01 CARE FOR YOUNGER CHILDREN.....02 FAMILY NEEDED HELP ON FARM OR IN BUSINESS.....03 COULD NOT PAY SCHOOL FEES04 NEEDED TO EARN MONEY.....05 GRADUATED06 DID NOT PASS ENTRANCE EXAMS.....07 DID NOT LIKE SCHOOL.....08 SCHOOL NOT ACCESSIBLE/TOO FAR09 OTHER _____ 96 (SPECIFY) DO NOT KNOW.....98 | |
| 112 | CHECK 108: COMPLETED STD 4/ GRADE 6 OR LOWER <input type="checkbox"/> COMPLETED STD 5/ GRADE 7 OR HIGHER <input type="checkbox"/> | | →114 |
| 113 | Now I would like you to read this sentence to me. SHOW SENTENCES TO RESPONDENT. IF RESPONDENT CANNOT READ WHOLE SENTENCE, PROBE: Can you read any part of the sentence to me? | CANNOT READ AT ALL.....1 CAN ONLY READ PART OF SENTENCE.....2 CAN READ WHOLE SENTENCE3 NO CARD WITH REQUIRED LANGUAGE _____ 4 (SPECIFY) | |
| 114 | Are you currently working? | YES.....1 NO2 | →116 |
| 115 | What is your occupation, that is, what kind of work do you mainly do? | _____ <input type="checkbox"/> <input type="checkbox"/> _____ _____ _____ | |
| 116 | Now I would like to ask about any children you have had. I am interested in the children that are biologically yours as well as the children for whom you take social and financial responsibility even if they are not biologically yours, regardless of whether they are living with you, living somewhere else, or have died. Have you ever biologically or socially fathered any children? | YES.....1 NO2 DON'T KNOW.....8 | →118 |
| 117 | How many children have you fathered according to the definition I provided in the previous question? How many of these are your biological children? IF NONE, WRITE '00'. IF RESPONDENT DOESN'T KNOW, ASK HIM TO ESTIMATE. | TOTAL <input type="checkbox"/> <input type="checkbox"/> BIOLOGICAL CHILDREN..... <input type="checkbox"/> <input type="checkbox"/> _____ | |
| 118 | Which population group do you consider yourself? | BLACK/AFRICAN1 COLOURED2 WHITE3 ASIAN/INDIAN.....4 OTHER _____ 6 (SPECIFY) | |

SENTENCES FOR LITERACY TEST (Q. 113)

ENGLISH

1. The child is reading a book.
2. The rains came late this year.
3. Parents must care for their children.
4. Farming is hard work.

AFRIKAANS

1. Die kind lees 'n boek.
2. Die reën het hierdie jaar laat gekom.
3. Ouers moet vir hulle kinders sorg.
4. Boerdery is harde werk

SECTION 2. CONTRACEPTION

Now I would like to talk about family planning - the various ways or methods that a couple can use to delay or avoid a pregnancy.

CIRCLE CODE 1 IN 201 FOR EACH METHOD MENTIONED SPONTANEOUSLY. THEN PROCEED DOWN COLUMN 201, READING THE NAME AND DESCRIPTION OF EACH METHOD NOT MENTIONED SPONTANEOUSLY. CIRCLE CODE 1 IF METHOD IS RECOGNISED, AND CODE 2 IF NOT RECOGNISED. THEN, FOR EACH METHOD WITH CODE 1 CIRCLED IN 201, ASK 202.

| 201 | Which ways or methods have you heard about? FOR METHODS NOT MENTIONED SPONTANEOUSLY, ASK: Have you ever heard of (METHOD)? | 202 | Have you ever used (METHOD)? |
|-----|--|--|---------------------------------|
| 01 | FEMALE STERILISATION/TIE THE TUBES Women can have an operation to avoid having any more children. YES 1 NO 2 | | |
| 02 | MALE STERILISATION Men can have an operation to avoid having any more children. YES 1 NO 2 | Have you ever had an operation to avoid having any more children? YES 1 NO 2 | |
| 03 | PILL Women can take a pill every day to stop them from becoming pregnant. YES 1 NO 2 | | |
| 04 | IUD Women can have a loop or coil placed inside them by a doctor or a nurse. YES 1 NO 2 | | |
| 05 | INJECTIONS Women can have an injection by a doctor or nurse which stops them from becoming pregnant for several months. YES 1 NO 2 | | |
| 06 | IMPLANTS, NORPLANT Women can have several small rods placed in their upper arm by a doctor or nurse which can prevent pregnancy for one or more years. YES 1 NO 2 | | |
| 07 | MALE CONDOM Men can put a rubber sheath on their penis before sexual intercourse. YES 1 NO 2 | YES 1 NO 2 | |
| 08 | FEMALE CONDOM Women can place a sheath in their vagina before sexual intercourse. YES 1 NO 2 | | |
| 09 | DIAPHRAGM, FOAM OR JELLY Women can place a sponge, a suppository, a diaphragm, jelly, or cream in their vagina before intercourse. YES 1 NO 2 | | |
| 10 | LACTATIONAL AMENORRHEA METHOD (LAM) Up to 6 months after childbirth, a woman can use a method that requires that she breastfeeds frequently, day and night, and that her menstrual period has not returned. YES 1 NO 2 | YES 1 NO 2 | |
| 11 | RHYTHM, CALENDAR METHOD Every month that a woman is sexually active she can avoid pregnancy by not having sexual intercourse on the days of the month she is most likely to get pregnant. YES 1 NO 2 | YES 1 NO 2 DON'T KNOW 8 | |
| 12 | WITHDRAWAL Men can be careful and pull out before climax. YES 1 NO 2 | YES 1 NO 2 | |
| 13 | EMERGENCY CONTRACEPTION Women can take pills up to three days (72 HOURS) after unprotected sexual intercourse to avoid becoming pregnant. YES 1 NO 2 | YES 1 NO 2 | |
| 14 | Have you heard of any other ways or methods that women or men can use to avoid pregnancy? YES 1 _____ (SPECIFY) _____ (SPECIFY) NO 2 | YES 1 NO 2 | |

| NO. | QUESTIONS AND FILTERS | CODING CATEGORIES | SKIP |
|-----|--|--|------|
| 203 | Just to double check, have you or any of your partners ever used a method to avoid pregnancy? | YES.....1 NO2 DOES NOT KNOW.....8 | →206 |
| 204 | I would like to ask you about the first time that you or your partner did something or used a method to avoid pregnancy. How many living children did you have at that time, if any? | NUMBER OF CHILDREN..... <input type="text"/> <input type="text"/> DON'T KNOW.....98 | |
| 205 | How old were you when you first used something to avoid pregnancy? | AGE AT FIRST USE..... <input type="text"/> <input type="text"/> | |
| 206 | I will now read you some statements about female contraception. Please tell me if you agree or disagree with each one. a) Female contraception is women's business and a man should not have to worry about it. b) Women who use female contraception may become promiscuous. c) A woman is the one who gets pregnant so she should be the one to get sterilized. d) A woman who uses female contraception risks being sterile | <p style="text-align: center;"><u>AGREE</u> <u>DISAGREE</u> <u>DK</u></p> <p>a) 1 2 8</p> <p>b) 1 2 8</p> <p>c) 1 2 8</p> <p>d) 1 2 8</p> | |

SECTION 3. MARRIAGE, SEXUAL ACTIVITY AND CONTRACEPTIVE USE

| NO. | QUESTIONS AND FILTERS | CODING CATEGORIES | SKIP |
|-----|--|--|----------------------|
| 301 | Are you currently married or living with a partner? NOTE TO INTERVIEWER: 'MARRIED' MEANS HAVING GOTTEN MARRIED THROUGH TRADITIONAL, CIVIL AND/OR RELIGIOUS CEREMONY. | YES, CURRENTLY MARRIED TO A WOMAN.....1 YES, LIVING WITH A WOMAN2 YES, MARRIED/LIVING WITH A MAN.....3 NO, NOT IN UNION.....4 | →304 →310 →305 |
| 302 | Do you have one wife or more than one wife? IF ONLY ONE WIFE, ENTER '01'. IF MORE THAN ONE, ASK: How many wives do you currently have? | NUMBER OF WIVES..... <input type="text"/> <input type="text"/> | |
| 303 | Are there any other women with whom you live as if married? | YES.....1 NO.....2 | →308 |
| 304 | Are you living with one (other) woman or more than one (other) woman as if married? IF ONE LIVE-IN PARTNER, ENTER '01'. IF MORE THAN ONE, ASK: How many women are you living with as if married? | NUMBER OF <input type="text"/> <input type="text"/> LIVE-IN PARTNERS | →308 |
| 305 | Do you currently have regular, occasional, or no sexual partners? | REGULAR PARTNER(S) ONLY.....1 OCCASIONAL PARTNER(S) ONLY.....2 REGULAR AND OCCASIONAL PARTNERS.....3 NO SEXUAL PARTNER.....4 | |
| 306 | Have you ever been married or lived with a woman? | YES, FORMERLY MARRIED ONLY.....1 YES, LIVED WITH A WOMAN ONLY.....2 YES, BOTH.....3 NO.....4 | →310 →310 |
| 307 | What is your marital status now: are you widowed, divorced, or separated? | WIDOWED.....1 DIVORCED/SEPARATED.....2 DIVORCED/COHABITING.....3 | →310 |

| NO. | QUESTIONS AND FILTERS | CODING CATEGORIES | SKIP |
|-----|---|---|------|
| 308 | <p>WRITE THE LINE NUMBERS FROM THE HOUSEHOLD QUESTIONNAIRE FOR EACH WIFE/PARTNER REPORTED IN QUESTIONS 302 AND 304 ONLY. IF A WIFE/PARTNER IS NOT LISTED IN THE HOUSEHOLD SCHEDULE, ENTER '00' IN THE LINE NUMBER BOXES. THE NUMBER OF LINES FILLED IN MUST BE EQUAL TO THE NUMBER OF WIVES AND PARTNERS. (IF RESPONDENT HAS MORE THAN TEN WIVES/PARTNERS USE ADDITIONAL QUESTIONNAIRE(S)).</p> <p>CHECK: 302 AND 304</p> <p>SUM OF 302 AND 304 = 01 <input type="checkbox"/></p> <p>SUM OF 302 AND 304 > 01 <input type="checkbox"/></p> <p>Please tell me the name of your wife/partner.</p> <p>Please tell me the name of each wife/partner that you live with, starting with the one you lived with first.</p> <p>WIFE/PARTNER NUMBER</p> <p>1 _____</p> <p>2 _____</p> <p>3 _____</p> <p>4 _____</p> <p>5 _____</p> <p>6 _____</p> <p>7 _____</p> <p>8 _____</p> <p>9 _____</p> <p>10 _____</p> | <p>LINE NUMBER IN HOUSEHOLD QUESTIONNAIRE</p> <p><input type="text"/><input type="text"/></p> <p><input type="text"/><input type="text"/></p> <p><input type="text"/><input type="text"/></p> <p><input type="text"/><input type="text"/></p> <p><input type="text"/><input type="text"/></p> <p><input type="text"/><input type="text"/></p> <p><input type="text"/><input type="text"/></p> <p><input type="text"/><input type="text"/></p> <p><input type="text"/><input type="text"/></p> <p><input type="text"/><input type="text"/></p> <p><input type="text"/><input type="text"/></p> | |
| 310 | <p>Now I need to ask you some questions about sexual activity in order to gain a better understanding of some health issues.</p> <p>How old were you when you first had intercourse?</p> | <p>NEVER.....00</p> <p>AGE IN YEARS <input type="text"/><input type="text"/></p> <p>FIRST TIME WHEN STARTED LIVING WITH (FIRST) HUSBAND/PARTNER95</p> | →334 |
| 311 | <p>CHECK 106:</p> <p>15-24 YEARS OLD <input type="checkbox"/></p> <p>25-49 YEARS OLD <input type="checkbox"/></p> | | →314 |
| 312 | <p>The first time you had sexual intercourse, did you or your partner use any contraception/protection?</p> | <p>YES 1</p> <p>NO 2</p> <p>DON'T KNOW/UNSURE 8</p> | →314 |

| NO. | QUESTIONS AND FILTERS | CODING CATEGORIES | SKIP |
|-----|--|--|-------------------------|
| 317 | <p>What is the reason a method was not used?</p> <p>RECORD ALL MENTIONED.</p> <p>UNPROMPTED</p> | <p>CASUAL SEX PARTNER SO DOES NOT CARE A</p> <p>CONTRACEPTION WOMEN'S BUSINESS B</p> <p>FERTILITY-RELATED REASONS</p> <p>WIFE/PARTNER MENOPAUSAL/HAD HYSTERECTOMY C</p> <p>COUPLE SUBFECUND/INFECUND ... D</p> <p>WIFE/PARTNER WAS PREGNANT ... E</p> <p>WIFE/PARTNER WAS POSTPARTUM AMENORRHEIC F</p> <p>WIFE/PARTNER WAS BREASTFEEDING G</p> <p>WANTED (MORE) CHILDREN H</p> <p>OPPOSITION TO USE</p> <p>RESPONDENT OPPOSED I</p> <p>WIFE/PARTNER OPPOSED J</p> <p>OTHERS OPPOSED K</p> <p>RELIGIOUS PROHIBITION L</p> <p>LACK OF KNOWLEDGE</p> <p>KNOWS NO METHOD M</p> <p>KNOWS NO SOURCE N</p> <p>METHOD-RELATED REASONS</p> <p>HEALTH CONCERNS O</p> <p>FEAR OF SIDE EFFECTS P</p> <p>LACK OF ACCESS/TOO FAR Q</p> <p>COST TOO MUCH R</p> <p>INCONVENIENT TO USE S</p> <p>INTERFERES WITH BODY'S NORMAL PROCESSES T</p> <p>OTHER _____ X (SPECIFY)</p> <p>DON'T KNOW Z</p> | <p>→320</p> |
| 318 | <p>CHECK 316:</p> <p>MALE CONDOM USED <input type="checkbox"/></p> <p>OTHER METHOD USED <input type="checkbox"/> _____</p> | | <p>→320</p> |
| 319 | <p>What was the main reason you used a condom on that occasion?</p> | <p>WANTED TO PREVENT DISEASE1</p> <p>WANTED TO PREVENT PREGNANCY...2</p> <p>WANTED TO PREVENT BOTH STD/HIV AND PREGNANCY3</p> <p>DID NOT TRUST PARTNER/THOUGHT SHE HAD OTHER PARTNERS4</p> <p>PARTNER REQUESTED/INSISTED5</p> <p>OTHER _____ 6 (SPECIFY)</p> | |
| 320 | <p>What is your relationship to the person with whom you last had sexual intercourse?</p> <p>IF WOMAN IS "GIRLFRIEND" OR "FIANCÉE", ASK:</p> <p>Was your girlfriend/fiancé living with you when you last had sex with her?</p> <p>IF YES, CIRCLE '01'. IF NO, CIRCLE '02'.</p> | <p>WIFE/COHABITING PARTNER01</p> <p>WOMAN IS GIRLFRIEND/FIANCÉE02</p> <p>OTHER FRIEND03</p> <p>CASUAL ACQUAINTANCE04</p> <p>RELATIVE05</p> <p>FEMALE COMMERCIAL SEX WORKER06</p> <p>MALE COMMERCIAL SEX WORKER ...07</p> <p>OTHER _____ 96 (SPECIFY)</p> | |
| 322 | <p>In the last 12 months, have you had sexual intercourse with any other person?</p> | <p>YES1</p> <p>NO2</p> | <p>→331</p> |
| 323 | <p>The last time you had sexual intercourse with this other person (besides the person in Q. 320), did you or your partner use any contraception/ protection?</p> | <p>YES 1</p> <p>NO 2</p> <p>DON'T KNOW/UNSURE 8</p> | <p>→325</p> <p>→328</p> |

| NO. | QUESTIONS AND FILTERS | CODING CATEGORIES | SKIP |
|-----|---|--|-------------|
| 324 | <p>What method of contraception/ protection was used the last time you had sex?</p> <p>IF MORE THAN ONE METHOD USED, RECORD THE HIGHEST METHOD ON THE LIST.</p> | <p>FEMALE STERILIZATION.....01 MALE STERILIZATION02 PILL.....03 IUD.....04 INJECTABLES.....05 IMPLANTS06 MALE CONDOM.....07 FEMALE CONDOM08 DIAPHRAGM/FOAM/JELLY09 LACTATIONAL AMEN. METHOD.....11 RHYTHM, CALENDAR METHOD.....12 WITHDRAWAL13 HERBS/REMEDIES.....10</p> <p>OTHER _____ 96 (SPECIFY)</p> <p>DON'T KNOW98</p> | <p>→326</p> |
| 325 | <p>What is the reason a method was not used?</p> <p>RECORD ALL MENTIONED.</p> | <p>CASUAL SEX PARTNER SO DOES NOT CARE A CONTRACEPTION WOMEN'S BUSINESS..... B</p> <p>FERTILITY-RELATED REASONS WIFE/PARTNER MENOPAUSAL/HAD HYSTERECTOMY C COUPLE SUBFECUND/INFECUND ... D WIFE/PARTNER WAS PREGNANT... E WIFE/PARTNER WAS POSTPARTUM AMENORRHEIC F WIFE/PARTNER WAS BREASTFEEDING G WANTED (MORE) CHILDREN H</p> <p>OPPOSITION TO USE RESPONDENT OPPOSED I WIFE/PARTNER OPPOSED J OTHERS OPPOSED K RELIGIOUS PROHIBITION L</p> <p>LACK OF KNOWLEDGE KNOWS NO METHOD..... M KNOWS NO SOURCE..... N</p> <p>METHOD-RELATED REASONS HEALTH CONCERNS O FEAR OF SIDE EFFECTS..... P LACK OF ACCESS/TOO FAR Q COST TOO MUCH..... R INCONVENIENT TO USE..... S INTERFERES WITH BODY'S NORMAL PROCESSES T</p> <p>OTHER _____ X (SPECIFY)</p> <p>DON'T KNOW Z</p> | <p>→328</p> |
| 326 | <p>CHECK 324:</p> <p>MALE CONDOM USED <input type="checkbox"/> OTHER METHOD USED <input type="checkbox"/></p> | | <p>→328</p> |
| 327 | <p>What was the main reason you used a condom on that occasion?</p> | <p>WANTED TO PREVENT DISEASE.....1 WANTED TO PREVENT PREGNANCY...2 WANTED TO PREVENT BOTH STD/HIV AND PREGNANCY.....3 DID NOT TRUST PARTNER/THOUGHT SHE HAD OTHER PARTNERS4 PARTNER REQUESTED/INSISTED.....5</p> <p>OTHER _____ 6 (SPECIFY)</p> | |

| NO. | QUESTIONS AND FILTERS | CODING CATEGORIES | SKIP | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|-----|--|--|-----------|--------------|-----------------|-----------|----|---|---|---|----|---|---|---|----|---|---|---|----|---|---|---|----|---|---|---|----|---|---|---|----|---|---|---|----|---|---|---|----|---|---|---|--|
| 328 | <p>What is your relationship to the person with whom you last had sexual intercourse?</p> <p>IF WOMAN IS "GIRLFRIEND" OR "FIANCÉE", ASK:</p> <p>Was your girlfriend/fiancé living with you when you last had sex with her?</p> <p>IF YES, CIRCLE '01'. IF NO, CIRCLE '02'.</p> | <p>WIFE/COHABITING PARTNER.....01 WOMAN IS GIRLFRIEND/FIANCÉE02 OTHER FRIEND03 CASUAL ACQUAINTANCE04 RELATIVE.....05 FEMALE COMMERCIAL SEX WORKER06 MALE COMMERCIAL SEX WORKER ...07 OTHER _____ 96 (SPECIFY)</p> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 329 | Other than these two people, have you had sex with any other person in the last 12 months? | <p>YES.....1 NO.....2</p> | →331 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 330 | <p>In total, with how many different people have you had sexual intercourse in the last 12 months?</p> <p>ANSWER SHOULD BE '03' OR MORE.</p> | NUMBER OF PARTNERS..... <input type="text"/> <input type="text"/> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 331 | If you needed or wanted to use a male condom, would it be easy, somewhat difficult, or very difficult/impossible for you to get one? | <p>EASY 1 SOMEWHAT DIFFICULT..... 2 VERY DIFFICULT/IMPOSSIBLE 3 DON'T KNOW/UNSURE..... 8</p> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 332 | <p>CHECK 202(07), 313, 316, 324: EVER USED A MALE CONDOM?</p> <p>HAS USED CONDOM <input type="checkbox"/> NEVER USED A CONDOM <input type="checkbox"/></p> | | →334 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 333 | How old were you when you used a male condom for the first time? | <p>AGE AT FIRST USE <input type="text"/> <input type="text"/></p> <p>DON'T REMEMBER98</p> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 334 | <p>I will now read you some statements about male condom use. Please tell me if you agree or disagree with each.</p> <p>a) Male condoms diminish a man's sexual pleasure. b) A male condom is very inconvenient to use. c) It's okay to re-use a male condom if you wash it. d) Male Condoms protect against disease. e) Buying male condoms is embarrassing. f) A woman has no right to tell a man to use a male condom. g) Male condoms contain HIV. h) Male condoms are a good way to protect against unwanted pregnancy i) People who use male condoms are not trustworthy in that they may have HIV or some other sexually transmitted infection.</p> | <table border="1"> <thead> <tr> <th></th> <th><u>AGREE</u></th> <th><u>DISAGREE</u></th> <th><u>DK</u></th> </tr> </thead> <tbody> <tr> <td>a)</td> <td>1</td> <td>2</td> <td>8</td> </tr> <tr> <td>b)</td> <td>1</td> <td>2</td> <td>8</td> </tr> <tr> <td>c)</td> <td>1</td> <td>2</td> <td>8</td> </tr> <tr> <td>d)</td> <td>1</td> <td>2</td> <td>8</td> </tr> <tr> <td>e)</td> <td>1</td> <td>2</td> <td>8</td> </tr> <tr> <td>f)</td> <td>1</td> <td>2</td> <td>8</td> </tr> <tr> <td>g)</td> <td>1</td> <td>2</td> <td>8</td> </tr> <tr> <td>h)</td> <td>1</td> <td>2</td> <td>8</td> </tr> <tr> <td>i)</td> <td>1</td> <td>2</td> <td>8</td> </tr> </tbody> </table> | | <u>AGREE</u> | <u>DISAGREE</u> | <u>DK</u> | a) | 1 | 2 | 8 | b) | 1 | 2 | 8 | c) | 1 | 2 | 8 | d) | 1 | 2 | 8 | e) | 1 | 2 | 8 | f) | 1 | 2 | 8 | g) | 1 | 2 | 8 | h) | 1 | 2 | 8 | i) | 1 | 2 | 8 | |
| | <u>AGREE</u> | <u>DISAGREE</u> | <u>DK</u> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| a) | 1 | 2 | 8 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| b) | 1 | 2 | 8 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| c) | 1 | 2 | 8 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| d) | 1 | 2 | 8 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| e) | 1 | 2 | 8 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| f) | 1 | 2 | 8 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| g) | 1 | 2 | 8 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| h) | 1 | 2 | 8 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| i) | 1 | 2 | 8 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

SECTION 4. FERTILITY PREFERENCES

| NO. | QUESTIONS AND FILTERS | CODING CATEGORIES | SKIP |
|-----|---|--|------|
| 401 | CHECK 301: CURRENTLY MARRIED OR LIVING TOGETHER <input type="checkbox"/> NOT MARRIED/NOT IN UNION <input type="checkbox"/> | | →404 |
| 402 | Is your wife/partner currently pregnant? IF MORE THAN ONE WIFE/PARTNER, ASK: Are any of your wives/partners currently pregnant? | YES.....1 NO2 NOT SURE3 | |
| 403 | CHECK 402: WIFE/PARTNER(S) NOT PREGNANT/NOT SURE (CODE '2' OR '3') <input type="checkbox"/> YES, WIFE/PARTNER(S) PREGNANT (CODE '1') <input type="checkbox"/> Now I have some questions about the future. Would you like to have (a/another) child, or would you prefer not to have any (more) children? Now I have some questions about the future. After the child you are expecting now, would you like to have another child, or would you prefer not to have any more children? | HAVE (A/ANOTHER) CHILD.....1 NO MORE/NONE2 WIFE/WIVES CANNOT GET PREGNANT/STERILIZED3 UNDECIDED/DON'T KNOW8 | |
| 404 | CHECK 117: HAS HAD CHILDREN <input type="checkbox"/> HAS NEVER HAD ANY CHILDREN <input type="checkbox"/> If you could go back to the time you did not have any children and could choose exactly the number of children to have in your whole life, how many would that be? If you could choose exactly the number of children to have in your whole life, how many would that be? <u>PROBE FOR A NUMERIC RESPONSE.</u> | NONE00 NUMBER <input type="text"/> <input type="text"/> OTHER _____ 96 (SPECIFY) | |
| 405 | If you could choose the sex of your children, would you prefer to have more girl children or boy children or would sex not matter (CODE AS "EITHER")? | MORE BOYS1 MORE GIRLS2 EITHER (SEX DOES NOT MATTER).....3 | |
| 406 | Do you approve, disapprove of or feel neutral about couples using a method to avoid getting pregnant? | APPROVE1 DISAPPROVE2 NEUTRAL3 DON'T KNOW/UNSURE8 | |
| 407 | CHECK 301: CURRENTLY MARRIED OR LIVING TOGETHER (CODE 1 OR 2) <input type="checkbox"/> NOT MARRIED/NOT IN UNION (CODE 3 OR 4) <input type="checkbox"/> | | →501 |
| 408 | Do you think your wife/partner wants the same number of children that you want, or does she want more or fewer than you want? | SAME NUMBER1 MORE CHILDREN2 FEWER CHILDREN3 DON'T KNOW8 | |
| 409 | In your relationship, would you say that using family planning methods is mainly your decision, mainly your wife's/partner's decision or do you both decide together? | MAINLY RESPONDENT.....1 MAINLY WIFE/PARTNER2 JOINT DECISION3 NEITHER PARTNER DECIDES/NOT DISCUSSED/NOT USING4 OTHER _____ 6 (SPECIFY) | |

SECTION 5. HIV/AIDS AND OTHER SEXUALLY-TRANSMITTED INFECTIONS

| NO. | QUESTIONS AND FILTERS | CODING CATEGORIES | SKIP |
|------|---|--|-------|
| 501 | Now I would like to talk about some important health issues. Have you ever heard of an illness called AIDS? | YES..... 1 NO..... 2 | →515 |
| 502 | Is there anything a person can do to avoid getting HIV/AIDS? | YES..... 1 NO..... 2 DON'T KNOW..... 8 | ↳504 |
| 503 | What can a person do? Anything else? RECORD ALL MENTIONED. UNPROMPTED RESPONSE | ABSTAIN FROM SEX..... A USE CONDOMS..... B LIMIT SEX TO ONE PARTNER/STAY FAITHFUL TO ONE PARTNER..... C LIMIT NUMBER OF SEXUAL PARTNERS D AVOID SEX WITH PROSTITUTES E AVOID SEX WITH PERSONS WHO HAVE MANY PARTNERS F AVOID SEX WITH HOMOSEXUALS..... G AVOID SEX WITH PERSONS WHO INJECT DRUGS INTRAVENOUSLY ... H AVOID BLOOD TRANSFUSIONS I AVOID INJECTIONS J AVOID SHARING RAZORS/BLADES K AVOID KISSING L AVOID MOSQUITO BITES..... M SEEK PROTECTION FROM TRADITIONAL PRACTITIONER N OTHER _____ W (SPECIFY) OTHER _____ X (SPECIFY) DON'T KNOW..... Z | |
| 504 | Please tell me all the ways that you think HIV/AIDS can be transmitted. Any other way? RECORD ALL MENTIONED. UNPROMPTED RESPONSE | UNPROTECTED SEX A UNPROTECTED SEX WITH A PERSON WHO HAS HIV/AIDS B MOSQUITO/ OTHER INSECT BITES C SHARING CUPS/SPOONS/OTHER UTENSILS WITH AN HIV POSITIVE PERSON D FROM MOTHER TO CHILD DURING PREGNANCY E FROM MOTHER TO CHILD DURING DELIVERY F FROM MOTHER TO CHILD DURING BREASTFEEDING G CONTACT WITH BLOOD OR OTHER BODILY FLUIDS H OTHER _____ X (SPECIFY) DON'T KNOW..... Z | |
| 505A | Can people reduce their chances of getting HIV/AIDS by using a condom every time they have sex? | YES..... 1 NO..... 2 DON'T KNOW..... 8 | ↳505C |
| 505B | Can a person get HIV/AIDS from mosquito bites? | YES..... 1 NO..... 2 DON'T KNOW..... 8 | |
| 505C | Do you think using a condom occasionally during sex is as effective, more effective or less effective in reducing the chances for getting HIV/AIDS than using a condom every time during sex? | AS EFFECTIVE 1 LESS EFFECTIVE 2 MORE EFFECTIVE 3 DON'T KNOW..... 8 | |
| 505D | Can people reduce their chances of getting HIV/AIDS by not having sex at all? | YES..... 1 NO..... 2 DON'T KNOW..... 8 | |

| NO. | QUESTIONS AND FILTERS | CODING CATEGORIES | SKIP |
|------|--|---|------|
| 505E | Can people get HIV by sharing food with a person who has HIV/AIDS? | YES.....1 NO.....2 DON'T KNOW.....8 | |
| 505F | Can people reduce their chances of getting HIV/AIDS by having just one sex partner who is not infected and who has no other partners? | YES.....1 NO.....2 DON'T KNOW.....8 | |
| 506 | Is it possible for a healthy-looking person to have HIV/AIDS? | YES.....1 NO.....2 DON'T KNOW.....8 | |
| 507 | Do you know someone personally who has the virus that causes AIDS or someone who died from AIDS? | YES.....1 NO.....2 | |
| 508 | At this point in time, do you think AIDS can be cured or do you think it cannot be cured? | YES, CAN BE CURED.....1 NO, CANNOT BE CURED.....2 DON'T KNOW/NOT SURE.....8 | |
| 509 | Can HIV/AIDS be transmitted from a mother to her child: During pregnancy? During delivery? By breastfeeding? | YES NO DK DURING PREGNANCY.....1 2 8 DURING DELIVERY.....1 2 8 BY BREASTFEEDING.....1 2 8 | |
| 510 | Are there any special drugs that a pregnant woman infected with the HIV/ AIDS can take to reduce the risk of transmission to the baby? | YES.....1 NO.....2 DOES NOT KNOW.....8 | |
| 511 | Have you heard of services offered in government antenatal clinics for preventing mother-to-child HIV/AIDS transmission? | YES.....1 NO.....2 DOES NOT KNOW.....8 | |
| 512 | I do not want to know the results, but have you ever been tested to see if you have HIV/AIDS? | YES.....1 NO.....2 | →514 |
| 513 | I do not want to know the results, but did you get the results of the test? | YES.....1 NO.....2 | →515 |
| 514 | Would you want to be tested for HIV/AIDS? | YES.....1 NO.....2 DK/NOT SURE/DEPENDS.....8 | |
| 515 | (Apart from AIDS), have you heard about (other) infections that can be transmitted through sexual contact? | YES.....1 NO.....2 | →518 |
| 516 | If a man has a sexually transmitted disease (STD), what symptoms might he have? Any others? CIRCLE ALL MENTIONED. | ABDOMINAL PAIN.....A GENITAL DISCHARGE/DRIPPING.....B FOUL SMELLING DISCHARGE.....C BURNING PAIN ON URINATION.....D REDNESS/INFLAMMATION IN GENITAL AREA.....E SWELLING IN GENITAL AREA.....F GENITAL SORES/ULCERS.....G GENITAL WARTS.....H GENITAL ITCHING.....I BLOOD IN URINE.....J LOSS OF WEIGHT.....K IMPOTENCE/NO ERECTION.....L OTHER _____ W (SPECIFY) OTHER _____ X (SPECIFY) NO SYMPTOMS.....Y DON'T KNOW.....Z | |

| NO. | QUESTIONS AND FILTERS | CODING CATEGORIES | | SKIP |
|-----|--|---|--|------|
| 528 | What did you do to avoid infecting your partner(s)? Did you.... Use medicine? Stop having sex? Use a condom when having sex? Go together with your partner to clinic to seek advice? Ask your partner to go to the clinic to seek advice/treatment? | YES USED MEDICINE 1 STOPPED SEX 1 USED CONDOMS 1 WENT TO CLINIC..... 1 ASK PARTNER TO GO 1 | NO 2 2 2 2 2 | |
| 529 | Some men in South Africa have been circumcised. Have you been circumcised? | YES..... 1 NO..... 2 | | |

SECTION 6. ATTITUDES TOWARDS GENDER ROLES

| NO. | QUESTIONS AND FILTERS | CODING CATEGORIES | | | | SKIP |
|-----|---|---|-------------|-------------------------|------------------------|------|
| 601 | <p>In a couple, who do you think should have the greater say in each of the following decisions: the husband, the wife, or both equally:</p> <p>a) Making large household purchases?</p> <p>b) Making small daily household purchases?</p> <p>c) Deciding when to visit family, friends or relatives?</p> <p>d) Deciding what to do with the money she earns for her work?</p> <p>e) Deciding how many children to have and when to have them?</p> <p>f) Deciding on family planning?</p> | HUSB- AND | WIFE | BOTH EQUALLY | DK/ DEPENDS | |
| | | a) 1 | 2 | 3 | 8 | |
| | | b) 1 | 2 | 3 | 8 | |
| | | c) 1 | 2 | 3 | 8 | |
| | | d) 1 | 2 | 3 | 8 | |
| | | e) 1 | 2 | 3 | 8 | |
| | | f) 1 | 2 | 3 | 8 | |
| 602 | <p>Sometimes a man is annoyed or angered by things that his wife/partner does. In your opinion, is a husband justified (is it O.K.) to hit, kick, beat or push his partner in the following situations...</p> <p>a) If she goes out without telling him?</p> <p>b) If she neglects the children?</p> <p>c) If she argues with him?</p> <p>d) If she refuses to have sex with him?</p> <p>e) If she burns the food?</p> <p>f) If she is sexually unfaithful/has other sex partners?</p> | YES | NO | | DK/ DEPENDS | |
| | | a) 1 | 2 | | 8 | |
| | | b) 1 | 2 | | 8 | |
| | | c) 1 | 2 | | 8 | |
| | | d) 1 | 2 | | 8 | |
| | | e) 1 | 2 | | 8 | |
| | | f) 1 | 2 | | 8 | |
| 603 | <p>When a woman knows her partner has a sexually transmitted disease, is she justified in asking that they use a condom?</p> | <p>YES..... 1</p> <p>NO..... 2</p> <p>DOES NOT KNOW 8</p> | | | | |
| 604 | <p>Men and women do not always agree on everything. Please tell me if you think a woman is justified in refusing to have sex with her partner if...</p> <p>a) She is tired and not in the mood?</p> <p>b) She has recently given birth?</p> <p>c) She knows her partner has sex with other women?</p> <p>d) She knows her partner has a sexually transmitted disease?</p> | YES | NO | | DK/ DEPENDS | |
| | | a) 1 | 2 | | 8 | |
| | | b) 1 | 2 | | 8 | |
| | | c) 1 | 2 | | 8 | |
| | | d) 1 | 2 | | 8 | |
| 605 | <p>Do you think that if a woman refuses to have sex with her partner when he wants her to, he has the right to...</p> <p>a) Get angry and reprimand her?</p> <p>b) Refuse to give her money or other means of financial support?</p> <p>c) Use force and have sex with her even if she does not want to?</p> <p>d) Have sex with another woman?</p> | YES | NO | | DK/ DEPENDS | |
| | | a) 1 | 2 | | 8 | |
| | | b) 1 | 2 | | 8 | |
| | | c) 1 | 2 | | 8 | |
| | | d) 1 | 2 | | 8 | |
| 606 | <p>RECORD THE TIME.</p> | <p>HOURS <input type="text"/> <input type="text"/></p> <p>MINUTES <input type="text"/> <input type="text"/></p> | | | | |