

Kenya 2003

# Kenya



Demographic and  
Health Survey

2003

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Nairobi, Kenya

Ministry of Health  
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Kenya Medical Research Institute  
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National Council for Population and Development  
Nairobi, Kenya

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Japan International Cooperation Agency

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## FOREWORD

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This detailed report presents the major findings of the 2003 Kenya Demographic and Health Survey (2003 KDHS). The 2003 KDHS is the fourth survey of its kind to be undertaken in Kenya, others being in 1989, 1993, and 1998. The 2003 KDHS differed in two aspects from the previous KDHS surveys: it included a module on HIV prevalence from blood samples, and it covered all parts of the country, including the arid and semi-arid districts that had previously been omitted from the KDHS. The 2003 KDHS was implemented by the Central Bureau of Statistics. Fieldwork was carried out between April and September 2003.

The primary objective of the 2003 KDHS was to provide up-to-date information for policymakers, planners, researchers, and programme managers, which would allow guidance in the planning, implementation, monitoring and evaluation of population and health programmes in Kenya. Specifically, the 2003 KDHS collected information on fertility levels, marriage, sexual activity, fertility preferences, awareness and use of family planning methods, breastfeeding practices, nutritional status of women and young children, childhood and maternal mortality, maternal and child health, and awareness and behaviour regarding HIV/AIDS and other sexually transmitted infections (STIs). In addition, it collected information on malaria and use of mosquito nets, domestic violence among women, and HIV prevalence of adults.

The 2003 KDHS results present evidence of lower than expected HIV prevalence in the country, stagnation in fertility levels, only a very modest increase in use of family planning methods since 1998, continued increase in infant and under-five mortality rates, and overall decline in indicators of maternal and child health in the country. There is a disparity between knowledge and use of family planning methods. There is also a large disparity between knowledge and behaviour regarding HIV/AIDS and other STIs. Some of the critical findings from this survey, like the stagnation in fertility rates and the declining trend in maternal and child health, need to be addressed without delay.

I would like to acknowledge the efforts of a number of organisations that contributed immensely to the success of the survey. First, I would like to acknowledge financial assistance from the Government of Kenya, the United States Agency for International Development (USAID), the United Kingdom Department for International Development (DFID), the United Nations Population Fund (UNFPA), the Japan International Co-operation Agency (JICA), the United Nations Development Programme (UNDP), the United Nations Children's Fund (UNICEF), and the Centers for Disease Control and Prevention (CDC). Second, in the area of technical backstopping, I would like to acknowledge ORC Macro, CDC, the National AIDS and STIs Control programme (NASCOP), the Kenya Medical Research Institute (KEMRI), and the National Council of Population and Development (NCPD). Special thanks go to the staff of the Central Bureau of Statistics and the Ministry of Health who coordinated all aspects of the survey.

Finally, I am grateful to the survey data collection personnel and, more importantly, to the survey respondents, who generously gave their time to provide the information and blood spots that form the basis of this report.

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Acting Director of Statistics



## SUMMARY OF FINDINGS

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The 2003 Kenya Demographic and Health Survey (2003 KDHS) is a nationally representative sample survey of 8,195 women age 15 to 49 and 3,578 men age 15 to 54 selected from 400 sample points (clusters) throughout Kenya. It is designed to provide data to monitor the population and health situation in Kenya as a follow-up of the 1989, 1993 and 1998 KDHS surveys. The survey utilised a two-stage sample based on the 1999 Population and Housing Census and was designed to produce separate estimates for key indicators for each of the eight provinces in Kenya. Unlike prior KDHS surveys, the 2003 KDHS covered the northern half of Kenya. Data collection took place over a five-month period, from 18 April to 15 September 2003.

The survey obtained detailed information on fertility levels, marriage, sexual activity, fertility preferences, awareness and use of family planning methods, breastfeeding practices, nutritional status of women and young children, childhood and maternal mortality, maternal and child health, awareness and behaviour regarding HIV/AIDS, and other sexually transmitted infections (STIs). New features of the 2003 KDHS include the collection of information on malaria and use of mosquito nets, domestic violence, and HIV testing of adults.

The 2003 KDHS was implemented by the Central Bureau of Statistics (CBS) in collaboration with the Ministry of Health (including the National AIDS and STIs Control Programme-NASCOP and the Kenya Medical Research Institute-KEMRI), and the National Council for Population and Development (NCPD). Technical assistance was provided through the MEASURE/DHS programme, in collaboration with the U.S. Centers for Disease Control and Prevention (CDC). Financial support for the survey was provided by the Government of Kenya and a consortium of donors, including: the U. S. Agency for International Development (USAID), the United Nations Population Fund (UNFPA), Japan International Cooperation Agency (JICA)/United Nations Development Programme (UNDP), the United Nations Children's Fund (UNICEF), the British Department for International Development (DFID), and

the Centers for Disease Control and Prevention (CDC).

### FERTILITY

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**Fertility Levels and Trends.** One of the most surprising findings from the 2003 KDHS is that the previously documented decline in fertility appears to have stalled. The total fertility rate of 4.9 children per woman for the three-year period preceding the survey (mid-2000 to mid-2003) is almost identical to the rate of 5.0 derived from the 1999 Population and Housing Census. Comparison with the 1998 KDHS requires restricting analysis to the southern parts of the country that were sampled in both surveys; this comparison shows a slight increase in fertility from 4.7 children per woman between 1995 and 1998 to 4.8 between 2000 and 2003. Given the dramatic decline in fertility from the late 1970s to the mid-1990s (from 8.1 to 4.7), this plateau in fertility is worrisome.

**Fertility Differentials.** There are substantial differences in fertility levels in Kenya. The total fertility rate is considerably higher in the rural areas (5.4 children per woman) than urban areas (3.3 children per woman). Regional differences are also marked. Fertility is lowest in Nairobi Province (2.7 children per woman) and highest in North Eastern Province (7.0 children per woman). Fertility in Central Province is also relatively low (3.4), compared with Nyanza (5.6), Rift Valley (5.8) and Western (5.8) Provinces.

In accordance with expectations, education of women is strongly associated with lower fertility. The total fertility rate (TFR) decreases dramatically from 6.7 for women with no education to 3.2 for women with at least some secondary education. In terms of trends over time, fertility has actually increased among women with no education and has only declined among those with some secondary education.

**Unplanned Fertility.** Despite a relatively high level of contraceptive use, the 2003 KDHS data indicate that unplanned pregnancies are common in Kenya. Overall, 20 percent of births in Kenya are unwanted, while 25 percent are mistimed (wanted later). Overall, the proportion of births considered mistimed or unwanted has changed little, compared with the

1998 KDHS; however, the trends show a sizeable increase in the percentage of births that are unwanted and a comparable reduction in those that are mistimed.

**Fertility Preferences.** The desire to have more children has increased since 1998 among both women and men. For example, the proportion of married women who want another child has increased from 40 to 45 percent (excluding the northern districts in order to be comparable). Nationally, 47 percent of married women want to have another child—29 percent later and 16 percent soon (within two years). There has been little change in the ideal number of children. In 2003, among women, the mean ideal family size is 3.9 children.

## **FAMILY PLANNING**

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**Knowledge of Contraception.** Knowledge of family planning is nearly universal, with 94 percent of all women age 15 to 49 and 97 percent of men age 15 to 54 knowing at least one modern method of family planning. Among all women, the most widely known methods of family planning are the male condom (91 percent), pills (90 percent), and injectables (89 percent). Three-quarters of all women have heard of female sterilisation, while about two-thirds have heard of the IUD, implants, and periodic abstinence.

Trends in contraceptive knowledge since the 1998 KDHS are mixed. Although it appears as if there has been a slight drop in knowledge since 1998, it is mostly due to the inclusion of the northern areas of Kenya in 2003. When these areas are excluded, there has been no change in overall levels of knowledge of any method or any modern method. Nevertheless, the level of knowledge of several methods has declined slightly since 1998. For example, among all women (excluding the northern districts), the percentages who know of female sterilisation, the pill, the IUD, and periodic abstinence have declined slightly since 1998. On the other hand, the percentages who know of male sterilisation, male condoms, injectables, implants and withdrawal have increased slightly.

**Use of Contraception.** Almost four in ten married women (39 percent) in Kenya are using a

method of family planning. Most are using a modern method (32 percent of married women), while 8 percent use a traditional method. Injectables, pills, and periodic abstinence are the most commonly used contraceptive methods, used by 14 percent, 8 percent, and 6 percent of married women, respectively.

**Trends in Contraceptive Use.** Contraceptive use has increased slightly since 1998, from 39 to 41 percent of married women (excluding the northern part of the country so as to be comparable to 1998). This is far less than the 6 percentage point rise in the five years between 1993 and 1998. Nevertheless, the 2003 KDHS corroborates trends in method mix, namely, a continuing increase in use of injectables and decrease in use of the pill as was the case in earlier KDHS surveys.

**Differentials in Contraceptive Use.** As expected, contraceptive use increases with level of education. Use of modern methods increases from 8 percent among married women with no education to 52 percent among women with at least some secondary education. Use of modern contraception among women with no education dropped from 16 percent in 1998 to 11 percent in 2003 (excluding the northern areas).

**Source of Modern Methods.** In Kenya, public (government) facilities provide contraceptives to slightly more than half (53 percent) of modern method users, while 41 percent are supplied through private medical sources, 5 percent through other private sources (e.g. shops) and only 1 percent through community-based distribution.

**Discontinuation Rates.** Overall, almost four in ten women (38 percent) discontinue use within 12 months of adopting a method. The 12-month discontinuation rate for injectables (32 percent) and periodic abstinence (33 percent) are lower than for the pill (46 percent) and male condom (59 percent). Discontinuation rates have increased since 1998, from 33 percent to 38 percent of users. This seems to be due to higher discontinuation rates for the pill and injectables, while rates for condoms and periodic abstinence have remained stable.

**Unmet Need for Family Planning.** One-quarter of currently married women in Kenya have an unmet need for family planning, unchanged since 1998. Three-fifths of unmet need is comprised of women who want to wait two or more years before having

their next child (spacers), while two-fifths is comprised of women who want no more children (limiters).

## **MATERNAL HEALTH**

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**Antenatal Care.** The 2003 KDHS data indicate that 88 percent of women in Kenya receive antenatal care from a medical professional, either from doctors (18 percent) or nurses or midwives (70 percent). A small fraction (2 percent) receives antenatal care from traditional birth attendants, while 10 percent do not receive any antenatal care. The 2003 data indicate a slight decline since 1998 in medical antenatal care coverage.

Just over half of women (52 percent) received two or more tetanus toxoid injections during pregnancy for their most recent birth in the five years preceding the survey, while 34 percent received one dose. There has been little change since 1998 in the proportion of women receiving tetanus toxoid injections during pregnancy.

With regard to anti-malarial indicators, the 2003 KDHS data shows that only 4 percent of pregnant women slept under an insecticide-treated mosquito net the night before the survey and 4 percent received intermittent preventive treatment with anti-malarial medication during antenatal care visits.

**Delivery Care.** Proper medical attention and hygienic conditions during delivery can reduce the risk of serious illness among mothers and their babies. The 2003 KDHS found that two out of five births (40 percent) are delivered in a health facility, while 59 percent are delivered at home. There has been no change since 1998 in the proportion of births occurring at home.

Similarly, 42 percent of births in Kenya are delivered under the supervision of a health professional, mainly a nurse or midwife. Traditional birth attendants continue to play a vital role in delivery, assisting with 28 percent of births. Relatives and friends assist in 22 percent of births. The proportion of births assisted by medically trained personnel has remained constant since 1998. Only 4 percent of births are delivered by Caesarean section, a slight decline since 1998.

**Maternal Mortality.** Data on the survival of respondents' sisters were used to calculate a ma-

ternal mortality ratio for the 10-year period before the survey, which was estimated as 414 maternal deaths per 100,000 live births. This represents a decline from the rate of 590 maternal deaths per 100,000 live births for the ten-year period prior to the 1998 KDHS; however, the sampling errors around each of the estimates are large and consequently, the two estimates are not significantly different. Thus, it is impossible to say with confidence that maternal mortality has declined. However, a comparison of data from the 1998 and 2003 KDHS surveys indicates a substantial increase in overall adult mortality rates for both males and females at all ages, with the exception of age group 15 to 19 among men.

## **CHILD HEALTH**

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**Childhood Mortality.** Data from the 2003 KDHS show that child mortality levels have been more or less stable over the recent few years. For the most recent five-year period preceding the survey, infant mortality is 77 deaths per 1,000 live births and under-five mortality is 115 deaths per 1,000 live births. This means that one in every nine children born in Kenya dies before attaining their fifth birthday.

**Childhood Vaccination Coverage.** In the 2003 KDHS, mothers were able to show a health card with immunisation data for only 60 percent of children age 12-23 months. Accordingly, estimates of coverage are based on both data from health cards and mothers' recall. The data show that 57 percent of children 12-23 months are fully vaccinated against the major childhood illnesses. This represents a deterioration in immunisation coverage for children. Seven percent of children 12-23 months have not received any of the recommended immunisations.

**Child Illness and Treatment.** Among children under five years of age, 18 percent were reported to have had symptoms of acute respiratory illness in the two weeks preceding the survey, while 41 percent had a fever in the two weeks preceding the survey and 16 percent had diarrhoea. Forty-six percent of children with symptoms of ARI and/or fever were taken to a health facility or provider for treatment. Thirty percent of children with diarrhoea were taken to a facility for treatment, while half were given either a solution prepared from oral rehydration salt (ORS) packets or increased fluids. Among children with fever in the two weeks preceding the survey, 11 percent were given the recommended medicine, sulfadoxine-pyrimethamine or SP, although only 6 percent of children received SP within a day of the onset of the fever. Survey data also

indicate that only 5 percent of children under five slept under an insecticide-treated mosquito net the night before the survey.

## **NUTRITION**

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**Breastfeeding Practices.** Breastfeeding is nearly universal in Kenya; 97 percent of children are breastfed. The median duration of breastfeeding is 20 months, similar to the duration documented in the 1993 and 1998 KDHSs. The 2003 KDHS data indicate that supplementary feeding of children begins early. For example, among newborns less than two months of age, 45 percent are receiving supplementary foods or liquids other than water. The median duration of exclusive breastfeeding is estimated at less than one month.

Bottle-feeding is common in Kenya; 27 percent of children under 6 months are fed with bottles with teats. Nevertheless, use of infant formula milk is minimal; only 5 percent of children below six months receive commercially produced infant formula.

**Intake of Vitamin A.** Ensuring that children between six months and 59 months receive enough vitamin A may be the single most effective child survival intervention, since deficiencies in this micronutrient can cause blindness and can increase the severity of infections, such as measles and diarrhoea. Overall, 62 percent of children under age three years consume vitamin A-rich foods and 33 percent of children age 6-59 months received a vitamin A supplement in the six months preceding the survey.

**Nutritional Status of Children.** Survey data show that the nutritional status of children under five has improved only slightly in the past few years. At the national level, 30 percent of children under five are stunted (low height-for-age), while 6 percent of children are wasted (low weight-for-height) and 20 percent are underweight (low weight-for-age). Children in Coast Province are most likely to be stunted, while those in North Eastern Province are most likely to be wasted and underweight.

**Nutritional Status of Women.** The mean body mass index (BMI) for women age 15-49 has increased very slightly since 1998 and is now 23.

## **HIV/AIDS**

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**Awareness of AIDS.** Almost all (99 percent) of Kenyan women and men have heard of AIDS. More than 4 in 5 respondents (81 percent of women and 89 percent of men) indicate that the chances of getting the AIDS virus can be reduced by limiting sex to one faithful partner. Similarly, 61 percent of women and 72 percent of men know that condoms can reduce the risk of contracting the HIV virus during sexual intercourse. As expected, the proportion of both women and men who know that abstaining from sex reduces the chances of getting the AIDS virus is high—79 percent among women and 89 percent among men.

Almost three-quarters of women (72 percent) and two-thirds of men (68 percent) know that HIV can be transmitted by breastfeeding; however, only one-third of women (33 percent) and 38 percent of men know that the risk of maternal to child transmission can be reduced by the mother taking certain drugs during pregnancy. Eighty-five percent of women and 90 percent of men are aware that a healthy-looking person can have the AIDS virus.

**Attitudes Towards HIV-Infected People.** Large majorities of Kenyan women and men (84 and 88 percent, respectively) express a willingness to care for a relative sick with AIDS in their own household, while far fewer (60 and 74 percent, respectively) say they would be willing to buy fresh vegetables from a vendor who has the AIDS virus. Survey results further indicate that only 57 and 60 percent of women and men, respectively, believe that a female teacher who has the AIDS virus should be allowed to continue teaching in school. Finally, 59 percent of women and 72 percent of men say that if a member of their family got infected with the virus that causes AIDS, they would not necessarily want it to remain a secret.

**HIV-Related Behavioural Indicators.** Comparison of data from the 2003 KDHS with similar data from the 1998 KDHS indicates that there has been an increase in the age at first sexual experience. The median age at first sex among women age 20 to 49 has increased from 16.7 to 17.8, even when the northern areas of Kenya are excluded to make the data more comparable. Since the most important mechanism of HIV transmission is sexual intercourse, it is important to know the extent of multiple sexual partners. The 2003 KDHS data show that only 2 percent of women and 12 percent of men report having had more than one sexual partner in the 12 months prior to the survey.

**HIV Prevalence.** In the one-half of the households selected for the man's survey, all women and men who were interviewed were asked to voluntarily provide some drops of blood for HIV testing in the laboratory. Results indicate that 7 percent of Kenyan adults are infected with HIV. HIV prevalence is nearly 9 percent among women age 15 to 49 and under 5 percent among men 15 to 54. The female-to-male ratio is higher than that found in most population-based studies in Africa and is due to the fact that young women are particularly vulnerable to HIV infection compared to young men. The peak prevalence among women is at age 25 to 29 (13 percent), while prevalence rises gradually with age among men to peak at age 40 to 44 (9 percent). Only in the 45 to 49 year age group is HIV prevalence among men higher than that for women.

**Patterns of HIV Prevalence.** Urban residents have a significantly higher risk of HIV infection (10 percent) than rural residents (6 percent). The HIV epidemic also shows regional heterogeneity. Nyanza Province has an overall prevalence of 15 percent, followed by Nairobi with 10 percent. All other provinces have levels between 4 percent and 6 percent overall, except North Eastern Province where no respondent tested positive. Women and men who are widowed have significantly higher rates than married respondents. Survey findings indicate that there is a strong relationship between HIV prevalence and male circumcision; 13 percent of men who are uncircumcised are HIV infected, compared with 3 percent of those who are circumcised. Among couples who are married or living together, 7 percent are discordant, with one partner infected and the other uninfected.

## **GENDER-RELATED VIOLENCE**

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**Violence Since Age 15.** Not only has domestic violence against women been acknowledged worldwide as a violation of the basic human rights of women, but an increasing amount of research highlights the health burdens, intergenerational effects, and demographic consequences of such

violence. In the 2003 KDHS, women were asked if they had experienced violence since age 15. The data show that half of women have experienced violence since they were 15 and one in four reported experiencing violence in the 12 months preceding the survey. The main perpetrators are husbands, and to a lesser extent, teachers, mothers, fathers and brothers.

**Marital Violence.** Twenty-six percent of ever-married women report having experienced emotional violence by husbands, 40 percent report physical violence and 16 percent report sexual violence. Almost half (47 percent) of ever-married women report suffering emotional, physical or sexual violence, while 8 percent have experienced all three forms of violence by their current or most recent husband. Two in three women who have experienced physical or sexual violence by their husbands have experienced such violence in the 12 months preceding the survey. One-quarter of ever-abused women (26 percent) have experienced spousal violence three or more times in the last 12 months. The factor most strongly related to marital violence is husband's alcohol and/or drug use; violence is 2-3 times more prevalent among women who say their husbands get drunk or take illegal drugs very often compared to those whose husbands do not drink or take illegal drugs.

**Attitudes Towards Marital Violence.** To gauge the acceptability of domestic violence, women and men interviewed in the 2003 KDHS were asked whether they thought a husband would be justified in hitting or beating his wife in each of the following five situations: if she burns the food; if she argues with him; if she goes out without telling him; if she neglects the children; and if she refuses to have sexual relations with him. Results show that two-thirds of Kenyan women and men agree that at least one of these factors is sufficient justification for wife beating.

**Female Genital Cutting.** Survey data show that 32 percent of Kenyan women are circumcised. This represents a decline from the level recorded in the 1998 KDHS (from 38 to 31 percent, excluding the northern districts so as to be comparable).



# KENYA

