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# Demographic and Health Survey 1993

Republic of Kenya

National Council for Population and Development

Central Bureau of Statistics

Office of the Vice President and Ministry of Planning and National Development

DHS

Demographic and Health Surveys

Macro International Inc.

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National Council for Population and Development
Central Bureau of Statistics
Office of the Vice President and Ministry of Planning and National Development
Nairobi, Kenya

Macro International Inc.
Calverton, Maryland USA

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This report summarises the findings of the 1993 Kenya Demographic and Health Survey (KDHS) conducted by the National Council for Population and Development and the Central Bureau of Statistics. Macro International Inc. provided technical assistance. Funding was provided by the U.S. Agency for International Development (USAID) and the Government of Kenya.

The KDHS is part of the worldwide Demographic and Health Surveys (DHS) program, which is designed to collect data on fertility, family planning, and maternal and child health. Additional information about the Kenya survey may be obtained from the National Council for Population and Development, P.O. Box 30478, Nairobi, Kenya (Telephone: 228-411; Fax: 213-642). Additional information about the DHS program may be obtained by writing to: DHS, Macro International Inc., 11785 Beltsville Drive, Calverton, MD 20705 (Telephone: 301-572-0200; Fax: 301-572-0999).

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# FOREWORD

The 1993 Kenya Demographic and Health Survey (KDHS) is the second survey of its kind to be carried out in the country; the first one was conducted in 1989. Information on fertility, infant and child mortality, knowledge and practice of family planning, maternal and child health and AIDS awareness was collected. The survey therefore provides a complete set of relevant data for evaluation of population, health and family planning programmes, and necessary information for assessing the overall demographic situation in the country since 1989 and for development of future strategies. We hope that policymakers, health project implementers, social scientists and researchers will make optimal use of the survey data.

The 1993 KDHS reinforces evidence of a major decline in fertility which was first revealed by the findings of the 1989 KDHS. Fertility continues to decline and family planning use has increased. However, the disparity between knowledge and use of family planning remains quite wide. There are indications that infant and under five child mortality rates are increasing, which in part might be attributed to the increase in AIDS prevalence. These are some of the critical issues that need to be addressed without delay.

Finally, I would like to acknowledge assistance by both the Washington, D.C. and Kenya offices of the United States Agency for International Development (USAID) for financial support, Macro International Inc. of Calverton, Maryland, USA for technical support, and the Central Bureau of Statistics and the National Council for Population and Development for making the 1993 KDHS a success.

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# EXECUTIVE SUMMARY

The 1993 Kenya Demographic and Health Survey (KDHS) was a nationally representative survey of 7,540 women age 15-49 and 2,336 men age 20-54. The KDHS was designed to provide information on levels and trends of fertility, infant and child mortality, family planning knowledge and use, maternal and child health, and knowledge of AIDS. In addition, the male survey obtained data on men's knowledge and attitudes towards family planning and awareness of AIDS. The data are intended for use by programme managers and policymakers to evaluate and improve family planning and maternal and child health programmes. Fieldwork for the KDHS took place from mid-February until mid-August 1993. All areas of Kenya were covered by the survey, except for seven northern districts which together contain less than four percent of the country's population.

The KDHS was conducted by the National Council for Population and Development (NCPD) and the Central Bureau of Statistics of the Government of Kenya. Macro International Inc. provided financial and technical assistance to the project through the international Demographic and Health Surveys (DHS) contract with the U.S. Agency for International Development.

**Fertility.** Survey results show that fertility has declined precipitously in Kenya over the last 5-10 years. At current fertility levels, a Kenyan woman will give birth to an average of 5.4 children during her reproductive years. Although this is still high, it is far lower than the level of 6.7 births per women reported for the late 1980s. A rural woman can expect to have an average of 5.8 children, over two children more than an urban women (3.4 children). Fertility rates are much higher in Western Province (6.4 children per woman) than in Nairobi and Central Province (3.4 and 3.9, respectively).

Childbearing begins early in Kenya. One in five teenage women (age 15-19) has begun childbearing (either given birth or is pregnant with her first child). By the time they reach age 19, over 40 percent of women have begun childbearing.

Births that occur too soon after a previous birth face higher risks of illness and early death. The KDHS shows that one-quarter of births in Kenya take place less than two years after a prior birth.

**Marriage.** There has been a steady increase over the past two decades in the age at which Kenyan women first marry. The median age at marriage among women age 25-29 is 19.5, compared to 18.1 among women age 45-49. Women with secondary education generally marry three years later (21.5) than women with no education (17.0). Women in Coast and Nyanza Provinces have the lowest median age at first marriage (17.4).

Twenty percent of currently married women are in polygynous unions. Polygyny occurs in all provinces and age groups. It is most common among uneducated women (33 percent). The median age at first sexual intercourse is about 17 years for women.

**Fertility Preferences.** Over half of married women in Kenya either do not want to have any more children or have been sterilised. Another one quarter of women want to wait two years or longer before having their next child. Thus, 78 percent of all married women in Kenya either want to space or to limit their births.

When asked how many children they would like to have if they could live their lives over and choose exactly, women report an average ideal family size of 3.7 children. There has been a large decline in ideal family size over the past decade, from a mean of 5.8 children reported in a 1984 survey to 4.4 reported in the 1989 KDHS, to 3.7 in 1993.

Results from the survey indicate that if unwanted births were eliminated, the fertility rate in Kenya would be 3.4 births per woman or 2 children fewer than the actual fertility rate of 5.4.

Men want slightly more children than women. Regardless of the number of children they already have, a higher percentage of men than women say they want to have another child. The average ideal number of children among is 3.8 among men and 3.7 for women.

**Family Planning.** Knowledge of some family planning method is virtually universal among both men and women. Among currently married respondents, 97 percent of women and men know at least one modern contraceptive method. The pill, injection, female sterilisation and condom are the most widely known methods. Moreover, almost all women and men who know a method, also know of a place to obtain it.

One third of married women are currently using a contraceptive method. The level of use has almost doubled in the past decade, from 17 percent of married women in 1984 to 33 percent in 1993. Use of **modern** methods has increased even faster--from 10 to 27 percent of married women.

Over 80 percent of women users employ modern methods, principally the pill (10 percent of married women), injection (7 percent) and female sterilisation (6 percent). Use of the pill and injection has risen particularly rapidly over the last five years.

Among both men and women, contraceptive use is higher in urban than in rural areas. The differential in use by education level is particularly striking: 20 percent of married women with no education are using family planning, compared to 52 percent of those with some secondary education.

Contraceptive use also varies greatly by province. Women in Central Province have the highest prevalence rate (56 percent), compared to Coast Province with the lowest (20 percent).

The government is the most important provider of family planning services, supplying over two-thirds of the women who use modern methods.

Over one third of currently married women in Kenya have an unmet need for family planning. This group comprises women who are not using any family planning methods but either want to wait two years or more before their next birth (22 percent) or do not want any more children (15 percent). Combined with the 33 percent of married women who are currently using a contraceptive method, the total potential demand for family planning comprises almost 70 percent of married women in Kenya.

**Child Mortality.** KDHS findings indicate that one in ten Kenyan children dies before reaching his/her fifth birthday. For the most recent five-year period (1988-93), under-five mortality was 96 per 1,000 live births and infant mortality 62 per 1,000 live births.

There has apparently been no change in childhood mortality over the past decade, according to the birth histories recorded from women interviewed in the survey. Further evidence that the previous rapid decline in childhood mortality has stagnated comes from a comparison of the childhood mortality data from the 1989 and 1993 KDHSs, which also show no real change.

Differences in mortality by province are quite marked. Childhood mortality is exceptionally high in Nyanza Province, where almost one in five children do not live to see their fifth birthdays. The infant mortality rate in Nyanza Province (128) is almost twice that of the second highest rate (Coast Province--68).

KDHS data indicate that spacing births can potentially reduce childhood mortality levels; a child born less than 24 months after a preceding child is almost twice as likely to die before his first birthday than a child born after an interval of four or more years. Risks are also greater for children whose birth order is greater than seven and those born to mothers under age 20.

**Maternal Health.** Utilisation of antenatal services is high. In the five years prior to the survey, mothers received antenatal care for 95 percent of births. The median number of antenatal care visits is 4.7.

Mothers reported receiving at least one tetanus toxoid injection for about 90 percent of births in the five years preceding the survey.

Over half (55 percent) of births take place at home. Forty-five percent of deliveries are assisted by medically trained personnel, while almost one quarter are assisted by relatives; ten percent of women deliver without assistance.

**Child Health.** The KDHS found that 79 percent of children aged 12-23 months were fully vaccinated and only 3 percent had not received any vaccinations at all. Seventy-one percent of children had received all the recommended vaccinations during the first year of life.

Children of lower birth orders (1-3) are more likely to be fully vaccinated than children of higher birth orders. Coverage levels are higher for children in Central Province and Nairobi and lower for children in Nyanza and Western Provinces.

During the two weeks before the survey, 18 percent of children under age five experienced symptoms of acute respiratory infection (ARI)--cough with short, rapid breathing. Half of these children were taken to a health facility or doctor for treatment.

Four in ten children under five (42 percent) were reported to have had fever in the two weeks preceding the survey; half of these children were taken to a health facility for treatment. Many of the children with fever who were taken to a health facility received antimalarial medicine.

Fourteen percent of children under five had diarrhoea during the two weeks preceding the survey. About 40 percent of these children were taken to a health facility for treatment. Among children with diarrhoea, one-third were given a solution prepared from ORS packets and almost half received increased fluids to drink.

**Nutrition.** Almost all children born in the five years before the survey (97 percent) were breastfed for some period of time. The median duration of breastfeeding is 21 months. In Kenya, the introduction of supplementary liquids and foods in addition to breast milk occurs far too early in life; over half of children under the age of two months are given some form of supplemental feeding. Use of infant formula is not widespread in Kenya. Bottlefeeding, however, is more common; one in six infants under the age of 4 months is fed with a bottle.

One in three children under the age of five is short for his/her age (stunted), which reflects chronic undernutrition. This proportion is 14 times the level expected in a healthy, well-nourished population. Twelve percent of the children were severely stunted.

Six percent of children under five are wasted (i.e., low weight low in relation to height). Wasting generally indicates acute undernutrition in recent months and may be related to illness or shortage of food.

Women whose height is 150 centimetres or less and whose mean body mass index (BMI) falls below 18.5 are considered to be at greater risk of being undernourished than other women. Height and weight measurements were obtained in the KDHS for mothers of children under age five. These data show that less than six percent of mothers are shorter than 150 centimetres. The mean weight was 55.8 kilogrammes; 9 percent of mothers have a BMI below 18.5.

**Knowledge of AIDS.** All but a tiny fraction of respondents reported they had heard about AIDS. Almost all (96 percent of men and 90 percent of women mentioned sexual intercourse as a mode of transmission of the AIDS virus. About 90 percent of respondents say it is possible for a mother with the AIDS virus to pass it along to her child at birth.

A large majority of men and women said it is possible to protect against getting AIDS. About 40 percent of men and women know someone who either has AIDS or who died of AIDS. And two-thirds of men and almost half of women say they themselves can get AIDS.

Misconceptions regarding modes of transmission of the AIDS virus are common. About one-quarter of men and women interviewed said they believed it was possible to get AIDS from sharing clothes or eating utensils with someone who has AIDS; one-third of respondents said it is possible to get AIDS from kissing somone who has AIDS, and over half say it is possible to get AIDS from insect bites.

One-third of men and less than 5 percent of women said they had had two or more sexual partners in the six months prior to the survey. Twenty percent of men and 6 percent of women said they had used a condom in the six months before the survey. Condom use was much higher among those who reported having more sexual partners.

**Availability of Health and Family Planning Services.** KDHS data indicate that about half of women (48 percent) live in communities served by community-based distributors (CBDs) of family planning methods. Of these, half (23 percent of all women) are covered by government-sponsored CBDs and half by CBDs sponsored by non-governmental organisations.

At least some method of family planning is readily available in Kenya. Two-thirds of married women live within 5 kilometres of a source of family planning services. Health services are somewhat less proximate. Half of women live within 5 kilometres of a facility that provides antenatal care and only one-third live within 5 kilometres of a facility that provides delivery services.

**Conclusions.** Fertility and family planning behaviour in Kenya have changed dramatically over the past decade. Fertility levels have fallen sharply and use of family planning has almost doubled. Use of modern contraceptive methods has almost tripled since 1984. Today, virtually all married women and men have heard of at least one family planning method, well over half have used a method at some time, and one-third of married women are currently using a method.

The KDHS data also indicate that family planning methods are easily accessible to the vast majority of women, although, of course, not all methods are equally available. Moreover, attitudes towards contraceptive use are generally favourable.

Despite these successes of the family planning programme in Kenya, there are a number of continuing challenges. One is that the level of unwanted fertility remains high; one in six recent births was

unwanted and one in three was mistimed. KDHS data indicate that the fertility rate in Kenya would be substantially lower if all unwanted births could be avoided.

Another challenge is to reduce regional disparities in fertility, fertility preferences and family planning use. For example, fertility in Coast Province has hardly declined at all, no doubt because women there have the highest mean ideal family size, the lowest proportion who want no more children, and the lowest proportions who approve of and use family planning. Thus efforts in Coast Province should concentrate on education and motivation activities. In Western Province, both fertility and unmet need are highest.

The results from the KDHS indicate that Kenya has made remarkable progress in the delivery of key child survival interventions: use of antenatal care is high; tetanus toxoid coverage among pregnant women is high; almost half of women deliver with the assistance of medical professionals; childhood immunisation coverage is high; there is a fairly high level of utilisation of curative services for diarrhoea and acute respiratory infections; one-third of children with diarrhoea are given oral rehydration salts.

Yet, one in ten Kenyan children dies before reaching his/her fifth birthday. Moreover, declines in childhood mortality have stagnated recently. Poor nutrition may play a role; one-third of children under five are stunted. Spacing births at longer intervals can also reduce the level of childhood mortality. KDHS data show substantially lower infant mortality among children born four years or more after a prior birth compared to those born two years or less after a sibling. Mortality among children under five is particularly high in Nyanza Province.

The AIDS epidemic poses a major threat for the health of adults and children in Kenya. Data on knowledge of AIDS among adult men and women show that AIDS awareness is high, but that the quality of knowledge on AIDS can still be improved. More importantly, the survey results on sexual behaviour indicate that having multiple partners is common and condom use is not widespread.

# KENYA

SUDAN

ETHIOPIA

EASTERN PROVINCE

RIFT VALLEY PROVINCE

SOMALIA

UGANDA

NORTH EASTERN PROVINCE

WESTERN PROVINCE

NYANZA PROVINCE

CENTRAL PROVINCE

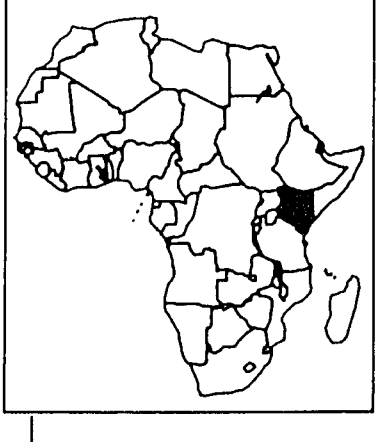
NAIROBI

COAST PROVINCE

NOT SURVEYED

TANZANIA

INDIAN OCEAN



MAP KEY

21 Nairobi

CENTRAL PROVINCE
- 22 Kiambu
- 26 Kirinyaga
- 23 Murang'a
- 17 Nyandarua
- 24 Nyeri

COAST PROVINCE
- 33 Kilifi
- 31 Kwale
- 35 Lamu
- 32 Mombasa
- 30 Taita
- 34 Tana River

EASTERN PROVINCE
- 27 Embu
- 37 Isiolo
- 29 Kitui
- 28 Machakos*
- 39 Marsabit
- 25 Meru *

NORTHEASTERN PROVINCE
- 36 Garissa
- 41 Mandera
- 40 Wajir

NYANZA PROVINCE
- 13 Kisii*
- 11 Kisumu
- 7 Siaya
- 12 South Nyanza*

RIFT VALLEY PROVINCE
- 15 Baringo
- 3 Elgeyo Marakwet
- 20 Kajiado
- 14 Kericho*
- 16 Laikipia
- 18 Nakuru
- 9 Nandi
- 19 Narok
- 38 Samburu
- 4 Trans Nzola
- 1 Turkana
- 10 Uasin Gishu
- 2 West Pokot

WESTERN PROVINCE
- 5 Bungoma
- 6 Busia
- 8 Kakamega*

* Note: Each of the six districts marked with an asterisk was recently subdivided into two or more districts. The former boundaries are shown here since they were used in this survey.

# CHAPTER 1

# INTRODUCTION

## 1.1 Geography, History, and Economy

### Geography

Kenya covers an area of 582,000 square kilometres. It borders Ethiopia in the north, Sudan in the northwest, Uganda on the west, Tanzania in the south and Somalia in the east. It has 400 kilometres of Indian ocean shoreline. Lying between 3 degrees north and 5 degrees south latitude and between 34 and 41 degrees east longitude, it is entirely within the equatorial zone. The country is almost bisected by the equator.

The country falls into two distinct regions, i.e., lowland and highland (upland) Kenya. This distinction affects the climate, patterns of human settlement and agricultural activities. Kenya has an unusually diversified physical environment—savannah, tropical, equatorial volcanic and tectonic. Approximately 80 percent of Kenya's land is arid and semi-arid and only 20 percent is arable. A large part of the arid and semi-arid zones have been set aside for wildlife conservation.

The main climatic feature is the long rainy season from March to May. This is followed by a long dry spell from May to October. Short rains come between October and December. In the area around Lake Victoria in the west, rains are well distributed throughout the year.

Kenya is divided into 8 provinces, which are sub-divided into districts. In all there are 48 districts, seven of which were recently delineated.

### History

Kenya became a nation independent from British rule on December 12, 1963. It was a multi-party state until 1982, when the constitution was amended to make it a one-party state. In November 1991, in line with political changes taking place the world over, Parliament repealed the section of the constitution which made Kenya a one-party state. A multi-party election was held in December 1992.

There are 43 ethno-linguistic groups in Kenya. The major groups are Kikuyu, Luo, Luhya, Kamba, Kalenjin, Mijikenda, Meru, Embu, and Kisii. Kikuyus primarily live in Central Province, Luos inhabit the western part of Nyanza Province, Luhyas live in Western Province, Kambas in the southern part of Eastern Province, Kalenjins in Rift Valley Province, Mijikendas in Coast Province, Merus in the northern part of Eastern Province and Kisiis in the eastern part of Nyanza Province. Christianity and Islam are the major religions.

### Economy

Agriculture is the mainstay of Kenya's economy, accounting for about 25 percent of the gross domestic product (GDP); manufacturing accounts for about 13 percent of the GDP. Coffee, tea and tourism are the main foreign exchange earners.

Since its independence in 1963, the country has gone through several economic phases. In the first 10 years of independence, the country enjoyed low inflation, high employment creation, and a relatively stable balance of payments position. GDP growth rates averaged 6.5 percent per annum.

The second phase (1973-1980) saw the record growth upset by three major shocks. The first was the sharp rise in oil prices in 1973, which created considerable internal and external economic imbalances. In 1977-78, the prices of coffee and tea rose significantly, which immediately improved the balance of payments position, but subsequently created internal imbalances. The third shock was experienced when oil prices rose again in 1979. Despite these setbacks, Kenya enjoyed an average growth rate in GDP of 5.2 percent per annum, reflecting a moderate reduction in the high growth rates achieved in the first 10 years of independence.

The third phase (1980-1985) was characterised by slow growth in GDP (2.5 percent). This economic decline resulted from several confounding factors, including high cost of oil, a global recession in 1980-1982, as well as a drought in 1984.

Phase Four started at the end of 1986, when the government implemented adjustment programmes in agriculture, trade and industry. Supported with an adequate external resources flow, principally from the World Bank and the International Monetary Fund, the adjustment program accelerated the growth in GDP to an average of 5.8 percent per annum.

Phase Five of the Kenyan economy began in 1990 when GDP growth fell to 4.3 percent. It fell further to 2.2 percent in 1991 and 0.4 percent in 1992. This declining growth is attributed to a decline in external resources and poor performance of Kenya's main exports.

## 1.2 Population

On the basis of census statistics, Kenya's population increased from 5.4 million in 1948 to 15.3 million in 1979 and to 21.4 million in 1989 (CBS, 1994) (see Table 1.1). Results of the 1989 census indicate that the intercensal population growth rate for Kenya is 3.4 percent per annum. This represents a modest decline from the growth rate of 3.8 percent per annum estimated from the 1979 population census. If the population continues to grow at this rate the population of Kenya will increase to 30 million by the year 2000 (Republic of Kenya, 1994).

The crude birth rate increased from 50 per thousand in 1948 to 52 per thousand in 1979, whereas the crude death rate decreased from 17 to 14 per thousand in the same period. The infant mortality rate decreased from 119 deaths per thousand births in 1969 to 104 in 1979 and further to about 69 deaths per thousand births in 1989. As a result of high fertility and declining mortality, Kenya is characterised by a young population. Over 50 percent of Kenya's population is less than 15 years of age.

Table 1.1 Demographic indicators, Kenya, 1969, 1979, and 1989

| Indicator | Population census 1969 | 1979 | 1989 |
|---|---|---|---|
| Population (millions) | 10.9 | 15.3 | 21.4 |
| Density (pop./sq.km.) | 19 | 27 | 37 |
| Percent urban | 9.9 | 15.1 | 17.5[a] |
| Crude birth rate | 50 | 52 | NA |
| Crude death rate | 17 | 14 | NA |
| Total fertility rate | 7.6 | 7.9 | 6.7[b] |
| Infant mortality rate (per 1000) | 119 | 104 | 69[c] |
| Life expectancy at birth | 50 | 54 | 59[c] |

NA = Not available
[a]Provisional figure
[b]From 1989 KDHS
[c]From World Bank

Sources: 1969--CBS. 1970, p.12, 16, 38, 43, 56. 1979--CBS. 1981b, p.4, 5, 87, 88, 103. 1989--CBS. 1994; CBS. 1991a, p.31; NCPD. 1989, p.18; and World Bank. 1991, p.351.

The 1984 Kenya Contraceptive Prevalence Survey (KCPS) showed some evidence of a possible decline in fertility, from a total fertility rate of 8.1 children per woman in 1977/78 (CBS, 1980) to 7.7 in 1984 (CBS, 1984). This evidence was confirmed by the findings of the 1989 KDHS which showed that the total fertility rate had actually dropped to 6.7 children per woman (NCPD, 1989).

According to results of the 1989 census, 19 percent of Kenya's population lived in urban areas (CBS, 1991a) and the intercensal growth rate of the urban population was 4.8 percent per annum. This rate is above the national growth rate. The population of the capital city, Nairobi, has increased from 827,775 in 1979 to an estimated 1,324,570 in 1989 (CBS, 1994). This increase can be attributed in large extent to rural-urban migration.

## 1.3 Population and Family Planning Policies and Programmes

The Government of Kenya became concerned about the high rate of population growth after the 1962 population census which showed that population was growing at the rate of 3.3 percent. The Family Planning Association of Kenya (FPAK) was established by private individuals in 1957, but it was not until 1967 that the official national family planning programme was launched. Family planning was integrated into the maternal and child health division of the Ministry of Health. At first, due to lack of an effective health infrastructure and adequate skilled manpower, the Ministry of Health relied mainly on FPAK and expatriate staff for service delivery.

After the 1969 census provided evidence of a high level of fertility, the government decided to launch a five-year (1974-1978) family planning programme. The specific goals of the programme were to reduce the high annual rate of natural population increase from 3.3 percent (in 1975) to 3.0 percent (in 1979) and to improve the health of mothers and their children under the age of five.

Initially, however, the family planning component of the Maternal and Child Health Programme had limited success. The 1979 census results indicated a population growth rate of 3.8 percent per annum, which was higher than the projected growth rate of 3.0 percent. This failure to achieve the targetted population growth rate could be attributed to shortfalls in the assumptions used to arrive at the target. The plan to reduce the growth rate concentrated on the supply side of family planning services instead of putting emphasis on programmes aimed at changing family size norms.

It was with the realisation of the need to improve on the earlier weaknesses of the family planning programme that the Government of Kenya approved the establishment of the National Council for Population and Development (NCPD) in 1982. The Council's mandate is to formulate population policies and strategies and to co-ordinate the activities of government ministries, non-governmental organisations, and donors involved in population, integrated rural health, and family planning programmes.

## 1.4 Health Priorities and Programmes

The 1994-1996 Kenya Development Plan underscores the achievement of "Health For All by the Year 2000" as stipulated in the "Alma Ata Declaration" to be the long-term objective of the health sector. This long-term objective will be achieved through the following policies:

- Increasing coverage and accessibility of health services with active community participation;
- Consolidating maternal and child health and family planning services in order to reduce morbidity and fertility;

- Increasing inter-sectoral collaboration with other ministries involved in the improvement of health status; and

- Encouraging the non-governmental organisations to take a greater role in the delivery and financing of health care services.

Use of Community-Based Health Workers (CBHWs) and Community-Based Distributors (CBDs) to provide services is being emphasised. It is estimated that there are slightly over 10,000 CBDs employed by government and non-governmental agencies to provide non-clinical family planning methods (Lewis et al., 1992).

In 1981, the Ministry of Health started a major programme in preventive health, the Kenya Expanded Programme on Immunisation (KEPI). Several other government programmes aimed at the reduction of diseases, improvement of nutrition, and provision of maternal and child health services have also been launched. However, budgetary constraints have adversely affected provision of health services in the country.

## 1.5 Objectives of the 1993 Kenya Demographic and Health Survey

The KDHS is intended to serve as a source of population and health data for policymakers and the research community. It was designed as a follow-on to the 1989 KDHS, a national-level survey of similar size that was implemented by the same organisations. In general, the objectives of KDHS are to:

- assess the overall demographic situation in Kenya,
- assist in the evaluation of the population and health programmes in Kenya,
- advance survey methodology, and
- assist the NCPD to strengthen and improve its technical skills to conduct demographic and health surveys.

The KDHS was specifically designed to:

- provide data on the family planning and fertility behaviour of the Kenyan population to enable the NCPD to evaluate and enhance the National Family Planning Programme,

- measure changes in fertility and contraceptive prevalence and at the same time study the factors which affect these changes, such as marriage patterns, urban/rural residence, availability of contraception, breastfeeding habits and other socioeconomic factors, and

- examine the basic indicators of maternal and child health in Kenya.

## 1.6 Survey Organisation

The 1993 KDHS is a national survey that was carried out by the NCPD in collaboration with the Central Bureau of Statistics (CBS). Macro International Inc. of Calverton, Maryland (USA) provided technical and financial assistance through its contract with the U.S. Agency for International Development (USAID).

### Sample Design

The 1993 KDHS sample is national in scope, with the exclusion of all three districts in North Eastern Province and four other northern districts (Samburu and Turkana in Rift Valley Province and Isiolo and

Marsabit in Eastern Province). Together the excluded areas account for less than 4 percent of Kenya's population. The KDHS utilised a two-stage, stratified sample consisting of 536 sample units (clusters). Details of the sample design appear in Appendix A.

Despite the emphasis on obtaining district-level data for planning purposes, it was decided that reliable estimates could not be produced from the KDHS for all 48 districts, unless the sample were expanded to an unmanageable size. However, it was felt that reliable estimates of certain variables could be produced for the rural areas in 15 districts: Bungoma, Kakamega, Kericho, Kilifi, Kisii, Machakos, Meru, Murang'a, Nakuru, Nandi, Nyeri, Siaya, South Nyanza, Taita-Taveta, and Uasin Gishu; in addition, Nairobi and Mombasa were also targetted. These areas were targetted because they are generally the larger districts in their provinces, most were districts in which NCPD had posted District Population Officers, and most were also targetted in the 1989 KDHS. Although six of these districts were subdivided shortly before the sample design was finalised, the previous boundaries of these districts were used for the KDHS in order to maintain comparability with the 1989 survey. Due to this oversampling, the KDHS sample is not self-weighting at the national level. Sample weights were used to compensate for the unequal probability of selection between strata, and weighted figures are used throughout the remainder of this report.

### Questionnaires

The survey utilised four types of questionnaires. A **Household Schedule** was used to list the names and certain characteristics of all usual members and visitors to a selected household. The **Woman's Questionnaire** was used to collect information from women age 15-49. In addition, interviewing teams measured the height and weight of mothers and of all her children under age five. Information from a subsample of men age 20-54 was collected using a **Man's Questionnaire**. The **Services Availability Questionnaire** was used to collect information on the health and family planning services near the sample areas. One services availability questionnaire was to be completed in each sample point. The questionnaires were developed in English by task forces established in Kenya. All except the Services Availability Questionnaire were translated into and printed in Kiswahili and eight of the most widely spoken local languages in Kenya (for more information, see Appendix A).

### Fieldwork

Fieldwork for the KDHS was carried out by 12 interviewing teams. In total, there were 12 supervisors, 11 field editors, 60 female interviewers, 12 male interviewers and 12 drivers. Each team was also coordinated by one NCPD officer. District Population Officers and some District Statistical Officers coordinated some teams and assisted in field logistics. Before launching the survey on 17th February 1993, interviewers, supervisors and field editors had previously been trained. Fieldwork was completed on 15th August 1993. The proportion of households interviewed by month was approximately: February (6 percent); March (17 percent); April (15 percent); May (18 percent); June (20 percent); July (21 percent); August (3 percent).

Table 1.2 shows a summary of response rates from the household and individual interviews. A total of 8,805 households was selected for the survey, of which 7,950 were successfully interviewed. The shortfall is primarily due to dwellings being vacant or in which the inhabitants had left for an extended period at the time they were visited by the interviewing teams (for details, see Appendix Table A.1). Of the 8,185 households that were found, 97 percent were interviewed. Within these households, 7,952 women were identified as eligible for an individual interview and of these, 7,540, or 95 percent, were interviewed. In the one half of the households that were selected for inclusion in the male survey, 2,762 eligible men were identified, of which 2,336, or 85 percent, were interviewed. Response rates were higher in rural than in urban areas.

Table 1.2 Results of the household and individual interviews

Number of households, number of interviews and response rates, Kenya 1993

| Result | Residence | | Total |
|---|---|---|---|
| | Urban | Rural | |
| **Household interviews** | | | |
| Households sampled | 1654 | 7151 | 8805 |
| Households found | 1483 | 6702 | 8185 |
| Households interviewed | 1379 | 6571 | 7950 |
| Household response rate | 93.0 | 98.0 | 97.1 |
| **Individual interviews** | | | |
| Number of eligible women | 1266 | 6686 | 7952 |
| Number of eligible women interviewed | 1161 | 6379 | 7540 |
| Eligible woman response rate | 91.7 | 95.4 | 94.8 |
| Number of eligible men | 616 | 2146 | 2762 |
| Number of eligible men interviewed | 480 | 1856 | 2336 |
| Eligible man response rate | 77.9 | 86.5 | 84.6 |

# CHAPTER 2

# CHARACTERISTICS OF HOUSEHOLDS AND RESPONDENTS

The purpose of this chapter is to provide a short descriptive summary of some socioeconomic characteristics of the household population and the individual survey respondents, such as: age, sex, residence and educational level. It also examines the environmental conditions such as household facilities and household characteristics. This information on the characteristics of the households and the individual women interviewed is essential for the interpretation of survey findings and can provide an approximate indication of the representativeness of the survey.

## 2.1 Characteristics of the Household Population

In the KDHS, information was collected about all usual residents and visitors who had spent the previous night in the selected household. A household was defined as a person or group of people who live together and share food.

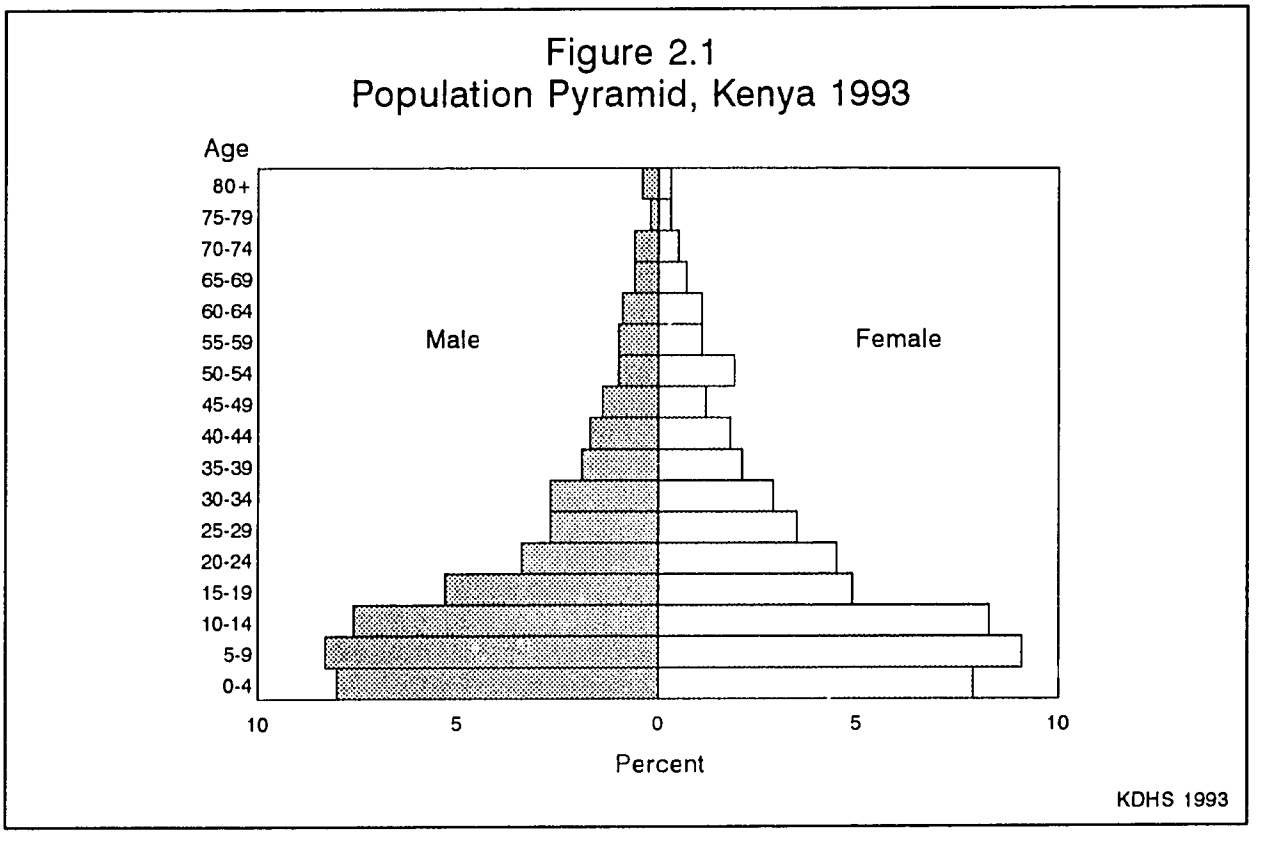
### Age and Sex

The distribution of the household population in the KDHS is shown in Table 2.1 by five year age groups, according to sex and urban-rural residence. The age distribution is typical of high fertility regimes in which a larger proportion of the population is to be found in the younger age groups than in the older age groups (see Figure 2.1). However, it is encouraging that the number of children under five is slightly less than the number age 5-9, which is possible evidence of a recent decline in fertility.

Table 2.1 Household population by age, residence and sex

Percent distribution of the de facto household population by five-year age groups, according to urban-rural residence and sex, Kenya 1993

| | Urban | | | Rural | | | Total | | |
|---|---|---|---|---|---|---|---|---|---|
| Age group | Male | Female | Total | Male | Female | Total | Male | Female | Total |
| 0-4 | 13.6 | 13.5 | 13.6 | 17.2 | 15.4 | 16.3 | 16.7 | 15.2 | 15.9 |
| 5-9 | 10.8 | 14.0 | 12.4 | 18.3 | 17.9 | 18.1 | 17.2 | 17.4 | 17.3 |
| 10-14 | 9.6 | 11.1 | 10.3 | 17.1 | 16.5 | 16.8 | 16.0 | 15.8 | 15.9 |
| 15-19 | 8.4 | 10.9 | 9.6 | 11.5 | 9.1 | 10.2 | 11.0 | 9.4 | 10.2 |
| 20-24 | 10.2 | 16.2 | 13.1 | 6.5 | 7.6 | 7.1 | 7.0 | 8.7 | 7.9 |
| 25-29 | 11.9 | 11.4 | 11.7 | 4.5 | 6.1 | 5.3 | 5.6 | 6.8 | 6.2 |
| 30-34 | 11.4 | 8.1 | 9.8 | 4.6 | 5.2 | 5.0 | 5.6 | 5.6 | 5.6 |
| 35-39 | 7.6 | 4.7 | 6.2 | 3.3 | 4.0 | 3.7 | 3.9 | 4.1 | 4.0 |
| 40-44 | 5.2 | 3.2 | 4.2 | 3.3 | 3.4 | 3.4 | 3.6 | 3.4 | 3.5 |
| 45-49 | 4.2 | 1.7 | 3.0 | 2.7 | 2.3 | 2.5 | 2.9 | 2.2 | 2.5 |
| 50-54 | 2.4 | 2.4 | 2.4 | 2.1 | 3.7 | 3.0 | 2.2 | 3.6 | 2.9 |
| 55-59 | 2.2 | 0.9 | 1.6 | 2.1 | 2.3 | 2.2 | 2.1 | 2.1 | 2.1 |
| 60-64 | 1.2 | 0.6 | 0.9 | 2.1 | 2.4 | 2.2 | 1.9 | 2.2 | 2.1 |
| 65-69 | 0.5 | 0.4 | 0.4 | 1.5 | 1.5 | 1.5 | 1.3 | 1.3 | 1.3 |
| 70-74 | 0.4 | 0.5 | 0.4 | 1.3 | 1.0 | 1.1 | 1.2 | 0.9 | 1.0 |
| 75-79 | 0.1 | 0.2 | 0.1 | 0.6 | 0.6 | 0.6 | 0.5 | 0.6 | 0.5 |
| 80 + | 0.2 | 0.2 | 0.2 | 0.8 | 0.7 | 0.8 | 0.7 | 0.6 | 0.7 |
| Missing/Don't know | 0.3 | 0.0 | 0.2 | 0.4 | 0.2 | 0.3 | 0.4 | 0.2 | 0.3 |
| Total | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| Number | 2673 | 2529 | 5202 | 15616 | 17406 | 33022 | 18289 | 19935 | 38224 |




There seems to be an excess of females over males at ages 5-24, especially in urban areas and especially at ages 20-24. The irregular bulge of women at age 50-54 is indicative of women from ages 45-49 being pushed to 50-54 age group, perhaps to reduce the workload of the interviewer. This pattern has been observed in other DHS surveys (Rutstein and Bicego, 1990). This pattern is more pronounced among women in rural than in urban areas. However, the impact of these irregularities on the quality of the data is probably small.

Figure 2.2 shows the distribution of the male and female household population by single year of age (see also Appendix Table C.1). The data show evidence of a preference to report ages that end in zeros and to a lesser extent, fives (age "heaping" or digit preference) that is commonly found in countries where ages are not known well. There is also a relative dearth of women age 15 and an excess of women age 13 and 14, relative to men. This pattern is almost certainly due to interviewers intentionally pushing women outside of the age range established for the individual interview, thus reducing their workloads. This same phenomenon probably caused the excess of women at ages 51-54 relative to men. It is difficult to know the reason for the somewhat odd excess of boys at ages 0-2 and age 4, or the excess of women at ages 20-28.

Table 2.2 compares the broad age structure of the population from the 1977/78 Kenya Fertility Survey (KFS), the 1984 Kenya Contraceptive Prevalence Survey (KCPS), the 1989 KDHS, and the 1993 KDHS. It emerges that the proportion of the population less than 15 years had remained stable through the 1989 KDHS and has only recently declined from 53 percent in 1989 to 49 percent in 1993. Similarly, the proportion of population age 15-64 years has risen from 44 to 47 percent. The most likely explanation for this change is a recent decline in fertility.

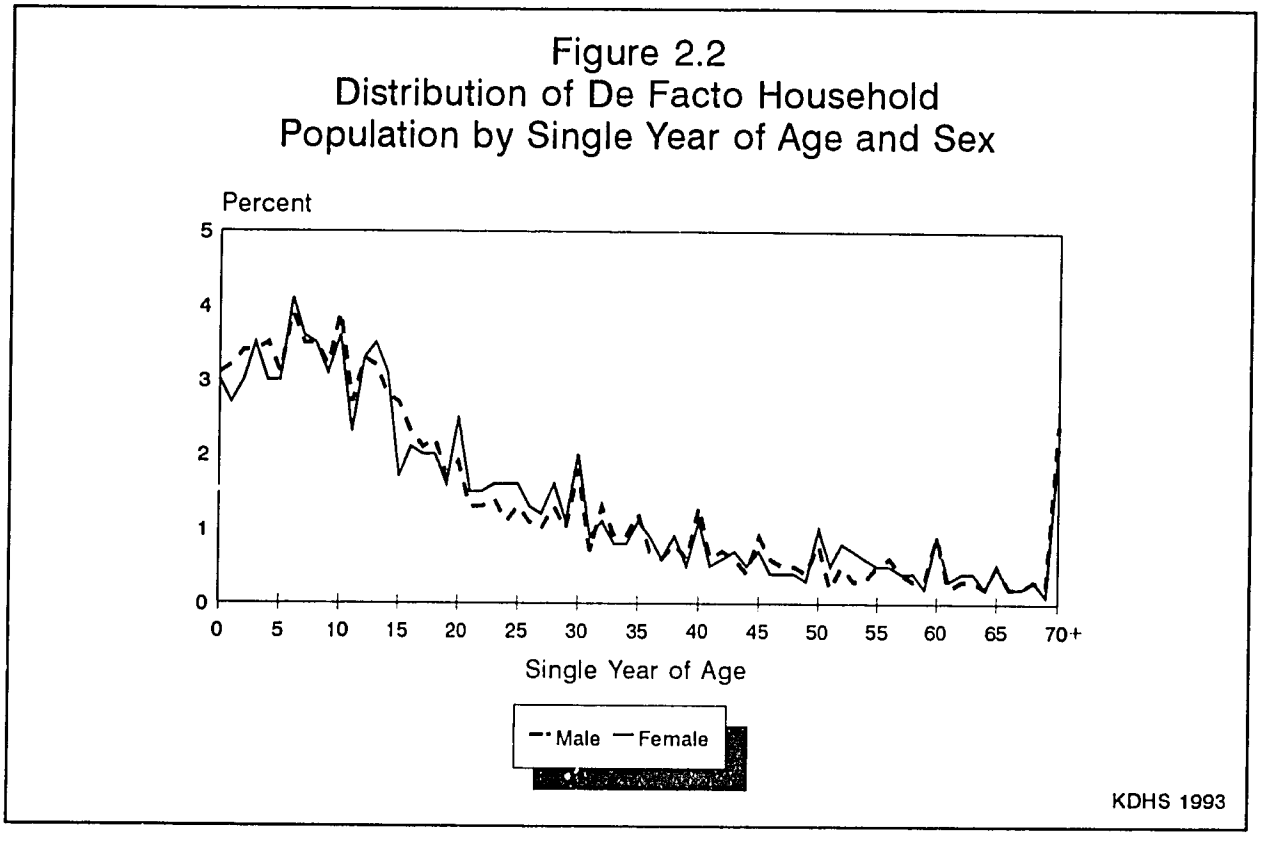



Table 2.2 Population by age from selected sources

Percent distribution of the de facto population by age group, selected sources

| Age group | 1977/78 KFS | 1984 KCPS | 1989 KDHS | 1993 KDHS |
|---|---|---|---|---|
| Less than 15 | 52.5 | 52.0 | 52.5 | 49.1 |
| 15-64 | 43.9 | 44.9 | 44.0 | 47.0 |
| 65+ | 3.5 | 2.8 | 3.5 | 3.6 |
| Missing/don't know | 0.0 | 0.0 | 0.0 | 0.3 |
| Total | 100.0 | 100.0 | 100.0 | 100.0 |
| Median age | NA | NA | NA | 15.3 |

Note: Totals may not add due to rounding
NA = Not available

Sources: KFS--CBS. 1980, p. 45; KCPS--CBS. 1986, p. 22; 1989 KDHS--NCPD. 1989, p. 113.

## Household Composition

Table 2.3 shows that a large majority of households in Kenya are headed by males (67 percent), with only one-third (33 percent) headed by women. Female-headed households are more common in rural than in urban areas (35 vs. 22 percent). Among the provinces, Nairobi has the lowest proportion of female-headed

Table 2.3 Household composition

Percent distribution of households by sex of head of household, household size, kinship structure, and presence of foster children, according to urban-rural residence and region, Kenya 1993

| | Residence | | Province | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Characteristic | Urban | Rural | Nairobi | Central | Coast | Eastern | Nyanza | Rift Valley | Western | Total |
| **Household headship** | | | | | | | | | | |
| Male | 78.5 | 64.7 | 80.3 | 62.8 | 73.2 | 61.6 | 59.7 | 74.3 | 65.9 | 67.3 |
| Female | 21.5 | 35.3 | 19.7 | 37.2 | 26.8 | 38.4 | 40.3 | 25.7 | 34.1 | 32.7 |
| Total | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| **Number of usual members** | | | | | | | | | | |
| 1 | 29.1 | 11.1 | 33.0 | 19.7 | 21.0 | 9.0 | 11.2 | 12.7 | 7.0 | 14.6 |
| 2 | 18.0 | 9.8 | 20.5 | 12.3 | 12.4 | 6.7 | 13.1 | 11.5 | 7.4 | 11.3 |
| 3 | 13.6 | 11.2 | 13.3 | 11.9 | 9.2 | 11.8 | 12.4 | 11.3 | 11.3 | 11.7 |
| 4 | 11.8 | 12.2 | 13.7 | 13.2 | 8.9 | 10.6 | 12.8 | 12.1 | 12.8 | 12.1 |
| 5 | 10.2 | 13.8 | 8.6 | 12.9 | 9.5 | 12.8 | 14.6 | 12.8 | 17.6 | 13.1 |
| 6 | 6.1 | 12.4 | 4.5 | 12.5 | 6.5 | 14.0 | 11.4 | 12.6 | 10.8 | 11.2 |
| 7 | 4.4 | 10.0 | 3.1 | 7.5 | 7.7 | 12.0 | 10.0 | 8.6 | 10.4 | 8.9 |
| 8 | 2.8 | 7.4 | 1.4 | 4.1 | 8.1 | 9.8 | 7.2 | 6.4 | 6.6 | 6.5 |
| 9+ | 3.9 | 12.1 | 1.6 | 5.9 | 16.5 | 13.4 | 7.2 | 12.0 | 16.0 | 10.5 |
| Total | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| **Mean size** | 3.4 | 5.1 | 2.9 | 4.2 | 5.2 | 5.5 | 4.7 | 4.9 | 5.5 | 4.8 |
| **Relationship structure** | | | | | | | | | | |
| One adult | 34.9 | 23.0 | 37.1 | 31.2 | 28.6 | 20.6 | 23.7 | 22.7 | 20.8 | 25.3 |
| Two related adults: | | | | | | | | | | |
| Of opposite sex | 27.2 | 32.3 | 29.3 | 31.7 | 21.2 | 29.8 | 33.1 | 36.6 | 29.5 | 31.3 |
| Of same sex | 8.6 | 5.2 | 8.2 | 5.3 | 9.4 | 5.9 | 6.6 | 4.6 | 3.6 | 5.8 |
| Three or more related adults | 20.2 | 35.1 | 17.0 | 27.3 | 36.8 | 36.7 | 34.5 | 30.6 | 39.2 | 32.2 |
| Other | 9.0 | 4.3 | 8.2 | 4.5 | 4.0 | 6.8 | 2.1 | 5.2 | 6.9 | 5.2 |
| Total | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| **With foster children**[a] | 10.8 | 18.9 | 6.8 | 11.7 | 16.8 | 17.9 | 21.0 | 18.0 | 25.3 | 17.4 |

Note: Table is based on *de jure* members; i.e., usual residents.
[a]Foster children are those under age 15 living in households with neither their mother nor their father present.

households (20 percent), followed by Rift Valley Province (26 percent). Nyanza Province has the highest proportion of female-headed households (40 percent).

The average household size in Kenya is 4.8 people. Households in rural areas are substantially larger, on average, than those in urban areas (5.1 vs. 3.4 persons). Single-person households are more common in urban than in the rural areas. They are more common in Nairobi and in Coast and Central Provinces than in the other provinces.

One quarter of Kenyan households consist of only one adult, either with or without children. Roughly one-third of households contain two related adults of opposite sexes (presumably most of which are married couples); another one-third consist of three or more related adults. Households of three or more related adults

are more common in Western Province (39 percent) and least common in Nairobi (17 percent) and Central Province (27 percent). The pattern of household structures has been influenced by the high rates of rural-urban migration.

Children who live with neither their natural mother nor father have been shown to be socioeconomically disadvantaged. In Kenya, almost one in five households includes one or more of these *foster* children. Households with foster children are more common in rural (19 percent) than in urban areas (11 percent). Western Province has the highest proportion of households with foster children (25 percent), while Nairobi (mainly urban) has the lowest (7 percent). Less than one percent of children under age 15 are orphaned, that is, both their parents have died (data not shown); however, 2 percent have lost their mothers and 5 percent have lost their fathers.

## Education

Kenya's formal education is based on a three-tier system, known as the 8-4-4 system. In this system primary education consists of 8 years and secondary education 4 years. Graduates of secondary school may then further their education by enrolling at any of the five national universities or in any of several private universities, or by joining colleges or technical institutes to acquire certain skills necessary for national development. The 8-4-4 system was adopted in 1985, replacing a four-tier system (7-4-2-3) consisting of seven years of primary school, four of secondary, two of higher secondary, and three of university.

KDHS results show that there is still a strong differential in education between males and females in Kenya (Tables 2.4.1 and 2.4.2). The data indicate that 17 percent of men and 27 percent of women age six

Table 2.4.1 Educational level of the male household population

Percent distribution of the de facto male household population age six and over by highest level of education attended, according to selected background characteristics, Kenya 1993

| Background characteristic | None | Primary incomplete | Primary complete | Secondary+ | Missing | Total | Number |
|---|---|---|---|---|---|---|---|
| **Age**[1] | | | | | | | |
| 6-9 | 35.5 | 63.4 | 0.1 | 0.1 | 0.9 | 100.0 | 2590 |
| 10-14 | 5.0 | 89.4 | 4.6 | 0.6 | 0.5 | 100.0 | 2921 |
| 15-19 | 3.4 | 44.4 | 35.5 | 16.5 | 0.3 | 100.0 | 2016 |
| 20-24 | 4.3 | 18.3 | 35.1 | 41.7 | 0.6 | 100.0 | 1286 |
| 25-29 | 3.7 | 16.5 | 32.7 | 46.7 | 0.4 | 100.0 | 1028 |
| 30-34 | 5.5 | 19.1 | 30.0 | 44.7 | 0.8 | 100.0 | 1027 |
| 35-39 | 9.2 | 23.8 | 25.3 | 41.2 | 0.5 | 100.0 | 717 |
| 40-44 | 16.8 | 26.6 | 21.4 | 33.4 | 1.8 | 100.0 | 659 |
| 45-49 | 14.6 | 28.7 | 32.7 | 22.6 | 1.4 | 100.0 | 528 |
| 50-54 | 25.8 | 36.3 | 24.8 | 10.8 | 2.2 | 100.0 | 398 |
| 55-59 | 40.6 | 34.3 | 17.0 | 6.6 | 1.5 | 100.0 | 392 |
| 60-64 | 45.4 | 41.1 | 7.1 | 4.6 | 1.7 | 100.0 | 357 |
| 65+ | 65.1 | 26.9 | 3.5 | 3.0 | 1.6 | 100.0 | 684 |
| **Residence** | | | | | | | |
| Urban | 7.0 | 27.8 | 19.9 | 43.9 | 1.3 | 100.0 | 2253 |
| Rural | 18.2 | 50.3 | 17.8 | 12.8 | 0.9 | 100.0 | 12420 |
| **Province** | | | | | | | |
| Nairobi | 6.3 | 23.4 | 21.3 | 47.6 | 1.4 | 100.0 | 880 |
| Central | 11.2 | 47.0 | 23.3 | 17.5 | 1.0 | 100.0 | 2118 |
| Coast | 21.3 | 40.6 | 19.4 | 16.7 | 2.1 | 100.0 | 1390 |
| Eastern | 17.7 | 52.4 | 17.1 | 12.4 | 0.4 | 100.0 | 2787 |
| Nyanza | 16.0 | 52.2 | 17.8 | 13.1 | 0.9 | 100.0 | 2137 |
| Rift Valley | 20.3 | 46.5 | 16.1 | 15.8 | 1.3 | 100.0 | 3325 |
| Western | 15.9 | 48.5 | 15.6 | 19.8 | 0.2 | 100.0 | 2036 |
| Total | 16.5 | 46.8 | 18.2 | 17.5 | 1.0 | 100.0 | 14672 |

[1]Excludes 69 men for whom an age was not reported.

Table 2.4.2 Educational level of the female household population

Percent distribution of the de facto female household population age six and over by highest level of education attended, according to selected background characteristics, Kenya 1993

| Background characteristic | None | Primary incomplete | Primary complete | Second-ary+ | Missing | Total | Number |
|---|---|---|---|---|---|---|---|
| **Age**[1] | | | | | | | |
| 6-9 | 35.7 | 62.9 | 0.0 | 0.0 | 1.4 | 100.0 | 2865 |
| 10-14 | 5.0 | 86.8 | 7.1 | 0.6 | 0.5 | 100.0 | 3158 |
| 15-19 | 4.3 | 38.8 | 37.5 | 18.8 | 0.6 | 100.0 | 1867 |
| 20-24 | 6.2 | 25.5 | 36.4 | 31.6 | 0.3 | 100.0 | 1736 |
| 25-29 | 12.5 | 25.6 | 27.5 | 33.9 | 0.5 | 100.0 | 1346 |
| 30-34 | 21.4 | 32.0 | 18.5 | 27.6 | 0.5 | 100.0 | 1118 |
| 35-39 | 36.5 | 29.6 | 16.2 | 17.2 | 0.4 | 100.0 | 811 |
| 40-44 | 42.4 | 30.4 | 17.9 | 8.1 | 1.2 | 100.0 | 675 |
| 45-49 | 54.7 | 26.5 | 11.9 | 6.0 | 0.9 | 100.0 | 446 |
| 50-54 | 70.3 | 21.7 | 4.2 | 2.1 | 1.7 | 100.0 | 712 |
| 55-59 | 77.3 | 17.5 | 2.5 | 1.2 | 1.4 | 100.0 | 423 |
| 60-64 | 84.6 | 11.6 | 1.2 | 0.1 | 2.5 | 100.0 | 430 |
| 65+ | 87.5 | 8.6 | 0.6 | 0.6 | 2.8 | 100.0 | 687 |
| **Residence** | | | | | | | |
| Urban | 13.5 | 31.8 | 21.1 | 32.8 | 0.7 | 100.0 | 2108 |
| Rural | 29.1 | 46.8 | 14.4 | 8.7 | 1.0 | 100.0 | 14207 |
| **Province** | | | | | | | |
| Nairobi | 12.7 | 22.1 | 24.1 | 40.6 | 0.6 | 100.0 | 707 |
| Central | 21.0 | 45.1 | 19.7 | 13.8 | 0.5 | 100.0 | 2409 |
| Coast | 41.0 | 34.1 | 13.6 | 8.9 | 2.4 | 100.0 | 1525 |
| Eastern | 27.2 | 47.0 | 15.3 | 9.8 | 0.8 | 100.0 | 3200 |
| Nyanza | 28.5 | 49.2 | 13.0 | 8.4 | 0.9 | 100.0 | 2583 |
| Rift Valley | 28.4 | 47.0 | 13.3 | 9.9 | 1.4 | 100.0 | 3552 |
| Western | 24.8 | 47.7 | 14.5 | 12.5 | 0.4 | 100.0 | 2339 |
| Total | 27.1 | 44.9 | 15.3 | 11.8 | 1.0 | 100.0 | 16315 |

[1]Excludes 40 women for whom an age was not reported.

and above have not received any formal education. At almost every age group there are smaller proportions of men than women with no education and more men than women with secondary education (Figure 2.3). However, the sex differential is narrowing over time; differences in educational attainment between school-age boys and girls are insignificant.

The proportion of both men and women with no education is higher in rural than in urban areas. Rural residents are more than twice as likely to have never attended school compared to urban dwellers—18 vs. 7 percent for males and 29 vs. 14 percent for females. Residents of Nairobi and Central Province are more educated than residents of other provinces.

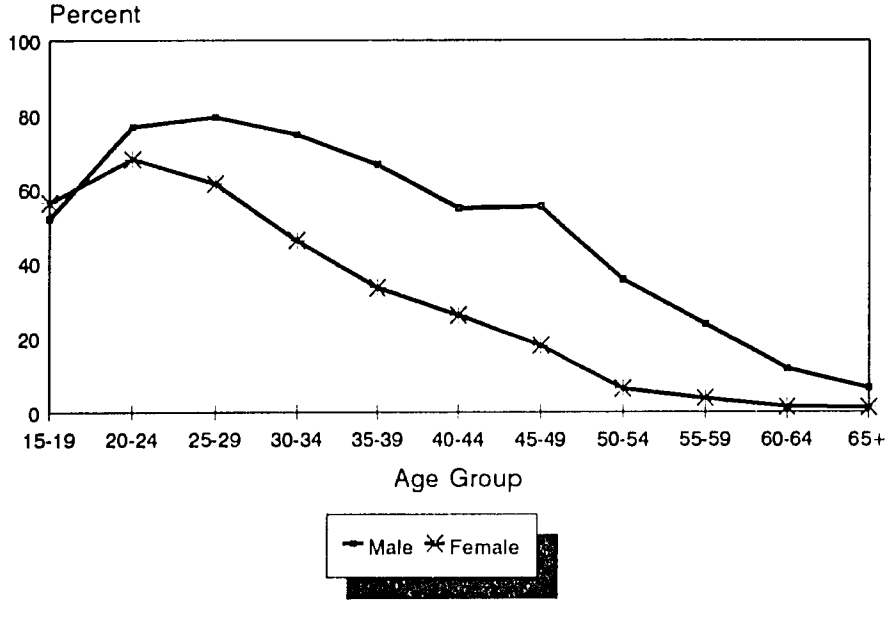
Table 2.5 presents enrolment rates by age, sex and residence of children age 6-24 years. Almost nine in ten children (86 percent) age 6-15 years are enrolled in school. Enrolment drops substantially after age 15; only 44 percent of the older teenagers are still in school and only 9 percent of those in their early twenties are still in school. It is somewhat surprising that at all age groups, enrolment is higher in rural areas than in urban areas. At ages 6-15 boys are slightly more likely to be enrolled than girls (87 percent of boys compared to 85 percent of girls). By ages 16-20, men are much more likely to be enrolled than women (52 percent compared to 36 percent), presumably because of early marriage and childbearing which cause young women to drop out of school.

Table 2.5 School enrolment

Percentage of the de facto household population age 6-24 years enrolled in school, by age group, sex, and urban-rural residence, Kenya 1993

| | Male | | | Female | | | Total | | |
|---|---|---|---|---|---|---|---|---|---|
| Age group | Urban | Rural | Total | Urban | Rural | Total | Urban | Rural | Total |
| 6-10 | 84.6 | 85.3 | 85.3 | 81.9 | 82.9 | 82.8 | 83.2 | 84.1 | 84.0 |
| 11-15 | 83.7 | 89.9 | 89.4 | 74.0 | 88.8 | 87.4 | 78.4 | 89.4 | 88.4 |
| 6-15 | 84.2 | 87.4 | 87.1 | 78.3 | 85.5 | 84.8 | 81.0 | 86.4 | 85.9 |
| 16-20 | 42.6 | 53.6 | 52.2 | 22.7 | 38.2 | 35.6 | 31.0 | 45.8 | 43.6 |
| 21-24 | 10.3 | 13.1 | 12.4 | 6.4 | 5.7 | 5.9 | 8.1 | 8.9 | 8.7 |

Figure 2.3
Percentage of Males and Females Who Have Completed Primary Education by Age Group




KDHS 1993

## 2.2 Housing Characteristics

Socioeconomic conditions were assessed by asking respondents questions about their household environment. This information is summarised in Table 2.6.

Table 2.6 Housing characteristics

Percent distribution of households by housing characteristics, according to urban-rural residence and region, Kenya 1993

| | Residence | | Province | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Characteristic | Urban | Rural | Nairobi | Central | Coast | Eastern | Nyanza | Rift Valley | Western | Total |
| **Electricity** | | | | | | | | | | |
| Yes | 42.5 | 3.4 | 50.8 | 9.8 | 16.9 | 4.1 | 3.4 | 7.1 | 7.6 | 10.9 |
| No | 57.0 | 96.2 | 48.8 | 89.6 | 82.7 | 95.7 | 95.8 | 92.5 | 92.1 | 88.7 |
| Missing | 0.5 | 0.4 | 0.4 | 0.6 | 0.4 | 0.2 | 0.8 | 0.4 | 0.3 | 0.4 |
| Total | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| **Source of drinking water** | | | | | | | | | | |
| Piped into residence | 55.8 | 10.7 | 65.0 | 27.4 | 15.8 | 14.8 | 3.5 | 15.9 | 14.4 | 19.4 |
| Public tap | 31.4 | 8.9 | 27.3 | 10.7 | 37.4 | 11.6 | 8.4 | 9.8 | 5.3 | 13.2 |
| Well with hand pump | 0.9 | 10.8 | 0.0 | 5.5 | 13.6 | 3.3 | 8.2 | 5.0 | 31.2 | 8.9 |
| Well without hand pump | 2.1 | 14.6 | 0.2 | 13.6 | 5.4 | 13.5 | 7.3 | 15.2 | 21.7 | 12.2 |
| Lake/pond | 0.1 | 8.7 | 0.0 | 1.9 | 9.4 | 7.1 | 21.8 | 4.6 | 2.5 | 7.1 |
| River/stream | 1.6 | 41.2 | 0.0 | 33.2 | 12.1 | 45.8 | 43.7 | 44.0 | 23.2 | 33.6 |
| Rainwater | 0.6 | 2.6 | 0.0 | 5.2 | 0.5 | 2.5 | 1.3 | 2.8 | 1.1 | 2.2 |
| Other | 6.6 | 1.9 | 6.8 | 1.5 | 5.4 | 1.3 | 5.0 | 2.1 | 0.7 | 2.8 |
| Missing/Don't know | 0.8 | 0.5 | 0.8 | 1.0 | 0.4 | 0.2 | 0.9 | 0.8 | 0.0 | 0.6 |
| Total | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| **Sanitation facility** | | | | | | | | | | |
| Own flush toilet | 23.5 | 1.1 | 19.3 | 2.0 | 5.9 | 2.1 | 1.5 | 6.9 | 7.2 | 5.4 |
| Shared flush toilet | 21.4 | 0.5 | 34.0 | 1.2 | 3.8 | 1.0 | 1.6 | 3.5 | 0.7 | 4.5 |
| Trad. pit toilet | 42.3 | 71.4 | 36.5 | 83.3 | 58.1 | 73.4 | 61.7 | 55.6 | 80.2 | 65.8 |
| Vent. imp. pit latrine | 6.9 | 5.9 | 3.3 | 10.3 | 7.9 | 5.4 | 4.3 | 6.2 | 4.1 | 6.1 |
| No facility/bush | 2.1 | 20.3 | 3.1 | 0.8 | 23.7 | 17.8 | 29.9 | 26.0 | 7.6 | 16.8 |
| Other | 3.0 | 0.3 | 3.1 | 1.2 | 0.1 | 0.0 | 0.2 | 1.5 | 0.0 | 0.8 |
| Missing/Don't know | 0.9 | 0.5 | 0.8 | 1.3 | 0.5 | 0.4 | 0.8 | 0.3 | 0.3 | 0.6 |
| Total | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| **Flooring** | | | | | | | | | | |
| Earth/dung floor | 20.6 | 79.9 | 24.4 | 63.4 | 58.7 | 72.8 | 82.8 | 70.8 | 82.4 | 68.5 |
| Wood planks (rudim.) | 0.3 | 0.2 | 0.4 | 0.4 | 0.1 | 0.0 | 0.0 | 0.6 | 0.0 | 0.2 |
| Parquet/polished wood | 0.7 | 0.1 | 1.2 | 0.1 | 0.0 | 0.0 | 0.4 | 0.0 | 0.1 | 0.2 |
| Vinyl/linoleum/asphalt | 0.3 | 0.0 | 0.4 | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 | 0.0 | 0.1 |
| Ceramic tiles | 3.0 | 0.3 | 4.9 | 0.3 | 0.7 | 0.3 | 1.0 | 0.2 | 0.1 | 0.8 |
| Cement | 74.0 | 19.2 | 67.4 | 35.1 | 39.9 | 26.6 | 14.9 | 28.0 | 17.3 | 29.7 |
| Other | 0.2 | 0.0 | 0.4 | 0.0 | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Missing/Don't know | 0.9 | 0.3 | 0.8 | 0.7 | 0.5 | 0.3 | 0.8 | 0.2 | 0.0 | 0.4 |
| Total | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| **Persons per sleeping room** | | | | | | | | | | |
| 1-2 | 65.1 | 54.9 | 66.6 | 74.2 | 67.2 | 55.2 | 50.2 | 48.0 | 47.4 | 56.9 |
| 3-4 | 23.5 | 29.0 | 21.9 | 18.8 | 23.5 | 28.8 | 31.8 | 32.5 | 32.5 | 27.9 |
| 5-6 | 7.9 | 10.2 | 7.8 | 5.5 | 5.4 | 9.4 | 10.9 | 12.3 | 14.3 | 9.8 |
| 7 + | 2.4 | 4.9 | 2.9 | 0.7 | 3.0 | 5.7 | 5.8 | 5.8 | 5.4 | 4.5 |
| Missing/Don't know | 1.1 | 0.9 | 0.8 | 0.7 | 0.8 | 0.8 | 1.3 | 1.4 | 0.4 | 1.0 |
| Total | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| **Mean persons per room** | 2.4 | 2.9 | 2.3 | 2.1 | 2.4 | 2.9 | 3.0 | 3.1 | 3.2 | 2.8 |
| **Number of households** | 1527 | 6423 | 645 | 1282 | 678 | 1348 | 1245 | 1745 | 1007 | 7950 |

The table shows that electricity is available to only 11 percent of households in Kenya. Electricity is more available in urban households (43 percent) than rural households (3 percent). Electricity is much more common in Nairobi (51 percent of households) and Coast Province (17 percent). Nyanza Province has the lowest proportion of households with electricity (3 percent).

Sources of drinking water differ widely by area of residence. In the urban areas, piped water is the major source; 56 percent of households have water piped into the residence and another 31 percent obtain water from a public tap. In rural areas, only 11 percent of households have water piped into the residence. The major sources of water in the rural areas are rivers and streams (41 percent) and wells (25 percent). Water sources differ widely by province of residence. Sixty-five percent of households in Nairobi have water piped into the residence, compared to 27 percent of households in Central Province, about 15 percent of households in Rift Valley, Coast, Eastern, and Western Provinces, and only 4 percent of households in Nyanza Province. Households in Coast Province rely more heavily on public taps as a source of drinking water (37 percent) than households in other provinces, while households in Western Province use wells more frequently as a source of drinking water (53 percent).

A majority of households in Kenya (66 percent) have traditional pit toilets. Seventeen percent have no facility at all, while only 5 percent have their own flush toilets. Households in both urban and rural areas commonly use traditional pit latrines (42 percent and 71 percent, respectively). In urban areas, 24 percent of households have their own flush toilets and 21 percent have shared flush toilets. There are large differences among provinces in types of sanitary facilities; the traditional pit latrine is most common in Central Province (83 percent of households) and least common in Rift Valley Province (56 percent) and Nairobi (37 percent). Thirty percent of households in Nyanza Province have no toilet facilities, compared to less than one percent of households in Central Province.

Almost all Kenyan households live in residences with floors made out of either earth (69 percent) or cement (30 percent). Cement flooring is most common in urban areas (74 percent), while earthen floors are most common in rural areas (80 percent). Cement flooring is most common for households in Nairobi (67 percent). Earthen floors are the most common in all the other provinces.

As a way of estimating the extent of crowding, information was gathered on the number of rooms households use for sleeping. The majority of households (57 percent) have one or two persons per sleeping room, while about one quarter (28 percent) have three or four persons per sleeping room. The mean is 2.8 persons per sleeping room. There is only a small difference in the number of persons per sleeping room between households in urban and rural areas. Among the provinces, crowding seems to be less common in households in Central Province than in the other provinces.

**Household Durable Goods**

Respondents were asked about ownership of particular household goods such as radios and televisions (to assess access to media), refrigerators (to assess access to food storage), bicycles (to assess modes of transportation), and cattle, goats, sheep and cash crops (to assess levels of wealth).

The results presented in Table 2.7 indicate that 52 percent of Kenyan households own a radio (68 percent of urban households and 48 percent of rural households) and 6 percent own a television (22 percent in urban areas and 2 percent in rural areas). Only 3 percent of Kenyan households own refrigerators. The relative lack of televisions and refrigerators in rural areas is presumably because of lack of electricity and greater financial constraints. Overall, one in five households (22 percent) owns a bicycle. A large majority own land (80 percent) or cattle, goats and sheep (63 percent). One-third of the households have cash crops. The proportion of households owning a television ranges from 24 percent in Nairobi to 2 percent in Eastern

Table 2.7 Household durable goods

Percentage of households possessing various durable consumer goods, by urban-rural residence and region, Kenya 1993

| | Residence | | Province | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Characteristic | Urban | Rural | Nairobi | Central | Coast | Eastern | Nyanza | Rift Valley | Western | Total |
| Radio | 67.7 | 48.1 | 68.9 | 55.3 | 46.4 | 51.6 | 42.3 | 49.3 | 56.8 | 51.9 |
| Television | 22.0 | 2.4 | 24.0 | 6.0 | 6.7 | 2.1 | 2.0 | 6.8 | 4.0 | 6.1 |
| Refrigerator | 12.0 | 0.6 | 13.5 | 2.0 | 4.5 | 0.6 | 1.1 | 2.8 | 0.9 | 2.8 |
| Bicycle | 16.9 | 23.3 | 13.9 | 16.1 | 21.4 | 25.4 | 22.9 | 18.8 | 35.5 | 22.1 |
| Land | 43.0 | 88.8 | 49.6 | 75.5 | 59.4 | 90.9 | 88.5 | 81.5 | 91.4 | 80.0 |
| Cattle/goats/sheep | 29.6 | 70.7 | 36.7 | 63.5 | 36.3 | 74.4 | 65.7 | 70.1 | 64.8 | 62.8 |
| Cash crops | 16.4 | 38.3 | 23.4 | 44.0 | 26.1 | 41.5 | 35.8 | 24.0 | 39.5 | 34.1 |
| Number of households | 1527 | 6423 | 645 | 1282 | 678 | 1348 | 1245 | 1745 | 1007 | 7950 |

and Nyanza Provinces, while the proportion with bicycles ranges from 36 percent in Western Province to 14 percent in Nairobi.

## 2.3 Background Characteristics of Women Respondents

### General Characteristics

Women were asked two questions in the individual interview to assess their age: "In what month and year were you born?" and "How old were you at your last birthday?" Interviewers were trained to probe situations in which respondents did not know their age or date of birth, and they were instructed as a last resort to record their best estimate of the respondent's age. Table 2.8 shows the distribution of female respondents in five-year age groups.

Table 2.8 indicates that 61 percent of female respondents are currently married or living with a man,[1] while about 30 percent have never been married (single). Three percent each are widowed, divorced, or separated. In the 1989 KDHS, 67 percent of women of childbearing age were married, 26 percent had never married, while 7 percent were either widowed, divorced, or separated.

A large majority of the respondents have had some education; only 18 percent of women 15-49 have no formal education at all. Fifty-three percent have completed primary school (including those with secondary school), while 25 percent have gone to some secondary school. This shows considerable improvement since the 1989 KDHS. In 1989, 25 percent of women had never been to school, 47 percent had completed primary school and only 20 percent had continued to secondary school (NCPD, 1989, p.6).

Kenya still remains predominantly rural, with less than one out of five women (18 percent) living in urban areas. The distribution of women by province is similar to that from other surveys and censuses. About one in five women are from each of Rift Valley and Eastern Provinces, approximately 15 percent are from each of Nyanza, Western and Central Provinces, while 10 percent are from Coast Province and 7 percent from Nairobi.

[1]Throughout this report, the term "married" includes both those in formal and informal marriages (living together).

Table 2.8 Background characteristics of respondents

Percent distribution of women by selected background characteristics, Kenya 1993

| Background characteristic | Weighted percent | Number of women | |
|---|---|---|---|
| | | Weighted | Un-weighted |
| **Age** | | | |
| 15-19 | 23.3 | 1754 | 1788 |
| 20-24 | 21.7 | 1638 | 1605 |
| 25-29 | 16.2 | 1221 | 1199 |
| 30-34 | 14.4 | 1088 | 1112 |
| 35-39 | 10.2 | 768 | 743 |
| 40-44 | 8.5 | 638 | 653 |
| 45-49 | 5.8 | 434 | 440 |
| **Marital status** | | | |
| Never married | 30.2 | 2280 | 2320 |
| Married | 58.3 | 4394 | 4329 |
| Living together | 3.1 | 235 | 254 |
| Widowed | 3.1 | 231 | 234 |
| Divorced | 2.7 | 202 | 198 |
| Separated | 2.6 | 198 | 205 |
| **Education** | | | |
| No education | 17.9 | 1352 | 1297 |
| Primary incomplete | 28.9 | 2179 | 2226 |
| Primary complete | 28.7 | 2166 | 2223 |
| Secondary+ | 24.5 | 1844 | 1794 |
| **Residence** | | | |
| Urban | 17.8 | 1339 | 1161 |
| Rural | 82.2 | 6201 | 6379 |
| **Province** | | | |
| Nairobi | 6.7 | 507 | 367 |
| Central | 14.5 | 1094 | 1075 |
| Coast | 9.5 | 717 | 1091 |
| Eastern | 18.6 | 1406 | 1044 |
| Nyanza | 15.4 | 1158 | 1264 |
| Rift Valley | 20.7 | 1562 | 1754 |
| Western | 14.5 | 1096 | 945 |
| **Religion** | | | |
| Catholic | 31.4 | 2368 | 2336 |
| Protestant/other Christian | 59.8 | 4509 | 4556 |
| Muslim | 4.9 | 370 | 366 |
| No religion | 2.7 | 204 | 201 |
| Other | 1.0 | 73 | 66 |
| **District**[1] | | | |
| Mombasa | 2.4 | 178 | 372 |
| Murang'a | 3.5 | 265 | 361 |
| Nyeri | 2.3 | 175 | 367 |
| Kilifi | 3.8 | 289 | 337 |
| Taita Taveta | 0.8 | 62 | 281 |
| Machakos/Makueni | 7.6 | 571 | 438 |
| Meru/Tharaka-Nithi | 5.2 | 388 | 364 |
| Kisii/Nyamira | 6.1 | 461 | 488 |
| Siaya | 2.6 | 196 | 408 |
| South Nyanza | 4.1 | 306 | 257 |
| Kericho/Bomet | 3.5 | 266 | 322 |
| Nakuru | 2.4 | 182 | 252 |
| Nandi | 2.2 | 164 | 403 |
| Uasin Gishu | 1.5 | 113 | 315 |
| Bungoma | 3.7 | 280 | 396 |
| Kakamega/Vihiga | 6.8 | 514 | 381 |
| Total | 100.0 | 7540 | 7540 |

[1]Mombasa refers to the city; district refers only to *rural* areas of the district; the sum for districts does not add to 100.0.

Almost all the women interviewed report themselves as Christians (91 percent), either Protestant (60 percent) or Catholic (31 percent). Those who believe in Islam account for 5 percent, with about 3 percent reporting having no religion.

Table 2.8 also presents the percentage of women who live in the rural areas of each of the 15 specially targetted districts and Mombasa. These figures provide a frame of reference for later statistics.

**Differentials in Education**

Table 2.9 presents the distribution of female respondents by education according to selected characteristics. Results indicate that education is inversely related to age, that is, older women are less educated than younger women. For instance, only 4 percent of women age 15-19 have had no education, compared to 57 percent of women age 45-49.

Rural women are more disadvantaged in education than urban women. Twenty percent of rural women have had no education at all, compared to 9 percent of urban women. Almost half (46 percent) of women in urban areas have attended secondary school, compared to 20 percent in the rural areas.

There are also wide differentials in education attainment between regions. While less than 10 percent of the women in Nairobi and Central Province have no education, 37 percent of those in Coast Province are reported as having no education at all.

Table 2.9 Level of education

Percent distribution of women by the highest level of education attended, according to selected background characteristics, Kenya 1993

| Background characteristic | Highest level of education | | | | Total | Number of women |
|---|---|---|---|---|---|---|
| | None | Primary incomplete | Primary complete | Second-ary+ | | |
| **Age** | | | | | | |
| 15-19 | 4.2 | 33.5 | 41.0 | 21.4 | 100.0 | 1754 |
| 20-24 | 5.8 | 24.0 | 37.8 | 32.3 | 100.0 | 1638 |
| 25-29 | 12.7 | 25.4 | 26.0 | 35.9 | 100.0 | 1221 |
| 30-34 | 20.4 | 31.3 | 21.0 | 27.3 | 100.0 | 1088 |
| 35-39 | 36.9 | 30.6 | 15.7 | 16.8 | 100.0 | 768 |
| 40-44 | 43.2 | 30.8 | 17.6 | 8.4 | 100.0 | 638 |
| 45-49 | 57.0 | 26.6 | 11.3 | 5.1 | 100.0 | 434 |
| **Residence** | | | | | | |
| Urban | 8.7 | 16.8 | 28.8 | 45.8 | 100.0 | 1339 |
| Rural | 19.9 | 31.5 | 28.7 | 19.9 | 100.0 | 6201 |
| **Province** | | | | | | |
| Nairobi | 7.6 | 12.8 | 31.6 | 48.0 | 100.0 | 507 |
| Central | 9.5 | 22.5 | 36.6 | 31.3 | 100.0 | 1094 |
| Coast | 36.7 | 22.2 | 23.6 | 17.5 | 100.0 | 717 |
| Eastern | 16.6 | 32.2 | 29.9 | 21.3 | 100.0 | 1406 |
| Nyanza | 18.2 | 38.0 | 25.6 | 18.2 | 100.0 | 1158 |
| Rift Valley | 22.5 | 28.8 | 27.1 | 21.7 | 100.0 | 1562 |
| Western | 13.8 | 33.4 | 27.1 | 25.8 | 100.0 | 1096 |
| Total | 17.9 | 28.9 | 28.7 | 24.5 | 100.0 | 7540 |

## Access to Media

Women were asked if they usually read a newspaper, listen to the radio or watch television at least once a week. This information is crucial for planning the dissemination of family planning messages. Table 2.10 shows that two-thirds of women listen to the radio, one-third read a newspaper and 15 percent watch television at least once a week. Younger women have greater access to the media than older women. The higher the level of education the more access there is to the media; while only 2 percent of women with no education read a newspaper once a week, 61 percent of women with secondary education and above do so.

Women in rural areas are more disadvantaged in access to media. While 80 percent of women in urban areas listen to the radio weekly, only 61 percent of rural women do so. Similarly, 56 percent of women in urban areas read a newspaper once a week, compared to only 26 percent of women in rural areas. Understandably, urban Nairobi enjoys more access to media than the other provinces. Fifty-nine percent of the women in Nairobi read a newspaper once a week, compared to only 23 percent of women in Western Province. Women in Eastern and Nyanza Provinces are less likely to watch television than women in other provinces.

Table 2.10 Access to mass media

Percentage of women who usually read a newspaper once a week, watch television once a week, or listen to radio once a week, by selected background characteristics, Kenya 1993

| Background characteristic | Read newspaper weekly | Watch television weekly | Listen to radio weekly | Number of women |
|---|---|---|---|---|
| **Age** | | | | |
| 15-19 | 38.1 | 18.6 | 67.7 | 1754 |
| 20-24 | 38.9 | 17.4 | 67.2 | 1638 |
| 25-29 | 33.3 | 14.5 | 68.7 | 1221 |
| 30-34 | 28.8 | 14.5 | 65.5 | 1088 |
| 35-39 | 22.7 | 10.5 | 56.5 | 768 |
| 40-44 | 17.3 | 9.5 | 55.0 | 638 |
| 45-49 | 13.7 | 8.2 | 59.2 | 434 |
| **Education** | | | | |
| No education | 1.7 | 3.8 | 41.5 | 1352 |
| Primary incomplete | 18.7 | 8.4 | 56.6 | 2179 |
| Primary complete | 37.5 | 14.1 | 71.6 | 2166 |
| Secondary+ | 61.0 | 31.8 | 83.2 | 1844 |
| **Residence** | | | | |
| Urban | 55.8 | 45.5 | 79.9 | 1339 |
| Rural | 26.2 | 8.3 | 61.4 | 6201 |
| **Province** | | | | |
| Nairobi | 58.9 | 48.5 | 81.7 | 507 |
| Central | 29.7 | 17.0 | 69.0 | 1094 |
| Coast | 29.2 | 17.6 | 55.3 | 717 |
| Eastern | 26.8 | 6.2 | 64.4 | 1406 |
| Nyanza | 36.1 | 6.1 | 58.7 | 1158 |
| Rift Valley | 31.2 | 17.3 | 64.8 | 1562 |
| Western | 23.3 | 12.7 | 65.5 | 1096 |
| Total | 31.4 | 14.9 | 64.7 | 7540 |

# CHAPTER 3

# FERTILITY

## 3.1 Introduction

The measurement of fertility levels, differentials and determinants has remained a major objective in all the demographic, contraceptive and health surveys that have been carried out in Kenya since 1977. The 1993 Kenya Demographic and Health Survey (KDHS) was no exception to this rule. The level of fertility has been a major factor underlying Kenya's high population growth rate. The understanding of fertility dynamics is therefore of paramount importance.

The fertility indicators presented in this chapter are based on reports provided by women age 15-49 years regarding their reproductive histories. As in the 1989 KDHS, each woman was asked to provide information on the total number of sons and daughters to whom she had given birth who were living with her, the number living elsewhere, and the number who had died. The women were also asked for a history of all live births, including such information as: name, month and year of birth, sex and survival status. For children who had died, information on age at death was solicited.

The above information is analysed in the following sections to provide fertility levels and trends; fertility differentials by age, birth order, sex, residence, province and education; and limited measures of determinants.

## 3.2 Fertility Levels

Table 3.1 gives the reported age-specific fertility rates for the three-year period preceding the survey per 1000 women.[1] The sum of the age-specific fertility rates (known as the total fertility rate) is a useful means of summarising the level of fertility. It can be interpreted as the number of children a woman would have by the end of her childbearing years if she were to pass through those years bearing children at the currently observed rates. The general fertility rate represents the annual number of births in a population per 1,000 women age 15-44. The crude birth rate is the annual number of births in a population per 1,000 people. Both these measures are calculated using the birth history data for the three-year period before the survey and the age and sex distribution of the household population.

The total fertility rate for the three years before the survey (representing early 1990 to early 1993) is 5.4 children per woman. The age pattern of fertility indicates that women in Kenya have children early in the childbearing period; by age 30, a Kenyan woman will have given birth to almost 60 percent of the children she will ever have.

Table 3.1 and Figure 3.1 present fertility rates by urban-rural residence. These rates are higher in rural areas than in urban areas, a pattern that has persisted in various censuses and demographic surveys that have been carried out in the country. The total fertility rate is estimated at 5.8 in rural areas, about 70 percent

[1]Numerators of the age-specific fertility rates are calculated by summing the number of live births that occurred in the period 1-36 months preceding the survey (determined by the date of interview and the date of birth of the child), and classifying them by the age (in five-year groups) of the mother at the time of birth (determined by the mother's date of birth). The denominators of the rates are the number of woman-years lived in each of the specified five-year age groups during the 1-36 months preceding the survey.

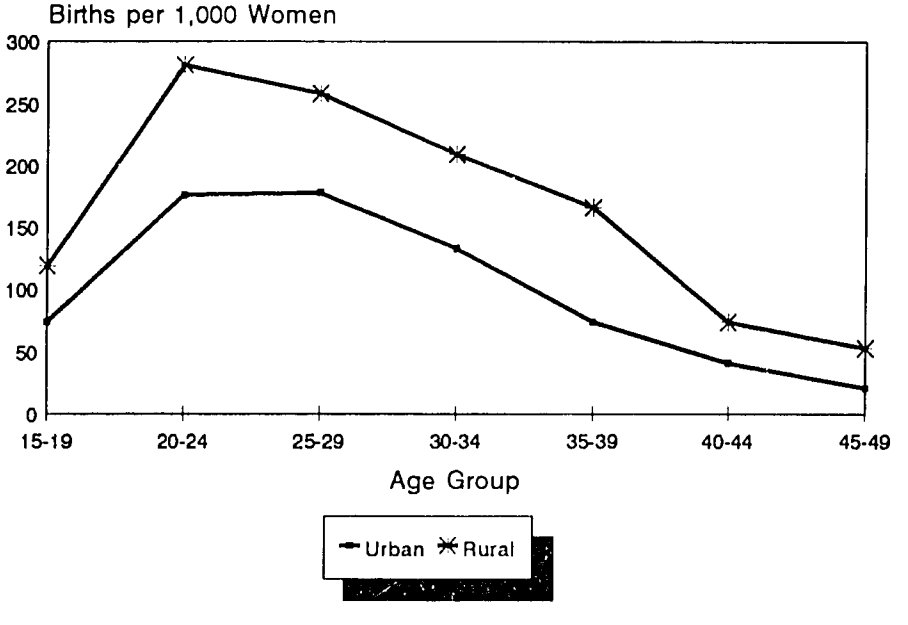
Table 3.1 Current fertility

Age-specific and cumulative fertility rates and the crude birth rate for the three years preceding the survey, by urban-rural residence, Kenya 1993

| | Residence | | |
|---|---|---|---|
| Age group | Urban | Rural | Total |
| 15-19 | 74 | 119 | 110 |
| 20-24 | 176 | 281 | 257 |
| 25-29 | 178 | 258 | 241 |
| 30-34 | 133 | 209 | 197 |
| 35-39 | 74 | 166 | 154 |
| 40-44 | (34) | 74 | 70 |
| 45-49 | (21) | 53 | 50 |
| TFR 15-49 | 3.44 | 5.80 | 5.40 |
| TFR 15-44 | 3.34 | 5.54 | 5.15 |
| GFR | 129 | 194 | 182 |
| CBR | 35.1 | 35.9 | 35.8 |

Note: Rates are for the period 1-36 months preceding the survey. Rates for age group 45-49 may be slightly biased due to truncation. Rates in parentheses are based on fewer than 250 woman-years of exposure.
TFR: Total fertility rate expressed per woman
GFR: General fertility rate (births divided by number of women 15-44), expressed per 1,000 women
CBR: Crude birth rate, expressed per 1,000 population

Figure 3.1
Age-Specific Fertility Rates
By Urban-Rural Residence




KDHS 1993

higher than that in the urban areas (3.4). The difference in urban and rural fertility rates is particularly pronounced among women at older ages, when urban fertility rates are half those of rural women.

## 3.3 Fertility Differentials

Table 3.2 and Figure 3.2 provide differentials in fertility by province and education. Western, Rift Valley, Nyanza and Eastern Provinces retain fertility rates that are above the national level. Nairobi and Central Province depict the lowest fertility levels. The total fertility rate in Western Province (6.4) is almost twice the rate in Nairobi (3.4).

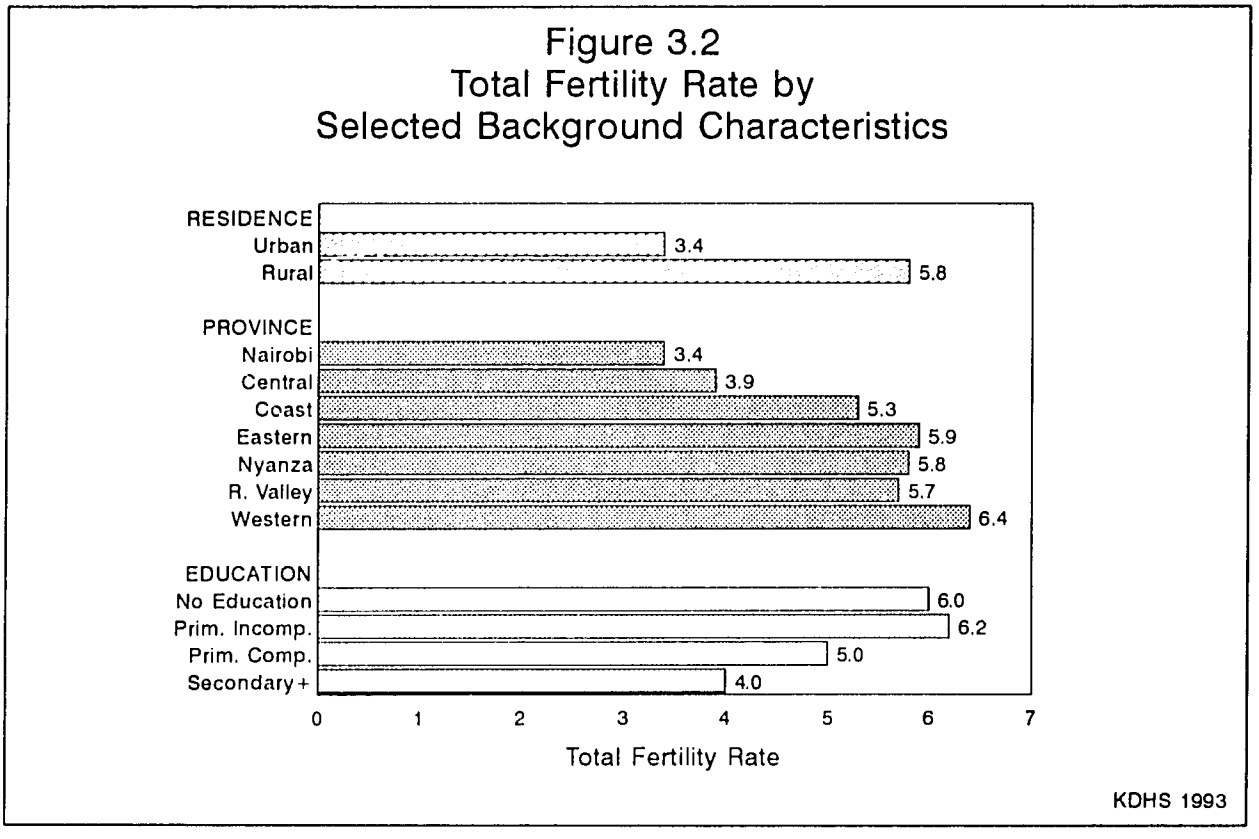
Table 3.2 Fertility by background characteristics

Total fertility rate for the three years preceding the survey and mean number of children ever born to women age 40-49, by selected background characteristics, Kenya 1993

| Background characteristic | Total fertility rate[1] | Mean number of children ever born to women age 40-19 |
|---|---|---|
| **Residence** | | |
| Urban | (3.44) | 4.67 |
| Rural | 5.80 | 7.62 |
| **Province** | | |
| Nairobi | (3.40) | (4.26) |
| Central | (3.93) | 6.89 |
| Coast | (5.25) | 6.44 |
| Eastern | (5.89) | 7.44 |
| Nyanza | (5.80) | 7.69 |
| Rift Valley | (5.70) | 7.91 |
| Western | (6.35) | 7.86 |
| **Education** | | |
| No education | (6.03) | 7.58 |
| Primary incomplete | (6.18) | 7.71 |
| Primary complete | (5.02) | 6.83 |
| Secondary+ | (4.03) | 4.99 |
| Total | 5.40 | 7.32 |

Note: Rates shown in parentheses indicate that one or more of the component age-specific rates is based on fewer than 250 woman-years of exposure.
[1]Rate for women age 15-49 years

Female education apparently has a strong effect on fertility. Women with no education or only some primary school give birth to more than six children on average in their lifetime, compared to five children for women who completed primary school and four children for women with some secondary school.




One way of examining trends in fertility over time is to compare the total fertility rates for the three years preceding the survey with the average number of children ever born to women by the end of their childbearing period, age 40-49. The former is a measure of current fertility, while the latter is a measure of past or completed fertility. The data in Table 3.2 imply that there has been a decline of about two children over the past 10-20 years in Kenya. The decline has occurred across all the provinces and all education levels.

## 3.4 Fertility Trends

Table 3.3 examines the trend in fertility in Kenya by comparing the results of the 1989 KDHS with those of earlier surveys. Fertility has declined from 8.1 births per woman in the mid-70s to 5.4 births for the period 1990-92. The decline has accelerated recently, with fertility dropping by 20 percent between 1984-88 and 1990-92. This is the most dramatic drop in fertility ever recorded in Kenya and one of the most dramatic recorded anywhere. As shown in Figure 3.3, the fertility decline has been experienced by women of all reproductive ages.

Table 3.4 shows that, although all provinces in Kenya experienced a recent decline in fertility, some changed much more than others. The major declines—above 20 percent—in total fertility rates have been recorded in Central and Western Provinces and in Nairobi. Central Province shows the largest decline in fertility, from a total fertility rate of 6.0 to 3.9 or a 35 percent decline. Meanwhile, fertility in Coast Province—traditionally an area of lower fertility—has hardly declined at all.

Table 3.3 Trends in current fertility rates

Age-specific fertility rates and total fertility rates as reported in various surveys

| Age/time period | 1977/78 KFS 1975-77 | 1984 KCPS 1983 | 1989 KDHS 1984-88 | 1993 KDHS 1990-92 |
|---|---|---|---|---|
| 15-19 | 168 | 143 | 152 | 110 |
| 20-24 | 342 | 358 | 314 | 257 |
| 25-29 | 357 | 338 | 303 | 241 |
| 30-34 | 293 | 291 | 255 | 197 |
| 35-39 | 239 | 233 | 183 | 154 |
| 40-44 | 145 | 109 | 99 | 70 |
| 45-49 | 59 | 66 | 35 | 50 |
| Total fertility rate | 8.1 | 7.7 | 6.7 | 5.4 |

Note: The rates refer to the following periods prior to the survey: for 1977/78, a 3-year period; for 1984, a 1-year period; for 1989, a 5-year period, and for 1993, a 3-year period.

Sources: KFS--CBS. 1980, p. 87; KCPS--CBS. 1984, p. 50; 1989 KDHS--NCPD. 1989, p.18.

Table 3.4 Trends in fertility by province

Total fertility rates by province and percent change 1984-88 and 1990-92

| Province/ period | 1989 KDHS 1984-88 | 1993 KDHS 1990-92 | Percent change |
|---|---|---|---|
| Nairobi | 4.6 | 3.4 | -.26 |
| Central | 6.0 | 3.9 | -.35 |
| Coast | 5.5 | 5.3 | -.04 |
| Eastern | 7.0 | 5.9 | -.16 |
| Nyanza | 7.1 | 5.8 | -.18 |
| Rift Valley | 7.0 | 5.7 | -.19 |
| Western | 8.1 | 6.4 | -.21 |
| Total | 6.7 | 5.4 | -.19 |

Note: Rates for the 1989 KDHS refer to the 5-year period prior to the survey, while those for the 1993 KDHS refer to the 3-year period prior to the survey.

Source: NCPD. 1989, p. 22.

Figure 3.3
Age-Specific Fertility Rates
1977/78 KFS, 1989 KDHS and 1993 KDHS

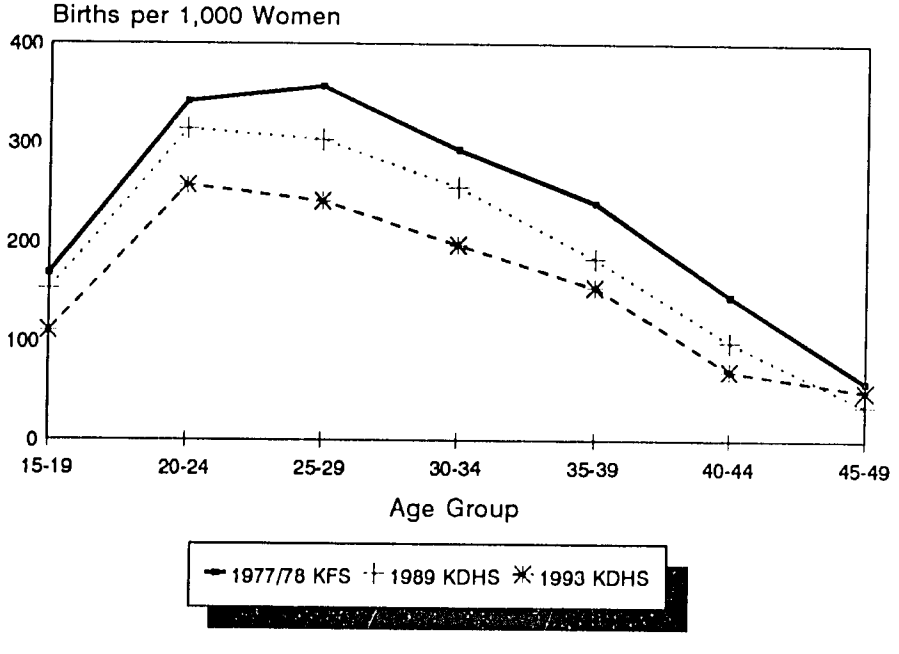


Table 3.5 shows trends in the percentage of women who reported that they were pregnant at the time of the interview, according to age group. The proportions show a steady decline, from 13 percent in 1977/78, to 11 percent in 1984, 9 percent in 1989, and 8 percent in 1993. The decline appears to have slowed somewhat between 1989 and 1993.

Table 3.5 Percent pregnant

Percentage of all women who are pregnant at the time of interview by age group as reported in various surveys

| Age | 1977/78 KFS | 1984 KCPS | 1989 KDHS | 1993 KDHS |
|---|---|---|---|---|
| 15-19 | 8 | 8 | 6.8 | 5.3 |
| 20-24 | 17 | 16 | 13.6 | 12.6 |
| 25-29 | 19 | 17 | 10.5 | 10.9 |
| 30-34 | 16 | 13 | 10.9 | 9.2 |
| 35-39 | 12 | 10 | 8.4 | 7.3 |
| 40-44 | 9 | 6 | 3.6 | 3.3 |
| 45-49 | 3 | 2 | 2.2 | 1.1 |
| Total | 13 | 11 | 8.9 | 8.2 |

Sources: KFS--CBS. 1980, p. 88; KCPS--CBS. 1984, p. 53; 1989 KDHS--NCPD. 1989, p. 21.

Table 3.6 provides further insights into the apparent fertility decline documented above. The table gives the age-specific fertility rates for four-year periods preceding the survey, using data from respondents' birth histories. Figures in brackets represent partial fertility rates due to truncation; women 50 years of age and older were not included in the survey and the further back into time rates are calculated, the more severe is the truncation. For example, rates cannot be calculated for women age 45-49 for the period 8-11 years before the survey, because these women would have been over age 50 at the time of the survey and were not interviewed. It should also be noted that misreporting of the date of birth of children can result in the appearance of false trends in fertility. The data show declining fertility experienced by women in all age groups during the last two decades.

Table 3.6 Age-specific fertility rates

Age-specific fertility rates for four-year periods preceding the survey, by mother's age at the time of birth, Kenya 1993

| | Number of years preceding the survey | | | | |
|---|---|---|---|---|---|
| Mother's age | 0-3 | 4-7 | 8-11 | 12-15 | 16-19 |
| 15-19 | 118 | 143 | 166 | 184 | 187 |
| 20-24 | 266 | 312 | 333 | 353 | 334 |
| 25-29 | 256 | 304 | 333 | 342 | [344] |
| 30-34 | 204 | 268 | 281 | 325 | [330] |
| 35-39 | 152 | 195 | [242] | [303] | - |
| 40-44 | 73 | [141] | [(245)] | - | - |
| 45-49 | [50] | - | - | - | - |

Note: Age-specific fertility rates are per 1,000 women. Estimates enclosed in brackets are truncated. Parentheses indicate that the figure is based on fewer than 250 woman-years of exposure.

Table 3.7 presents fertility rates for ever-married women by duration since first marriage for four-year periods preceding the survey. It is analogous to Table 3.6, but is confined to ever-married women and replaces age with duration since first marriage. The data confirm that the decline in fertility is apparent for all marriage durations.

Table 3.7 Fertility by marital duration

Fertility rates for ever-married women by duration since first marriage in years, for four-year periods preceding the survey, Kenya 1993

| Marriage duration at birth | Number of years preceding the survey | | | | |
|---|---|---|---|---|---|
| | 0-3 | 4-7 | 8-11 | 12-15 | 16-19 |
| 0-4 | 354 | 390 | 390 | 406 | 386 |
| 5-9 | 273 | 337 | 360 | 374 | 367 |
| 10-14 | 239 | 288 | 315 | 347 | 324 |
| 15-19 | 179 | 241 | 283 | 284 | [302] |
| 20-24 | 115 | 163 | [189] | [335] | - |
| 25-29 | 63 | [93] | - | - | - |

Note: Duration-specific fertility rates are per 1,000 women. Estimates enclosed in brackets are truncated.

## 3.5 Children Ever Born

The distribution of all women and currently married women by age and number of children ever born is presented in Table 3.8. The table also shows the mean number of children ever born to women in each five-year age group, an indicator of the momentum of childbearing. The table shows that 17 percent of women age 15-19 years have given birth to a child. This represents a decline from the level of 2' percent reported in the 1989 KDHS and probably reflects a gradual increase in age at marriage which has been reinforced by rising school enrolment at these ages. However, high fertility is apparent for women age 25 years and over. Women in their early thirties have given birth to an average of 4.5 children and those age 45-49 report an average of 7.9 children. This same pattern is reflected by currently married women with the exception that the percentage of currently married women age 15-19 who have had children is of course high (59 percent) compared to all women age 15-19.

The percentage of women aged 45-49 who have never had children provides an indicator of the level of *primary infertility*—the proportion of women who are unable to bear children at all. Voluntary childlessness is rare in Kenya, and married women with no births are most likely unable to bear children. The KDHS results suggest that primary infertility is low, about 1 percent. This is slightly lower than that recorded in the 1989 KDHS (about 2 percent). It should be noted that this estimate of primary infertility does not include women who may have had one or more births but who are unable to have more (*secondary infertility*).

Table 3.8 Children ever born and living

Percent distribution of all women and of currently married women by number of children ever born (CEB) and mean number ever born and living, according to five-year age groups, Kenya 1993

| Age group | Number of children ever born (CEB) | | | | | | | | | | | Total | Number of women | Mean no. of CEB | Mean no. of living children |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10+ | | | | |
| ALL WOMEN | | | | | | | | | | | | | | | |
| 15-19 | 83.2 | 13.6 | 2.8 | 0.5 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 100.0 | 1754 | 0.20 | 0.18 |
| 20-24 | 29.5 | 29.2 | 24.1 | 11.9 | 4.1 | 1.2 | 0.0 | 0.1 | 0.0 | 0.0 | 0.0 | 100.0 | 1638 | 1.36 | 1.25 |
| 25-29 | 5.8 | 10.3 | 21.0 | 21.6 | 21.0 | 13.1 | 4.8 | 2.0 | 0.4 | 0.1 | 0.0 | 100.0 | 1221 | 3.13 | 2.85 |
| 30-34 | 4.5 | 5.2 | 8.5 | 14.1 | 15.3 | 18.9 | 15.4 | 10.0 | 4.3 | 2.5 | 1.2 | 100.0 | 1088 | 4.53 | 4.06 |
| 35-39 | 2.5 | 1.5 | 3.4 | 5.8 | 11.1 | 14.8 | 17.1 | 13.0 | 13.8 | 9.0 | 8.0 | 100.0 | 768 | 6.13 | 5.45 |
| 40-44 | 2.7 | 3.1 | 3.6 | 4.5 | 7.8 | 8.5 | 9.7 | 13.0 | 13.7 | 14.1 | 19.2 | 100.0 | 638 | 6.95 | 6.11 |
| 45-49 | 1.1 | 2.6 | 4.1 | 2.4 | 5.1 | 6.6 | 9.1 | 11.2 | 14.3 | 12.8 | 30.8 | 100.0 | 434 | 7.87 | 6.72 |
| Total | 27.9 | 12.5 | 11.4 | 9.3 | 8.6 | 7.7 | 6.1 | 4.9 | 4.1 | 3.2 | 4.4 | 100.0 | 7540 | 3.17 | 2.82 |
| CURRENTLY MARRIED WOMEN | | | | | | | | | | | | | | | |
| 15-19 | 41.0 | 42.9 | 14.3 | 1.9 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 100.0 | 261 | 0.77 | 0.65 |
| 20-24 | 11.0 | 30.7 | 31.8 | 17.8 | 6.6 | 2.0 | 0.0 | 0.1 | 0.0 | 0.0 | 0.0 | 100.0 | 937 | 1.85 | 1.71 |
| 25-29 | 2.5 | 7.7 | 19.6 | 23.5 | 22.9 | 15.2 | 5.7 | 2.3 | 0.4 | 0.1 | 0.0 | 100.0 | 1003 | 3.40 | 3.10 |
| 30-34 | 2.5 | 3.7 | 7.0 | 13.9 | 16.3 | 20.3 | 16.4 | 10.9 | 4.9 | 2.6 | 1.5 | 100.0 | 918 | 4.79 | 4.30 |
| 35-39 | 1.5 | 1.3 | 3.1 | 5.4 | 10.2 | 15.3 | 16.2 | 13.8 | 14.7 | 9.7 | 8.9 | 100.0 | 644 | 6.32 | 5.67 |
| 40-44 | 2.2 | 2.3 | 2.8 | 4.7 | 6.2 | 8.4 | 8.8 | 13.3 | 13.9 | 15.0 | 22.3 | 100.0 | 519 | 7.28 | 6.45 |
| 45-49 | 1.2 | 1.4 | 4.3 | 2.5 | 3.5 | 6.6 | 8.9 | 11.2 | 14.2 | 14.9 | 31.4 | 100.0 | 348 | 8.04 | 6.94 |
| Total | 6.1 | 11.6 | 13.9 | 13.0 | 11.9 | 11.3 | 8.4 | 6.9 | 5.7 | 4.7 | 6.4 | 100.0 | 4629 | 4.40 | 3.94 |

A comparison of the mean number of children ever born reported in the 1993 KDHS and various other surveys is presented in Table 3.9. Except for the data from the 1984 KCPS, which are uniformly higher than the other sources,[2] the figures show a steady decline in completed fertility over time. The one exception is the apparent rise in mean children ever born to women age 45-49 between the 1989 and 1993 KDHSs. It is unlikely that this is actually true; a more likely explanation is that for some reason the figure was either underreported in the 1989 survey, overreported in the 1993 survey or both.

Table 3.9 Trends in children ever born

Mean number of children ever born by age group as reported in various surveys

| Age | 1977/78 KFS | 1984 KCPS | 1989 KDHS | 1993 KDHS |
|---|---|---|---|---|
| 15-19 | 0.4 | 0.4 | 0.3 | 0.2 |
| 20-24 | 1.8 | 2.0 | 1.6 | 1.4 |
| 25-29 | 3.8 | 4.0 | 3.5 | 3.1 |
| 30-34 | 5.6 | 5.7 | 5.0 | 4.5 |
| 35-39 | 6.8 | 7.0 | 6.5 | 6.1 |
| 40-44 | 7.6 | 7.8 | 7.4 | 7.0 |
| 45-49 | 7.9 | 8.2 | 7.6 | 7.9 |

Sources: KFS--CBS. 1980, p. 84; KCPS--CBS. 1984, p. 45; 1989 KDHS--NCPD. 1989, p. 24.

## 3.6 Birth Intervals

Information on birth intervals provides insight into birthspacing patterns which have far-reaching impact on both fertility and child mortality levels. Research has shown that children born too close to a previous birth are at increased risk of dying at an early age.

[2]The KCPS is the only one of these surveys in which a complete birth history was not asked for each respondent; instead, the survey relied on summary data on the number of children ever born. Studies have shown that summary data produce higher estimates of cumulative fertility than birth histories (Central Bureau of Statistics, 1975 and 1977).

As shown in Table 3.10, one in four births occurs after an interval of less than 24 months, about 40 percent take place 24-35 months (two years) after the previous birth and one-third occur three years or more after the previous birth. A shorter median interval prevails for children whose preceding sibling has died, compared to those whose prior sibling is alive. This pattern presumably reflects early resumption of sexual intercourse, shortened breastfeeding period, and minimal use of contraceptives. Birth intervals have lengthened slightly over time; the median birth interval was 29 months for births occuring in the five years prior to the 1989 KDHS, compared to 30 months for the 1993 KDHS (data not shown).

Table 3.10 Birth intervals

Percent distribution of births in the five years preceding the survey by number of months since previous birth, according to demographic and socioeconomic characteristics, Kenya 1993

| Characteristic | Number of months since previous birth | | | | | Total | Median number of months since previous birth | Number of births |
|---|---|---|---|---|---|---|---|---|
| | 7-17 | 18-23 | 24-35 | 36-47 | 48+ | | | |
| **Age of mother** | | | | | | | | |
| 15-19 | 11.1 | 36.7 | 35.2 | 9.6 | 7.3 | 100.0 | 24.3 | 64 |
| 20-29 | 10.7 | 18.3 | 43.5 | 17.2 | 10.3 | 100.0 | 28.6 | 2385 |
| 30-39 | 8.1 | 12.8 | 40.9 | 18.7 | 19.6 | 100.0 | 31.8 | 1923 |
| 40 + | 7.5 | 13.2 | 31.7 | 23.7 | 23.9 | 100.0 | 34.7 | 505 |
| **Birth order** | | | | | | | | |
| 2-3 | 10.3 | 17.2 | 40.8 | 16.7 | 14.9 | 100.0 | 29.4 | 1892 |
| 4-6 | 7.9 | 15.0 | 42.0 | 19.3 | 15.8 | 100.0 | 30.7 | 1823 |
| 7 + | 9.8 | 15.0 | 40.4 | 19.5 | 15.3 | 100.0 | 30.5 | 1162 |
| **Sex of prior birth** | | | | | | | | |
| Male | 9.3 | 16.2 | 41.2 | 17.9 | 15.4 | 100.0 | 30.3 | 2362 |
| Female | 9.3 | 15.5 | 41.1 | 18.8 | 15.3 | 100.0 | 30.0 | 2515 |
| **Survival of prior birth** | | | | | | | | |
| Living | 7.2 | 15.8 | 42.1 | 19.1 | 15.7 | 100.0 | 30.6 | 4405 |
| Dead | 29.1 | 16.2 | 32.0 | 11.1 | 11.6 | 100.0 | 24.8 | 472 |
| **Residence** | | | | | | | | |
| Urban | 12.4 | 17.1 | 30.3 | 18.4 | 21.9 | 100.0 | 30.8 | 522 |
| Rural | 8.9 | 15.7 | 42.5 | 18.4 | 14.5 | 100.0 | 30.1 | 4356 |
| **Province** | | | | | | | | |
| Nairobi | 14.5 | 17.7 | 27.4 | 17.7 | 22.6 | 100.0 | 32.0 | 171 |
| Central | 7.2 | 18.3 | 40.8 | 16.9 | 16.8 | 100.0 | 30.0 | 541 |
| Coast | 7.7 | 13.0 | 40.1 | 20.7 | 18.6 | 100.0 | 33.1 | 443 |
| Eastern | 6.1 | 15.2 | 44.0 | 18.6 | 16.1 | 100.0 | 30.6 | 988 |
| Nyanza | 13.7 | 15.2 | 39.8 | 17.8 | 13.6 | 100.0 | 29.4 | 832 |
| Rift Valley | 7.9 | 17.2 | 40.8 | 18.5 | 15.6 | 100.0 | 30.2 | 1074 |
| Western | 11.8 | 15.2 | 43.2 | 18.2 | 11.6 | 100.0 | 28.7 | 827 |
| **Education** | | | | | | | | |
| No education | 9.8 | 13.3 | 34.8 | 23.3 | 18.9 | 100.0 | 32.8 | 1112 |
| Primary incomplete | 8.4 | 14.3 | 48.7 | 16.3 | 12.2 | 100.0 | 29.7 | 1644 |
| Primary complete | 9.6 | 19.1 | 40.4 | 17.6 | 13.3 | 100.0 | 28.8 | 1190 |
| Secondary+ | 10.0 | 17.5 | 36.5 | 17.0 | 19.0 | 100.0 | 30.9 | 931 |
| Total | 9.3 | 15.9 | 41.2 | 18.4 | 15.3 | 100.0 | 30.1 | 4877 |

Note: First-order births are excluded. The interval for multiple births is the number of months since the preceding pregnancy that ended in a live birth.

## 3.7 Age at First Birth

The age at first birth is a crucial demographic indicator that usually reflects age at first marriage, level of contraceptive use and pre-marital sexual exposure. Early initiation into childbearing is generally a major determinant of large family size and rapid population growth, particularly in countries where family planning is not widely practised. Moreover, bearing children at a young age involves substantial risks to the health of both the mother and child. Early childbearing also tends to restrict educational and economic opportunities for women.

Table 3.11 presents the percent distribution of women by age at first birth according to current age. Childbearing begins early in Kenya, with the majority of women becoming mothers before they reach the age of 20. The median age at first birth is 19. Moreover, the data show that median age at first birth has remained around 19 years for all women, irrespective of their current age, with the possible exception of women age 20-24, for whom the median age is 19.8. The median age at first birth does not appear to have changed significantly since the 1989 KDHS (with medians mostly around 19).

Table 3.11 Age at first birth

Percent distribution of women 15-49 by age at first birth, according to current age, Kenya 1993

| Current age | Women with no births | Age at first birth | | | | | | Total | Number of women | Median age at first birth |
|---|---|---|---|---|---|---|---|---|---|---|
| | | <15 | 15-17 | 18-19 | 20-21 | 22-24 | 25+ | | | |
| 15-19 | 83.2 | 1.4 | 10.6 | 4.8 | NA | NA | NA | 100.0 | 1754 | a |
| 20-24 | 29.5 | 4.4 | 23.5 | 24.3 | 14.0 | 4.4 | NA | 100.0 | 1638 | 19.8 |
| 25-29 | 5.8 | 5.3 | 28.4 | 24.9 | 18.3 | 12.7 | 4.6 | 100.0 | 1221 | 19.3 |
| 30-34 | 4.5 | 6.2 | 30.0 | 25.4 | 16.5 | 11.4 | 6.0 | 100.0 | 1088 | 19.0 |
| 35-39 | 2.5 | 9.6 | 29.5 | 23.4 | 17.6 | 11.2 | 6.3 | 100.0 | 768 | 19.0 |
| 40-44 | 2.7 | 10.4 | 27.2 | 21.1 | 17.9 | 12.9 | 7.7 | 100.0 | 638 | 19.0 |
| 45-49 | 1.1 | 8.4 | 26.1 | 24.0 | 15.1 | 11.6 | 13.8 | 100.0 | 434 | 19.3 |

NA = Not applicable
[a]Less than 50 percent of the women in the age group $x$ to $x+4$ have had a birth by age $x$

Differentials in median age at first birth are shown in Table 3.12. The most notable differentials are that urban women start childbearing later than rural women; educated women—particularly those with secondary education—start childbearing later than those with no education; and women in Nyanza Province have the lowest median age at first birth (18.2).

Table 3.12 Median age at first birth

Median age at first birth among women age 20-49 years, by current age and selected background characteristics, Kenya 1993

| Background characteristic | Current age | | | | | | Ages 20-49 | Ages 25-49 |
|---|---|---|---|---|---|---|---|---|
| | 20-24 | 25-29 | 30-34 | 35-39 | 40-44 | 45-49 | | |
| **Residence** | | | | | | | | |
| Urban | a | 20.7 | 20.0 | 19.7 | 21.0 | (21.0) | a | 20.5 |
| Rural | 19.5 | 19.0 | 18.8 | 18.8 | 18.8 | 19.2 | 19.1 | 18.9 |
| **Province** | | | | | | | | |
| Nairobi | a | 20.4 | (22.2) | (18.5) | (21.0) | * | a | 20.6 |
| Central | a | 19.7 | 19.5 | 19.9 | 18.9 | 19.5 | 19.7 | 19.6 |
| Coast | a | 19.2 | 19.0 | 18.6 | 19.2 | 21.3 | 19.4 | 19.1 |
| Eastern | 19.8 | 19.6 | 19.1 | 19.1 | 18.9 | 18.9 | 19.3 | 19.2 |
| Nyanza | 18.6 | 18.0 | 18.2 | 18.4 | 18.3 | 19.1 | 18.3 | 18.2 |
| Rift Valley | 19.7 | 19.4 | 18.6 | 18.7 | 19.1 | 20.0 | 19.3 | 19.0 |
| Western | 19.6 | 19.2 | 19.2 | 18.6 | 19.2 | 17.9 | 19.2 | 18.9 |
| **Education** | | | | | | | | |
| No education | 18.2 | 17.2 | 18.0 | 18.0 | 18.3 | 19.1 | 18.2 | 18.2 |
| Primary incomplete | 18.4 | 18.1 | 18.3 | 18.9 | 18.6 | 18.8 | 18.4 | 18.4 |
| Primary complete | 19.6 | 19.2 | 19.2 | 18.8 | 20.4 | 19.7 | 19.4 | 19.3 |
| Secondary+ | a | 20.9 | 20.7 | 21.5 | 22.4 | * | a | 21.1 |
| Total | 19.8 | 19.3 | 19.0 | 19.0 | 19.0 | 19.3 | 19.3 | 19.1 |

Note: The medians for cohort 15-19 could not be determined because half the women have not yet had a birth.
[a]Medians were not calculated for these cohorts because less than 50 percent of women in the age group *x* to *x+4* have had a birth by age *x*. Numbers in parentheses are based on 25-49 women; an asterisk indicates that the figure is based on fewer than 25 women and has been suppressed.

## 3.8 Teenage Fertility

Early childbearing, particularly among teenagers (those under 20 years of age) has diverse negative demographic, socioeconomic and sociocultural consequences. Teenage mothers suffer most from severe complications during delivery, their socioeconomic advancement, such as educational attainment and accessibility to better job opportunities, is curtailed, and socially—especially if they are not married—they are more likely to become outcasts and be relegated to ineffective roles in society.

Table 3.13 shows the percentage of teenagers age 15-19 who are mothers or pregnant with their first child, according to various background characteristics. Seventeen percent of teenage women are mothers and another 4 percent are pregnant with their first child. This represents a decline in teen childbearing—the 1989 KDHS showed that 21 percent of women 15-19 were already mothers.

Table 3.13 Teenage pregnancy and motherhood

Percentage of teenagers 15-19 who are mothers or pregnant with their first child, by selected background characteristics, Kenya 1993

| Background characteristic | Percentage who are: Mothers | Percentage who are: Pregnant with first child | Percentage who have begun child-bearing | Number of teenagers |
|---|---|---|---|---|
| **Age** | | | | |
| 15 | 3.4 | 1.8 | 5.2 | 302 |
| 16 | 3.1 | 2.5 | 5.6 | 373 |
| 17 | 10.5 | 3.5 | 14.1 | 370 |
| 18 | 27.7 | 5.9 | 33.6 | 391 |
| 19 | 39.5 | 4.4 | 43.9 | 318 |
| **Residence** | | | | |
| Urban | 14.0 | 3.3 | 17.3 | 275 |
| Rural | 17.3 | 3.8 | 21.1 | 1479 |
| **Province** | | | | |
| Nairobi | 15.5 | 3.4 | 19.0 | 80 |
| Central | 13.6 | 2.0 | 15.6 | 242 |
| Coast | 13.2 | 3.8 | 17.0 | 173 |
| Eastern | 18.0 | 1.8 | 19.8 | 296 |
| Nyanza | 21.6 | 6.4 | 28.0 | 299 |
| Rift Valley | 15.6 | 3.9 | 19.5 | 367 |
| Western | 17.4 | 4.1 | 21.5 | 297 |
| **Education** | | | | |
| No education | 22.1 | 7.8 | 29.9 | 73 |
| Primary incomplete | 17.3 | 3.0 | 20.3 | 587 |
| Primary complete | 19.5 | 4.6 | 24.2 | 719 |
| Secondary+ | 9.8 | 2.4 | 12.1 | 375 |
| Total | 16.8 | 3.7 | 20.5 | 1754 |

As expected, the proportion of women who have begun childbearing rises rapidly with age, from 5 percent of those age 15 to 44 percent of those age 19. Those residing in rural areas, those with less than secondary education and those residing in Nyanza and Western Provinces are also more likely than others to have begun childbearing. These differentials parallel the differentials documented earlier about patterns in current and cumulative fertility.

Whereas most teenage women who have begun childbearing have given birth only once, a small proportion have had two births. As shown in Table 3.14, only 3 percent of women age 15-19 have had two or more births. The proportion rises to 11 percent among women age 19.

Table 3.14 Children born to teenagers

Percent distribution of teenagers 15-19 by number of children ever born (CEB), Kenya 1993

| Age | Number of children ever born | | | Total | Mean number of CEB | Number of teenagers |
|---|---|---|---|---|---|---|
| | 0 | 1 | 2+ | | | |
| 15 | 96.6 | 3.1 | 0.3 | 100.0 | 0.04 | 302 |
| 16 | 96.9 | 3.0 | 0.1 | 100.0 | 0.03 | 373 |
| 17 | 89.5 | 10.0 | 0.5 | 100.0 | 0.11 | 370 |
| 18 | 72.3 | 22.7 | 5.0 | 100.0 | 0.33 | 391 |
| 19 | 60.5 | 28.8 | 10.7 | 100.0 | 0.52 | 318 |
| Total | 83.2 | 13.6 | 3.2 | 100.0 | 0.20 | 1754 |

# CHAPTER 4

# FERTILITY REGULATION

## 4.1 Knowledge of Contraception

Determining the level of knowledge of contraceptive methods and accessibility of services was a major objective of the KDHS, since knowledge of specific methods and of the places where they can be obtained is a precondition for their use. Information about knowledge of contraceptive methods was collected by asking the respondent to name ways or methods by which a couple could delay or avoid pregnancy. If the respondent failed to mention a particular method spontaneously, the interviewer described the method and asked if she recognised it. Eight modern methods—the pill, IUD, injection, vaginal methods (diaphragm, foam tablets, jelly), condom, female sterilisation, male sterilisation (vasectomy), and Norplant—were described, as well as three traditional methods—the calendar rhythm method, natural family planning (temperature or mucus method), and withdrawal. Other methods mentioned by the respondent, such as herbs or breastfeeding, were also recorded. For each method recognised, the respondent was asked if she knew of a source or a person from whom she could obtain the method. If she reported knowing about calendar rhythm or natural family planning, she was also asked if she knew a place or a person where advice could be obtained on how to use the method.

The KDHS results indicate that almost all (96 percent) Kenyan women know at least one method of family planning (Table 4.1). Knowledge of methods is slightly higher among married women than among all women. This chapter will focus primarily on married women since they are at greatest risk of pregnancy.

A high proportion of married women (97 percent) report knowing a modern method and 76 percent of them have some knowledge about a traditional method. The methods most widely known by married women are the pill (95 percent), injection (93 percent), and female sterilisation (87 percent), followed by the condom (85 percent) and IUD (80 percent). Male sterilisation and vaginal methods are known by just over 40 percent of women. Due to its availability only recently and on a limited basis, Norplant is the least widely known method (14 percent). Considering the traditional methods included in the questionnaire, calendar rhythm (67 percent) is more widely known than withdrawal (34 percent), natural family planning (31 percent), or any other traditional method (11 percent); the latter consist mostly of herbs, abstinence and breastfeeding. It should be noted that for all methods, knowledge is higher among currently married women than among all women.

Knowledge of sources for obtaining family planning methods is widespread in Kenya. Ninety-four percent of currently married women know a source for a contraceptive method and 56 percent know a place to get information about how to use the rhythm or natural family planning methods. Most married women (90 percent) know of a source where they can obtain the pill, 88 percent know where to obtain injectables, 81 percent know a source for female sterilisation and 76 percent know a source for the IUD. More than three quarters know where to obtain condoms. It is encouraging to note that 41 percent of currently married women know a source for male sterilisation, while 40 percent know where to obtain vaginal methods. In summary, for modern methods, over 90 percent of the women who have heard of a method also know where to obtain it.

Table 4.1 Knowledge of contraceptive methods and source for methods

Percentage of all women and currently married women who know specific contraceptive methods and who know a source (for information or services), by specific methods, Kenya 1993

| Contraceptive method | Know method | | Know a source[1] | |
|---|---|---|---|---|
| | All women | Currently married women | All women | Currently married women |
| **Any method** | 95.6 | 97.2 | 88.2 | 93.5 |
| **Any modern method** | 95.2 | 96.9 | 87.6 | 93.1 |
| Pill | 91.9 | 95.1 | 82.7 | 89.7 |
| IUD | 73.3 | 80.4 | 67.4 | 76.0 |
| Injection | 87.6 | 93.1 | 80.1 | 87.9 |
| Diaphragm/foam/jelly | 38.3 | 42.3 | 35.2 | 39.8 |
| Condom | 83.4 | 85.1 | 73.3 | 78.3 |
| Female sterilisation | 81.1 | 87.4 | 72.7 | 80.9 |
| Male sterilisation | 41.3 | 45.4 | 36.9 | 41.4 |
| Norplant | 12.5 | 13.8 | 10.9 | 12.2 |
| **Any traditional method** | 71.9 | 75.9 | 51.8 | 55.6 |
| Rhythm/counting days | 64.2 | 66.7 | 48.6 | 52.0 |
| Natural family planning | 28.8 | 30.8 | 21.8 | 23.9 |
| Withdrawal | 29.5 | 33.6 | NA | NA |
| Other traditional methods | 9.3 | 11.2 | NA | NA |
| Number of women | 7540 | 4629 | 7540 | 4629 |

NA = Not applicable
[1]For modern methods, source refers to a place to obtain the method or procedure. For rhythm and natural family planning, refers to a place or person to obtain advice on practicing these methods.

## Trends in Knowledge of Methods and Sources

Knowledge of family planning methods has increased considerably since the late 1970s. Table 4.2 shows comparable data for all women from the 1977/78 KFS, the 1984 KCPS and the 1989 and 1993 KDHSs.[1] While the level of knowledge of *any* method has increased only slightly (from 88 percent in 1977/78 to 96 percent in 1993), knowledge of many *specific* methods has increased more dramatically. For example, the proportion of women who have heard of contraceptive injections increased from 55 to 88 percent since 1977/78 and the proportion who have heard of condoms doubled from 40 to 83 percent. While some of the increase in knowledge of family planning methods occurred during the 1980s, there has been a large gain between 1989 and 1993, most notably in knowledge of condoms and male sterilisation. Knowledge of traditional methods has also become more widespread.

[1]All four surveys used much the same techniques for probing knowledge of methods, however they included some different methods and used somewhat different terminology; for example, the 1977/78 KFS and the 1984 KCPS included douche, abortion, and abstinence, while the 1993 KDHS omitted these methods but included Norplant and natural family planning.

Table 4.2 Trends in knowledge of family planning methods and sources

Percentage of women who know specific family planning methods and who know a source (for family planning information or services), Kenya, 1977/78, 1984, 1989, and 1993

| | Know method | | | | Know source | |
|---|---|---|---|---|---|---|
| Method | 1977/78 KFS[1] | 1984 KCPS | 1989 KDHS | 1993 KDHS | 1989 KDHS | 1993 KDHS |
| **Any method** | 88.0 | 81.0 | 90.0 | 95.6 | 88.1 | 88.2 |
| **Any modern method** | 84.0 | 79.7 | 88.4 | 95.2 | 86.5 | 87.6 |
| Pill | 74.0 | 72.7 | 84.4 | 91.9 | 81.6 | 82.7 |
| IUD | 49.0 | 55.2 | 62.0 | 73.3 | 60.0 | 67.4 |
| Injection | 55.0 | 58.9 | 76.3 | 87.6 | 74.2 | 80.1 |
| Diaphragm/foam/jelly | 20.0 | 26.3 | 24.4 | 38.3 | 23.2 | 35.2 |
| Condom | 40.0 | 41.5 | 53.4 | 83.4 | 49.2 | 73.3 |
| Female sterilisation | 54.0 | 55.0 | 68.2 | 81.1 | 65.9 | 72.7 |
| Male sterilisation | 14.0 | 18.1 | 19.8 | 41.3 | 19.0 | 36.9 |
| **Any traditional method** | U | 62.0 | 54.8 | 71.9 | 44.6 | 51.8 |
| Rhythm | 51.0 | 46.1 | 50.7 | 64.2[2] | 44.6 | 48.6[2] |
| Withdrawal | 24.0 | 24.6 | 16.8 | 29.5 | NA | NA |
| Other | U | U | 5.1 | 9.3 | NA | NA |
| Number of women | 8100 | 6581 | 7150 | 7540 | 7150 | 7540 |

NA = Not applicable
U = No information
[1]Published data are presented in whole numbers; decimal was added to balance this table.
[2]Refers to calendar rhythm only, not to natural family planning

Sources: KFS--CBS. 1980, p. 130, 132; KCPS--CBS. 1984, p.69; NCPD. 1989, p.29

## Differentials in Knowledge of Methods and Sources

KDHS data indicate that, in general, differences in knowledge of family planning methods by socioeconomic status or residence are minimal (see Table 4.3). Knowledge of any method is slightly lower among older women than younger women and the mean number of methods recognised is also lower (3.9 vs. 4.8). Urban women know slightly more methods on average than rural women. Provincial variations in contraceptive knowledge are rather small. The level of knowledge of family planning methods and places where they can be obtained increases with level of education; virtually all of the married women with secondary education know of a contraceptive method and can identify a source. Moreover, better educated women say they have heard of about 5 methods on average, compared to only about 4 methods for uneducated women.

Table 4.3 Knowledge of modern contraceptive methods and source for methods

Percentage of currently married women who know at least one modern contraceptive method and who know a source (for information or services), by selected background characteristics, Kenya 1993

| Background characteristic | Know any method | Mean no. of methods known | Know a modern method[1] | Mean no. of modern methods | Know a source for modern method | Number of women |
|---|---|---|---|---|---|---|
| **Age** | | | | | | |
| 15-19 | 98.1 | 4.8 | 97.0 | 3.7 | 89.6 | 261 |
| 20-24 | 97.8 | 4.7 | 97.5 | 3.5 | 94.1 | 937 |
| 25-29 | 98.1 | 4.7 | 98.1 | 3.5 | 95.6 | 1003 |
| 30-34 | 98.3 | 4.5 | 97.7 | 3.3 | 95.1 | 918 |
| 35-39 | 96.9 | 4.3 | 96.9 | 3.3 | 93.3 | 644 |
| 40-44 | 95.6 | 4.2 | 95.1 | 3.2 | 89.8 | 519 |
| 45-49 | 92.4 | 3.9 | 91.8 | 3.1 | 84.6 | 348 |
| **Residence** | | | | | | |
| Urban | 98.5 | 4.8 | 98.3 | 3.5 | 95.7 | 697 |
| Rural | 97.0 | 4.4 | 96.6 | 3.4 | 92.6 | 3932 |
| **Province** | | | | | | |
| Nairobi | 96.9 | 4.7 | 96.4 | 3.4 | 95.4 | 271 |
| Central | 99.8 | 4.7 | 99.8 | 3.4 | 97.1 | 610 |
| Coast | 94.6 | 4.3 | 93.7 | 3.2 | 85.7 | 445 |
| Eastern | 99.0 | 4.7 | 99.0 | 3.5 | 95.8 | 864 |
| Nyanza | 99.1 | 4.7 | 99.1 | 3.4 | 95.9 | 737 |
| Rift Valley | 92.9 | 4.1 | 92.1 | 3.1 | 87.4 | 992 |
| Western | 98.6 | 4.5 | 98.2 | 3.6 | 95.0 | 710 |
| **Education** | | | | | | |
| No education | 91.5 | 3.8 | 90.3 | 3.0 | 81.9 | 1062 |
| Primary incomplete | 98.0 | 4.5 | 97.8 | 3.4 | 94.0 | 1411 |
| Primary complete | 99.2 | 4.8 | 99.2 | 3.6 | 96.8 | 1177 |
| Secondary+ | 99.8 | 4.9 | 99.8 | 3.5 | 99.4 | 980 |
| Total | 97.2 | 4.5 | 96.9 | 3.4 | 93.1 | 4629 |

[1]Includes pill, IUD, injection, vaginal methods (foaming tablets/diaphragm/foam/jelly), condom, female sterilisation, and male sterilisation.

## 4.2 Ever Use of Contraception

All women interviewed in the KDHS who said that they had heard of a method of family planning were asked if they had ever used it. Forty-six percent of Kenyan women of reproductive age have used a method of family planning at some time and over one third have used a modern method (Table 4.4). The corresponding proportions among currently married women are 55 and 43 percent, respectively. Ever use is lowest among the youngest age group (15-19 years), rising to a peak among those age 25-34, and then dropping among older women.

Twice as many married women have used modern methods as traditional methods (43 vs. 22 percent). The most widely ever-used methods are the pill (28 percent), rhythm (19 percent), injection (14 percent) and the IUD (10 percent). Only seven percent of married women have used the condom (for family planning

Table 4.4 Ever use of contraception

Among all women and currently married women, the percentage who have ever used a contraceptive method, by specific method, according to age, Kenya 1993

| Background characteristic | Any method | Modern method: Any modern method | Pill | IUD | Injection | Diaphragm/ foam/ jelly | Condom | Female sterilisation | Male sterilisation | Norplant | Traditional method: Any trad. method | Natural family planning: Rhythm/ counting days | Natural family planning: Natural family planning | Withdrawal | Other | Number of women |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ALL WOMEN | | | | | | | | | | | | | | | | |
| 15-19 | 15.2 | 6.9 | 3.4 | 0.5 | 0.7 | 0.2 | 3.2 | 0.1 | 0.0 | 0.2 | 10.4 | 9.5 | 0.3 | 1.0 | 0.5 | 1754 |
| 20-24 | 47.3 | 31.5 | 20.7 | 2.8 | 6.6 | 0.9 | 9.1 | 0.2 | 0.2 | 0.2 | 25.9 | 24.3 | 1.3 | 2.8 | 0.9 | 1638 |
| 25-29 | 63.0 | 50.0 | 37.0 | 9.1 | 14.9 | 2.0 | 9.9 | 1.8 | 0.1 | 0.1 | 23.7 | 20.1 | 1.8 | 4.0 | 1.8 | 1221 |
| 30-34 | 61.7 | 50.2 | 32.9 | 12.3 | 21.3 | 4.8 | 7.8 | 5.2 | 0.1 | 0.2 | 23.5 | 19.2 | 2.6 | 4.7 | 2.4 | 1088 |
| 35-39 | 57.5 | 45.3 | 28.1 | 14.7 | 17.1 | 3.7 | 6.4 | 10.3 | 0.3 | 0.3 | 20.9 | 16.0 | 1.0 | 3.1 | 3.9 | 768 |
| 40-44 | 51.5 | 42.3 | 21.8 | 12.1 | 14.7 | 2.4 | 5.3 | 12.3 | 0.0 | 0.4 | 16.4 | 13.7 | 1.3 | 1.8 | 2.2 | 638 |
| 45-49 | 43.9 | 35.4 | 21.0 | 11.3 | 12.2 | 3.5 | 4.7 | 11.5 | 0.2 | 0.3 | 16.6 | 12.6 | 0.7 | 2.3 | 4.6 | 434 |
| Total | 45.6 | 34.0 | 21.9 | 7.2 | 10.8 | 2.1 | 6.8 | 3.9 | 0.1 | 0.2 | 19.8 | 17.0 | 1.3 | 2.8 | 1.8 | 7540 |
| CURRENTLY MARRIED WOMEN | | | | | | | | | | | | | | | | |
| 15-19 | 31.0 | 14.1 | 9.5 | 0.5 | 2.0 | 0.5 | 4.9 | 0.0 | 0.0 | 0.3 | 21.9 | 20.3 | 1.0 | 2.5 | 0.6 | 261 |
| 20-24 | 49.4 | 34.8 | 24.2 | 4.1 | 8.3 | 0.7 | 7.5 | 0.1 | 0.1 | 0.0 | 24.7 | 22.9 | 1.5 | 3.1 | 0.9 | 937 |
| 25-29 | 62.9 | 50.0 | 36.7 | 9.8 | 14.4 | 2.0 | 9.9 | 1.9 | 0.2 | 0.1 | 23.4 | 19.9 | 1.9 | 4.1 | 2.0 | 1003 |
| 30-34 | 62.6 | 50.3 | 32.0 | 11.6 | 21.4 | 4.5 | 7.5 | 6.0 | 0.2 | 0.3 | 23.8 | 19.2 | 3.0 | 4.8 | 2.7 | 918 |
| 35-39 | 57.6 | 45.3 | 27.1 | 14.5 | 15.8 | 3.8 | 6.4 | 11.1 | 0.3 | 0.3 | 21.4 | 15.8 | 0.8 | 3.2 | 4.3 | 644 |
| 40-44 | 53.6 | 43.5 | 21.9 | 13.0 | 15.6 | 2.3 | 5.3 | 13.0 | 0.0 | 0.3 | 17.4 | 14.2 | 1.0 | 1.8 | 2.2 | 519 |
| 45-49 | 45.8 | 37.2 | 22.2 | 13.4 | 13.4 | 3.7 | 5.5 | 12.3 | 0.2 | 0.4 | 18.1 | 14.3 | 0.9 | 2.5 | 4.6 | 348 |
| Total | 55.2 | 42.6 | 27.6 | 9.8 | 14.1 | 2.6 | 7.3 | 5.5 | 0.1 | 0.2 | 22.3 | 18.8 | 1.7 | 3.4 | 2.4 | 4629 |

purposes), while 6 percent have used female sterilisation and 3 percent have used withdrawal and vaginal methods.

Ever use of family planning methods has increased greatly over the last 15 years, as evidenced by the data in Table 4.5. In 1977/78, less than one third of all women age 15-49 reported having ever used a method of family planning, compared to 46 percent in 1993. Ever use of modern methods has tripled over the same time period, with greater use of the pill and injection accounting for the bulk of the increase, especially in the four years between 1989 and 1993.

## 4.3 Current Use of Contraception

Results from the 1993 KDHS indicate that 33 percent of married women in Kenya are currently using family planning (see Table 4.6). More women are using modern methods (27 percent) than traditional methods (6 percent). Thus, modern methods account for 83 percent of overall contraceptive use.

The most widely used contraceptive method is the pill (10 percent), followed by injection (7 percent), female sterilisation (6 percent), IUD (4 percent) and rhythm (4 percent). Less than one percent of married women use other methods such as condom, vaginal methods, Norplant, natural family planning and withdrawal. Other traditional methods--mostly abstinence, herbs and breastfeeding—are used by less than one percent of married women.

Table 4.5 Trends in ever use of family planning methods

Percentage of women who have ever used specific family planning methods, Kenya, 1977/78, 1984, 1989, and 1993

| Contraceptive method | 1977/78 KFS[1] | 1984 KCPS[1] | 1989 KDHS | 1993 KDHS |
|---|---|---|---|---|
| **Any method** | 29.0 | 28.5 | 39.1 | 45.6 |
| **Any modern method** | 11.0 | 14.1 | 24.1 | 34.0 |
| Pill | 7.0 | 9.0 | 15.1 | 21.9 |
| IUD | 2.0 | 4.0 | 6.8 | 7.2 |
| Injection | 2.0 | 2.0 | 5.5 | 10.8 |
| Diaphragm/foam/jelly | 1.0 | 1.0 | 1.8 | 2.1 |
| Condom | 3.0 | 2.0 | 3.6 | 6.8 |
| Female sterilisation | 1.0 | 2.0 | 3.8 | 3.9 |
| Male sterilisation | 0.0 | 0.0 | 0.2 | 0.1 |
| **Any traditional method** | U | U | 21.9 | 19.8 |
| Rhythm/counting days | 13.0 | 13.0 | 19.4 | 17.0[2] |
| Withdrawal | 4.0 | 4.0 | 2.4 | 2.8 |
| Other traditional methods | U | U | 2.7 | 1.8 |
| Number of women | 8100 | 6581 | 7150 | 7540 |

U = No information
[1]Published data are presented in whole numbers; decimal was added to balance this table.
[2]Refers to calendar rhythm only, not to natural family planning
Sources: KFS--CBS. 1980, p. 130, 132; KCPS--CBS. 1984, p. 78, 83; 1989 KDHS--NCPD. 1989, p.33.

Table 4.6 Current use of contraception

Percent distribution of all women and of currently married women by contraceptive method currently used, according to age, Kenya 1993

| | | Modern method | | | | | | | | Traditional method | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Background characteristic | Any method | Any modern method | Pill | IUD | Injection | Diaphragm/foam/jelly | Condom | Female sterilisation | Norplant | Any trad. method | Rhythm counting days | Natural family planning | Withdrawal | Other | Not currently using | Total | Number of women |
| **ALL WOMEN** | | | | | | | | | | | | | | | | | |
| 15-19 | 5.7 | 2.4 | 1.4 | 0.1 | 0.3 | 0.0 | 0.4 | 0.1 | 0.0 | 3.3 | 3.0 | 0.0 | 0.2 | 0.0 | 94.3 | 100.0 | 1754 |
| 20-24 | 23.0 | 16.2 | 9.7 | 1.3 | 3.6 | 0.0 | 1.4 | 0.2 | 0.0 | 6.7 | 6.3 | 0.2 | 0.1 | 0.1 | 77.0 | 100.0 | 1638 |
| 25-29 | 37.5 | 31.5 | 16.5 | 3.6 | 8.3 | 0.0 | 1.2 | 1.8 | 0.0 | 6.0 | 4.9 | 0.2 | 0.3 | 0.5 | 62.5 | 100.0 | 1221 |
| 30-34 | 38.3 | 32.2 | 8.9 | 5.2 | 11.5 | 0.1 | 1.1 | 5.2 | 0.0 | 6.2 | 4.9 | 0.4 | 0.3 | 0.6 | 61.7 | 100.0 | 1088 |
| 35-39 | 34.6 | 30.4 | 5.5 | 6.0 | 7.6 | 0.3 | 0.7 | 10.3 | 0.0 | 4.2 | 2.7 | 0.2 | 0.4 | 1.0 | 65.4 | 100.0 | 768 |
| 40-44 | 34.2 | 29.4 | 4.8 | 4.5 | 7.0 | 0.1 | 0.8 | 12.3 | 0.0 | 4.9 | 3.4 | 0.3 | 0.6 | 0.6 | 65.8 | 100.0 | 638 |
| 45-49 | 26.7 | 22.3 | 1.8 | 3.2 | 5.2 | 0.0 | 0.5 | 11.5 | 0.0 | 4.4 | 3.1 | 0.0 | 0.0 | 1.3 | 73.3 | 100.0 | 434 |
| Total | 25.9 | 20.7 | 7.5 | 2.8 | 5.5 | 0.1 | 0.9 | 3.9 | 0.0 | 5.2 | 4.3 | 0.2 | 0.3 | 0.4 | 74.1 | 100.0 | 7540 |
| **CURRENTLY MARRIED WOMEN** | | | | | | | | | | | | | | | | | |
| 15-19 | 10.3 | 6.1 | 4.6 | 0.0 | 0.8 | 0.0 | 0.4 | 0.0 | 0.3 | 4.1 | 3.0 | 0.0 | 1.1 | 0.0 | 89.7 | 100.0 | 261 |
| 20-24 | 23.6 | 18.3 | 11.5 | 1.8 | 4.0 | 0.0 | 0.8 | 0.1 | 0.0 | 5.3 | 4.9 | 0.2 | 0.2 | 0.0 | 76.4 | 100.0 | 937 |
| 25-29 | 37.2 | 31.5 | 17.0 | 3.9 | 7.6 | 0.0 | 1.1 | 1.9 | 0.0 | 5.7 | 4.5 | 0.3 | 0.3 | 0.5 | 62.8 | 100.0 | 1003 |
| 30-34 | 39.7 | 33.2 | 8.8 | 5.6 | 11.9 | 0.0 | 0.9 | 6.0 | 0.1 | 6.5 | 5.0 | 0.4 | 0.3 | 0.7 | 60.3 | 100.0 | 918 |
| 35-39 | 35.9 | 31.6 | 5.2 | 7.0 | 7.3 | 0.3 | 0.7 | 11.1 | 0.0 | 4.3 | 2.5 | 0.2 | 0.4 | 1.2 | 64.1 | 100.0 | 644 |
| 40-44 | 37.3 | 31.9 | 5.0 | 5.1 | 7.7 | 0.1 | 0.9 | 13.0 | 0.0 | 5.5 | 3.8 | 0.3 | 0.7 | 0.7 | 62.7 | 100.0 | 519 |
| 45-49 | 30.4 | 24.9 | 2.2 | 4.0 | 5.7 | 0.0 | 0.7 | 12.3 | 0.0 | 5.5 | 3.8 | 0.0 | 0.0 | 1.7 | 69.6 | 100.0 | 348 |
| Total | 32.7 | 27.3 | 9.5 | 4.2 | 7.2 | 0.1 | 0.8 | 5.5 | 0.0 | 5.5 | 4.2 | 0.2 | 0.4 | 0.6 | 67.3 | 100.0 | 4629 |

The use of contraception increases steadily up through age group 30-34 and declines thereafter. The pill and calendar rhythm are the most commonly used methods among women age 15-24. There is a gradual shift to longer-term methods among older women, so that by age 25-29, injection has replaced rhythm as the second most popular method; by age 30-34, it is the most popular method. Above age 35, female sterilisation is the most widely used method, with the injection in second place. One in eight (12-13 percent) married women in their forties has been sterilised.

### Trends in Current Use of Family Planning

Current use of family planning has shown a steady increase over the past nine years, from 17 percent of married women in 1984 to 33 percent in 1993 (see Table 4.7 and Figure 4.1).[2] Moreover, there has been a radical shift to greater use of modern methods. In 1984, 10 percent of married women were using modern methods, compared to 27 percent in 1993. Use of contraceptive injections has experienced a particularly steep increase, from less than one percent of married women in 1984 to 7 percent in 1993. Use of the pill has tripled and female sterilisation has doubled over the past 9 years, while IUD use showed more modest increases.

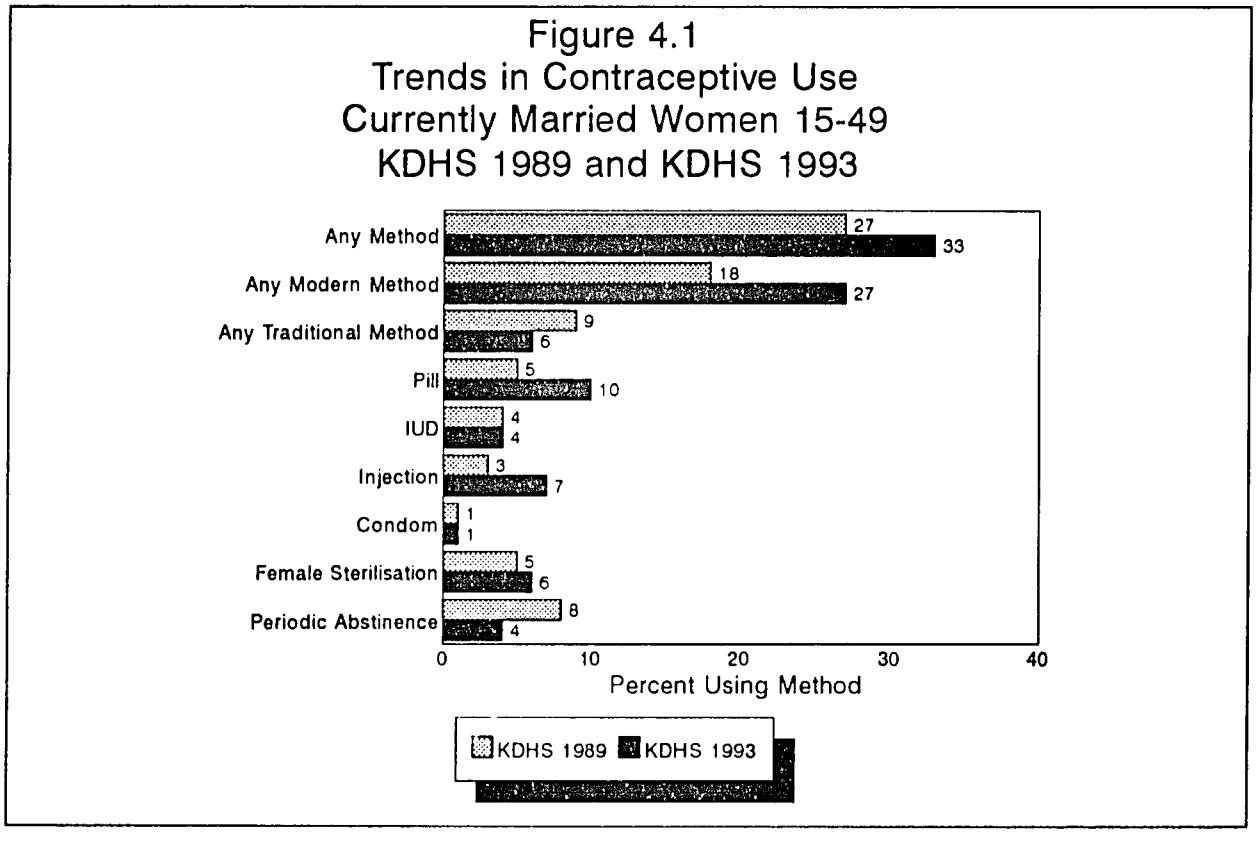
Table 4.7 Trends in current use of family planning methods

Percentage of currently married women age 15-49 who are currently using specific family planning methods, Kenya, 1984, 1989, and 1993

| Contraceptive method | 1984 KCPS | 1989 KDHS | 1993 KDHS |
|---|---|---|---|
| **Any method** | 17.0 | 26.9 | 32.7 |
| **Modern method** | 9.7 | 17.9 | 27.3 |
| Pill | 3.1 | 5.2 | 9.5 |
| IUD | 3.0 | 3.7 | 4.2 |
| Injection | 0.5 | 3.3 | 7.2 |
| Diaphragm/foam/jelly | 0.1 | 0.4 | 0.1 |
| Condom | 0.3 | 0.5 | 0.8 |
| Female sterilisation | 2.6 | 4.7 | 5.5 |
| Male sterilisation | 0.0 | 0.0 | 0.0 |
| **Any traditional method** | 7.3 | 9.0 | 5.5 |
| Rhythm/counting days | 3.8 | 7.5 | 4.4[1] |
| Withdrawal | 0.6 | 0.2 | 0.4 |
| Other traditional methods | 2.9 | 1.3 | 0.6 |
| Number of women | 4627 | 4765 | 4629 |

[1]Includes calendar rhythm and natural family planning
Sources: KCPS--CBS. 1984, p. 85, 86; 1989 KDHS--NCPD. 1989, p. 35.

[2]In 1977/78, 7 percent of married women were using family planning (CBS. 1980, p. 133); data from the KFS regarding use of specific methods are not tabulated in a form that is readily comparable with data from the other surveys and thus are not shown in Table 4.7.




Use of traditional methods declined sharply between 1989 and 1993. This was almost entirely due to a decrease in use of the rhythm method. There is reason to believe that some of the apparent decline is due to questionnaire design. In the 1989 KDHS, the term *periodic abstinence* was used to describe any method in which sexual intercourse was intentionally avoided on the days of the woman's menstrual cycle on which she thought she was most likely to be fertile. A sizeable proportion of women who reported that they were using periodic abstinence were actually either not sexually active in the month before the survey, abstaining after a birth, or amenorrhoeic. This implies that there was some confusion between *periodic abstinence* and *long-term or postpartum abstinence*. In an attempt to avoid this problem, the 1993 KDHS questionnaire used the term *rhythm/counting days* to describe the calendar rhythm method. (The survey also introduced a separate category, "natural family planning" to describe the temperature and vaginal mucus methods of determining the fertile time.) To the extent that this modification reduced confusion of periodic with longer-term abstinence, it may account for some or all of the apparent decline in use of this method.

**Differentials in Current Use of Family Planning**

Table 4.8 and Figure 4.2 show the level of contraceptive use among currently married women by selected background characteristics. The table indicates that some women are much more likely to be using contraceptives than others. The level of contraceptive use is much higher in urban areas (43 percent) than rural areas (31 percent). The most popular methods among urban women are the pill, the IUD, and injection, while the most popular methods among rural women are the pill, injection and female sterilisation.

Table 4.8 Current use of family planning by method

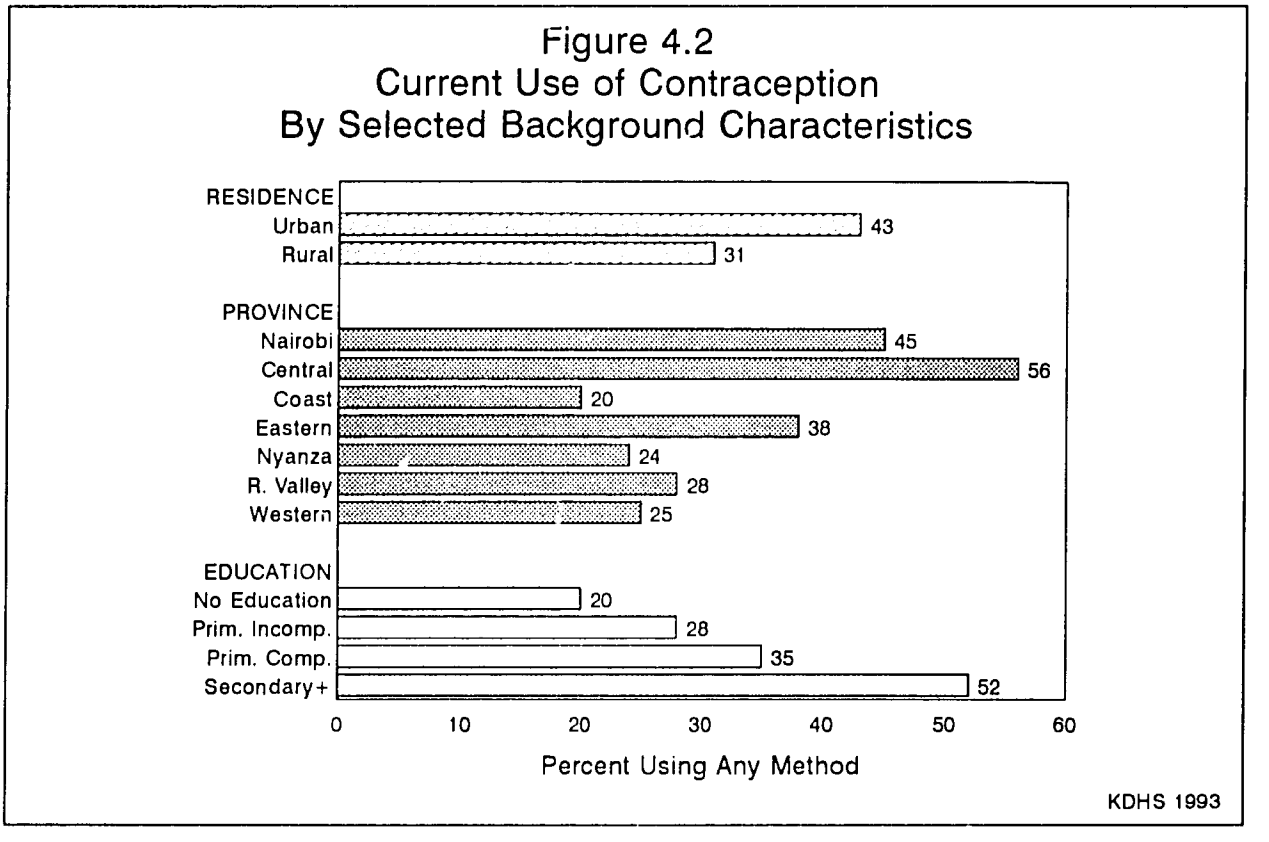
Percent distribution of currently married women by contraceptive method currently used, according to selected background characteristics, Kenya 1993

| | | Modern method | | | | | | | Traditional method | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Background characteristic | Any method | Any modern method | Pill | IUD | Injection | Diaphragm/ foam/ jelly | Condom | Female sterilisation | Any trad. method | Rhythm/ counting days | Natural family planning | Withdrawal | Other | Not currently using | Total | Number of women |
| **Residence** | | | | | | | | | | | | | | | | |
| Urban | 43.4 | 37.9 | 15.7 | 9.5 | 6.2 | 0.0 | 1.3 | 5.2 | 5.5 | 4.6 | 0.7 | 0.2 | 0.0 | 56.6 | 100.0 | 697 |
| Rural | 30.9 | 25.4 | 8.4 | 3.2 | 7.4 | 0.1 | 0.8 | 5.6 | 5.4 | 4.1 | 0.2 | 0.4 | 0.7 | 69.1 | 100.0 | 3932 |
| **Province** | | | | | | | | | | | | | | | | |
| Nairobi | 45.4 | 37.8 | 20.4 | 9.7 | 4.6 | 0.0 | 1.0 | 2.0 | 7.7 | 6.6 | 0.5 | 0.5 | 0.0 | 54.6 | 100.0 | 271 |
| Central | 56.0 | 49.7 | 20.9 | 10.0 | 8.7 | 0.3 | 1.4 | 8.4 | 6.3 | 5.6 | 0.6 | 0.0 | 0.1 | 44.0 | 100.0 | 610 |
| Coast | 20.2 | 16.6 | 6.3 | 2.4 | 3.6 | 0.0 | 0.8 | 3.4 | 3.6 | 2.7 | 0.1 | 0.7 | 0.0 | 79.8 | 100.0 | 445 |
| Eastern | 38.4 | 30.5 | 12.8 | 5.7 | 6.0 | 0.0 | 0.9 | 5.1 | 7.9 | 7.3 | 0.0 | 0.4 | 0.2 | 61.6 | 100.0 | 864 |
| Nyanza | 23.8 | 21.5 | 4.2 | 1.3 | 8.2 | 0.1 | 0.6 | 7.1 | 2.3 | 1.6 | 0.2 | 0.3 | 0.2 | 76.2 | 100.0 | 737 |
| Rift Valley | 27.8 | 21.0 | 4.3 | 2.0 | 7.9 | 0.0 | 0.7 | 5.9 | 6.9 | 4.7 | 0.3 | 0.7 | 1.3 | 72.2 | 100.0 | 992 |
| Western | 25.1 | 21.7 | 6.1 | 2.2 | 8.5 | 0.0 | 0.7 | 4.2 | 3.4 | 1.3 | 0.2 | 0.1 | 1.8 | 74.9 | 100.0 | 710 |
| **Education** | | | | | | | | | | | | | | | | |
| No education | 19.5 | 15.3 | 2.9 | 1.1 | 5.4 | 0.0 | 0.3 | 5.7 | 4.2 | 2.6 | 0.0 | 0.4 | 1.2 | 80.5 | 100.0 | 1062 |
| Primary incomplete | 27.9 | 22.7 | 6.8 | 2.5 | 7.3 | 0.0 | 0.5 | 5.4 | 5.2 | 3.8 | 0.1 | 0.5 | 0.8 | 72.1 | 100.0 | 1411 |
| Primary complete | 34.9 | 29.1 | 11.6 | 4.1 | 6.9 | 0.0 | 0.9 | 5.6 | 5.8 | 4.6 | 0.3 | 0.5 | 0.4 | 65.1 | 100.0 | 1177 |
| Secondary+ | 51.6 | 44.9 | 17.9 | 10.0 | 9.4 | 0.2 | 1.9 | 5.5 | 6.7 | 6.0 | 0.6 | 0.1 | 0.1 | 48.4 | 100.0 | 980 |
| **Number of living children** | | | | | | | | | | | | | | | | |
| 0 | 5.5 | 1.6 | 0.8 | 0.1 | 0.0 | 0.0 | 0.6 | 0.0 | 3.9 | 3.6 | 0.0 | 0.3 | 0.0 | 94.5 | 100.0 | 328 |
| 1 | 25.9 | 19.5 | 12.2 | 2.9 | 2.0 | 0.0 | 1.7 | 0.5 | 6.4 | 5.4 | 0.3 | 0.7 | 0.0 | 74.1 | 100.0 | 589 |
| 2 | 30.6 | 26.1 | 16.2 | 4.0 | 4.7 | 0.0 | 0.7 | 0.6 | 4.5 | 4.3 | 0.1 | 0.0 | 0.1 | 69.4 | 100.0 | 690 |
| 3 | 37.1 | 29.8 | 12.6 | 5.4 | 8.5 | 0.0 | 1.3 | 1.9 | 7.3 | 5.8 | 1.0 | 0.5 | 0.0 | 62.9 | 100.0 | 668 |
| 4+ | 37.7 | 32.5 | 7.1 | 4.7 | 9.8 | 0.1 | 0.6 | 10.1 | 5.2 | 3.5 | 0.1 | 0.4 | 1.2 | 62.3 | 100.0 | 2353 |
| Total | 32.7 | 27.3 | 9.5 | 4.2 | 7.2 | 0.1 | 0.8 | 5.5 | 5.5 | 4.2 | 0.2 | 0.4 | 0.6 | 67.3 | 100.0 | 4629 |

Note: Excludes Norplant

There are large differences in levels of contraceptive use by province. Central Province has the highest level of current use (56 percent), followed by Nairobi (45 percent), and Eastern Province (38 percent). The contraceptive prevalence rate for the other provinces is below the national average. The pill is the most commonly used method in Nairobi and Central, Coast, and Eastern Provinces, while injection is the major method in the three western provinces—Rift Valley, Western and Nyanza. In all provinces, modern method use accounts for over 75 percent of all use.

The largest differentials in current use of contraception are found for educational groups. Contraceptive use increases steadily with increasing level of education, from 20 percent of married women with no education to 52 percent of those with secondary education. The proportion of users who are using modern methods also increases with increasing level of education. Among women with no education, modern methods account for 78 percent of all use, compared to 87 percent for women with secondary education. Female sterilisation and injection are the favourite methods among women with no education, while injection and the pill are the favourite methods among women with some primary and completed




primary education. The pill, IUD and injection are favoured by those with secondary or higher education. Current contraceptive use increases with the number of children that a woman has, ranging from 6 percent among women with no children to 38 percent among those with four or more children.

Table 4.9 shows data on contraceptive prevalence for the rural areas of 15 selected districts as well as for Mombasa. As mentioned above, these districts were selected because they are large in population size, most have been assigned a District Population Officer, and most were also targetted in the 1989 KDHS. The data should be viewed with caution, since the number of married women interviewed in many of the districts is small and the resulting figures are subject to higher sampling errors. It should also be noted that for the districts that were recently subdivided (i.e., Kakamega, Kericho, Kisii, Machakos, Meru, and South Nyanza), the former boundaries were used for the KDHS sample. Finally, except for Mombasa, the data for the individually targetted districts refer to **rural** women only.

Of the districts studied, contraceptive prevalence is highest in Nyeri District; two thirds of the **rural**, married women in Nyeri District are using a family planning method (64 percent). This level is comparable to levels found in the most economically advanced developing countries and some developed countries. At the other end of the spectrum are rural South Nyanza (13 percent), Kilifi (14 percent) and Siaya (15 percent) Districts.

Figure 4.3 shows trends in contraceptive prevalence rates for modern methods over the last four years for the rural areas of the districts that were targetted in both the 1989 and 1993 KDHSs. Extra caution is necessary in interpreting data on changes over time. Not only were the numbers of women interviewed in both surveys small, but they were also selected from independent samples and thus sampling errors are also independent. For this reason, for most districts, the contraceptive use rates in 1993 may not be significantly

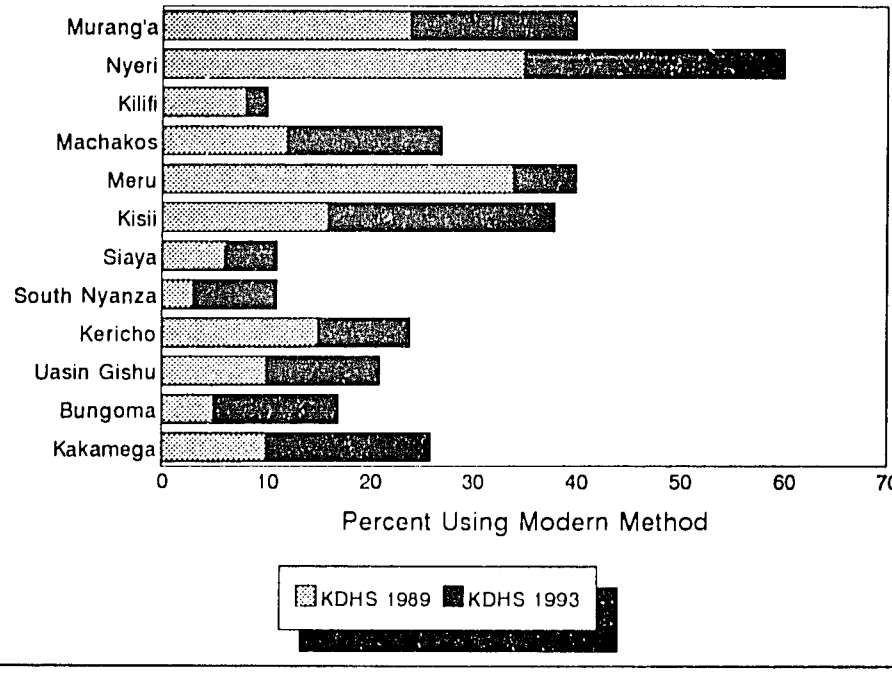
Table 4.9 Current use of contraception by district

Percent distribution of currently married women by contraceptive method currently used, according to selected districts, Kenya 1993

| | | Modern method | | | | | | | Traditional method | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Town/ District | Any method | Any modern method | Pill | IUD | Injection | Diaphragm/ foam/ jelly | Condom | Female sterilisation | Any trad. method | Rhythm/ counting days | Natural family planning | Withdrawal | Other | Not currently using | Total | Number of women |
| Mombasa[3] | 37.6 | 32.0 | 11.2 | 6.1 | 4.6 | 0.0 | 3.0 | 6.6 | 5.6 | 5.1 | 0.5 | 0.0 | 0.0 | 62.4 | 100.0 | 94 |
| Murang'a[1] | 47.1 | 40.2 | 10.8 | 9.8 | 9.3 | 0.0 | 3.9 | 6.4 | 6.9 | 6.9 | 0.0 | 0.0 | 0.0 | 52.9 | 100.0 | 150 |
| Nyeri[1] | 64.2 | 60.3 | 18.1 | 12.3 | 15.2 | 0.0 | 2.9 | 11.8 | 3.9 | 2.9 | 0.5 | 0.0 | 0.5 | 35.8 | 100.0 | 97 |
| Kilifi[1] | 13.8 | 10.3 | 3.0 | 0.9 | 3.0 | 0.0 | 0.0 | 3.4 | 3.4 | 3.0 | 0.0 | 0.4 | 0.0 | 86.2 | 100.0 | 199 |
| Taita Taveta[1] | 33.7 | 28.7 | 11.9 | 3.1 | 10.6 | 0.0 | 2.5 | 0.6 | 5.0 | 3.7 | 0.0 | 1.2 | 0.0 | 66.2 | 100.0 | 35 |
| Machakos[1 2] | 38.2 | 27.2 | 9.2 | 3.3 | 4.8 | 0.0 | 1.1 | 8.8 | 11.0 | 10.7 | 0.0 | 0.4 | 0.0 | 61.8 | 100.0 | 355 |
| Meru[1 2] | 41.2 | 40.3 | 17.3 | 7.4 | 11.1 | 0.0 | 0.8 | 3.7 | 0.8 | 0.8 | 0.0 | 0.0 | 0.0 | 58.8 | 100.0 | 259 |
| Kisii[1 2] | 40.3 | 37.9 | 5.5 | 1.7 | 16.2 | 0.0 | 1.7 | 12.8 | 2.4 | 1.7 | 0.0 | 0.3 | 0.3 | 59.7 | 100.0 | 274 |
| Siaya[1] | 15.2 | 10.9 | 2.3 | 0.4 | 4.7 | 0.4 | 0.0 | 3.1 | 4.3 | 3.5 | 0.4 | 0.0 | 0.4 | 84.8 | 100.0 | 124 |
| South Nyanza[1 2] | 12.8 | 11.3 | 3.6 | 0.5 | 3.6 | 0.0 | 0.0 | 3.6 | 1.5 | 0.5 | 0.5 | 0.5 | 0.0 | 87.2 | 100.0 | 232 |
| Kericho[1 2 3] | 26.4 | 23.6 | 2.4 | 0.0 | 13.9 | 0.0 | 0.0 | 6.7 | 2.9 | 1.9 | 0.5 | 0.5 | 0.0 | 73.6 | 100.0 | 172 |
| Nakuru[1] | 28.8 | 23.1 | 3.8 | 3.1 | 8.1 | 0.0 | 1.9 | 6.3 | 5.6 | 5.6 | 0.0 | 0.0 | 0.0 | 71.3 | 100.0 | 116 |
| Nandi[1] | 23.9 | 22.2 | 3.3 | 1.2 | 12.3 | 0.0 | 1.2 | 4.1 | 1.6 | 0.8 | 0.0 | 0.0 | 0.8 | 76.1 | 100.0 | 99 |
| Uasin Gishu[1] | 25.9 | 21.1 | 3.0 | 1.2 | 7.8 | 0.0 | 0.0 | 9.0 | 4.8 | 4.8 | 0.0 | 0.0 | 0.0 | 74.1 | 100.0 | 60 |
| Bungoma[1] | 20.8 | 16.9 | 3.9 | 0.8 | 8.2 | 0.0 | 0.4 | 3.5 | 3.9 | 1.2 | 0.0 | 0.4 | 2.4 | 79.2 | 100.0 | 180 |
| Kakamega[1 2] | 28.2 | 25.8 | 8.5 | 2.4 | 9.3 | 0.0 | 1.2 | 4.4 | 2.4 | 1.2 | 0.4 | 0.0 | 0.8 | 71.8 | 100.0 | 334 |

[1]Rural areas only
[2]Based on the former (undivided) boundaries of the district (see Chapter 1 for fuller explanation).
[3]Excludes a tiny fraction of Norplant users

Figure 4.3
Current Use of Modern Contraceptive Methods
By District, KDHS 1989 and KDHS 1993



different (at a 95 percent level of confidence) from those in 1989, i.e., they may in fact be due to sampling errors. For example, in Meru District, 36 percent of rural married women interviewed in 1989 said that they were currently using family planning. The 95 percent confidence interval (within which the true prevalence rate could be said with 95 percent confidence to lie) for this figure ranged from 28 to 45 percent. In 1993, 41 percent of rural women in Meru District were using contraception; the 95 percent confidence intervals for this figure range from 34 to 49 (see Appendix Table B.14). Thus, since the intervals overlap, the apparent change from 36 percent in 1989 to 41 percent in 1993 cannot be said to be significant.

Despite these cautionary notes, a number of points can be made. Prevalence of use of *any* method reportedly increased in the rural areas of every district studied except Machakos. The largest absolute increase was in Nyeri District, where the prevalence rate increased from 41 to 64 percent of married women. Even in districts in which the increase in overall prevalence was not large, the increase in use of modern methods was substantial (e.g., Machakos and Kisii Districts) (Figure 4.3). Finally, in terms of overall use, the districts are in roughly the same rank order in both surveys.

## 4.4 Number of Children at First Use

Table 4.10 shows the number of living children at the time of first use of contraception among ever-married women. For the older cohorts (35-49 years), women generally started using contraception at higher parities than the younger women. For example, 21 percent of women aged 20-24 started using contraception after their first child, compared to only 5 percent of women 45-49. This probably reflects the fact that young women are more likely to use contraception to space births, while older women use it to limit births.

Table 4.10 Number of children at first use of contraception

Percent distribution of ever-married women by number of living children at the time of first use of contraception, according to current age, Kenya 1993

| Current age | Never used contraception | Number of living children at time of first use of contraception | | | | | Missing | Total | Number of women |
|---|---|---|---|---|---|---|---|---|---|
| | | 0 | 1 | 2 | 3 | 4+ | | | |
| 15-19 | 68.4 | 20.1 | 9.9 | 1.0 | 0.0 | 0.0 | 0.6 | 100.0 | 284 |
| 20-24 | 48.3 | 14.9 | 20.9 | 10.5 | 3.2 | 1.4 | 0.8 | 100.0 | 1057 |
| 25-29 | 36.7 | 8.7 | 20.8 | 15.9 | 9.6 | 7.9 | 0.4 | 100.0 | 1093 |
| 30-34 | 38.2 | 5.7 | 13.9 | 11.9 | 7.9 | 22.3 | 0.2 | 100.0 | 1030 |
| 35-39 | 43.0 | 2.7 | 8.6 | 5.9 | 7.6 | 31.6 | 0.6 | 100.0 | 748 |
| 40-44 | 48.5 | 2.4 | 5.9 | 4.0 | 5.4 | 32.7 | 1.1 | 100.0 | 627 |
| 45-49 | 56.1 | 1.9 | 4.9 | 4.6 | 4.6 | 27.7 | 0.2 | 100.0 | 422 |
| Total | 44.9 | 7.8 | 14.1 | 9.5 | 6.3 | 16.9 | 0.5 | 100.0 | 5260 |

## 4.5 Knowledge of Fertile Period

A basic knowledge of reproductive physiology provides a useful background for successful practice of coital-related methods such as withdrawal, condom or barrier methods, but even more so for the calendar rhythm and natural family planning methods. The successful practice of these methods depends on an understanding of when, during the ovulatory cycle, a woman is most likely to conceive. Table 4.11 presents the percent distribution of all respondents and those who have ever used either the rhythm method or natural family planning by reported knowledge of the fertile period in the ovulatory cycle.

Table 4.11 Knowledge of fertile period

Percent distribution of all women and of women who have ever used periodic abstinence by knowledge of the fertile period during the ovulatory cycle, Kenya 1993

| Perceived fertile period | All women | Ever users of periodic abstinence[1] |
|---|---|---|
| During menstrual period | 2.3 | 3.3 |
| Right after period has ended | 32.6 | 34.8 |
| In the middle of the cycle | 20.0 | 29.0 |
| Just before period begins | 10.2 | 14.2 |
| Other | 1.4 | 1.7 |
| Don't know | 33.1 | 16.6 |
| Missing | 0.5 | 0.4 |
| Total | 100.0 | 100.0 |
| Number | 7540 | 1316 |

[1]Includes users of either calendar rhythm or natural family planning.

One third of the women interviewed said a woman is most likely to conceive just after her period has ended, while the same proportion (33 percent) said they did not know when a woman is likely to conceive and 10 percent identified the fertile time to be just before the period begins. Only 20 percent gave the *correct* response: that a woman is most likely to conceive in the middle of her ovulatory cycle. Women who have ever used either the calendar rhythm method or natural family planning are more knowledgable about the ovulatory cycle than women in general. Twenty-nine percent identified the fertile period as occurring in the middle of the cycle, and only 17 percent said they did not know when the fertile period occurred.

It should be noted that the precoded response categories for this question are only one way of dividing the cycle into distinct periods. Women may actually have a more accurate understanding of their fertility cycles than is reflected by these categories, especially those who answered "right after her period has ended" (which could be interpreted as a correct response). However, it appears that over one third of all women and one fifth of those who have used periodic abstinence clearly *do not* understand the ovulatory process, since they either said they did not know when the fertile period is or they thought it occurred "during her period."

## 4.6 Timing of Sterilisation

As mentioned above, more than 1 in 20 married women of reproductive age in Kenya has undergone a sterilisation procedure. This makes female sterilisation the third most popular contraceptive method after the pill and injection. Table 4.12 shows the distribution of sterilised women by the age at which they had the procedure, according to the number of years prior to the survey the procedure was done.

The data show that the largest proportion—over one third—of sterilised women have the operation when they are in their early 30s, while almost the same proportion have the operation in their late 30s. The median age at sterilisation is 33. There does not seem to be any significant change in the recent past in the median age at which women have the operation.

Table 4.12 Timing of sterilisation

Percent distribution of sterilised women by age at the time of sterilisation, according to the number of years since the operation, Kenya 1993

| Years since operation | Age at time of sterilisation | | | | | | Total | Number of women | Median age[1] |
|---|---|---|---|---|---|---|---|---|---|
| | <25 | 25-29 | 30-34 | 35-39 | 40-44 | 45-49 | | | |
| <2 | 6.6 | 19.6 | 35.9 | 20.0 | 9.7 | 8.2 | 100.0 | 86 | 32.5 |
| 2-3 | 4.9 | 11.6 | 32.6 | 37.6 | 13.3 | 0.0 | 100.0 | 61 | 34.3 |
| 4-5 | 1.8 | 25.4 | 32.7 | 28.5 | 11.7 | 0.0 | 100.0 | 54 | 32.2 |
| 6-7 | (6.1) | (25.8) | (27.9) | (32.3) | (7.9) | (0.0) | 100.0 | 37 | (32.7) |
| 8-9 | (0.0) | (5.8) | (48.6) | (43.6) | (2.0) | (0.0) | 100.0 | 25 | (34.0) |
| 10+ | (5.3) | (34.9) | (42.9) | (16.8) | (0.0) | (0.0) | 100.0 | 29 | - |
| Total | 4.6 | 20.2 | 35.4 | 28.5 | 9.0 | 2.4 | 100.0 | 292 | 33.0 |

Note: Parentheses indicate that the figure is based on 25-49 women.
[1]Median age was calculated only for women less than 40 years of age to avoid problems of censoring.

## 4.7 Source of Supply

In the KDHS, all current users of modern methods of family planning were asked to report the source from which they most recently obtained their methods. Since women often do not know exactly into which category the source they use falls (e.g. government hospital, mission health centre, etc.), interviewers were instructed to write the name of the source. Supervisors and field editors were instructed to verify that the name and the type of sources were consistent, asking cluster informants for the names of local family planning sources, if necessary. This practice was designed to improve the reporting of data on sources of family planning, although its actual effect is difficult to determine.

The information in Table 4.13 and Figure 4.4 indicates that two thirds of women who use modern methods (68 percent) obtain their methods from public (government) sources, while 25 percent rely on private medical sources and 2 percent use other sources, such as shops or friends. Government hospitals are the single most frequently cited source, serving 30 percent of users, followed by government health centres (25 percent) and government dispensaries (14 percent). Private hospitals and clinics and facilities run by missions and churches each serve 8 percent of users.

The source a woman uses to obtain contraceptive methods depends on many things, one of which is the type of method she may have chosen. Almost three quarters of pill users obtain their methods from public sources, mostly government health centres and hospitals; six percent obtain supplies from community-based distributors. Injections are also supplied mainly through government sources, with about one quarter supplied through the private sector. About two thirds of female sterilisations and IUD insertions are performed in government facilities, with one third occurring in private medical facilities. While condom users also rely heavily on government sources, many obtain supplies from pharmacies, shops and friends or relatives. The importance of various sources of contraceptives has not changed much since the 1989 KDHS, although modifications in the wording of the questionnaire hamper the comparison to some extent.

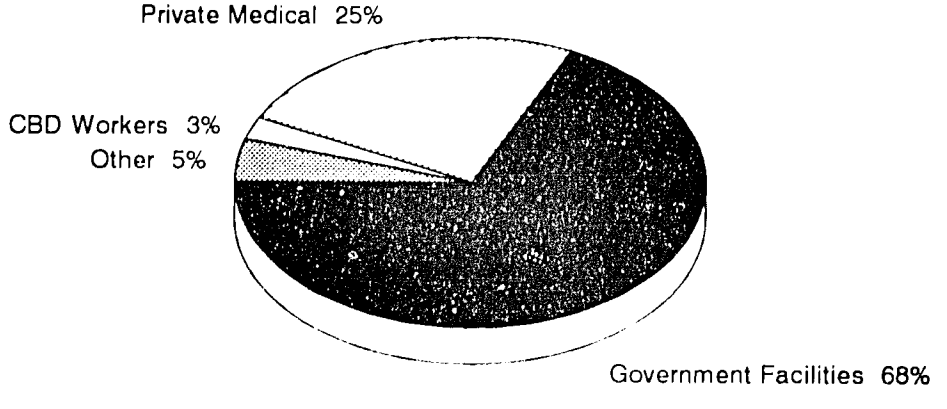
Table 4.13 Source of supply for modern contraceptive methods

Percent distribution of current users of modern contraceptive methods by most recent source of supply, according to specific methods, Kenya 1993

| Source of supply | Pill | IUD | Injec-tion | Con-dom | Female sterili-sation | All modern methods |
|---|---|---|---|---|---|---|
| **Public** | 72.5 | 68.9 | 70.5 | 36.6 | 63.9 | 68.2 |
| Government hospital | 24.2 | 29.6 | 18.2 | 13.2 | 60.6 | 29.6 |
| Government health centre | 29.1 | 27.5 | 34.2 | 12.8 | 2.9 | 24.6 |
| Government dispensary | 19.1 | 11.8 | 18.2 | 10.6 | 0.4 | 13.9 |
| **Medical private** | 16.2 | 31.1 | 26.5 | 25.6 | 33.2 | 24.7 |
| Mission/church hospital | 4.5 | 5.6 | 8.8 | 2.4 | 15.1 | 7.7 |
| FPAK clinic[1] | 3.3 | 7.3 | 5.1 | 3.3 | 5.1 | 4.8 |
| Other nongovernment service | 0.4 | 0.6 | 1.6 | 0.0 | 0.9 | 0.8 |
| Private hospital/clinic | 4.5 | 11.6 | 8.8 | 3.3 | 11.2 | 7.8 |
| Pharmacy | 0.9 | 0.0 | 0.0 | 14.6 | 0.0 | 1.0 |
| Private doctor | 2.6 | 6.0 | 2.2 | 2.0 | 0.9 | 2.6 |
| **Other private** | 2.5 | 0.0 | 0.0 | 21.9 | 0.0 | 1.9 |
| Shop | 0.0 | 0.0 | 0.0 | 9.2 | 0.0 | 0.4 |
| Friends/relatives | 2.5 | 0.0 | 0.0 | 12.7 | 0.0 | 1.5 |
| **Mobile clinic** | 1.0 | 0.0 | 1.8 | 1.9 | 0.4 | 1.0 |
| **Community dist bution/ health worker** | 6.3 | 0.0 | 0.4 | 3.2 | 0.0 | 2.5 |
| **Other** | 0.6 | 0.0 | 0.3 | 0.0 | 0.0 | 0.3 |
| **Don't know** | 0.2 | 0.0 | 0.0 | 10.1 | 0.3 | 0.6 |
| **Missing** | 0.6 | 0.0 | 0.5 | 0.7 | 2.2 | 0.8 |
| Total | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| Number | 562 | 213 | 418 | 70 | 292 | 1560 |

Note: Total includes 4 users of foam tablets/jelly/diaphragm and 1 Norplant user.
[1]FPAK = Family Planning Association of Kenya

Figure 4.4
Percent Distribution of Current Users of Modern Methods by Most Recent Source of Supply




KDHS 1993

Women interviewed in the KDHS who were currently using a modern contraceptive method were asked how long it takes to travel from their home to the place where they obtain their method. *Nonusers* were asked if they knew a place where they could obtain a modern method and, if so, how long it would take to travel there. The results are presented in Table 4.14.

Table 4.14 Time to source of supply for modern contraceptive methods

Percent distribution of women who are currently using a modern contraceptive method, of women who are not using a modern method, and of women who know a method, by time to reach a source for family planning, according to urban-rural residence, Kenya 1993

| Minutes to source | Women who are currently using a modern method | | | Women who are not using a modern method | | | Women who know a contraceptive method | | |
|---|---|---|---|---|---|---|---|---|---|
| | Urban | Rural | Total | Urban | Rural | Total | Urban | Rural | Total |
| Not applicable[1] | 4.6 | 2.7 | 3.2 | 5.1 | 2.5 | 2.9 | 5.1 | 2.6 | 3.1 |
| 0-14 | 27.3 | 8.0 | 12.6 | 21.2 | 4.6 | 7.3 | 23.6 | 5.5 | 8.7 |
| 15-29 | 24.3 | 8.6 | 12.4 | 21.7 | 6.5 | 9.0 | 22.8 | 7.2 | 10.0 |
| 30-59 | 27.3 | 21.6 | 23.0 | 25.0 | 17.2 | 18.5 | 26.4 | 18.7 | 20.1 |
| 60 or more | 14.2 | 57.8 | 47.3 | 9.4 | 50.3 | 43.8 | 10.9 | 53.9 | 46.1 |
| Does not know time | 1.1 | 1.0 | 1.0 | 1.8 | 0.9 | 1.0 | 1.7 | 0.9 | 1.1 |
| Does not know source | 0.0 | 0.0 | 0.0 | 15.1 | 17.6 | 17.2 | 8.7 | 10.7 | 10.4 |
| Not stated | 1.3 | 0.3 | 0.5 | 0.6 | 0.4 | 0.4 | 0.8 | 0.4 | 0.5 |
| Total | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| Median time to source | 20.7 | 60.5 | 45.9 | 20.6 | 60.6 | 60.3 | 20.7 | 60.6 | 60.2 |
| Number of women | 376 | 1184 | 1560 | 963 | 5017 | 5980 | 1301 | 5907 | 7208 |

[1]Response was either "friends/relatives," "other," or "don't know."

Among the women currently using a modern method, 25 percent are within 30 minutes (one-way travel time) of the place to which they go to get their method, while 23 percent are 30 minutes to one hour from their source. Almost half of users of modern methods are one hour or more from their source of supply. The median travel time for current users to reach their source is 46 minutes. As expected, urban users are generally closer than rural users to their supply sources; half of urban users are within 30 minutes of their supply sources, compared to one sixth of the rural users. Almost three fifths of the latter have to travel for one hour or more to get their supplies.

Differences between the travel times reported by users and those reported by nonusers are not significant. This suggests that travel time to services is not a major barrier to use among Kenyan women.

## 4.8 Future Use

To obtain information about potential demand for family planning services, all women who were not using contraception at the time of the survey were asked if they intended to use a method any time in the future. Table 4.15 shows the distribution of currently married women who were not using any contraceptive method at the time of the survey by their intention to use in the future, according to the number of living children.

Table 4.15 Future use of contraception

Percent distribution of currently married women who are not using a contraceptive method by past experience with contraception and intention to use in the future, according to number of living children, Kenya 1993

| Past experience with contraception and future intentions | Number of living children[1] | | | | | |
|---|---|---|---|---|---|---|
| | 0 | 1 | 2 | 3 | 4+ | Total |
| **Never used contraception** | | | | | | |
| Intends to use in next 12 months | 11.3 | 28.1 | 24.2 | 26.0 | 27.1 | 25.4 |
| Intends to use later | 16.9 | 11.3 | 8.4 | 7.7 | 3.8 | 7.0 |
| Unsure as to timing | 6.0 | 2.0 | 2.6 | 2.1 | 1.6 | 2.2 |
| Unsure as to intention | 12.3 | 7.5 | 7.0 | 6.1 | 5.2 | 6.4 |
| Does not intend to use | 31.6 | 24.8 | 22.9 | 21.7 | 26.4 | 25.4 |
| Missing | 0.4 | 0.0 | 0.2 | 0.0 | 0.1 | 0.1 |
| **Previously used contraception** | | | | | | |
| Intends to use in next 12 months | 6.6 | 12.3 | 21.7 | 21.2 | 20.7 | 18.8 |
| Intends to use later | 5.1 | 6.3 | 4.5 | 4.0 | 3.0 | 3.9 |
| Unsure as to timing | 0.0 | 2.0 | 1.1 | 0.5 | 0.5 | 0.7 |
| Unsure as to intention | 0.2 | 0.9 | 0.8 | 1.9 | 1.6 | 1.3 |
| Does not intend to use | 9.8 | 4.9 | 6.3 | 8.7 | 9.6 | 8.3 |
| Missing | 0.0 | 0.0 | 0.4 | 0.3 | 0.4 | 0.3 |
| Total | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| **All currently married nonusers** | | | | | | |
| Intends to use in next 12 months | 17.9 | 40.4 | 45.9 | 47.1 | 47.7 | 44.2 |
| Intends to use later | 22.0 | 17.6 | 12.9 | 11.7 | 6.8 | 11.0 |
| Unsure as to timing | 6.0 | 4.0 | 3.7 | 2.6 | 2.1 | 3.0 |
| Unsure as to intention | 12.5 | 8.3 | 7.8 | 8.0 | 6.8 | 7.8 |
| Does not intend to use | 41.3 | 29.6 | 29.2 | 30.3 | 36.1 | 33.7 |
| Missing | 0.4 | 0.0 | 0.5 | 0.3 | 0.5 | 0.4 |
| Total | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| Number of women | 226 | 406 | 512 | 423 | 1546 | 3113 |

[1]Includes current pregnancy.

Almost three of five (58 percent) married nonusers say they intend to use family planning in the future, 44 percent within the next 12 months. One third of the women said they do not intend to use, while 8 percent are unsure. The proportion intending to use, and especially the timing of intended use, varies with the number of children. For example, the proportion who intend to use within the next 12 months is considerably lower among childless nonusers than among those with children, and the proportion who intend to use later is lower among women with four or more children. Looking at the relationship between previous use of family planning and intention to use in the future, those who intend to use in the future are more likely to have never used than to have used in the past.

## 4.9 Nonuse of Family Planning

### Reasons for Nonuse

Table 4.16 presents the main reasons for not using family planning given by married nonusers who do not intend to use a contraceptive method in the future. One third of these women say they do not intend to use because of infecundity (either "difficult to get pregnant" or "menopausal"), while 22 percent cite the desire to have children as the reason. Other reasons given are side effects and other health concerns (16 percent), opposition to family planning, either by the respondent, her husband, or someone else (8 percent), religion (7 percent), and lack of knowledge (5 percent). The younger cohort (under age 30) are more likely to say they do not to intend to use contraception in the future because they want more children, while those age 30 and over are more likely to cite reasons such as being menopausal or infecund.

Table 4.16 Reasons for not using contraception

Percent distribution of married women who are not using a contraceptive method and who do not intend to use in the future by main reason for not using, according to age, Kenya 1993

| Reason for not using contraception | Age | | |
|---|---|---|---|
| | 15-29 | 30-49 | Total |
| Wants children | 38.8 | 15.1 | 22.1 |
| Lack of knowledge | 8.0 | 4.1 | 5.3 |
| Partner opposed | 6.2 | 3.0 | 3.9 |
| Side effects | 12.0 | 9.2 | 10.0 |
| Fears sterility | 2.3 | 1.1 | 1.5 |
| Other health concern | 4.2 | 4.1 | 4.2 |
| Hard to get methods | 0.4 | 0.1 | 0.2 |
| Religion | 5.3 | 7.1 | 6.6 |
| Opposed to family planning | 5.5 | 3.2 | 3.9 |
| Fatalistic | 1.5 | 1.0 | 1.2 |
| Other people opposed | 0.0 | 0.3 | 0.2 |
| Infrequent sex | 1.5 | 1.5 | 1.5 |
| Difficult to get pregnant | 7.0 | 28.3 | 22.0 |
| Menopausal/had hysterectomy | 0.6 | 16.8 | 12.0 |
| Inconvenient | 1.5 | 1.9 | 1.8 |
| Other | 2.5 | 2.1 | 2.2 |
| Don't know | 2.9 | 0.7 | 1.3 |
| Missing | 0.0 | 0.2 | 0.2 |
| Total | 100.0 | 100.0 | 100.0 |
| Number | 311 | 738 | 1049 |

### Preferred Method

Nonusers who said that they did intend to use family planning in the future were asked which method they preferred to use. Table 4.17 presents information on method preferences for currently married nonusers who say they intend to use in the future. The most popular method is injection (41 percent), followed by the pill (21 percent), and female sterilisation (13 percent). There is little difference in method preference according to timing of intended use, except that women who intend to use after 12 months and those who are unsure as to when they will use are more likely to be unsure of the method they will use. The method

Table 4.17 Preferred method of contraception for future use

Percent distribution of currently married women who are not using a contraceptive method but who intend to use in the future by preferred method, according to whether they intend to use in the next 12 months or later, Kenya 1993

| Preferred method of contraception | Intend to use: In next 12 months | After 12 months | Unsure as to timing | Total |
|---|---|---|---|---|
| Pill | 21.3 | 21.8 | 19.7 | 21.3 |
| IUD | 3.5 | 2.6 | 2.4 | 3.3 |
| Injection | 41.8 | 34.0 | 46.4 | 40.6 |
| Diaphragm/foam/jelly | 0.3 | 0.1 | 0.0 | 0.2 |
| Condom | 1.3 | 1.5 | 1.7 | 1.4 |
| Female sterilisation | 12.3 | 13.8 | 10.2 | 12.5 |
| Norplant | 1.7 | 2.0 | 0.0 | 1.6 |
| Rhythm/counting days | 3.2 | 2.0 | 2.4 | 2.9 |
| Natural family planning | 0.4 | 1.2 | 0.0 | 0.5 |
| Withdrawal | 0.3 | 0.0 | 0.0 | 0.2 |
| Other | 2.2 | 2.0 | 1.7 | 2.1 |
| Unsure | 11.7 | 19.0 | 15.5 | 13.3 |
| Missing | 0.1 | 0.0 | 0.0 | 0.2 |
| Total | 100.0 | 100.0 | 100.0 | 100.0 |
| Number | 1377 | 341 | 92 | 1812 |

preference has not changed since 1989, when nonusers who intended to use in the future indicated injection, pill and female sterilisation as their most preferred methods of contraception.

## 4.10 Exposure to Media Programmes on Family Planning

Table 4.18 shows responses to a question on whether women have heard a family planning programme on the radio in the six months prior to the survey and if so, which one. Forty six percent of women have heard such a programme. Half of these women could not remember the name of the program they had heard. Of those who could remember the name, *Panga Uzazi* was by far the most widely heard programme. Differences by background characteristics are not large, except by education. More educated women are more likely to have heard a programme about family planning than less educated women.

Table 4.18 Heard family planning on radio

Percentage of all women who have heard specific radio programs about family planning in the six months prior to interview, according to selected background characteristics, Kenya 1993

| | | Name of program | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Background characteristic | Any program | Mwenda Pole | Panga Uzazi | Maisha Ya Jamii Yako | Jifunze Na Uendelea | Maisha Bora | Afya Yako | Daktari Akushauri | Kuelewa Ni Kuzun-gumza | Other | Don't know | Number of women |
| **Age** | | | | | | | | | | | | |
| 15-19 | 42.5 | 1.3 | 16.2 | 2.0 | 0.7 | 3.0 | 1.0 | 0.8 | 2.8 | 2.0 | 19.9 | 1754 |
| 20-24 | 50.3 | 3.0 | 18.8 | 2.8 | 0.9 | 3.4 | 1.7 | 1.1 | 5.2 | 1.4 | 22.9 | 1638 |
| 25-29 | 52.4 | 3.2 | 20.8 | 2.1 | 0.3 | 4.9 | 1.2 | 1.5 | 6.0 | 1.5 | 24.3 | 1221 |
| 30-34 | 48.9 | 2.0 | 18.5 | 2.2 | 0.8 | 3.5 | 1.9 | 3.0 | 4.5 | 1.2 | 22.7 | 1088 |
| 35-39 | 39.3 | 2.1 | 11.6 | 2.2 | 0.8 | 3.1 | 1.0 | 1.0 | 3.2 | 1.1 | 21.3 | 768 |
| 40-44 | 36.3 | 0.8 | 13.1 | 0.9 | 0.1 | 2.5 | 0.7 | 0.3 | 1.4 | 0.3 | 20.2 | 638 |
| 45-49 | 38.8 | 1.0 | 13.2 | 0.9 | 0.4 | 2.4 | 1.1 | 0.7 | 1.0 | 0.5 | 22.7 | 434 |
| **Residence** | | | | | | | | | | | | |
| Urban | 49.9 | 2.4 | 16.9 | 3.6 | 0.9 | 2.9 | 1.1 | 2.4 | 8.3 | 1.2 | 22.8 | 1339 |
| Rural | 44.7 | 2.1 | 17.0 | 1.7 | 0.6 | 3.5 | 1.3 | 1.0 | 3.0 | 1.4 | 21.8 | 6201 |
| **Province** | | | | | | | | | | | | |
| Nairobi | 45.5 | 1.9 | 12.5 | 4.1 | 0.5 | 2.7 | 1.9 | 2.7 | 7.1 | 0.8 | 21.5 | 507 |
| Central | 51.9 | 1.7 | 15.1 | 1.1 | 0.4 | 4.3 | 1.5 | 1.1 | 6.5 | 1.3 | 28.0 | 1094 |
| Coast | 32.8 | 1.7 | 12.5 | 1.7 | 0.9 | 2.9 | 0.9 | 1.1 | 4.2 | 0.8 | 12.9 | 717 |
| Eastern | 50.3 | 1.6 | 16.8 | 0.9 | 0.3 | 2.8 | 0.7 | 0.9 | 1.3 | 2.0 | 27.6 | 1406 |
| Nyanza | 44.2 | 3.4 | 24.7 | 3.2 | 1.4 | 5.3 | 2.5 | 1.9 | 4.3 | 1.6 | 14.0 | 1158 |
| Rift Valley | 40.7 | 2.5 | 15.8 | 2.1 | 0.6 | 3.1 | 0.6 | 1.0 | 2.4 | 1.6 | 19.7 | 1562 |
| Western | 50.6 | 1.7 | 17.3 | 2.7 | 0.3 | 2.2 | 1.6 | 1.1 | 4.7 | 0.6 | 26.7 | 1096 |
| **Education** | | | | | | | | | | | | |
| No education | 24.7 | 0.3 | 8.3 | 0.9 | 0.2 | 1.4 | 0.4 | 0.2 | 0.8 | 0.6 | 14.2 | 1352 |
| Primary incomplete | 37.6 | 1.4 | 13.1 | 1.3 | 0.5 | 2.3 | 0.8 | 0.7 | 1.6 | 0.9 | 20.8 | 2179 |
| Primary complete | 50.8 | 2.3 | 19.6 | 2.1 | 0.7 | 3.6 | 1.6 | 1.1 | 3.7 | 1.4 | 24.5 | 2166 |
| Secondary + | 64.5 | 4.2 | 24.8 | 3.9 | 1.1 | 5.9 | 2.2 | 2.8 | 9.2 | 2.3 | 26.0 | 1844 |
| Total | 45.7 | 2.1 | 17.0 | 2.1 | 0.6 | 3.4 | 1.3 | 1.3 | 3.9 | 1.3 | 22.0 | 7540 |

## 4.11 Attitudes towards Family Planning

### Attitudes towards Family Planning for Youth

In the KDHS, all women were asked if they thought that information about family planning or family planning services should be available for young people. Table 4.19 presents the percent distribution of women by their responses to these questions, according to background characteristics.

Three quarters of women believe that family planning information should be available to young people, however, only half think that youth should be provided family planning services. Differentials by age and urban-rural residence are not large. It appears that women in Coast Province are more conservative than their counterparts in other provinces about making family planning information and services available to young people. Similarly, women with no formal education are least likely to approve of family planning information or supplies being available for Kenyan youth.

Table 4.19 Attitudes about family planning for youth

Percent distribution of all women by whether they believe that family planning information and services should be available for young people by selected background characteristics, Kenya 1993

| Background characteristic | Believe information should be available | | | | | Believe services should be available | | | | | Number of women |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Yes | No | Don't know | Other/ missing | Total | Yes | No | Don't know | Other/ missing | Total | |
| **Age** | | | | | | | | | | | |
| 15-19 | 71.0 | 21.4 | 7.2 | 0.4 | 100.0 | 47.8 | 42.6 | 9.1 | 0.5 | 100.0 | 1754 |
| 20-24 | 75.6 | 21.0 | 2.9 | 0.5 | 100.0 | 59.0 | 36.5 | 4.3 | 0.2 | 100.0 | 1638 |
| 25-29 | 76.3 | 19.8 | 3.3 | 0.6 | 100.0 | 56.2 | 38.5 | 4.4 | 0.9 | 100.0 | 1221 |
| 30-34 | 72.1 | 23.6 | 4.0 | 0.3 | 100.0 | 50.5 | 43.1 | 5.4 | 1.0 | 100.0 | 1088 |
| 35-39 | 70.7 | 23.7 | 5.3 | 0.3 | 100.0 | 47.5 | 45.5 | 6.7 | 0.3 | 100.0 | 768 |
| 40-44 | 72.5 | 21.3 | 5.5 | 0.8 | 100.0 | 51.5 | 41.5 | 6.1 | 0.9 | 100.0 | 638 |
| 45-49 | 66.8 | 26.0 | 7.0 | 0.2 | 100.0 | 43.7 | 44.7 | 10.9 | 0.6 | 100.0 | 434 |
| **Residence** | | | | | | | | | | | |
| Urban | 75.1 | 20.0 | 4.4 | 0.6 | 100.0 | 55.3 | 38.1 | 5.7 | 0.9 | 100.0 | 1339 |
| Rural | 72.4 | 22.3 | 4.9 | 0.4 | 100.0 | 51.3 | 41.7 | 6.5 | 0.5 | 100.0 | 6201 |
| **Province** | | | | | | | | | | | |
| Nairobi | 78.7 | 14.7 | 6.3 | 0.3 | 100.0 | 61.3 | 28.9 | 9.3 | 0.5 | 100.0 | 507 |
| Central | 81.4 | 15.3 | 2.6 | 0.8 | 100.0 | 59.3 | 36.4 | 3.8 | 0.5 | 100.0 | 1094 |
| Coast | 58.1 | 32.5 | 8.7 | 0.6 | 100.0 | 38.3 | 52.2 | 8.8 | 0.7 | 100.0 | 717 |
| Eastern | 78.6 | 17.3 | 3.9 | 0.2 | 100.0 | 62.9 | 32.8 | 4.4 | 0.0 | 100.0 | 1406 |
| Nyanza | 68.5 | 26.3 | 4.8 | 0.4 | 100.0 | 53.9 | 40.0 | 5.3 | 0.8 | 100.0 | 1158 |
| Rift Valley | 69.6 | 26.0 | 3.9 | 0.5 | 100.0 | 45.3 | 47.3 | 7.0 | 0.4 | 100.0 | 1562 |
| Western | 73.2 | 19.9 | 6.3 | 0.5 | 100.0 | 43.2 | 46.5 | 8.7 | 1.5 | 100.0 | 1096 |
| **Education** | | | | | | | | | | | |
| No education | 62.5 | 27.1 | 10.1 | 0.4 | 100.0 | 45.1 | 42.2 | 12.2 | 0.6 | 100.0 | 1352 |
| Primary incomplete | 70.0 | 23.9 | 5.7 | 0.4 | 100.0 | 50.8 | 41.4 | 7.3 | 0.5 | 100.0 | 2179 |
| Primary complete | 74.9 | 20.8 | 3.6 | 0.6 | 100.0 | 55.8 | 38.3 | 5.4 | 0.6 | 100.0 | 2166 |
| Secondary + | 81.5 | 16.8 | 1.4 | 0.3 | 100.0 | 54.2 | 42.9 | 2.2 | 0.8 | 100.0 | 1844 |
| Total | 72.9 | 21.9 | 4.8 | 0.5 | 100.0 | 52.0 | 41.0 | 6.4 | 0.6 | 100.0 | 7540 |

## Approval of Family Planning

An indication of the acceptability of family planning is the extent to which couples discuss the topic with each other. Table 4.20 indicates that, of married women who know a contraceptive method, roughly one third had never discussed family planning with their husbands in the year prior to the survey, one third had discussed the topic only once or twice with their husbands, and one third had discussed family planning more often than once or twice. The tendency to discuss family planning with their husbands is greater among women in their 20s and 30s than among older or younger women.

In order to obtain more direct information about the acceptability of family planning, respondents were asked if they approved or disapproved of couples using a method to avoid pregnancy. Although all women were asked this question, the data presented in Table 4.21 are confined to currently married women and exclude those women who had never heard of a contraceptive method. Currently married women were also asked if they thought that their husbands approved of the use of family planning. It should be noted that wives' opinions of their husbands' attitudes may be incorrect, either because they have misconstrued their husbands' true attitudes, or because of a tendency to report their husbands' attitudes as similar to their own.

Table 4.20 Discussion of family planning by couples

Percent distribution of currently married women who know a contraceptive method by the number of times family planning was discussed with husband in the year preceding the survey, according to current age, Kenya 1993

| Age | Number of times family planning discussed: Never | Once or twice | More often | Missing | Total | Number of women |
|---|---|---|---|---|---|---|
| 15-19 | 53.2 | 26.3 | 20.1 | 0.4 | 100.0 | 256 |
| 20-24 | 29.2 | 34.5 | 36.0 | 0.3 | 100.0 | 916 |
| 25-29 | 25.1 | 31.6 | 43.1 | 0.1 | 100.0 | 984 |
| 30-34 | 30.4 | 29.8 | 39.6 | 0.0 | 100.0 | 903 |
| 35-39 | 35.1 | 29.0 | 35.5 | 0.0 | 100.0 | 624 |
| 40-44 | 41.2 | 32.0 | 26.4 | 0.0 | 100.0 | 496 |
| 45-49 | 55.1 | 16.4 | 28.1 | 0.1 | 100.0 | 322 |
| Total | 33.9 | 30.1 | 35.7 | 0.1 | 100.0 | 4500 |

Table 4.21 Attitudes of couples toward family planning

Percent distribution of currently married women who know a contraceptive method by approval of family planning and by their perception of their husband's approval, according to selected background characteristics, Kenya 1993

| Background characteristic | Both approve | Respondent approves: Husband disapproves | Husband's attitude is unknown | Respondent disapproves: Husband approves | Husband's attitude unknown | Both disapprove | Missing | Total | Number |
|---|---|---|---|---|---|---|---|---|---|
| **Age** | | | | | | | | | |
| 15-19 | 48.2 | 12.8 | 25.5 | 1.0 | 5.0 | 5.3 | 2.2 | 100.0 | 256 |
| 20-24 | 63.9 | 12.6 | 14.1 | 0.5 | 2.0 | 4.4 | 2.5 | 100.0 | 916 |
| 25-29 | 68.6 | 13.6 | 9.8 | 1.0 | 1.4 | 3.5 | 1.9 | 100.0 | 984 |
| 30-34 | 65.2 | 13.9 | 10.7 | 1.2 | 3.1 | 4.7 | 1.2 | 100.0 | 903 |
| 35-39 | 62.2 | 12.8 | 14.6 | 2.1 | 3.3 | 3.3 | 1.7 | 100.0 | 624 |
| 40-44 | 59.7 | 12.4 | 14.5 | 1.5 | 5.2 | 4.5 | 2.1 | 100.0 | 496 |
| 45-49 | 54.1 | 12.0 | 15.7 | 1.0 | 5.6 | 9.9 | 1.7 | 100.0 | 322 |
| **Province** | | | | | | | | | |
| Urban | 74.0 | 8.1 | 9.7 | 0.9 | 2.1 | 3.1 | 2.1 | 100.0 | 686 |
| Rural | 60.9 | 14.0 | 14.0 | 1.2 | 3.2 | 4.8 | 1.8 | 100.0 | 3814 |
| **Region** | | | | | | | | | |
| Nairobi | 73.7 | 8.9 | 11.6 | 0.5 | 1.6 | 3.7 | 0.0 | 100.0 | 262 |
| Central | 72.9 | 10.2 | 6.5 | 1.6 | 2.2 | 3.7 | 2.9 | 100.0 | 609 |
| Coast | 48.8 | 11.1 | 18.7 | 1.3 | 7.7 | 10.8 | 1.7 | 100.0 | 421 |
| Eastern | 71.2 | 10.6 | 8.4 | 0.9 | 2.3 | 4.3 | 2.4 | 100.0 | 855 |
| Nyanza | 53.1 | 15.8 | 19.7 | 1.7 | 4.6 | 3.5 | 1.6 | 100.0 | 731 |
| Rift Valley | 62.5 | 12.9 | 13.0 | 1.5 | 2.3 | 5.1 | 2.7 | 100.0 | 922 |
| Western | 59.4 | 18.8 | 16.7 | 0.2 | 1.8 | 2.6 | 0.4 | 100.0 | 700 |
| **Education** | | | | | | | | | |
| No education | 44.1 | 16.6 | 20.6 | 1.6 | 6.0 | 9.0 | 2.2 | 100.0 | 971 |
| Primary incomplete | 57.9 | 14.3 | 16.9 | 1.4 | 3.4 | 4.4 | 1.8 | 100.0 | 1383 |
| Primary complete | 69.8 | 12.3 | 10.3 | 0.8 | 1.7 | 3.5 | 1.6 | 100.0 | 1168 |
| Secondary+ | 80.4 | 8.7 | 4.9 | 0.8 | 1.3 | 1.7 | 2.1 | 100.0 | 978 |
| Total | 62.9 | 13.1 | 13.4 | 1.2 | 3.1 | 4.6 | 1.9 | 100.0 | 4500 |

Overall, 89 percent of married women who know a contraceptive method approve of family planning. Almost two thirds of the women say that their husbands also approve of family planning; 13 percent of women say that they approve of family planning and their husbands do not. Approval of family planning by married women does not vary much by age of the women except that women age 45-49 are less likely to approve than the younger cohorts. Married women who live in Coast Province and those who have no formal education are less likely than other women to approve of the use of family planning. They are also more likely than other married women not to know their husbands' attitudes towards family planning—another indication of the extent to which family planning is discussed among these couples. The proportion of wives who say they do not know their husbands' attitude towards family planning use is also high among women age 15-19.

## 4.12 Source of Family Planning Information

In order to better assess where women learn about family planning, all women were asked how they first heard about family planning and from which place or person they learned the most about family planning. Tables 4.22 and 4.23 show the percent distributions of women by these two sources, according to urban-rural residence and province. Friends and relatives are the most commonly reported first source of family planning information (31 percent), followed by health workers and clinics (29 percent). The radio was cited as a first source by one fifth of the women.

Although friends and relatives are the most important first source of contraceptive information, more women said they got the most information from health workers and clinics (43 percent). Radio was cited as conveying the most information by 13 percent of women. These three sources were mentioned most often by women, regardless of their place of residence.

Table 4.22 First source of family planning information

Percent distribution of all women by source from which they first heard about family planning, according to urban-rural residence and province, Kenya 1993

| | Residence | | Province | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Characteristic | Urban | Rural | Nairobi | Central | Coast | Eastern | Nyanza | Rift Valley | Western | Total |
| Radio | 26.3 | 19.0 | 29.4 | 12.4 | 18.3 | 10.2 | 26.0 | 24.7 | 25.8 | 20.3 |
| Television | 1.0 | 0.2 | 0.8 | 0.1 | 0.9 | 0.2 | 0.2 | 0.3 | 0.4 | 0.3 |
| Newspapers | 1.2 | 0.6 | 1.1 | 1.3 | 0.9 | 0.3 | 0.6 | 0.7 | 0.2 | 0.7 |
| Posters | 0.3 | 0.4 | 0.3 | 0.5 | 0.6 | 0.7 | 0.3 | 0.4 | 0.1 | 0.4 |
| Husband | 0.7 | 0.4 | 0.0 | 0.2 | 0.2 | 0.5 | 0.4 | 1.1 | 0.2 | 0.5 |
| Friends/relatives | 28.7 | 31.8 | 24.8 | 35.3 | 36.0 | 32.2 | 31.3 | 29.5 | 28.3 | 31.3 |
| Health worker/clinic | 23.3 | 29.8 | 23.2 | 33.3 | 25.6 | 34.9 | 26.6 | 23.7 | 29.9 | 28.7 |
| Community distribution/ worker | 2.2 | 3.2 | 2.7 | 1.5 | 4.3 | 3.1 | 2.9 | 4.0 | 2.4 | 3.0 |
| Other | 1.6 | 2.0 | 1.1 | 1.1 | 3.2 | 3.1 | 1.9 | 1.4 | 1.6 | 1.9 |
| School/teacher | 10.7 | 7.7 | 10.9 | 11.2 | 5.3 | 9.6 | 5.2 | 7.6 | 8.5 | 8.3 |
| Church | 0.2 | 0.4 | 0.3 | 0.4 | 0.1 | 0.7 | 0.6 | 0.1 | 0.1 | 0.3 |
| Can't remember/ Don't know | 3.5 | 4.4 | 5.2 | 2.8 | 4.2 | 4.4 | 3.8 | 6.5 | 2.5 | 4.3 |
| Missing | 0.3 | 0.0 | 0.3 | 0.0 | 0.4 | 0.0 | 0.0 | 0.2 | 0.0 | 0.1 |
| Total | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| Number | 1339 | 6201 | 507 | 1094 | 717 | 1406 | 1158 | 1562 | 1096 | 7540 |

Table 4.23 Main source of family planning information

Percent distribution of all women by source from which they got the most information about family planning, according to urban-rural residence and province, Kenya 1993

| | Residence | | Province | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Characteristic | Urban | Rural | Nairobi | Central | Coast | Eastern | Nyanza | Rift Valley | Western | Total |
| Radio | 16.2 | 12.7 | 14.7 | 8.2 | 13.7 | 5.9 | 16.7 | 19.7 | 14.8 | 13.4 |
| Television | 1.2 | 0.1 | 1.1 | 0.0 | 0.5 | 0.2 | 0.2 | 0.1 | 0.5 | 0.3 |
| Newspapers | 1.2 | 0.5 | 1.9 | 0.9 | 1.2 | 0.6 | 0.2 | 0.4 | 0.4 | 0.6 |
| Posters | 0.8 | 0.4 | 0.5 | 0.2 | 0.8 | 0.7 | 0.4 | 0.5 | 0.1 | 0.4 |
| Husband | 0.4 | 0.5 | 0.5 | 0.1 | 0.6 | 0.5 | 0.4 | 0.6 | 0.3 | 0.5 |
| Friends/relatives | 21.0 | 24.2 | 21.5 | 19.0 | 27.6 | 24.8 | 25.5 | 22.8 | 24.3 | 23.6 |
| Health worker/clinic | 41.9 | 43.3 | 41.1 | 55.4 | 36.0 | 47.2 | 40.2 | 36.2 | 43.3 | 43.0 |
| Community distribution/ worker | 3.4 | 4.0 | 2.5 | 1.9 | 5.5 | 3.6 | 3.6 | 5.0 | 4.5 | 3.9 |
| Other | 1.8 | 2.4 | 2.2 | 2.5 | 3.4 | 3.5 | 1.7 | 1.7 | 1.6 | 2.3 |
| School/teacher | 8.3 | 6.7 | 9.0 | 8.0 | 5.9 | 7.8 | 5.8 | 6.4 | 6.7 | 7.0 |
| Church | 0.3 | 0.4 | 0.3 | 0.6 | 0.0 | 0.6 | 0.7 | 0.3 | 0.1 | 0.4 |
| Can't remember/ Don't know | 3.1 | 4.9 | 4.4 | 3.2 | 4.3 | 4.8 | 4.6 | 6.2 | 3.5 | 4.6 |
| Missing | 0.3 | 0.1 | 0.3 | 0.0 | 0.4 | 0.0 | 0.1 | 0.2 | 0.0 | 0.1 |
| Total | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| Number | 1339 | 6201 | 507 | 1094 | 717 | 1406 | 1158 | 1562 | 1096 | 7540 |

## 4.13 Community-Based Distribution

As mentioned in Chapter 1, the Kenyan family planning programme has put special emphasis on establishing a network of community-based distributors (CBDs) as one arm of the supply system. CBD workers have several functions. They provide family planning information, motivation and, in most cases, supplies to the women and men living in their catchment area. CBDs operate under the auspices of a number of organisations, both government and nongovernmental. They are usually provided with training, supplies and, in some cases, a small stipend. It is estimated that there are over 10,000 CBD workers in 37 of the (then) 41 districts (Lewis et al., 1992).

With the aim of evaluating the coverage of the CBD programme, the KDHS interviewers briefly described to respondents what a CBD worker does and then asked if there were such a person in the respondent's area. If the answer was affirmative, the interviewer asked how often the CBD worker visited the respondent's home in the six months prior to the interview. The data are presented in Table 4.24.

Only one fifth of women said that there was a CBD worker in their area and only 1 in 10 said she had been visited by a CBD worker in the past six months. There are several possible explanations for these low figures. Women may know CBD workers but be unaware of their role in the community for some reason. Presumably, CBD workers target women who are at higher risk of a dangerous or unwanted pregnancy and they may avoid talking to women who are not married, menopausal, sterilised, using another method, or openly opposed to family planning.

Older women and those living in rural areas are more likely than other women to know of a CBD worker in their area and to have been visited in the six months before the survey. CBD workers are either more prevalent and/or better known to women in Western, Coast and Nyanza Provinces and are relatively unknown to women in Nairobi.

Table 4.24 Community-based distribution

Percent distribution of all women by presence of community-based family planning worker (CBD) in their area and if so, number of visits in the past six months according to selected background characteristics, Kenya 1993

| Background characteristic | Presence of CBD | | | | | Number of women | Percent visited in past 6 months | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Yes | No | Don't know | Missing | Total | | Not at all | Once | Twice or more | Missing | Total |
| **Age** | | | | | | | | | | | |
| 15-19 | 13.5 | 71.9 | 14.4 | 0.1 | 100.0 | 1754 | 6.2 | 3.1 | 3.8 | 0.5 | 13.5 |
| 20-24 | 18.3 | 74.8 | 6.8 | 0.1 | 100.0 | 1638 | 8.3 | 4.3 | 5.7 | 0.1 | 18.3 |
| 25-29 | 22.1 | 75.1 | 2.8 | 0.0 | 100.0 | 1221 | 11.2 | 3.4 | 7.1 | 0.3 | 22.1 |
| 30-34 | 26.3 | 70.8 | 2.8 | 0.0 | 100.0 | 1088 | 12.5 | 5.9 | 7.6 | 0.4 | 26.3 |
| 35-39 | 25.9 | 71.0 | 3.1 | 0.0 | 100.0 | 768 | 11.8 | 6.9 | 7.1 | 0.1 | 25.9 |
| 40-44 | 27.1 | 69.8 | 3.1 | 0.0 | 100.0 | 638 | 12.9 | 4.1 | 9.3 | 0.8 | 27.1 |
| 45-49 | 22.1 | 74.1 | 3.8 | 0.0 | 100.0 | 434 | 12.1 | 2.6 | 6.9 | 0.5 | 22.1 |
| **Residence** | | | | | | | | | | | |
| Urban | 14.9 | 77.0 | 8.0 | 0.2 | 100.0 | 1339 | 6.3 | 2.9 | 5.1 | 0.6 | 14.9 |
| Rural | 22.0 | 71.8 | 6.2 | 0.0 | 100.0 | 6201 | 10.6 | 4.5 | 6.5 | 0.3 | 22.0 |
| **Province** | | | | | | | | | | | |
| Nairobi | 9.5 | 83.1 | 7.4 | 0.0 | 100.0 | 507 | 1.4 | 2.7 | 4.9 | 0.5 | 9.5 |
| Central | 20.6 | 71.6 | 7.8 | 0.0 | 100.0 | 1094 | 14.1 | 2.4 | 3.4 | 0.7 | 20.6 |
| Coast | 29.3 | 62.8 | 7.6 | 0.3 | 100.0 | 717 | 12.8 | 4.9 | 11.0 | 0.5 | 29.3 |
| Eastern | 13.3 | 81.8 | 4.9 | 0.0 | 100.0 | 1406 | 4.8 | 3.7 | 4.5 | 0.3 | 13.3 |
| Nyanza | 24.0 | 71.1 | 4.9 | 0.0 | 100.0 | 1158 | 9.0 | 5.0 | 9.8 | 0.1 | 24.0 |
| Rift Valley | 15.8 | 79.9 | 4.1 | 0.1 | 100.0 | 1562 | 7.2 | 3.8 | 4.4 | 0.4 | 15.8 |
| Western | 33.3 | 55.6 | 11.1 | 0.0 | 100.0 | 1096 | 18.6 | 6.9 | 7.8 | 0.1 | 33.3 |
| **Education** | | | | | | | | | | | |
| No education | 18.1 | 77.1 | 4.7 | 0.0 | 100.0 | 1352 | 8.5 | 3.7 | 5.7 | 0.3 | 18.1 |
| Primary incomplete | 21.7 | 71.5 | 6.8 | 0.1 | 100.0 | 2179 | 10.5 | 4.9 | 5.9 | 0.3 | 21.7 |
| Primary complete | 21.7 | 70.8 | 7.4 | 0.1 | 100.0 | 2166 | 9.5 | 4.4 | 7.4 | 0.5 | 21.7 |
| Secondary + | 20.3 | 73.4 | 6.3 | 0.0 | 100.0 | 1844 | 10.5 | 3.7 | 5.8 | 0.3 | 20.3 |
| Total | 20.7 | 72.8 | 6.5 | 0.1 | 100.0 | 7540 | 9.8 | 4.2 | 6.3 | 0.4 | 20.7 |

# CHAPTER 5

# OTHER PROXIMATE DETERMINANTS OF FERTILITY

## 5.1 Introduction

Addressed in this chapter are the principal factors, other than contraception, that affect a woman's risk of becoming pregnant: nuptiality and sexual intercourse, postpartum amenorrhoea and abstinence from sexual relations, and termination of exposure to pregnancy.

While it is not by any means exact, marriage is an indicator of exposure of women to the risk of pregnancy, and is therefore important for the understanding of fertility. Populations in which age at marriage is low also tend to experience early childbearing and high fertility; hence, the motivation to examine trends in age at marriage.

This chapter also includes more direct measures of the beginning of exposure to pregnancy and the level of exposure: age at first sexual intercourse and the frequency of intercourse. Measures of other proximate determinants of fertility are the durations of postpartum amenorrhoea and postpartum abstinence.

## 5.2 Marital Status

Data on the marital status of respondents at the time of the survey are shown in Table 5.1. As in other reports on demographic surveys and censuses in Kenya, this report defines marriage to include informal unions. Although shown separately in Table 5.1, the categories of "married" and "living together" are combined in subsequent tables and are referred to as "currently married." Respondents who are currently married, widowed, divorced or no longer living together (separated) are referred to as "ever married."

Table 5.1 shows that 30 percent of women of childbearing age in Kenya have never married, 61 percent are currently married, and 8 percent are either widowed, divorced or no longer living with a partner. The proportion who have never married falls sharply from 84 percent of women age 15-19 to 3 percent in the age group 45-49. The universality of marriage is evident from the fact that, among women age 35 and over, 97 percent are, or have been, married.

Table 5.1 Current marital status

Percent distribution of women by current marital status, according to age, Kenya 1993

| | Marital status | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Age | Never married | Married | Living together | Widowed | Divorced | Not living together | Total | Number of women |
| 15-19 | 83.8 | 13.6 | 1.2 | 0.2 | 0.4 | 0.7 | 100.0 | 1754 |
| 20-24 | 35.5 | 54.1 | 3.1 | 0.7 | 2.2 | 4.4 | 100.0 | 1638 |
| 25-29 | 10.4 | 78.7 | 3.5 | 1.3 | 3.5 | 2.6 | 100.0 | 1221 |
| 30-34 | 5.4 | 79.5 | 4.8 | 2.8 | 3.9 | 3.6 | 100.0 | 1088 |
| 35-39 | 2.6 | 81.0 | 2.8 | 6.6 | 3.8 | 3.1 | 100.0 | 768 |
| 40-44 | 1.7 | 76.5 | 4.7 | 10.1 | 4.9 | 2.1 | 100.0 | 638 |
| 45-49 | 2.8 | 76.8 | 3.5 | 12.3 | 3.0 | 1.7 | 100.0 | 434 |
| Total | 30.2 | 58.3 | 3.1 | 3.1 | 2.7 | 2.6 | 100.0 | 7540 |

While the proportions widowed, divorced and separated are almost identical at 3 percent each, they show different patterns by age group. As expected, the proportion widowed increases with age of women; however, the proportions divorced and separated are more even across age groups.

Table 5.2 shows the trend in the proportion of women reported as never married by age group from past censuses and surveys in Kenya. It is evident that the proportion of women under 30 years of age who have never married has been increasing. The 1993 KDHS data show an increase for the youngest age groups 15-19 and 20-24 since the 1989 KDHS. In the age group 15-19, the proportion of women who have never married rose from 80 percent in 1989 to 84 percent in 1993, while the proportion in the age group 20-24 rose from 32 percent in 1989 to 36 percent in 1993. Above age 25, there are no substantial changes in the proportions never married. Increased involvement of women in higher education may explain the increasing proportions of single women age 15-24.

Table 5.2 Trends in proportion never married

Percentage of women who have never married at the time of various surveys and censuses by age group, Kenya

| Age | 1969 census | 1977/78 KFS | 1979 census | 1984 KCPS | 1989 KDHS | 1993 KDHS |
|---|---|---|---|---|---|---|
| 15-19 | 64 | 72 | 71 | 74 | 80 | 84 |
| 20-24 | 18 | 21 | 25 | 24 | 32 | 36 |
| 25-29 | 6 | 4 | 9 | 6 | 11 | 10 |
| 30-34 | 4 | 1 | 5 | 4 | 5 | 5 |
| 35-39 | 3 | 1 | 3 | 2 | 3 | 3 |
| 40-44 | 3 | 1 | 3 | 1 | 2 | 2 |
| 45-49 | 3 | 0 | 2 | 1 | 2 | 3 |

Sources: 1969--CBS, 1970, p. 79; KFS--CBS, 1980, p. 71; 1979--CBS, 1981b, p. 24B; 1984--CBS, 1984, p. 40; 1989--NCPD, 1989, p. 9.

## 5.3 Polygyny

In the 1993 KDHS, the extent of polygyny in Kenya was measured by asking married women whether their husbands had other wives and, if so, how many. Table 5.3 shows the proportion of currently married women who are in polygynous unions according to age group and selected background characteristics. Overall, 20 percent of currently married women in Kenya are in polygynous unions. The practice is more common among older than younger women, with almost one-third of women in their 40s reporting that their husbands have other wives.

The survey found that polygyny is more prevalent in the rural than urban areas. Overall, Coast Province has the highest proportion of polygnous unions (29 percent), followed by Western and Nyanza Provinces (26 percent each). Central Province has by far the lowest proportion of such unions (8 percent). The differences become even more pronounced by age group, although the number of cases is small and so the data should be viewed with caution.

There is an inverse relationship between education and polygyny. The proportion of married women in polygynous unions decreases from 33 percent for women with no education to 11 percent for women with at least some secondary education.

Table 5.3 Polygyny

Percentage of currently married women in a polygynous union, by age and selected background characteristics, Kenya 1993

| Background characteristic | Age of woman | | | | | | | All ages |
|---|---|---|---|---|---|---|---|---|
| | 15-19 | 20-24 | 25-29 | 30-34 | 35-39 | 40-44 | 45-49 | |
| **Residence** | | | | | | | | |
| Urban | (11.0) | 11.8 | 14.9 | 12.7 | 9.4 | (28.0) | (14.9) | 13.7 |
| Rural | 18.1 | 12.7 | 15.3 | 20.6 | 25.6 | 29.9 | 30.8 | 20.5 |
| **Province** | | | | | | | | |
| Nairobi | * | 8.2 | 7.7 | (10.3) | * | * | * | 11.2 |
| Central | * | 4.2 | 3.7 | 9.3 | 0.8 | 13.8 | 18.0 | 7.5 |
| Coast | 22.4 | 12.4 | 25.0 | 32.0 | 47.9 | (45.6) | (34.6) | 29.0 |
| Eastern | * | 5.2 | 12.5 | 14.3 | 15.3 | 25.9 | 23.3 | 14.5 |
| Nyanza | 29.6 | 19.6 | 22.4 | 28.2 | 27.3 | 38.3 | 24.4 | 26.1 |
| Rift Valley | 10.0 | 14.1 | 16.0 | 16.3 | 26.6 | 27.8 | 32.6 | 19.3 |
| Western | (17.9) | 19.6 | 18.3 | 25.0 | 30.8 | 38.5 | (46.5) | 26.4 |
| **Education** | | | | | | | | |
| No education | * | 23.7 | 31.1 | 33.2 | 39.4 | 33.3 | 33.5 | 33.3 |
| Primary incomplete | 20.9 | 12.3 | 18.2 | 20.4 | 21.2 | 29.7 | 29.8 | 20.2 |
| Primary complete | 15.4 | 11.1 | 8.6 | 15.6 | 11.7 | 23.8 | (16.1) | 13.0 |
| Secondary+ | (12.3) | 11.3 | 11.5 | 10.0 | 8.0 | (25.0) | * | 11.4 |
| Total | 17.2 | 12.5 | 15.2 | 19.4 | 23.7 | 29.7 | 29.4 | 19.5 |

Note: Rates shown in parentheses are based on 25-49 women, whereas an asterisk means the rate is based on fewer than 25 women and has been suppressed.

Comparison of the 1993 KDHS data with those from previous surveys indicates that the practise of polygyny has been declining over time. The proportion of married women who were in polygynous unions was 30 percent in 1977/78, 25 percent in 1984, 23 percent in 1989, and 20 percent in 1993 (CBS, 1980, p.80; CBS, 1984, p.43; NCPD, 1989, p.12). The general decline is apparent at all age groups of women—with some fluctuations—implying that the downward trend in the overall level of polygyny is not merely a result of changes in the age distribution of women. Previous data also show similar patterns of polygyny by background characteristics as the 1993 KDHS.

Table 5.4 shows the distribution of currently married women by number of co-wives. A majority (80 percent) of currently married women are in monogamous unions, 14 percent are in polygynous unions with one co-wife, and a small proportion (5 percent) are in polygynous marriages with two or more co-wives. Currently married women above 35 years are not only more likely to be in a polygynous union than younger women, but they are also more likely to have two or more co-wives. This is also true for women in rural areas and those with no education. Women in Coast, Nyanza, and Western Provinces are more likely than women in the other provinces to have two or more co-wives.

Table 5.4 Number of co-wives

Percent distribution of currently married women by number of co-wives, according to selected background characteristics, Kenya 1993

| Background characteristic | Number of co-wives | | | Missing | Total | Number of women |
|---|---|---|---|---|---|---|
| | 0 | 1 | 2+ | | | |
| **Age** | | | | | | |
| 15-19 | 82.8 | 10.9 | 5.0 | 1.3 | 100.0 | 261 |
| 20-24 | 87.5 | 8.6 | 3.3 | 0.7 | 100.0 | 937 |
| 25-29 | 84.8 | 10.7 | 3.7 | 0.8 | 100.0 | 1003 |
| 30-34 | 80.6 | 14.3 | 4.8 | 0.3 | 100.0 | 918 |
| 35-39 | 76.3 | 15.1 | 8.0 | 0.6 | 100.0 | 644 |
| 40-44 | 70.3 | 21.3 | 7.5 | 0.9 | 100.0 | 519 |
| 45-49 | 70.6 | 21.8 | 7.6 | 0.0 | 100.0 | 348 |
| **Residence** | | | | | | |
| Urban | 86.3 | 10.1 | 3.3 | 0.4 | 100.0 | 697 |
| Rural | 79.5 | 14.3 | 5.6 | 0.7 | 100.0 | 3932 |
| **Province** | | | | | | |
| Nairobi | 88.8 | 9.7 | 1.0 | 0.5 | 100.0 | 271 |
| Central | 92.5 | 5.8 | 0.8 | 0.9 | 100.0 | 610 |
| Coast | 71.0 | 18.3 | 10.6 | 0.0 | 100.0 | 445 |
| Eastern | 85.5 | 11.3 | 1.8 | 1.4 | 100.0 | 864 |
| Nyanza | 73.9 | 17.6 | 8.1 | 0.4 | 100.0 | 737 |
| Rift Valley | 80.7 | 15.5 | 3.8 | 0.0 | 100.0 | 992 |
| Western | 73.6 | 15.1 | 10.3 | 1.0 | 100.0 | 710 |
| **Education** | | | | | | |
| No education | 66.7 | 22.6 | 10.2 | 0.5 | 100.0 | 1062 |
| Primary incomplete | 79.8 | 15.3 | 4.3 | 0.5 | 100.0 | 1411 |
| Primary complete | 87.0 | 8.6 | 3.7 | 0.6 | 100.0 | 1177 |
| Secondary+ | 88.6 | 7.7 | 2.9 | 0.8 | 100.0 | 980 |
| Total | 80.5 | 13.6 | 5.2 | 0.6 | 100.0 | 4629 |

## 5.4 Age at First Marriage

Early marriage often leads to early childbearing and higher fertility for society as a whole. As shown in Table 5.5, most (58 percent) Kenyan women marry before they reach age 20. The median age at first marriage is 18.8 years. The median age at marriage has increased over time from 18.1 among women age 45-49 to 19.5 for those age 25-29 years. The proportion of women married by age 15 has declined from 16 percent among those aged 45-49 years to 1 percent among the 15 to 19 year-olds. Age at marriage has risen slightly since 1989.

Table 5.6 presents the median age at first marriage by selected background characteristics for women age 25-49 years. The table shows large differentials in marriage behaviour patterns. It can be seen that in each age group, urban women marry later than their rural counterparts, with an overall difference of 2 years in the median age at marriage. Women in Coast and Nyanza Provinces have relatively early median ages at marriage (17.4), while those in Nairobi and Central Province marry the latest (21.0 and 20.1, respectively). These findings correspond with those of the 1989 KDHS.

Table 5.5 Age at first marriage

Percentage of women who were first married by exact age 15, 18, 20, 22, and 25, and median age at first marriage, according to current age, Kenya 1993

| Current age | Percentage of women who were first married by exact age: 15 | 18 | 20 | 22 | 25 | Percentage who had never married | Number of women | Median age at first marriage |
|---|---|---|---|---|---|---|---|---|
| 15-19 | 1.3 | NA | NA | NA | NA | 83.8 | 1754 | a |
| 20-24 | 5.4 | 28.1 | 46.1 | NA | NA | 35.5 | 1638 | a |
| 25-29 | 9.3 | 33.6 | 55.7 | 70.6 | 84.1 | 10.4 | 1221 | 19.5 |
| 30-34 | 11.9 | 41.1 | 62.7 | 77.3 | 86.7 | 5.4 | 1088 | 18.9 |
| 35-39 | 15.2 | 47.9 | 66.3 | 82.6 | 92.4 | 2.6 | 768 | 18.2 |
| 40-44 | 16.9 | 46.9 | 67.2 | 82.2 | 91.4 | 1.7 | 638 | 18.3 |
| 45-49 | 15.7 | 47.8 | 68.9 | 80.4 | 89.0 | 2.8 | 434 | 18.1 |
| 20-49 | 10.8 | 37.9 | 58.0 | 72.4 | 81.3 | 14.0 | 5786 | 19.2 |
| 25-49 | 12.9 | 41.7 | 62.7 | 77.4 | 88.0 | 5.5 | 4148 | 18.8 |

NA = Not applicable

[a]Omitted because less than 50 percent of the women in the age group $x$ to $x+4$ were first married by age $x$.

Table 5.6 Median age at first marriage

Median age at first marriage among women age 25-49 years, by current age and selected background characteristics, Kenya 1993

| Background characteristic | Current age 25-29 | 30-34 | 35-39 | 40-44 | 45-49 | Women age 25-49 |
|---|---|---|---|---|---|---|
| **Residence** | | | | | | |
| Urban | 21.5 | 19.9 | 19.9 | 20.4 | (19.0) | 20.6 |
| Rural | 19.1 | 18.7 | 18.0 | 18.0 | 18.1 | 18.5 |
| **Province** | | | | | | |
| Nairobi | 23.0 | (21.2) | (18.9) | * | * | 21.0 |
| Central | 20.5 | 20.9 | 19.7 | 19.2 | 18.9 | 20.1 |
| Coast | 18.3 | 17.3 | 15.9 | 17.0 | 18.1 | 17.4 |
| Eastern | 20.8 | 19.6 | 18.8 | 18.4 | 18.0 | 19.3 |
| Nyanza | 17.5 | 17.3 | 17.2 | 17.0 | 17.8 | 17.4 |
| Rift Valley | 19.1 | 18.1 | 17.9 | 18.4 | 18.6 | 18.6 |
| Western | 19.2 | 18.5 | 18.3 | 17.9 | 17.3 | 18.4 |
| **Education** | | | | | | |
| No education | 16.3 | 16.8 | 16.9 | 17.0 | 17.7 | 17.0 |
| Primary incomplete | 17.7 | 17.8 | 17.7 | 17.8 | 17.9 | 17.8 |
| Primary complete | 19.5 | 19.3 | 18.9 | 20.1 | 18.9 | 19.4 |
| Secondary+ | 22.0 | 21.1 | 21.1 | 22.1 | * | 21.5 |
| Total | 19.5 | 18.9 | 18.2 | 18.3 | 18.1 | 18.8 |

Note: The medians for cohorts 15-19 and 20-24 could not be determined because some women may still get married before reaching age 20 and 25, respectively. Rates shown in parentheses are based on 25-49 women, whereas an asterisk means the rate is based on fewer than 25 women and has been suppressed.

A woman's education is highly correlated with her age at marriage. The median age at marriage increases with the level of education for all age groups of women in Kenya. For instance, the median age at first marriage for women age 25-49 increases steadily from 17.0 among women with no education to 21.5 for women with some secondary education.

## 5.5 Age at First Sexual Intercourse

Age at marriage is often used as a proxy for the beginning of a woman's exposure to the risk of pregnancy. Although related, the two events do not always occur at the same time. Some women engage in sexual relations before marriage, especially if marriage is postponed. Others engage in sexual intercourse only when they marry. The 1993 KDHS gathered information on the age at which women first had sexual intercourse. The percentage of women who have ever had sexual intercourse by specific ages is given in Table 5.7 (Note that this information in Table 5.7 parallels the information on age at first marriage in Table 5.5).

The proportion of women who have never had intercourse is of interest (Column 6 of Table 5.7). Slightly over half of women age 15-19 have not yet had sexual intercourse, meaning that just under half have been sexually active. Among women age 20-24, the proportion never having had sex drops to 10 percent and by age 25-29, almost all women have been sexually active.

Sexual activity often preceeds marriage. This is evidenced by the fact that 64 percent of women age 25-49 report that they had had sexual intercourse by age 18, whereas only 42 percent had married by that age (see Table 5.5). Similarly, 83 percent of women report having had sex by the time they reached age 20, but only 63 percent reported having married by that age. The median age at first sexual intercourse is 16.6 years, 2 years earlier than the median age at first marriage of 18.8.

Table 5.7 Age at first sexual intercourse

Percentage of women who had first sexual intercourse by exact age 15, 18, 20, 22, and 25, and median age at first intercourse, according to current age, Kenya 1993

| Current age | Percentage of women who had first intercourse by exact age: 15 | 18 | 20 | 22 | 25 | Percentage who never had intercourse | Number of women | Median age at first intercourse |
|---|---|---|---|---|---|---|---|---|
| 15-19 | 14.9 | NA | NA | NA | NA | 53.9 | 1754 | a |
| 20-24 | 17.7 | 57.7 | 79.4 | NA | NA | 10.3 | 1638 | 17.3 |
| 25-29 | 17.9 | 59.0 | 81.4 | 92.2 | 97.3 | 1.1 | 1221 | 17.0 |
| 30-34 | 23.2 | 67.1 | 84.2 | 92.5 | 95.8 | 0.6 | 1088 | 16.6 |
| 35-39 | 25.2 | 67.8 | 84.9 | 95.5 | 97.4 | 0.2 | 768 | 16.3 |
| 40-44 | 27.6 | 67.3 | 82.3 | 92.9 | 96.6 | 0.2 | 638 | 16.3 |
| 45-49 | 22.0 | 62.9 | 79.7 | 89.2 | 95.0 | 0.0 | 434 | 16.8 |
| 20-49 | 21.2 | 62.5 | 81.8 | 91.2 | 94.4 | 3.3 | 5786 | 16.8 |
| 25-49 | 22.6 | 64.4 | 82.7 | 92.7 | 96.6 | 0.5 | 4148 | 16.6 |

NA = Not applicable
[a]Omitted because less than 50 percent of the women in the age group $x$ to $x+4$ had had intercourse by age $x$.

Age at first intercourse has apparently been increasing slightly over time. For instance, women age 40-44 reported a median age at first intercourse of 16.3, while those age 20-24 reported a median age at first intercourse of 17.3 years. Comparison with similar data from the 1989 KDHS also indicates that there has been a small increase in age at first intercourse (data not shown).

Differentials in median age at first sexual intercourse are given in Table 5.8 by selected background characteristics. Rural women are more likely to engage in sexual intercourse earlier than women in urban areas. Women in Nyanza Province consistently have the lowest median age at first intercourse in each age group of women, while women in Nairobi and Central Province generally delay initiating sexual relations. The median age at first intercourse for those with secondary and higher education is 3 years above that of women with no education; however, this difference is less than that of marriage—the median age at marriage for women with some secondary schooling is more than four years greater than those with no education.

Table 5.8 Median age at first intercourse

Median age at first sexual intercourse among women age 20-49 years, by current age and selected background characteristics, Kenya 1993

| Background characteristic | Current age | | | | | | Women age 20-49 |
|---|---|---|---|---|---|---|---|
| | 20-24 | 25-29 | 30-34 | 35-39 | 40-44 | 45-49 | |
| **Residence** | | | | | | | |
| Urban | 17.8 | 18.3 | 17.5 | 17.0 | 18.0 | (18.6) | 17.9 |
| Rural | 17.0 | 16.8 | 16.5 | 16.2 | 16.1 | 16.7 | 16.6 |
| **Province** | | | | | | | |
| Nairobi | 17.9 | 18.1 | (17.7) | (15.8) | * | * | 17.9 |
| Central | 18.2 | 18.1 | 17.8 | 17.9 | 16.7 | 17.1 | 17.8 |
| Coast | 18.3 | 17.8 | 16.4 | 16.1 | 17.2 | 16.5 | 17.3 |
| Eastern | 17.3 | 16.9 | 16.5 | 16.4 | 15.9 | 16.4 | 16.7 |
| Nyanza | 15.7 | 15.7 | 15.3 | 15.2 | 15.0 | 16.0 | 15.5 |
| Rift Valley | 17.4 | 17.1 | 16.8 | 16.6 | 16.7 | 17.8 | 17.0 |
| Western | 16.7 | 17.2 | 16.7 | 16.3 | 16.3 | 16.3 | 16.6 |
| **Education** | | | | | | | |
| No education | 16.1 | 15.6 | 15.6 | 15.5 | 15.6 | 16.5 | 15.7 |
| Primary incomplete | 15.9 | 15.8 | 15.8 | 15.9 | 15.8 | 16.6 | 15.9 |
| Primary complete | 17.2 | 16.9 | 17.0 | 17.1 | 18.0 | 18.0 | 17.1 |
| Secondary+ | 18.8 | 18.7 | 18.5 | 18.8 | 20.3 | * | 18.8 |
| Total | 17.3 | 17.0 | 16.6 | 16.3 | 16.3 | 16.8 | 16.8 |

Note: The median for cohort 15-19 could not be determined because some women may still have intercourse before reaching age 20. Rates shown in parentheses are based on 25-49 women, whereas an asterisk means the rate is based on fewer than 25 women and has been suppressed.

## 5.6 Recent Sexual Activity

In the absence of contraception, the probability of becoming pregnant is related to the frequency of intercourse. Thus, information on sexual activity can be used to refine measures of exposure to pregnancy. Although KDHS data indicate that all but a tiny fraction of women are sexually active at some time in their lives, not all women who have ever had intercourse are currently sexually active. Table 5.9 presents data on levels of sexual activity by background characteristics; the distributions are shown for women who have ever had intercourse.

Table 5.9 Recent sexual activity

Percent distribution of women who have ever had sexual intercourse by sexual activity in the four weeks preceding the survey and the duration of abstinence by whether or not postpartum, according to selected background characteristics, Kenya 1993

| Background characteristic | Sexually active in last 4 weeks | Not sexually active in last 4 weeks: Abstaining (postpartum) 0-1 years | Abstaining (postpartum) 2+ years | Abstaining (not postpartum) 0-1 years | Abstaining (not postpartum) 2+ years | Missing | Total | Number of women |
|---|---|---|---|---|---|---|---|---|
| **Age of women** | | | | | | | | |
| 15-19 | 43.4 | 14.6 | 0.6 | 36.0 | 5.2 | 0.3 | 100.0 | 808 |
| 20-24 | 55.6 | 11.1 | 2.4 | 28.4 | 2.4 | 0.1 | 100.0 | 1469 |
| 25-29 | 66.9 | 8.5 | 1.5 | 21.6 | 1.5 | 0.0 | 100.0 | 1207 |
| 30-34 | 67.5 | 6.9 | 1.0 | 21.2 | 2.9 | 0.5 | 100.0 | 1082 |
| 35-39 | 58.5 | 7.3 | 1.4 | 29.2 | 3.3 | 0.3 | 100.0 | 766 |
| 40-44 | 57.4 | 3.6 | 2.0 | 28.8 | 7.0 | 1.2 | 100.0 | 637 |
| 45-49 | 49.1 | 2.5 | 1.1 | 32.6 | 13.9 | 0.9 | 100.0 | 434 |
| **Duration of union** | | | | | | | | |
| 0-4 years | 70.2 | 8.9 | 0.8 | 19.6 | 0.4 | 0.0 | 100.0 | 1218 |
| 5-9 | 66.9 | 7.3 | 0.4 | 24.5 | 0.8 | 0.2 | 100.0 | 1021 |
| 10-14 | 69.6 | 8.2 | 0.8 | 19.0 | 2.0 | 0.3 | 100.0 | 989 |
| 15-19 | 64.2 | 7.5 | 1.0 | 24.3 | 2.4 | 0.6 | 100.0 | 743 |
| 20-24 | 59.1 | 4.5 | 1.3 | 29.1 | 5.3 | 0.7 | 100.0 | 629 |
| 25+ | 51.4 | 3.0 | 1.6 | 32.3 | 10.9 | 0.8 | 100.0 | 660 |
| Never in union | 27.8 | 15.8 | 4.3 | 43.0 | 8.8 | 0.3 | 100.0 | 1143 |
| **Residence** | | | | | | | | |
| Urban | 64.5 | 4.5 | 0.9 | 24.8 | 4.4 | 0.9 | 100.0 | 1119 |
| Rural | 57.0 | 9.4 | 1.6 | 27.8 | 3.9 | 0.2 | 100.0 | 5284 |
| **Province** | | | | | | | | |
| Nairobi | 67.0 | 3.5 | 1.3 | 23.6 | 4.1 | 0.6 | 100.0 | 439 |
| Central | 60.5 | 5.8 | 1.6 | 25.1 | 6.6 | 0.4 | 100.0 | 921 |
| Coast | 62.6 | 5.7 | 1.5 | 26.8 | 3.0 | 0.4 | 100.0 | 585 |
| Eastern | 58.1 | 10.7 | 2.0 | 24.3 | 4.7 | 0.3 | 100.0 | 1220 |
| Nyanza | 56.6 | 7.4 | 1.3 | 31.5 | 3.2 | 0.1 | 100.0 | 1040 |
| Rift Valley | 57.9 | 12.8 | 1.9 | 23.3 | 3.5 | 0.6 | 100.0 | 1294 |
| Western | 52.0 | 8.1 | 0.7 | 36.6 | 2.5 | 0.1 | 100.0 | 905 |
| **Education** | | | | | | | | |
| No education | 54.6 | 8.6 | 2.0 | 28.5 | 5.8 | 0.5 | 100.0 | 1318 |
| Primary incomplete | 62.0 | 7.6 | 0.9 | 25.3 | 3.6 | 0.5 | 100.0 | 1831 |
| Primary complete | 58.2 | 9.6 | 1.5 | 27.8 | 2.9 | 0.1 | 100.0 | 1740 |
| Secondary+ | 57.1 | 8.5 | 1.8 | 28.0 | 4.2 | 0.4 | 100.0 | 1514 |
| **Current contraceptive** | | | | | | | | |
| No method | 52.2 | 11.0 | 1.8 | 29.2 | 5.4 | 0.4 | 100.0 | 4457 |
| Pill | 76.9 | 2.3 | 0.4 | 20.0 | 0.2 | 0.1 | 100.0 | 562 |
| IUD | 80.2 | 0.8 | 0.2 | 17.7 | 0.2 | 1.0 | 100.0 | 213 |
| Sterilisation | 73.4 | 2.3 | 0.4 | 21.8 | 2.1 | 0.0 | 100.0 | 292 |
| Rhythm/counting days | 62.5 | 6.6 | 0.6 | 29.1 | 1.2 | 0.0 | 100.0 | 335 |
| Other | 69.7 | 2.9 | 1.8 | 24.6 | 0.6 | 0.3 | 100.0 | 544 |
| Total | 58.3 | 8.6 | 1.5 | 27.3 | 4.0 | 0.4 | 100.0 | 6402 |

Table 5.9 indicates that a majority (58 percent) of the women interviewed in the KDHS were sexually active in the four weeks prior to the interview. Ten percent had not had sexual relations since delivering a recent baby (postpartum) and 32 percent were abstaining for reasons other than having recently given birth. Most of these women had been sexually inactive for less than 2 years; only 6 percent of women had not had sexual intercourse for two years or longer.

The likelihood that a woman has been sexually active in the last four weeks declines with marital duration. Single women who have ever had sexual intercourse are less likely to report that they have recently been sexually active. Urban women and women in Nairobi are more likely than other women to have been sexually active.

## 5.7 Postpartum Amenorrhoea and Insusceptibility

The risk of pregnancy following a birth is largely influenced by two factors: breastfeeding and sexual abstinence. Postpartum protection from conception can be prolonged by breastfeeding through its effect on the length of amenorrhoea (the period prior to the return of menses). Protection can also be prolonged by delaying the resumption of sexual relations. Women are defined as insusceptible if they are not exposed to the risk of pregnancy, either because they are amenorrhoeic or abstaining following a birth.

The percentage of births whose mothers are postpartum amenorrhoeic, abstaining and postpartum insusceptible is shown in Table 5.10 by the number of months since birth. These distributions are based on current status data, i.e., on the proportion of births occurring *x* months before the survey for which mothers

Table 5.10 Postpartum amenorrhoea, abstinence and insusceptibility

Percentage of births whose mothers are postpartum amenorrhoeic, abstaining and insusceptible, by number of months since birth, and median and mean durations, Kenya 1993

| Months since birth | Amenor-rhoeic | Abstaining | Insus-ceptible | Number of births |
|---|---|---|---|---|
| < 2 | 98.6 | 84.2 | 100.0 | 149 |
| 2-3 | 77.5 | 51.3 | 85.4 | 183 |
| 4-5 | 70.7 | 34.3 | 77.1 | 209 |
| 6-7 | 61.8 | 30.4 | 69.7 | 213 |
| 8-9 | 56.1 | 22.3 | 62.8 | 225 |
| 10-11 | 56.2 | 14.1 | 61.4 | 190 |
| 12-13 | 41.2 | 20.8 | 52.0 | 229 |
| 14-15 | 36.4 | 10.2 | 41.7 | 199 |
| 16-17 | 23.3 | 16.0 | 35.3 | 189 |
| 18-19 | 23.0 | 13.0 | 29.8 | 218 |
| 20-21 | 10.4 | 9.0 | 19.4 | 193 |
| 22-23 | 17.6 | 10.3 | 25.0 | 179 |
| 24-25 | 7.5 | 5.3 | 12.4 | 217 |
| 26-27 | 5.7 | 5.5 | 10.4 | 197 |
| 28-29 | 3.7 | 2.4 | 5.7 | 208 |
| 30-31 | 0.6 | 3.4 | 4.0 | 207 |
| 32-33 | 1.9 | 2.8 | 4.7 | 217 |
| 34-35 | 3.1 | 6.7 | 9.7 | 176 |
| Total | 32.2 | 18.0 | 38.5 | 3596 |
| Median | 10.8 | 3.0 | 12.9 | - |
| Mean | 12.2 | 7.2 | 14.4 | - |
| Prevalence/incidence mean | 11.4 | 6.4 | 13.7 | - |

are still amenorrhoeic, abstaining or insusceptible. The estimates of the median and mean durations shown in Tables 5.10 and 5.11 are calculated from the current status proportions at each time period. The data are grouped in two-month intervals to minimise fluctuations in the estimates.

The period of postpartum amenorrhoea is considerably longer than the period of postpartum abstinence and is the major determinant of the length of postpartum insusceptibility to pregnancy. By 6-7 months following birth, 62 percent of women are still amenorrhoeic, while only 30 percent are still abstaining. Similarly, at 12-13 months postpartum, 41 percent of women are amenorrhoeic, compared to 21 percent still abstaining. The mean duration of postpartum amenorrhoea is 12 months; that of postpartum abstinence is 7 months. The combination of these two factors means that Kenyan women are insusceptible to the risk of pregnancy—either due to amenorrhoea or to abstinence—for an average of 14 months after giving birth.

Table 5.11 displays median durations of postpartum amenorrhoea, abstinence and insusceptibility by various background characteristics. Women age 30 or older have a longer median duration of postpartum amenorrhoea—13 months—compared to 8 months for women under 30 years. Similarly, rural mothers wait considerably longer than urban mothers for their periods to return after birth (12 vs. 5 months).

Table 5.11 Median duration of postpartum insusceptibility by background characteristics

Median number of months of postpartum amenorrhoea, postpartum abstinence, and postpartum insusceptibility, by selected background characteristics, Kenya 1993

| Background characteristic | Postpartum amenorrhoea | Postpartum abstinence | Postpartum insusceptibility | Number of women |
|---|---|---|---|---|
| **Age** | | | | |
| <30 | 8.1 | 3.1 | 11.3 | 2315 |
| 30+ | 13.4 | 2.7 | 14.3 | 1282 |
| **Residence** | | | | |
| Urban | 5.3 | 2.1 | 6.4 | 465 |
| Rural | 12.0 | 3.1 | 13.8 | 3132 |
| **Province** | | | | |
| Nairobi | 4.5 | 0.8 | 5.4 | 174 |
| Central | 6.3 | 2.7 | 12.7 | 407 |
| Coast | 13.0 | 2.0 | 13.3 | 328 |
| Eastern | 12.6 | 2.9 | 16.1 | 707 |
| Nyanza | 10.4 | 2.5 | 10.9 | 614 |
| Rift Valley | 10.7 | 4.2 | 13.5 | 778 |
| Western | 12.4 | 3.1 | 14.5 | 589 |
| **Education** | | | | |
| No education | 12.8 | 4.3 | 14.8 | 647 |
| Primary incomplete | 12.6 | 2.5 | 13.7 | 1135 |
| Primary complete | 8.7 | 2.9 | 11.4 | 1021 |
| Secondary+ | 6.8 | 3.0 | 10.4 | 794 |
| Total | 10.8 | 3.0 | 12.9 | 3597 |

Note: Medians are based on current status.

Provincial differentials indicate that women in the Coast Province have the longest median duration of amenorrhoea (13 months), followed by women in Eastern Province (13 months) and Western Province (12 months); women in Nairobi have the shortest median duration of amenorrhoea (5 months). Table 5.11 further shows that the median duration of postpartum amenorrhoea is inversely related to education. It varies from 13 months for women with no education or only some primary education to 7 months for women with secondary education.

Differences in median duration of postpartum abstinence are considerably smaller than those for amenorrhoea. Women in Nairobi appear to abstain from sexual intercourse for the shortest period of time after giving birth, while women in Rift Valley Province abstain the longest. Women with no education have a slightly longer median duration of abstinence than women with some education.

## 5.8 Termination of Exposure to Pregnancy

The risk of pregnancy declines with age, as increasing proportions of women become infecund. While the onset of infecundity is difficult to determine for an individual woman, there are ways of estimating it for a population. Two indicators of decreasing exposure to the risk of pregnancy for women age 30 and older are displayed in Table 5.12.

The first, an indicator of menopause, encompasses currently married women who are neither pregnant nor postpartum amenorrhoeic, but who have not had a menstrual period in the six months preceding the survey. The table shows that this proportion increases steadily with age, from 4 percent for women age 30-34 years to 27 percent for women age 48-49.

The second is an indicator of long-term abstinence. This is the proportion of currently married women who did not have sexual intercourse in the last three years preceding the survey. As the table shows, long-term abstinence is not a major contributor to lower fertility. The proportion of women who have not had sexual intercourse for the last three years is less than one percent except among those age 46-49, where it is approximately 3 percent.

Table 5.12 Termination of exposure to the risk of pregnancy

Indicators of menopause, terminal infertility and long-term abstinence among currently married women age 30-49, by age, Kenya 1993

| | Menopause[1] | | Long-term abstinence[2] | |
|---|---|---|---|---|
| Age | Percentage | Number | Percentage | Number |
| 30-34 | 4.1 | 946 | 0.1 | 1314 |
| 35-39 | 4.0 | 747 | 0.7 | 971 |
| 40-41 | 3.2 | 323 | 0.0 | 387 |
| 42-43 | 11.3 | 291 | 1.1 | 322 |
| 44-45 | 12.5 | 286 | 0.8 | 307 |
| 46-47 | 19.1 | 230 | 2.7 | 250 |
| 48-49 | 27.1 | 176 | 2.5 | 185 |
| Total | 8.0 | 2998 | 0.7 | 3735 |

[1]Percentage of non-pregnant, non-amenorrhoeic currently married women whose last menstrual period occurred six or more months preceding the survey or who report that they are menopausal.
[2]Percentage of currently married women who did not have intercourse in the three years preceding the survey.

# CHAPTER 6

# FERTILITY PREFERENCES

Several questions were asked in the KDHS concerning women's fertility preferences. The aim of this part of the interview was to establish the extent of unmet need for contraception and the number of unwanted or mistimed births. The KDHS questionnaire included questions on:

1) whether the respondent wanted another child,
2) if so, how long she would like to wait to have the next child, and
3) how many children she would want in total if she could start afresh.

The usefulness of data on fertility preferences has been controversial. Critics consider the data misleading because of the fact that information gathered from women does not take into account the effect of social pressures or attitudes of other family members, particularly the husband, whose opinions on reproductive behaviour may be very influential. Another objection expressed by critics is that these preferences are usually held with weak intensity and little conviction, and consequently change with time. Others maintain that results obtained from these questions are important for assessing to what extent unwanted or mistimed pregnancies occur and the effect that would occur from prevention of such pregnancies.

## 6.1 Desire for More Children

In the KDHS, currently married women were asked "Would you like to have (a/another) child or would you prefer not to have any (more) children?" Interviewers were instructed to alter the wording depending on whether the respondent already had children or not. If the woman was pregnant, she was asked if she wanted another child after the one she was expecting. Women who said they did want to have another child were then asked how long they would like to wait before the birth of the next child.

Table 6.1 shows the percent distribution of currently married women by desire for another child, according to the number of living children. Almost half (46 percent) of married women want no more

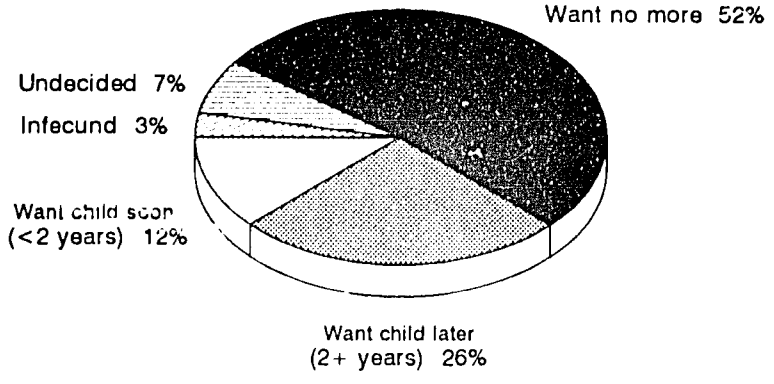
Table 6.1 Fertility preference by number of living children

Percent distribution of currently married women by desire for more children, according to number of living children, Kenya 1993

| Desire for children | Number of living children[1] | | | | | | | Total |
|---|---|---|---|---|---|---|---|---|
| | 0 | 1 | 2 | 3 | 4 | 5 | 6+ | |
| Have another soon[2] | 72.7 | 24.1 | 11.9 | 8.9 | 4.9 | 4.3 | 1.8 | 11.6 |
| Have another later[3] | 9.6 | 60.5 | 51.3 | 33.5 | 18.9 | 13.1 | 4.6 | 26.0 |
| Have another, undecided when | 3.5 | 1.6 | 1.1 | 1.2 | 0.9 | 0.8 | 0.3 | 1.0 |
| Undecided | 3.0 | 3.7 | 5.9 | 8.7 | 8.5 | 7.9 | 5.2 | 6.3 |
| Wants no more | 0.4 | 7.0 | 25.7 | 44.7 | 59.9 | 63.3 | 71.0 | 46.2 |
| Sterilised | 0.0 | 0.6 | 0.6 | 1.9 | 5.4 | 8.1 | 12.6 | 5.5 |
| Declared infecund | 10.6 | 2.5 | 3.1 | 0.7 | 1.0 | 2.4 | 4.2 | 3.0 |
| Missing | 0.2 | 0.1 | 0.3 | 0.3 | 0.5 | 0.2 | 0.3 | 0.3 |
| Total | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| Number of women | 244 | 558 | 724 | 671 | 634 | 544 | 1254 | 4629 |

[1]Includes current pregnancy.
[2]Wants next birth within 2 years.
[3]Wants to delay next birth for 2 or more years.

Figure 6.1
Fertility Preferences of
Currently Married Women 15-49




Note: "Want no more" includes sterilised women.

KDHS 1993

children and an additional 9 percent either have been sterilised or say that they cannot have any more children. Another 26 percent of women want another child, but they want to wait two or more years before having their next birth (Figure 6.1). Therefore, about three-quarters of married women in Kenya can be considered potential users of contraception for the purpose of either limiting their family size or spacing births.

Not surprisingly, the desire for more children declines noticeably as the number of living children increases (Table 6.1 and Figure 6.2). Thus, 73 percent of married women with no children want to have a child soon (within two years), whereas only 2 percent of women with six or more children want to have another soon. Conversely, the percentage of women who want no more children rises from 7 percent for women with one child to 71 percent for women with six or more children. This indicates that a substantial proportion of married women are interested in limiting their fertility. The data also show that there is a desire among women to space births. For instance, 61 percent and 51 percent of women with one and two children respectively, want their next birth after two years.

Table 6.2 shows the percent distribution of currently married women by desire for children according to age. The data show that the proportion of women who want no more children increases with age. Five percent of the women age 15-19 want no more children, compared to 64 percent of women age 45-49 years. The proportion who want to delay their next birth declines with age, as does the proportion of women who want the next birth within two years.

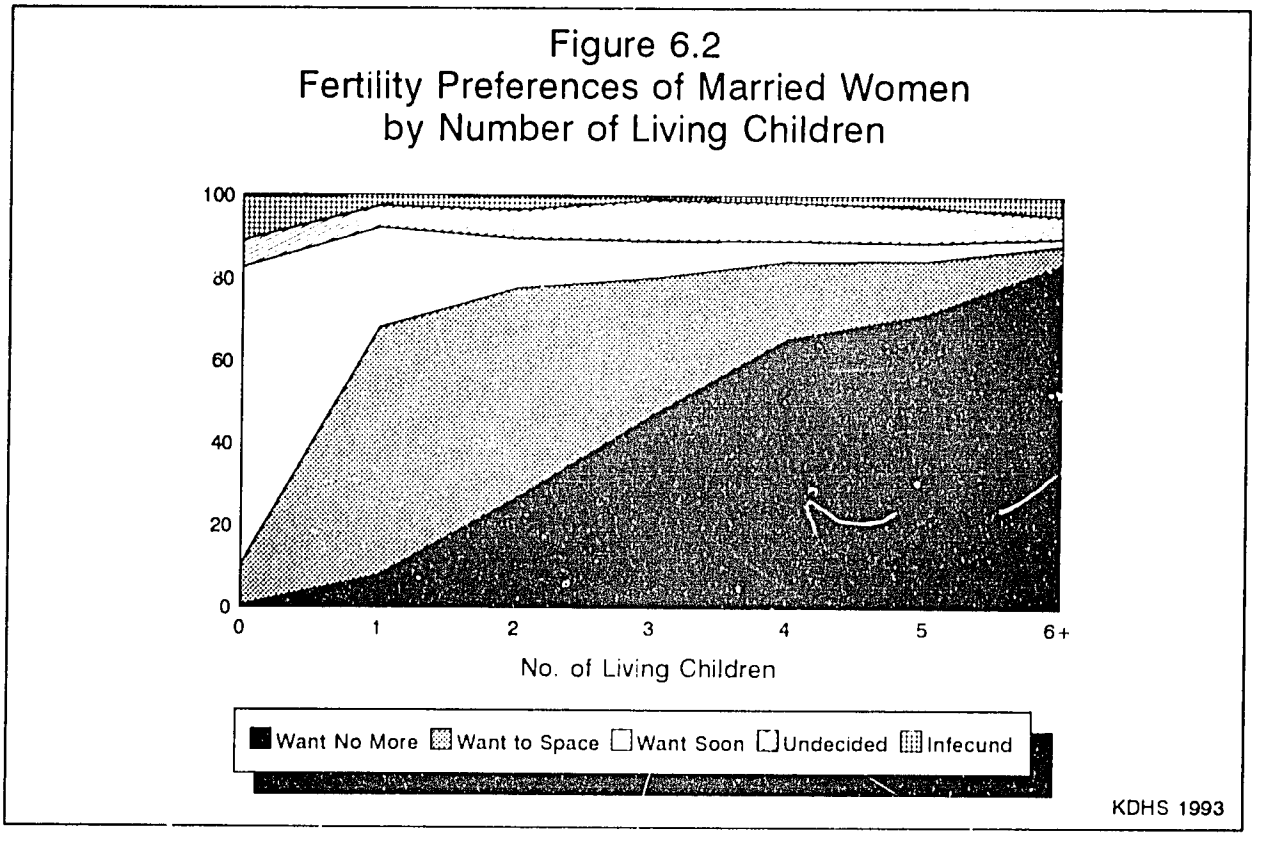



Table 6.2 Fertility preferences by age

Percent distribution of currently married women by desire for more children, according to age, Kenya 1993

| 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] | 34.2 | 16.8 | 11.5 | 11.6 | 5.7 | 3.9 | 2.8 | 11.6 |
| Have another later[2] | 56.0 | 53.7 | 33.2 | 17.6 | 6.8 | 2.4 | 2.0 | 26.0 |
| Have another, undecided when | 1.5 | 0.9 | 0.9 | 1.7 | 0.8 | 0.4 | 0.9 | 1.0 |
| Undecided | 3.1 | 7.1 | 7.5 | 6.6 | 7.9 | 3.9 | 2.7 | 6.3 |
| Wants no more | 5.2 | 21.1 | 44.2 | 54.8 | 63.6 | 67.6 | 64.4 | 46.2 |
| Sterilised | 0.0 | 0.1 | 1.9 | 6.0 | 11.1 | 13.0 | 12.3 | 5.5 |
| Declared infecund | 0.0 | 0.2 | 0.4 | 1.4 | 3.7 | 8.6 | 14.9 | 3.0 |
| Missing | 0.0 | 0.2 | 0.3 | 0.5 | 0.4 | 0.1 | 0.0 | 0.3 |
| Total | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| Number | 261 | 937 | 1003 | 918 | 644 | 519 | 348 | 4629 |

[1]Wants next birth within 2 years.
[2]Wants to delay next birth for 2 or more years.

The proportion of women who want no more children is the most significant measure of fertility preference. Table 6.3 and Figure 6.3 show the percentage of currently married women who want no more children by number of living children and selected background characteristics. The proportion of women who want no more children is closely correlated with the number of living children as well as background

Table 6.3 Desire to limit (stop) childbearing

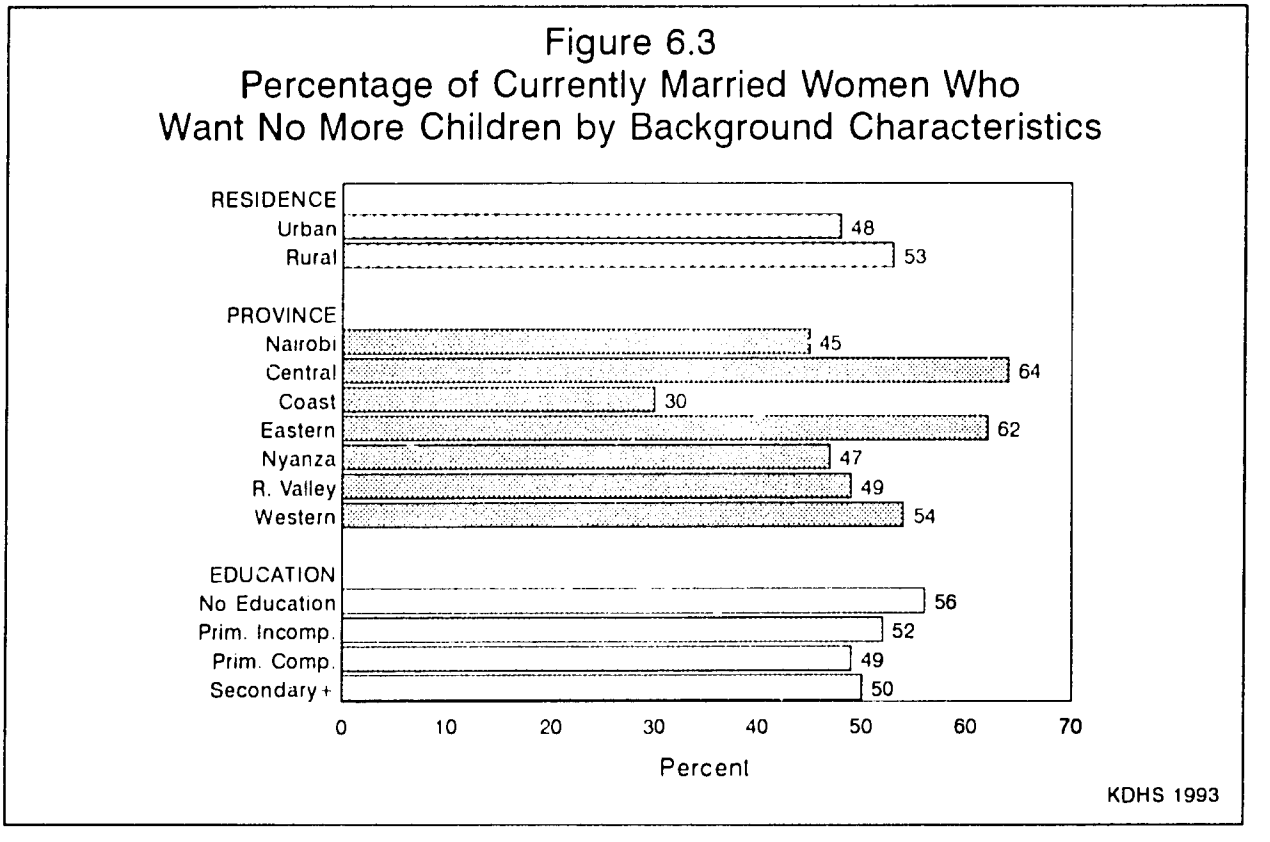
Percentage of currently married women who want no more children, by number of living children and selected background characteristics, Kenya 1993

| Background characteristic | Number of living children[1] | | | | | | | Total |
|---|---|---|---|---|---|---|---|---|
| | 0 | 1 | 2 | 3 | 4 | 5 | 6+ | |
| **Residence** | | | | | | | | |
| Urban | 0.0 | 14.8 | 43.1 | 67.0 | 74.2 | (76.4) | 89.4 | 47.9 |
| Rural | 0.5 | 4.8 | 21.3 | 42.1 | 64.4 | 70.8 | 83.2 | 52.5 |
| **Province** | | | | | | | | |
| Nairobi | (0.0) | 10.9 | (53.5) | (65.5) | * | * | * | 45.4 |
| Central | * | 4.4 | 38.2 | 61.9 | 85.4 | 88.6 | 90.9 | 64.3 |
| Coast | 0.0 | 7.6 | 16.3 | 26.6 | 34.9 | 45.6 | 59.5 | 30.4 |
| Eastern | (0.0) | 9.7 | 31.5 | 56.0 | 76.7 | 78.3 | 87.8 | 62.1 |
| Nyanza | 2.0 | 9.3 | 15.0 | 34.8 | 59.1 | 68.5 | 84.3 | 47.2 |
| Rift Valley | 0.0 | 4.8 | 21.2 | 44.3 | 51.2 | 63.6 | 79.8 | 48.5 |
| Western | (0.0) | 6.7 | 20.6 | 39.3 | 67.9 | 73.1 | 88.4 | 53.7 |
| **Education** | | | | | | | | |
| No education | (0.0) | (5.4) | 18.1 | 29.4 | 46.6 | 58.4 | 77.9 | 55.8 |
| Primary incomplete | 0.0 | 6.0 | 15.1 | 40.8 | 60.6 | 71.8 | 84.7 | 52.4 |
| Primary complete | 1.3 | 5.9 | 26.0 | 50.3 | 77.0 | 75.7 | 94.4 | 49.2 |
| Secondary+ | 0.0 | 11.1 | 37.6 | 57.7 | 72.4 | 83.7 | 87.7 | 49.7 |
| Total | 0.4 | 7.5 | 26.3 | 46.7 | 65.3 | 71.4 | 83.6 | 51.8 |

Note: Women who have been sterilised are considered to want no more children. Parentheses indicate a figure based on 25-49 women. An asterisk indicates a figure based on fewer than 25 women and has been suppressed.
[1]Includes current pregnancy

characteristics. For instance, overall, a larger proportion of rural than urban women want to stop childbearing; however, when the number of living children is taken into account, the reverse is true. This means that the overall figures result from the fact that on average, rural women have more children than urban women, since the proportion wanting no more children rises with the number of living children.

Women in Nairobi and those in Central and Eastern Provinces are the least pronatalist. Over half of the married women in Nairobi and about one-third of those in Central and Eastern Provinces want to stop childbearing after having two children. Among women with three children, two-thirds of those in Nairobi and Central Province want to stop, compared to only one-quarter of those in Coast Province. Women in Coast Province are the least likely to want to stop childbearing; only 60 percent of those with six or more children say they want to stop. The amount of education seems to have an effect on the desire to stop childbearing. For example, among women with three children, 29 percent of those with no education want to stop childbearing, compared to 58 percent of those with at least some secondary education.




## 6.2 Demand for Family Planning Services

Women who are currently married and who say either that they do not want any more children or that they want to wait two or more years before having another child, but are not using contraception, are considered to have an *unmet need* for family planning.[1] Women who are using family planning methods are said to have a *met need* for family planning. Women with unmet and met need constitute the *total demand* for family planning. Table 6.4 presents data on unmet need, met need and total demand for family planning, according to whether the need is for spacing or limiting births.

Over one-third of married women in Kenya have an unmet need for family planning services (Column 3 of Table 6.4)—22 percent for spacing purposes and 15 percent for limiting births. Combined with the 33 percent of married women who are currently using a contraceptive method, the total demand for family planning comprises almost 70 percent of married women in Kenya. Therefore, if all women who say they want to space or limit their children were to use methods, the contraceptive prevalence rate could be increased from 33 percent to 69 percent of married women. Currently, less than half of the demand for family planning is being met (next-to-last column in Table 6.4).

The overall unmet need for family planning declines with age. As expected, unmet need for spacing purposes is higher among younger women, while unmet need for limiting childbearing is higher among older women. The level of unmet need among rural women is higher than that of urban women. It is higher among women in Western and Eastern Provinces and lowest in Central Province. Unmet need is lower among women with at least some secondary schooling than among less educated or uneducated women.

[1]For an exact description of the calculation, see footnote 1, Table 6.4.

Table 6.4 Need for family planning services

Percentage of currently married women with unmet need for family planning, met need for family planning, and the total demand for family planning services, by selected background characteristics, Kenya 1993

| Background characteristic | Unmet need for family planning[1] | | | Met need for family planning (currently using)[2] | | | Total demand for family planning | | | 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 | 37.5 | 4.4 | 41.9 | 9.7 | 0.5 | 10.3 | 47.2 | 4.9 | 52.1 | 19.7 | 261 |
| 20-24 | 35.6 | 5.0 | 40.6 | 17.5 | 6.0 | 23.6 | 53.1 | 11.0 | 64.1 | 36.7 | 937 |
| 25-29 | 28.5 | 11.4 | 39.9 | 16.4 | 20.8 | 37.2 | 44.9 | 32.2 | 77.1 | 48.3 | 1003 |
| 30-34 | 18.9 | 16.5 | 35.4 | 9.0 | 30.7 | 39.7 | 27.9 | 47.2 | 75.1 | 52.9 | 918 |
| 35-39 | 11.7 | 28.2 | 39.8 | 2.8 | 33.1 | 35.9 | 14.5 | 61.3 | 75.8 | 47.4 | 644 |
| 40-44 | 5.0 | 24.9 | 29.9 | 0.7 | 36.7 | 37.3 | 5.7 | 61.5 | 67.2 | 55.5 | 519 |
| 45-49 | 2.4 | 15.2 | 17.6 | 0.0 | 30.4 | 30.4 | 2.4 | 45.6 | 48.0 | 63.4 | 348 |
| **Residence** | | | | | | | | | | | |
| Urban | 15.3 | 10.2 | 25.5 | 16.3 | 27.1 | 43.4 | 31.6 | 37.3 | 68.9 | 63.0 | 697 |
| Rural | 22.7 | 15.7 | 38.4 | 8.8 | 22.1 | 30.9 | 31.5 | 37.8 | 69.2 | 44.6 | 3932 |
| **Province** | | | | | | | | | | | |
| Nairobi | 16.8 | 10.2 | 27.0 | 20.4 | 25.0 | 45.4 | 37.2 | 35.2 | 72.4 | 62.7 | 271 |
| Central | 11.9 | 13.2 | 25.1 | 14.8 | 41.2 | 56.0 | 26.7 | 54.4 | 81.1 | 69.0 | 610 |
| Coast | 25.3 | 8.0 | 33.3 | 9.3 | 10.9 | 20.2 | 34.5 | 18.9 | 53.5 | 37.7 | 445 |
| Eastern | 23.2 | 18.1 | 41.3 | 10.2 | 28.3 | 38.4 | 33.3 | 46.4 | 79.7 | 48.2 | 864 |
| Nyanza | 23.3 | 15.7 | 39.0 | 6.8 | 17.0 | 23.8 | 30.1 | 32.7 | 62.8 | 37.9 | 737 |
| Rift Valley | 21.4 | 15.1 | 36.5 | 9.0 | 18.8 | 27.8 | 30.4 | 33.9 | 64.3 | 43.3 | 992 |
| Western | 26.1 | 17.1 | 43.1 | 6.2 | 18.9 | 25.1 | 32.2 | 36.0 | 68.2 | 36.8 | 710 |
| **Education** | | | | | | | | | | | |
| No education | 17.4 | 19.1 | 36.5 | 2.6 | 16.9 | 19.5 | 20.0 | 36.0 | 56.0 | 34.8 | 1062 |
| Primary incomplete | 23.5 | 18.0 | 41.5 | 7.2 | 20.7 | 27.9 | 30.6 | 38.7 | 69.2 | 40.2 | 1411 |
| Primary complete | 26.8 | 11.7 | 38.4 | 10.3 | 24.6 | 34.9 | 37.0 | 36.2 | 73.3 | 47.6 | 1177 |
| Secondary+ | 17.3 | 9.5 | 26.8 | 21.2 | 30.4 | 51.6 | 38.5 | 39.9 | 78.4 | 65.8 | 980 |
| Total | 21.6 | 14.8 | 36.4 | 9.9 | 22.9 | 32.7 | 31.5 | 37.7 | 69.2 | 47.3 | 4629 |

[1]Unmet need for *spacing* includes pregnant women whose pregnancy was mistimed, amenorrhoeic women whose last birth was mistimed, and women who are neither pregnant nor amenorrhoeic 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 women who are unsure whether they want another child or who want another child but are unsure when to have the birth. Unmet need for *limiting* refers to pregnant women whose pregnancy was unwanted, amenorrhoeic women whose last child was unwanted and women who are neither pregnant nor amenorrhoeic and who are not using any method of family planning and who want no more children.
[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.

## 6.3 Ideal Family Size

In order to assess ideal fertility preferences, the KDHS included two questions. Women who had no children were asked, "If you could choose exactly the number of children to have in your whole life, how many would that be?" For women who had children, the question was rephrased as follows: "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?" These questions on ideal family size aimed at two things: first, among women who have not started childbearing, the data provide an idea of the total number of children these women will have in the future (to the extent that women are able to realise their fertility desires). Secondly, among older, higher parity women, these data provide a measure of the level of unwanted fertility. It should be noted that some women, especially those for whom fertility control is an unfamiliar concept, may have had difficulty in answering this hypothetical question.

The data in Table 6.5 indicate that the vast majority of women were able to give a numeric answer to this question; only 6 percent of women gave a non-numeric answer such as "it is up to God," "any number," or "does not know." Those who gave numeric responses generally want to have small families. Only 10 percent of respondents said they would choose to have six or more children, while one-third favoured four children and one-quarter cited two children as ideal. Among women giving numeric responses, the mean ideal family size is 3.7 children.

As expected, the ideal number of children increases with the number of living children; women with more living children are most likely to state four as their ideal number of children, while women with fewer children are as likely to state two or three children as ideal. The mean ideal family size increases from 3.4 among childless women to 4.5 among women with six or more children. There are several possible explanations for the relationship between ideal and actual number of children. First, to the extent that they are able to implement their preferences, women who want larger families will tend to actually have them. Secondly, women who have larger families may tend to rationalise their family size by reporting their actual number of children as their ideal number. Finally, women with larger families, being older, on average, than women with smaller families, have larger ideal family sizes, because of attitudes they acquired 20 to 30 years ago.

Table 6.5 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 currently married women, according to number of living children, Kenya 1993

| Ideal number of children | Number of living children[1] | | | | | | | Total |
|---|---|---|---|---|---|---|---|---|
| | None | 1 | 2 | 3 | 4 | 5 | 6+ | |
| 0 | 0.6 | 0.1 | 0.3 | 0.4 | 0.1 | 0.1 | 0.4 | 0.4 |
| 1 | 2.2 | 4.2 | 1.4 | 2.9 | 1.9 | 1.7 | 0.8 | 2.1 |
| 2 | 29.3 | 28.0 | 29.2 | 16.2 | 20.4 | 17.2 | 11.0 | 22.5 |
| 3 | 20.1 | 25.2 | 17.9 | 24.7 | 10.0 | 16.6 | 10.9 | 18.0 |
| 4 | 29.8 | 28.8 | 33.2 | 34.5 | 41.6 | 29.6 | 40.6 | 33.7 |
| 5 | 6.0 | 5.3 | 6.5 | 7.5 | 8.7 | 14.5 | 7.5 | 7.4 |
| 6+ | 6.9 | 5.4 | 7.0 | 8.8 | 11.7 | 14.1 | 19.2 | 10.3 |
| Non-numeric response | 5.0 | 3.1 | 4.5 | 4.9 | 5.6 | 6.2 | 9.7 | 5.7 |
| Total | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| Number of women | 2053 | 1006 | 939 | 789 | 723 | 617 | 1415 | 7540 |
| Mean ideal number | 3.4 | 3.3 | 3.5 | 3.6 | 3.9 | 4.0 | 4.5 | 3.7 |
| Number of women | 1950 | 975 | 897 | 750 | 682 | 579 | 1278 | 7111 |
| Mean for women in union | 4.0 | 3.5 | 3.6 | 3.7 | 3.9 | 4.0 | 4.5 | 3.9 |
| Number of women in union | 227 | 542 | 685 | 641 | 601 | 512 | 1141 | 4348 |

Note: The means exclude women who gave non-numeric responses.
[1]Includes current pregnancy

Despite the likelihood that some rationalisation of large families occurs, it is common for women to report ideal family sizes lower than their actual number of children. Two-thirds of the women with five children stated that they would ideally liked to have had fewer than five, and 71 percent of those with six or more children would have fewer if they could choose again.

There has been a large decline in ideal family size in Kenya over the past decade. In the 1984 KCPS, women reported a mean ideal family size of 5.8 children (CBS, 1984, p.61). It then declined to 4.4, as reported in the 1989 KDHS (NCPD, 1989, p.52), and then to the current figure of 3.7 children in 1993.

Table 6.6 shows the mean ideal number of children for all women interviewed in the 1993 KDHS by age group and selected background characteristics. The mean ideal number of children increases with age from 3.5 among women age 15-19 to 4.5 among women age 45-49. At every age group, rural women have higher family size norms than urban women. This is reflected in the fact that women in Nairobi have the smallest ideal family size on average, regardless of age group; women in Coast Province have the highest. Ideal family size is negatively correlated with the level of education attained. Women with no education have the highest family size desires, while women with secondary education have the smallest; this is true for every age group.

Table 6.6 Mean ideal number of children by background characteristics

Mean ideal number of children for all women, by age and selected background characteristics, Kenya 1993

| Background characteristic | Age of woman | | | | | | | Total |
|---|---|---|---|---|---|---|---|---|
| | 15-19 | 20-24 | 25-29 | 30-34 | 35-39 | 40-44 | 45-49 | |
| **Residence** | | | | | | | | |
| Urban | 2.9 | 2.8 | 2.8 | 3.1 | 3.5 | 3.0 | (3.0) | 2.9 |
| Rural | 3.6 | 3.5 | 3.8 | 4.1 | 4.2 | 4.2 | 4.7 | 3.9 |
| **Province** | | | | | | | | |
| Nairobi | 2.5 | 2.6 | 2.6 | (2.8) | (3.4) | * | * | 2.7 |
| Central | 2.8 | 2.7 | 3.1 | 3.2 | 3.4 | 3.7 | 4.0 | 3.1 |
| Coast | 4.1 | 4.1 | 4.2 | 5.1 | 5.2 | 5.0 | 5.8 | 4.5 |
| Eastern | 3.6 | 3.2 | 3.3 | 3.6 | 4.0 | 3.9 | 3.9 | 3.5 |
| Nyanza | 3.3 | 3.5 | 4.1 | 4.1 | 4.2 | 4.4 | 4.5 | 3.8 |
| Rift Valley | 3.7 | 3.7 | 3.9 | 4.6 | 4.4 | 4.5 | 5.8 | 4.1 |
| Western | 3.7 | 3.7 | 3.7 | 3.9 | 3.7 | 4.2 | 4.3 | 3.8 |
| **Education** | | | | | | | | |
| No education | 5.2 | 4.9 | 5.0 | 5.3 | 4.7 | 4.4 | 4.9 | 4.9 |
| Primary incomplete | 3.8 | 3.7 | 4.0 | 4.1 | 4.0 | 4.2 | 4.4 | 4.0 |
| Primary complete | 3.4 | 3.3 | 3.4 | 3.5 | 3.8 | 3.7 | 3.7 | 3.4 |
| Secondary + | 2.8 | 2.9 | 3.0 | 3.2 | 3.3 | 3.1 | * | 3.0 |
| Total | 3.5 | 3.4 | 3.6 | 4.0 | 4.1 | 4.1 | 4.5 | 3.7 |

Note: Rates shown in parentheses are based on 25-49 women, whereas an asterisk means the rate is based on fewer than 25 women and has been suppressed.

## 6.4 Fertility Planning

There are two ways of estimating levels of unwanted fertility from the KDHS data. One is based on responses to a question as to whether each birth in the five years before the survey was planned (wanted then), mistimed (wanted, but at a later time), or unwanted (wanted no more children). These data are likely to result in underestimates of unplanned childbearing, since women may rationalise unplanned births and declare them as planned once they are born. Another way of measuring unwanted fertility utilises the data on ideal family size to calculate what the total fertility rate would be if all unwanted births were avoided. This measure may also suffer from underestimation to the extent that women are unwilling to report an ideal family size lower than their actual family size. Data using these two approaches are presented below.

Table 6.7 shows the percent distribution of births in the five years before the survey by whether the birth was wanted then, wanted later, or not wanted. Seventeen percent of recent births were reported to be unwanted, while 34 percent were reported as mistimed (wanted later). Fourth and higher births are more likely than first, second and third births to be unwanted. Similarly, a much larger proportion of births to older women are unwanted--almost 50 percent among women in their early 40s.

Table 6.7 Fertility planning status

Percent distribution of births in the five years preceding the survey by fertility planning status, according to birth order and mother's age, Kenya 1993

| Birth order and mother's age | Planning status of birth: Wanted then | Wanted later | Wanted no more | Missing | Total | Number of births |
|---|---|---|---|---|---|---|
| **Birth order** | | | | | | |
| 1 | 55.3 | 37.1 | 6.1 | 1.5 | 100.0 | 1372 |
| 2 | 53.1 | 40.0 | 5.1 | 1.8 | 100.0 | 1158 |
| 3 | 54.0 | 37.1 | 7.3 | 1.6 | 100.0 | 945 |
| 4 | 49.5 | 38.0 | 11.3 | 1.2 | 100.0 | 819 |
| 5 | 46.1 | 33.3 | 19.7 | 0.9 | 100.0 | 689 |
| 6+ | 34.7 | 25.3 | 39.3 | 0.8 | 100.0 | 1749 |
| **Age at birth** | | | | | | |
| <19 | 48.4 | 43.4 | 6.6 | 1.5 | 100.0 | 1124 |
| 20-24 | 53.2 | 39.1 | 6.3 | 1.4 | 100.0 | 2021 |
| 25-29 | 49.8 | 34.7 | 14.0 | 1.5 | 100.0 | 1709 |
| 30-34 | 40.6 | 27.5 | 31.5 | 0.4 | 100.0 | 994 |
| 35-39 | 38.6 | 19.9 | 40.3 | 1.1 | 100.0 | 595 |
| 40-44 | 32.1 | 16.3 | 49.2 | 2.4 | 100.0 | 240 |
| 45-49 | 64.2 | 7.0 | 28.8 | 0.0 | 100.0 | 50 |
| Total | 47.7 | 34.2 | 16.7 | 1.3 | 100.0 | 6732 |

Note: Birth order includes current pregnancy.

Table 6.8 presents "wanted" fertility rates calculated using the second approach to measuring unwanted fertility. The wanted fertility rate is calculated in the same manner as the total fertility rate, but unwanted births are excluded from the numerator. For this purpose, unwanted births are defined as those which exceed the number considered ideal by the respondent. (Women who do not report a numeric ideal family size are assumed to want all their births). This rate represents the level of fertility that would have prevailed in the three years preceding the survey if all unwanted births had been prevented. A comparison of the total wanted fertility rate and the actual fertility rate suggests the potential demographic impact of the elimination of unwanted births.

The wanted fertility rate for Kenya as a whole was 3.4 - two children lower than the actual total fertility rate. This implies that the total fertility rate is 60 percent higher than it would be if unwanted births could be avoided. The gap between the wanted and actual total fertility rates is greatest among rural women and those in Eastern and Western Provinces (where the wanted fertility rates are almost three children lower than the actual fertility rates), and among women with incomplete primary school.

Table 6.8 Wanted fertility rates

Total wanted fertility rates and total fertility rates for the three years preceding the survey, by selected background characteristics, Kenya 1993

| Background characteristic | Total wanted fertility rate | Total fertility rate |
|---|---|---|
| **Residence** | | |
| Urban | 2.5 | 3.4 |
| Rural | 3.7 | 5.8 |
| **Province** | | |
| Nairobi | 2.5 | 3.4 |
| Central | 2.6 | 3.9 |
| Coast | 4.3 | 5.3 |
| Eastern | 3.3 | 5.9 |
| Nyanza | 4.1 | 5.8 |
| Rift Valley | 3.6 | 5.7 |
| Western | 3.6 | 6.4 |
| **Education** | | |
| No education | 4.2 | 6.0 |
| Primary incomplete | 3.7 | 6.2 |
| Primary complete | 3.0 | 5.0 |
| Secondary+ | 2.8 | 4.0 |
| Total | 3.4 | 5.4 |

Note: Rates are based on births to women 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.

# CHAPTER 7

# INFANT AND CHILD MORTALITY

Presented in this chapter is information on mortality under age five in Kenya, specifically on levels, trends and differentials in neonatal, postneonatal, infant, and child mortality. The data are disaggregated by sex, socio-economic characteristics, provinces and other factors in order to identify segments of the population requiring special attention. This information is useful for monitoring and evaluating population and health programmes and policies, as well as for producing population projections. Mortality estimates can also prove useful in identifying populations that are at high risk and designing programmes that could reduce mortality. Infant and child mortality rates are basic indicators of a country's socio-economic situation and quality of life.

## 7.1 Assessment of Data Quality

Estimates of infant and child mortality are based on information from the birth history section of the questionnaire administered to individual women. The section began with questions about the aggregate childbearing experience of respondents (i.e., the number of sons and daughters who live with the mother, the number who live elsewhere and the number who have died). For each of these births, information was then collected on the sex, the month and year of birth, survivorship status and current age, or, if the child had died, the age at death.

This information has been used to calculate the following five rates:

**Neonatal mortality:** the probability of dying within the first month of life;

**Postneonatal mortality:** the difference between infant and neonatal mortality;

**Infant mortality:** the probability of dying before the first birthday;

**Child mortality:** the probability of dying between the first and fifth birthday;

**Under-five mortality:** the probability of dying between birth and fifth birthday.

All rates are expressed per 1,000 live births, except for child mortality, which is expressed per 1,000 children surviving to 12 months of age.

The reliability of mortality estimates calculated from retrospective birth histories depends upon the completeness with which deaths are reported and the extent to which birth dates and ages at death are accurately reported and recorded. Omission of births and deaths directly affects mortality estimates, displacement of dates has an impact on mortality trends, and misreporting of the age at death may distort the age pattern of mortality.

Undereporting of infant deaths is usually most severe for deaths which occur very early in infancy. If early neonatal deaths are selectively underreported, the result would be an abnormally low ratio of deaths under seven days to all neonatal deaths (deaths in the first month) and an abnormally low ratio of neonatal to infant mortality. Underreporting of early infant deaths is usually more common for births that occurred longer before the survey; hence, it is useful to examine the ratios over time.

It does not appear that early infant deaths have been severely underreported in the 1993 KDHS. First, the proportion of neonatal deaths that occur in the first week of life is quite high, about 75 percent[1] (see Appendix Table C.5). Furthermore, this proportion is roughly constant over the 20 years before the survey, which further supports the evidence that early infant deaths have not been grossly underreported. Second, the proportions of infant deaths that occur during the first month of life are plausible (45-50 percent—see Appendix Table C.6). This cursory inspection of data quality reveals no evidence of selective underreporting or age at death misreporting.

## 7.2 Levels and Trends in Infant and Child Mortality

The various mortality rates described above are shown in Table 7.1 for five-year periods preceding the survey. Under five mortality for the most recent five-year period (which roughly corresponds to the years 1988-1993) is 96 per 1,000 births. This means that almost 10 percent of children born in Kenya do not live until their fifth birthday. The infant mortality rate for the same period is 62 deaths per 1,000 births.

Table 7.1 Infant and child mortality

Infant and child mortality rates by five-year periods preceding the survey, Kenya 1993

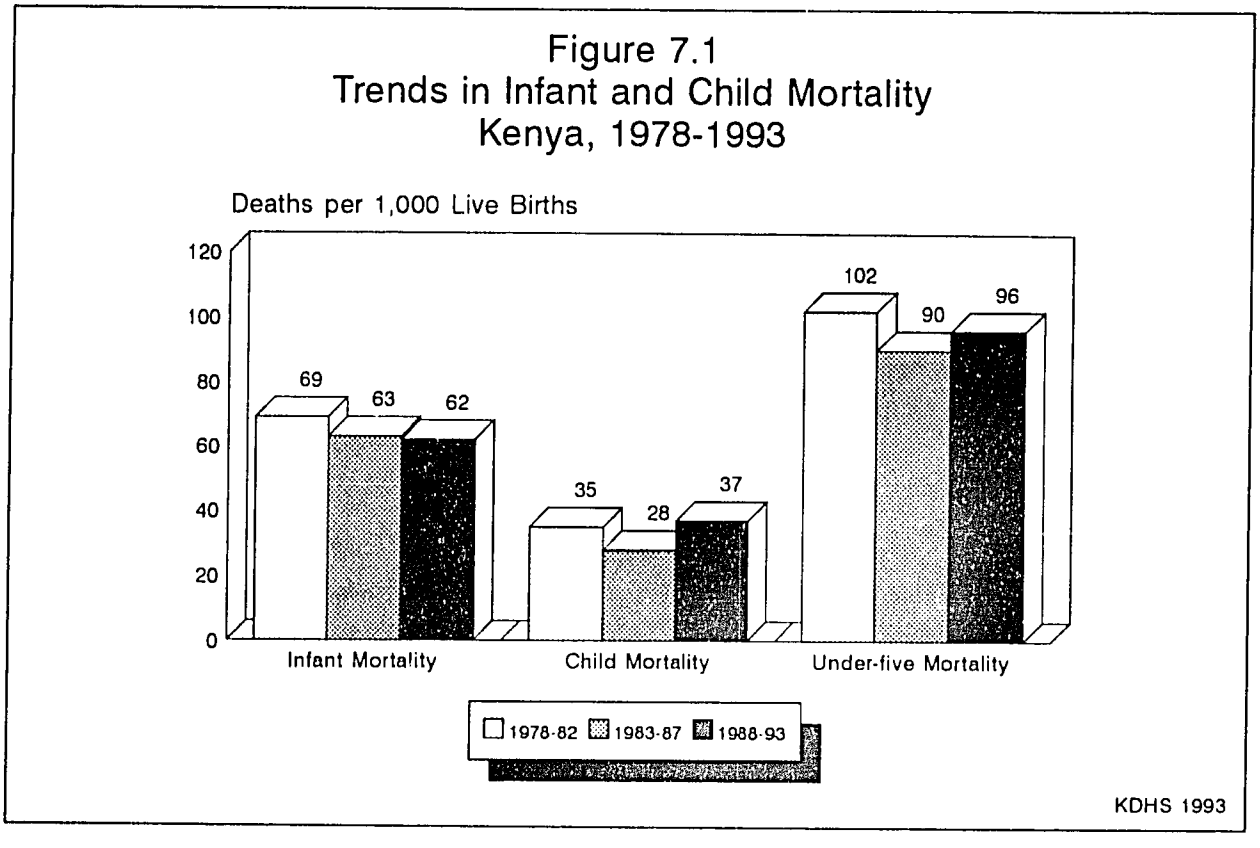
| Years preceding survey | Approximate reference period | Neonatal mortality (NN) | Postneonatal mortality (PNN) | **Infant mortality** (${}_1q_0$) | Child mortality (${}_4q_1$) | **Under-five mortality** (${}_5q_0$) |
|---|---|---|---|---|---|---|
| 0-4 | 1988-93 | 25.7 | 35.9 | 61.7 | 36.7 | 96.1 |
| 5-9 | 1983-87 | 28.2 | 35.2 | 63.4 | 28.1 | 89.7 |
| 10-14 | 1978-82 | 34.6 | 34.3 | 68.9 | 35.3 | 101.8 |

The estimates in Table 7.1 and Figure 7.1 indicate that child survival in Kenya has not improved during the last decade. Although there appears to have been a small decline from 1978-82 to 1983-87 for all but postneonatal mortality, most of the rates show either no change or a small increase during the most recent period, 1983-87 to 1988-93. For example, child mortality evidently declined from 35 deaths per 1,000 children in 1978-82 to 28 in 1983-87 and then rose to 37 in 1988-93. Given the relatively high level of sampling error associated with mortality rates, this pattern should not be interpreted as indicating any real change in mortality over the periods examined.

Further evidence of a stagnation in the decline in childhood mortality comes from a comparison of data from the 1993 KDHS with previous data sources. For example, for the period 1984-89, estimates from the 1989 KDHS were an infant mortality rate of 60 per 1,000 births, a child mortality rate of 32, and an under five mortality rate of 89, all of which are slightly lower than the analogous rates from the 1993 KDHS for 1988-93.[2] Thus it would appear that child survival in Kenya has shown little or no improvement in recent years.

[1]There are no model mortality patterns for the neonatal period. However, one review of data from several developing countries concluded that, at levels of neonatal mortality of 20 per 1000 or higher, approximately 70 percent of neonatal deaths occur within the first six days of life (Boerma, 1988, cited in Sullivan et al., 1990).

[2]Although the mortality rates estimated from the 1989 KDHS have been criticised as being underreported, it is the rates for the earlier periods which are most questionable; there is no evidence of underreporting of deaths of children born in the ten years before the 1989 survey (Brass, W. et al., 1993, 34).




It is beyond the scope of this report to investigate causes of the stagnation in mortality decline among young children. It could be related to the recent economic recession (see Chapter 1). Another possible explanation is an increase in mortality due to AIDS.

## 7.3 Socio-economic Differentials in Infant and Child Mortality

Differentials in the various mortality rates by selected background characteristics are presented in Table 7.2. The table focuses largely on basic socioeconomic characteristics, including urban-rural residence, province, mother's educational level and maternal care prior to birth. A ten-year period is used to calculate the mortality estimates in order to have a sufficient number of cases in each category. Differences in under five mortality are presented in Figure 7.2.

Children in the rural areas of Kenya experience a 27 percent higher risk of dying before age five than urban children. However, the urban-rural differential exists almost exclusively during infancy (43 percent higher) and fades away during the 1-4 year age group (5 percent). Whereas one in 15 children in rural areas die before their first birthday, the ratio for the urban areas is one in 22 children (see Table 7.2).

Differences in mortality by province are also quite marked. Child mortality is highest in Nyanza Province, where about 19 percent of the children do not live to see their fifth birthday. Mortality is lowest in Central, Rift Valley and Eastern Provinces, where reported mortality rates for children under five years were less than 70 per 1,000 births. The pattern of higher infant than child mortality prevails in all provinces. The infant mortality rate in Nyanza Province is exceptionally high, almost twice that of the second highest rate (Coast Province).

Table 7.2 Infant and child mortality by background characteristics

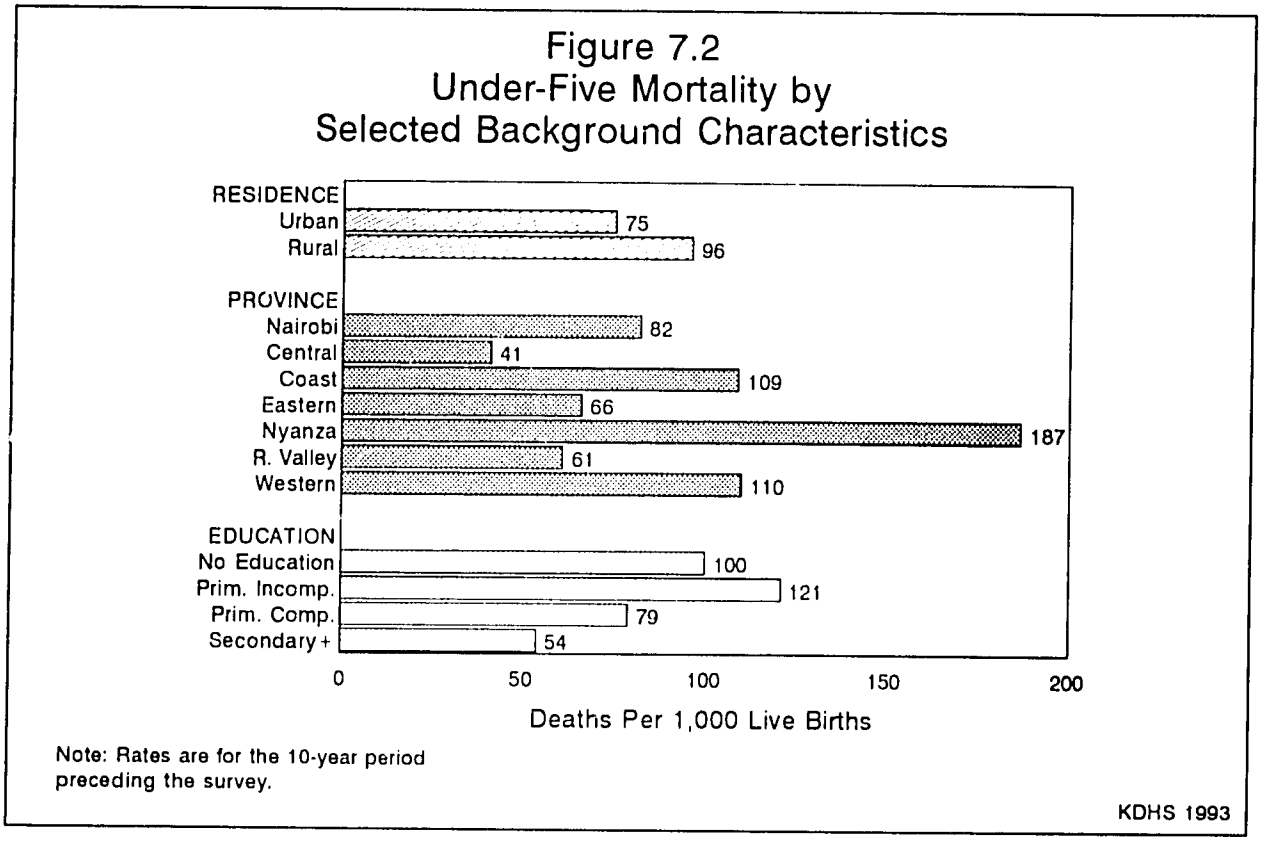
Infant and child mortality rates for the ten-year period preceding the survey, by selected background characteristics, Kenya 1993

| Background characteristic | Neonatal mortality (NN) | Postneonatal mortality (PNN) | Infant mortality ($_1q_0$) | Child mortality ($_4q_1$) | Under-five mortality ($_5q_0$) |
|---|---|---|---|---|---|
| **Residence** | | | | | |
| Urban | 23.0 | 22.5 | 45.5 | 31.3 | 75.4 |
| Rural | 27.5 | 37.3 | 64.9 | 32.8 | 95.6 |
| **Province** | | | | | |
| Nairobi | (33.8) | (10.6) | (44.4) | (39.5) | (82.1) |
| Central | 16.8 | 14.1 | 30.9 | 10.7 | 41.3 |
| Coast | 28.5 | 39.8 | 68.3 | 43.4 | 108.7 |
| Eastern | 24.1 | 23.3 | 47.4 | 19.4 | 65.9 |
| Nyanza | 38.5 | 89.4 | 127.9 | 67.5 | 186.8 |
| Rift Valley | 24.5 | 20.2 | 44.8 | 16.7 | 60.7 |
| Western | 26.9 | 36.6 | 63.5 | 49.3 | 109.6 |
| **Education** | | | | | |
| No education | 28.4 | 37.9 | 66.3 | 35.8 | 99.8 |
| Primary incomplete | 29.9 | 50.2 | 80.1 | 44.0 | 120.6 |
| Primary complete | 29.4 | 28.0 | 57.4 | 22.7 | 78.8 |
| Secondary+ | 17.5 | 17.4 | 34.8 | 19.6 | 53.7 |
| **Medical maternity care**[1] | | | | | |
| No antenatal/delivery care | (83.4) | * | * | * | * |
| Either antenatal or delivery | 24.2 | 39.8 | 64.0 | 54.5 | 115.0 |
| Both antenatal & delivery | 21.6 | 28.8 | 50.4 | 27.5 | 76.5 |
| Total | 27.0 | 35.6 | 62.5 | 32.7 | 93.2 |

Note: Rates shown in parentheses are based on 250-499 children exposed, whereas an asterisk means the rate is based on fewer than 250 children and has been suppressed.
[1]Rates for the five-year period preceding the survey.

Early childhood mortality rates are higher for children of women who have no education and those who have not completed their primary education. Children born to mothers who have some secondary education are half as likely to die before their fifth birthday as those born to mothers who have no education or have not completed their primary education. This is probably because educated mothers are more likely to use the available health services and have greater knowledge of nutrition, hygiene and other practises relating to child care. However, the relationship between childhood mortality and maternal education is not straightforward. Surprisingly, children of mothers with incomplete primary education experience higher mortality before age five (121 per 1,000) than those whose mothers have no education (100 per 1,000).

Maternal care during pregnancy and delivery is strongly associated with childhood mortality. Children born to women who obtained *both* antenatal and delivery care from medically trained persons have considerably lower mortality than children whose mothers received *only* antenatal or delivery care. (The proportion of births whose mothers receive *neither* type of care is too small to produce reliable estimates for most rates.)




## 7.4 Demographic Differentials in Infant and Child Mortality

The relationship between early childhood mortality and various demographic variables is examined in Table 7.3 and Figure 7.3 for the ten-year period preceding the survey. The results show that male children are 14 percent more likely to die in infancy than their female counterparts and experience about 9 percent higher mortality before their fifth birthday. Infant mortality rates for males and females are 67 and 59 per 1,000, respectively. Differences diminish as the children grow older; there is no gender difference in mortality rates at ages 1-4 years.

The relationship between childhood mortality and mother's age at birth shows the expected U-shaped pattern with higher mortality for children of younger (less than 20) and older mothers. The mortality rate for neonates of mothers age 40-49 is more than twice that of younger mothers age 20-29 (i.e., 55 vs. 24 per 1,000, respectively).

Birth order is correlated with mother's age so it is not surprising that mortality risks are elevated among first births (which are predominantly to younger mothers) and births of order seven or higher (which are generally to older mothers). This pattern is more pronounced for neonatal mortality, where first births are almost 60 percent more likely to die in the first month than second or third births. At ages 1-4, first births have lower mortality risks than children of higher birth orders.

Table 7.3 Infant and child mortality by demographic characteristics

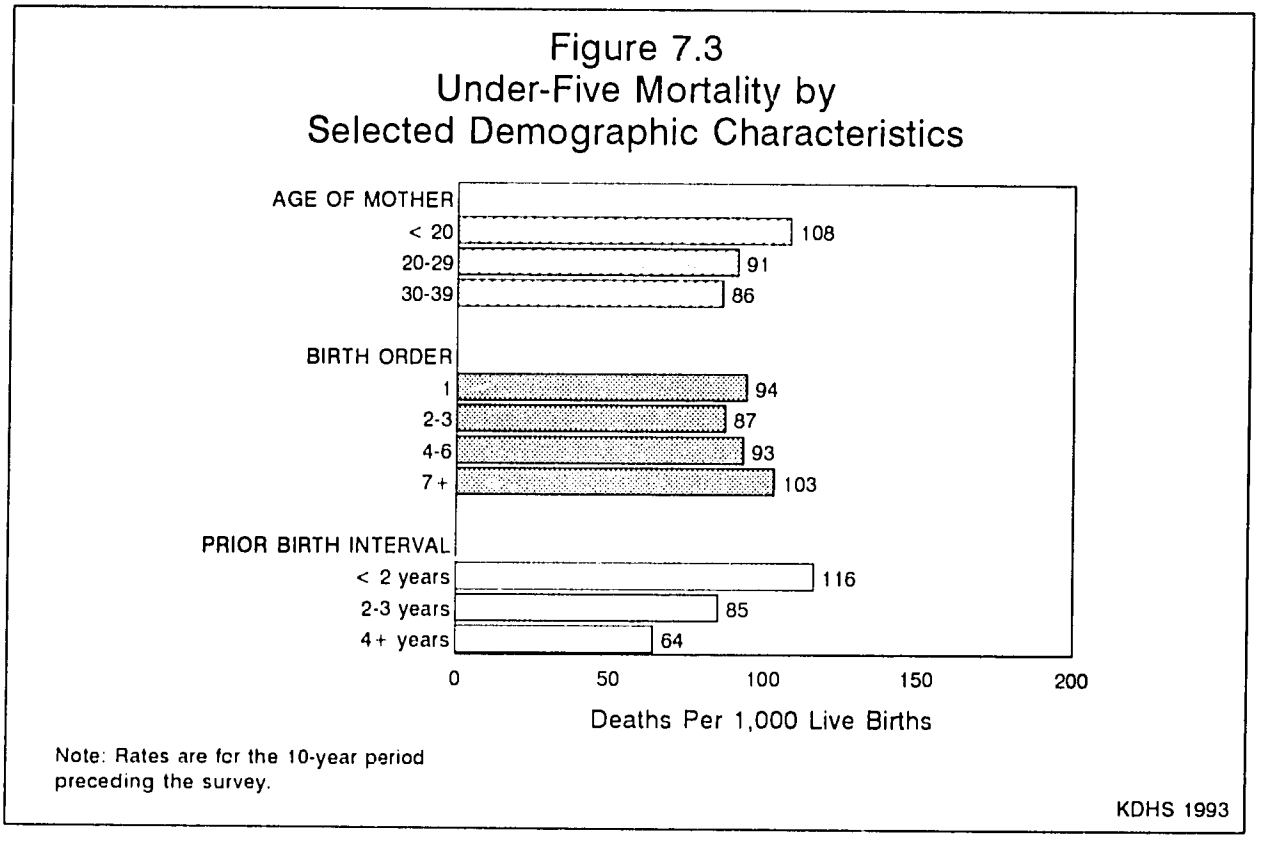
Infant and child mortality rates for the ten-year period preceding the survey, by selected demographic characteristics, Kenya 1993

| Demographic characteristic | Neonatal mortality (NN) | Postneonatal mortality (PNN) | **Infant mortality** (${}_1q_0$) | Child mortality (${}_4q_1$) | **Under-five mortality** (${}_5q_0$) |
|---|---|---|---|---|---|
| **Sex of child** | | | | | |
| Male | 28.7 | 37.8 | 66.6 | 32.8 | 97.1 |
| Female | 25.2 | 33.3 | 58.6 | 32.6 | 89.3 |
| **Age of mother at birth** | | | | | |
| < 20 | 31.3 | 43.9 | 75.1 | 35.7 | 108.1 |
| 20-29 | 23.5 | 34.6 | 58.1 | 34.4 | 90.5 |
| 30-39 | 27.8 | 32.9 | 60.7 | 26.7 | 85.8 |
| 40-49 | (55.0) | (26.8) | (81.8) | * | * |
| **Birth order** | | | | | |
| 1 | 33.6 | 36.2 | 69.8 | 26.3 | 94.2 |
| 2-3 | 21.3 | 35.0 | 56.4 | 32.3 | 86.8 |
| 4-6 | 22.9 | 34.5 | 57.3 | 37.6 | 92.7 |
| 7+ | 36.1 | 37.5 | 73.6 | 32.1 | 103.3 |
| **Previous birth interval** | | | | | |
| < 2 yrs | 32.2 | 49.2 | 81.4 | 38.1 | 116.4 |
| 2-3 yrs | 21.1 | 30.8 | 51.9 | 34.8 | 84.8 |
| 4 yrs + | 21.1 | 23.4 | 44.5 | 20.8 | 64.4 |
| **Size at birth**[1] | | | | | |
| Very small/small | 48.2 | 37.3 | 85.5 | (17.6) | (101.6) |
| Average or larger | 19.8 | 34.1 | 53.9 | 44.3 | 95.8 |
| Total | 27.0 | 35.6 | 62.5 | 32.7 | 93.2 |

Note: Rates shown in parentheses are based on 250-499 children exposed, whereas an asterisk means the rate is based on fewer than 250 children and has been suppressed.
[1]Rates for the five-year period preceding the survey.

The most consistent findings can be seen in the relationship between birth interval length and infant and child mortality. The data show that short birth intervals significantly reduce a child's chances of survival. Children born less than two years after their preceding siblings are nearly twice as likely to die in infancy as those born after an interval of four years or more (81 vs. 45 per 1,000). This relationship persists in all the age groups examined. This finding suggests the need to reduce mortality risks for Kenyan children by promoting family planning programmes and traditional practises such as breastfeeding, so as to space births more widely.

A child's size (or weight, if measured) at birth is an important determinant of its survival, particularly during the first months of life. Neonates perceived by their mothers to be small or very small are twice as likely to die in their first month of life than those perceived as average or larger in size.




## 7.5 High-Risk Fertility Behaviour

Previous research has shown the strong relationships between fertility patterns and children's survival chances. Typically, infants and children have a greater probability of dying if they are born to mothers who are especially young or old, if they are born after a short birth interval, or if they are of high birth order. Data to examine these relationships are presented in Table 7.4, which shows the distribution of births in the five years preceding the survey and of currently married women according to these categories of increased risk. In this analysis, a mother under the age of 18 years is classified as "too young," whereas if she is over 34 years of age she is classified as "too old." A "short birth interval" is defined by a birth occurring less than 24 months after a previous birth, and a child is of "high birth order" if the mother had previously given birth to three or more children (i.e., if the child is of birth order 4 or higher).

The table is further divided into 2 categories, with births falling into either single risk categories (such as those born to mothers below the age of 18 or over the age of 34, those born after an interval of less than 24 months and those of birth order higher than three) and those falling into a multiple high-risk category (e.g., those born after an interval of less than 24 months to mothers who are below the age of 18, or children of birth order 4 or higher who are born to mothers who are over 34 years, etc.).

The results indicate that almost half (47 percent) of children born in the five years before the survey fall into at least one risk category; one in six births is characterised by two or more risk factors.

Also indicated in Table 7.4 is the relative risk of mortality of children born in the five years before the survey by comparing the proportions of births who have died in each risk category to the proportions of births with no risk factor who have died (Column 2). Two risk categories stand out—that of children born to older mothers and the multiple risk category of children born after a short interval to women under age 18.

Table 7.4 High-risk fertility behaviour

Percent distribution of children born in the five years preceding the survey by category of elevated risk of mortality, and the percent distribution of currently married women at risk of conceiving a child with an elevated risk of mortality, by category of increased risk, Kenya 1993

| Risk category | Births in last 5 years preceding the survey | | Percentage of currently married women[a] |
|---|---|---|---|
| | Percentage of births | Risk ratio | |
| **Not in any risk category** | 52.9 | 1.00 | 39.3 |
| **Single risk categories** | | | |
| Mother's age < 18 | 6.0 | 1.92 | 0.5 |
| Mother's age > 34 | 1.2 | 2.52 | 6.1 |
| Birth interval < 24 months | 12.8 | 1.35 | 14.6 |
| Birth order > 3 | 10.5 | 0.80 | 7.6 |
| Subtotal | 30.5 | 1.32 | 28.9 |
| **Multiple risk categories** | | | |
| Age <18 & birth interval <24[c] mos. | 0.5 | 2.28 | 0.2 |
| Age >34 & birth interval <24 mos. | 0.2 | 1.90 | 0.3 |
| Age >34 & birth order >3 | 9.3 | 1.08 | 19.7 |
| Age >34 & birth interval <24 & birth order >3 | 2.4 | 1.40 | 5.0 |
| Birth interval <24 & birth order >3 | 4.2 | 2.13 | 6.6 |
| Subtotal | 16.6 | 1.44 | 31.8 |
| **In any risk category** | 47.1 | 1.36 | 60.7 |
| Total | 100.0 | NA | 100.0 |
| Number | 6072 | NA | 4629 |

Note: Risk ratio is the ratio of the proportion dead of births in a specific risk category to the proportion dead of births not in any risk category. Figures in parentheses are ratios based on fewer than 200 cases.
[a]Women were assigned to risk categories according to the status they would have at the birth of a child, if the child were conceived at the time of the survey: age less than 17 years and 3 months, age older than 34 years and 2 months, latest birth less than 15 months ago, and latest birth of order 3 or higher.
[b]Includes sterilised women
[c]Includes the combined categories *Age <18 and birth order >3*.
NA = Not applicable

For example, babies born to mothers over age 34 have a risk two and a half times higher than those who are not in any risk group. Fortunately, however, only a small proportion of recent births falls into either of these two categories, so that, even though the fertility behaviour results in much higher risk of death for the child, few children are subject to that higher risk. Of much greater practical importance are the categories of births that occur after an interval that is too short. Such births account for a total of 20 percent of all births and suffer mortality risks that are 35 percent higher than children who fall in the "not in any risk" category; children who fall in a multiple risk category that includes short intervals (e.g., "birth interval too short and birth order higher than 3") suffer even greater risks. Less than 7 percent of children in Kenya are exposed to a higher risk of mortality because they are born to mothers who are under 18 years.

Column 3 of Table 7.4 shows the proportion of currently married women who fall into the various risk categories. Overall, 61 percent of married women, if they became pregnant today, would conceive a child that would fall into a risk category. Thirty-nine percent of currently married women are at risk of bearing a child of birth order four or higher and 31 percent of women are at risk of delivering a child after age 34.

In the light of this evidence, efforts should be concentrated on encouraging families to use available contraceptives to space and limit their births so as to reduce childhood mortality in Kenya. To conclude, it is important that family planning is made readily available to meet existing and future demand for this service. This, with other efforts (medical and social), can help reduce child mortality in Kenya.

# CHAPTER 8

# MATERNAL AND CHILD HEALTH

Presented in this chapter are survey findings in the areas of maternal and child health. The topics under discussion are maternal care, characteristics of the newborn, vaccinations, and common childhood diseases and their treatment. This information can be used to identify groups of women whose babies are "at risk" because of nonuse of maternal health services. The information will assist policymakers in the planning of appropriate strategies to improve maternal and child care. Data were obtained from women who had had a live birth in the five years preceding the survey.

## 8.1 Antenatal Care

### Prevalence and Source of Antenatal Care

Table 8.1 shows the percent distribution of births in the five years preceding the survey by source of antenatal care received during pregnancy, according to maternal and background characteristics. Interviewers were instructed to record all persons a woman may have seen for care, but in the table, only the provider with the highest qualifications is considered, if more than one person was seen. The data indicate that almost all pregnant women in Kenya receive antenatal care either from doctors (23 percent) or nurses or midwives (72 percent), with a small fraction receiving care from trained and untrained traditional birth attendants.

Age of the woman and birth order of the child appear to have little, if any, effect on who the woman is likely to see for antenatal care. There is a slight difference in the sources of antenatal care for births in urban and rural areas. In urban areas, 30 percent of the women see a doctor, compared to 22 percent in rural areas. However, in rural areas, a higher percentage (73 percent) see nurses or midwives compared to urban women (68 percent).

Women in Coast Province are more likely to receive antenatal care from a doctor than are women in other provinces. In the same province, though, the proportion of women who do not receive any care during their pregnancy is highest (8 percent). There is a positive relationship between education and receipt of antenatal care. The proportion of women who obtain antenatal care from a doctor increases from 20 percent of uneducated women to 26 percent of women with secondary education. Conversely, women with no education are more likely to receive no antenatal care than educated women.

### Number and Timing of Antenatal Visits

Antenatal care is important to both the mother and child. The number and timing of antenatal care visits are considered to be important to preventing adverse pregnancy outcome. Care is most effective if the visits are started early during pregnancy and continue at regular intervals throughout the pregnancy. It is generally recommended that antenatal care visits be made monthly for the first 7 months, fortnightly in the 8th month, and then weekly until birth. If the first visit is made at the third month of pregnancy, this schedule translates to a total of about 12 to 13 visits.

Table 8.1 Antenatal care

Percent distribution of births in the five years preceding the survey, by source of antenatal care during pregnancy, according to selected background characteristics, Kenya 1993

| Background characteristic | Antenatal care provider[1] | | | | | | | Number |
|---|---|---|---|---|---|---|---|---|
| | Doctor | Trained nurse/ Midwife | Trained trad. birth attendant | Untrained trad. birth attendant | Other | No one/ Missing | Total | |
| **Mother's age at birth** | | | | | | | | |
| < 20 | 20.9 | 72.4 | 0.7 | 0.0 | 0.2 | 5.7 | 100.0 | 1026 |
| 20-34 | 23.8 | 71.6 | 0.3 | 0.5 | 0.2 | 3.7 | 100.0 | 4249 |
| 35+ | 18.8 | 75.9 | 0.1 | 0.2 | 0.2 | 4.8 | 100.0 | 787 |
| **Birth order** | | | | | | | | |
| 1 | 23.8 | 70.9 | 0.5 | 0.0 | 0.2 | 4.5 | 100.0 | 1226 |
| 2-3 | 24.4 | 71.3 | 0.5 | 0.4 | 0.1 | 3.2 | 100.0 | 1885 |
| 4-5 | 21.8 | 73.9 | 0.3 | 0.6 | 0.2 | 3.3 | 100.0 | 1361 |
| 6+ | 20.3 | 73.1 | 0.1 | 0.6 | 0.2 | 5.7 | 100.0 | 1591 |
| **Residence** | | | | | | | | |
| Urban | 29.5 | 68.1 | 0.0 | 0.0 | 0.4 | 2.0 | 100.0 | 773 |
| Rural | 21.6 | 72.9 | 0.4 | 0.5 | 0.1 | 4.4 | 100.0 | 5289 |
| **Province** | | | | | | | | |
| Nairobi | 27.0 | 70.5 | 0.0 | 0.0 | 0.0 | 2.5 | 100.0 | 276 |
| Central | 21.6 | 76.5 | 0.0 | 0.0 | 0.0 | 1.9 | 100.0 | 697 |
| Coast | 33.8 | 56.1 | 0.2 | 1.8 | 0.2 | 7.9 | 100.0 | 540 |
| Eastern | 20.3 | 76.4 | 0.1 | 0.0 | 0.5 | 2.7 | 100.0 | 1227 |
| Nyanza | 22.4 | 72.5 | 0.1 | 0.0 | 0.0 | 5.0 | 100.0 | 1011 |
| Rift Valley | 25.9 | 66.7 | 1.0 | 1.0 | 0.1 | 5.2 | 100.0 | 1309 |
| Western | 14.9 | 80.5 | 0.4 | 0.1 | 0.1 | 3.8 | 100.0 | 1001 |
| **Mother's education** | | | | | | | | |
| No education | 19.9 | 68.4 | 0.5 | 1.7 | 0.0 | 9.5 | 100.0 | 1151 |
| Primary incomplete | 21.2 | 74.0 | 0.4 | 0.0 | 0.1 | 4.3 | 100.0 | 1922 |
| Primary complete | 23.6 | 72.9 | 0.2 | 0.3 | 0.4 | 2.6 | 100.0 | 1680 |
| Secondary+ | 25.9 | 72.3 | 0.4 | 0.0 | 0.1 | 1.2 | 100.0 | 1309 |
| All births | 22.6 | 72.3 | 0.3 | 0.4 | 0.2 | 4.2 | 100.0 | 6062 |

Note: Figures are for births in the period 1-59 months preceding the survey.
[1]If the respondent mentioned more than one provider, only the most qualified provider is considered.

Data on the number and timing of visits made by pregnant women are given in Table 8.2 and in Figure 8.1. For 64 percent of the births in the five years before the survey, mothers made 4 or more antenatal care visits, while 27 percent made 2-3 visits. Four percent of the women did not make any visits to health facilities for antenatal care during their pregnancies. The median number of antenatal care visits was 4.7, far fewer than the recommended 12 visits.

Well over half (56 percent) of births in Kenya benefit from antenatal care before the sixth month of gestation. However, one third of pregnant women do not receive antenatal care until the sixth or seventh month of pregnancy. The median time at which mothers start antenatal visits is 5.6 months.

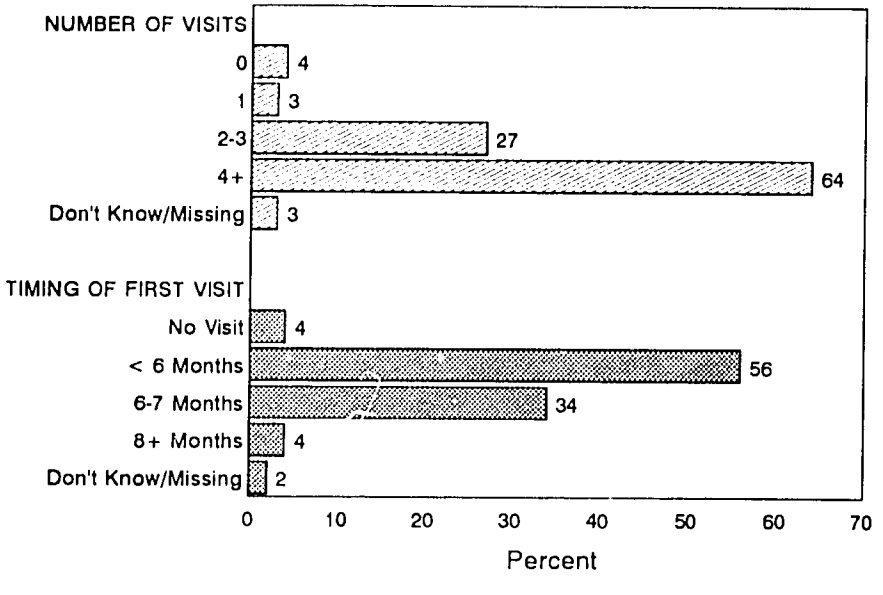
Table 8.2 Number of antenatal care visits and stage of pregnancy

Percent distribution of live births in the five years preceding the survey by number of antenatal care visits, and by the stage of pregnancy at the time of the first visit, Kenya 1993

| Characteristic | Percent |
|---|---|
| **Number of visits** | |
| 0 | 3.8 |
| 1 | 2.6 |
| 2-3 | 26.6 |
| 4+ | 63.9 |
| Don't know/missing | 3.2 |
| Total | 100.0 |
| Median | 4.7 |
| **Months pregnant at time first visit** | |
| No antenatal care | 3.8 |
| Less than 6 months | 56.3 |
| 6-7 months | 34.3 |
| 8+ months | 4.1 |
| Don't know/missing | 1.5 |
| Total | 100.0 |
| Median | 5.6 |
| Number of births | 6062 |

Note: Figures are for births in the period 1-59 months preceding the survey.

Figure 8.1
Percent Distribution of Births by Number of Antenatal Care Visits and Timing of First Visit




KDHS 1993

## Tetanus Toxoid Vaccinations

Tetanus toxoid injections are given during pregnancy for prevention of neonatal tetanus. This is an often fatal disease caused by unhygienic conditions at childbirth. For full protection, a pregnant woman needs two doses of the toxoid. However, if a woman was vaccinated during a previous pregnancy, she may only require one dose during a subsequent pregnancy. Five doses are considered to provide lifetime protection. In order to estimate the extent of tetanus toxoid coverage during pregnancy, the KDHS collected data for each birth in the five years before the survey as to whether the mother had received tetanus toxoid vaccinations and, if so, how many. These results are presented in Table 8.3.

Table 8.3 Tetanus toxoid vaccination

Percent distribution of births in the five years preceding the survey, by number of tetanus toxoid injections given to the mother during pregnancy and whether the respondent received an antenatal card, according to selected background characteristics, Kenya 1993

| Background characteristic | Number of tetanus toxoid injections | | | | | Percentage given antenatal card | Number of births |
|---|---|---|---|---|---|---|---|
| | None | One dose | Two doses or more | Don't know/ Missing | Total | | |
| **Mother's age at birth** | | | | | | | |
| < 20 | 11.0 | 31.4 | 56.5 | 1.0 | 100.0 | 91.4 | 1026 |
| 20-34 | 8.8 | 38.9 | 51.5 | 0.8 | 100.0 | 94.7 | 4249 |
| 35+ | 13.3 | 37.9 | 48.0 | 0.8 | 100.0 | 93.0 | 787 |
| **Birth order** | | | | | | | |
| 1 | 9.0 | 28.6 | 61.1 | 1.3 | 100.0 | 92.8 | 1226 |
| 2-3 | 8.6 | 39.7 | 51.0 | 0.7 | 100.0 | 94.8 | 1885 |
| 4-5 | 8.9 | 41.3 | 48.9 | 0.9 | 100.0 | 95.3 | 1361 |
| 6+ | 12.6 | 38.5 | 48.4 | 0.5 | 100.0 | 92.5 | 1591 |
| **Residence** | | | | | | | |
| Urban | 6.0 | 36.2 | 56.7 | 1.1 | 100.0 | 96.7 | 773 |
| Rural | 10.4 | 37.7 | 51.2 | 0.8 | 100.0 | 93.5 | 5289 |
| **Province** | | | | | | | |
| Nairobi | 9.0 | 35.5 | 54.0 | 1.5 | 100.0 | 96.0 | 276 |
| Central | 8.4 | 33.7 | 57.1 | 0.9 | 100.0 | 96.1 | 697 |
| Coast | 14.5 | 30.6 | 52.7 | 2.1 | 100.0 | 88.7 | 540 |
| Eastern | 9.1 | 40.5 | 50.3 | 0.2 | 100.0 | 94.2 | 1227 |
| Nyanza | 7.9 | 43.7 | 47.4 | 1.0 | 100.0 | 94.3 | 1011 |
| Rift Valley | 11.6 | 37.7 | 50.3 | 0.4 | 100.0 | 92.9 | 1309 |
| Western | 8.9 | 34.2 | 56.0 | 0.9 | 100.0 | 95.1 | 1001 |
| **Mother's education** | | | | | | | |
| No education | 16.3 | 36.9 | 46.0 | 0.8 | 100.0 | 87.7 | 1151 |
| Primary incomplete | 11.0 | 38.1 | 50.3 | 0.6 | 100.0 | 94.5 | 1922 |
| Primary complete | 7.5 | 36.8 | 55.1 | 0.6 | 100.0 | 95.2 | 1680 |
| Secondary+ | 5.3 | 38.2 | 55.3 | 1.3 | 100.0 | 96.9 | 1309 |
| All births | 9.8 | 37.5 | 51.9 | 0.8 | 100.0 | 93.9 | 6062 |

Note: Figures are for births in the period 1-59 months preceding the survey.

The data indicate that tetanus toxoid coverage is widespread in Kenya. For more than half of births, the mothers received two or more tetanus toxoid injections during pregnancy and for slightly less than 40 percent, the mothers received one dose. Only 10 percent of births did not benefit from any tetanus toxoid vaccination during pregnancy. Ninety-four percent of mothers said they received an antenatal card.

Tetanus toxoid coverage is lower among older mothers, births of order 6 and over, and rural mothers. Provincial differentials show that the proportion of births to mothers who received two or more tetanus toxoid doses during pregnancy was highest in Central Province (57 percent) and lowest in Nyanza Province (47 percent). The proportion of births not protected by any tetanus toxoid during pregnancy is highest in Coast Province (15 percent) and lowest in Nyanza Province (8 percent).

There is a positive relationship between the mother's education and tetanus toxoid coverage. The proportion of births whose mothers received 2 or more tetanus toxoid doses during pregnancy increases from 46 percent among women with no education to 55 percent among those with secondary school. Also, the proportion of births to women who did not receive any tetanus toxoid vaccine during pregnancy decreases as the level of education increases. Educated women may have greater accessibility to modern medical care, or they may be better informed of the benefits of vaccination, or they may be better able to utilise the services provided.

## 8.2 Delivery Care

### Place of Delivery

It is important that mothers deliver their babies in health facilities, where proper medical attention and hygienic conditions can reduce the risk of complication and infections which may cause death or serious illness to either the mother or the baby.

In the KDHS, women were asked the type of place where they had delivered each of the children to whom they had given birth in the five years preceding the survey (Table 8.4 and Figure 8.2). Fifty-five percent of births to Kenyan women are delivered at home and 44 percent are delivered in health facilities (including public health facilities, mission hospitals/clinics and private hospitals/clinics).

Deliveries at home are more common among women age 35 and older (67 percent) than among those age 20 and below (50 percent). Since first births have higher risks of complications than later births, it is encouraging that they are more likely to occur in health facilities. As expected, there is a large urban-rural differential in place of delivery. Sixty percent of rural births are delivered at home, compared to 21 percent of urban births. A much greater proportion of births in Coast and Western Provinces (68 percent and 66 percent, respectively) were delivered at home than in Nairobi and Central Province (20 percent and 27 percent, respectively).

There is a strong relationship between mother's education and place of delivery. The proportion of births delivered at home decreases from 77 percent among mothers with no education to 28 percent among mothers with at least some secondary education. Conversely, the proportion of births delivered in health facilities increases from 22 percent among women with no education to 71 percent among women with secondary education. Women who visit health professionals during pregnancy are more likely to deliver at health facilities than women who do not; half of the women who make four or more antenatal visits deliver at health facilities, compared to only 13 percent of those who do not obtain any antenatal care. The likelihood of delivering in health facilities increases with the number of antenatal visits.

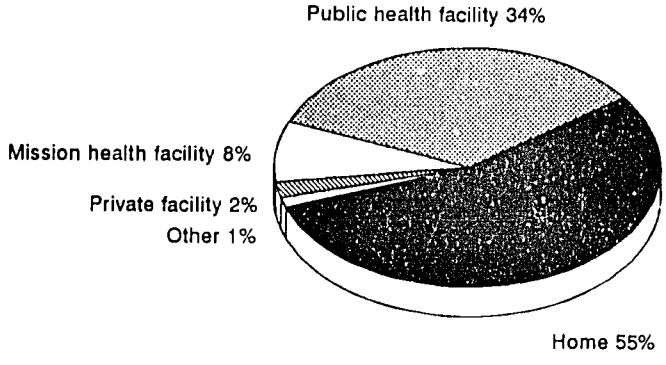
Table 8.4 Place of delivery

Percent distribution of births in the five years preceding the survey, by place of delivery, according to selected background characteristics, Kenya 1993

| Background characteristic | Her home/ other home | Public health facility | Mission hospital clinic | Private hospital clinic | Other | Missing | Total | Number |
|---|---|---|---|---|---|---|---|---|
| **Mother's age at birth** | | | | | | | | |
| < 20 | 49.6 | 41.1 | 6.5 | 1.5 | 0.6 | 0.7 | 100.0 | 1026 |
| 20-34 | 53.5 | 34.1 | 8.9 | 2.3 | 0.8 | 0.5 | 100.0 | 4249 |
| 35+ | 67.3 | 24.1 | 5.2 | 1.6 | 1.0 | 0.7 | 100.0 | 787 |
| **Birth order** | | | | | | | | |
| 1 | 39.3 | 47.0 | 10.3 | 2.3 | 0.4 | 0.6 | 100.0 | 1226 |
| 2-3 | 51.8 | 35.9 | 8.7 | 2.3 | 0.8 | 0.6 | 100.0 | 1885 |
| 4-5 | 56.6 | 32.4 | 7.4 | 2.4 | 0.9 | 0.3 | 100.0 | 1361 |
| 6+ | 68.2 | 23.0 | 5.9 | 1.4 | 0.9 | 0.6 | 100.0 | 1591 |
| **Residence** | | | | | | | | |
| Urban | 21.2 | 58.0 | 12.0 | 7.6 | 0.6 | 0.6 | 100.0 | 773 |
| Rural | 59.5 | 30.5 | 7.4 | 1.3 | 0.8 | 0.6 | 100.0 | 5289 |
| **Province** | | | | | | | | |
| Nairobi | 19.5 | 60.0 | 11.5 | 7.5 | 0.5 | 1.0 | 100.0 | 276 |
| Central | 26.6 | 63.4 | 7.4 | 1.7 | 0.9 | 0.0 | 100.0 | 697 |
| Coast | 67.9 | 26.7 | 1.5 | 2.7 | 0.2 | 1.0 | 100.0 | 540 |
| Eastern | 52.6 | 32.4 | 12.8 | 0.7 | 0.7 | 0.8 | 100.0 | 1227 |
| Nyanza | 61.0 | 28.4 | 6.4 | 2.9 | 0.9 | 0.5 | 100.0 | 1011 |
| Rift Valley | 59.8 | 31.6 | 5.8 | 1.5 | 0.7 | 0.6 | 100.0 | 1309 |
| Western | 66.0 | 20.8 | 9.6 | 2.2 | 1.1 | 0.3 | 100.0 | 1001 |
| **Mother's education** | | | | | | | | |
| No education | 76.7 | 16.9 | 3.8 | 1.2 | 0.4 | 1.1 | 100.0 | 1151 |
| Primary incomplete | 65.1 | 27.4 | 5.6 | 0.7 | 0.9 | 0.2 | 100.0 | 1922 |
| Primary complete | 48.6 | 40.4 | 7.9 | 1.7 | 0.5 | 0.9 | 100.0 | 1680 |
| Secondary+ | 27.5 | 50.4 | 15.4 | 5.4 | 1.2 | 0.1 | 100.0 | 1309 |
| **Antenatal care visits** | | | | | | | | |
| None | 84.5 | 7.9 | 3.2 | 1.5 | 1.3 | 1.6 | 100.0 | 229 |
| 1-3 visits | 62.1 | 29.5 | 6.2 | 1.2 | 0.9 | 0.0 | 100.0 | 1766 |
| 4 or more visits | 50.2 | 37.3 | 9.2 | 2.5 | 0.7 | 0.1 | 100.0 | 3871 |
| All births | 54.6 | 34.0 | 8.0 | 2.1 | 0.8 | 0.6 | 100.0 | 6062 |

Note: Figures are for births in the period 1-59 months preceding the survey. Excludes those without information about antenatal visits.

Figure 8.2
Percent Distribution of Births in the Five Years Preceding the Survey by Place of Delivery




KDHS 1993

**Assistance During Delivery**

The type of assistance a woman receives during the birth of her child has health implications for the mother and child. Births that are delivered at home are more likely to occur without assistance from a medically qualified person (or from anyone), whereas births delivered at health facilities are more likely to be delivered by trained medical personnel. Table 8.5 shows the percent distribution of births in the five years before the survey by type of assistance during delivery according to background characteristics.

Forty-five percent of the births in Kenya are assisted by medically trained personnel—either doctors (12 percent) or nurses or midwives (33 percent). This corresponds almost exactly to the 44 percent of births that take place in medical facilities. One in five births (21 percent) is assisted by trained or untrained traditional birth attendants, while 23 percent are assisted by relatives. One in ten births is delivered by the mother without assistance from anyone. Except for a slight apparent decline in the proportion of births assisted by doctors and a consequent increase in the proportion assisted by traditional birth attendants, the pattern of assistance at deliveries has not changed significantly between 1989 and 1993.

The 1993 KDHS data indicate that assistance at delivery varies according to characteristics of the mother. Births to mothers age 20 and below are more likely to be assisted by medically trained personnel than are births to mothers age 35 and over, one-quarter of which do not receive any assistance. Similarly, first births are more likely to be assisted by doctors, nurses or midwives (62 percent) than births of higher order. This is encouraging, since first births pose greater health risks than subsequent births.

Table 8.5 Assistance during delivery

Percent distribution of births in the five years preceding the survey, by type of assistance during delivery, according to selected background characteristics, Kenya 1993

| Background characteristic | Attendant assisting during delivery | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Doctor | Trained nurse/ Midwife | Trained trad. birth attendant | Untrained trad. birth attendant | Relative | Other | No one | Missing | Total | Number |
| **Mother's age at birth** | | | | | | | | | | |
| < 20 | 13.5 | 37.8 | 9.1 | 13.6 | 21.8 | 0.2 | 3.5 | 0.5 | 100.0 | 1026 |
| 20-34 | 12.7 | 34.0 | 8.7 | 11.9 | 23.1 | 0.4 | 9.0 | 0.3 | 100.0 | 4249 |
| 35+ | 8.7 | 22.2 | 8.5 | 13.2 | 22.1 | 0.2 | 24.6 | 0.5 | 100.0 | 787 |
| **Birth order** | | | | | | | | | | |
| 1 | 18.2 | 43.9 | 8.0 | 10.3 | 17.1 | 0.4 | 1.8 | 0.3 | 100.0 | 1226 |
| 2-3 | 12.0 | 36.9 | 8.6 | 11.9 | 23.9 | 0.5 | 5.9 | 0.4 | 100.0 | 1885 |
| 4-5 | 12.2 | 30.5 | 9.1 | 13.0 | 24.2 | 0.3 | 10.5 | 0.2 | 100.0 | 1361 |
| 6+ | 8.2 | 22.4 | 9.2 | 14.0 | 24.5 | 0.2 | 21.0 | 0.4 | 100.0 | 1591 |
| **Residence** | | | | | | | | | | |
| Urban | 23.7 | 56.2 | 4.2 | 2.4 | 10.4 | 0.2 | 2.9 | 0.0 | 100.0 | 773 |
| Rural | 10.6 | 29.7 | 9.4 | 13.8 | 24.6 | 0.4 | 11.1 | 0.4 | 100.0 | 5289 |
| **Province** | | | | | | | | | | |
| Nairobi | 26.0 | 54.0 | 6.0 | 2.0 | 8.5 | 0.0 | 3.5 | 0.0 | 100.0 | 276 |
| Central | 19.3 | 54.5 | 0.4 | 1.6 | 15.6 | 0.6 | 8.0 | 0.0 | 100.0 | 697 |
| Coast | 12.3 | 20.1 | 5.9 | 18.6 | 34.3 | 0.4 | 7.8 | 0.7 | 100.0 | 540 |
| Eastern | 10.5 | 35.8 | 9.7 | 18.3 | 18.8 | 0.4 | 6.1 | 0.5 | 100.0 | 1227 |
| Nyanza | 12.5 | 26.8 | 9.2 | 11.3 | 23.1 | 0.0 | 16.5 | 0.5 | 100.0 | 1011 |
| Rift Valley | 11.6 | 28.4 | 6.0 | 19.6 | 28.2 | 0.3 | 5.5 | 0.3 | 100.0 | 1309 |
| Western | 6.6 | 28.5 | 18.9 | 3.6 | 22.7 | 0.6 | 19.0 | 0.1 | 100.0 | 1001 |
| **Mother's education** | | | | | | | | | | |
| No education | 6.5 | 16.2 | 9.1 | 17.5 | 32.3 | 0.1 | 17.5 | 0.7 | 100.0 | 1151 |
| Primary incomplete | 8.6 | 25.7 | 10.6 | 15.1 | 26.7 | 0.3 | 12.9 | 0.1 | 100.0 | 1922 |
| Primary complete | 15.4 | 36.7 | 8.5 | 11.3 | 20.9 | 0.4 | 6.4 | 0.4 | 100.0 | 1680 |
| Secondary+ | 19.0 | 54.2 | 6.0 | 5.2 | 10.9 | 0.5 | 4.1 | 0.1 | 100.0 | 1309 |
| **Antenatal care visits** | | | | | | | | | | |
| None | 3.5 | 10.2 | 8.0 | 12.1 | 46.9 | 0.4 | 19.0 | 0.0 | 100.0 | 229 |
| 1-3 visits | 9.8 | 28.2 | 8.0 | 14.0 | 27.2 | 0.2 | 12.4 | 0.0 | 100.0 | 1766 |
| 4 or more visits | 13.9 | 36.4 | 9.3 | 11.7 | 19.9 | 0.3 | 8.6 | 0.0 | 100.0 | 3871 |
| Total | 12.3 | 33.1 | 8.7 | 12.4 | 22.8 | 0.3 | 10.1 | 0.3 | 100.0 | 6062 |

Note: Figures are for births in the period 1-59 months preceding the survey. If the respondent mentioned more than one attendant, only the most qualified attendant is considered.

As might be expected, births in urban areas are more likely to be assisted by medical personnel (doctors, nurses or midwives) than rural births. Similarly, a higher proportion of births to women in Nairobi and Central Province are assisted by medical personnel than births to women in other provinces. Also notable is the relatively high proportion of births in Coast Province that are assisted by relatives (34 percent), and the high proportion of births in Western and Nyanza Provinces that do not benefit from any assistance at delivery (19 and 17 percent, respectively). Level of education of the mother is positively related to assistance by medical personnel. The proportion of births assisted by doctors, nurses and midwives increases from 23 percent of births to mothers with no education to 73 percent of births to women with at least some secondary education. Not surprisingly, the more antenatal visits a woman makes when pregnant, the greater the likeli-

hood that her baby will be delivered with assistance from medically trained staff. Of the births whose mothers received no antenatal care, only 14 percent were assisted by doctors, nurses or midwives, compared to half of the births whose mothers had four or more antenatal visits.

### Delivery Characteristics

The KDHS collected information on several other aspects relating to the delivery of births, including the extent of caesarean section and premature deliveries. Questions on birth weight and the size of the baby at birth were included to estimate the proportion of low birth weight infants. Table 8.6 summarises the data on these delivery characteristics for births in the five years before the survey.

The results indicate that 5 percent of births in Kenya are by caesarean section and, according to respondents, only 4 percent of births are delivered prematurely. Birth weights are not available for just over half of the births. Among the 44 percent for which data are available, 9 percent weighed less than 2.5 kilograms and thus can be classified as low birth weight infants. According to the respondent's own assessment of her infant's size, about 16 percent of births are smaller than average or very small in size and 32 percent are larger than average or very large.

Table 8.6 Characteristics of delivery

Percent distribution of births in the five years preceding the survey by whether the delivery was by caesarean section, whether premature, and by birth weight and the mother's estimate of baby's size at birth, Kenya 1993

| Characteristic | Percent |
|---|---|
| **Caesarean** | |
| Yes | 5.2 |
| No | 93.1 |
| Missing | 1.7 |
| Total | 100.0 |
| **Premature birth** | |
| Yes | 3.7 |
| No | 95.7 |
| Don't know/Missing | 0.7 |
| Total | 100.0 |
| **Birth weight** | |
| Less than 2.5 kg. | 3.8 |
| 2.5 kg. or more | 40.1 |
| Don't know/missing | 3.8 |
| Not weighed | 52.3 |
| Total | 100.0 |
| **Size at birth** | |
| Very large | 3.7 |
| Larger than average | 28.0 |
| Average | 51.6 |
| Smaller than average | 13.5 |
| Very small | 2.1 |
| Don't know/Missing | 1.1 |
| Total | 100.0 |
| Number of births | 6062 |

Note: Figures are for births in the period 1-59 months preceding the survey.

## 8.3 Childhood Vaccination

In order to assist in the evaluation of the Kenya Expanded Programme on Immunisation (KEPI) of the Ministry of Health, the KDHS collected information on vaccination coverage for all children born in the five years preceding the survey, although the data presented here are restricted to children who were alive at the time of the survey. KEPI recommends the following schedule of childhood vaccinations: polio and BCG at birth; polio and DPT at 6, 10, and 14 weeks; and measles at 9 months of age. BCG is for protection against tuberculosis and DPT is for protection against diphtheria, pertussis, and tetanus. In order to be considered fully vaccinated, a child should receive the following vaccinations: BCG, measles and three doses each of DPT and polio, not including the dose of polio given at birth.

### Data Quality

Information on vaccination coverage was collected in two ways in the KDHS: from vaccination cards shown to the interviewer and from mothers' verbal reports. The majority of health centres and clinics in Kenya provide cards on which vaccinations are recorded. If a mother was able to present such a card to the interviewer, this was used as the source of information, with the interviewer recording vaccination dates directly from the card. In addition to collecting vaccination information from cards, there were two ways of collecting the information from the mother herself. If a vaccination card was presented, but a vaccine had not been recorded on the card as being given, the mother was asked to recall whether that particular vaccine had been given. If the mother was not able to provide a card for the child at all, she was asked to recall whether the child had received BCG, polio (including the number of doses for polio), and measles

vaccinations. Since polio and DPT vaccines are usually administered together, the number of polio doses reported by the mother was assumed to equal the number of DPT doses.

During the process of editing the data on computer, it was discovered that for a small number of children, there was evidently some confusion between the dose of polio vaccine given at birth (polio0) and that given at around six weeks of age (polio1), since the dates given for polio0 and for the first dose of DPT (which is not to be administered at birth) were identical. This confusion could be due to the fact that polio0 has only recently been introduced in Kenya on a routine basis and consequently, not all children have received this vaccination. It is also possible that the vaccination cards used in some areas do not include space to list this vaccination. In any case, some interviewers evidently mistakenly wrote the date given on the vaccination card for polio1 in the space on the questionnaire that was meant for listing polio0. For the purposes of this report, such children are assumed not to have received the dose of polio given at birth. Another minor complication arises in how to translate mothers' reports on the number of doses of polio into the *specific* doses their children have received, i.e., whether a report of three doses of polio means that the child received polio0, polio1 and polio2, or polio1, polio2, and polio3. Since it is likely that mothers may not be aware of immunisations that their babies receive at birth—especially when delivery takes place in a health facility—it was decided to assume that polio0 was given only if the mother reported that her child received *more than* three doses of polio. To the extent that mothers do in fact remember the birth dose of polio, the coverage rates for polio0 presented here would be slightly underestimated. However, to the extent that some vaccinations reported as polio0 were given well after birth, at say, 4, 5 or even 6 weeks of age, they might have more of the effect of a polio1 vaccination.

**Vaccination Coverage**

Information on vaccination coverage is presented in Table 8.7, according to the source of information used to determine coverage, i.e., the vaccination card or mother's report. Data are presented for children age 12-23 months, thereby including only those children who have reached the age by which they should be fully vaccinated. The first indicator shows the proportion of the children who had been vaccinated at any age up to the time of the survey. These results are presented according to the source of the information used to determine coverage, i.e., vaccination record or mother's report. The second indicator shows the proportion of children who had been vaccinated by age 12 months, the age at which vaccination coverage should be complete. Figure 8.3 presents coverage figures as assessed from both vaccination cards and mothers' reports.

According to information from both the vaccination records and mothers' recall, 96 percent of children age 12-23 months have received a BCG vaccination and first doses of DPT and polio. Coverage declines for subsequent doses of DPT and polio. Only 87 percent of children receive the third doses of DPT and polio; dropout rates[1] between the first and third doses of DPT and of polio are about 10 percent. Given the recency of the addition of the birth dose of polio (polio0) to the recommended schedule of childhood vaccinations, it is encouraging that 62 percent of children have received it. The coverage rate for measles (84 percent) is only slightly lower than that for three doses of DPT and polio. Overall, 79 percent of children 12-23 months are fully vaccinated; only 3 percent have not received any vaccinations at all.

As mentioned earlier, it is recommended that children complete the schedule of immunisations during their first year of life, i.e., by 12 months of age. Table 8.7 shows that, among children age 12-23 months at the time of interview, 71 percent had been fully vaccinated before their first birthday. With regard to specific vaccines, children were least likely to have received the measles vaccination by age 12 months.

[1]Dropout rate = (Dose 1 - Dose 3) * 100 / Dose 1

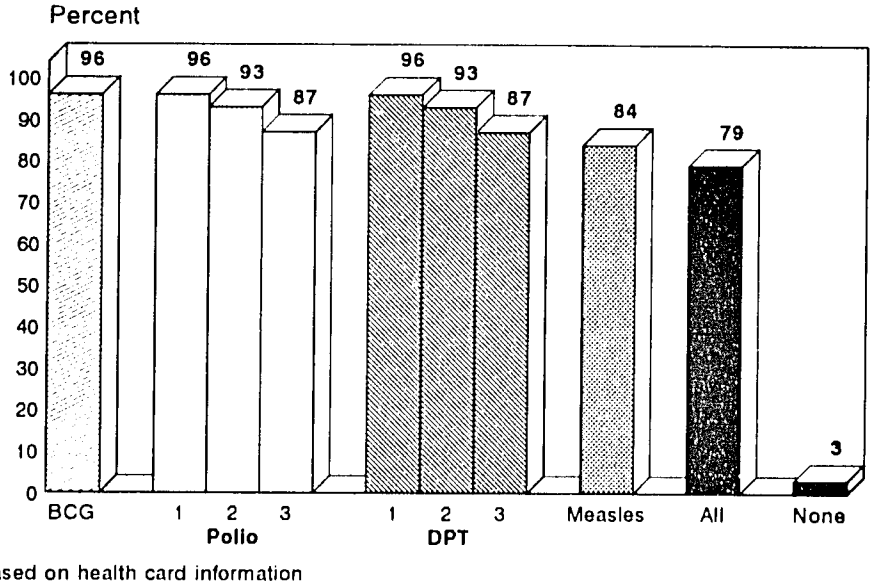
Table 8.7 Vaccinations by source of information

Percentage of children 12-23 months who had received specific vaccines at any time before the survey and the percentage vaccinated by 12 months of age, by whether the information was from a vaccination card or from the mother, Kenya 1993

| Source of information | Percentage of children who received: | | | | | | | | | | | Percentage with vaccination card | Number of children |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | DPT | | | Polio | | | | | | | | |
| | BCG | 1 | 2 | 3+ | Birth | 1 | 2 | 3+ | Measles | All[1] | None | | |
| **Vaccinated at any time before the survey** | | | | | | | | | | | | | |
| Vaccination card | 68.7 | 68.7 | 67.3 | 65.2 | 56.5 | 68.9 | 67.4 | 65.1 | 60.1 | 59.2 | 0.1 | 69.2 | 778 |
| Mother's report | 27.5 | 27.1 | 25.3 | 21.6 | 5.1 | 27.1 | 25.3 | 21.6 | 23.7 | 19.5 | 3.2 | 30.8 | 346 |
| Either source | 96.3 | 95.8 | 92.6 | 86.9 | 61.6 | 96.0 | 92.7 | 86.7 | 83.8 | 78.7 | 3.3 | 100.0 | 1124 |
| **Vaccinated by 12 months of age** | | | | | | | | | | | | | |
| Vaccination card | 94.7 | 95.3 | 91.9 | 85.3 | 61.4 | 95.3 | 91.5 | 85.4 | 76.3 | 70.7 | 4.3 | - | 1124 |

Note: The DPT coverage rate for children without a written record is assumed to be the same as that for polio vaccine since mothers were specifically asked whether the child had received polio vaccine. For 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. See text for discussion of coverage for birth dose of polio.
[1]Children who are fully vaccinated (i.e., those who have received BCG, measles and three doses of DPT and polio).

Figure 8.3
Vaccination Coverage
Among Children Age 12-23 Months




Note: Based on health card information and mothers' reports

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## Differentials in Vaccination Coverage

Table 8.8 shows vaccination coverage rates among children age 12-23 months by selected background characteristics, including the child's sex and birth order, urban-rural residence, province, and the mother's education level. The figures refer to the proportion of children receiving the vaccinations at any time up to the date of the survey and they are based on information from both the vaccination records and mothers' reports. The table includes information on the proportion of children for whom a vaccination record was shown to the interviewer.

The data indicate that male and female children have an equal chance of receiving vaccinations. Children of birth order 6 and above are less likely than children of lower birth orders to receive the basic childhood immunisations. The difference is particularly wide for the measles vaccine which is given to only 71 percent of children of birth order 6 and above, compared to 90 percent of children of birth order 3 or less.

Table 8.8 Vaccinations by background characteristics

Percentage of children 12-23 months who had received specific vaccines by the time of the survey (according to the vaccination card or the mother's report) and the percentage with a vaccination card, by selected background characteristics, Kenya 1993

| | Percentage of children who received: | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | DPT | | | Polio | | | | | | | | |
| Background characteristic | BCG | 1 | 2 | 3+ | Birth | 1 | 2 | 3+ | Measles | All[1] | None | Percentage with vaccination card | Number of children |
| **Sex** | | | | | | | | | | | | | |
| Male | 96.6 | 96.1 | 92.8 | 87.0 | 60.8 | 96.5 | 93.1 | 87.1 | 83.2 | 78.4 | 3.1 | 68.3 | 579 |
| Female | 95.9 | 95.5 | 92.4 | 86.7 | 62.4 | 95.5 | 92.2 | 86.3 | 84.4 | 79.0 | 3.5 | 70.1 | 545 |
| **Birth order** | | | | | | | | | | | | | |
| 1 | 96.1 | 96.5 | 93.3 | 89.6 | 66.4 | 96.5 | 93.0 | 89.5 | 89.9 | 85.2 | 3.5 | 70.1 | 238 |
| 2-3 | 97.6 | 97.2 | 94.2 | 90.1 | 63.5 | 97.5 | 94.2 | 90.6 | 89.6 | 84.8 | 1.9 | 65.4 | 379 |
| 4-5 | 99.0 | 98.1 | 96.4 | 88.8 | 63.8 | 98.1 | 96.4 | 88.7 | 83.3 | 78.2 | 0.8 | 78.9 | 242 |
| 6+ | 92.0 | 91.2 | 86.3 | 77.9 | 52.7 | 91.6 | 86.8 | 76.9 | 70.5 | 64.8 | 7.3 | 64.9 | 265 |
| **Residence** | | | | | | | | | | | | | |
| Urban | 98.9 | 98.6 | 93.7 | 92.5 | 62.3 | 98.6 | 93.7 | 92.5 | 84.0 | 80.9 | 1.1 | 58.7 | 177 |
| Rural | 95.8 | 95.3 | 92.4 | 85.8 | 61.5 | 95.6 | 92.5 | 85.6 | 83.7 | 78.3 | 3.7 | 71.1 | 947 |
| **Province** | | | | | | | | | | | | | |
| Nairobi | 100.0 | 100.0 | 100.0 | 100.0 | 57.8 | 100.0 | 100.0 | 100.0 | 86.7 | 86.7 | 0.0 | 53.3 | 62 |
| Central | 97.4 | 97.4 | 95.2 | 94.4 | 65.2 | 97.4 | 95.2 | 94.4 | 94.2 | 92.6 | 2.6 | 65.4 | 148 |
| Coast | 94.8 | 95.0 | 91.1 | 85.6 | 72.7 | 95.0 | 91.1 | 85.6 | 88.0 | 81.1 | 4.1 | 74.5 | 80 |
| Eastern | 99.0 | 97.8 | 96.1 | 90.8 | 72.4 | 98.4 | 96.1 | 90.7 | 90.0 | 85.0 | 1.0 | 76.6 | 209 |
| Nyanza | 93.6 | 91.9 | 88.6 | 79.6 | 56.4 | 91.9 | 88.6 | 79.9 | 76.1 | 69.7 | 6.1 | 60.8 | 174 |
| Rift Valley | 97.0 | 97.1 | 92.9 | 84.8 | 56.1 | 97.1 | 92.7 | 85.1 | 83.3 | 75.9 | 2.1 | 68.8 | 263 |
| Western | 93.1 | 93.1 | 88.1 | 82.3 | 55.8 | 93.9 | 88.8 | 80.9 | 73.8 | 69.5 | 6.1 | 75.3 | 188 |
| **Mother's education** | | | | | | | | | | | | | |
| No education | 89.1 | 87.6 | 83.2 | 74.0 | 49.5 | 88.1 | 83.2 | 73.8 | 68.9 | 63.3 | 10.6 | 58.7 | 188 |
| Primary incomplete | 96.9 | 96.3 | 91.4 | 85.8 | 60.0 | 96.7 | 91.8 | 85.8 | 78.4 | 74.5 | 2.4 | 73.8 | 331 |
| Primary complete | 98.2 | 97.9 | 96.3 | 89.9 | 67.1 | 97.9 | 96.1 | 90.1 | 89.4 | 83.6 | 1.7 | 72.6 | 331 |
| Secondary+ | 98.0 | 98.4 | 96.1 | 93.3 | 65.2 | 98.4 | 96.1 | 92.5 | 93.7 | 88.5 | 1.3 | 66.6 | 274 |
| All children | 96.3 | 95.8 | 92.6 | 86.9 | 61.6 | 96.0 | 92.7 | 86.7 | 83.8 | 78.7 | 3.3 | 69.2 | 1124 |

Note: The DPT coverage rate for children without a written record is assumed to be the same as that for polio vaccine since mothers were specifically asked whether the child had received polio vaccine.
[1]Children who are fully vaccinated (i.e., those who have received BCG, measles and three doses of DPT and polio).

It is notable that urban-rural differences in vaccination coverage are minimal. This implies that the KEPI programme has managed to penetrate the rural areas, making immunisations widely available. There are still some parts of Kenya, however, where vaccination coverage lags behind. In Nyanza and Western Provinces, only 70 percent of children age 12-23 months are fully immunised, compared to 93 percent of children in Central Province and 87 percent of the children in Nairobi. Although some of the provincial differences are due to slightly lower proportions of children in Nyanza and Western Provinces receiving initial vaccinations such as BCG and DPT1, most of the difference is due to higher dropout rates between the first and third doses of DPT and polio and especially to lower proportions who receive the measles vaccine.

As expected, the proportion of children who receive all the recommended vaccinations increases with the education level of the mother, from 63 percent of children of mothers with no education to 89 percent of those whose mothers have at least some secondary education.

Overall, vaccination cards were produced for 69 percent of children age 12-23 months. Differentials in vaccination card levels generally follow those of the proportion fully immunised.

**Trends in Vaccination Coverage**

There are two ways to assess trends in vaccination coverage from KDHS data. One is to compare the data from the 1993 and 1989 surveys. This is made difficult by the fact that the questions were substantially altered between the two surveys. In the 1989 KDHS, if mothers could not produce a vaccination card for their children, they were merely asked if the child had ever been vaccinated, while in the 1993 survey, they were asked about specific vaccinations the child might have received. Rough estimates of what coverage rates would be if mothers had been asked to report on specific vaccinations have been produced indirectly (Boerma et al., 1990). This methodology results in an estimate that 63 percent of the children age 12-23 months in 1989 had been fully immunised, which implies that coverage has increased substantially between 1989 and 1993 (to 79 percent). While increases in the proportions of children age 12-23 months who receive BCG, DPT and polio were modest, the increase in the proportion receiving measles vaccine were much larger—from 72 to 84 percent.

Another way to measure change in vaccination coverage is to compare coverage among children of different ages from the 1993 KDHS. Children age 24-35 months at the time of the survey were age 12-23 months one year before the survey, those age 36-47 months were age 12-23 months two years before the survey, etc. Of course, retrospective reporting has flaws, since vaccination cards are less likely to be available for older children and mothers' recall may be less accurate. However, the data can provide evidence of trends.

Table 8.9 shows the proportion of children of various age cohorts who had received the various childhood vaccinations by 12 months of age (in order to maintain comparability). Data are derived from either the vaccination card or the mothers' reports. For children whose information was based on the mother's recall, the distribution of vaccinations during the first year of life was assumed to be the same as that for children for whom a vaccination record was available.

The first row of Table 8.9 shows the proportion of children age 12-59 months for whom a vaccination card was seen by the interviewer. Overall, records were seen for 61 percent of the children. The percentage of children for whom a vaccination card was seen decreases with age, from 69 percent of children age 12-23 months, to 53 percent of those age 48-59 months. This decline is most likely due to a tendency to misplace or lose the cards over time and/or a tendency to discard the cards once children have been fully vaccinated.

Table 8.9 Vaccinations in the first year of life

Percentage of children one to four years of age for whom a vaccination card was shown to the interviewer and the percentage vaccinated for BCG, DPT, polio, and measles during the first year of life, by current age of the child, Kenya 1993

| Vaccine | Current age of child in months | | | | All children 12-59 months |
|---|---|---|---|---|---|
| | 12-23 | 24-35 | 36-47 | 48-59 | |
| **Vaccination card shown to interviewer** | 69.2 | 62.7 | 57.5 | 52.9 | 60.6 |
| **Percent vaccinated at 0-11 months**[a] | | | | | |
| BCG | 94.7 | 93.5 | 92.6 | 92.9 | 93.4 |
| DPT 1[b] | 95.3 | 93.6 | 91.6 | 91.1 | 92.9 |
| DPT 2 | 91.9 | 89.5 | 89.0 | 87.9 | 89.6 |
| DPT 3 | 85.3 | 80.4 | 81.9 | 78.1 | 81.5 |
| Polio at birth | 61.4 | 56.6 | 48.7 | 47.2 | 53.4 |
| Polio 1 | 95.3 | 93.3 | 91.3 | 91.2 | 92.8 |
| Polio 2 | 91.5 | 89.6 | 88.2 | 87.8 | 89.3 |
| Polio 3 | 85.4 | 80.0 | 80.3 | 78.2 | 81.0 |
| Measles | 76.3 | 69.9 | 71.7 | 69.7 | 71.9 |
| All vaccinations[c] | 70.7 | 63.8 | 64.9 | 60.9 | 65.1 |
| No vaccinations | 4.3 | 5.6 | 6.1 | 6.8 | 5.7 |
| Number of children | 1124 | 1124 | 1231 | 1050 | 4529 |

[a]Information was obtained either from a vaccination card or from the mother if there was no written record. For 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 that for children with a written vaccination record.
[b]The DPT coverage rate for children without a written record is assumed to be the same as that for polio vaccine, since mothers were specifically asked whether the child had received polio vaccine.
[c]Children who have received BCG, measles and three doses of DPT and polio vaccines.

The data imply that the vaccination programme has gradually improved its coverage rates over the past few years. For example, the proportion of children who were fully immunised by their first birthday rose from 61 percent of those who were age 48-59 months old at the time of the survey to 71 percent for those age 12-23 months. As expected, gains were greatest for the birth dose of polio. Large gains were also made in the proportion who received the third doses of DPT and polio, as well as in coverage for measles.

## 8.4 Childhood Illness and Treatment

Three illnesses that are of major importance for infant and child survival in Kenya are discussed in this section. They are acute respiratory infection, fever and diarrhoea. Estimates of the prevalence of these illnesses, as well as data concerning types of treatment, are presented.

## Acute Respiratory Infection

Acute respiratory infection (ARI) is one of the major causes of morbidity and mortality among children in Kenya. Common symptoms associated with severe respiratory infection include fever, cough, and difficult or rapid breathing. Early diagnosis and treatment with antibiotics can prevent a large proportion of deaths from respiratory infections.

The prevalence of ARI was estimated in the KDHS by asking mothers if their children under age five had been ill with coughing accompanied by short, rapid breathing[2] during the two weeks preceding the survey. Mothers whose children had experienced these symptoms were asked what they had done to treat the illness. It bears mentioning that information on disease prevalence is more subjective than many other topics covered in the KDHS; it is highly dependent on what symptoms the mother considers serious. Similarly, reporting of treatment practices depends on how much mothers know about the medicines their children may receive. Mothers may not know whether the pills or syrups their children receive contain antibiotics or not. Thus reporting may vary widely within the country, due to cultural differences in reporting. Information on the prevalence and treatment of ARI is presented in Table 8.10.

The KDHS results indicate that the prevalence of cough with rapid breathing in the two weeks before the survey was 18 percent among children under five. ARI is more common among children age 6-23 months, almost one-quarter of whom had a cough with rapid breathing in the two weeks before the survey. There is no significant difference in ARI prevalence by sex or birth order, but rural children are slightly more likely than urban children to have ARI symptoms. Nyanza and Central Provinces lead the other provinces in ARI prevalence, while Nairobi has the lowest prevalence of this disease.

There is no clear relationship between ARI prevalence among children and education level of their mothers. Fifteen percent of children whose mothers had no education had ARI during the two weeks preceding the survey, compared to 21 percent of those whose mothers had incomplete primary education and 18 percent of those whose mothers had completed primary school.

Overall, just over half of children who have symptoms of ARI are taken to a health facility for treatment. Of all children with symptoms, over 40 percent are given cough medicine, over 20 percent are given antibiotic pills or syrups, and almost 20 percent are given injections. Only 13 percent of children with ARI are not treated at all.

Children of educated mothers are more likely to be taken to a health facility than those whose mothers had less education. Likewise, children in Coast Province who have symptoms of ARI are more likely to be taken to a health facility, than are children in urban areas. On the other hand, those in Nyanza Province are less likely to be taken to a health facility but more likely to receive a home remedy. It is also more common for children with ARI symptoms from Western Province to receive antibiotics and for those in Nairobi to receive no treatment at all. Children from Coast and Western Provinces are more likely to receive injections than children from other provinces.

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[2]Cough and short, rapid breathing are signs and symptoms of pneumonia. The KDHS estimate of ARI prevalence corresponds to an estimate of the prevalence of children who need treatment for presumed pneumonia and does not include other ARI-related conditions (coughs and colds, wheezing, ear infection, and streptococcal sore throat) covered under the WHO guidelines for ARI case management.

Table 8.10 Prevalence and treatment of acute respiratory infection

Percentage of children under five years who were ill with a cough accompanied by rapid breathing during the two weeks preceding the survey, and the percentage of ill children who were treated with specific remedies, by selected background characteristics, Kenya 1993

| | | Among children with cough and rapid breathing | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | Percentage treated with: | | | | | | |
| Background characteristic | Percentage of children with cough and rapid breathing | Percentage taken to a health facility or provider[1] | Antibiotic pill or syrup | Injection | Cough syrup | Home remedy | Other | None/ Don't know/ Missing | Number of children |
| **Child's age** | | | | | | | | | |
| < 6 months | 18.5 | 46.4 | 13.3 | 7.6 | 41.6 | 4.1 | 37.3 | 19.1 | 465 |
| 6-11 months | 22.6 | 59.2 | 27.5 | 19.2 | 40.0 | 3.2 | 40.8 | 10.7 | 593 |
| 12-23 months | 24.0 | 53.0 | 23.0 | 19.9 | 51.9 | 2.1 | 40.0 | 10.7 | 1124 |
| 24-35 months | 19.0 | 49.6 | 21.0 | 16.4 | 42.2 | 4.6 | 36.5 | 13.8 | 1124 |
| 36-47 months | 14.9 | 55.4 | 23.9 | 15.4 | 40.0 | 6.4 | 45.9 | 8.6 | 1231 |
| 48-59 months | 13.2 | 43.7 | 22.3 | 15.3 | 35.8 | 0.5 | 42.3 | 17.0 | 1050 |
| **Sex** | | | | | | | | | |
| Male | 17.8 | 52.2 | 24.8 | 14.9 | 41.2 | 4.4 | 39.0 | 13.9 | 2792 |
| Female | 18.9 | 51.3 | 20.2 | 18.3 | 45.0 | 2.6 | 42.0 | 11.6 | 2795 |
| **Birth order** | | | | | | | | | |
| 1 | 18.2 | 55.0 | 22.7 | 16.1 | 43.6 | 1.8 | 37.2 | 12.0 | 1116 |
| 2-3 | 18.6 | 53.3 | 20.5 | 20.1 | 51.6 | 4.9 | 38.8 | 11.0 | 1757 |
| 4-5 | 18.9 | 49.9 | 26.4 | 14.5 | 34.9 | 3.3 | 45.8 | 13.8 | 1247 |
| 6+ | 17.7 | 48.9 | 21.1 | 14.7 | 39.7 | 3.2 | 40.6 | 14.4 | 1467 |
| **Residence** | | | | | | | | | |
| Urban | 14.8 | 66.7 | 23.9 | 21.8 | 45.2 | 2.9 | 39.1 | 11.7 | 720 |
| Rural | 18.9 | 50.0 | 22.3 | 16.0 | 42.9 | 3.5 | 40.7 | 12.8 | 4867 |
| **Province** | | | | | | | | | |
| Nairobi | 12.4 | 60.9 | 17.4 | 8.7 | 43.5 | 0.0 | 52.2 | 21.7 | 257 |
| Central | 20.6 | 57.9 | 21.2 | 14.3 | 45.2 | 2.5 | 35.0 | 12.5 | 671 |
| Coast | 15.2 | 72.7 | 22.7 | 26.8 | 42.3 | 3.7 | 46.4 | 6.7 | 499 |
| Eastern | 19.8 | 55.1 | 24.0 | 15.0 | 45.8 | 1.1 | 40.8 | 9.7 | 1153 |
| Nyanza | 21.4 | 38.3 | 19.7 | 13.3 | 39.4 | 7.5 | 43.6 | 13.9 | 852 |
| Rift Valley | 15.9 | 46.4 | 16.7 | 11.5 | 43.8 | 2.1 | 31.1 | 17.9 | 1251 |
| Western | 18.8 | 51.9 | 31.9 | 27.2 | 41.6 | 5.2 | 47.5 | 10.4 | 905 |
| **Mother's education** | | | | | | | | | |
| No education | 15.0 | 47.3 | 19.8 | 13.5 | 37.0 | 3.9 | 41.5 | 14.2 | 1065 |
| Primary incomplete | 20.5 | 45.0 | 22.1 | 18.5 | 39.0 | 6.4 | 37.1 | 14.2 | 1712 |
| Primary complete | 18.4 | 56.8 | 22.9 | 15.4 | 50.9 | 1.9 | 39.4 | 10.3 | 1564 |
| Secondary+ | 18.3 | 59.0 | 24.3 | 17.5 | 44.2 | 0.6 | 46.6 | 12.2 | 1246 |
| All children | 18.3 | 51.8 | 22.4 | 16.6 | 43.2 | 3.5 | 40.5 | 12.6 | 5587 |

Note: Figures are for children born in the period 1-59 months preceding the survey.
[1]Includes health post, health centre, hospital, and private doctor.

## Fever

Malaria is endemic in much of Kenya and accounts for a significant proportion of morbidity and mortality in certain areas. Since the major manifestation of malaria is fever, mothers were asked whether their children under age five had had a fever in the two weeks preceding the survey, and what type of treatment was sought, if any.

Table 8.11 shows that 42 percent of children under five years of age were reported to have had fever in the two weeks prior to the survey. Of these children, almost half were taken to a health facility and a little less than one-third were reported to have received antimalarial treatment. Fever is more prevalent among children age 6-23 months and among those in Western, Nyanza and Central Provinces. No pronounced differences were observed in the prevalence of fever by either sex, birth order, urban-rural residence or maternal education.

Table 8.11 Prevalence and treatment of fever

Percentage of children under five years who were ill with a fever during the two weeks preceding the survey, and the percentage of ill children who were treated with specific remedies, by selected background characteristics, Kenya 1993

| | | Among children with fever | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Percentage treated with: | | | | | | | |
| Background characteristic | Percentage of children with fever | Percentage taken to a health facility or provider[1] | Anti-malarial | Anti-biotic | Injection | Home remedy | Other | None | Don't know/ Missing | Number of children |
| **Age of child** | | | | | | | | | | |
| <6 months | 37.7 | 45.2 | 31.0 | 17.3 | 9.6 | 5.7 | 45.1 | 17.4 | 0.5 | 465 |
| 6-11 months | 55.1 | 50.7 | 27.2 | 22.1 | 15.4 | 4.1 | 49.7 | 13.8 | 0.4 | 593 |
| 12-23 months | 50.1 | 50.6 | 31.6 | 24.3 | 19.0 | 3.0 | 49.5 | 13.1 | 0.3 | 1124 |
| 24-35 months | 42.5 | 45.9 | 28.6 | 21.2 | 14.5 | 2.8 | 46.3 | 15.8 | 0.5 | 1124 |
| 36-47 months | 36.8 | 45.2 | 30.4 | 21.6 | 15.2 | 3.5 | 48.9 | 15.0 | 0.5 | 1231 |
| 48-59 months | 32.2 | 44.9 | 32.3 | 17.0 | 16.9 | 4.2 | 46.4 | 14.4 | 1.1 | 1050 |
| **Sex of child** | | | | | | | | | | |
| Male | 42.6 | 49.2 | 32.0 | 21.8 | 15.9 | 4.2 | 46.1 | 14.2 | 0.7 | 2792 |
| Female | 40.9 | 45.5 | 28.3 | 20.7 | 15.7 | 3.0 | 49.9 | 15.1 | 0.4 | 2795 |
| **Birth order** | | | | | | | | | | |
| 1 | 39.9 | 52.0 | 26.3 | 20.7 | 15.8 | 2.6 | 49.6 | 15.0 | 0.5 | 1116 |
| 2-3 | 40.6 | 48.2 | 30.5 | 19.3 | 17.9 | 4.2 | 51.6 | 13.9 | 0.6 | 1757 |
| 4-5 | 43.9 | 46.3 | 32.5 | 24.0 | 14.3 | 3.4 | 45.4 | 13.8 | 1.0 | 1247 |
| 6+ | 42.7 | 44.1 | 30.6 | 21.4 | 14.9 | 3.8 | 45.0 | 15.9 | 0.1 | 1467 |
| **Residence** | | | | | | | | | | |
| Urban | 38.8 | 59.8 | 24.4 | 23.1 | 21.0 | 2.2 | 52.1 | 14.7 | 0.7 | 720 |
| Rural | 42.2 | 45.7 | 31.0 | 21.0 | 15.1 | 3.8 | 47.4 | 14.6 | 0.5 | 4867 |
| **Province** | | | | | | | | | | |
| Nairobi | 37.1 | 58.0 | 23.2 | 24.6 | 18.8 | 0.0 | 52.2 | 23.2 | 0.0 | 257 |
| Central | 44.9 | 44.1 | 12.0 | 16.5 | 13.6 | 2.6 | 62.3 | 14.8 | 0.5 | 671 |
| Coast | 38.2 | 63.3 | 30.8 | 20.2 | 23.2 | 1.9 | 51.7 | 12.8 | 0.7 | 499 |
| Eastern | 34.2 | 58.1 | 43.0 | 25.9 | 15.9 | 2.1 | 42.9 | 7.3 | 0.5 | 1153 |
| Nyanza | 48.6 | 38.4 | 43.8 | 16.9 | 12.6 | 6.1 | 46.1 | 12.7 | 0.5 | 852 |
| Rift Valley | 39.3 | 45.9 | 12.6 | 16.8 | 13.4 | 3.6 | 49.7 | 23.7 | 0.8 | 1251 |
| Western | 49.3 | 41.0 | 39.1 | 29.1 | 19.3 | 4.7 | 40.1 | 11.7 | 0.3 | 905 |
| **Education** | | | | | | | | | | |
| No education | 41.3 | 41.2 | 27.7 | 17.4 | 13.2 | 3.6 | 44.6 | 21.2 | 0.3 | 1065 |
| Primary incomplete | 43.3 | 44.3 | 30.7 | 20.1 | 17.6 | 6.1 | 46.7 | 13.4 | 1.2 | 1712 |
| Primary complete | 40.5 | 49.4 | 31.3 | 22.7 | 16.0 | 2.5 | 48.9 | 13.4 | 0.4 | 1564 |
| Secondary+ | 41.6 | 54.6 | 30.2 | 24.4 | 15.4 | 1.3 | 51.6 | 12.5 | 0.0 | 1246 |
| Total | 41.8 | 47.4 | 30.2 | 21.3 | 15.8 | 3.6 | 48.0 | 14.6 | 0.5 | 5587 |

Note: Figures are for children born in the period 1-59 months preceding the survey.
[1]Includes health clinic, health centre, hospital, private doctor

There are also differences in treatment practices for those children who have fever. Treatment practices indicate that children in the two age groups that are most susceptible to fever are more likely to be taken to a health facility than the others (see Table 8.11). Although prevalence of fever is lower among firstborns than among children of higher birth order, firstborns with symptoms of fever are more likely to be taken to a health facility. Among children with fever, those in urban areas tend to be taken to health facilities more often than their rural counterparts. Children in Coast, Nairobi and Eastern Provinces are more likely than children in other provinces to be taken to a health facility when they show signs of fever. Children in Nyanza Province are less likely to be taken to a health facility, but more likely to be given a home remedy than children in other provinces, while children in Central and Rift Valley Provinces are least likely to be given antimalarial drugs (probably due to the lower incidence of malarial fever in these provinces). Data indicate that the higher the education of the mother, the higher the likelihood that a child with fever would be taken to a health facility.

Table 8.12 Prevalence of diarrhoea

Percentage of children under five years who had diarrhoea and diarrhoea with blood in the two weeks preceding the survey, and the percentage of children who had diarrhoea in the preceding 24 hours, by selected background characteristics, Kenya 1993

| Background characteristic | Diarrhoea in the preceding 2 weeks[1] | | All diarrhoea in the preceding 24 hours[2] | Number of children |
|---|---|---|---|---|
| | All diarrhoea | Diarrhoea with blood | | |
| **Child's age** | | | | |
| < 6 months | 15.0 | 1.6 | 7.8 | 465 |
| 6-11 months | 23.8 | 3.6 | 10.6 | 593 |
| 12-23 months | 24.4 | 3.4 | 10.2 | 1124 |
| 24-35 months | 13.0 | 3.9 | 4.1 | 1124 |
| 36-47 months | 8.0 | 1.4 | 2.4 | 1231 |
| 48-59 months | 4.7 | 0.6 | 1.6 | 1050 |
| **Sex** | | | | |
| Male | 14.3 | 2.3 | 5.5 | 2792 |
| Female | 13.6 | 2.5 | 5.5 | 2795 |
| **Birth order** | | | | |
| 1 | 15.3 | 2.3 | 6.1 | 1116 |
| 2-3 | 14.6 | 2.3 | 5.9 | 1757 |
| 4-5 | 12.0 | 2.4 | 4.6 | 1247 |
| 6+ | 13.8 | 2.5 | 5.3 | 1467 |
| **Residence** | | | | |
| Urban | 11.9 | 0.5 | 5.1 | 720 |
| Rural | 14.2 | 2.7 | 5.6 | 4867 |
| **Province** | | | | |
| Nairobi | 10.8 | 0.5 | 5.4 | 257 |
| Central | 9.4 | 0.1 | 2.3 | 671 |
| Coast | 15.0 | 2.7 | 6.1 | 499 |
| Eastern | 12.2 | 2.3 | 4.8 | 1153 |
| Nyanza | 17.7 | 3.6 | 7.0 | 852 |
| Rift Valley | 11.8 | 2.2 | 4.3 | 1251 |
| Western | 19.2 | 3.8 | 8.7 | 905 |
| **Mother's education** | | | | |
| No education | 15.1 | 2.9 | 6.7 | 1065 |
| Primary incomplete | 15.3 | 3.7 | 5.9 | 1712 |
| Primary complete | 13.9 | 2.2 | 5.7 | 1564 |
| Secondary+ | 11.2 | 0.5 | 3.6 | 1246 |
| All children | 13.9 | 2.4 | 5.5 | 5587 |

Note: Figures are for children born in the period 1-59 months preceding the survey.
[1]Includes diarrhoea in the past 24 hours
[2]Includes diarrhoea with blood

## Diarrhoea

Dehydration engendered by severe diarrhoea is a major cause of morbidity and mortality among Kenyan children. One treatment for dehydration is oral rehydration therapy (ORT): a solution prepared from commercially produced packets of oral rehydration salts (ORS—also called Oralite). ORS is distributed through health centres and pharmacies in Kenya. The Ministry of Health in Kenya no longer promotes any homemade solution prepared from sugar, salt and water, but instead recommends that any of various commonly taken liquids (soup, breastmilk, coconut milk, fresh fruit juices) be given to those with diarrhoea. Table 8.12 indicates the prevalence of diarrhoea in children under five years of age.

Diarrhoea prevalence among children under five years of age was recorded at 14 percent within the two weeks prior to the interview and 6 percent within 24 hours before the survey. Only 2 percent of children under five had bloody diarrhoea (a sign of dysentery) in the two weeks prior to the survey.

As with fever and respiratory infection, diarrhoea is more common among children age 6-23 months than among older or younger children. The prevalence of diarrhoea is higher among children in Western, Nyanza and Coast Provinces, and lowest among children in Central Province. This corroborates previous findings (Ewbank et al., 1986, p.57). Diarrhoea prevalence is slightly higher among rural than urban children. It is lower among children of women with at least some secondary education than among those whose mothers have less education.

### Knowledge and Ever Use of ORS Packets

In order to ascertain how widespread knowledge of ORS is in Kenya, the KDHS included a question for mothers of children born in the five years before the survey about whether they had ever heard of ORS or Oralite. The data are shown in Table 8.13.

Table 8.13 Knowledge and use of ORS packets

Percentage of mothers with births in the five years preceding the survey who know about and have ever used ORS packets, by selected background characteristics, Kenya 1993

| Background characteristic | Know about ORS packets | Have ever used ORS packets | Number of mothers |
|---|---|---|---|
| **Age** | | | |
| 15-19 | 61.7 | 34.0 | 292 |
| 20-24 | 78.7 | 55.0 | 1081 |
| 25-29 | 84.8 | 63.5 | 984 |
| 30-34 | 85.2 | 68.0 | 769 |
| 35+ | 75.9 | 55.2 | 803 |
| **Residence** | | | |
| Urban | 83.7 | 58.0 | 561 |
| Rural | 79.0 | 58.2 | 3368 |
| **Province** | | | |
| Nairobi | 78.4 | 47.3 | 204 |
| Central | 81.4 | 51.1 | 502 |
| Coast | 86.8 | 69.3 | 359 |
| Eastern | 77.6 | 62.1 | 788 |
| Nyanza | 76.3 | 53.2 | 622 |
| Rift Valley | 79.4 | 60.1 | 841 |
| Western | 81.0 | 58.4 | 613 |
| **Education** | | | |
| No education | 73.4 | 55.8 | 726 |
| Primary incomplete | 78.5 | 58.8 | 1184 |
| Primary complete | 79.1 | 56.3 | 1108 |
| Secondary+ | 86.9 | 61.4 | 911 |
| All mothers | 79.7 | 58.2 | 3929 |

Note: Figures include mothers who have given ORS for diarrhoea during the preceding two weeks, although they were not asked about knowledge of ORS packets.

Eighty percent of mothers with recent births have heard of oral rehydration salts (ORS) and almost 60 percent have ever used them to treat diarrhoea. Both knowledge and use of ORS rise significantly with age of the mother until age 30-34, before declining sharply among mothers age 35 and over. Although there

is a slight difference in knowledge of ORS by urban-rural residence, there is no difference in ever use between the two settings. Knowledge and ever use are highest among mothers in Coast Province (87 percent and 69 percent, respectively), while knowledge of ORS is lowest among mothers in Nyanza Province and ever use is lowest in Nairobi. Knowledge of ORS rises with increasing education, but ever use is more or less the same by education.

**Treatment of Diarrhoea**

Forty-one percent of children under five whose mothers reported that they had had diarrhoea in the two weeks before the survey were taken to a health facility for consultation (Table 8.14 and Figure 8.4). Of all children with diarrhoea, one-third were given ORS fluid, half were given more fluids than usual, and over one-third were given home remedies or herbs. About one in six children with diarrhoea was given antibiotics and the same number were given nothing to treat the diarrhoea.

Attendance at health facilities was more or less the same for children regardless of age, except that children age 48-59 months were less likely to be taken to health facilities. These older children, as well as infants under six months of age, are also less likely to be given ORS fluid as treatment for their diarrhoea. Male children with diarrhoea are somewhat more likely than female children to be taken to a health facility.

The data indicate some differences in the treatment of diarrhoea cases by urban-rural residence. Not only are urban children with diarrhoea more likely than rural children to be taken to a health facility, but they are also more likely to receive ORS fluid, increased fluids of any kind, and antibiotics. Rural children are more likely to be treated with home remedies or herbs.

The proportion of children with diarrhoea who are taken to health facilities is highest in Coast Province and lowest in Nairobi. Children in Coast Province are also more likely to be given ORS solution. Injections are more commonly administered for diarrhoea in Western Province, while home remedies were more common in Central Province and least common in Rift Valley Province. As expected, children of mothers with at least some secondary education are more likely to be taken to a health facility when they have diarrhoea than are children whose mothers are less educated. They are also more likely to be treated with antibiotics. However, it is notable that other differences in diarrhoea treatment by education level of the mother are minimal; for example, uneducated women are just as likely to treat their children by giving them ORS solution or by increasing their intake of fluids as are women with some secondary education.

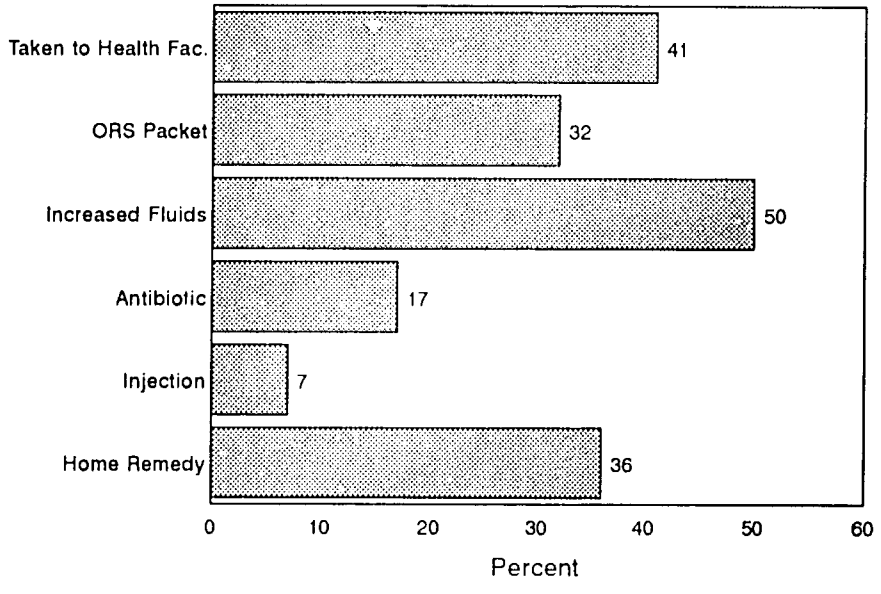
Table 8.14 Treatment of diarrhoea

Percentage of children under five years who had diarrhoea in the two weeks preceding the survey who were taken for treatment to a health facility or provider, the percentage who received increased fluids and oral rehydration solution (ORS), the percentage who received neither ORS nor increased fluids, and the percentage receiving other treatments, according to selected background characteristics, Kenya 1993

| Background characteristic | Percentage taken to a health facility or provider[1] | Treatment with ORS packets | Percentage receiving increased fluids | Percentage receiving neither ORS or increased fluids | Percentage receiving other treatments: Antibiotics | Injection | Home remedy/ herbs | No treatment | Missing | Number of children with diarrhoea |
|---|---|---|---|---|---|---|---|---|---|---|
| **Child's age** | | | | | | | | | | |
| < 6 months | 42.1 | 17.7 | 42.1 | 50.2 | 14.5 | 7.9 | 35.0 | 26.8 | 0.0 | 70 |
| 6-11 months | 41.3 | 31.3 | 52.6 | 36.7 | 9.8 | 9.5 | 37.2 | 17.5 | 0.0 | 141 |
| 12-23 months | 42.0 | 34.6 | 49.0 | 37.7 | 20.4 | 6.6 | 36.4 | 16.6 | 0.7 | 274 |
| 24-35 months | 38.1 | 32.9 | 50.5 | 37.8 | 12.9 | 4.2 | 33.6 | 16.3 | 0.9 | 146 |
| 36-47 months | 45.3 | 35.4 | 49.7 | 36.1 | 22.1 | 6.7 | 37.9 | 14.5 | 1.6 | 98 |
| 48-59 months | 31.4 | 23.8 | 53.1 | 38.8 | 19.3 | 6.5 | 36.1 | 15.2 | 2.1 | 50 |
| **Sex** | | | | | | | | | | |
| Male | 45.1 | 33.2 | 48.1 | 38.7 | 17.5 | 6.7 | 37.0 | 16.1 | 1.2 | 398 |
| Female | 36.5 | 29.9 | 51.4 | 38.4 | 15.9 | 6.9 | 35.0 | 18.5 | 0.3 | 381 |
| **Birth order** | | | | | | | | | | |
| 1 | 43.6 | 28.6 | 50.0 | 40.2 | 15.9 | 4.5 | 35.1 | 20.3 | 1.5 | 170 |
| 2-3 | 46.1 | 34.0 | 48.5 | 38.0 | 19.2 | 8.6 | 31.1 | 17.0 | 1.3 | 257 |
| 4-5 | 39.7 | 33.9 | 54.6 | 29.7 | 14.3 | 6.6 | 42.9 | 13.7 | 0.0 | 149 |
| 6+ | 32.8 | 29.2 | 47.4 | 44.3 | 15.9 | 6.6 | 38.0 | 17.8 | 0.0 | 203 |
| **Residence** | | | | | | | | | | |
| Urban | 52.5 | 40.4 | 58.5 | 30.3 | 29.0 | 4.5 | 26.5 | 12.5 | 3.4 | 86 |
| Rural | 39.4 | 30.5 | 48.6 | 39.6 | 15.2 | 7.1 | 37.2 | 17.9 | 0.4 | 693 |
| **Province** | | | | | | | | | | |
| Nairobi | 30.0 | 10.0 | 55.0 | 45.0 | 20.0 | 5.0 | 35.0 | 15.0 | 5.0 | 28 |
| Central | 39.7 | 21.6 | 66.0 | 30.0 | 4.2 | 3.1 | 46.3 | 10.0 | 3.1 | 63 |
| Coast | 55.5 | 52.2 | 36.8 | 30.8 | 7.6 | 5.9 | 40.3 | 14.3 | 0.0 | 75 |
| Eastern | 34.2 | 27.0 | 61.2 | 30.8 | 18.8 | 1.7 | 37.8 | 11.7 | 1.9 | 141 |
| Nyanza | 41.9 | 30.1 | 42.3 | 45.9 | 24.9 | 6.9 | 35.3 | 19.4 | 0.0 | 151 |
| Rift Valley | 44.6 | 42.5 | 48.9 | 38.3 | 6.7 | 4.5 | 24.5 | 22.4 | 0.0 | 148 |
| Western | 38.1 | 25.4 | 46.3 | 44.0 | 24.3 | 14.9 | 39.6 | 19.9 | 0.0 | 173 |
| **Mother's education** | | | | | | | | | | |
| No education | 37.9 | 39.5 | 51.6 | 31.8 | 10.4 | 4.2 | 33.8 | 13.7 | 1.8 | 161 |
| Primary incomplete | 35.9 | 26.3 | 47.4 | 42.1 | 17.9 | 8.0 | 34.7 | 24.0 | 0.0 | 261 |
| Primary complete | 43.8 | 31.0 | 48.8 | 39.6 | 10.9 | 7.9 | 42.3 | 12.3 | 1.4 | 217 |
| Secondary+ | 49.1 | 33.2 | 53.2 | 37.9 | 30.7 | 5.8 | 31.5 | 16.7 | 0.0 | 140 |
| All children | 40.9 | 31.6 | 49.7 | 38.5 | 16.7 | 6.8 | 36.0 | 17.3 | 0.8 | 779 |

[1]Includes health post, health centre, hospital, and private doctor.
[2]Includes children born in the period 1-59 months preceding the survey.

Figure 8.4
Percentage of Children Under 5 Who Received Various Treatments for Diarrhoea in the Two Weeks Preceding the Survey




KDHS 1993

## Feeding Practices

The KDHS also directly investigated the extent to which mothers made changes in the amount of fluids that a child received during a diarrhoeal episode. To obtain these data, mothers who reported that they were still breastfeeding a child who had diarrhoea during the two-week period prior to the survey were asked whether they had increased the number of times they breastfed the child, decreased the number, or made no change during this time. All mothers who had a child with diarrhoea were also asked whether they had changed the amount that the child was given to drink during the diarrhoeal episode. Table 8.15 shows that, among those children who were breastfed, 59 percent continued to breastfeed as usual and 22 percent were given increased feedings. However, 18 percent of such children had their number of breastfeedings decreased or stopped altogether.

Of all children with diarrhoea, 39 percent were given the same amount of fluids as usual and 44 percent received more fluids than usual; 14 percent received less fluids than usual. These results suggest that, although the benefit of increasing fluid intake during a diarrhoeal episode is quite widely understood in Kenya, about one in six mothers still curtail fluid intake and/or reduce breastfeeding frequency when their children have diarrhoea.

Table 8.15 Feeding practices during diarrhoea

Percent distribution of children under five years who had diarrhoea in the two weeks preceding the survey, by feeding practices during diarrhoea, Kenya 1993

| Feeding practices | Percent |
|---|---|
| **Breastfeeding frequency**[1] | |
| Same as usual | 59.3 |
| Increased | 21.7 |
| Reduced | 16.2 |
| Stopped | 1.3 |
| Don't know/missing | 1.5 |
| Total | 100.0 |
| Number of children | 452 |
| **Amount of fluids given** | |
| Same as usual | 39.3 |
| More | 43.9 |
| Less | 14.3 |
| Don't know/missing | 2.5 |
| Total | 100.0 |
| Number of children with diarrhoea[2] | 779 |

[1]Applies only to children who are still breastfed.
[2]Children born in the period 1-59 months preceding the survey.

# CHAPTER 9

# INFANT FEEDING AND CHILDHOOD AND MATERNAL NUTRITION

Information on three related topics is presented in this chapter. One of these involves aspects of infant feeding: initiation of breastfeeding, patterns and duration of breastfeeding and patterns of supplementation. The second and third sections cover the nutritional status of children under five and their mothers based on anthropometric indicators (measurement of height and weight).

These data can serve to evaluate the government's policy on infant feeding. That policy states that every institution providing maternity facilities and care for newborn infants should, among other things:

- Encourage exclusive breastfeeding of infants below 4 to 6 months of age,
- Help mothers initiate breastfeeding within half an hour of birth,
- Encourage breastfeeding on demand,
- Not give infants any foods in addition to breastmilk before 4 months,
- Not give artificial teats or dummies to breastfeeding infants.

## 9.1 Breastfeeding and Supplementation

The understanding of current feeding patterns and trends can provide information for assessing the determinants of nutritional status of infants and young children, and hence, identifying those women whose babies are undernourished. Breastfeeding influences a child's growth and development, and thus affects the child's risk of morbidity and mortality. Breastfeeding patterns also affect the mothers through the influence of breastfeeding on lactational amenorrhoea, which in turn affects the length of birth intervals, and thus fertility levels. These variables are influenced by both the intensity of breastfeeding and by the age at which children are introduced to food supplements and fluids other than breastmilk.

### Prevalence of Breastfeeding

Table 9.1 presents data on the proportion of children born in the five years before the survey who were ever breastfed and the percentage of the most recent births who started breastfeeding within one hour and one day of birth. Almost all (97 percent) Kenyan children are breastfed for some period of time, and this is generally not influenced by sex of the child, mother's residence or education, or by place of delivery or assistance at delivery.

Overall, 54 percent of newborn babies are put to the breast within the first hour of birth, and 84 percent within the first day of life. In Coast and Western Provinces and in Nairobi, breastfeeding is initiated later than elsewhere; only 33, 37 and 47 percent of children, respectively, are put to the breast within the first hour of life.

Table 9.1 Initial breastfeeding

Percentage of children born in the five years preceding the survey who were ever breastfed, and the percentage of last-born children who started breastfeeding within one hour of birth and within one day of birth, by selected background characteristics, Kenya 1993

| Background characteristic | Among all children: | | Among last-born children, percentage who started breastfeeding: | | |
|---|---|---|---|---|---|
| | Percentage ever breastfed | Number of children | Within 1 hour of birth | Within 1 day of birth | Number of children |
| **Sex** | | | | | |
| Male | 96.9 | 3051 | 54.3 | 83.3 | 1992 |
| Female | 97.2 | 3066 | 54.0 | 83.9 | 2000 |
| **Residence** | | | | | |
| Urban | 97.2 | 777 | 52.3 | 79.7 | 575 |
| Rural | 97.0 | 5341 | 54.5 | 84.3 | 3417 |
| **Province** | | | | | |
| Nairobi | 97.0 | 276 | 46.7 | 76.3 | 210 |
| Central | 97.9 | 703 | 61.9 | 85.9 | 504 |
| Coast | 96.1 | 544 | 33.0 | 67.6 | 366 |
| Eastern | 96.7 | 1233 | 60.6 | 90.8 | 800 |
| Nyanza | 96.9 | 1023 | 54.7 | 82.8 | 629 |
| Rift Valley | 96.8 | 1327 | 66.6 | 88.2 | 857 |
| Western | 97.9 | 1012 | 37.2 | 78.8 | 626 |
| **Mother's education** | | | | | |
| No education | 96.7 | 1167 | 54.1 | 81.3 | 740 |
| Primary incomplete | 96.9 | 1934 | 53.9 | 84.7 | 1202 |
| Primary complete | 96.5 | 1701 | 53.2 | 82.3 | 1124 |
| Secondary+ | 98.2 | 1316 | 55.8 | 85.5 | 925 |
| **Assistance at delivery** | | | | | |
| Medically trained person | 97.0 | 2765 | 55.0 | 83.5 | 1864 |
| Traditional birth attendant | 98.0 | 1299 | 51.7 | 85.3 | 813 |
| Other or none | 97.3 | 2033 | 54.8 | 82.8 | 1311 |
| **Place of delivery** | | | | | |
| Health facility | 97.2 | 2685 | 55.3 | 83.7 | 1803 |
| At home | 97.7 | 3352 | 53.7 | 83.7 | 2143 |
| Other | (96.4) | 46 | (35.6) | (82.6) | 37 |
| All children | 97.0 | 6118 | 54.2 | 83.6 | 3992 |

Note: Table excludes 20 children (3 last-born children) for whom information on assistance at delivery is missing and 34 (8 last-born children) for whom place of birth is missing. Table is based on all children born in the five years preceding the survey, whether living or dead at the time of the interview.

## Timing of Introduction of Supplementary Foods

The timing of introduction of supplementary foods in addition to breastmilk has important implications for the child and the mother. Breastmilk is uncontaminated and contains all the nutrients needed by children in the first few months of life. In addition, it provides some immunity to disease through the mother's antibodies. Early supplementation, especially under unhygienic conditions, can result in infection with foreign organisms and lower immunity to disease. The timing of introduction of food supplements also has an impact on the length of the mother's postpartum amenorrhoea. Early initiation of supplementation results in earlier resumption of the mother's menses, since supplementation reduces infants' dependence on breastmilk and the frequency of suckling.

In order to measure these variables in the KDHS, mothers were asked about the current breastfeeding status of all last-born children under age five and, if the child was being breastfed, whether various types of liquids or solid foods had been given to the child "yesterday" or "last night." This information is used to derive the percentages of children breastfeeding that are shown in Table 9.2. Children who are *exclusively* breastfed receive breast milk only, while those who are *fully* breastfed include those who are exclusively breastfed and those who receive only plain water in addition to breast milk.

According to Table 9.2, exclusive breastfeeding is uncommon. Among infants under two months of age, only 27 percent are exclusively breastfed and over half (54 percent) are already receiving supplements. This latter figure increases to 82 percent when infants are 2-3 months old. By age 6-7 months, exclusive breastfeeding is minimal and 97 percent of children are receiving food supplements.

Table 9.2 Breastfeeding status

Percent distribution of living children by breastfeeding status, according to child's age in months, Kenya 1993

| | Percentage of living children who are: | | | | | |
|---|---|---|---|---|---|---|
| | | | Breastfeeding and: | | | |
| Age in months | Not breast-feeding | Exclusively breast-fed | Plain water only | Supple-ments | Total | Number of living children |
| 0-1 | 1.5 | 26.8 | 17.7 | 54.0 | 100.0 | 148 |
| 2-3 | 2.8 | 9.4 | 5.8 | 82.1 | 100.0 | 174 |
| 4-5 | 0.5 | 2.0 | 2.6 | 94.8 | 100.0 | 199 |
| 6-7 | 0.2 | 0.5 | 2.7 | 96.6 | 100.0 | 203 |
| 8-9 | 1.2 | 1.2 | 0.7 | 96.9 | 100.0 | 209 |
| 10-11 | 1.6 | 1.0 | 1.6 | 95.7 | 100.0 | 181 |
| 12-13 | 6.8 | 0.4 | 1.0 | 91.8 | 100.0 | 218 |
| 14-15 | 12.9 | 0.4 | 0.0 | 86.7 | 100.0 | 179 |
| 16-17 | 22.0 | 0.8 | 0.0 | 77.2 | 100.0 | 183 |
| 18-19 | 29.5 | 0.6 | 0.9 | 69.0 | 100.0 | 205 |
| 20-21 | 45.2 | 0.0 | 0.0 | 54.8 | 100.0 | 180 |
| 22-23 | 47.8 | 1.4 | 0.0 | 50.8 | 100.0 | 159 |
| 24-25 | 71.7 | 0.0 | 0.7 | 27.6 | 100.0 | 200 |
| 26-27 | 76.7 | 0.0 | 0.0 | 23.3 | 100.0 | 177 |
| 28-29 | 85.9 | 0.0 | 0.0 | 14.1 | 100.0 | 189 |
| 30-31 | 91.7 | 0.0 | 0.0 | 8.3 | 100.0 | 195 |
| 32-33 | 94.3 | 0.0 | 0.0 | 5.7 | 100.0 | 200 |
| 34-35 | 91.9 | 0.0 | 0.0 | 8.1 | 100.0 | 163 |

Note: Breastfeeding status refers to preceding 24 hours. Children classified as *breastfeeding and plain water only* receive no supplements.

Table 9.3 looks in more detail at the type of supplements received by breastfed children. The data show that in the first two months of life, 5 percent of breastfeeding children are receiving solid or mushy foods and 16 percent are being fed other milk. By 2-3 months, the propensity to supplement children with other milk and solid/mushy foods is almost equal, 45 percent and 49 percent, respectively. At 4-5 months, 80 percent have foods introduced in their diets.

Bottlefeeding is not uncommon in Kenya; one in six infants under the age of 4 months is fed using a bottle with a nipple. However, use of infant formula is uncommon.

Table 9.3 Breastfeeding and supplementation by age

Percentage of breastfeeding children who are receiving specific types of food supplementation, and the percentage who are using a bottle with a nipple, by age in months, Kenya 1993

| | Percentage of breastfeeding children who are: | | | | | |
|---|---|---|---|---|---|---|
| | Receiving supplement | | | | Using a bottle with a nipple | Number of children |
| Age in months | Infant formula | Other milk | Other liquid | Solid/ mushy | | |
| 0-1 | 2.0 | 15.9 | 48.8 | 5.0 | 10.3 | 145 |
| 2-3 | 4.3 | 44.6 | 48.0 | 49.4 | 21.1 | 169 |
| 4-5 | 1.1 | 67.0 | 47.6 | 80.2 | 15.1 | 198 |
| 6-7 | 3.2 | 66.5 | 44.2 | 91.2 | 13.2 | 202 |
| 8-9 | 3.7 | 68.0 | 45.0 | 90.3 | 8.9 | 206 |
| 10-11 | 6.5 | 57.6 | 56.2 | 93.9 | 7.5 | 178 |
| 12-13 | 4.5 | 72.4 | 55.2 | 96.9 | 13.1 | 203 |
| 14-15 | 5.3 | 61.0 | 47.3 | 98.5 | 6.0 | 156 |
| 16-17 | 5.3 | 74.9 | 63.8 | 98.7 | 5.8 | 143 |
| 18-19 | 3.7 | 59.5 | 48.0 | 96.2 | 5.6 | 145 |
| 20-21 | 3.4 | 68.1 | 47.7 | 100.0 | 2.3 | 98 |
| 22-23 | 3.1 | 54.1 | 52.5 | 95.8 | 4.2 | 83 |
| 24-25 | 0.6 | 42.9 | 49.6 | 97.5 | 4.7 | 57 |

Note: Breastfeeding status refers to preceding 24 hours. Percents by type of supplement among breastfeeding children may sum to more than 100 percent, as children may have received more than one type of supplement.

## Duration and Frequency of Breastfeeding

The median duration and the frequency of breastfeeding according to selected background characteristics are presented in Table 9.4. The estimates of mean and median durations are based on current status data, that is, the proportions of children under 3 years of age who were being breastfed at the time of the survey, as opposed to retrospective data on the length of breastfeeding for older children who are no longer breastfed. The prevalence/incidence mean is provided for the total population in order to allow for comparison with the results of earlier surveys in Kenya.

Table 9.4 Median duration and frequency of breastfeeding

Median duration of any breastfeeding, exclusive breastfeeding, and full breastfeeding among children under 5 years of age, and the percentage of children under 6 months of age who were breastfed six or more times in the 24 hours preceding the interview, according to background characteristics, Kenya 1993

| Background characteristic | Median duration in months[1] | | | Number of children under 3 years of age | Children under 6 months | |
|---|---|---|---|---|---|---|
| | Any breast-feeding | Exclusive breast-feeding | Full breast-feeding[2] | | Breastfed 6+ times in preceding 24 hours | Number of children |
| **Residence** | | | | | | |
| Urban | 19.6 | (0.5) | 0.5 | 472 | 76.9 | 62 |
| Rural | 21.5 | 0.5 | 0.7 | 3169 | 86.9 | 459 |
| **Province** | | | | | | |
| Nairobi | (19.5) | * | 0.4 | 175 | 83.3 | 25 |
| Central | 20.3 | (0.5) | 1.4 | 410 | 81.9 | 46 |
| Coast | 21.1 | 0.4 | 0.6 | 329 | 90.1 | 55 |
| Eastern | 24.8 | 0.5 | 0.6 | 716 | 79.8 | 100 |
| Nyanza | 21.2 | 0.5 | 0.6 | 621 | 84.1 | 88 |
| Rift Valley | 19.5 | 0.5 | 0.6 | 791 | 88.9 | 124 |
| Western | 23.0 | 0.7 | 1.0 | 598 | 89.6 | 83 |
| **Education** | | | | | | |
| No education | 23.4 | 0.6 | 1.0 | 655 | 91.1 | 98 |
| Primary incomplete | 21.0 | 0.5 | 0.6 | 1144 | 81.3 | 144 |
| Primary complete | 20.8 | 0.5 | 0.6 | 1035 | 87.7 | 153 |
| Secondary+ | 20.1 | 0.5 | 0.6 | 807 | 84.1 | 125 |
| **Assistance at delivery** | | | | | | |
| Medically trained | 20.8 | 0.5 | 0.6 | 1598 | 82.6 | 209 |
| Traditional midwife | 22.0 | 0.5 | 0.6 | 795 | 90.5 | 115 |
| Other or none | 21.0 | 0.5 | 0.7 | 1243 | 86.1 | 196 |
| **Sex of child** | | | | | | |
| Male | 22.0 | 0.5 | 0.6 | 1790 | 83.7 | 234 |
| Female | 20.4 | 0.5 | 0.7 | 1850 | 87.3 | 287 |
| Total | 21.1 | 0.5 | 0.7 | 3640 | 85.7 | 521 |
| Mean | 21.1 | 1.5 | 2.1 | - | - | - |
| Prevalence/Incidence[3] | 20.4 | 0.7 | 1.3 | - | - | - |

Note: Excludes 4 children for whom information on assistance at delivery is missing. Rates shown in parentheses are based on 25-49 women, whereas an asterisk means the rate is based on fewer than 25 women and has been suppressed.
[1]Medians and means are based on current status
[2]Either exclusive breastfeeding or breastfeeding and plain water only
[3]Prevalence-incidence mean

The median duration of breastfeeding in Kenya is 21 months. The durations of exclusive and full breastfeeding, i.e., children receiving only breastmilk or only water in addition to their diet of breastmilk, are both less than one month. This reflects the very early supplementation of breast milk with other liquids, as well as with solid and mushy foods.

The longest median duration of any breastfeeding occurs in Eastern and Western Provinces. Children of mothers with no education tend to be breastfed longer than those whose mothers have primary and secondary education. Comparison of the prevalence/incidence mean with similar data from the 1989 KDHS shows that the mean duration of breastfeeding has increased by one month, from 19.4 to 20.4 months.

The number of breastfeedings in a 24-hour cycle provides an indication of breastfeeding practices. From this information, it is possible to ascertain whether women practice demand feeding. Frequent demand feeding has been associated with a higher probability of continuation of breastfeeding and a lower probability of the return of ovulation.

As presented in Table 9.4 for children under 6 months, certain background characteristics are associated with the frequency of breastfeeding. While 86 percent of children under age 6 months are breastfed 6 or more times per day, rural children (87 percent) are more likely than urban children (77 percent) to be breastfed this often. At the provincial level, about 9 of every 10 children under 6 months in Coast, Western and Rift Valley Provinces are breastfed six or more times a day. Breastfeeding frequency is also higher among children whose mothers have no education and those assisted by a traditional midwife at delivery.

## 9.2 Nutritional Status of Children

Nutritional status of children under age five is a sensitive indicator of health status and reflects infant and child feeding practices. In this survey, anthropometric measurements, that is, the weight[1] and height,[2] were obtained for all children who had been born since January 1988 and whose mothers were interviewed in the KDHS. The anthropometric data, combined with data on the child's age, were used to derive the following three indices:

- height-for-age
- weight-for-height
- weight-for-age

Each of these indices gives different information about growth and body composition used to assess nutritional status.

The nutritional status of children measured in the KDHS is evaluated by calculating the extent to which these three anthropometric indices deviate from measurements for a standard population of healthy, well-fed children. As recommended by the World Health Organisation (WHO), the international reference population, defined by the U.S. National Center for Health Statistics (NCHS) and accepted by the U.S. Center for Disease Control (CDC), is used as the reference population. The use of this reference population is based on the finding that well-nourished young children of all population groups (for which data exist) follow very similar growth patterns. Although there are inherent variations in height and weight, these variations approximate a normal distribution when the population is large.

The height-for-age index is an indicator of cumulative growth deficit caused by chronically inadequate food intake, ill health, sustained incorrect feeding practices and low socio-economic status.

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[1]For the measurement of weight, a bathroom-type scale with a digital display with accuracy of +/- 100 grams was used.

[2]Although the term "height" is used throughout this analysis, children younger than 24 months were measured lying on a measuring board (recumbent length), while standing height was measured for older children.

Children falling below the cut-off point of minus two standard deviations (-2 SD) from the median of the reference population are classified as *stunted* or short for their age and are chronically undernourished. Children who are below minus three standard deviation (-3SD) are considered severely stunted.

The weight-for-height index measures current nutritional status, or wasting. Wasting is a nutritional deficiency of recent onset of usually a few weeks to few months, that usually shows marked seasonal patterns associated with changes in food availability or disease prevalence. Causes of low weight-for-height include inadequate food intake, incorrect feeding practices and ill health. Children whose z-scores are below minus two standard deviations (-2 SD) from the median of the reference population are classified as *wasted* or acutely undernourished, while children whose weight-for-height falls below minus three standard deviations are severely wasted.

The weight-for-age index is a composite of height-for-age and weight-for-height and, consequently, does not distinguish between wasting and stunting. Children whose weight-for-age index falls below minus two standard deviations from the median are classified as *underweight*.

The validity of these indices is determined by the coverage of the population of children under study. Not all children eligible to be weighed and measured are included in the analysis; information is presented for 4,752 children under age five, which represents 84 percent of all eligible children. Eleven percent of eligible children were excluded from the analysis because information on either height or weight or both was missing. The most common reason for nonmeasurement was that the child was not at home when the interviewer visited the household. Also excluded from the analysis are children with grossly improbable weight or height measurements due to recording error or age misreporting (3 percent) and children whose month and year of birth were not reported by the mother (2 percent), which renders two of the indices (height-for-age and weight-for-age) incalculable.

In a healthy, well-fed population of children, it is expected that only 2.3 percent of children will fall minus two standard deviations (-2SD) below the median of the reference population for each of the three indices. Less than one percent of children are expected to be below minus three standard deviations (-3SD). Table 9.5 shows the percent of children under five who fall below -3SD and -2SD on each of these three indicators, according to demographic and other background characteristics.

***Height-for-Age.*** Overall, 33 percent of Kenyan children are classified as stunted and 12 percent as severely stunted. The prevalence of stunting is low among children below six months, increases steadily with age and peaks at 12-23 months (40 percent), where the prevalence is twice what it is among children age 6-11 months (18 percent). There is little relationship between sex or birth order and chronic undernutrition. However, stunting is more prevalent among children born less than 24 months after a previous sibling (36 percent) than among those born 48 months or more after a prior birth (27 percent).

Stunting, especially severe stunting, is more prevalent among rural children than urban children; 13 percent of rural children are severely stunted, compared to 5 percent of urban children. The proportion of stunted children is highest in Coast (41 percent) and Eastern (39 percent) Provinces and lowest in Nairobi (24 percent). High rates of stunting in Coast Province have been observed in the four national child nutrition surveys conducted by the Central Bureau of Statistics (CBS, 1991b, pp. 20, 43). In Eastern Province, drought appears to have a negative effect on nutritional status, and may be associated with the current high level of stunting.

The level of mother's education is associated with their children's nutritional status. The proportion of severely stunted children ranges from about 16 percent among children whose mothers did not complete primary education to 7 percent among those with at least some secondary education.

Table 9.5 Nutritional status by demographic and background characteristics

Percentage of children under five years who are classified as undernourished according to three anthropometric indices of nutritional status: height-for-age, weight-for-height, and weight-for-age, by demographic and other background characteristics, Kenya 1993

| Demographic/other characteristic | Height-for-age | | Weight-for-height | | Weight-for-age | | Number of children |
|---|---|---|---|---|---|---|---|
| | Percentage below -3 SD | Percentage below -2 SD[1] | Percentage below -3 SD | Percentage below -2 SD[1] | Percentage below -3 SD | Percentage below - 2 SD[1] | |
| **Age** | | | | | | | |
| Under 6 months | 1.2 | 7.5 | 0.2 | 4.3 | 0.6 | 3.5 | 411 |
| 6-11 months | 4.3 | 18.1 | 1.1 | 4.8 | 4.2 | 16.1 | 537 |
| 12-23 months | 14.3 | 40.3 | 2.3 | 10.0 | 8.5 | 31.6 | 988 |
| 24-35 months | 15.1 | 37.7 | 0.7 | 5.4 | 7.1 | 26.2 | 945 |
| 36-47 months | 14.9 | 37.3 | 1.4 | 4.7 | 5.4 | 22.0 | 1000 |
| 48-59 months | 13.5 | 34.5 | 0.7 | 4.7 | 4.5 | 20.4 | 872 |
| **Sex** | | | | | | | |
| Male | 12.9 | 35.5 | 1.4 | 6.4 | 5.9 | 24.4 | 2374 |
| Female | 11.5 | 30.0 | 1.0 | 5.4 | 5.5 | 20.2 | 2379 |
| **Birth order** | | | | | | | |
| 1 | 8.9 | 28.7 | 1.3 | 3.8 | 4.3 | 17.0 | 911 |
| 2-3 | 11.9 | 32.5 | 0.8 | 5.3 | 4.6 | 22.1 | 1509 |
| 4-5 | 13.2 | 34.3 | 1.2 | 6.5 | 7.0 | 23.8 | 1095 |
| 6+ | 13.9 | 34.6 | 1.6 | 7.7 | 6.8 | 25.0 | 1237 |
| **Birth interval[2]** | | | | | | | |
| < 2 Years | 15.0 | 35.6 | 2.0 | 7.5 | 7.3 | 27.4 | 913 |
| 2-3 Years | 12.9 | 34.8 | 1.0 | 6.2 | 5.9 | 23.6 | 2329 |
| 4 or more years | 10.2 | 27.0 | 0.5 | 5.6 | 4.4 | 17.2 | 594 |
| **Residence** | | | | | | | |
| Urban | 5.1 | 21.5 | 1.4 | 5.2 | 2.6 | 12.8 | 536 |
| Rural | 13.1 | 34.2 | 1.2 | 6.0 | 6.1 | 23.5 | 4216 |
| **Province** | | | | | | | |
| Nairobi | 4.2 | 24.2 | 0.0 | 0.8 | 0.8 | 9.2 | 166 |
| Central | 11.1 | 30.7 | 0.3 | 4.0 | 4.0 | 17.1 | 597 |
| Coast | 17.5 | 41.3 | 3.4 | 10.6 | 9.5 | 31.7 | 377 |
| Eastern | 14.7 | 39.4 | 1.2 | 6.8 | 6.7 | 28.8 | 983 |
| Nyanza | 12.5 | 32.1 | 1.1 | 4.7 | 5.3 | 20.3 | 773 |
| Rift Valley | 11.3 | 28.5 | 1.6 | 7.9 | 5.7 | 23.5 | 1027 |
| Western | 9.9 | 30.0 | 0.6 | 3.9 | 5.2 | 17.0 | 830 |
| **Education** | | | | | | | |
| No education | 15.3 | 36.7 | 1.8 | 9.3 | 8.1 | 28.4 | 828 |
| Primary incomplete | 16.3 | 39.7 | 1.1 | 6.1 | 7.8 | 26.8 | 1475 |
| Primary complete | 10.2 | 32.0 | 1.0 | 5.2 | 4.2 | 19.5 | 1364 |
| Secondary+ | 6.5 | 21.3 | 1.1 | 3.9 | 2.8 | 15.0 | 1086 |
| Total | 12.2 | 32.7 | 1.2 | 5.9 | 5.7 | 22.3 | 4752 |

Note: Figures are for children born in the period 1-59 months preceding the survey. Each index is expressed in terms of the number of standard deviation (SD) units from the median of the NCHS/CDC/WHO international reference population. Children are classified as undernourished if their z-scores are below minus two or minus three standard deviations (-2 SD or -3 SD) from the median of the reference population.
[1]Includes children who are below -3 SD
[2]Excludes first births

***Weight-for-Height.*** Six percent of children under five are classified as wasted and 1 percent severely wasted. Variations in the level of wasting by demographic characteristics show that the proportion of wasted children is high in the 12-23 month age group, 10 percent of whom are wasted. This age group is critical as children are weaned and are prone to diarrhoeal diseases during this period (see Table 8.12). Wasting appears to increase with higher birth orders.

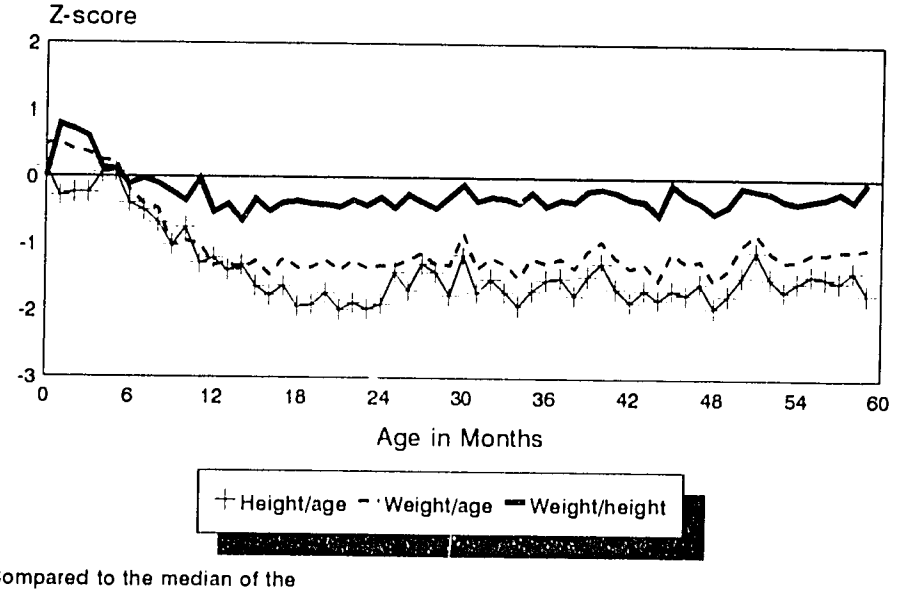
The differences in the prevalence of acute undernutrition among rural and urban children are not as marked as they are for chronic undernutrition. The highest prevalence of wasting is reported in Coast Province, where the proportion of children who are classified as wasted (11 percent) is almost twice that of the national level (6 percent). Severe wasting is also highest in Coast Province. Prevalence of wasting is inversely related to the educational level of the mothers.

***Weight-for Age.*** Weight-for-age is widely used in Kenya for monitoring the growth of individual children. As seen in Table 9.5, 22 percent of children under five are underweight for their age, with 6 percent severely underweight. As with the other two anthropometric indices, children age 12-23 months are most likely to be underweight. The proportion of underweight children varies little by sex and increases with birth order. Children born less than 24 months after a sibling are more likely to be underweight (27 percent) than those born after an interval of four or more years (17 percent).

The prevalence of underweight children is higher among children residing in rural than in urban areas (24 percent vs. 13 percent). Children in Coast (32 percent) and Eastern (29 percent) Provinces are much more likely to be underweight than children in other provinces. Also more likely to be underweight are children whose mothers have no formal education.

Figure 9.1 shows the distribution of children by age and by the extent to which they deviate from the reference population in terms of the three indicators discussed above. The dip in height-for-age and weight-for-age that occurs at age 12-23 months is evident.

Figure 9.1
Nutritional Status of Children Under Five Years, Mean Z-scores by Age in Months




Note: Compared to the median of the International Reference Population

KDHS 1993

## 9.3 Nutritional Status of Mothers

All mothers of children born since January 1988 were eligible to be weighed and measured[3] in the KDHS. The objective was to obtain a picture of the nutritional status of women of reproductive age; however, since weighing and measuring all respondents would add considerably to the length and cost of the fieldwork, it was decided to limit the anthropometric section to women with young children who would be measured anyway.[4] In reviewing the results of the maternal anthropometric data collection, it is important to remember that the data are not representative of the entire KDHS sample of women. In particular, older women tend to be underrepresented in the group for which the height and weight measures are available. The information on height and weight was used to compute indices used to evaluate the nutritional status of the mothers. These include:

- Mean height (in centimetres)
- Mean weight (in kilograms)
- Body mass index (BMI)

Height and weight measurement is missing for just over 5 percent of eligible women. Furthermore, women who were pregnant at the time of the survey and those who had delivered within the two months preceding the survey were excluded from the tables on weight and body mass index. Thus, data on height are available for 3,713 women, while data on weight are available for 3,156 women.

Table 9.6 presents the distribution of mothers by height, weight and body mass index, along with the means and standard deviations for each of these measures. Overall, the mean height of the surveyed women is 159 centimetres. Height, as well as being a good indicator of socioeconomic status of the mother, is also used to identify mothers at nutritional risk. Height of mothers can be used to predict the risk of difficulty in delivering children, given the association between height and size of the pelvis. Also, the risk of giving birth to children of low weight is greater among women of small stature. Although the cut-off point below which the mother can be considered at risk varies between populations, it probably falls in the range of 140-150 centimetres. In Kenya, 6 percent of the mothers are shorter than 150 centimetres and less than one percent fall below 140 centimetres.

Table 9.6 Anthropometric indicators of maternal nutritional status

Percent distribution and mean and standard deviation for women who had a birth in the five years preceding the survey by selected anthropometric indicators (height, weight, and body mass index (BMI)), Kenya 1993

| Indicator | Percent |
|---|---|
| **Height (cm)** | |
| < 140 | 0.1 |
| 140-144 | 0.6 |
| 145-149 | 5.1 |
| 150-159 | 47.5 |
| 160-169 | 37.2 |
| 170-179 | 4.0 |
| ≥180 | 0.1 |
| Missing | 5.5 |
| Total | 100.0 |
| Mean | 159.2 |
| Standard deviation | 6.1 |
| Number of women | 3929 |
| **Weight (kg)** | |
| < 40 | 1.4 |
| 40-49 | 24.8 |
| 50-59 | 42.5 |
| 60-69 | 18.9 |
| ≥70 | 6.7 |
| Missing | 5.6 |
| Total | 100.0 |
| Mean | 55.8 |
| Standard deviation | 9.4 |
| Number of women | 3343 |
| **BMI** | |
| 12.0-15.9 | 0.5 |
| 16.0-16.9 | 1.3 |
| 17.0-18.4 | 7.4 |
| 18.5-20.4 | 23.6 |
| 20.5-22.9 | 33.7 |
| 23.0-24.9 | 14.4 |
| 25.0-26.9 | 6.4 |
| 27.0-28.9 | 3.5 |
| 29.0-29.9 | 1.0 |
| ≥ 30.0 | 2.2 |
| Missing | 6.0 |
| Total | 100.0 |
| Mean | 22.0 |
| Standard deviation | 3.2 |
| Number of women | 3343 |

[3]The measuring boards and scales used to measure the mothers were the same as those used to collect anthropometric measurements of children; as with older children, standing height was obtained for adults using a specially designed extension for the measuring board.

[4]Interviewers were instructed to weigh and measure all women who had a birth since January 1988, regardless of whether or not the child was still living.

Low pre-pregnancy weight is an important risk factor for unfavourable pregnancy outcomes, although height also needs to be taken into account. Excluding women who were pregnant or had had a recent birth, the mean weight of mothers is 56 kilograms, with 43 percent of mothers weighing 50-59 kilograms.

Body mass index (BMI) is a useful measure of relative thinness in adults. BMI is calculated by dividing weight in kilograms by the square of height in metres. BMI levels of below 18.5 indicate chronic undernutrition, while a level of below 16.0 classifies severe undernutrition (James et al., 1988) which is associated with increased mortality. The mean BMI for mothers in Kenya is 22. Only 9 percent fall below the cut-off point of 18.5 and less than one percent fall below the cut-off point of 16.0 for severe undernutrition.

Table 9.7 shows variations by selected socioeconomic characteristics for height and BMI. For each indicator, the mean is presented, as well as the proportion falling below the cut-off points described above. There are few variations in mean height or mean BMI of mothers. However, mothers with no education (17 percent) and those in rural areas (11 percent) are more likely to have low BMI. At the provincial level, the proportion of mothers with BMI less than 18.5 is comparatively high in Coast, Rift Valley and Eastern Provinces, and lowest in Nairobi.

Table 9.7 Differentials in maternal anthropometric indicators

Mean height and percentage of women shorter than 145 centimetres, mean body mass index (BMI), and the percentage of women whose BMI is less than 18.5, according to selected background characteristics, Kenya 1993

| Background characteristic | Height | | | BMI | | |
|---|---|---|---|---|---|---|
| | Mean | Percent <145 cm | Number | Mean | Percent <18.5 | Number |
| **Age** | | | | | | |
| < 20 | 158.8 | 1.3 | 276 | 21.2 | 9.0 | 223 |
| 20-34 | 159.3 | 0.7 | 2687 | 21.9 | 9.3 | 2246 |
| >= 35 | 158.8 | 1.1 | 750 | 22.2 | 12.1 | 672 |
| **Children ever born** | | | | | | |
| 1 | 159.4 | 0.9 | 712 | 22.0 | 7.2 | 582 |
| 2-3 | 159.5 | 0.6 | 1139 | 21.9 | 8.7 | 973 |
| 4-5 | 158.9 | 0.5 | 846 | 21.8 | 10.4 | 704 |
| 6+ | 158.9 | 1.0 | 1016 | 22.1 | 12.4 | 884 |
| **Residence** | | | | | | |
| Urban | 160.3 | 0.0 | 496 | 23.4 | 4.2 | 441 |
| Rural | 159.0 | 0.9 | 3217 | 21.7 | 10.8 | 2701 |
| **Province** | | | | | | |
| Nairobi | 159.6 | 0.0 | 156 | 23.6 | 2.9 | 142 |
| Central | 157.5 | 1.2 | 478 | 22.3 | 6.7 | 425 |
| Coast | 156.7 | 2.2 | 340 | 21.6 | 13.4 | 262 |
| Eastern | 157.3 | 1.1 | 732 | 21.5 | 12.7 | 633 |
| Nyanza | 160.9 | 0.6 | 603 | 21.7 | 9.9 | 504 |
| Rift Valley | 160.4 | 0.3 | 795 | 22.0 | 13.1 | 680 |
| Western | 160.7 | 0.3 | 609 | 22.1 | 4.5 | 495 |
| **Education** | | | | | | |
| No education | 158.0 | 0.9 | 677 | 21.3 | 17.1 | 560 |
| Primary incomplete | 159.0 | 1.1 | 1124 | 21.6 | 11.0 | 935 |
| Primary complete | 159.4 | 0.8 | 1048 | 22.1 | 6.8 | 884 |
| Secondary + | 160.2 | 0.3 | 864 | 22.6 | 6.7 | 762 |
| Total | 159.0 | 1.0 | 3721 | 22.0 | 10.0 | 3153 |

# CHAPTER 10

# KNOWLEDGE OF AIDS

AIDS and HIV infection have been identified as serious health and economic problems in Kenya. The HIV virus was probably first introduced in Kenya in the late 1970s or early 1980s (NACP, 1993); at that time it was generally confined to special groups, such as prostitutes, and hence did not pose an immediate threat to the rest of the population. As the virus spread rapidly among the heterosexual population, the Government realised the need to define AIDS as an issue of national priority. Consequently, the National Aids Control Programme (NACP) of the Ministry of Health, together with the National Council for Population and Development (NCPD) decided to work closely to monitor the data so as to design and evaluate the AIDS control programme in Kenya.

A substantial amount of data on the actual number of AIDS cases is usually obtained from hospital records, while information on HIV prevalence and incidence is gathered annually from 13 sites throughout Kenya which were established as part of the sentinel surveillance system. Using the sentinel surveillance data and adjusting them to be representative of the total population, the NACP has estimated that there are about 700,000 people in Kenya who are infected with the HIV virus (NACP, 1993, p.5). Approximately 5.6 percent of the population age 15 and over are estimated to be infected—10-11 percent in urban areas and about 4-5 percent in rural areas (NACP, 1993, p.8). Although AIDS has touched every district in Kenya, there are certain parts of the country where HIV infection rates are higher than others. Sites in western Kenya, as well as those in urban areas, report particularly high levels of infection among pregnant women.

The KDHS included a section of questions on AIDS in order to assess the knowledge and attitude of respondents regarding transmission mechanisms and prevention of infection with the AIDS virus. Respondents were first asked if they had ever heard of AIDS and, if so, from what source they had heard information in the month preceding the survey. To assess the level of awareness about AIDS, respondents were asked to name the means of transmission of the AIDS virus. They were also asked if they thought it was possible to prevent AIDS, and if so, how.

## 10.1 AIDS Awareness and Knowledge

Table 10.1 highlights the fact that both Kenyan men and women have knowledge of AIDS. In the KDHS, 99 percent of men and 98 percent of women said they had heard of AIDS. The high level of knowledge persists irrespective of age, urban-rural residence, education level and province of residence.

Respondents who had heard of AIDS were asked to name all of the ways the virus could be transmitted. More men than women (96 vs. 90 percent) know that the AIDS virus is transmitted through sexual intercourse. The second most frequently cited mechanism of transmission was injections, reported by 35 percent of the men and 29 percent of the women.

Other routes of transmission were mentioned less frequently. For example, only 5 percent of men and 7 percent of women mentioned that a baby could be infected in the uterus or during delivery. Circumcision was cited by only 5 percent of men (and 2 percent of women), while shaving razors was mentioned by only 17 percent and 13 percent of men and women, respectively.

Table 10.1 Knowledge of AIDS

Percentage of men and women who have ever heard of AIDS and percentage reporting various modes of transmission, by selected background characteristics, Kenya 1993

| Background characteristic | Ever heard of AIDS | Sexual inter-course | Mode of transmission of the AIDS virus: Shaving/ razors | Injec-tions | Circum-cision/ tattoo | Mother to child | Blood trans-fusion | Other | Don't know | Number of respond-ents |
|---|---|---|---|---|---|---|---|---|---|---|
| **MALES** | | | | | | | | | | |
| **Age** | | | | | | | | | | |
| 20-24 | 100.0 | 97.0 | 18.5 | 36.4 | 5.6 | 5.7 | 32.2 | 10.7 | 2.7 | 525 |
| 25-29 | 100.0 | 97.6 | 18.1 | 36.8 | 4.1 | 4.1 | 32.0 | 13.8 | 1.8 | 390 |
| 30-34 | 98.7 | 95.7 | 19.5 | 39.3 | 7.3 | 5.2 | 31.8 | 12.4 | 2.3 | 412 |
| 35-39 | 98.7 | 96.5 | 18.0 | 38.1 | 3.3 | 6.0 | 32.2 | 7.0 | 3.2 | 314 |
| 40-44 | 99.1 | 96.1 | 18.4 | 29.7 | 4.6 | 2.8 | 28.1 | 8.7 | 3.2 | 303 |
| 45-49 | 99.3 | 94.3 | 10.7 | 29.4 | 4.6 | 2.8 | 18.7 | 10.6 | 4.6 | 227 |
| 50-54 | 96.1 | 91.8 | 7.8 | 28.8 | 4.1 | 2.2 | 14.8 | 5.6 | 7.9 | 165 |
| **Residence** | | | | | | | | | | |
| Urban | 99.7 | 97.1 | 18.9 | 36.1 | 7.2 | 7.9 | 39.9 | 9.2 | 2.5 | 566 |
| Rural | 98.9 | 95.7 | 16.4 | 34.8 | 4.3 | 3.4 | 25.6 | 10.8 | 3.3 | 1770 |
| **Province** | | | | | | | | | | |
| Nairobi | 100.0 | 96.5 | 17.0 | 29.8 | 12.3 | 10.5 | 40.4 | 4.7 | 3.5 | 257 |
| Central | 99.5 | 97.1 | 18.9 | 45.0 | 0.4 | 2.2 | 28.4 | 15.4 | 2.3 | 333 |
| Coast | 99.3 | 96.5 | 10.7 | 18.4 | 0.0 | 0.7 | 17.3 | 3.7 | 3.3 | 239 |
| Eastern | 99.4 | 96.7 | 14.0 | 27.2 | 7.6 | 0.9 | 24.4 | 8.3 | 2.4 | 389 |
| Nyanza | 99.0 | 92.5 | 17.7 | 40.3 | 9.5 | 9.4 | 30.5 | 17.9 | 4.7 | 287 |
| Rift Valley | 98.4 | 95.3 | 19.0 | 33.3 | 3.7 | 2.5 | 26.2 | 14.1 | 4.1 | 540 |
| Western | 98.9 | 98.3 | 19.9 | 51.2 | 2.6 | 8.4 | 39.5 | 3.9 | 1.3 | 292 |
| **Education** | | | | | | | | | | |
| No education | 94.8 | 90.4 | 6.4 | 14.0 | 2.9 | 0.7 | 5.6 | 6.8 | 9.6 | 193 |
| Primary incomplete | 98.9 | 93.0 | 11.3 | 23.9 | 3.0 | 2.7 | 14.2 | 10.2 | 5.3 | 566 |
| Primary complete | 99.9 | 97.2 | 14.5 | 32.5 | 3.9 | 1.9 | 21.0 | 9.5 | 2.2 | 696 |
| Secondary+ | 99.6 | 98.3 | 24.9 | 48.8 | 7.6 | 8.4 | 49.8 | 12.0 | 1.2 | 882 |
| Total | 99.1 | 96.1 | 17.0 | 35.1 | 5.0 | 4.5 | 29.1 | 10.4 | 3.1 | 2336 |
| **FEMALES** | | | | | | | | | | |
| **Age** | | | | | | | | | | |
| 15-19 | 98.0 | 87.2 | 13.2 | 25.6 | 1.5 | 6.2 | 18.2 | 7.7 | 9.6 | 1754 |
| 20-24 | 98.4 | 93.2 | 14.0 | 30.2 | 2.1 | 7.0 | 22.3 | 9.6 | 5.5 | 1638 |
| 25-29 | 98.5 | 92.9 | 14.9 | 28.8 | 2.0 | 7.5 | 21.5 | 10.4 | 5.6 | 1221 |
| 30-34 | 98.1 | 93.1 | 14.2 | 31.9 | 2.7 | 8.4 | 22.0 | 9.2 | 5.8 | 1088 |
| 35-39 | 97.5 | 88.4 | 11.4 | 27.7 | 2.8 | 5.8 | 16.5 | 8.1 | 10.2 | 768 |
| 40-44 | 96.3 | 89.7 | 13.5 | 28.1 | 0.3 | 6.1 | 16.6 | 7.0 | 8.5 | 638 |
| 45-49 | 94.4 | 82.3 | 9.5 | 25.6 | 1.0 | 3.7 | 15.4 | 5.3 | 14.2 | 434 |
| **Residence** | | | | | | | | | | |
| Urban | 99.2 | 93.6 | 15.2 | 34.0 | 3.6 | 6.7 | 33.2 | 8.4 | 5.1 | 1339 |
| Rural | 97.5 | 89.6 | 13.0 | 27.3 | 1.5 | 6.7 | 16.8 | 8.7 | 8.3 | 6201 |
| **Province** | | | | | | | | | | |
| Nairobi | 98.9 | 94.5 | 16.8 | 32.5 | 4.1 | 6.1 | 32.2 | 5.5 | 5.0 | 507 |
| Central | 99.1 | 93.4 | 16.1 | 38.2 | 3.3 | 3.0 | 25.4 | 7.9 | 4.1 | 1094 |
| Coast | 97.6 | 77.9 | 6.1 | 15.8 | 1.0 | 2.1 | 18.8 | 1.5 | 20.5 | 717 |
| Eastern | 97.4 | 93.4 | 13.3 | 28.7 | 0.7 | 1.5 | 17.0 | 6.8 | 5.6 | 1406 |
| Nyanza | 99.2 | 91.8 | 15.7 | 30.4 | 2.4 | 28.7 | 18.9 | 11.5 | 5.8 | 1158 |
| Rift Valley | 94.9 | 90.2 | 14.3 | 28.4 | 2.0 | 2.9 | 19.9 | 6.0 | 7.9 | 1562 |
| Western | 99.0 | 88.3 | 10.6 | 22.9 | 0.8 | 2.3 | 13.1 | 18.1 | 8.8 | 1096 |
| **Education** | | | | | | | | | | |
| No education | 92.0 | 80.0 | 7.1 | 15.1 | 0.4 | 5.6 | 9.1 | 4.9 | 18.2 | 1352 |
| Primary incomplete | 97.9 | 86.7 | 11.0 | 19.7 | 1.2 | 6.4 | 11.3 | 10.0 | 10.3 | 2179 |
| Primary complete | 99.6 | 93.8 | 13.7 | 27.7 | 1.2 | 4.9 | 17.0 | 7.5 | 4.7 | 2166 |
| Secondary+ | 99.6 | 97.5 | 20.3 | 48.6 | 4.5 | 10.0 | 40.0 | 10.8 | 1.2 | 1844 |
| Total | 97.8 | 90.3 | 13.4 | 28.5 | 1.9 | 6.7 | 19.7 | 8.6 | 7.7 | 7540 |

Although there are slight variations by background characteristics in the proportion of respondents who cited common modes of transmission, this analysis clearly shows that men and women with higher education gave a wider range of correct information. In this analysis, half of the men and 40 percent of the women with secondary education mentioned contaminated blood as a route of transmission, compared to about 20 percent or less of those with primary level of education and below. Similarly, almost half the men and women with secondary education indicated that one can be infected with a contaminated needle. In short, the higher the level of education, the more likely a respondent is to cite a correct channel of transmission of the AIDS virus.

Men are also more likely to name a transmission route than women. In this survey, 3 percent of men and 8 percent of women who had heard of AIDS could not name any method of transmission. There is therefore a need to intensify AIDS awareness campaigns to educate the general public, particularly on those modes of transmission that are less commonly known.

## 10.2 Sources of Information

In Kenya, dissemination of AIDS information is a joint effort of the National AIDS Control Programme of the Ministry of Health and the National Council for Population and Development (NCPD). The messages channelled to the public include information about basic transmission modes and prevention strategies. This information is received by Kenyans through various channels as indicated in Table 10.2. The table shows the responses received when respondents who had heard of AIDS were asked to cite their source of information.

Table 10.2 Sources of AIDS information

Percentage of respondents who reported hearing of AIDS from various sources in the month before the survey according to urban-rural residence, Kenya 1993

| Source of information | Males | | | Females | | |
|---|---|---|---|---|---|---|
| | Urban | Rural | Total | Urban | Rural | Total |
| Radio | 90.6 | 87.0 | 87.9 | 78.7 | 64.2 | 66.8 |
| TV | 22.4 | 7.2 | 10.9 | 21.0 | 2.9 | 6.2 |
| Newspapers | 53.2 | 26.9 | 33.3 | 21.3 | 8.7 | 11.0 |
| Health workers | 13.9 | 14.7 | 14.5 | 17.7 | 14.4 | 15.0 |
| Priests/preachers | 5.0 | 3.0 | 3.5 | 3.1 | 2.7 | 2.8 |
| Husband/wife | 2.1 | 1.4 | 1.6 | 2.0 | 1.5 | 1.6 |
| Friends/relatives | 32.0 | 41.8 | 39.4 | 52.9 | 57.9 | 57.0 |
| Schools | 4.1 | 3.6 | 3.7 | 6.9 | 7.2 | 7.2 |
| Booklets/posters | 19.8 | 13.1 | 14.7 | 14.4 | 6.3 | 7.8 |
| Barazas | 3.5 | 9.1 | 7.7 | 1.3 | 2.5 | 2.3 |
| Other | 4.8 | 1.9 | 2.6 | 1.8 | 2.1 | 2.1 |
| None | 0.5 | 2.2 | 1.8 | 1.3 | 5.6 | 4.8 |
| Missing | 0.4 | 0.4 | 0.4 | 0.0 | 0.1 | 0.1 |
| Number of respondents | 564 | 1752 | 2316 | 1328 | 6043 | 7371 |

From the table it is evident that AIDS information is widely disseminated. The widest single source of information mentioned was the radio, with 88 percent of men and 67 percent of women citing it as a source.

More women than men had heard AIDS information from a relative (57 vs. 39 percent, respectively) and one-third of men and one in ten women heard about AIDS through reading a newspaper. About 15 percent of men and women said they heard about AIDS from a health worker. Men were twice as likely to have received the information from booklets and posters compared to women. In addition to this, only 2 percent of men and 5 percent of women said they had not heard any AIDS information in the month preceding the KDHS.

People in urban areas tend to receive more information on AIDS from newspapers, television and posters compared to the rural dwellers. Friends and relatives are a more important source of AIDS information in the rural than the urban areas for both men and women. There is a need for AIDS programmes to involve more actively institutions such as the church, chief's barazas and schools, because individuals holding positions in these institutions, namely church elders, teachers and chiefs, are highly regarded as figures of authority.

## 10.3 Misconceptions About AIDS

The 1993 KDHS also included a question asking respondents if they thought they could contract the AIDS virus from a variety of common social circumstances such as kissing, sharing clothing or eating utensils, and shaking hands with a person infected with AIDS. Although it has been shown that these situations pose almost no risks in spreading AIDS, in Kenya rumours have had it that one can actually contract this lethal virus under these circumstances.

The level of ignorance/myth surrounding AIDS can be seen in Table 10.3. Over half of the respondents believe that one can contract AIDS from mosquito bites, whereas over one third of the respond-

Table 10.3 AIDS transmission

Percentage of respondents who reported possibility of transmitting the AIDS virus by various means and percent distribution of respondents by whether they think a healthy-looking person can be infected with AIDS and by whether they think a woman with AIDS can give birth to a child with the virus, according to urban-rural residence, Kenya 1993

| Method of transmission | Males | | | Females | | |
|---|---|---|---|---|---|---|
| | Urban | Rural | Total | Urban | Rural | Total |
| Handshaking | 10.8 | 15.7 | 14.5 | 6.8 | 15.5 | 13.9 |
| Kissing | 34.8 | 38.2 | 37.3 | 24.6 | 34.0 | 32.3 |
| Sharing clothes | 21.4 | 30.9 | 28.6 | 14.1 | 26.0 | 23.8 |
| Sharing eating utensils | 21.9 | 27.2 | 25.9 | 14.6 | 27.0 | 24.7 |
| Touching the dead | 22.4 | 29.3 | 27.6 | 14.6 | 27.6 | 25.3 |
| Mosquito bites | 51.5 | 61.4 | 59.0 | 39.3 | 58.6 | 55.1 |
| **Can a healthy person have AIDS?** | | | | | | |
| Yes | 94.1 | 85.4 | 87.5 | 87.1 | 73.4 | 75.8 |
| No | 3.4 | [illegible].4 | 7.2 | 7.3 | 13.9 | 12.7 |
| Don't know | 2.5 | 6.2 | 5.3 | 5.4 | 12.6 | 11.3 |
| Total | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| **Can a mother transmit to child?** | | | | | | |
| Yes | 94.6 | 88.9 | 90.3 | 91.6 | 85.3 | 86.5 |
| No | 1.3 | 3.5 | 2.9 | 2.1 | 4.2 | 3.8 |
| Don't know | 4.1 | 7.6 | 6.8 | 6.1 | 10.4 | 9.7 |
| Total | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| Number of respondents | 564 | 1752 | 2316 | 1328 | 6043 | 7371 |

ents mentioned kissing as a way of transmitting AIDS. Whereas handshaking was cited by about 15 percent of men and women, touching the dead and sharing eating utensils and clothes was mentioned each by about a quarter of the respondents. Differences in responses by gender are particularly notable. Apparently men are more likely to cite that AIDS can be contracted from these common situations. Rural respondents are more likely than urban respondents to have misconceptions about transmission of the AIDS virus.

Respondents were also asked if they thought it was possible for a healthy-looking person to be carrying the AIDS virus. As expected, more than three-quarters (88 percent of the men and 76 percent of the women) answered in the affirmative.

It is generally thought that mother-to-child transmission of the HIV virus takes place during delivery. In the KDHS, men gave a slightly higher positive response (90 percent) than women (87 percent) when asked if a mother could give birth to a baby with the AIDS virus. Urban dwellers are more likely to know about the possibility of mother-to-child transmission than rural dwellers.

Given that in Table 10.1, only 6 percent of respondents mentioned the possibility of a mother infecting the newborn child, it is surprising to find that over three-quarters of the respondents answered affirmatively to this question. It is possible that this variation was due to lack of probing by the interviewers. While it is true to say that Kenyans are generally informed about the major channel of AIDS transmission, it is also important to emphasise that a fairly large proportion of people believe that AIDS can be contracted through casual contact such as handshaking, hence highlighting the need for more AIDS information dissemination.

## 10.4 AIDS Prevention

A question was also asked with regard to preventive measures. Table 10.4 shows the responses received when respondents were asked if they believed that AIDS could be prevented and, if so, how. It is

Table 10.4 Protection against AIDS

Percent distribution of respondents who believe that people can protect themselves from getting AIDS and, of those who believe so, the percentage reporting various means of protection, according to urban-rural residence, Kenya 1993

| | Males | | | Females | | |
|---|---|---|---|---|---|---|
| | Urban | Rural | Total | Urban | Rural | Total |
| **Possibility of protection** | | | | | | |
| Yes | 86.7 | 86.2 | 86.3 | 81.7 | 78.0 | 78.7 |
| No | 11.7 | 9.7 | 10.2 | 11.2 | 11.9 | 11.8 |
| Don't know | 1.6 | 4.1 | 3.5 | 6.8 | 10.0 | 9.4 |
| Missing | 0.0 | 0.0 | 0.0 | 0.3 | 0.1 | 0.2 |
| Number of respondents | 564 | 1752 | 2316 | 1328 | 6043 | 7371 |
| **If so, how?** | | | | | | |
| Have no sex at all | 14.2 | 8.9 | 10.2 | 15.9 | 19.3 | 18.6 |
| Limit number of sexual partners | 76.0 | 74.5 | 74.9 | 68.7 | 70.6 | 70.2 |
| Use condoms during sex | 45.2 | 32.6 | 35.6 | 39.4 | 16.6 | 20.8 |
| Sterilise needles | 20.3 | 18.3 | 18.8 | 20.9 | 16.5 | 17.3 |
| Avoid prostitutes | 11.0 | 16.4 | 15.1 | 16.4 | 16.9 | 16.8 |
| Other | 11.9 | 12.5 | 12.3 | 7.4 | 11.0 | 10.3 |

encouraging that 79 percent of women and 86 percent of men think AIDS can be prevented. As previously noted, more men than women believe that AIDS can be prevented.

Secondly, three-quarters of men and women say that limiting the number of partners can help prevent the spread of the disease, whereas only about one in five respondents mention sterilised needles as a means of prevention. Thirty-six percent of men (versus 21 percent of women) believe condom use could prevent AIDS. Also, a larger proportion of urban than rural respondents mention condom use as an AIDS-prevention behaviour.

## 10.5 Personal Acquaintance With AIDS

The KDHS included a question on whether respondents know somebody who has AIDS or who has died from AIDS. Table 10.5 shows the distribution of respondents by their responses to this question, according to selected background variables. Overall, just over 40 percent of men and women know someone with AIDS. Almost half (48 percent) of the urban respondents and about 40 percent of their rural counterparts say that they know someone who either has AIDS or who has died from AIDS. This residential difference supports the findings of other studies which show that AIDS is more prevalent in urban areas.

Table 10.5 Personal knowledge of AIDS

Percentage of men 20-54 and women 15-49 who know someone who has AIDS or who has died from AIDS according to selected background characteristics, Kenya 1993

| Background characteristic | Men | | Women | |
|---|---|---|---|---|
| | Percentage | Number | Percentage | Number |
| **Age** | | | | |
| 15-19 | - | - | 37.2 | 1754 |
| 20-24 | 38.7 | 525 | 43.2 | 1638 |
| 25-29 | 40.6 | 390 | 45.4 | 1221 |
| 30-34 | 44.8 | 412 | 42.9 | 1088 |
| 35-39 | 40.4 | 314 | 41.4 | 768 |
| 40-44 | 37.8 | 303 | 44.3 | 638 |
| 45-49 | 41.5 | 227 | 42.6 | 434 |
| 50-54 | 35.2 | 165 | - | - |
| **Residence** | | | | |
| Urban | 47.7 | 566 | 47.5 | 1339 |
| Rural | 37.8 | 1770 | 40.8 | 6201 |
| **Province** | | | | |
| Nairobi | 38.6 | 257 | 42.0 | 507 |
| Central | 34.1 | 333 | 39.5 | 1094 |
| Coast | 52.0 | 239 | 43.7 | 717 |
| Eastern | 30.9 | 389 | 31.8 | 1406 |
| Nyanza | 61.1 | 287 | 51.0 | 1158 |
| Rift Valley | 32.6 | 540 | 34.2 | 1562 |
| Western | 45.1 | 292 | 57.9 | 1096 |
| **Education** | | | | |
| No education | 26.9 | 193 | 35.6 | 1352 |
| Primary incomplete | 34.4 | 566 | 42.8 | 2179 |
| Primary complete | 39.0 | 696 | 41.8 | 2166 |
| Secondary+ | 47.8 | 882 | 45.9 | 1844 |
| Total | 40.2 | 2336 | 42.0 | 7540 |

The data show that 61 percent of male respondents and 51 percent of female respondents in Nyanza Province know someone who has AIDS or who has died from AIDS. Other provinces with high levels are Coast Province (52 percent of men and 44 percent of women) and Western Province (45 percent of men and 58 percent of women). These patterns reflect the fact that HIV prevalence is apparently higher in these provinces than in other parts of Kenya (NACP, 1993). Having at least some secondary education also increases the likelihood that a Kenyan knows somebody who has AIDS; almost half of the men and women with some secondary education know someone with AIDS, as opposed to only 27 percent of men and 36 percent of women with no education.

In order to assess Kenyans' feelings of their own personal risk of acquiring the AIDS virus, the KDHS included a question as to whether the respondent thought he or she could "catch AIDS." If the answer was yes, they were asked how they thought they might catch AIDS. The data are shown in Table 10.6.

Table 10.6 Personal risk of acquiring AIDS

Percent distribution of men 20-54 and women 15-49 by whether they think they might acquire AIDS and, if so, how, Kenya 1993

| Risk and means of acquiring | Men | | Women | |
|---|---|---|---|---|
| | Percentage | Number | Percentage | Number |
| **Risk** | | | | |
| Think might acquire | 65.6 | 1520 | 46.2 | 3406 |
| Do not think acquire | 24.0 | 556 | 34.5 | 2541 |
| Don't know/Missing | 10.4 | 240 | 19.3 | 1425 |
| Total | 100.0 | 2316 | 100.0 | 7371 |
| **Means of transmission** | | | | |
| From partner | 70.6 | 1074 | 79.0 | 2692 |
| From needles/injections | 12.2 | 186 | 11.1 | 379 |
| From blood transfusion | 4.3 | 66 | 3.2 | 108 |
| Other | 10.6 | 161 | 4.3 | 148 |
| Don't know/Missing | 2.2 | 34 | 2.3 | 80 |
| Total | 100.0 | 1520 | 100.0 | 3406 |

It is evident from the data that more men (66 percent) than women (46 percent) consider AIDS as a direct threat to them. This might be explained in part by the fact that men report having a greater number of recent sexual partners than women do (see Table 10.7). Of those who say they feel at risk of acquiring the AIDS virus, the vast majority think that their spouses or sexual partners are the means by which the virus might be transmitted to them—accounting for 71 percent of the men and 79 percent of the women who feel at risk. Needles (injections) and blood transfusions are perceived as major personal risks of transmission by only a small proportion of those who feel themselves to be at risk of contracting the AIDS virus.

## 10.6 Number of Sexual Partners and Condom Use

Given the evidence that the vast majority of HIV infections in Kenya are contracted through heterosexual contact, information on sexual behaviour is important in designing and monitoring intervention programmes to control the spread of this fatal disease. In addition to the data on sexual activity in the four weeks before the survey (see Chapter 5), the KDHS included questions on the number of sexual partners in

the six months before the survey, as well as the lifetime number of partners. Respondents were also asked if they had used a condom with any partner in the last six months. Data on number of sexual partners should be viewed with some caution, since similar surveys have shown evidence of substantial misreporting, especially differential over- or under-reporting by sex of respondent. Table 10.7 shows the percent distribution of men and women by the number of sexual partners in the six months prior to the survey, according to selected background characteristics.

Table 10.7.1 Number of recent sexual partners - male respondents

Percent distribution of men and women by number of sexual partners in the six months preceding the survey according to selected background characteristics, Kenya 1993

| Background characteristic | Number of sexual partners | | | | | Total | Number of men |
|---|---|---|---|---|---|---|---|
| | None | 1 | 2 | 3+ | Missing | | |
| **Type of union** | | | | | | | |
| Unmarried | 20.1 | 35.9 | 17.5 | 26.5 | 0.0 | 100.0 | 672 |
| Married-monogamous | 4.3 | 75.9 | 11.0 | 8.6 | 0.3 | 100.0 | 1470 |
| Married-polygamous | 2.2 | 16.3 | 67.3 | 14.2 | 0.0 | 100.0 | 192 |
| **Age** | | | | | | | |
| 20-24 | 15.8 | 39.3 | 20.8 | 24.0 | 0.0 | 100.0 | 525 |
| 25-29 | 7.8 | 60.3 | 14.0 | 18.0 | 0.0 | 100.0 | 390 |
| 30-34 | 6.0 | 67.0 | 13.6 | 12.9 | 0.5 | 100.0 | 412 |
| 35-39 | 3.8 | 65.9 | 21.4 | 8.9 | 0.0 | 100.0 | 314 |
| 40-44 | 5.6 | 69.8 | 18.6 | 5.8 | 0.1 | 100.0 | 303 |
| 45-49 | 10.1 | 64.2 | 15.5 | 9.6 | 0.7 | 100.0 | 227 |
| 50-54 | 8.4 | 64.7 | 18.2 | 8.6 | 0.0 | 100.0 | 165 |
| **Residence** | | | | | | | |
| Urban | 8.9 | 58.6 | 16.0 | 16.3 | 0.3 | 100.0 | 566 |
| Rural | 8.7 | 59.7 | 18.0 | 13.5 | 0.1 | 100.0 | 1770 |
| **Province** | | | | | | | |
| Nairobi | 9.4 | 61.4 | 12.3 | 16.4 | 0.6 | 100.0 | 257 |
| Central | 8.5 | 57.0 | 14.9 | 19.7 | 0.0 | 100.0 | 333 |
| Coast | 10.4 | 52.3 | 19.3 | 18.0 | 0.0 | 100.0 | 239 |
| Eastern | 6.6 | 69.8 | 14.8 | 8.7 | 0.0 | 100.0 | 389 |
| Nyanza | 7.9 | 59.6 | 23.9 | 8.6 | 0.0 | 100.0 | 287 |
| Rift Valley | 7.7 | 62.5 | 16.9 | 12.9 | 0.1 | 100.0 | 540 |
| Western | 12.6 | 46.9 | 21.8 | 17.9 | 0.7 | 100.0 | 292 |
| **Education** | | | | | | | |
| No education | 7.3 | 56.6 | 23.7 | 12.4 | 0.0 | 100.0 | 193 |
| Primary incomplete | 8.1 | 56.4 | 22.5 | 12.7 | 0.3 | 100.0 | 566 |
| Primary complete | 7.7 | 61.3 | 15.5 | 15.4 | 0.1 | 100.0 | 696 |
| Secondary+ | 10.3 | 60.5 | 14.4 | 14.5 | 0.2 | 100.0 | 882 |
| Total | 8.7 | 59.4 | 17.5 | 14.2 | 0.2 | 100.0 | 2336 |

It is clear that men report having more sexual partners in the six months before the survey than women. Only 9 percent of men reported being abstinent during this period, compared to 30 percent of women. Conversely, 32 percent of men report having had two or more sexual partners in the six months before the survey, compared to only 4 percent of women. This gender differential is in part due to the fact that the male respondents were on average older than the women—age 20-54, as opposed to 15-49. However, comparison of men and women in the same age group shows that men still report more sexual partners. For example, 45 percent of men age 20-24 report having two or more sexual partners in the six months before the survey, compared to 4 percent of women. The existence of polygynous marriages in Kenya also accounts

Table 10.7.2 Number of recent sexual partners - female respondents

Percent distribution of men and women by number of sexual partners in the six months preceding the survey according to selected background characteristics, Kenya 1993

| Background characteristic | Number of sexual partners | | | | Total | Number of women |
|---|---|---|---|---|---|---|
| | None | 1 | 2 | 3+ | | |
| **Type of union** | | | | | | |
| Unmarried | 64.5 | 28.6 | 4.9 | 2.0 | 100.0 | 2911 |
| Married-monogamous | 7.2 | 91.0 | 1.3 | 0.6 | 100.0 | 3727 |
| Married-polygamous | 12.1 | 84.8 | 2.0 | 1.1 | 100.0 | 902 |
| **Age** | | | | | | |
| 15-19 | 65.7 | 29.3 | 3.6 | 1.3 | 100.0 | 1754 |
| 20-24 | 26.4 | 69.2 | 3.4 | 1.0 | 100.0 | 1638 |
| 25-29 | 14.1 | 82.1 | 2.6 | 1.2 | 100.0 | 1221 |
| 30-34 | 11.9 | 84.8 | 1.8 | 1.4 | 100.0 | 1088 |
| 35-39 | 17.5 | 79.4 | 1.6 | 1.4 | 100.0 | 768 |
| 40-44 | 19.1 | 78.8 | 1.9 | 0.2 | 100.0 | 638 |
| 45-49 | 26.3 | 70.2 | 2.4 | 1.1 | 100.0 | 434 |
| **Residence** | | | | | | |
| Urban | 28.4 | 64.8 | 4.7 | 2.1 | 100.0 | 1339 |
| Rural | 30.3 | 66.5 | 2.3 | 1.0 | 100.0 | 6201 |
| **Province** | | | | | | |
| Nairobi | 24.3 | 67.6 | 4.9 | 3.3 | 100.0 | 507 |
| Central | 29.4 | 67.7 | 1.9 | 1.0 | 100.0 | 1094 |
| Coast | 29.0 | 67.0 | 2.7 | 1.2 | 100.0 | 717 |
| Eastern | 31.4 | 64.9 | 2.5 | 1.2 | 100.0 | 1406 |
| Nyanza | 26.2 | 68.6 | 3.6 | 1.5 | 100.0 | 1158 |
| Rift Valley | 34.6 | 63.0 | 1.9 | 0.5 | 100.0 | 1562 |
| Western | 29.1 | 67.0 | 3.1 | 0.8 | 100.0 | 1096 |
| **Education** | | | | | | |
| No education | 22.6 | 73.6 | 2.7 | 1.1 | 100.0 | 1352 |
| Primary incomplete | 27.6 | 67.7 | 3.4 | 1.3 | 100.0 | 2179 |
| Primary complete | 34.5 | 61.5 | 2.8 | 1.2 | 100.0 | 2166 |
| Secondary+ | 32.7 | 64.4 | 2.0 | 1.0 | 100.0 | 1844 |
| Total | 29.9 | 66.2 | 2.7 | 1.2 | 100.0 | 7540 |

for some of the gender difference in number of sexual partners. As expected, the vast majority (82 percent) of the men in polygynous marriages report having two or more partners in the six months before the survey. It is notable that 80 percent of monogamously married men report having one or no sexual partner during the period.

The largest differences between men and women occur among the unmarried. Two-thirds of unmarried women report that they were abstinent in the six months before the survey, compared to only 20 percent of men. Over one-quarter of unmarried men report having had three or more sexual partners during this period.

There are few differentials in number of sexual partners by urban-rural residence for either men or women. Similarly, differences by province for men and women are not large; differences for men by province are confounded by differences in the prevalence of polygyny, which is more common in Nyanza and Western Provinces (see Chapter 5). Among both men and women, there is a slight tendency for those with more education to have had fewer, if any, sexual partners in the recent past. This relationship, which

is stronger among women than men, may be due in part to the fact that those with more education are often younger and thus less likely to be as sexually active.

In addition to asking respondents the number of sexual partners they had had in the six months prior to the survey, the KDHS included a question on the number of sexual partners respondents had had in their whole lives. The results are given in Table 10.8. These data reflect the previous finding that men report having a greater number of sexual partners on average than women. Less than two percent of men age 20-54 have never had sexual intercourse, while 62 percent have had six or more partners in their lifetime. In contrast, 15 percent of women age 15-49 have never had sexual intercourse and only 4 percent report having had six or more lifetime sexual partners. One-third of women have had only one partner, while another one-third have had 2-3 partners.

Table 10.8.1 Number of lifetime sexual partners - male respondents

Percent distribution of men and women by number of sexual partners in their life according to selected background characteristics, Kenya 1993

| Background characteristic | Number of sexual partners | | | | | Missing | Total | Number of men |
|---|---|---|---|---|---|---|---|---|
| | None | 1 | 2-3 | 4-5 | 6+ | | | |
| **Type of union** | | | | | | | | |
| Unmarried | 5.6 | 6.1 | 16.1 | 16.1 | 50.2 | 6.0 | 100.0 | 672 |
| Married-monogamous | 0.2 | 4.4 | 10.3 | 13.3 | 64.8 | 7.0 | 100.0 | 1470 |
| Married-polygamous | 0.0 | 0.0 | 6.5 | 8.8 | 76.4 | 8.2 | 100.0 | 192 |
| **Age** | | | | | | | | |
| 20-24 | 5.5 | 7.1 | 18.4 | 15.6 | 46.9 | 6.4 | 100.0 | 525 |
| 25-29 | 1.3 | 4.3 | 10.4 | 15.9 | 61.9 | 6.2 | 100.0 | 390 |
| 30-34 | 0.3 | 3.4 | 10.0 | 13.4 | 66.0 | 6.8 | 100.0 | 412 |
| 35-39 | 0.0 | 4.4 | 8.7 | 10.5 | 69.8 | 6.6 | 100.0 | 314 |
| 40-44 | 0.5 | 3.5 | 11.4 | 14.3 | 61.8 | 8.6 | 100.0 | 303 |
| 45-49 | 0.5 | 1.3 | 8.1 | 9.7 | 72.1 | 8.3 | 100.0 | 227 |
| 50-54 | 1.2 | 6.1 | 8.9 | 13.9 | 65.6 | 4.3 | 100.0 | 165 |
| **Residence** | | | | | | | | |
| Urban | 1.7 | 5.2 | 12.7 | 12.7 | 60.3 | 7.3 | 100.0 | 566 |
| Rural | 1.7 | 4.3 | 11.4 | 14.0 | 61.9 | 6.6 | 100.0 | 1770 |
| **Province** | | | | | | | | |
| Nairobi | 2.3 | 4.7 | 11.7 | 11.7 | 59.6 | 9.9 | 100.0 | 257 |
| Central | 1.1 | 6.7 | 12.2 | 15.2 | 59.7 | 5.1 | 100.0 | 333 |
| Coast | 0.7 | 5.9 | 19.1 | 14.2 | 53.5 | 6.6 | 100.0 | 239 |
| Eastern | 1.5 | 2.6 | 6.8 | 19.9 | 58.9 | 10.4 | 100.0 | 389 |
| Nyanza | 1.7 | 4.8 | 11.6 | 10.1 | 67.0 | 4.9 | 100.0 | 287 |
| Rift Valley | 2.2 | 5.9 | 13.7 | 15.9 | 55.6 | 6.6 | 100.0 | 540 |
| Western | 2.2 | 0.7 | 8.1 | 4.7 | 80.9 | 3.5 | 100.0 | 292 |
| **Education** | | | | | | | | |
| No education | 1.7 | 4.2 | 13.0 | 14.4 | 55.2 | 11.4 | 100.0 | 193 |
| Primary incomplete | 2.1 | 4.6 | 9.1 | 9.8 | 67.7 | 6.6 | 100.0 | 566 |
| Primary complete | 0.9 | 4.9 | 12.1 | 16.4 | 60.3 | 5.4 | 100.0 | 696 |
| Secondary+ | 2.1 | 4.2 | 12.8 | 14.0 | 59.9 | 7.0 | 100.0 | 882 |
| Total | 1.7 | 4.5 | 11.7 | 13.7 | 61.5 | 6.8 | 100.0 | 2336 |

Table 10.8.2 Number of lifetime sexual partners - female respondents

Percent distribution of men and women by number of sexual partners in their life according to selected background characteristics, Kenya 1993

| Background characteristic | Number of sexual partners | | | | | Missing | Total | Number of women |
|---|---|---|---|---|---|---|---|---|
| | None | 1 | 2-3 | 4-5 | 6+ | | | |
| **Type of union** | | | | | | | | |
| Unmarried | 39.1 | 19.7 | 25.2 | 9.5 | 4.4 | 2.1 | 100.0 | 2911 |
| Married-monogamous | 0.3 | 42.8 | 39.2 | 12.4 | 3.5 | 1.8 | 100.0 | 3727 |
| Married-polygamous | 0.4 | 41.6 | 38.7 | 12.5 | 5.3 | 1.5 | 100.0 | 902 |
| **Age** | | | | | | | | |
| 15-19 | 54.0 | 22.1 | 17.1 | 4.6 | 1.1 | 1.1 | 100.0 | 1754 |
| 20-24 | 10.4 | 32.3 | 38.9 | 13.2 | 3.5 | 1.6 | 100.0 | 1638 |
| 25-29 | 1.3 | 36.2 | 41.0 | 13.9 | 5.4 | 2.2 | 100.0 | 1221 |
| 30-34 | 0.8 | 34.6 | 39.4 | 15.5 | 6.6 | 3.2 | 100.0 | 1088 |
| 35-39 | 0.6 | 41.8 | 37.7 | 13.0 | 5.0 | 1.8 | 100.0 | 768 |
| 40-44 | 0.2 | 41.3 | 39.3 | 11.1 | 5.3 | 2.8 | 100.0 | 638 |
| 45-49 | 1.1 | 52.2 | 31.7 | 9.9 | 4.1 | 1.0 | 100.0 | 434 |
| **Residence** | | | | | | | | |
| Urban | 16.5 | 29.5 | 33.8 | 11.4 | 5.8 | 2.9 | 100.0 | 1339 |
| Rural | 15.0 | 34.7 | 33.7 | 11.2 | 3.7 | 1.7 | 100.0 | 6201 |
| **Province** | | | | | | | | |
| Nairobi | 13.4 | 26.7 | 34.1 | 13.9 | 9.0 | 3.0 | 100.0 | 507 |
| Central | 15.9 | 34.7 | 34.2 | 10.3 | 3.4 | 1.6 | 100.0 | 1094 |
| Coast | 19.0 | 49.5 | 23.9 | 4.1 | 2.5 | 1.1 | 100.0 | 717 |
| Eastern | 13.4 | 25.3 | 34.4 | 16.8 | 7.0 | 3.1 | 100.0 | 1406 |
| Nyanza | 10.4 | 27.3 | 40.8 | 16.6 | 2.6 | 2.3 | 100.0 | 1158 |
| Rift Valley | 17.5 | 40.8 | 30.4 | 7.8 | 2.9 | 0.7 | 100.0 | 1562 |
| Western | 17.7 | 33.4 | 36.2 | 7.9 | 3.0 | 1.8 | 100.0 | 1096 |
| **Education** | | | | | | | | |
| No education | 2.9 | 45.1 | 33.0 | 10.8 | 6.0 | 2.2 | 100.0 | 1352 |
| Primary incomplete | 16.2 | 30.9 | 34.6 | 12.0 | 4.1 | 2.2 | 100.0 | 2179 |
| Primary complete | 19.7 | 30.4 | 33.0 | 11.8 | 3.2 | 1.9 | 100.0 | 2166 |
| Secondary+ | 18.0 | 32.7 | 34.3 | 10.0 | 3.7 | 1.4 | 100.0 | 1844 |
| Total | 15.3 | 33.8 | 33.7 | 11.3 | 4.1 | 1.9 | 100.0 | 7540 |

Married men, especially those in polygamous relationships, are more likely to report having had six or more lifetime sexual partners. Men in Western and Nyanza Provinces are also more likely to have had many partners. Among women, those who are unmarried are more likely to have never had sex than those who are married. As expected, younger women are less likely to have been sexually active than older women; over half of those age 15-19 report that they have never had sex. As for provincial differences, women in Nyanza and Eastern Provinces, as well as those in Nairobi, evidently have had more sexual partners on average than women in other provinces. Although it appears that better educated women are more likely to have had fewer sexual partners than uneducated women, this is probably more a function of the fact that those with higher education tend to be younger.

Men and women who reported having had sex in the six months prior to the survey were asked if they had used a condom with any of these partners. As shown in Table 10.9, 20 percent of men reported having used a condom, compared to only 6 percent of women. It is encouraging that condom use is higher among those who report having a greater number of partners. Among those who report having had three or more partners in the last six months, 41 percent of men and 25 percent of women say they used a condom with at least one of these partners. Use of condoms is also higher among the unmarried than those who are married.

Table 10.9 Condom use

Percentage of men and women who were sexually active in the six months prior to the survey by whether they used a condom with any partner according to number of partners and type of union, Kenya 1993

| Partners/ union | Men | | Women | |
|---|---|---|---|---|
| | Percentage | Number | Percentage | Number |
| **Number of partners** | | | | |
| 1 | 14.5 | 1389 | 5.4 | 4989 |
| 2 | 20.5 | 408 | 12.0 | 205 |
| 3+ | 40.9 | 331 | 25.1 | 89 |
| **Type of union** | | | | |
| Unmarried | 38.5 | 537 | 13.6 | 1033 |
| Married-monogamous | 14.6 | 1402 | 4.3 | 3458 |
| Married-polygamous | 4.6 | 188 | 3.1 | 793 |
| Total | 19.8 | 2128 | 5.9 | 5284 |

# CHAPTER 11

# RESULTS OF THE MALE SURVEY

In the KDHS, 2,336 men were interviewed individually to obtain information about their background and demographic characteristics, family planning knowledge and behaviour, fertility preferences, sexual activity, and awareness about AIDS. Data concerning all but the last topic are presented in this chapter; results about AIDS knowledge and behaviour are covered in Chapter 10.

Men were eligible for the individual interview if they were between 20 and 55 years of age. While women age 15-49 in every household selected in the KDHS were eligible for individual interviews, every second household was designated as also falling into the male sample, and all men age 20-54 in these households were considered eligible.

## 11.1 Background Characteristics of the Male Survey Respondents

### General Characteristics

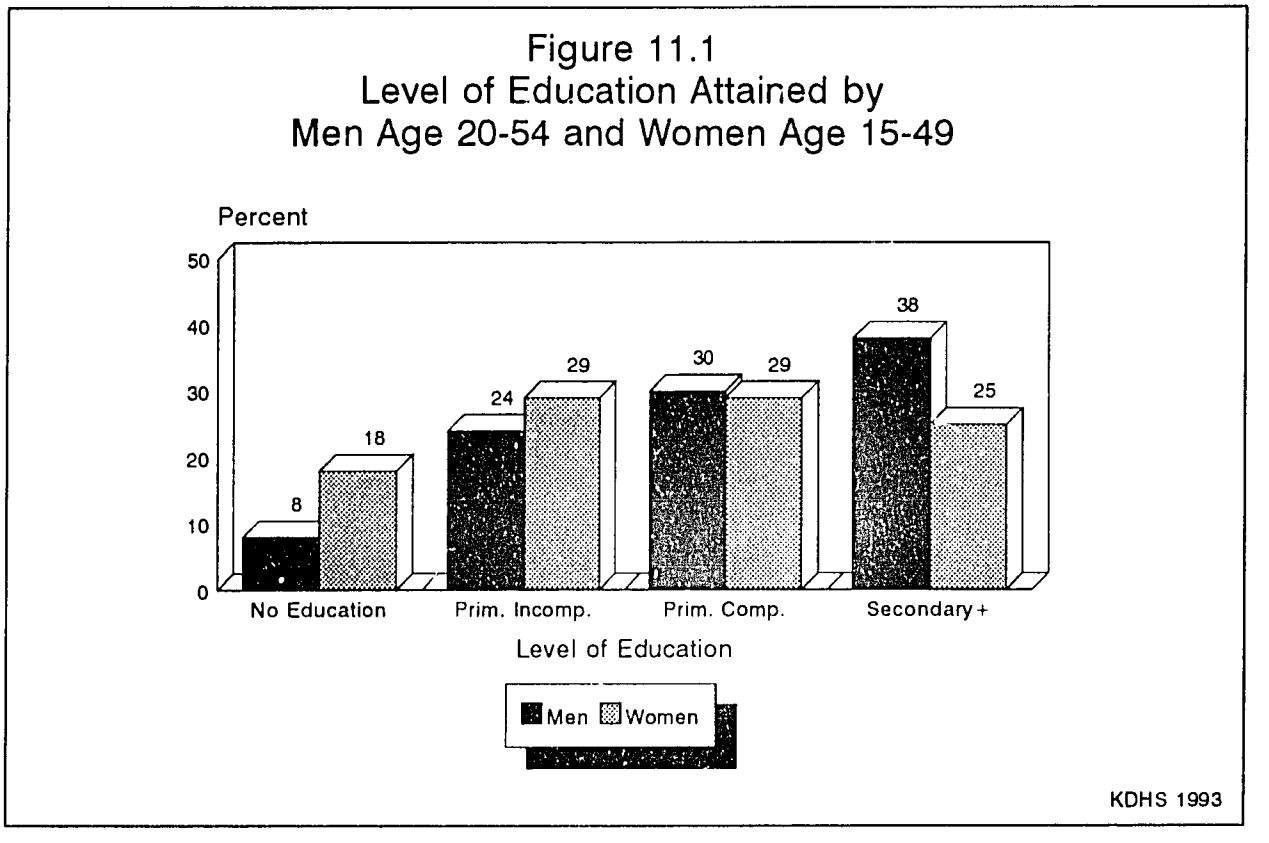
Table 11.1 shows the percent distribution of interviewed men by selected background characteristics. The proportion of men in each age group declines with increasing age, due in part to mortality of older men, but even more to high fertility which produces ever larger cohorts over time. One-quarter (24 percent) of male respondents are unmarried and 71 percent are currently married (either in a formal or informal union). Almost all men have had at least some formal education, with only 8 percent having never been to school. Men have a clear educational advantage over women (see Table 2.8 and Figure 11.1). Despite the fact that male respondents in the KDHS were on average somewhat older than female respondents (which should put them at an educational disadvantage), the proportion of women who have never been to school is twice that of men (18 vs. 8 percent). Men are much more likely to reach secondary school (38 percent) than women (25 percent).

Almost one quarter of the men interviewed live in urban areas. This compares to only 18 percent of women, which is not

Table 11.1 Background characteristics of respondents

Percent distribution of men 20-54 by selected background characteristics, Kenya 1993

| Background characteristic | Weighted percent | Number of men: Weighted | Number of men: Un-weighted |
|---|---|---|---|
| **Age** | | | |
| 20-24 | 22.5 | 525 | 526 |
| 25-29 | 16.7 | 390 | 396 |
| 30-34 | 17.6 | 412 | 417 |
| 35-39 | 13.4 | 314 | 298 |
| 40-44 | 13.0 | 303 | 305 |
| 45-49 | 9.7 | 227 | 228 |
| 50-54 | 7.1 | 165 | 166 |
| **Marital status** | | | |
| Single | 24.4 | 569 | 602 |
| Married | 62.4 | 1457 | 1424 |
| Living together | 8.9 | 207 | 213 |
| Widowed | 0.7 | 16 | 17 |
| Divorced | 1.6 | 37 | 35 |
| Separated | 2.1 | 49 | 45 |
| **Education** | | | |
| No education | 8.3 | 193 | 182 |
| Primary incomplete | 24.2 | 566 | 592 |
| Primary complete | 29.8 | 696 | 692 |
| Secondary+ | 37.7 | 882 | 870 |
| **Residence** | | | |
| Urban | 24.2 | 566 | 480 |
| Rural | 75.8 | 1770 | 1856 |
| **Province** | | | |
| Nairobi | 11.0 | 257 | 171 |
| Central | 14.2 | 333 | 305 |
| Coast | 10.2 | 239 | 353 |
| Eastern | 16.7 | 389 | 308 |
| Nyanza | 12.3 | 287 | 302 |
| Rift Valley | 23.1 | 540 | 624 |
| Western | 12.5 | 292 | 273 |
| **Religion** | | | |
| Catholic | 35.2 | 823 | 823 |
| Protestant/Other Christian | 53.1 | 1241 | 1276 |
| Muslim | 4.7 | 110 | 100 |
| No religion | 5.3 | 124 | 112 |
| Other | 1.6 | 37 | 24 |
| All men | 100.0 | 2336 | 2336 |




surprising, since men are more likely to migrate to cities and towns in search of work. The distribution of men according to province of residence, religion and ethnic group parallels that of women, except that a higher proportion of men than women live in Nairobi.

**Differentials in Education**

Table 11.2 shows the distribution of men by education level, according to age, urban-rural residence and region. Compared to men in the younger age categories, older men are more likely to be uneducated. As expected, urban men are better educated than rural men; the proportion of urban men with some secondary school is almost twice that of rural men (58 vs. 31 percent). Men in Nairobi and in Western and Central Provinces on the whole receive more education than men in the other provinces.

The data by age group given in Table 11.2 highlight the gender differentials in educational attainment, because they make it possible to compare men and women in the same age group (see Table 2.9). Differences are larger among older men and women. For example, 43 percent of women 40-44 have never been to school, compared to only 15 percent of men; only one quarter of these women have completed primary school, compared to over half of the men. Men's educational advantage over women seems to be gradually eroding as greater proportions of younger women are enrolled in school and stay there longer than before.

Table 11.2 Level of education

Percent distribution of men by highest level of education attended, according to selected background characteristics, Kenya 1993

| Background characteristic | Level of education | | | | Total | Number of men |
|---|---|---|---|---|---|---|
| | None | Primary incomplete | Completed primary | Secondary/ Higher | | |
| **Age** | | | | | | |
| 20-24 | 1.6 | 16.3 | 38.0 | 44.1 | 100.0 | 525 |
| 25-29 | 3.3 | 20.0 | 30.4 | 46.3 | 100.0 | 390 |
| 30-34 | 5.7 | 18.2 | 26.9 | 49.2 | 100.0 | 412 |
| 35-39 | 10.0 | 27.9 | 24.5 | 37.6 | 100.0 | 314 |
| 40-44 | 15.1 | 30.0 | 24.4 | 30.4 | 100.0 | 303 |
| 45-49 | 12.7 | 34.5 | 36.4 | 16.4 | 100.0 | 227 |
| 50-54 | 25.6 | 42.4 | 20.1 | 11.9 | 100.0 | 165 |
| **Residence** | | | | | | |
| Urban | 4.3 | 13.5 | 23.8 | 58.4 | 100.0 | 566 |
| Rural | 9.5 | 27.7 | 31.7 | 31.2 | 100.0 | 1770 |
| **Province** | | | | | | |
| Nairobi | 3.5 | 14.0 | 26.9 | 55.6 | 100.0 | 257 |
| Central | 3.1 | 16.2 | 40.1 | 40.7 | 100.0 | 333 |
| Coast | 15.1 | 20.1 | 35.4 | 29.4 | 100.0 | 239 |
| Eastern | 7.4 | 31.9 | 31.6 | 29.1 | 100.0 | 389 |
| Nyanza | 9.1 | 31.0 | 28.1 | 31.8 | 100.0 | 287 |
| Rift Valley | 13.8 | 25.2 | 25.6 | 35.4 | 100.0 | 540 |
| Western | 2.8 | 26.9 | 23.0 | 47.4 | 100.0 | 292 |
| Total | 8.3 | 24.2 | 29.8 | 37.7 | 100.0 | 2336 |

## Access to Mass Media

All eligible men were asked if they usually listen to a radio, watch television, or read a newspaper at least once a week (Table 11.3). This information can be used to identify appropriate communication channels that can be used to reach men. Overall, 59 percent of men report that they read a newspaper once a week (vs. 31 percent of women), while 31 percent of men watch television once a week (vs. 15 percent of women), and 87 percent listen to the radio weekly (vs. 65 percent of women). Younger men are more likely to read newspapers, watch television and listen to the radio than older men. Access to all three media increases sharply as education increases. As expected, men in urban areas and in Nairobi are more likely than rural men to read newspapers, watch television and listen to the radio.

Table 11.3 Access to mass media

Percentage of men who usually read a newspaper, watch television and listen to a radio weekly, by selected background characteristics, Kenya 1993

| Background characteristic | Read newspaper weekly | Watch television weekly | Listen to radio weekly | Number of men |
|---|---|---|---|---|
| **Age** | | | | |
| 20-24 | 63.2 | 34.7 | 87.9 | 525 |
| 25-29 | 66.2 | 31.0 | 91.2 | 390 |
| 30-34 | 63.5 | 33.0 | 87.9 | 412 |
| 35-39 | 60.7 | 32.9 | 89.5 | 314 |
| 40-44 | 54.2 | 27.7 | 84.8 | 303 |
| 45-49 | 48.3 | 24.6 | 81.3 | 227 |
| 50-54 | 38.8 | 21.3 | 82.0 | 165 |
| 55+ | | | | |
| **Education** | | | | |
| No education | 9.9 | 16.2 | 60.6 | 193 |
| Primary incomplete | 34.2 | 21.9 | 83.2 | 566 |
| Primary complete | 62.4 | 26.0 | 88.8 | 696 |
| Secondary+ | 83.1 | 43.2 | 94.3 | 882 |
| **Residence** | | | | |
| Urban | 84.6 | 54.0 | 93.6 | 566 |
| Rural | 50.9 | 23.2 | 85.2 | 1770 |
| **Province** | | | | |
| Nairobi | 82.5 | 53.2 | 92.4 | 257 |
| Central | 61.3 | 27.3 | 84.6 | 333 |
| Coast | 65.1 | 38.2 | 88.5 | 239 |
| Eastern | 65.6 | 40.3 | 91.3 | 389 |
| Nyanza | 47.9 | 14.7 | 72.6 | 287 |
| Rift Valley | 48.2 | 25.4 | 85.4 | 540 |
| Western | 53.5 | 21.4 | 96.8 | 292 |
| Total | 59.1 | 30.7 | 87.2 | 2336 |

## 11.2 Fertility Regulation

### Knowledge of Contraception

One of the main objectives of the KDHS was to determine the level of knowledge of contraceptive methods and the sources where they can be obtained. Although past programs have focused mainly on providing information about family planning to women, more recent programs have targeted men in Kenya. As for women respondents, information on contraceptive knowledge was obtained in the KDHS by asking men to name ways or methods that a couple could use to delay or avoid pregnancy. If the respondent failed to name a particular method spontaneously, the interviewer described the method and asked if he recognised it.

Table 11.4 shows that knowledge of some contraceptive method is universal among men; 99 percent of all men and of currently married men age 20-54 know of at least one method of family planning. Knowledge of any method and of a modern method was equally high among currently married men as among all men.

The pill and the condom are the most commonly known contraceptive methods, recognised by 94 and 93 percent of married men, respectively. Injections and female sterilisation are known by 88 percent of

Table 11.4 Knowledge of contraceptive methods and source for methods

Percentage of all men and currently married men who know specific contraceptive methods and who know a source (for information or services), by specific methods, Kenya 1993

| Contraceptive method | Know method | | Know a source | |
|---|---|---|---|---|
| | All men | Currently married men | All men | Currently married men |
| **Any method** | 98.9 | 98.8 | 94.9 | 94.4 |
| **Any modern method** | 97.8 | 97.3 | 93.3 | 92.4 |
| **Modern method** | | | | |
| Pill | 93.3 | 93.9 | 81.0 | 84.0 |
| IUD | 68.2 | 70.8 | 59.3 | 62.9 |
| Injection | 86.0 | 87.6 | 77.1 | 79.3 |
| Diaphragm/foam/jelly | 34.7 | 33.4 | 30.4 | 30.2 |
| Condom | 94.2 | 92.8 | 84.8 | 83.1 |
| Female sterilisation | 86.3 | 87.5 | 75.6 | 77.8 |
| Male sterilisation | 55.7 | 56.2 | 49.5 | 50.7 |
| Norplant | 12.9 | 13.9 | 10.5 | 11.4 |
| **Any traditional method** | 88.7 | 89.9 | 65.1 | 66.8 |
| Rhythm/counting days | 84.4 | 85.3 | 62.4 | 64.1 |
| Natural family planning | 35.6 | 36.6 | 26.5 | 27.9 |
| Withdrawal | 43.4 | 42.7 | NA | NA |
| Other | 12.0 | 13.7 | NA | NA |
| Number of men | 2336 | 1664 | 2336 | 1664 |

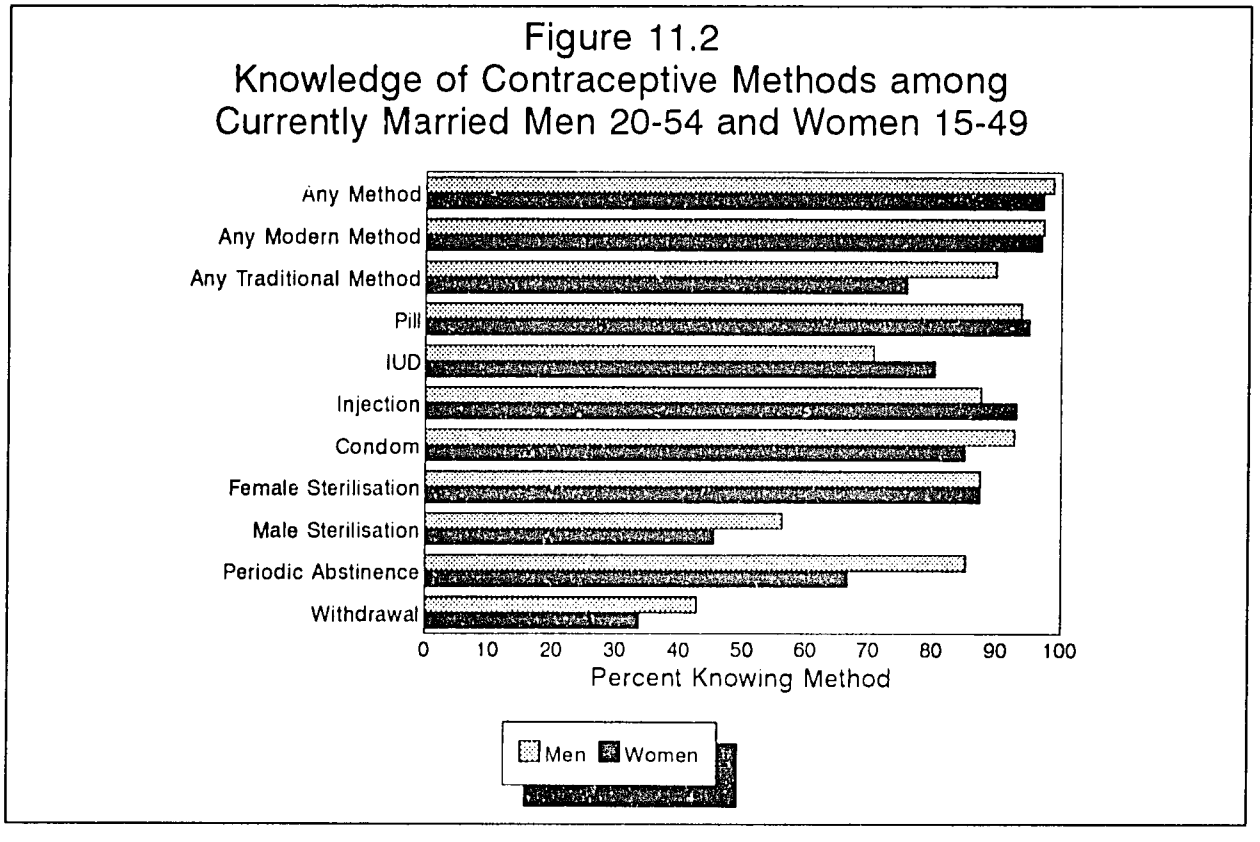
NA = Not applicable

married men and calendar rhythm is known to 85 percent. Seven out of ten married men say they know the IUD. Interestingly, male sterilisation and withdrawal—both being "male methods"—are among the least widely known methods; just over half of married men say they know about male sterilisation and only 43 percent say they know about withdrawal. As with women respondents, the vaginal methods (diaphragm, foaming tablets, jelly), natural family planning, and Norplant were the least widely recognised methods among men.

These findings indicate that the overall knowledge of contraception is extremely high among Kenyan men. However, knowledge of some specific methods such as vaginal methods, male sterilisation and to some extent, the IUD, is relatively low. More intensive information programs could help raise awareness of these methods.

Overall, 94 percent of married men know of a place to obtain a method of family planning. Generally about 90 percent of the married men who know about a modern method also know of a place to obtain that method. As expected, knowledge of a source for information about the rhythm method or natural family planning is lower than that for the modern methods.

The level of knowledge of contraceptive methods among currently married men and women can be compared in Figure 11.2. Women are slightly more likely than men to know about the female methods—the




pill, IUD, injections and vaginal methods, while men are more likely to know about the male-oriented methods—condoms, male sterilisation and withdrawal. Interestingly, men are also more likely to know periodic abstinence (rhythm method and natural family planning). The same proportion of men as women report knowing about female sterilisation.

The proportion of married men who know of at least one modern contraceptive method is extremely high (generally 95 percent or over) for all subgroups of men (Table 11.5). The only exception is men with no formal education, only 82 percent of whom recognise a modern method. Generally, around 90 percent of those who know a modern method also know of a place to obtain a modern method. Exceptions are men age 50-54, men in Rift Valley Province and men with no education, fewer of whom say they know a source for a modern method.

**Ever Use of Contraception**

All eligible men (age 20-54) interviewed in the KDHS who had heard of a particular method of family planning were asked if they had ever used it. It should be noted that many of the family planning methods asked about are used by women without requiring the participation or knowledge of men. To the extent that women use contraception without the knowledge of their partners, the results presented here may underestimate the true prevalence of contraceptive use. It should also be noted that the interpretation of these data is difficult in polygamous marriages (or any multi-partner relationships) where some of the wives may be using contraceptives, and others may not.

Table 11.5 Knowledge of modern contraceptive methods and source for methods

Percentage of currently married men who know at least one modern contraceptive method and who know a source (for information or services), by selected background characteristics, Kenya 1993

| Background characteristic | Know any method | Know a modern method[1] | Know a source for modern method | Number of men |
|---|---|---|---|---|
| **Age** | | | | |
| 20-24 | 99.3 | 99.3 | 94.8 | 101 |
| 25-29 | 99.5 | 98.0 | 96.7 | 257 |
| 30-34 | 99.1 | 98.4 | 93.5 | 359 |
| 35-39 | 98.8 | 97.1 | 91.2 | 299 |
| 40-44 | 99.2 | 97.0 | 93.9 | 285 |
| 45-49 | 98.0 | 96.8 | 93.1 | 211 |
| 50-54 | 97.1 | 94.1 | 80.1 | 153 |
| **Residence** | | | | |
| Urban | 100.0 | 99.6 | 95.8 | 393 |
| Rural | 98.5 | 96.6 | 91.4 | 1271 |
| **Province** | | | | |
| Nairobi | 100.0 | 100.0 | 98.3 | 179 |
| Central | 95.9 | 95.6 | 92.7 | 226 |
| Coast | 100.0 | 99.0 | 88.6 | 160 |
| Eastern | 99.6 | 99.6 | 97.8 | 283 |
| Nyanza | 99.6 | 98.8 | 94.1 | 208 |
| Rift Valley | 98.0 | 92.9 | 82.9 | 397 |
| Western | 99.7 | 99.4 | 99.4 | 212 |
| **Education** | | | | |
| No education | 95.2 | 82.2 | 65.1 | 170 |
| Primary incomplete | 99.0 | 98.5 | 91.6 | 429 |
| Primary complete | 99.3 | 99.3 | 95.5 | 471 |
| Secondary+ | 99.4 | 99.3 | 98.4 | 595 |
| Total | 98.8 | 97.3 | 92.4 | 1664 |

[1]Includes pill, IUD, injection, vaginal methods (foaming tablets/diaphragm/foam/jelly), condom, female sterilisation, and male sterilisation.

Table 11.6 indicates that almost three quarters (72 percent) of currently married men have used a family planning method at some time. A little less than half of married men have used a modern method and a little over half have used a traditional method. The calendar rhythm method is by far the most widely used method; half of the married men report that they have used it. Over one quarter (27 percent) of men report having used condoms and almost as many (24 percent) say they have relied on the contraceptive pill. Smaller proportions report ever use of the other methods. Although they have had less time in which to use family planning, men in their late 20s and early 30s are more likely to have used a method than older men. As expected, younger men are more likely than older men to have used temporary methods such as calendar rhythm, condoms and the pill, while older men are more likely to have used longer-term methods such as female sterilisation and the IUD. Since most men interviewed were married, ever use of contraceptive methods among all men is comparable to that of currently married men.

Table 11.6 Ever use of contraception

Among all men and currently married men, the percentage who have ever used a contraceptive method, by specific method, according to age, Kenya 1993

| Background characteristic | Any method | Modern method: Any modern method | Pill | IUD | Injection | Diaphragm/ foam/ jelly | Condom | Female sterilisation | Norplant | Traditional method: Any trad. method | Natural family planning: Rhythm/ counting days | Natural family planning: Withdrawal | Other | Number of men |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ALL MEN | | | | | | | | | | | | | | |
| 20-24 | 68.5 | 55.3 | 11.7 | 2.0 | 1.7 | 1.9 | 52.0 | 0.3 | 0.3 | 47.8 | 45.7 | 2.7 | 10.7 | 1.3 | 525 |
| 25-29 | 76.8 | 59.3 | 21.1 | 3.6 | 6.4 | 2.4 | 46.3 | 0.3 | 0.5 | 58.1 | 54.6 | 5.0 | 14.4 | 2.4 | 390 |
| 30-34 | 72.1 | 51.1 | 29.5 | 6.8 | 11.2 | 3.5 | 36.4 | 2.1 | 0.3 | 53.0 | 46.9 | 7.5 | 12.7 | 3.7 | 412 |
| 35-39 | 71.7 | 51.2 | 26.2 | 10.6 | 12.1 | 4.3 | 25.2 | 4.3 | 0.2 | 54.4 | 51.0 | 5.6 | 9.6 | 8.7 | 314 |
| 40-44 | 71.2 | 45.0 | 21.8 | 7.2 | 10.9 | 1.3 | 19.9 | 7.9 | 0.0 | 53.0 | 46.4 | 4.9 | 10.0 | 7.1 | 303 |
| 45-49 | 65.6 | 40.1 | 23.1 | 7.5 | 9.3 | 0.7 | 14.2 | 12.8 | 0.4 | 51.4 | 44.8 | 2.8 | 5.4 | 9.6 | 227 |
| 50-54 | 64.9 | 31.1 | 15.7 | 8.5 | 8.4 | 3.9 | 8.7 | 13.3 | 1.1 | 51.3 | 46.0 | 6.6 | 4.8 | 11.6 | 165 |
| Total | 70.8 | 50.2 | 21.1 | 5.9 | 8.0 | 2.5 | 33.8 | 4.3 | 0.3 | 52.6 | 48.1 | 4.9 | 10.5 | 5.2 | 2336 |
| CURRENTLY MARRIED MEN | | | | | | | | | | | | | | |
| 20-24 | 65.1 | 50.4 | 11.2 | 4.2 | 3.1 | 2.2 | 42.7 | 0.0 | 0.0 | 48.5 | 47.0 | 5.6 | 7.8 | 2.0 | 101 |
| 25-29 | 78.4 | 55.5 | 23.7 | 3.2 | 6.9 | 0.8 | 38.6 | 0.0 | 0.3 | 62.8 | 59.6 | 5.6 | 13.9 | 3.6 | 257 |
| 30-34 | 74.6 | 51.8 | 30.2 | 6.8 | 12.5 | 3.8 | 36.3 | 2.4 | 0.3 | 55.3 | 48.6 | 8.3 | 13.2 | 3.7 | 359 |
| 35-39 | 72.4 | 51.2 | 26.9 | 10.7 | 12.7 | 4.5 | 24.7 | 4.5 | 0.2 | 56.0 | 52.6 | 5.9 | 9.6 | 9.0 | 299 |
| 40-44 | 72.2 | 47.1 | 22.6 | 7.7 | 11.6 | 1.4 | 20.9 | 8.1 | 0.0 | 53.2 | 46.2 | 5.1 | 10.0 | 7.0 | 285 |
| 45-49 | 67.4 | 42.2 | 24.1 | 8.1 | 9.8 | 0.8 | 15.3 | 13.8 | 0.4 | 52.1 | 45.0 | 3.0 | 5.0 | 10.3 | 211 |
| 50-54 | 63.1 | 31.8 | 17.0 | 9.2 | 9.1 | 2.9 | 7.7 | 14.1 | 1.2 | 48.3 | 42.6 | 5.8 | 5.3 | 11.2 | 153 |
| Total | 71.8 | 48.3 | 24.2 | 7.3 | 10.3 | 2.5 | 27.0 | 5.7 | 0.3 | 54.8 | 49.5 | 5.8 | 10.0 | 6.6 | 1664 |

## Current Use of Contraception

Well over half (54 percent) of currently married men reported that they were using family planning methods at the time of the survey (see Table 11.7). Almost one-third of married men are using a modern method, while 23 percent are using traditional methods. Calendar rhythm is reported to be the most widely used method among married men (19 percent), with the pill the second most popular method (11 percent). Seven percent of married men say they are using condoms and 6 percent rely on injections. Current use of contraception is well over 50 percent among men in all age groups except the youngest (20-24) and the oldest (50-54), where it is lower. As with ever use, younger men are more likely than older men to be using temporary methods like the pill and condom, while older men are more likely to rely on longer-term methods such as female sterilisation, the IUD, and injections.

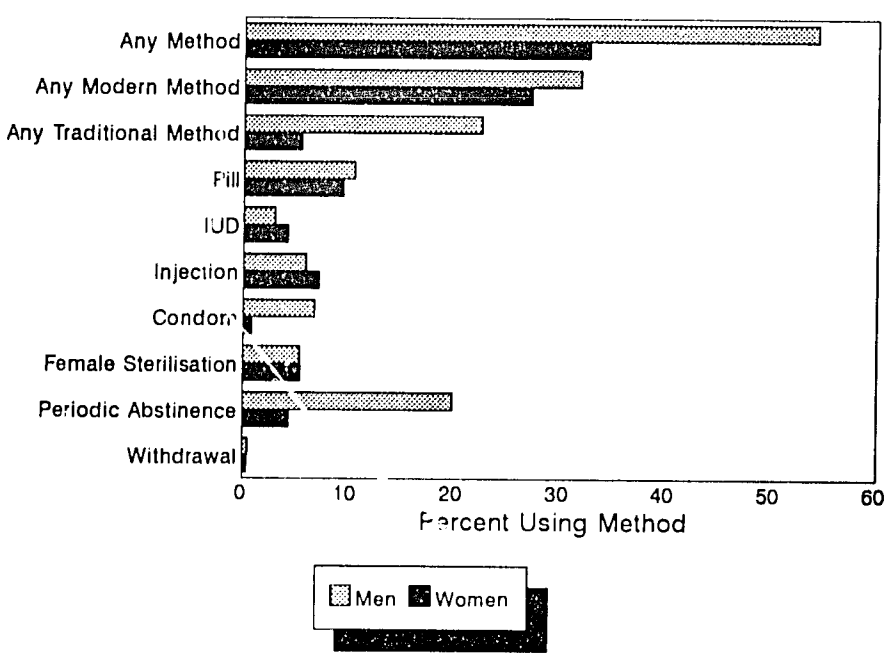
Figure 11.3 shows current use of contraceptive methods among currently married men and women. Men are much more likely than women to report that they are currently using contraceptive methods (54 percent vs. 33 percent). The reported current use of modern contraceptives among men is much closer to that of women (32 percent vs. 27 percent). The largest differences are in the use of traditional methods; men are four times more likely to report that they are using traditional methods than women. Differences by individual method are small, except for the condom and calendar rhythm methods, for which married men report considerably higher levels of use than married women.

Table 11.7 Current use of contraception

Percent distribution of all men and of currently married men by contraceptive method currently used, according to age, Kenya 1993

| Background characteristic | Any method | Modern method: Any modern method | Pill | IUD | Injection | Diaphragm/ foam/ jelly | Condom | Female sterilisation | Traditional method: Any trad. method | Natural family planning: Rhythm/ counting days | Natural family planning: Withdrawal | Other | Not currently using | Total | Number of men |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ALL MEN | | | | | | | | | | | | | | | |
| 20-24 | 44.5 | 26.8 | 2.3 | 0.3 | 0.6 | 0.2 | 23.5 | 0.0 | 17.7 | 17.0 | 0.0 | 0.5 | 0.2 | 55.5 | 100.0 | 525 |
| 25-29 | 54.0 | 34.8 | 12.4 | 1.6 | 2.7 | 0.8 | 17.3 | 0.0 | 19.2 | 17.8 | 0.6 | 0.7 | 0.1 | 46.0 | 100.0 | 390 |
| 30-34 | 52.0 | 33.8 | 13.0 | 2.7 | 6.5 | 0.0 | 10.4 | 1.2 | 18.2 | 15.2 | 1.7 | 0.4 | 0.9 | 48.0 | 100.0 | 412 |
| 35-39 | 56.3 | 29.5 | 9.1 | 4.1 | 6.3 | 0.2 | 5.7 | 4.3 | 26.7 | 22.8 | 1.3 | 0.1 | 2.5 | 43.7 | 100.0 | 314 |
| 40-44 | 57.2 | 35.3 | 8.5 | 3.7 | 8.1 | 0.0 | 7.4 | 7.5 | 22.0 | 18.1 | 0.4 | 0.1 | 3.3 | 42.8 | 100.0 | 303 |
| 45-49 | 49.7 | 28.0 | 6.4 | 2.7 | 5.2 | 0.0 | 0.9 | 12.8 | 21.7 | 15.7 | 0.1 | 1.4 | 4.5 | 50.3 | 100.0 | 227 |
| 50-54 | 40.1 | 24.0 | 5.0 | 3.9 | 3.1 | 0.0 | 0.5 | 11.6 | 16.0 | 11.9 | 1.3 | 0.2 | 2.6 | 59.9 | 100.0 | 165 |
| Total | 50.8 | 30.8 | 8.2 | 2.4 | 4.3 | 0.2 | 11.8 | 3.8 | 20.1 | 17.3 | 0.7 | 0.5 | 1.6 | 49.2 | 100.0 | 2336 |
| CURRENTLY MARRIED MEN | | | | | | | | | | | | | | | |
| 20-24 | 35.5 | 21.0 | 6.5 | 1.5 | 3.1 | 0.0 | 9.9 | 0.0 | 14.4 | 13.9 | 0.0 | 0.0 | 0.5 | 64.5 | 100.0 | 101 |
| 25-29 | 56.4 | 31.5 | 16.9 | 1.1 | 3.2 | 0.0 | 10.2 | 0.0 | 24.9 | 23.3 | 0.9 | 0.6 | 0.1 | 43.6 | 100.0 | 257 |
| 30-34 | 55.7 | 35.6 | 13.9 | 2.7 | 7.4 | 0.0 | 10.2 | 1.4 | 20.0 | 16.6 | 2.0 | 0.5 | 1.0 | 44.3 | 100.0 | 359 |
| 35-39 | 58.4 | 30.3 | 9.5 | 4.3 | 6.6 | 0.2 | 5.3 | 4.5 | 28.1 | 24.0 | 1.3 | 0.1 | 2.6 | 41.6 | 100.0 | 299 |
| 40-44 | 60.6 | 37.2 | 8.9 | 4.0 | 8.7 | 0.0 | 7.7 | 7.9 | 23.4 | 19.2 | 0.5 | 0.1 | 3.5 | 39.4 | 100.0 | 285 |
| 45-49 | 52.9 | 30.1 | 6.9 | 2.9 | 5.6 | 0.0 | 0.9 | 13.8 | 22.8 | 16.4 | 0.1 | 1.5 | 4.8 | 47.1 | 100.0 | 211 |
| 50-54 | 43.5 | 26.1 | 5.4 | 4.2 | 3.3 | 0.0 | 0.5 | 12.5 | 17.4 | 12.9 | 1.4 | 0.2 | 2.9 | 56.5 | 100.0 | 153 |
| Total | 54.4 | 31.9 | 10.6 | 3.0 | 6.0 | 0.0 | 6.8 | 5.4 | 22.6 | 18.9 | 1.0 | 0.5 | 2.2 | 45.6 | 100.0 | 1664 |

Figure 11.3
Current Use of Contraceptive Methods among Currently Married Men 20-54 and Women 15-49



These observed differences may be due to a number of reasons. The higher prevalence among men may indicate use of contraceptives by men with women other than their wives. It is also possible that women did not mention some of the methods that were primarily used by their husbands, either due to shyness or because they did not know that their husbands were using them. This may explain the difference in reported condom use; however, it is difficult to see how it would explain the difference in use of the rhythm method for which the woman's participation is necessary. Differences in reported use of the rhythm method might be due to misunderstanding of the method among men who might mistake occasional abstinence for whatever reason for the more systematic abstinence during the most fertile time of the woman's ovulatory cycle.

Table 11.8 shows the percent distribution of married men age 20-54 years by the contraceptive method currently used, according to rural-urban residence, province and highest level of education attained. Men in urban areas are more likely to use contraceptive methods, especially modern methods, than their counterparts in rural areas. Conversely, reported use of traditional methods is more common in rural areas than in urban areas.

Table 11.8 Current use of family planning by background characteristics

Percent distribution of all men and currently married men by contraceptive method currently used, according to selected background characteristics, Kenya 1993

| | | Modern method | | | | | | | Traditional method | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Background characteristic | Any method | Any modern method | Pill | IUD | Injection | Diaphragm/ foam/ jelly | Condom | Female sterilisation | Any trad. method | Rhythm/ counting days | Natural family planning | Withdrawal | Other | Not currently using | Total | Number of men |
| **Residence** | | | | | | | | | | | | | | | | |
| Urban | 60.5 | 42.4 | 14.7 | 6.1 | 7.6 | 0.1 | 8.1 | 5.7 | 18.1 | 14.5 | 0.8 | 0.0 | 2.8 | 39.5 | 100.0 | 393 |
| Rural | 52.5 | 28.6 | 9.3 | 2.1 | 5.5 | 0.0 | 6.4 | 5.3 | 24.0 | 20.2 | 1.1 | 0.6 | 2.0 | 47.5 | 100.0 | 1271 |
| **Province** | | | | | | | | | | | | | | | | |
| Nairobi | 58.0 | 37.0 | 15.1 | 3.4 | 5.9 | 0.0 | 7.6 | 5.0 | 21.0 | 18.5 | 0.0 | 0.0 | 2.5 | 42.0 | 100.0 | 179 |
| Central | 58.9 | 44.5 | 16.4 | 5.1 | 3.5 | 0.0 | 13.5 | 5.9 | 14.5 | 10.8 | 0.3 | 0.0 | 3.4 | 41.1 | 100.0 | 226 |
| Coast | 42.5 | 19.0 | 8.1 | 1.2 | 3.1 | 0.3 | 4.5 | 1.6 | 23.5 | 21.6 | 0.7 | 0.9 | 0.3 | 57.5 | 100.0 | 160 |
| Eastern | 84.9 | 43.2 | 14.7 | 5.2 | 7.3 | 0.0 | 8.7 | 7.4 | 41.7 | 38.7 | 1.2 | 0.4 | 1.5 | 15.1 | 100.0 | 283 |
| Nyanza | 36.5 | 21.5 | 5.4 | 0.4 | 7.7 | 0.0 | 1.2 | 6.8 | 15.0 | 12.7 | 0.7 | 0.4 | 1.2 | 63.5 | 100.0 | 208 |
| Rift Valley | 50.0 | 24.6 | 5.0 | 3.2 | 6.4 | 0.0 | 4.8 | 5.3 | 25.4 | 20.0 | 0.5 | 1.0 | 3.9 | 50.0 | 100.0 | 397 |
| Western | 40.8 | 32.4 | 12.6 | 1.5 | 6.6 | 0.0 | 7.8 | 3.9 | 8.4 | 3.3 | 4.1 | 0.0 | 1.0 | 59.2 | 100.0 | 212 |
| **Education** | | | | | | | | | | | | | | | | |
| No education | 32.0 | 11.4 | 4.8 | 0.6 | 1.3 | 0.0 | 1.7 | 2.9 | 20.6 | 15.6 | 0.5 | 0.8 | 3.8 | 68.0 | 100.0 | 170 |
| Primary incomplete | 46.9 | 22.4 | 6.2 | 0.6 | 4.1 | 0.0 | 4.7 | 6.7 | 24.6 | 21.0 | 0.3 | 0.8 | 2.5 | 53.1 | 100.0 | 429 |
| Primary complete | 54.4 | 31.4 | 10.5 | 2.6 | 5.2 | 0.0 | 7.2 | 5.8 | 23.1 | 19.1 | 0.7 | 0.2 | 3.1 | 45.6 | 100.0 | 471 |
| Secondary+ | 66.2 | 44.9 | 15.5 | 5.9 | 9.2 | 0.1 | 9.5 | 4.8 | 21.3 | 18.2 | 1.9 | 0.3 | 0.9 | 33.8 | 100.0 | 595 |
| Total | 54.4 | 31.9 | 10.6 | 3.0 | 6.0 | 0.0 | 6.8 | 5.4 | 22.6 | 18.9 | 1.0 | 0.5 | 2.2 | 45.6 | 100.0 | 1664 |

There are quite large differences in the prevalence of current contraceptive use among men in the various provinces. For example, 85 percent of the married men in Eastern Province report using family planning methods, compared to only 37 percent of those in Nyanza Province. Other provinces with relatively low male contraceptive use are Western and Coast Provinces. As for use of modern methods, men in Central and Eastern Provinces and those in Nairobi report the highest levels (around 40 percent), while those in Coast, Nyanza and Rift Valley Provinces report the lowest (around 20 percent). These differences need to be interpreted cautiously because of the small numbers of men covered.

Contraceptive use increases regularly with increasing educational attainment, from 32 percent of married men with no formal education, to 47 percent of those with some primary school, to 54 percent of those who completed primary school, and to 66 percent of those with at least some secondary school. A similar pattern is observed for use of modern contraceptive methods; however, there is little difference in use of traditional methods by education level.

## Sources of Family Planning Methods

All current users of modern methods of family planning were asked to report the source from which they most recently obtained their supplies. Table 11.9 shows that 48 percent of male users of modern contraceptives obtained their last supplies from public (government) health facilities, of which half were government hospitals. Thirty-one percent of male users obtain contraceptives from private medical facilities, and 19 percent obtain their contraceptive supplies from other private sources.

The importance of public and private sources in providing family planning services differs between men and women. Almost half of male users of modern contraceptives say their methods are obtained from public sources, compared to 68 percent of women (see Table 4.13). Most of the difference stems from the fact that men whose partners are using the pill, IUD and injection are more likely than women using these methods to say that the method was obtained from private as opposed to public sources. It is interesting to note that 9 percent of men who use either pills or condoms say they obtain them from the community-based distributor (CBD).

Table 11.9 Source of supply for modern contraceptive methods

Percent distribution of current male users of modern contraceptive methods by most recent source of supply, according to specific methods, Kenya 1993

| Source of supply | Pill | IUD | Injection | Condom | Female sterilisation | All methods |
|---|---|---|---|---|---|---|
| **Public sector** | 54.4 | 53.9 | 60.7 | 32.9 | 61.0 | 48.0 |
| Government hospital | 22.4 | 34.6 | 17.0 | 14.9 | 61.0 | 24.5 |
| Government health centre | 21.2 | 19.3 | 26.2 | 13.6 | 0.0 | 16.5 |
| Government dispensary | 10.9 | 0.0 | 17.6 | 4.3 | 0.0 | 7.0 |
| **Medical private sector** | 32.2 | 41.6 | 34.4 | 25.4 | 39.0 | 31.4 |
| Mission/church hospital | 9.1 | 10.4 | 8.1 | 3.0 | 19.0 | 7.9 |
| FPAK health centre/clinic | 11.8 | 16.1 | 9.0 | 5.7 | 7.0 | 8.7 |
| Other non-government | 0.4 | 0.0 | 0.5 | 3.0 | 0.0 | 1.3 |
| Private hospital/clinic | 7.5 | 12.4 | 9.6 | 6.9 | 12.6 | 8.6 |
| Pharmacy | 0.8 | 0.0 | 0.0 | 6.1 | 0.0 | 2.5 |
| Private doctor | 2.6 | 2.7 | 7.3 | 0.8 | 0.4 | 2.3 |
| **Other private sector** | 10.8 | 1.8 | 2.6 | 39.9 | 0.0 | 18.7 |
| Mobile clinic | 0.2 | 1.8 | 2.6 | 5.6 | 0.0 | 2.7 |
| Community distributor/ health worker | 9.0 | 0.0 | 0.0 | 9.3 | 0.0 | 6.0 |
| Shop | 1.6 | 0.0 | 0.0 | 16.1 | 0.0 | 6.6 |
| Friends/relatives | 0.0 | 0.0 | 0.0 | 8.8 | 0.0 | 3.4 |
| Other | 0.8 | 0.0 | 1.5 | 0.2 | 0.0 | 0.5 |
| Don't know | 0.6 | 2.8 | 0.0 | 0.0 | 0.0 | 0.4 |
| Missing | 1.2 | 0.0 | 0.8 | 1.6 | 0.0 | 1.1 |
| Total | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| Number of men | 191 | 55 | 101 | 277 | 89 | 719 |

FPAK = Family Planning Association of Kenya

## Intention to Use Family Planning Methods Among Nonusers

Currently married men who were not using a modern contraceptive method at the time of the survey were asked if they intended to use a method to delay or avoid a pregnancy at any time in the future. According to the results, which are shown in Table 11.10, more than half (52 percent) of men not currently using contraception intend to use contraceptive methods in the future, while 36 percent do not intend to use and 10 percent are unsure. The proportion of men not intending to use contraceptives in the future increases with increasing number of living children among those with at least one child. These data on intentions for future contraceptive use closely mirror those obtained for female nonusers (see Table 4.15).

Table 11.10 Future use of contraception

Percent distribution of currently married men who are not using a contraceptive method by intention to use in the future, according to number of living children, Kenya 1993

| | Number of living children | | | | | |
|---|---|---|---|---|---|---|
| Future intentions | 0 | 1 | 2 | 3 | 4+ | Total |
| **All currently married nonusers** | | | | | | |
| Intend to use in next 12 months | 23.6 | 33.6 | 31.7 | 26.8 | 29.1 | 29.2 |
| Intend to use later | 37.0 | 30.7 | 21.2 | 20.2 | 11.1 | 18.1 |
| Unsure as to timing | 7.0 | 0.6 | 4.8 | 4.6 | 4.6 | 4.4 |
| Unsure as to intention | 1.0 | 5.1 | 12.1 | 15.4 | 10.2 | 9.5 |
| Do not intend to use | 31.4 | 24.0 | 28.3 | 28.4 | 42.7 | 36.1 |
| Missing | 0.0 | 6.0 | 1.9 | 4.6 | 2.3 | 2.7 |
| Total | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| Number of men | 72 | 92 | 98 | 76 | 421 | 758 |

Currently married men who indicated that they did not intend to use any contraceptive in the future were asked to state their reasons. Almost one-third (31 percent) of these men said that they do not intend to use because their wives are menopausal or are infertile (have difficulty in getting pregnant), and one-quarter (26 percent) said that they do not intend to use contraception because they want children (see Table 11.11). Other reasons given are "lack of knowledge" (10 percent), "opposed to family planning" (10 percent), "religion" (5 percent) and "partner opposed" (4 percent). The reasons for not intending to use contraception given by male nonusers are similar to those given by female nonusers, except that women are more likely to cite side effects, fear of sterility and other health concerns, while men are more likely to cite lack of knowledge and opposition to family planning.

Nonusers who said that they *did* intend to use family planning in the future were asked to state the method they would prefer to use. Table 11.12 shows that almost one in five (18 percent) is unsure of the method. Another one in five prefers to use injections, while the rest are almost equally divided in preferring to use the pill, condoms, female sterilisation and the rhythm method. Men who intend to use in the next 12 months are more likely than those who intend to use later to say they want to use the rhythm method and less likely to say they are unsure of which method they intend to use.

Table 11.11 Reasons for not using contraception

Percent distribution of currently married men who are not using a contraceptive method and who do not intend to use in the future by main reason for not using, according to age, Kenya 1993

| Reason for not using contraception | Total |
|---|---|
| Wants children | 25.7 |
| Lack of knowledge | 10.0 |
| Partner opposed | 4.4 |
| Side effects | 2.6 |
| Fears sterility | 0.4 |
| Other health concerns | 2.5 |
| Hard to get methods | 1.3 |
| Religion | 5.1 |
| Opposed to family planning | 9.8 |
| Fatalistic | 1.7 |
| Infrequent sex | 0.6 |
| Difficult to be pregnant | 6.0 |
| Menopausal/had hysterectomy | 25.4 |
| Inconvenient | 0.6 |
| Other | 2.3 |
| Don't know | 1.5 |
| Total | 100.0 |
| Number | 274 |

Table 11.12 Preferred method of contraception for future use

Percent distribution of currently married men who are not using a contraceptive method but who intend to use in the future by preferred method, according to whether they intend to use in the next 12 months or later, Kenya 1993

| Preferred method of contraception | Intend to use: In next 12 months | Intend to use: After 12 months | Total |
|---|---|---|---|
| Pill | 13.5 | 17.5 | 14.8 |
| IUD | 3.7 | 2.4 | 2.9 |
| Injections | 21.9 | 17.3 | 19.0 |
| Diaphragm/foam/jelly | 0.3 | 0.0 | 0.2 |
| Condom | 13.8 | 16.5 | 13.9 |
| Female sterilisation | 13.8 | 12.6 | 12.9 |
| Male sterilisation | 0.0 | 0.4 | 0.5 |
| Norplant | 1.3 | 0.0 | 0.7 |
| Rhythm/counting days | 14.0 | 7.9 | 10.6 |
| Natural method | 1.2 | 1.4 | 1.6 |
| Withdrawal | 0.2 | 0.0 | 0.8 |
| Other | 4.3 | 0.9 | 3.4 |
| Unsure | 11.8 | 23.2 | 18.0 |
| Missing | 0.2 | 0.0 | 0.7 |
| Total | 100.0 | 100.0 | 100.0 |
| Number | 222 | 138 | 397 |

Note: Table excludes those who are unsure when they might use.

## Radio Messages About Family Planning

All male respondents were asked if they had heard a family planning message on the radio in the six months preceding the survey. A majority of men (67 percent) said they did hear such a message on the radio (Table 11.13). This proportion remains remarkably constant across subgroups of men according to urban-rural residence, province of residence and education level attained. The only exceptions are among men in Eastern Province, a larger proportion of whom report having heard a family planning message, and among men with no education, a smaller proportion of whom have heard a message. Men are much more likely to have heard a family planning message on the radio than women (67 vs. 46 percent).

## Discussion and Approval of Family Planning

One indicator of the extent of knowledge and acceptance of family planning is the proportion of married couples who discuss the topic. In the KDHS, both married men and women were asked whether they had ever discussed family planning with their spouses and if so, how many times they had discussed it in the year prior to the survey. As shown in Table 11.14, over two-thirds of married men have discussed family planning with their wives in the past year and most of these men have discussed the topic not only once or twice, but on at least three occasions. Men in their late 20s and early 30s are more likely than older or younger men to have discussed contraception with their wives.

Table 11.13 Heard family planning on radio

Percentage of all men who have heard specific radio programs about family planning in the six months prior to interview, according to selected background characteristics, Kenya 1993

| | | Name of program | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Background characteristic | Any program | Mwenda Pole | Panga Uzazi | Maisha Ya Jamii Yako | Jifunze Na Uendelea | Maisha Bora | Afya Yako | Daktari Akushauri | Kuelewa Ni Kuzungumza | Other | Don't know | Number of men |
| **Residence** | | | | | | | | | | | | |
| Urban | 68.2 | 3.8 | 21.4 | 4.4 | 0.9 | 2.5 | 2.1 | 2.0 | 12.0 | 1.3 | 30.8 | 566 |
| Rural | 66.5 | 2.6 | 28.2 | 5.5 | 0.5 | 2.8 | 2.4 | 1.8 | 7.0 | 2.4 | 27.1 | 1770 |
| **Province** | | | | | | | | | | | | |
| Nairobi | 64.9 | 2.9 | 19.9 | 1.8 | 0.0 | 1.2 | 1.2 | 0.6 | 10.5 | 0.6 | 32.2 | 257 |
| Central | 65.4 | 5.2 | 15.0 | 4.2 | 0.1 | 2.8 | 1.1 | 0.2 | 4.6 | 3.5 | 34.5 | 333 |
| Coast | 60.2 | 2.0 | 21.2 | 3.6 | 0.6 | 1.6 | 2.0 | 1.5 | 8.4 | 0.7 | 25.3 | 239 |
| Eastern | 80.0 | 1.1 | 38.9 | 4.8 | 0.0 | 0.8 | 1.0 | 0.9 | 2.3 | 0.5 | 36.1 | 389 |
| Nyanza | 62.4 | 1.8 | 28.5 | 3.0 | 0.3 | 2.3 | 2.8 | 2.9 | 2.8 | 4.3 | 30.4 | 287 |
| Rift Valley | 65.8 | 4.4 | 30.1 | 7.0 | 0.9 | 1.7 | 0.2 | 1.5 | 4.1 | 3.2 | 23.4 | 540 |
| Western | 65.1 | 1.3 | 24.9 | 10.4 | 2.0 | 10.0 | 10.4 | 5.8 | 30.8 | 1.1 | 14.5 | 292 |
| **Education** | | | | | | | | | | | | |
| No education | 41.2 | 0.2 | 8.4 | 2.3 | 0.0 | 0.0 | 0.0 | 0.0 | 0.9 | 0.6 | 30.1 | 193 |
| Primary incomplete | 60.0 | 1.3 | 26.2 | 5.1 | 0.2 | 1.7 | 2.2 | 0.9 | 5.9 | 1.5 | 24.9 | 566 |
| Primary complete | 66.9 | 1.9 | 26.7 | 3.0 | 0.2 | 2.0 | 1.3 | 1.0 | 6.6 | 2.9 | [illegible] | 696 |
| Secondary + | 77.1 | 5.1 | 30.6 | 7.7 | 1.2 | 4.7 | 3.8 | 3.4 | 12.5 | 2.2 | 28.5 | 882 |
| Total | 66.9 | 2.8 | 26.5 | 5.2 | 0.6 | 2.8 | 2.3 | 1.8 | 8.2 | 2.1 | 28.0 | 2336 |

Table 11.14 Discussion of family planning with wife

Percent distribution of currently married non-sterilised men knowing a contraceptive method by the number of times they discussed family planning with their wives in the past year, according to current age, Kenya 1993

| Age | Never | Once or twice | More often | Missing | Total | Number |
|---|---|---|---|---|---|---|
| 20-24 | 39.8 | 18.6 | 40.9 | 0.6 | 100.0 | 101 |
| 25-29 | 23.3 | 27.0 | 49.8 | 0.0 | 100.0 | 255 |
| 30-34 | 21.2 | 19.5 | 59.1 | 0.2 | 100.0 | 356 |
| 35-39 | 27.3 | 20.4 | 52.0 | 0.3 | 100.0 | 295 |
| 40-44 | 30.6 | 19.2 | 49.8 | 0.4 | 100.0 | 282 |
| 45-49 | 43.3 | 12.5 | 42.6 | 1.6 | 100.0 | 207 |
| 50-54 | 49.9 | 20.2 | 28.0 | 1.9 | 100.0 | 148 |
| Total | 30.7 | 19.9 | 48.8 | 0.6 | 100.0 | 1644 |

To obtain more direct information about the acceptability of family planning methods, currently married men who had not been sterilised and who knew at least one contraceptive method were asked if they approved of couples' using family planning methods. They were also asked whether they thought their wives approved of family planning. The percent distribution of men according to their attitudes and their perception of their wives' attitudes is presented in Table 11.15, according to selected background characteristics.

Table 11.15 Attitudes of couples towards family planning

Percent distribution of currently married non-sterilised men who know a contraceptive method, by approval of family planning and by their perception of their wives' attitudes, according to selected background characteristics, Kenya 1993

| Background characteristic | Both approve | Respondent approves: Wife disapproves | Respondent approves: Unsure of wife | Respondent disapproves: Wife approves | Respondent disapproves: Unsure of wife | Both disapprove | Missing | Total | Number |
|---|---|---|---|---|---|---|---|---|---|
| **Age** | | | | | | | | | |
| 20-24 | 68.3 | 5.8 | 20.8 | 0.0 | 0.0 | 2.1 | 2.9 | 100.0 | 101 |
| 25-29 | 82.2 | 3.7 | 9.6 | 0.6 | 2.4 | 1.2 | 0.4 | 100.0 | 255 |
| 30-34 | 80.7 | 2.4 | 8.4 | 3.5 | 2.4 | 1.2 | 1.3 | 100.0 | 356 |
| 35-39 | 74.9 | 2.1 | 11.7 | 1.7 | 5.4 | 2.7 | 1.6 | 100.0 | 295 |
| 40-44 | 73.5 | 4.7 | 11.7 | 1.4 | 2.2 | 5.6 | 1.0 | 100.0 | 282 |
| 45-49 | 73.0 | 2.0 | 8.2 | 2.4 | 6.2 | 6.6 | 1.5 | 100.0 | 207 |
| 50-54 | 65.6 | 4.2 | 12.5 | 1.1 | 6.3 | 8.6 | 1.7 | 100.0 | 148 |
| **Residence** | | | | | | | | | |
| Urban | 79.1 | 3.7 | 7.1 | 2.2 | 2.2 | 4.3 | 1.4 | 100.0 | 393 |
| Rural | 74.4 | 3.1 | 12.1 | 1.7 | 4.0 | 3.4 | 1.3 | 100.0 | 1251 |
| **Province** | | | | | | | | | |
| Nairobi | 79.0 | 3.4 | 9.2 | 1.7 | 2.5 | 2.5 | 1.7 | 100.0 | 179 |
| Central | 73.9 | 2.4 | 17.1 | 0.0 | 2.6 | 4.0 | 0.0 | 100.0 | 217 |
| Coast | 70.5 | 4.3 | 9.5 | 4.0 | 2.8 | 7.0 | 1.9 | 100.0 | 160 |
| Eastern | 82.5 | 5.3 | 5.9 | 1.9 | 1.4 | 2.2 | 0.8 | 100.0 | 282 |
| Nyanza | 72.6 | 2.4 | 15.7 | 0.9 | 3.8 | 1.4 | 3.3 | 100.0 | 208 |
| Rift Valley | 75.8 | 1.8 | 7.8 | 2.5 | 4.3 | 6.1 | 1.7 | 100.0 | 389 |
| Western | 71.4 | 3.9 | 14.4 | 1.5 | 7.5 | 1.2 | 0.0 | 100.0 | 211 |
| **Education** | | | | | | | | | |
| No education | 54.4 | 1.2 | 14.6 | 0.9 | 14.6 | 11.9 | 2.5 | 100.0 | 162 |
| Primary incomplete | 69.6 | 4.6 | 12.5 | 2.5 | 4.8 | 3.5 | 2.5 | 100.0 | 424 |
| Primary complete | 74.1 | 3.4 | 12.9 | 2.4 | 2.0 | 4.0 | 1.1 | 100.0 | 468 |
| Secondary+ | 86.7 | 2.7 | 7.1 | 1.0 | 1.0 | 1.1 | 0.3 | 100.0 | 591 |
| Total | 75.6 | 3.2 | 10.9 | 1.8 | 3.6 | 3.6 | 1.3 | 100.0 | 1644 |

The data indicate that 90 percent of married men in Kenya approve of family planning use. Moreover, *according to the men's perceptions*, in three quarters of Kenyan couples, both the husband and wife approve of family planning, whereas in only 4 percent of couples, both the man and wife disapprove of family planning. Approval of family planning varies with background characteristics. Older men are less likely than younger men to approve of family planning. Men in Coast and Rift Valley Provinces are also somewhat less likely to approve of family planning than men in other provinces. Approval of contraceptive use increases steadily with increasing education.

## 11.3 Nuptiality and Sexual Intercourse

Factors other than contraception that affect men's fertility are considered in this section. These include nuptiality, as well as more direct measures of the beginning of exposure to pregnancy and the level of exposure, i.e., age at first sexual intercourse and the frequency of intercourse.

### Marital Status

Table 11.16 shows the current marital status of eligible men at the time of the survey. The term "married" refers to civil, religious, or traditional marriage, as well as consensual unions. Men who are widowed, divorced, or not living together (separated) are classified as "ever married" or "ever in union."

Table 11.16 Current marital status by age

Percent distribution of men by current marital status, according to age, Kenya 1993

| | Marital status | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Age group | Never married | Married | Living together | Widowed | Divorced | Not living together | Total | Number of men |
| 20-24 | 78.3 | 16.6 | 2.7 | 0.0 | 0.4 | 2.1 | 100.0 | 525 |
| 25-29 | 29.5 | 57.2 | 8.7 | 0.1 | 0.8 | 3.7 | 100.0 | 390 |
| 30-34 | 8.3 | 77.2 | 10.0 | 0.2 | 1.7 | 2.7 | 100.0 | 412 |
| 35-39 | 1.7 | 82.2 | 13.0 | 0.6 | 1.9 | 0.6 | 100.0 | 314 |
| 40-44 | 0.0 | 82.1 | 11.8 | 2.3 | 2.4 | 1.5 | 100.0 | 303 |
| 45-49 | 0.7 | 78.7 | 14.4 | 1.3 | 2.0 | 2.8 | 100.0 | 227 |
| 50-54 | 1.0 | 86.7 | 5.6 | 2.0 | 4.5 | 0.4 | 100.0 | 165 |
| Total | 24.4 | 62.4 | 8.9 | 0.7 | 1.6 | 2.1 | 100.0 | 2336 |

Overall, 71 percent of men age 20-54 are married, about one quarter have never married and the remaining 4 percent are either widowed, divorced or separated. Kenyan men do not marry at particularly young ages; a large majority (78 percent) of those age 20-24 are still single and even at age 25-29, 30 percent have not yet married. These figures are considerably higher than those for women, indicating the tendency for men to marry later than women.

### Polygyny

Table 11.17 shows the percentage of currently married men who are in a polygynous union by background characteristics. Overall, 12 percent of currently married men are in polygynous marriages. This proportion increases sharply with age of the respondent, from 5 percent of those under age 35 to 25 percent of those age 50-54. Polygynous unions are more common in rural than urban areas and in Nyanza, Rift Valley and Western Provinces. Men who have completed primary school are less likely to have more than one wife than those who either have no education or only some primary school.

Almost all polygynously married men have only two wives. Of the 12 percent of married men who have more than one wife, 90 percent have two wives and less than 10 percent have three or more wives (not shown).

### Age at First Marriage

Table 11.18 shows the percentage of men by specific exact ages at marriage according to their current age. The overall median age at first marriage among men age 25-54 years is 25 years. Only about 10 percent of men marry before reaching 20 years of age, while about half marry before age 25.

Table 11.17 Polygyny

Percentage of currently married men in a polygynous union, by selected background characteristics, Kenya 1993

| Background characteristic | Total |
|---|---|
| **Age** | |
| 20-24 | 5.0 |
| 25-29 | 5.2 |
| 30-34 | 5.4 |
| 35-39 | 16.5 |
| 40-44 | 13.8 |
| 45-49 | 13.1 |
| 50-54 | 25.2 |
| **Residence** | |
| Urban | 8.6 |
| Rural | 12.5 |
| **Province** | |
| Nairobi | 7.6 |
| Central | 3.7 |
| Coast | 8.8 |
| Eastern | 7.8 |
| Nyanza | 19.2 |
| Rift Valley | 16.3 |
| Western | 14.0 |
| **Education** | |
| No education | 22.9 |
| Primary incomplete | 16.2 |
| Primary complete | 7.5 |
| Secondary+ | 8.2 |
| Total | 11.6 |

Table 11.18 Age at first marriage

Percentage of men who were first married by exact age 15, 18, 20, 22, and 25, and median age at first marriage, according to current age, Kenya 1993

| Current age | Percentage of men who were first married by exact age: 15 | 18 | 20 | 22 | 25 | Percentage who had never married | Number of men | Median age at first marriage |
|---|---|---|---|---|---|---|---|---|
| 20-24 | 0.4 | 1.1 | 4.7 | NA | NA | 78.3 | 525 | a |
| 25-29 | 0.1 | 2.7 | 6.5 | 17.4 | 46.8 | 29.5 | 390 | a |
| 30-34 | 0.2 | 2.8 | 9.2 | 25.0 | 55.9 | 8.3 | 412 | 24.5 |
| 35-39 | 0.8 | 3.8 | 10.9 | 27.3 | 57.5 | 1.7 | 314 | 24.4 |
| 40-44 | 1.0 | 5.0 | 14.2 | 28.0 | 54.5 | 0.0 | 303 | 24.6 |
| 45-49 | 0.2 | 7.4 | 14.7 | 25.9 | 52.4 | 0.7 | 227 | 24.7 |
| 50-54 | 2.6 | 9.4 | 15.5 | 26.1 | 51.1 | 1.0 | 165 | 24.9 |
| 20-54 | 0.6 | 3.7 | 9.6 | 21.5 | 46.1 | 24.4 | 2336 | a |
| 25-54 | 0.6 | 4.5 | 11.0 | 24.5 | 53.1 | 8.7 | 1811 | 24.7 |

NA = Not applicable

[a]Omitted because less than 50 percent of the men in the age group $x$ to $x+4$ were first married by age $x$

The median age at first marriage has not changed appreciably across age cohorts. This suggests that the age at first marriage for Kenyan men has not changed significantly over time. However, these findings may be affected by recall problems among older men who are likely to have been married many years ago and hence, less likely to remember the exact age at the time of the first marriage. A comparison of the median age at first marriage for women and men shows that women tend to marry earlier than men. The median age at first marriage is 19 years for women age 25-49 (Table 5.6), compared to 25 years for men age 25-54.

**Age at First Sexual Intercourse**

Although age at first marriage is commonly used as a proxy for exposure to sexual intercourse, the two events do not necessarily coincide exactly. Sexual relations may begin prior to marriage or be delayed after marriage. To obtain more objective information about this topic, the KDHS asked men to report the age at which they first had sexual intercourse (see Table 11.19).

The proportion of men who have never had intercourse is of interest (Column 6 of Table 11.19). Only 6 percent of men age 20-24 have not yet had sexual intercourse. This proportion falls to less than one percent among older men. Further evidence of the pattern of early sexual activity is the fact that about one-quarter of men report that they had sexual intercourse before they reached 15 years of age. The median age at first sexual intercourse is about 17 years.

Sexual activity often preceeds marriage. This is evidenced by the fact that 64 percent of men age 20-54 report that they have had sexual intercourse by age 18, whereas only 4 percent have married by that age (see Table 11.18). It is also interesting that, although men tend to marry at much older ages than women, both men and women report having their first sexual experience at about the same ages (see Table 5.7).

In contrast to women, age at first intercourse among men has apparently been decreasing over time. For instance, men age 50-54 years report a median age at first intercourse of 18.0, while those age 20-24 report a median age at first intercourse of 16.3 years.

Table 11.19 Age at first sexual intercourse

Percentage of men ever having sexual intercourse by exact specified ages and median age at first sexual intercourse, according to current age, Kenya 1993

| | Percentage of men who first had sex by exact age: | | | | | Percentage who have never had sex | Number of men | Median age at first sex |
|---|---|---|---|---|---|---|---|---|
| Current age | 15 | 18 | 20 | 22 | 25 | | | |
| 20-24 | 27.7 | 72.8 | 89.1 | NA | NA | 5.5 | 525 | 16.3 |
| 25-29 | 26.6 | 68.7 | 89.5 | 94.1 | 98.3 | 0.8 | 390 | 16.4 |
| 30-34 | 22.3 | 61.4 | 84.4 | 92.6 | 96.3 | 0.3 | 412 | 17.0 |
| 35-39 | 21.1 | 65.0 | 88.1 | 95.1 | 97.6 | 0.0 | 314 | 16.8 |
| 40-44 | 23.3 | 56.5 | 82.1 | 90.9 | 96.3 | 0.0 | 303 | 17.3 |
| 45-49 | 22.1 | 60.5 | 81.9 | 90.3 | 92.7 | 0.5 | 227 | 17.1 |
| 50-54 | 15.5 | 49.4 | 71.2 | 89.9 | 95.1 | 0.7 | 165 | 18.0 |
| 20-54 | 23.7 | 64.1 | 85.3 | 92.6 | 95.9 | 1.5 | 2336 | 16.7 |

NA = Not applicable
[a]Omitted because less than 50 percent of the men in the age group $x$ to $x+4$ had first had intercourse by age $x$

## 11.4 Fertility Preferences

In the KDHS, currently married men were asked about their desire for more children and how long they would like to wait before the birth of the next child. They were also asked about the number of children they would ideally want to have in their whole life.

### Desire for More Children

As Table 11.20 shows, Kenyan men are almost equally divided between those who want more children and those who do not. Almost half (47 percent) of married men want to have another child either in the next two years, later or whenever, while 44 percent want no more children (38 percent who want no more and 5 percent whose wives are sterilised). Seven percent of men are undecided about having another child. As expected, the proportion who want no more children increases with the number of living children and the proportion who want another child soon decreases with number of children. Table 11.21 presents similar information on fertility preferences according to age instead of number of children.

Table 11.20 Fertility preference by number of living children

Percent distribution of currently married men by desire for more children, according to number of living children, Kenya 1993

| Desire for children | Number of living children | | | | | | | Total |
|---|---|---|---|---|---|---|---|---|
| | 0 | 1 | 2 | 3 | 4 | 5 | 6+ | |
| Want another soon[1] | 72.6 | 29.1 | 24.6 | 19.3 | 16.0 | 14.8 | 8.2 | 19.4 |
| Want another later[2] | 10.7 | 59.1 | 41.1 | 34.9 | 18.5 | 11.6 | 11.4 | 24.3 |
| Want another, undecided when | 7.5 | 3.7 | 3.7 | 3.3 | 5.0 | 1.3 | 2.8 | 3.4 |
| Undecided | 7.6 | 1.5 | 7.6 | 4.3 | 10.7 | 9.4 | 8.5 | 7.3 |
| Want no more | 0.0 | 5.3 | 21.1 | 33.2 | 43.8 | 49.0 | 58.1 | 38.4 |
| Wife sterilised | 0.0 | 0.2 | 0.4 | 4.4 | 5.8 | 11.5 | 8.0 | 5.4 |
| Wife declared infecund | 1.6 | 1.1 | 1.3 | 0.7 | 0.2 | 2.5 | 2.7 | 1.7 |
| Missing | 0.0 | 0.0 | 0.2 | 0.0 | 0.0 | 0.0 | 0.4 | 0.2 |
| Total | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| Number of men | 95 | 182 | 213 | 221 | 179 | 184 | 586 | 1664 |

[1]Want next birth within 2 years

[2]Want to delay next birth for 2 or more years

It is interesting to compare these data with analogous information from the female KDHS respondents (Table 6.1). Overall, more women than men want to stop childbearing. Moreover, this is true regardless of the number of children women and men already have. For example, 44 percent of married men with four children say they do not want any more, compared to 60 percent of women.

### Ideal and Actual Number of Children

Though men do not bear children, they can have a strong influence on, and in many cases, make the final decision on childbearing issues. Thus their views on the number of children they would like to have is of interest to policymakers. In order to assess ideal fertility preferences in Kenya, the KDHS included two questions. Men who had no children were asked, "If you could choose exactly the number of children to have in your whole life, how many would that be?" For men who had children, the question was rephrased as follows: "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?"

Table 11.21 Fertility preferences by age

Percent distribution of currently married men by desire for more children, according to age, Kenya 1993

| Desire for children | Current age | | | | | | | Total |
|---|---|---|---|---|---|---|---|---|
| | 20-24 | 25-29 | 30-34 | 35-39 | 40-44 | 45-49 | 50-54 | |
| Have another soon[1] | 43.4 | 31.9 | 24.2 | 14.7 | 12.2 | 8.1 | 9.0 | 19.4 |
| Have another later[2] | 43.0 | 44.0 | 30.4 | 26.2 | 11.6 | 9.0 | 5.5 | 24.3 |
| Another/undecided when | 2.1 | 4.2 | 5.3 | 3.3 | 2.8 | 1.6 | 2.2 | 3.4 |
| Undecided | 3.5 | 2.7 | 5.3 | 11.4 | 10.0 | 12.1 | 2.6 | 7.3 |
| Want no more | 8.0 | 16.4 | 32.9 | 39.1 | 53.2 | 51.6 | 60.9 | 38.4 |
| Wife sterilised | 0.0 | 0.0 | 1.4 | 4.5 | 7.9 | 13.8 | 12.5 | 5.4 |
| Wife declared infecund | 0.0 | 0.0 | 0.5 | 0.7 | 2.2 | 3.8 | 6.6 | 1.7 |
| Missing | 0.0 | 0.7 | 0.0 | 0.0 | 0.0 | 0.0 | 0.7 | 0.2 |
| Total | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| Number | 101 | 257 | 359 | 299 | 285 | 211 | 153 | 1664 |

[1]Want next birth within 2 years
[2]Want to delay next birth for 2 or more years

The data in Table 11.22 indicate that the vast majority of men were able to give a numeric answer to this question; only 7 percent of men gave a non-numeric answer such as "it is up to God," "any number," or "do not know." Those who gave numeric responses generally want to have small families. Only 12 percent of respondents said they would choose to have six or more children, while one-third favoured four children and one-fifth cited two children as ideal. Among men giving numeric responses, the mean ideal family size is 3.8 children.

Table 11.22 Ideal number of children

Percent distribution of all men by ideal number of children and mean ideal number of children for all men and for currently married men, according to number of living children, Kenya 1993

| Ideal number of children | Number of living children | | | | | | | Total |
|---|---|---|---|---|---|---|---|---|
| | 0 | 1 | 2 | 3 | 4 | 5 | 6+ | |
| 0 | 0.1 | 0.0 | 1.7 | 1.3 | 0.0 | 0.0 | 0.0 | 0.3 |
| 1 | 1.9 | 2.9 | 0.5 | 2.9 | 2.1 | 2.2 | 1.2 | 1.8 |
| 2 | 28.4 | 19.5 | 18.8 | 11.8 | 18.3 | 22.5 | 14.2 | 19.8 |
| 3 | 28.6 | 32.9 | 22.7 | 22.3 | 8.5 | 16.2 | 15.9 | 21.8 |
| 4 | 25.1 | 30.5 | 32.3 | 40.8 | 35.4 | 16.2 | 34.9 | 30.8 |
| 5 | 6.1 | 4.6 | 6.7 | 6.7 | 9.6 | 11.6 | 4.8 | 6.5 |
| 6+ | 5.4 | 6.8 | 11.5 | 7.1 | 17.4 | 19.3 | 18.0 | 11.7 |
| Non-numeric response | 4.4 | 2.8 | 5.8 | 7.1 | 8.6 | 12.0 | 10.9 | 7.3 |
| Total | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| Number of men | 630 | 243 | 241 | 241 | 187 | 186 | 602 | 2336 |
| Mean ideal number | 3.3 | 3.5 | 3.7 | 3.7 | 4.2 | 4.0 | 4.6 | 3.8 |
| Number of men | 602 | 236 | 227 | 224 | 171 | 164 | 536 | 2164 |
| Mean for men in union | 3.5 | 3.5 | 3.7 | 3.7 | 4.2 | 4.0 | 4.6 | 4.1 |
| Number of men in union | 89 | 177 | 200 | 205 | 163 | 163 | 522 | 1522 |

Note: The means exclude men who gave non-numeric responses.

As expected, the ideal number of children increases with the number of living children; men with more living children are likely to state four or more as their ideal number of children, while men with fewer children are as likely to state two or three children as ideal. The mean ideal family size increases from 3.3 among childless men to 4.6 among men with six or more children. There are several possible explanations for the relationship between ideal and actual number of children. First, to the extent that they are able to implement their preferences, men who want larger families will tend to actually have them. Secondly, men who have larger families may tend to rationalise their family size by reporting their actual number of children as their ideal number. Finally, men with larger families, being on average older than men with smaller families, have larger ideal family sizes, presumably because of attitudes they acquired 20 to 30 years ago.

Despite the likelihood that some rationalisation of large families occurs, it is common for men to report lower ideal family sizes lower than their actual number of children. Almost 60 percent of the men with five children stated that they would ideally have liked to have had fewer than five and 71 percent of those with six or more children would have fewer if they could choose again.

Men and women are remarkably similar in the number of children they consider ideal. The distribution of men and women by the ideal number of children is almost identical (see Table 6.5) and the mean ideal number according to the actual number of children is only slightly higher among men than women.

Table 11.23 Background characteristics of husbands

Percent distribution of husbands by selected background characteristics, Kenya 1993

| Background characteristic | Weighted percent | Number of men: Weighted | Number of men: Un-weighted |
|---|---|---|---|
| **Age** | | | |
| 20-24 | 4.9 | 62 | 57 |
| 25-29 | 15.8 | 199 | 196 |
| 30-34 | 21.5 | 274 | 276 |
| 35-39 | 19.2 | 244 | 228 |
| 40-44 | 16.7 | 212 | 223 |
| 45-49 | 13.4 | 170 | 171 |
| 50-54 | 8.3 | 105 | 106 |
| **Number of children** | | | |
| <2 | 27.2 | 344 | 341 |
| 3-4 | 25.6 | 323 | 320 |
| 5+ | 47.0 | 594 | 593 |
| Missing | 0.3 | 4 | 3 |
| **Type of union** | | | |
| Monogamous | 86.4 | 1093 | 1094 |
| Polygamous | 13.3 | 168 | 157 |
| Missing information | 0.4 | 5 | 6 |
| **Education** | | | |
| No education | 11.1 | 141 | 127 |
| Primary incomplete | 26.8 | 339 | 355 |
| Primary complete | 27.7 | 351 | 350 |
| Secondary+ | 34.4 | 435 | 425 |
| **Residence** | | | |
| Urban | 14.7 | 186 | 159 |
| Rural | 85.3 | 1079 | 1098 |
| **Province** | | | |
| Nairobi | 6.3 | 80 | 58 |
| Central | 13.3 | 169 | 161 |
| Coast | 7.6 | 96 | 142 |
| Eastern | 19.4 | 246 | 190 |
| Nyanza | 13.1 | 166 | 188 |
| Rift Valley | 24.4 | 309 | 342 |
| Western | 15.7 | 199 | 176 |
| All men | 100.0 | 1265 | 1257 |

## 11.5 Couples

### Background Characteristics

The KDHS made use of the fact that both women and men were interviewed to link currently married men with their wives. Thus it is possible to study a subset of married couples, both of whom were interviewed individually. This yields a total of 1,257 couples (weighted number is 1,265). Due to polygyny, a few husbands have been counted more than once, if two or more of their wives were interviewed.

Table 11.23 presents the percent distribution of the *husbands* of these matched couples by age, number of children, type of union, level of education, urban-rural residence, and region. Relatively few

husbands (5 percent) are under 25 years of age, and only 21 percent are under 30 years of age. Almost half of the husbands have five or more children. One in seven of the unions considered here are polygynous.

Table 11.24 shows that men tend to marry younger women. In 96 percent of the couples observed, husbands are older than wives. In about one-quarter of couples, husbands are at least 10 years older than their wives. Overall, husbands are a median of 7 years older than their wives. This differential is wider for younger than older wives, presumably in part due to polygyny, in which men take second wives who are considerably younger than they.

Table 11.24 Age difference between spouses

Percent distribution of couples by age difference between husband and wife and median age difference between spouses, according to wife's age, Kenya 1993

| | Husband's age - wife's age (in years) | | | | | | Median age difference | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Wife's age | Negative | 0-4 | 5-9 | 10-14 | 15+ | Total | First wives | Second+ wives | Total | Number |
| 15-19 | 0.0 | 11.4 | 57.8 | 17.4 | 13.3 | 100.0 | 8.7 | 20.8 | 9.7 | 72 |
| 20-24 | 2.0 | 22.9 | 44.1 | 19.2 | 11.8 | 100.0 | 8.1 | 13.9 | 8.3 | 273 |
| 25-29 | 3.4 | 26.4 | 44.6 | 16.0 | 9.6 | 100.0 | 7.0 | 13.0 | 7.0 | 309 |
| 30-34 | 1.9 | 29.0 | 44.3 | 17.2 | 7.6 | 100.0 | 7.0 | 16.0 | 7.0 | 266 |
| 35-39 | 6.2 | 24.6 | 47.5 | 19.4 | 2.2 | 100.0 | 6.2 | a | 6.2 | 168 |
| 40-44 | 7.6 | 27.8 | 46.2 | 18.4 | 0.0 | 100.0 | 5.5 | 10.0 | 5.6 | 109 |
| 45-49 | 24.3 | 44.2 | 31.5 | 0.0 | 0.0 | 100.0 | 2.5 | 3.2 | 2.5 | 68 |
| Total | 4.4 | 26.2 | 45.0 | 16.8 | 7.6 | 100.0 | 6.9 | 14.8 | 7.0 | 1265 |

[a]Cannot be calculated due to small number of observations

## Knowledge and Use of Contraception

Table 11.25 shows the percent distribution of married couples by knowledge of specific contraceptive methods. There is generally high correlation between spouses; if one partner knows a method, the other is likely to know it as well, or, if one partner does not know a method, the other is also likely not to know it. Exceptions to this are vaginal methods (diaphragm, foam, jelly), male sterilisation, and the traditional methods, for which there is less consistency of knowledge between spouses. For most methods, if only one spouse knew the method, it was more likely to be the husband, except in the case of pill, IUD, injections and vaginal methods (diaphragm, foam, jelly). Husbands are especially likely to know about traditional methods more often than their wives.

## Approval of Family Planning

Family planning use is facilitated when both husband and wife approve of its use. Table 11.26 shows the percent distribution of couples by approval of family planning of both spouses, according to selected background characteristics. Overall, among 80 percent of the couples, both husband and wife approve of family planning, and among 3 percent of the couples, both disapprove. Among 6 percent of the couples, the wives approve but their husbands do not, while among 8 percent of the couples, the husbands approve of family planning but their wives do not. Variations in the data by background characteristics are not large, although there is a tendency for couples in which neither spouse has any formal education to disagree about approval of family planning use.

Table 11.25 Knowledge of methods among married couples

Percent distribution of married couples by contraceptive knowledge, according to specific method, Kenya 1993

| Method | Both know method | Husband, not wife | Wife, not husband | Neither | Total |
|---|---|---|---|---|---|
| **Any method** | 95.9 | 3.2 | 0.9 | 0.1 | 100.0 |
| **Any modern method** | 95.0 | 2.2 | 1.5 | 1.3 | 100.0 |
| Pill | 90.6 | 3.2 | 4.1 | 2.2 | 100.0 |
| IUD | 63.2 | 9.9 | 15.6 | 11.3 | 100.0 |
| Injection | 82.6 | 5.6 | 9.7 | 2.2 | 100.0 |
| Diaphragm/foam/jelly | 18.2 | 14.9 | 24.1 | 42.8 | 100.0 |
| Condom | 81.0 | 11.4 | 3.7 | 4.0 | 100.0 |
| Female sterilisation | 79.1 | 8.7 | 8.2 | 3.9 | 100.0 |
| Male sterilisation | 30.5 | 26.7 | 15.2 | 27.6 | 100.0 |
| Norplant | 3.8 | 9.1 | 8.3 | 78.8 | 100.0 |
| **Any traditional method** | 67.1 | 22.5 | 5.9 | 4.5 | 100.0 |
| Rhythm/counting days | 57.2 | 28.2 | 7.7 | 7.0 | 100.0 |
| Natural family planning | 15.0 | 21.5 | 16.5 | 47.0 | 100.0 |
| Withdrawal | 15.6 | 26.8 | 15.9 | 41.7 | 100.0 |
| Other | 1.5 | 11.6 | 8.5 | 78.4 | 100.0 |

Table 11.26 Attitudes of couples towards family planning

Percent distribution of couples by approval of family planning, according to age difference between spouses, type of marriage and education level, Kenya 1993

| Background characteristic | Both approve | Both disapprove | Wife, not husband | Husband, not wife | Missing | Total | Percent agree | Number of couples |
|---|---|---|---|---|---|---|---|---|
| **Age difference between spouses** | | | | | | | | |
| Wife older | 72.1 | 0.7 | 6.8 | 16.9 | 3.6 | 100.0 | 72.8 | 56 |
| Husband 0-4 years older | 86.2 | 3.6 | 3.1 | 4.8 | 2.2 | 100.0 | 89.8 | 331 |
| Husband 5-9 years older | 77.8 | 1.9 | 7.2 | 9.9 | 3.1 | 100.0 | 79.8 | 569 |
| Husband 10-14 years older | 79.8 | 4.7 | 6.0 | 7.8 | 1.7 | 100.0 | 84.5 | 213 |
| Husband 15+ years older | 73.6 | 2.9 | 14.2 | 5.0 | 4.2 | 100.0 | 76.6 | 96 |
| **Type of union** | | | | | | | | |
| Monogamous | 80.6 | 2.0 | 6.9 | 7.8 | 2.8 | 100.0 | 82.5 | 1054 |
| Polygamous | 74.2 | 8.7 | 3.1 | 11.1 | 2.9 | 100.0 | 82.9 | 154 |
| Different[1] | 80.2 | 3.4 | 7.6 | 7.2 | 1.6 | 100.0 | 83.6 | 58 |
| **Couple's education** | | | | | | | | |
| Both none | 50.6 | 14.4 | 18.8 | 12.2 | 3.9 | 100.0 | 65.1 | 101 |
| Wife some, husband none | (76.5) | (3.3) | (16.7) | (3.4) | (0.0) | 100.0 | 79.8 | 40 |
| Husband some, wife none | 73.1 | 4.7 | 5.7 | 12.8 | 3.7 | 100.0 | 77.8 | 191 |
| Both some | 84.4 | 1.2 | 4.8 | 7.0 | 2.6 | 100.0 | 85.6 | 933 |
| Total | 79.8 | 2.9 | 6.4 | 8.2 | 2.8 | 100.0 | 82.6 | 1265 |

Note: Parentheses indicate a figure is based on 25-49 cases.
[1]When asked to define type of union, each partner responded differently.

Because both men and women interviewed in the KDHS were asked whether they approved of family planning and, if married, whether they thought their spouses approved of family planning, it is possible to examine the extent to which husbands and wives report accurately on their spouses' attitudes. Table 11.27 shows the percent distribution of couples by husband's and wife's actual attitude toward family planning, according to their spouse's perception of their attitude.

Table 11.27 Spouse's perception of other spouse's approval of family planning

Percent distribution of couples by husband's and wife's actual attitude towards family planning according to their spouse's perception of their attitude, Kenya 1993

| Wife's perception | Husband | | | | |
|---|---|---|---|---|---|
| | Approves | Disapproves | Unsure | Total | Number |
| Believe husband approve | 94.0 | 4.8 | 1.2 | 100.0 | 812 |
| Believe husband disapproves | 79.4 | 19.9 | 0.8 | 100.0 | 220 |
| Don't know | 80.5 | 16.4 | 3.0 | 100.0 | 233 |
| Total | 89.0 | 9.6 | 1.5 | 100.0 | 1265 |

| Husband's perception | Wife | | | | |
|---|---|---|---|---|---|
| | Approves | Disapproves | Unsure | Total | Number |
| Believe wife approves | 90.2 | 8.6 | 1.2 | 100.0 | 991 |
| Believe wife disapproves | 67.7 | 29.3 | 3.0 | 100.0 | 86 |
| Don't know | 82.0 | 16.7 | 1.3 | 100.0 | 188 |
| Total | 87.4 | 11.2 | 1.4 | 100.0 | 1265 |

The data indicate that when husbands and wives report that their spouses approve of family planning, they are generally accurate. For example, in 94 percent of the cases in which wives reported that their husbands approved of family planning, the husbands also said they approved. However, when husbands and wives report that their spouses disapprove of family planning, in most cases, the opposite is true, that is, the spouse actually approves of family planning. A conclusion from these data that there is a considerable lack of communication between spouses about attitudes towards family planning should be taken with caution. It is also likely that at least some respondents report more favourable attitudes towards family planning than they in fact hold, perhaps in an attempt to please the interviewer or to appear more sophisticated. Such a pattern of misreporting could produce the results in Table 11.27.

### Desire for More Children

It is also possible to compare the fertility preferences of husbands and wives. Table 11.28 shows the percent distribution of couples by desire for more children, according to the number of living children each partner has. Overall, there is a high degree of agreement between spouses. For example, among 30 percent of the couples, both spouses want more children, while among 28 percent, both want no more children. The proportion of couples in which the husband wants more children and the wife does not (12 percent) exceeds the proportion in which the wife wants more and the husband does not (7 percent). Among 22 percent of the couples, one or both of the spouses is undecided about whether they want to have more children.

Table 11.28 Desire for more children among couples by number of living children

Percent distribution of couples by desire for more children, according to number of living children, Kenya 1993

| Number of living children | Both want more | Husband wants more, wife infecund | Husband wants more, wife does not | Wife wants more, husband does not | Both want no more | One or both missing | Other | Total | Number of couples |
|---|---|---|---|---|---|---|---|---|---|
| **Husband** | | | | | | | | | |
| 0 | 75.0 | 0.0 | 5.7 | 0.0 | 0.0 | 0.0 | 19.3 | 100.0 | 65 |
| 1-3 | 52.1 | 1.5 | 12.5 | 8.7 | 12.0 | 0.0 | 13.2 | 100.0 | 456 |
| 4-6 | 14.2 | 0.6 | 11.9 | 6.3 | 34.6 | 3.0 | 29.4 | 100.0 | 414 |
| 7-9 | 7.6 | 0.4 | 10.5 | 4.7 | 50.7 | 2.8 | 23.3 | 100.0 | 226 |
| 10+ | 11.9 | 0.0 | 14.9 | 7.2 | 38.8 | 0.0 | 27.2 | 100.0 | 104 |
| **Wife** | | | | | | | | | |
| 0 | 69.1 | 2.1 | 4.7 | 5.0 | 0.0 | 0.0 | 19.2 | 100.0 | 90 |
| 1-3 | 47.6 | 1.2 | 13.0 | 10.5 | 12.3 | 0.3 | 15.2 | 100.0 | 540 |
| 4-6 | 12.4 | 0.4 | 12.0 | 5.1 | 39.1 | 3.4 | 27.5 | 100.0 | 412 |
| 7+ | 1.8 | 0.0 | 11.4 | 0.8 | 56.3 | 1.7 | 28.0 | 100.0 | 223 |
| Total | 29.6 | 0.8 | 11.8 | 6.6 | 27.9 | 1.5 | 21.7 | 100.0 | 1265 |

This generally high degree of agreement between spouses is true, regardless of the number of children the husband or wife has. Of course, when the number of children is small, both spouses are more likely to want more children and when the number of children is high, they are likely to both want no more. When there is disagreement, it is usually the husband who wants more children.

Table 11.29 shows the percent distribution of couples by the extent to which they agree on ideal number of children, according to selected background characteristics. Overall, only just over one-quarter (28 percent) of the couples report the same ideal number of children. Among 31 percent of the couples, the husband wants more children than the wife, and among 28 percent of the couples, the wife wants more children than the husband. This shows that there is little agreement between husbands and wives on the ideal number of children a couple would like to have. Variations in this pattern according to background characteristics are not large, considering the relatively small samples for some of the categories.

Table 11.29 Spouse's agreement on ideal number of children

Percent distribution of couples by extent of agreement on ideal number of children, according to selected background characteristics, Kenya 1993

| Background characteristic | Ideal number same for husband and wife | Husband wants more than wife | Wife wants more than husband | Non-numeric response | Total | Number of couples |
|---|---|---|---|---|---|---|
| **Age difference** | | | | | | |
| Wife older | 21.1 | 33.2 | 30.4 | 15.3 | 100.0 | 56 |
| Husband 0-4 older | 31.8 | 32.3 | 27.2 | 8.7 | 100.0 | 331 |
| Husband 5-9 older | 24.7 | 31.1 | 31.3 | 12.9 | 100.0 | 569 |
| Husband 10-14 older | 36.3 | 25.2 | 25.4 | 13.1 | 100.0 | 213 |
| Husband 15+ older | 21.7 | 39.4 | 19.9 | 19.0 | 100.0 | 96 |
| **Type of union** | | | | | | |
| Monogamous | 29.3 | 29.6 | 29.7 | 11.4 | 100.0 | 1054 |
| Polygamous | 19.3 | 43.1 | 18.7 | 19.0 | 100.0 | 154 |
| Different[1] | 30.1 | 27.7 | 29.4 | 12.8 | 100.0 | 58 |
| **Education** | | | | | | |
| Both none | 16.7 | 29.9 | 24.0 | 29.4 | 100.0 | 101 |
| Wife some, husband none | (26.1) | (13.7) | (27.8) | (32.4) | 100.0 | 31 |
| Husband some, wife none | 20.7 | 27.2 | 30.8 | 21.4 | 100.0 | 115 |
| Both some | 30.1 | 32.2 | 28.5 | 9.1 | 100.0 | 1019 |
| Total | 28.1 | 31.1 | 28.4 | 12.4 | 100.0 | 1265 |

Note: Parentheses indicate a figure is based on 25-49 cases.
[1]When asked to define type of union, each partner responded differently.

# CHAPTER 12

# LOCAL AVAILABILITY OF FAMILY PLANNING AND HEALTH SERVICES

Use of family planning and health services is determined by supply as well as demand. The 1993 KDHS included a Services Availability Questionnaire (reproduced in Appendix E) to assess the availability, or supply, of family planning and health services. The main reason for implementing the services availability study in Kenya was to determine what proportion of women live in areas that are covered by community-based family planning distributors (CBDs) and whether they are working under government or non-government auspices.

The Services Availability Questionnaire was applied at the cluster (community) level, that is, one questionnaire was filled for each selected enumeration area. Information was gathered by the team supervisors. They were instructed to gather the information by first contacting the local chief, sub-chief or other local official and asking him or her to assemble a group of knowledgeable informants in the community. The supervisor was then meant to ask the appropriate questions of this group, facilitating a discussion and encouraging a consensus. Alternative respondents for the Services Availability Questionnaire were either a local CBD worker and/or staff at a health centre or dispensary located in or near the selected cluster. Data on type of informants were not tabulated.

The information collected in the Services Availability Questionnaire is assigned to each respondent (individual questionnaire) to obtain population-based estimates. The number of independent data points, however, remains the same as the number of clusters (sample points) for which the information was collected: 29 points for Nairobi, 72 points for Central Province, 82 for Coast Province, 65 for Eastern Province, 83 for Nyanza Province, 120 points for Rift Valley Province and 57 data points for Western Province (a total of 508).[1]

Due to the small number of data points, the service availability estimates are subject to larger sampling errors than are the estimates based on data from individual women in the main survey. This analysis focuses just on the seven provinces, including Nairobi. Moreover, although the results in this chapter are presented for women, it should be kept in mind that these were actually the results of 508 interviews at the cluster level. One interview was held per cluster and therefore all service availability data are the same for all women in the cluster. Intracluster variability is not taken into account.

## 12.1 Service Availability Questionnaire

The Services Availability Questionnaire was designed to provide a picture of the family planning and health service environment available to Kenyan women. There are two types of mechanisms for providing services-- outreach programmes and stationary facilities. The former deliver services directly to people in their communities, whereas the latter function as repositories of services, relying on people to come to them to obtain services.

Outreach family planning services are provided by community-based distributor (CBD) workers and mobile clinic and outreach health services by health workers. The informants in each cluster were asked whether their communities are served by such services and, if so, the nature of these services. For example,

[1]The 1993 KDHS included 520 clusters. No service availability data were available for twelve clusters.

if a CBD worker visits the community, the informants were asked whether he or she provides family planning methods, specifically, the pill, condom and foaming tablets.

Many types of stationary facilities exist. Community informants were asked to identify the nearest hospital, health centre and dispensary. Information was also collected for a second health centre and dispensary if ones existed that served the people living in the cluster.

Despite attempts to explain to community informants the differences between the various types of facilities, there were some instances in which informants and/or supervisors misidentified facilities. For example, there were cases in which information about "Dispensary X" was filled in under the space left for the nearest health centre. For this reason, health centres, clinics, and dispensaries were classified into one group in the following tables.

## 12.2 Availability of Family Planning Services

### Outreach Programs

As mentioned previously, community-based distribution (CBD) of family planning information and services has been an important part of the national family planning programme. A survey conducted by the NCPD and the United Nations Population Program (UNFPA) found that there were over 10,000 CBD workers in Kenya (Barasa and Kanani, 1991). One of the primary reasons for implementing the Services Availability Survey was to estimate the coverage of both government- and non-government-sponsored CBD workers. In most cases, community informants were able to identify the type (government or non-government) of CBD worker.

Table 12.1 shows the percent distribution of women by presence of a CBD worker who provides family planning methods and by distance and time to the nearest hospital or health centre/dispensary providing family planning services, according to province. Half of women (48 percent) live in communities served by CBD workers. Of these, half (23 percent of all women) are covered by government-sponsored CBDs and half by CBDs sponsored by non-governmental organisations. These levels are considerably higher than the level estimated from the data in the woman's individual questionnaire, which shows only 21 percent of women reporting that they live in areas covered by CBD workers (see Table 4.24). The higher coverage estimate from the Services Availability Survey lends weight to the hypothesis of underreporting of CBDs by individual women. It should be noted, however, that the estimate from the Services Availability survey is that half of the women *live in areas* that are covered by CBDs; it does not mean that half of the women are visited regularly or visited at all.

More than half of the women in Central Province and two-thirds of the women in Nyanza and Western Provinces live in areas that are covered by CBD workers who provide family planning methods. CBD coverage is lowest among women in Nairobi (24 percent) and Coast Province (29 percent).

Approximately one-quarter of women live in areas that are reportedly covered by mobile clinics that provide family planning methods. Mobile clinics are available to about 40 percent of women in Eastern and Nyanza Provinces and to only 9 percent of women in Nairobi and Central Province.

### Stationary Facilities

Half of currently married women live within 5 kilometres of a facility that provides family planning services (see column 3 in Table 12.1). As expected, health centres and dispensaries are considerably closer than hospitals; 45 percent of women live within 5 kilometres of a health centre/dispensary that provides

Table 12.1 Distance and time to nearest facility providing family planning services according to type of facility and residence

Percent distribution of currently married women by distance and time to the nearest facility/worker providing family planning services, according to facility and province, Kenya 1993

| Distance to nearest facility | Type of facility | | | Province | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Hospital | Health centre/ Dispensary | All facilities | Nairobi | Central | Coast | Eastern | Nyanza | Rift Valley | Western |
| **DISTANCE TO NEAREST FACILITY** | | | | | | | | | | |
| **Mobile clinic** | - | - | 24.2 | 8.7 | 8.8 | 23.8 | 38.8 | 40.4 | 20.2 | 14.5 |
| **CBD worker** | | | 48.1 | 24.0 | 51.2 | 28.7 | 45.7 | 65.2 | 37.7 | 66.6 |
| Government | | | 23.3 | 5.1 | 34.2 | 1.9 | 14.8 | 26.0 | 17.8 | 49.2 |
| Non-Government | | | 23.8 | 14.3 | 16.9 | 26.0 | 30.9 | 37.2 | 18.4 | 16.8 |
| Unknown | | | 1.1 | 4.6 | 0.0 | 0.8 | 0.0 | 1.9 | 1.6 | 0.6 |
| None | | | 51.9 | 76.0 | 48.8 | 71.3 | 54.3 | 34.8 | 62.3 | 33.4 |
| Total CBD | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| **Kilometres** | | | | | | | | | | |
| <1 | 2.6 | 10.8 | 12.8 | 25.0 | 5.6 | 20.5 | 8.5 | 18.0 | 8.1 | 16.1 |
| 1-4 | 8.5 | 34.0 | 37.2 | 66.8 | 41.8 | 31.7 | 39.8 | 34.9 | 25.2 | 41.6 |
| 5-9 | 15.6 | 25.2 | 27.0 | 8.2 | 28.8 | 20.8 | 27.7 | 31.4 | 25.6 | 32.8 |
| 10-14 | 9.0 | 9.2 | 9.2 | 0.0 | 12.8 | 4.1 | 8.6 | 8.5 | 12.8 | 9.5 |
| 15-29 | 23.6 | 5.1 | 7.2 | 0.0 | 7.6 | 11.5 | 6.4 | 3.8 | 15.4 | 0.0 |
| 30+ | 29.0 | 0.9 | 1.9 | 0.0 | 0.2 | 1.5 | 0.0 | 2.9 | 5.9 | 0.0 |
| None[1] | 6.9 | 11.0 | 1.0 | 0.0 | 1.2 | 0.0 | 0.0 | 0.5 | 3.5 | 0.0 |
| Missing | 4.8 | 3.9 | 3.7 | 0.0 | 2.0 | 9.8 | 9.1 | 0.0 | 3.6 | 0.0 |
| Total | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| Number of women | 4629 | 4629 | 4629 | 271 | 610 | 445 | 864 | 737 | 992 | 710 |
| Median distance | 17.1 | 4.8 | 4.8 | 1.8 | 5.1 | 4.2 | 4.7 | 4.3 | 6.6 | 4.7 |
| **TIME TO NEAREST FACILITY** | | | | | | | | | | |
| **Minutes** | | | | | | | | | | |
| <15 | 5.3 | 13.1 | 16.9 | 30.6 | 13.2 | 28.0 | 15.7 | 14.4 | 12.7 | 17.7 |
| 15-29 | 10.9 | 15.0 | 20.2 | 46.4 | 25.7 | 23.5 | 16.0 | 15.5 | 25.2 | 6.5 |
| 30-59 | 24.7 | 24.5 | 29.3 | 23.0 | 43.8 | 9.0 | 32.7 | 46.6 | 21.3 | 20.8 |
| 60-119 | 21.9 | 21.5 | 19.6 | 0.0 | 14.1 | 17.1 | 17.6 | 13.9 | 19.4 | 41.8 |
| 120+ | 26.0 | 10.6 | 9.3 | 0.0 | 0.0 | 12.5 | 8.1 | 9.1 | 14.3 | 13.3 |
| None[1] | 6.9 | 11.0 | 1.1 | 0.0 | 1.2 | 0.0 | 0.7 | 0.5 | 3.5 | 0.0 |
| Missing | 4.3 | 4.3 | 3.7 | 0.0 | 2.0 | 9.8 | 9.1 | 0.0 | 3.6 | 0.0 |
| Total | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| Number of women | 4629 | 4629 | 4629 | 271 | 610 | 445 | 864 | 737 | 992 | 710 |

[1]No facility mentioned on questionnaire; evidently, service is so distant it is not considered available or is not known.

family planning, while only 11 percent of women live within 5 kilometres of a hospital that does so. Overall, the median distance to any facility providing family planning is 5 kilometres. However, health centres and dispensaries with family planning services are closer than hospitals—the median distance for women is 5 kilometres for health centre and dispensary, compared to 17 kilometres for hospital.

As expected, women living in Nairobi are generally closer to a source of family planning than women in the provinces. Ninety-two percent of women in Nairobi live within 5 kilometres of a family planning outlet compared to only one-third of women in Rift Valley Province.

Table 12.1 also shows the distribution of women by one-way travel time to the nearest facility providing family planning. Two-thirds of Kenyan women live within one hour's travel time to a source of family planning; 37 percent live within 30 minutes of a family planning outlet. The closest facility with family planning services is generally a health centre or dispensary—53 percent of women live within one hour of a health centre or dispensary, and 41 percent are within one hour of a hospital. As expected, women living in Nairobi and in Coast Province are on average closer to a family planning outlet than women living in other provinces.

Clearly, health centres and dispensaries are potentially important suppliers of contraceptive methods. Their role in contraceptive supply has already been shown in Chapter 4, where it was established that government health centres and dispensaries together account for the sources of supply for about 40 percent of current users of modern contraceptives (see Table 4.13).

### Availability of Specific Methods

Women cannot use modern family planning methods unless they are available. Tabulations on distance to the nearest source providing specific methods show that not all methods are equally accessible (Table 12.2). Including CBD workers, over half of Kenyan women live within one kilometre of a modern method provider. As might be expected, supply methods like the pill, condoms and foaming tablets are generally more readily available to women than are clinical methods like the IUD and sterilisation. The median distance to obtain a cycle of pills is one kilometer, compared to 18 kilometres for sterilisation.

Table 12.2 Distance to nearest family planning method

Percent distribution of currently married women by distance to nearest source of specific family planning methods, Kenya 1993

| Distance to nearest family planning method | Family planning method | | | | | |
|---|---|---|---|---|---|---|
| | Pill | Condom | Foaming tablets | IUD | Sterilisation | Any method |
| **Kilometres** | | | | | | |
| <1 | 49.4 | 46.5 | 38.6 | 18.4 | 5.4 | 52.4 |
| 1-4 | 15.0 | 16.7 | 16.6 | 22.7 | 8.0 | 14.9 |
| 5-9 | 15.8 | 16.8 | 17.4 | 24.0 | 14.8 | 14.9 |
| 10-14 | 7.7 | 6.6 | 8.9 | 11.3 | 8.7 | 6.6 |
| 15-29 | 6.1 | 6.6 | 9.9 | 11.1 | 23.8 | 5.3 |
| 30+ | 2.2 | 2.9 | 4.5 | 7.8 | 34.0 | 2.1 |
| Unknown distance | 0.0 | 0.0 | 0.0 | 0.1 | 0.4 | 0.0 |
| Missing | 3.8 | 4.0 | 4.1 | 4.5 | 5.0 | 3.7 |
| Total | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| Number | 4629 | 4629 | 4629 | 4629 | 4629 | 4629 |
| Median distance | 1.0 | 1.5 | 3.6 | 5.9 | 18.2 | 0.9 |

## Availability of Family Planning by User Status

If, as many believe, wider availability of family planning services leads to higher levels of contraceptive use, then the question arises as to how different users and nonusers are with regard to access. Do contraceptive users live in communities with better access? Table 12.3 shows the percent distribution of all women, all users, users of clinical, supply and traditional methods of family planning and all nonusers by presence of a CBD worker and by distance to the nearest stationary facility providing family planning services.

Table 12.3 Distance to nearest facility providing family planning services for users/nonusers

Percent distribution of currently married women by presence of community-based distributor (CBD) and the percent distribution by distance to the nearest facility providing family planning services, according to use of family planning and type of method used, Kenya 1993

| CBD worker and distance to nearest facility providing family planning service | Type of method used: | | | All users | Non-users | All women |
|---|---|---|---|---|---|---|
| | Clinical | Supply | Traditional | | | |
| **CBD worker** | | | | | | |
| Government | 25.7 | 26.8 | 25.3 | 26.2 | 21.8 | 23.3 |
| Non-Government | 24.9 | 30.4 | 14.5 | 26.1 | 22.6 | 23.8 |
| Unknown | 0.0 | 1.2 | 0.5 | 0.7 | 1.2 | 1.1 |
| No CBD worker | 45.6 | 37.4 | 52.8 | 42.4 | 51.2 | 47.6 |
| No information | 3.8 | 4.2 | 6.9 | 4.6 | 3.2 | 3.7 |
| Total | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| **Kilometres** | | | | | | |
| <1 | 17.2 | 16.3 | 12.4 | 15.9 | 11.3 | 12.8 |
| 1-4 | 40.5 | 42.6 | 37.8 | 41.2 | 35.3 | 37.2 |
| 5-9 | 23.3 | 23.7 | 23.1 | 23.5 | 28.7 | 27.0 |
| 10-14 | 7.1 | 7.4 | 6.8 | 7.2 | 10.2 | 9.2 |
| 15-29 | 7.5 | 5.0 | 6.2 | 5.9 | 7.8 | 7.2 |
| 30+ | 0.0 | 0.3 | 2.3 | 0.5 | 2.6 | 1.9 |
| Service not provided | 0.6 | 0.4 | 4.3 | 1.1 | 0.9 | 1.0 |
| Missing | 3.8 | 4.2 | 6.9 | 4.6 | 3.2 | 3.7 |
| Total | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| Number of women | 451 | 813 | 252 | 1516 | 3113 | 4629 |
| Median distance | 4.1 | 3.9 | 4.2 | 4.0 | 5.1 | 4.8 |

The data show that users are slightly more likely than nonusers to live in areas that are covered by CBD workers (53 percent of users vs. 46 percent of nonusers). Moreover, a somewhat larger proportion of women who are using clinical methods (51 percent) and especially those using supply methods (58 percent) live in areas covered by CBD workers, compared to those using traditional methods (40 percent). This would be the expected pattern, since CBD workers generally provide only pills, condoms and foaming tablets, all of which are supply methods.

A similar pattern is observed for distance to the nearest fixed facility offering family planning. Fifty-seven percent of all users live within 5 kilometres of such a facility, compared to 47 percent of nonusers. The differential is not large and is probably not statistically significant.

## 12.3 Availability of Maternal and Child Health (MCH) Services

### Antenatal Care

Although the major impetus for the Services Availability study related to evaluating the family planning service environment, the questionnaire also collected information related to availability of general health services. Table 12.4 shows the percent distribution of women by distance and time to the nearest facility providing antenatal care, according to type of facility and province. The data indicate that half of women in Kenya live within 5 kilometres of a facility that offers antenatal services (Column 3). Moreover, 43 percent of women live within 5 kilometress of a health centre or dispensary with antenatal services, compared to only 12 percent who live within 5 kilometres of a hospital with these services. Women in Nairobi are more proximate to antenatal services than women in other provinces; 86 percent live within 5 kilometres of antenatal care services, compared to only 36 percent of women in Rift Valley Province. More than two-thirds of Kenyan women live within one hour's travel time to antenatal services; 38 percent live within 30 minutes' travel time of antenatal services.

Table 12.4 Distance and time to nearest facility providing antenatal care according to type of facility and province

Percent distribution of currently married women by distance and time to the nearest facility providing antenatal care services, according to type of facility and province, Kenya 1993

| | Type of facility | | | Province | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Distance to nearest facility | Hospital | Health centre/ Dispensary | All facilities | Nairobi | Central | Coast | Eastern | Nyanza | Rift Valley | Western |
| | | | | DISTANCE TO NEAREST FACILITY | | | | | | |
| **Kilometres** | | | | | | | | | | |
| <1 | 2.4 | 10.3 | 12.2 | 18.9 | 4.0 | 20.1 | 5.6 | 17.4 | 8.9 | 19.1 |
| 1-4 | 9.5 | 33.1 | 37.8 | 66.8 | 41.9 | 31.0 | 37.3 | 35.7 | 27.5 | 44.8 |
| 5-9 | 16.8 | 25.4 | 27.4 | 8.2 | 30.0 | 22.1 | 20.8 | 30.6 | 34.0 | 31.2 |
| 10-14 | 10.0 | 9.4 | 8.5 | 0.0 | 12.0 | 4.4 | 11.3 | 9.0 | 10.4 | 4.9 |
| 15-29 | 26.0 | 6.9 | 8.5 | 0.0 | 10.1 | 11.0 | 13.7 | 3.8 | 13.9 | 0.0 |
| 30+ | 29.6 | 1.4 | 1.4 | 0.0 | 0.0 | 1.5 | 2.3 | 2.9 | 1.8 | 0.0 |
| None[1] | 0.8 | 9.9 | 0.4 | 6.1 | 0.0 | 0.0 | 0.0 | 0.5 | 0.0 | 0.0 |
| Missing | 4.8 | 3.7 | 3.7 | 0.0 | 2.0 | 9.8 | 9.1 | 0.0 | 3.6 | 0.0 |
| Total | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| Number of women | 4629 | 4629 | 4629 | 271 | 610 | 445 | 864 | 737 | 992 | 710 |
| Median distance | 17.1 | 5.0 | 4.8 | 2.3 | 5.2 | 4.3 | 5.4 | 4.3 | 6.3 | 4.3 |
| | | | | TIME TO NEAREST FACILITY | | | | | | |
| **Minutes** | | | | | | | | | | |
| <15 | 5.2 | 12.8 | 16.5 | 26.5 | 11.6 | 28.0 | 15.7 | 14.4 | 12.8 | 17.7 |
| 15-29 | 11.5 | 16.1 | 21.8 | 44.4 | 29.7 | 24.0 | 15.5 | 14.4 | 27.5 | 12.6 |
| 30-59 | 25.8 | 24.4 | 29.3 | 23.0 | 42.9 | 8.0 | 28.8 | 46.1 | 22.7 | 25.5 |
| 60-119 | 24.7 | 21.6 | 19.9 | 0.0 | 13.9 | 15.1 | 19.3 | 15.5 | 23.6 | 35.8 |
| 120+ | 27.7 | 10.9 | 8.3 | 0.0 | 0.0 | 15.2 | 10.8 | 9.1 | 9.9 | 8.4 |
| Service not provided | 0.8 | 9.9 | 0.6 | 6.1 | 0.0 | 0.0 | 0.7 | 0.5 | 0.0 | 0.0 |
| Missing | 4.3 | 4.3 | 3.7 | 0.0 | 2.0 | 9.8 | 9.1 | 0.0 | 3.6 | 0.0 |
| Total | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| Number of women | 4629 | 4629 | 4629 | 271 | 610 | 445 | 864 | 737 | 992 | 710 |

[1]No facility mentioned on questionnaire; evidently, service is so distant it is not considered available or is not known.

## Delivery Care

Table 12.5 shows the distributions of currently married women by distance and one-way travel time to the nearest facility providing delivery care. Overall, 32 percent of women live within 5 kilometres of a facility that offers delivery care. As expected, health centres and dispensaries are closer to the women than hospitals; 22 percent live within 5 kilometres of a health centre that provides delivery care, while 12 percent live within 5 kilometres of a hospital providing delivery assistance. In terms of travel time, 35 percent of women have a health centre with delivery care within one hour's travel time, compared to 43 percent with a hospital within one hour's travel. It is important to note that one-third of the women live in communities where the health centre/dispensary does not provide delivery care.

Table 12.5 Distance and time to nearest facility providing delivery care according to type of facility and province

Percent distribution of currently married women by distance and time to nearest facility providing delivery care services, according to type of facility and province, Kenya 1993

| Distance to nearest facility | Type of facility | | | Province | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Hospital | Health centre/ Dispensary | All facilities | Nairobi | Central | Coast | Eastern | Nyanza | Rift Valley | Western |
| **DISTANCE TO NEAREST FACILITY** | | | | | | | | | | |
| **Kilometres** | | | | | | | | | | |
| <1 | 2.6 | 4.9 | 7.0 | 14.8 | 1.5 | 9.6 | 5.0 | 10.8 | 3.9 | 9.7 |
| 1-4 | 9.3 | 17.1 | 24.8 | 30.6 | 25.5 | 24.6 | 21.5 | 17.4 | 23.5 | 35.4 |
| 5-9 | 16.8 | 19.4 | 29.3 | 30.1 | 31.9 | 18.4 | 23.3 | 31.6 | 26.6 | 42.4 |
| 10-14 | 10.0 | 9.2 | 13.1 | 22.4 | 18.8 | 7.7 | 11.8 | 17.5 | 10.3 | 8.9 |
| 15-29 | 26.4 | 9.7 | 14.6 | 0.0 | 16.7 | 17.8 | 17.4 | 11.2 | 24.5 | 2.5 |
| 30+ | 29.6 | 2.2 | 6.9 | 0.0 | 3.6 | 11.1 | 10.9 | 10.5 | 7.6 | 0.0 |
| Service not provided | 0.5 | 33.8 | 0.7 | 2.0 | 0.0 | 1.0 | 1.0 | 1.0 | 0.0 | 1.1 |
| Missing | 4.8 | 3.7 | 3.7 | 0.0 | 2.0 | 9.8 | 9.1 | 0.0 | 3.6 | 0.0 |
| Total | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| Number of women | 4629 | 4629 | 4629 | 271 | 610 | 445 | 864 | 737 | 992 | 710 |
| Median distance | 17.1 | 7.4 | 7.9 | 5.4 | 7.7 | 6.3 | 8.7 | 8.3 | 9.0 | 5.8 |
| **TIME TO NEAREST FACILITY** | | | | | | | | | | |
| **Minutes** | | | | | | | | | | |
| <15 | 5.4 | 6.9 | 11.0 | 14.8 | 9.0 | 17.0 | 11.3 | 10.0 | 8.7 | 11.2 |
| 15-29 | 11.5 | 9.5 | 17.6 | 23.0 | 24.9 | 21.0 | 11.5 | 10.5 | 22.2 | 15.5 |
| 30-59 | 25.7 | 18.5 | 31.6 | 59.2 | 45.0 | 17.5 | 26.8 | 40.1 | 23.4 | 27.3 |
| 60-119 | 24.6 | 16.0 | 21.6 | 1.0 | 19.1 | 11.7 | 18.5 | 21.0 | 29.0 | 31.7 |
| 120+ | 28.0 | 11.5 | 13.9 | 0.0 | 0.0 | 22.0 | 21.1 | 18.0 | 13.0 | 14.5 |
| Service not provided | 0.5 | 33.8 | 0.6 | 2.0 | 0.0 | 1.0 | 1.7 | 0.5 | 0.0 | 0.0 |
| Missing | 4.3 | 3.9 | 3.7 | 0.0 | 2.0 | 9.8 | 9.1 | 0.0 | 3.6 | 0.0 |
| Total | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| Number of women | 4629 | 4629 | 4629 | 271 | 610 | 445 | 864 | 737 | 992 | 710 |

## Immunisation

Data on distance and travel time to child immunisation services are presented in Table 12.6. More than half of married women live within 5 kilometres of a facility that provides immunisations and 46 percent live within 5 kilometres of a health centre providing immunisations. The closest facilities are health centres—55 percent of women live within one hour of a health centre and 43 percent live within one hour of a hospital that provides immunisations.

Table 12.6 Distance and time to nearest facility providing child immunisation services according to type of facility and province

Percent distribution of currently married women by distance and time to nearest facility providing child immunisation services, according to type of facility and province, Kenya 1993

| Distance to nearest facility | Type of facility | | | Province | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Hospital | Health centre/ Dispensary | All facilities | Nairobi | Central | Coast | Eastern | Nyanza | Rift Valley | Western |
| | | | | DISTANCE TO NEAREST FACILITY | | | | | | |
| **Kilometres** | | | | | | | | | | |
| <1 | 2.6 | 11.9 | 13.8 | 23.0 | 5.6 | 20.9 | 9.3 | 18.0 | 11.7 | 17.0 |
| 1-4 | 9.5 | 33.6 | 38.1 | 66.8 | 43.2 | 33.3 | 35.9 | 36.4 | 26.0 | 46.9 |
| 5-9 | 16.8 | 25.4 | 26.6 | 8.2 | 28.4 | 19.4 | 21.1 | 30.0 | 32.9 | 31.2 |
| 10-14 | 10.0 | 9.5 | 8.5 | 0.0 | 12.0 | 4.1 | 9.8 | 8.5 | 12.1 | 4.9 |
| 15-29 | 26.4 | 6.4 | 7.8 | 0.0 | 8.8 | 11.0 | 12.5 | 3.8 | 12.5 | 0.0 |
| 30+ | 29.6 | 1.3 | 1.3 | 0.0 | 0.0 | 1.5 | 2.3 | 2.9 | 1.2 | 0.0 |
| Service not provided | 0.2 | 8.3 | 0.2 | 2.0 | 0.0 | 0.0 | 0.0 | 0.5 | 0.0 | 0.0 |
| Missing | 4.8 | 3.7 | 3.7 | 0.0 | 2.0 | 9.8 | 9.1 | 0.0 | 3.6 | 0.0 |
| Total | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| Number of women | 4629 | 4629 | 4629 | 271 | 610 | 445 | 864 | 737 | 992 | 710 |
| | | | | TIME TO NEAREST FACILITY | | | | | | |
| **Minutes** | | | | | | | | | | |
| <15 | 5.4 | 13.7 | 17.4 | 30.6 | 13.2 | 28.4 | 18.5 | 13.1 | 13.6 | 17.7 |
| 15-29 | 11.5 | 16.7 | 21.8 | 44.4 | 28.1 | 25.3 | 13.8 | 16.8 | 28.7 | 10.5 |
| 30-59 | 25.8 | 24.9 | 28.7 | 23.0 | 42.9 | 6.6 | 25.3 | 46.6 | 23.3 | 25.5 |
| 60-119 | 24.7 | 21.2 | 19.8 | 0.0 | 13.9 | 17.4 | 19.3 | 13.9 | 21.9 | 37.9 |
| 120+ | 28.0 | 10.7 | 8.3 | 0.0 | 0.0 | 12.5 | 13.4 | 9.1 | 8.9 | 8.4 |
| Service not provided | 0.2 | 8.3 | 0.3 | 2.0 | 0.0 | 0.0 | 0.7 | 0.5 | 0.0 | 0.0 |
| Missing | 4.3 | 4.3 | 3.7 | 0.0 | 2.0 | 9.8 | 9.1 | 0.0 | 3.6 | 0.0 |
| Total | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| Number of women | 4629 | 4629 | 4629 | 271 | 610 | 445 | 864 | 737 | 992 | 710 |

It is of interest to see if those who use MCH services are more likely to live closer to them than those who do not use them. Table 12.7 shows the percent distribution of children under age five by distance to the nearest facility providing MCH services, according to whether their mothers received antenatal and/or delivery care and according to whether they themselves received all or only some or no vaccinations against childhood diseases.

Table 12.7 Distance to nearest maternal and child health services for children

Percent distribution of children by distance to the nearest facility providing maternal and child health services, according to maternal care and vaccination coverage, Kenya 1993

| Distance to nearest facility providing MCH services | All children | Maternal care received[1] | | | Vaccination coverage[2] | | |
|---|---|---|---|---|---|---|---|
| | | ANC and DA | ANC or DA | Neither | All vacci-nations | Some/No vacci-nations | Total |
| **Kilometres** | | | | | | | |
| <1 | 12.7 | 15.3 | 12.8 | 11.0 | 15.2 | 12.1 | 14.5 |
| 1-4 | 36.9 | 42.3 | 37.5 | 22.6 | 38.2 | 36.0 | 37.7 |
| 5-9 | 27.5 | 24.6 | 27.4 | 28.8 | 25.1 | 29.3 | 26.1 |
| 10-14 | 8.9 | 8.0 | 9.1 | 5.3 | 8.9 | 9.3 | 9.0 |
| 15-29 | 9.0 | 6.6 | 8.6 | 17.9 | 8.1 | 8.3 | 8.2 |
| 30+ | 1.6 | 1.1 | 1.5 | 3.9 | 1.4 | 1.4 | 1.4 |
| Service not provided | 0.2 | 0.3 | 0.2 | 1.2 | 0.2 | 0.0 | 0.2 |
| Missing | 3.1 | 2.0 | 2.9 | 9.3 | 2.8 | 3.6 | 3.0 |
| Total | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| Number of children | 6062 | 3236 | 5836 | 226 | 3483 | 1046 | 4529 |
| Median distance | 4.9 | 4.2 | 4.8 | 6.3 | 4.6 | 5.0 | 4.7 |

[1]Figures are for children age 0-4 years
[2]Figures are for children age 1-4 years
ANC = Antenatal care by doctor, nurse, or trained midwife
DA = Delivery assistance by doctor, nurse, trained midwife, or delivered in a health facility

The data show that the hypothesis is true, that is, children whose mothers received both antenatal and delivery care are more likely to live within 5 kilometres of a facility providing MCH services (58 percent) than either those whose mothers received only one of these services (50 percent) or those whose mothers received neither antenatal nor delivery care (34 percent). Children who are fully vaccinated are only slightly more likely than those not fully vaccinated to live within 5 kilometres of a facility providing MCH services.

# REFERENCES


Barasa, J. and S. Kanani. 1991. *An Inventory Study of CBD Family Planning Services.* Nairobi, Kenya: National Council for Population and Development (NCPD) and United Nations Population Fund (UNFPA).

Boerma, J. Ties, A. Elisabeth Sommerfelt, Shea O. Rutstein, and Guillermo Rojas. 1990. *Immunization: Levels, Trends and Differentials*, DHS Comparative Studies No. 1. Columbia, Maryland: Institute for Resource Development/Macro Systems Inc.

Boerma, J. Ties. 1988. Monitoring and Evaluation of Health Interventions: Age- and Cause-Specific Mortality and Morbidity in Childhood. In *Research and Intervention Issues Concerning Infant and Child Mortality and Health*, 195-218. Proceedings of the East Africa Workshop, International Development Research Centre, Manuscript Report 200e. Ottawa, Canada.

Brass, William and Carole L. Jolly, eds. 1993. *Population Dynamics of Kenya.* Committee on Population, National Research Council. Washington, D.C.: National Academy Press.

Central Bureau of Statistics (CBS), Ministry of Planning and National Development [Kenya]. 1994. Kenya Population Census 1989. Vol. 1. Nairobi: CBS.

Central Bureau of Statistics (CBS), Ministry of Planning and National Development [Kenya]. 1991a. The 1989 Population Census Provisional Results. Chap. 3 in *Economic Survey 1991*, 30-35. Nairobi: CBS.

Central Bureau of Statistics (CBS), Ministry of Planning and National Development [Kenya]. 1991b. *Fourth Rural Child Nutrition Survey 1987.* Nairobi: CBS.

Central Bureau of Statistics (CBS), Ministry of Planning and National Development [Kenya]. 1984. *Kenya Contraceptive Prevalence Survey 1984. First Report.* Nairobi: CBS.

Central Bureau of Statistics (CBS), Ministry of Economic Planning and Development [Kenya]. 1981a. *Kenya Population Census, 1979.* Vol. 1. Nairobi: CBS.

Central Bureau of Statistics (CBS), Ministry of Finance and Planning [Kenya]. [1981b]. *1979 Population Census.* Vol. 2, *Analytical Report.* Nairobi: CBS.

Central Bureau of Statistics (CBS), Ministry of Economic Planning and Development [Kenya]. 1980. *Kenya Fertility Survey 1977-1978.* Vol. 1, *First Report.* Nairobi: CBS.

Central Bureau of Statistics (CBS), Ministry of Finance and Planning [Kenya]. 1977. *Demographic Surveys Methodological Report 1973-1976.* Nairobi: CBS.

Central Bureau of Statistics (CBS), Ministry of Finance and Planning [Kenya]. 1975. *Demographic Baseline Survey Report 1973.* Nairobi: CBS.

Central Bureau of Statistics (CBS), Ministry of Finance and Planning [Kenya]. [1970]. *1969 Population Census.* Vol. 4, *Analytical Report.* Nairobi: CBS.

Cross, Anne R., Walter Obungu, and Paul Kizito. 1991. Evidence of a Transition to Lower Fertility in Kenya. *International Family Planning Perspectives*, 17(1):4-7. New York: Alan Guttmacher Institute.

Ewbank, D., R. Henin, and J. Kekovole. 1986. An Integration of Demographic and Epidemiologic Research on Mortality in Kenya. Chap. 3 in *Determinants of Mortality Change and Differentials in Developing Countries*, 33-85. Population Studies No. 94. New York: United Nations.

James, W.P.T, A. Ferro-Luzzi, and J.C. Waterlow. 1988. Definition of Chronic Energy Deficiency in Adults. *European Journal of Clinical Nutrition* 42(12):969-981.

Lewis, Gary L., Nelson A. Keyonzo and Polly Mott. 1992. Community-Based Family Planning Services: Insights from the Kenyan Experience. Paper presented at the 1992 Annual Meeting of the Population Association of America.

Macro International Inc. 1993. A Profile of Teenage and Young Adult Women in Kenya: Findings from the 1989 Kenya Demographic and Health Survey. Calverton, Maryland: Demographic and Health Surveys.

National AIDS Control Programme (NACP), Ministry of Health, and National Council for Population and Development (NCPD). 1993. *AIDS in Kenya: Background, Projections, Impact, Interventions*. Nairobi, Kenya: NACP and NCPD.

National Council for Population and Development (NCPD), Ministry of Home Affairs and National Heritage, and Institute for Resource Development/Macro Systems Inc. (IRD/Macro). 1989. *Kenya Demographic and Health Survey, 1989*. Columbia, Maryland: NCPD and IRD/Macro.

Republic of Kenya [1994]. *Development Plan, 1994-1996*. Nairobi: Government Printer.

Rutstein, Shea Oscar and George T. Bicego. 1990. Assessment of the Quality of Data Used to Ascertain Eligibility and Age in the Demographic and Health Surveys. In *An Assessment of DHS-I Data Quality*, 3-37. DHS Methodological Reports No. 1. Columbia, Maryland: Institute for Resource Development/Macro Systems Inc.

Statistics Division, Ministry of Finance and Economic Planning [Kenya]. 1970. *Kenya Population Census, 1969*. Vol. 1. Nairobi: Statistics Division.

Statistics Division, Ministry of Finance and Economic Planning [Kenya]. 1971. *Kenya Population Census, 1969*. Vol. 2, *Data on Urban Population*. Nairobi: Statistics Division.

Sullivan, Jeremiah M., George T. Bicego, and Shea Oscar Rutstein. 1990. Assessment of the Quality of Data Used for the Direct Estimation of Infant and Child Mortality in the Demographic and Health Surveys. In *An Assessment of DHS-I Data Quality*, 115-137. DHS Methodological Reports No. 1. Columbia, Maryland: Institute for Resource Development/Macro Systems Inc.

World Bank. 1991. *World Tables 1991*. Baltimore: Johns Hopkins University Press.

# APPENDIX A

# SURVEY DESIGN

# APPENDIX A

# SURVEY DESIGN

## A.1 Questionnaires

Four types of questionnaires were used for the KDHS: a Household Questionnaire, a Woman's Questionnaire, a Man's Questionnaire and a Services Availability Questionnaire. The contents of these questionnaires were based on the DHS Model B Questionnaire, which is designed for use in countries with low levels of contraceptive use. Additions and modifications to the model questionnaires were made during a series of meetings organised around specific topics or sections of the questionnaires (e.g., fertility, family planning). The NCPD invited staff from a variety of organisations to attend these meetings, including the Population Studies Research Institute and other departments of the University of Nairobi, the Woman's Bureau, and various units of the Ministry of Health. The questionnaires were developed in English and then translated into and printed in Kiswahili and eight of the most widely spoken local languages in Kenya (Kalenjin, Kamba, Kikuyu, Kisii, Luhya, Luo, Meru, and Mijikenda).

The **Household Questionnaire** was used to list all the usual members and visitors of selected households. Some basic information was collected on the characteristics of each person listed, including his/her age, sex, education, and relationship to the head of the household. The main purpose of the Household Questionnaire was to identify women and men who were eligible for individual interview. In addition, information was collected about the dwelling itself, such as the source of water, type of toilet facilities, materials used to construct the house, and ownership of various consumer goods.

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

- Background characteristics (age, education, religion, etc.),
- Reproductive history,
- Knowledge and use of family planning methods,
- Antenatal and delivery care,
- Breastfeeding and weaning practices,
- Vaccinations and health of children under age five,
- Marriage,
- Fertility preferences,
- Husband's background and respondent's work,
- Awareness of AIDS.

In addition, interviewing teams measured the height and weight of children under age five (identified through the birth histories) and their mothers.

Information from a subsample of men aged 20-54 was collected using a **Man's Questionnaire**. Men were asked about their background characteristics, knowledge and use of family planning methods, marriage, fertility preferences, and awareness of AIDS.

The **Services Availability Questionnaire** was used to collect information on the health and family planning services obtained within the cluster areas. One service availability questionnaire was to be completed in each cluster.

## A.2 Sample Design and Implementation

The sample for the 1993 KDHS was national in scope, with the exclusion of all three districts in Northeastern Province and four other northern districts (Isiolo and Marsabit from Eastern Province and Samburu and Turkana from Rift Valley Province). Together the excluded areas account for less than four percent of Kenya's population. The KDHS sample points were selected from a national master sample maintained by the Central Bureau of Statistics, the third National Sample Survey and Evaluation Programme (NASSEP-3), which is an improved version of NASSEP2 used in the 1989 survey. This master sample follows a two-stage design, stratified by urban-rural residence, and within the rural stratum, by individual district. In the first stage, 1989 census enumeration areas (EAs) were selected with probability proportional to size. The selected EAs were segmented into the expected number of standard-sized clusters to form NASSEP clusters. The entire master sample consists of 1,048 rural and 325 urban[1] sample points ("clusters"). A total of 536 clusters---92 urban and 444 rural--were selected for coverage in the KDHS. Of these, 520 were successfully covered. Sixteen clusters were inaccessible for various reasons.

As in the 1989 KDHS, selected districts were oversampled in the 1993 survey in order to produce more reliable estimates for certain variables at the district level. Fifteen districts were thus targetted in the 1993 KDHS: Bungoma, Kakamega, Kericho, Kilifi, Kisii, Machakos, Meru, Murang'a, Nakuru, Nandi, Nyeri, Siaya, South Nyanza, Taita-Taveta, and Uasin Gishu; in addition, Nairobi and Mombasa were also targetted.[2] Although six of these districts were subdivided shortly before the sample design was finalised,[3] the previous boundaries of these districts were used for the KDHS in order to maintain comparability with the 1989 survey. About 400 rural households were selected in each of these 15 districts, just over 1000 rural households in other districts, and about 1800 households in urban areas, for a total of almost 9,000 households. Due to this oversampling, the KDHS sample is not self-weighting at the national level.

After the selection of the KDHS sample points, fieldstaff from the Central Bureau of Statistics conducted a household listing operation in January and early February 1993, immediately prior to the launching of the fieldwork. A systematic sample of households was then selected from these lists, with an average "take" of 20 households in the urban clusters and 16 households in rural clusters, for a total of 8,864 households selected. Every other household was identified as selected for the male survey, meaning that, in addition to interviewing all women age 15-49, interviewers were to also interview all men age 20-54. It was expected that the sample would yield interviews with approximately 8,000 women age 15-49 and 2,500 men age 20-54. Tables A.1.1 and A.1.2 provide details about response rates among households and eligible women and men.

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[1]The NASSEP-3 (and therefore the KDHS) defines urban as centers of population of 10,000 or more, plus all district headquarters, regardless of size. This definition differs from that used in the 1989 census which included all municipalities, town councils, urban councils, and trading centres as urban.

[2]With the exception of Nandi, Nakuru, and Taita-Taveta, all the above districts were also targetted in the 1989 KDHS; Kirinyaga District was targetted in 1989 and not in 1993. Also, Nairobi was specifically targetted in 1989, but Mombasa was not.

[3]Kericho was divided into Kericho and Bomet; Machakos into Machakos and Makueni; Meru into Meru and Tharaka-Nithi; Kisii into Kisii and Nyamira; South Nyanza into Homa Bay and Migori; and Kakamega into Kakamega and Vihiga.

Table A.1.1 Sample implementation: Women

Percent distribution of households and eligible women and men in the DHS sample by result of the interview and household, eligible women, eligible men and overall response rates, according to province and urban rural area, Kenya 1993

| | Province | | | | | | | Residence | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Result | Nairobi | Central | Coast | Eastern | Nyanza | Rift Valley | Western | Urban | Rural | Total |
| **Selected households** | | | | | | | | | | |
| Completed (C) | 80.5 | 93.6 | 87.8 | 93.4 | 89.8 | 89.3 | 95.0 | 83.4 | 91.9 | 90.3 |
| Household present but no competent respondent at home (HP) | 3.8 | 1.0 | 2.7 | 1.2 | 1.4 | 1.3 | 0.1 | 3.7 | 1.0 | 1.5 |
| Postponed (P) | 0.0 | 0.1 | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 | 0.0 | 0.0 |
| Refused (R) | 3.1 | 0.7 | 0.5 | 0.7 | 0.2 | 1.4 | 0.0 | 2.2 | 0.5 | 0.8 |
| Dwelling not found (DNF) | 0.7 | 0.1 | 0.2 | 0.0 | 0.3 | 0.5 | 0.0 | 0.4 | 0.3 | 0.3 |
| Household absent (HA) | 3.1 | 0.9 | 3.5 | 2.9 | 5.3 | 2.7 | 1.5 | 3.9 | 2.7 | 2.9 |
| Dwelling vacant/address not a dwelling (DV) | 3.6 | 2.7 | 4.4 | 1.5 | 2.5 | 3.3 | 3.1 | 4.4 | 2.7 | 3.0 |
| Dwelling destroyed (DD) | 1.0 | 0.4 | 0.7 | 0.3 | 0.2 | 1.3 | 0.2 | 0.5 | 0.7 | 0.6 |
| Other (O) | 4.1 | 0.4 | 0.2 | 0.1 | 0.3 | 0.2 | 0.1 | 1.5 | 0.3 | 0.5 |
| Total percent | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| Number | 606 | 1339 | 1260 | 1068 | 1523 | 2116 | 893 | 1654 | 7151 | 8805 |
| **Household response rate (HRR)**[1] | 91.4 | 97.9 | 96.2 | 98.0 | 97.9 | 96.6 | 99.9 | 93.0 | 98.0 | 97.1 |
| **Eligible women** | | | | | | | | | | |
| Completed (EWC) | 90.2 | 95.2 | 94.2 | 95.6 | 93.6 | 94.7 | 98.1 | 91.7 | 95.4 | 94.8 |
| Not at home (EWNH) | 4.7 | 2.8 | 3.0 | 2.7 | 3.6 | 2.8 | 0.7 | 3.6 | 2.6 | 2.8 |
| Postponed (EWP) | 0.0 | 0.0 | 0.0 | 0.0 | 0.2 | 0.0 | 0.0 | 0.1 | 0.0 | 0.0 |
| Refused (EWR) | 1.5 | 0.8 | 0.3 | 0.5 | 0.6 | 1.0 | 0.3 | 1.4 | 0.5 | 0.7 |
| Partly completed (EWPC) | 1.0 | 0.4 | 0.7 | 0.5 | 0.7 | 0.5 | 0.3 | 0.9 | 0.5 | 0.5 |
| Incapacitated (EWI) | 0.2 | 0.6 | 0.7 | 0.4 | 1.0 | 0.6 | 0.5 | 0.4 | 0.7 | 0.6 |
| Other (EWO) | 2.5 | 0.2 | 1.0 | 0.3 | 0.3 | 0.5 | 0.0 | 1.8 | 0.3 | 0.5 |
| Total percent | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| Number | 407 | 1129 | 1158 | 1092 | 1350 | 1853 | 963 | 1266 | 6686 | 7952 |
| **Eligible woman response rate (EWRR)**[2] | 90.2 | 95.2 | 94.2 | 95.6 | 93.6 | 94.7 | 98.1 | 91.7 | 95.4 | 94.8 |
| **Overall response rate (ORR)**[3] | 82.4 | 93.2 | 90.6 | 93.7 | 91.6 | 91.4 | 98.0 | 85.3 | 93.5 | 92.1 |

Note: The household response rate is calculated for completed households as a proportion of completed, no competent respondent, postponed, refused, and dwelling not found. The eligible woman response rate is calculated for completed interviews as a proportion of completed, not at home, postponed, refused, partially completed, incapacitated and "other". The overall response rate is the product of the household and woman response rates.

[1]Using the number of households falling into specific response categories, the household response rate (HRR) is calculated as

$$\frac{C}{C + HP + P + R + DNF}$$

[2]Using the number of eligible women falling into specific response categories, the eligible woman response rate (EWRR) is calculated as:

$$\frac{EWC}{EWC + EWNH + EWP + EWR + EWPC + EWI + EWO}$$

[3]The overall response rate (ORR) is calculated as:

$$ORR = HRR * EWRR$$

Table A.1.2 Sample implementation: Men

Percent distribution of households and eligible women and men in the DHS sample by result of the interview and household, eligible women, eligible men and overall response rates, according to province and urban rural area, Kenya 1993

| | Province | | | | | | | Residence | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Result | Nairobi | Central | Coast | Eastern | Nyanza | Rift Valley | Western | Urban | Rural | Total |
| **Selected households** | | | | | | | | | | |
| Completed (C) | 81.5 | 92.8 | 87.2 | 94.7 | 89.8 | 89.0 | 94.8 | 82.6 | 92.0 | 90.2 |
| Household present but no competent respondent at home (HP) | 3.0 | 1.6 | 2.5 | 0.9 | 1.9 | 0.9 | 0.2 | 3.8 | 1.0 | 1.5 |
| Refused (R) | 2.7 | 1.0 | 0.5 | 0.8 | 0.1 | 1.4 | 0.0 | 2.2 | 0.6 | 0.9 |
| Dwelling not found (DNF) | 1.3 | 0.0 | 0.2 | 0.0 | 0.3 | 0.6 | 0.0 | 0.6 | 0.2 | 0.3 |
| Household absent (HA) | 2.4 | 1.0 | 3.5 | 1.9 | 5.4 | 3.1 | 1.8 | 4.0 | 2.6 | 2.9 |
| Dwelling vacant/address not a dwelling (DV) | 4.7 | 2.7 | 5.4 | 1.3 | 2.3 | 3.6 | 2.9 | 4.9 | 2.8 | 3.2 |
| Dwelling destroyed (DD) | 1.0 | 0.6 | 0.5 | 0.4 | 0.1 | 0.9 | 0.2 | 0.6 | 0.5 | 0.5 |
| Other (O) | 3.4 | 0.1 | 0.3 | 0.0 | 0.1 | 0.4 | 0.0 | 1.2 | 0.2 | 0.4 |
| Total percent | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| Number | 297 | 667 | 632 | 531 | 744 | 1057 | 442 | 818 | 3552 | 4370 |
| **Household response rate (HRR)**[1] | 92.0 | 97.2 | 96.5 | 98.2 | 97.5 | 96.8 | 99.8 | 92.6 | 98.1 | 97.1 |
| **Eligible men** | | | | | | | | | | |
| Completed (EMC) | 73.7 | 84.5 | 81.9 | 88.5 | 79.1 | 86.5 | 95.1 | 77.9 | 86.5 | 84.6 |
| Not at home (EMNH) | 15.1 | 12.7 | 9.3 | 7.5 | 15.4 | 10.5 | 3.5 | 12.7 | 10.0 | 10.6 |
| Postponed (EMP) | 0.0 | 0.0 | 0.2 | 0.0 | 0.0 | 0.1 | 0.0 | 0.2 | 0.0 | 0.1 |
| Refused (EMR) | 5.6 | 0.6 | 1.4 | 0.9 | 2.1 | 1.1 | 0.0 | 3.2 | 0.9 | 1.4 |
| Partly completed (EMPC) | 0.9 | 0.6 | 0.7 | 0.3 | 0.0 | 0.4 | 0.0 | 1.0 | 0.2 | 0.4 |
| Incapacitated (EMI) | 0.4 | 1.1 | 1.9 | 1.7 | 0.8 | 1.[illegible] | 0.7 | 0.2 | 1.4 | 1.1 |
| Other (EMO) | 4.3 | 0.6 | 4.6 | 1.1 | 2.6 | [illegible] | 0.7 | 4.9 | 0.9 | 1.8 |
| Total percent | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| Number | 232 | 361 | 431 | 348 | 382 | 721 | 287 | 616 | 2146 | 2762 |
| **Eligible man response rate (EMRR)**[2] | 73.7 | 84.5 | 81.9 | 88.5 | 79.1 | 86.5 | 95.1 | 77.9 | 86.5 | 84.6 |
| **Overall response rate (ORR)**[3] | 67.8 | 82.1 | 79.0 | 86.9 | 77.1 | 83.8 | 94.9 | 72.2 | 84.9 | 82.1 |

Note: The household response rate is calculated for completed households as a proportion of completed, no competent respondent, refused, and dwelling not found. The eligible man response rate is calculated for completed interviews as a proportion of completed, not at home, postponed, refused, partially completed, incapacitated and "other." The overall response rate is the product of the household and man response rates.

[1]Using the number of households falling into specific response categories, the household response rate (HRR) is calculated as:

$$\frac{C}{C + HP + R + DNF}$$

[2]Using the number of eligible men falling into specific response categories, the eligible man response rate (EMRR) is calculated as:

$$\frac{EWC}{EMC + EMNH + EMP + EMR + EMPC + EMI + EMO}$$

[3]The overall response rate (ORR) is calculated as

$$ORR = HRR * EMRR$$

## A.3 Training and Fieldwork

The KDHS questionnaires were pretested in October 1992. Sixteen interviewers (one woman and one man for each of the eight local languages) were trained for two weeks at the Masaku County Training Centre in Machakos town. Four of the 16 had participated in the 1989 KDHS and several others had other experience with fieldwork. Trainers included several officers from the NCPD, the CBS, Macro, and several guest lecturers from other agencies (e.g., the District Public Health Nurse, the District Statistical Officer). Since the main purpose of the pretest was to check the translations, trainees were asked to compare the English version with that in their own languages and to make back translations into English of key questions.

After training, the eight teams spent eight days in the field conducting interviews under the observation of six officers from NCPD headquarters. Altogether, 185 Woman's and 183 Man's Questionnaires were completed. In addition, several of the NCPD officers tried filling in a preliminary version of the Services Availability Questionnaire. The field teams then spent two days in Nairobi in debriefing meetings, describing the fieldwork and suggesting modifications to the questionnaires. On the basis of these suggestions, revisions in the wording and translations of the questionnaires were made.

In November 1992, NCPD officers visited several districts to recruit candidates for fieldstaff positions for the main survey. Recruitment criteria included ability to speak at least one of the eight local languages in which the survey was conducted, educational attainment, maturity, ability to spend one month in training and at least four months in the field and experience in other surveys. A total of 102 trainees were recruited.

Training for the main survey was conducted at the Mathari Pastoral Centre in Nyeri for four weeks (from 18 January to 12 February 1992). In order to facilitate training, participants were divided into two groups and almost all of the classroom training was done separately. A plenary hall was used for the opening and closing ceremonies and for short lectures when it was beneficial to have the whole group together. Two NCPD officers were assigned full-time to each group, with several other officers assisting periodically. Lectures on family planning were presented by two women from the Nyeri branch of the Family Planning Association of Kenya. Two staff from Macro assisted full-time, while one Macro consultant assisted a CBS officer in the anthropometric measurement training for one week.

Most of the first week of training consisted of lectures on how to fill the questionnaires, with mock interviews between participants after each section was explained. The second week was divided between completing the explanation of the questionnaire and training on how to take height and weight measurements. Generally, one group would spend half the day on anthropometric training and the other half in the classroom. Anthropometric training consisted of explanations of how to use the equipment, followed by practice within the group of trainees, and then practice on children during visits to two nearby nursery schools and the Provincial Hospital. The third week was spent in mock interviews on the whole questionnaire, discussion of the local language versions of the questionnaires, and two days of field practice interviewing in the community. The fourth week was spent in another day of field practice, training supervisors and field editors in questionnaire editing and filling out the services availability questionnaire, administering a test, checking and dividing the questionnaires and other field equipment by team, and the closing ceremony. In addition, during the last three days, a separate training course was held for all the District Population Officers and several of the District Statistical Officers.

Trainees who performed satisfactorily in the training programme were selected as interviewers, while those whose performance was rated as superior were selected as supervisors and/or field editors. Those whose performance was satisfactory, but who either could not travel in the field or whose native language was one in which there was a surfeit of interviewers, were selected as data processing staff.

The fieldwork for the KDHS was carried out by 12 interviewing teams. Each consisted of one supervisor, one field editor, 4-7 female interviewers, one male interviewer and one driver; however, due to its lighter workload, the Masai team consisted of one supervisor/editor, two female interviewers, one male interviewer and one driver. In total, there were 12 supervisors, 11 field editors, 60 female interviewers, 12 male interviewers and 12 drivers. In addition, each team was assigned a fieldwork coordinator, generally one of the trainers, who spent a considerable amount of time in the field starting the team off and periodically checking on them. In addition, the District Population Officers assisted in the logistical aspects of fieldwork. Fieldwork commenced on 18 February and was completed on 15 August 1993.

Data on the time the interview began and ended are available from the Woman's Questionnaires for most respondents. The data indicate that interviews with eligible women took an average of 42 minutes, excluding the time taken to fill the household questionnaire and to take anthropometric measurements. Slightly over one-quarter took less than 30 minutes to complete, while one-third took 30-44 minutes; 23 percent took 45-59 minutes and 15 percent took more than one hour.

## A.4 Data Processing

All questionnaires for the KDHS were returned to the NCPD headquarters for data processing. The processing operation consisted of office editing, coding of open-ended questions, data entry, and editing errors found by the computer programs. One NCPD officer, one data processing supervisor, one questionnaire administrator, two office editors, and initially four data entry operators were responsible for the data processing operation. Due to attrition and the need to speed up data processing, another four data entry operators were later hired temporarily. The data were processed on seven microcomputers, two of which were supplied specifically for the survey. The DHS data entry and editing programs were written in ISSA (Integrated System for Survey Analysis). Data processing commenced in early March and was completed by mid-September 1993.

# APPENDIX B

# ESTIMATES OF SAMPLING ERRORS

# APPENDIX B

# ESTIMATES OF SAMPLING ERRORS

The estimates from a sample survey are affected by two types of errors, nonsampling error and sampling error. Nonsampling error is the result 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 numerous efforts were made during the implementation of the KDHS 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 KDHS 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. The sampling error is 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.

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 KDHS sample is the result of a two-stage stratified design, and, consequently, it was necessary to use more complex formulas. The computer software used to calculate sampling errors for the KDHS is the ISSA Sampling Error Module (ISSAS). This module used the Taylor linearization method of variance estimation for survey estimates that are means or proportions. The Jacknife repeated replication method is used for variance estimation of more complex statistics such as fertility and mortality rates.

ISSAS 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:

$$var(r) = \frac{1-f}{x^2} \sum_{h=1}^{H} \left[ \frac{m_h}{m_h - 1} \left( \sum_{i=1}^{m_h} z_{hi}^2 - \frac{z_h^2}{m_h} \right) \right]$$

in which

$$z_{hi} = y_{hi} - r.x_{hi} \text{ , and } z_h = y_h - r.x_h$$

where $h$ represents the stratum which varies from 1 to H,
$m_h$ is the total number of enumeration areas selected in the $h^{th}$ stratum,
$y_{hi}$ is the sum of the values of variable $y$ in EA $i$ in the $h^{th}$ stratum,

$x_{hi}$ is the sum of the number of cases in EA $i$ in the $h^{th}$ stratum, and
$f$ is the overall sampling fraction, which is so small that it is ignored.

In addition to the standard errors, ISSAS 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. ISSAS also computes the relative error and confidence limits for the estimates.

Sampling errors for the KDHS are calculated for selected variables considered to be of primary interest. The results are presented in this appendix for the country as a whole, for urban and rural areas, and for the nine provinces. In addition, sampling errors for contraceptive variables are calculated for certain smaller subsamples of female respondents, namely, Mombasa and the rural areas of the special districts. 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.17 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±2SE), for each variable.

In general, the relative standard error for most estimates for the country as a whole is small, except for estimates of very small proportions. There are some differentials in the relative standard error for the estimates of sub-populations such as geographical areas. For example, for the variable *Children ever born to women aged 15-49*, the relative standard error as a percent of the estimated mean for the whole country, for urban areas and for Nairobi is 1.3 percent, 4.3 percent, and 7.9 percent, respectively.

The confidence interval (e.g., as calculated for *Children ever born to women aged 15-49*) can be interpreted as follows: the overall average from the national sample is 3.167 and its standard error is .042. Therefore, to obtain the 95 percent confidence limits, one adds and subtracts twice the standard error to the sample estimate, ie. 3.167±.084. There is a high probability (95 percent) that the *true* average number of children ever born to all women aged 15 to 49 is between 3.083 and 3.251.

Table B.1 List of selected variables for sampling errors, Kenya 1993

| Variable | Description | Base population |
|---|---|---|
| | WOMEN | |
| No education | Proportion | All women |
| With secondary education or higher | Proportion | All women |
| Never married (in union) | Proportion | All women |
| Currently married (in union) | Proportion | All women |
| Married before age 20 | Proportion | Women aged 20 and older |
| Had first sexual intercourse before 18 | Proportion | Women aged 20 and older |
| Children ever born | Mean | All women |
| Children ever born to women over 40 | Mean | Women aged 40-49 |
| Children surviving | Mean | All women |
| Knowing any contraceptive method | Proportion | Currently married women |
| Knowing any modern contraceptive method | Proportion | Currently married women |
| Knowing source for any modern method | Proportion | Currently married women |
| Ever used any contraceptive method | Proportion | Currently married women |
| Currently using any method | Proportion | Currently married women |
| Currently using a modern method | Proportion | Currently married women |
| Currently using pill | Proportion | Currently married women |
| Currently using IUD | Proportion | Currently married women |
| Currently using injections | Proportion | Currently married women |
| Currently using condom | Proportion | Currently married women |
| Currently using female sterilisation | Proportion | Currently married women |
| Currently using periodic abstinence | Proportion | Currently married women |
| Using public sector source | Proportion | Current users of modern method |
| Want no more children | Proportion | Currently married women |
| Want to delay at least 2 years | Proportion | Currently married women |
| Ideal number of children | Mean | All women |
| 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 24 hours | Proportion | Children under 5 |
| Had diarrhoea in the last 2 weeks | Proportion | Children under 5 |
| Treated with ORS packets | Proportion | Children under 5 with diarrhea in last 2 weeks |
| Consulted medical personnel | Proportion | Children under 5 with diarrhea in last 2 weeks |
| Having health card, seen | Proportion | Children 12-23 months |
| Received BCG vaccination | Proportion | Children 12-23 months |
| Received DPT vaccination (3 doses) | Proportion | Children 12-23 months |
| Received polio vaccination (3 doses) | Proportion | Children 12-23 months |
| Received measles vaccination | Proportion | Children 12-23 months |
| Fully immunised | Proportion | Children 12-23 months |
| Total fertility rate (3 years) | Rate | All women |
| Infant mortality rate (0-4 years) | Rate | Births in last 5 years |
| Infant mortality rate (0-9 years)[1] | Rate | Births in last 10 years |
| | MEN | |
| No education | Proportion | All men |
| With secondary education or higher | Proportion | All men |
| Never married (in union) | Proportion | All men |
| Currently married (in union) | Proportion | All men |
| Knowing any contraceptive method | Proportion | Currently married men |
| Knowing any modern contraceptive method | Proportion | Currently married men |
| Knowing source for any modern method | Proportion | Currently married men |
| Ever used any contraceptive method | Proportion | Currently married men |
| Currently using any method | Proportion | Currently married men |
| Currently using a modern method | Proportion | Currently married men |
| Currently using pill | Proportion | Currently married men |
| Currently using IUD | Proportion | Currently married men |
| Currently using injections | Proportion | Currently married men |
| Currently using condom | Proportion | Currently married men |
| Currently using female sterilisation | Proportion | Currently married men |
| Currently using periodic abstinence | Proportion | Currently married men |
| Want no more children | Proportion | Currently married men |
| Ideal number of children | Mean | All men |

[1]For national, urban and rural samples only.
[2]For the national sample only.

Table B.2 Sampling errors - National sample, Kenya 1993

| Variable | Value (R) | Standard error (SE) | Number of cases Unweighted (N) | Number of cases Weighted (WN) | Design effect (DEFT) | Relative error (SE/R) | Confidence limits R-2SE | Confidence limits R+2SE |
|---|---|---|---|---|---|---|---|---|
| No education | .179 | .006 | 7540 | 7540 | 1.433 | .035 | .167 | .192 |
| With secondary education or higher | .245 | .009 | 7540 | 7540 | 1.783 | .036 | .227 | .262 |
| Never married (in union) | .302 | .007 | 7540 | 7540 | 1.285 | .022 | .289 | .316 |
| Currently married (in union) | .614 | .007 | 7540 | 7540 | 1.306 | .012 | .599 | .629 |
| Married before age 20 | .580 | .009 | 5752 | 5786 | 1.428 | .016 | .561 | .598 |
| Had first sexual intercourse before 18 | .625 | .009 | 5752 | 5786 | 1.464 | .015 | .607 | .644 |
| Children ever born | 3.167 | .042 | 7540 | 7540 | 1.168 | .013 | 3.083 | 3.252 |
| Children ever born to women over 40 | 7.323 | .117 | 1093 | 1072 | 1.223 | .016 | 7.089 | 7.557 |
| Children surviving | 2.818 | .037 | 7540 | 7540 | 1.162 | .013 | 2.743 | 2.892 |
| Knowing any contraceptive method | .972 | .004 | 4583 | 4629 | 1.471 | .004 | .965 | .979 |
| Knowing any modern method | .969 | .004 | 4583 | 4629 | 1.421 | .004 | .961 | .976 |
| Knowing source for any modern method | .931 | .005 | 4583 | 4629 | 1.268 | .005 | .921 | .940 |
| Ever used any contraceptive method | .552 | .010 | 4583 | 4629 | 1.406 | .019 | .532 | .573 |
| Currently using any method | .327 | .010 | 4583 | 4629 | 1.402 | .030 | .308 | .347 |
| Currently using a modern method | .273 | .009 | 4583 | 4629 | 1.411 | .034 | .254 | .292 |
| Currently using pill | .095 | .006 | 4583 | 4629 | 1.395 | .064 | .083 | .107 |
| Currently using IUD | .042 | .004 | 4583 | 4629 | 1.293 | .092 | .034 | .049 |
| Currently using injections | .072 | .004 | 4583 | 4629 | 1.168 | .062 | .063 | .081 |
| Currently using condom | .008 | .001 | 4583 | 4629 | .979 | .157 | .006 | .011 |
| Currently using female sterilisation | .055 | .004 | 4583 | 4629 | 1.069 | .065 | .048 | .063 |
| Currently using periodic abstinence | .044 | .003 | 4583 | 4629 | 1.124 | .077 | .038 | .051 |
| Using public sector source | .682 | .014 | 1552 | 1560 | 1.198 | .021 | .653 | .710 |
| Want no more children | .462 | .009 | 4583 | 4629 | 1.221 | .019 | .444 | .480 |
| Want to delay at least 2 years | .260 | .007 | 4583 | 4629 | 1.150 | .029 | .245 | .274 |
| Ideal number of children | 3.698 | .036 | 7115 | 7111 | 1.708 | .010 | 3.626 | 3.770 |
| Mothers received tetanus injection | .894 | .006 | 6052 | 6062 | 1.199 | .006 | .883 | .905 |
| Mothers received medical care at birth | .541 | .010 | 6052 | 6062 | 1.339 | .019 | .520 | .562 |
| Had diarrhoea in the last 24 hours | .055 | .004 | 5583 | 5587 | 1.144 | .067 | .048 | .062 |
| Had diarrhoea in the last 2 weeks | .139 | .005 | 5583 | 5587 | 1.115 | .039 | .129 | .150 |
| Treated with ORS packets | .316 | .021 | 755 | 779 | 1.160 | .066 | .274 | .357 |
| Consulted medical personnel | .409 | .021 | 755 | 779 | 1.125 | .051 | .367 | .451 |
| Having health card, seen | .692 | .015 | 1115 | 1124 | 1.119 | .022 | .661 | .723 |
| Received BCG vaccination | .963 | .008 | 1115 | 1124 | 1.378 | .008 | .947 | .978 |
| Received DPT vaccination (3 doses) | .869 | .011 | 1115 | 1124 | 1.120 | .013 | .846 | .891 |
| Received polio vaccination (3 doses) | .867 | .011 | 1115 | 1124 | 1.099 | .013 | .845 | .889 |
| Received measles vaccination | .838 | .013 | 1115 | 1124 | 1.191 | .016 | .812 | .864 |
| Fully immunised | .787 | .014 | 1115 | 1124 | 1.103 | .018 | .760 | .814 |
| Total fertility rate (3 years) | 5.403 | .130 | 7540 | 7540 | 1.332 | .024 | 5.143 | 5.662 |
| Infant mortality rate (0-4 years) | 61.649 | 4.321 | 6271 | 6286 | 1.310 | .070 | 53.008 | 70.290 |
| Infant mortality rate (0-9 years) | 62.532 | 3.521 | 12500 | 12566 | 1.435 | .056 | 55.489 | 69.575 |

Table B.3 Sampling errors - Urban sample, Kenya 1993

| Variable | Value (R) | Standard error (SE) | Number of cases Unweighted (N) | Number of cases Weighted (WN) | Design effect (DEFT) | Relative error (SE/R) | Confidence limits R-2SE | Confidence limits R+2SE |
|---|---|---|---|---|---|---|---|---|
| No education | .087 | .010 | 1161 | 1339 | 1.209 | .115 | .067 | .107 |
| With secondary education or higher | .458 | .026 | 1161 | 1339 | 1.767 | .056 | .406 | .509 |
| Never married (in union) | .378 | .021 | 1161 | 1339 | 1.473 | .056 | .336 | .420 |
| Currently married (in union) | .520 | .021 | 1161 | 1339 | 1.458 | .041 | .478 | .563 |
| Married before age 20 | .416 | .024 | 915 | 1064 | 1.459 | .057 | .369 | .464 |
| Had first sexual intercourse before 18 | .505 | .026 | 915 | 1064 | 1.550 | .051 | .453 | .556 |
| Children ever born | 1.959 | .084 | 1161 | 1339 | 1.281 | .043 | 1.791 | 2.127 |
| Children ever born to women over 40 | 4.670 | .365 | 92 | 108 | 1.295 | .078 | 3.939 | 5.401 |
| Children surviving | 1.783 | .076 | 1161 | 1339 | 1.271 | .043 | 1.632 | 1.935 |
| Knowing any contraceptive method | .985 | .005 | 607 | 697 | .960 | .005 | .975 | .994 |
| Knowing any modern method | .983 | .005 | 607 | 697 | .984 | .005 | .972 | .993 |
| Knowing source for any modern method | .957 | .009 | 607 | 697 | 1.131 | .010 | .939 | .976 |
| Ever used any contraceptive method | .701 | .026 | 607 | 697 | 1.406 | .037 | .649 | .754 |
| Currently using any method | .434 | .025 | 607 | 697 | 1.260 | .058 | .383 | .485 |
| Currently using a modern method | .379 | .026 | 607 | 697 | 1.294 | .067 | .328 | .430 |
| Currently using pill | .157 | .020 | 607 | 697 | 1.368 | .129 | .116 | .197 |
| Currently using IUD | .095 | .015 | 607 | 697 | 1.242 | .156 | .065 | .124 |
| Currently using injections | .062 | .010 | 607 | 697 | 1.063 | .168 | .041 | .083 |
| Currently using condom | .013 | .004 | 607 | 697 | .950 | .343 | .004 | .021 |
| Currently using female sterilisation | .052 | .008 | 607 | 697 | .905 | .156 | .036 | .069 |
| Currently using periodic abstinence | .053 | .009 | 607 | 697 | 1.018 | .175 | .035 | .072 |
| Using public sector source | .541 | .033 | 315 | 376 | 1.179 | .061 | .475 | .607 |
| Want no more children | .427 | .025 | 607 | 697 | 1.266 | .060 | .376 | .477 |
| Want to delay at least 2 years | .262 | .023 | 607 | 697 | 1.299 | .089 | .215 | .308 |
| Ideal number of children | 2.936 | .043 | 1088 | 1273 | 1.101 | .015 | 2.849 | 3.023 |
| Mothers received tetanus injection | .929 | .014 | 662 | 773 | 1.343 | .015 | .901 | .958 |
| Mothers received medical care at birth | .841 | .017 | 662 | 773 | 1.021 | .021 | .806 | .876 |
| Had diarrhoea in the last 24 hours | .051 | .011 | 616 | 720 | 1.168 | .217 | .029 | .073 |
| Had diarrhoea in the last 2 weeks | .119 | .018 | 616 | 720 | 1.313 | .147 | .084 | .154 |
| Treated with ORS packets | .404 | .060 | 77 | 86 | 1.040 | .148 | .285 | .523 |
| Consulted medical personnel | .525 | .059 | 77 | 86 | .998 | .112 | .407 | .643 |
| Having health card, seen | .587 | .047 | 148 | 177 | 1.170 | .081 | .492 | .682 |
| Received BCG vaccination | .989 | .009 | 148 | 177 | 1.076 | .009 | .970 | 1.000 |
| Received DPT vaccination (3 doses) | .925 | .022 | 148 | 177 | 1.020 | .023 | .882 | .969 |
| Received polio vaccination (3 doses) | .925 | .022 | 148 | 177 | 1.020 | .023 | .882 | .969 |
| Received measles vaccination | .840 | .030 | 148 | 177 | 1.010 | .036 | .780 | .900 |
| Fully immunised | .809 | .035 | 148 | 177 | 1.101 | .043 | .738 | .879 |
| Total fertility rate (3 years) | 3.440 | .219 | 1161 | 1339 | 1.213 | .063 | 3.036 | 3.913 |
| Infant mortality rate (0-9 years) | 45.525 | 7.810 | 1308 | 1516 | 1.320 | .172 | 29.905 | 61.145 |

Table B.4 Sampling errors - Rural sample, Kenya 1993

| Variable | Value (R) | Standard error (SE) | Number of cases Unweighted (N) | Number of cases Weighted (WN) | Design effect (DEFT) | Relative error (SE/R) | Confidence limits R-2SE | Confidence limits R+2SE |
|---|---|---|---|---|---|---|---|---|
| No education | .199 | .007 | 6379 | 6201 | 1.441 | .036 | .185 | .214 |
| With secondary education or higher | .199 | .008 | 6379 | 6201 | 1.566 | .039 | .183 | .214 |
| Never married (in union) | .286 | .007 | 6379 | 6201 | 1.194 | .024 | .273 | .300 |
| Currently married (in union) | .634 | .007 | 6379 | 6201 | 1.231 | .012 | .619 | .649 |
| Married before age 20 | .616 | .009 | 4837 | 4722 | 1.310 | .015 | .598 | .635 |
| Had first sexual intercourse before 18 | .653 | .009 | 4837 | 4722 | 1.378 | .014 | .634 | .672 |
| Children ever born | 3.428 | .044 | 6379 | 6201 | 1.068 | .013 | 3.341 | 3.515 |
| Children ever born to women over 40 | 7.620 | .118 | 1001 | 964 | 1.214 | .015 | 7.384 | 7.856 |
| Children surviving | 3.041 | .039 | 6379 | 6201 | 1.073 | .013 | 2.964 | 3.118 |
| Knowing any contraceptive method | .970 | .004 | 3976 | 3932 | 1.521 | .004 | .962 | .978 |
| Knowing any modern method | .966 | .004 | 3976 | 3932 | 1.464 | .004 | .958 | .975 |
| Knowing source for any modern method | .926 | .005 | 3976 | 3932 | 1.280 | .006 | .915 | .937 |
| Ever used any contraceptive method | .526 | .011 | 3976 | 3932 | 1.418 | .021 | .503 | .548 |
| Currently using any method | .309 | .010 | 3976 | 3932 | 1.425 | .034 | .288 | .329 |
| Currently using a modern method | .254 | .010 | 3976 | 3932 | 1.428 | .039 | .234 | .274 |
| Currently using pill | .084 | .006 | 3976 | 3932 | 1.368 | .072 | .072 | .096 |
| Currently using IUD | .032 | .003 | 3976 | 3932 | 1.250 | .109 | .025 | .039 |
| Currently using injections | .074 | .005 | 3976 | 3932 | 1.180 | .066 | .064 | .083 |
| Currently using condom | .008 | .001 | 3976 | 3932 | .982 | .176 | .005 | .010 |
| Currently using female sterilisation | .056 | .004 | 3976 | 3932 | 1.097 | .071 | .048 | .064 |
| Currently using periodic abstinence | .043 | .004 | 3976 | 3932 | 1.144 | .086 | .036 | .050 |
| Using public sector source | .726 | .014 | 1237 | 1184 | 1.119 | .020 | .698 | .755 |
| Want no more children | .469 | .010 | 3976 | 3932 | 1.208 | .020 | .450 | .488 |
| Want to delay at least 2 years | .259 | .008 | 3976 | 3932 | 1.114 | .030 | .244 | .275 |
| Ideal number of children | 3.864 | .042 | 6027 | 5838 | 1.788 | .011 | 3.780 | 3.948 |
| Mothers received tetanus injection | .889 | .006 | 5390 | 5289 | 1.190 | .007 | .877 | .901 |
| Mothers received medical care at birth | .497 | .011 | 5390 | 5289 | 1.359 | .022 | .475 | .520 |
| Had diarrhoea in the last 24 hours | .056 | .004 | 4967 | 4867 | 1.142 | .070 | .048 | .063 |
| Had diarrhoea in the last 2 weeks | .142 | .006 | 4967 | 4867 | 1.086 | .040 | .131 | .154 |
| Treated with ORS packets | .305 | .022 | 678 | 693 | 1.170 | .072 | .261 | .349 |
| Consulted medical personnel | .394 | .022 | 678 | 693 | 1.138 | .056 | .350 | .438 |
| Having health card, seen | .711 | .016 | 967 | 947 | 1.104 | .023 | .679 | .744 |
| Received BCG vaccination | .958 | .009 | 967 | 947 | 1.411 | .009 | .940 | .976 |
| Received DPT vaccination (3 doses) | .858 | .013 | 967 | 947 | 1.131 | .015 | .833 | .883 |
| Received polio vaccination (3 doses) | .856 | .013 | 967 | 947 | 1.108 | .015 | .831 | .881 |
| Received measles vaccination | .837 | .015 | 967 | 947 | 1.227 | .017 | .808 | .867 |
| Fully immunized | .783 | .015 | 967 | 947 | 1.103 | .019 | .754 | .813 |
| Total fertility rate (3 years) | 5.804 | .136 | 6379 | 6201 | 1.306 | .023 | 5.533 | 6.076 |
| Infant mortality rate (0-9 years) | 64.852 | 3.850 | 11192 | 11050 | 1.455 | .059 | 57.153 | 72.551 |

Table B.5 Sampling errors - Nairobi, Kenya 1993

| Variable | Value (R) | Standard error (SE) | Number of cases Unweighted (N) | Number of cases Weighted (WN) | Design effect (DEFT) | Relative error (SE/R) | Confidence limits R-2SE | Confidence limits R+2SE |
|---|---|---|---|---|---|---|---|---|
| No education | .076 | .013 | 367 | 507 | .950 | .173 | .050 | .103 |
| With secondary education or higher | .480 | .033 | 367 | 507 | 1.272 | .069 | .413 | .546 |
| Never married (in union) | .354 | .044 | 367 | 507 | 1.757 | .124 | .266 | .442 |
| Currently married (in union) | .534 | .047 | 367 | 507 | 1.786 | .087 | .441 | .627 |
| Married before age 20 | .395 | .039 | 309 | 427 | 1.403 | .099 | .317 | .473 |
| Had first sexual intercourse before 18 | .511 | .042 | 309 | 427 | 1.485 | .083 | .427 | .596 |
| Children ever born | 1.787 | .142 | 367 | 507 | 1.323 | .079 | 1.504 | 2.071 |
| Children ever born to women over 40 | 4.265 | .521 | 34 | 47 | 1.198 | .122 | 3.222 | 5.307 |
| Children surviving | 1.646 | .136 | 367 | 507 | 1.348 | .082 | 1.374 | 1.917 |
| Knowing any contraceptive method | .969 | .011 | 196 | 271 | .910 | .012 | .947 | .992 |
| Knowing any modern method | .964 | .013 | 196 | 271 | .944 | .013 | .939 | .989 |
| Knowing source for any modern method | .954 | .017 | 196 | 271 | 1.105 | .017 | .921 | .987 |
| Ever used any contraceptive method | .714 | .050 | 196 | 271 | 1.534 | .069 | .615 | .814 |
| Currently using any method | .454 | .040 | 196 | 271 | 1.131 | .089 | .373 | .535 |
| Currently using a modern method | .378 | .038 | 196 | 271 | 1.103 | .101 | .301 | .454 |
| Currently using pill | .204 | .037 | 196 | 271 | 1.295 | .183 | .129 | .279 |
| Currently using IUD | .097 | .017 | 196 | 271 | .791 | .173 | .063 | .130 |
| Currently using injections | .046 | .019 | 196 | 271 | 1.255 | .410 | .008 | .084 |
| Currently using condom | .010 | .007 | 196 | 271 | 1.011 | .713 | .000 | .025 |
| Currently using female sterilisation | .020 | .010 | 196 | 271 | 1.019 | .506 | .000 | .041 |
| Currently using periodic abstinence | .071 | .019 | 196 | 271 | 1.047 | .270 | .033 | .110 |
| Using public sector source | .531 | .044 | 113 | 156 | .941 | .084 | .442 | .620 |
| Want no more children | .434 | .052 | 196 | 271 | 1.453 | .119 | .331 | .537 |
| Want to delay at least 2 years | .306 | .040 | 196 | 271 | 1.219 | .131 | .226 | .387 |
| Ideal number of children | 2.655 | .076 | 351 | 485 | 1.381 | .028 | 2.504 | 2.806 |
| Mothers received tetanus injection | .895 | .032 | 200 | 276 | 1.306 | .035 | .832 | .958 |
| Mothers received medical care at birth | .860 | .031 | 200 | 276 | .990 | .037 | .797 | .923 |
| Had diarrhoea in the last 24 hours | .054 | .022 | 186 | 257 | 1.209 | .403 | .010 | .097 |
| Had diarrhoea in the last 2 weeks | .108 | .029 | 186 | 257 | 1.246 | .269 | .050 | .165 |
| Treated with ORS packets | .100 | .082 | 20 | 28 | 1.221 | .825 | .000 | .265 |
| Consulted medical personnel | .300 | .079 | 20 | 28 | .751 | .262 | .143 | .457 |
| Having health card, seen | .533 | .065 | 45 | 62 | .841 | .122 | .403 | .663 |
| Received BCG vaccination | 1.000 | .000 | 45 | 62 | NP | .000 | 1.000 | 1.000 |
| Received DPT vaccination (3 doses) | 1.000 | .000 | 45 | 62 | NP | .000 | 1.000 | 1.000 |
| Received polio vaccination (3 doses) | 1.000 | .000 | 45 | 62 | NP | .000 | 1.000 | 1.000 |
| Received measles vaccination | .867 | .055 | 45 | 62 | 1.068 | .063 | .758 | .976 |
| Fully immunised | .867 | .055 | 45 | 62 | 1.068 | .063 | .758 | .976 |

NP = Not possible to calculate

Table B.6 Sampling errors - Central Province, Kenya 1993

| Variable | Value (R) | Standard error (SE) | Number of cases Unweighted (N) | Number of cases Weighted (WN) | Design effect (DEFT) | Relative error (SE/R) | Confidence limits R-2SE | Confidence limits R+2SE |
|---|---|---|---|---|---|---|---|---|
| No education | .095 | .009 | 1075 | 1094 | 1.062 | .100 | .076 | .114 |
| With secondary education or higher | .313 | .024 | 1075 | 1094 | 1.716 | .077 | .265 | .362 |
| Never married (in union) | .358 | .017 | 1075 | 1094 | 1.178 | .048 | .323 | .392 |
| Currently married (in union) | .558 | .017 | 1075 | 1094 | 1.095 | .030 | .525 | .591 |
| Married before age 20 | .451 | .023 | 837 | 851 | 1.341 | .051 | .405 | .497 |
| Had first sexual intercourse before 18 | .520 | .028 | 837 | 851 | 1.593 | .053 | .465 | .575 |
| Children ever born | 2.885 | .098 | 1075 | 1094 | 1.114 | .034 | 2.689 | 3.080 |
| Children ever born to women over 40 | 6.887 | .256 | 190 | 180 | 1.217 | .037 | 6.376 | 7.399 |
| Children surviving | 2.700 | .095 | 1075 | 1094 | 1.177 | .035 | 2.510 | 2.891 |
| Knowing any contraceptive method | .998 | .001 | 600 | 610 | .783 | .001 | .995 | 1.000 |
| Knowing any modern method | .998 | .001 | 600 | 610 | .783 | .001 | .995 | 1.000 |
| Knowing source for any modern method | .971 | .006 | 600 | 610 | .924 | .006 | .959 | .984 |
| Ever used any contraceptive method | .747 | .021 | 600 | 610 | 1.188 | .028 | .704 | .789 |
| Currently using any method | .560 | .027 | 600 | 610 | 1.337 | .048 | .506 | .614 |
| Currently using a modern method | .497 | .024 | 600 | 610 | 1.168 | .048 | .449 | .545 |
| Currently using pill | .209 | .016 | 600 | 610 | .944 | .075 | .177 | .240 |
| Currently using IUD | .100 | .015 | 600 | 610 | 1.234 | .151 | .070 | .130 |
| Currently using injections | .087 | .014 | 600 | 610 | 1.173 | .155 | .060 | .114 |
| Currently using condom | .014 | .005 | 600 | 610 | .930 | .315 | .005 | .023 |
| Currently using female sterilisation | .084 | .010 | 600 | 610 | .904 | .122 | .063 | .104 |
| Currently using periodic abstinence | .062 | .010 | 600 | 610 | 1.042 | .166 | .041 | .082 |
| Using public sector source | .752 | .029 | 370 | 376 | 1.311 | .039 | .693 | .811 |
| Want no more children | .560 | .018 | 600 | 610 | .899 | .033 | .523 | .596 |
| Want to delay at least 2 years | .214 | .018 | 600 | 610 | 1.048 | .082 | .179 | .249 |
| Ideal number of children | 3.108 | .050 | 1038 | 1055 | 1.329 | .016 | 3.008 | 3.207 |
| Mothers received tetanus injection | .908 | .013 | 675 | 697 | 1.120 | .015 | .881 | .934 |
| Mothers received medical care at birth | .742 | .031 | 675 | 697 | 1.622 | .041 | .680 | .803 |
| Had diarrhoea in the last 24 hours | .023 | .007 | 650 | 671 | 1.221 | .313 | .009 | .037 |
| Had diarrhoea in the last 2 weeks | .094 | .018 | 650 | 671 | 1.563 | .187 | .059 | .129 |
| Treated with ORS packets | .216 | .058 | 59 | 63 | 1.089 | .271 | .099 | .332 |
| Consulted medical personnel | .397 | .079 | 59 | 63 | 1.256 | .199 | .239 | .555 |
| Having health card, seen | .654 | .045 | 143 | 148 | 1.148 | .069 | .563 | .745 |
| Received BCG vaccination | .974 | .017 | 143 | 148 | 1.289 | .018 | .940 | 1.000 |
| Received DPT vaccination (3 doses) | .944 | .021 | 143 | 148 | 1.115 | .023 | .901 | .986 |
| Received polio vaccination (3 doses) | .944 | .021 | 143 | 148 | 1.115 | .023 | .901 | .986 |
| Received measles vaccination | .942 | .022 | 143 | 148 | 1.122 | .023 | .899 | .985 |
| Fully immunised | .926 | .021 | 143 | 148 | .978 | .023 | .883 | .968 |

Table B.7 Sampling errors - Coast Province, Kenya 1993

| Variable | Value (R) | Standard error (SE) | Number of cases Unweighted (N) | Number of cases Weighted (WN) | Design effect (DEFT) | Relative error (SE/R) | Confidence limits R-2SE | Confidence limits R+2SE |
|---|---|---|---|---|---|---|---|---|
| No education | .367 | .020 | 1091 | 717 | 1.389 | .055 | .326 | .407 |
| With secondary education or higher | .175 | .020 | 1091 | 717 | 1.750 | .115 | .135 | .216 |
| Never married (in union) | .277 | .016 | 1091 | 717 | 1.189 | .058 | .244 | .309 |
| Currently married (in union) | .621 | .017 | 1091 | 717 | 1.155 | .027 | .587 | .655 |
| Married before age 20 | .670 | .030 | 813 | 544 | 1.796 | .044 | .611 | .729 |
| Had first sexual intercourse before 18 | .572 | .026 | 813 | 544 | 1.524 | .046 | .519 | .625 |
| Children ever born | 2.887 | .116 | 1091 | 717 | 1.296 | .040 | 2.656 | 3.118 |
| Children ever born to women over 40 | 6.436 | .434 | 119 | 79 | 1.538 | .067 | 5.567 | 7.304 |
| Children surviving | 2.465 | .083 | 1091 | 717 | 1.105 | .034 | 2.299 | 2.631 |
| Knowing any contraceptive method | .946 | .027 | 651 | 445 | 3.083 | .029 | .891 | 1.000 |
| Knowing any modern method | .937 | .023 | 651 | 445 | 2.460 | .025 | .890 | .984 |
| Knowing source for any modern method | .857 | .020 | 651 | 445 | 1.446 | .023 | .817 | .896 |
| Ever used any contraceptive method | .385 | .022 | 651 | 445 | 1.172 | .058 | .340 | .430 |
| Currently using any method | .202 | .020 | 651 | 445 | 1.294 | .101 | .161 | .243 |
| Currently using a modern method | .166 | .020 | 651 | 445 | 1.375 | .121 | .126 | .206 |
| Currently using pill | .063 | .014 | 651 | 445 | 1.505 | .228 | .034 | .092 |
| Currently using IUD | .024 | .008 | 651 | 445 | 1.332 | .336 | .008 | .039 |
| Currently using injections | .036 | .007 | 651 | 445 | .898 | .182 | .023 | .049 |
| Currently using condom | .008 | .002 | 651 | 445 | .473 | .201 | .005 | .012 |
| Currently using female sterilisation | .034 | .008 | 651 | 445 | 1.109 | .231 | .018 | .050 |
| Currently using periodic abstinence | .028 | .006 | 651 | 445 | .908 | .209 | .016 | .040 |
| Using public sector source | .600 | .052 | 187 | 103 | 1.461 | .087 | .495 | .705 |
| Want no more children | .270 | .021 | 651 | 445 | 1.199 | .077 | .228 | .312 |
| Want to delay at least 2 years | .324 | .020 | 651 | 445 | 1.085 | .061 | .284 | .364 |
| Ideal number of children | 4.506 | .113 | 948 | 598 | 1.571 | .025 | 4.281 | 4.732 |
| Mothers received tetanus injection | .834 | .030 | 766 | 540 | 1.902 | .036 | .773 | .894 |
| Mothers received medical care at birth | .382 | .030 | 766 | 540 | 1.472 | .079 | .322 | .442 |
| Had diarrhoea in the last 24 hours | .061 | .017 | 713 | 499 | 1.940 | .282 | .027 | .096 |
| Had diarrhoea in the last 2 weeks | .150 | .014 | 713 | 499 | 1.124 | .096 | .121 | .179 |
| Treated with ORS packets | .522 | .056 | 95 | 75 | 1.172 | .107 | .410 | .634 |
| Consulted medical personnel | .555 | .048 | 95 | 75 | 1.008 | .086 | .459 | .651 |
| Having health card, seen | .745 | .043 | 124 | 80 | 1.081 | .058 | .659 | .831 |
| Received BCG vaccination | .948 | .028 | 124 | 80 | 1.412 | .030 | .892 | 1.000 |
| Received DPT vaccination (3 doses) | .856 | .043 | 124 | 80 | 1.357 | .051 | .770 | .943 |
| Received polio vaccination (3 doses) | .856 | .043 | 124 | 80 | 1.357 | .051 | .770 | .943 |
| Received measles vaccination | .880 | .041 | 124 | 80 | 1.383 | .046 | .799 | .962 |
| Fully immunised | .811 | .048 | 124 | 80 | 1.352 | .059 | .715 | .908 |

Table B.8 Sampling errors - Eastern Province, Kenya 1993

| Variable | Value (R) | Standard error (SE) | Number of cases Unweighted (N) | Number of cases Weighted (WN) | Design effect (DEFT) | Relative error (SE/R) | Confidence limits R-2SE | Confidence limits R+2SE |
|---|---|---|---|---|---|---|---|---|
| No education | .166 | .015 | 1044 | 1406 | 1.331 | .092 | .135 | .197 |
| With secondary education or higher | .213 | .018 | 1044 | 1406 | 1.405 | .084 | .178 | .249 |
| Never married (in union) | .292 | .014 | 1044 | 1406 | .990 | .048 | .264 | .320 |
| Currently married (in union) | .614 | .016 | 1044 | 1406 | 1.078 | .026 | .582 | .647 |
| Married before age 20 | .527 | .022 | 823 | 1110 | 1.240 | .041 | .484 | .570 |
| Had first sexual intercourse before 18 | .636 | .020 | 823 | 1110 | 1.189 | .031 | .597 | .676 |
| Children ever born | 3.447 | .095 | 1044 | 1406 | .974 | .028 | 3.256 | 3.637 |
| Children ever born to women over 40 | 7.443 | .235 | 182 | 241 | 1.025 | .032 | 6.973 | 7.913 |
| Children surviving | 3.125 | .087 | 1044 | 1406 | .987 | .028 | 2.951 | 3.298 |
| Knowing any contraceptive method | .990 | .004 | 649 | 864 | .937 | .004 | .983 | .997 |
| Knowing any modern method | .990 | .004 | 649 | 864 | .937 | .004 | .983 | .997 |
| Knowing source for any modern method | .958 | .007 | 649 | 864 | .848 | .007 | .945 | .972 |
| Ever used any contraceptive method | .670 | .024 | 649 | 864 | 1.314 | .036 | .622 | .719 |
| Currently using any method | .384 | .024 | 649 | 864 | 1.253 | .062 | .336 | .432 |
| Currently using a modern method | .305 | .023 | 649 | 864 | 1.284 | .076 | .259 | .352 |
| Currently using pill | .128 | .018 | 649 | 864 | 1.337 | .137 | .093 | .164 |
| Currently using IUD | .057 | .012 | 649 | 864 | 1.264 | .201 | .034 | .081 |
| Currently using injections | .060 | .012 | 649 | 864 | 1.250 | .195 | .036 | .083 |
| Currently using condom | .009 | .004 | 649 | 864 | 1.076 | .449 | .001 | .017 |
| Currently using female sterilisation | .051 | .007 | 649 | 864 | .861 | .146 | .036 | .066 |
| Currently using periodic abstinence | .073 | .011 | 649 | 864 | 1.063 | .149 | .051 | .095 |
| Using public sector source | .727 | .026 | 240 | 311 | .887 | .035 | .676 | .779 |
| Want no more children | .570 | .019 | 649 | 864 | .963 | .033 | .533 | .608 |
| Want to delay at least 2 years | .206 | .012 | 649 | 864 | .741 | .057 | .183 | .230 |
| Ideal number of children | 3.549 | .066 | 1017 | 1370 | 1.381 | .019 | 3.416 | 3.682 |
| Mothers received tetanus injection | .907 | .012 | 905 | 1227 | 1.098 | .014 | .883 | .932 |
| Mothers received medical care at birth | .559 | .022 | 905 | 1227 | 1.129 | .040 | .515 | .604 |
| Had diarrhoea in the last 24 hours | .048 | .008 | 849 | 1152 | 1.017 | .160 | .032 | .063 |
| Had diarrhoea in the last 2 weeks | .122 | .011 | 849 | 1152 | .942 | .089 | .100 | .144 |
| Treated with ORS packets | .270 | .047 | 105 | 141 | 1.076 | .174 | .176 | .363 |
| Consulted medical personnel | .342 | .051 | 105 | 141 | 1.077 | .150 | .240 | .443 |
| Having health card, seen | .766 | .034 | 154 | 209 | .992 | .044 | .698 | .834 |
| Received BCG vaccination | .990 | .007 | 154 | 209 | .895 | .007 | .975 | 1.000 |
| Received DPT vaccination (3 doses) | .908 | .021 | 154 | 209 | .902 | .023 | .866 | .950 |
| Received polio vaccination (3 doses) | .907 | .024 | 154 | 209 | 1.006 | .026 | .860 | .954 |
| Received measles vaccination | .900 | .020 | 154 | 209 | .816 | .022 | .860 | .939 |
| Fully immunised | .850 | .024 | 154 | 209 | .847 | .028 | .801 | .899 |

Table B.9 Sampling errors - Nyanza Province, Kenya 1993

| Variable | Value (R) | Standard error (SE) | Number of cases Unweighted (N) | Number of cases Weighted (WN) | Design effect (DEFT) | Relative error (SE/R) | Confidence limits R-2SE | Confidence limits R+2SE |
|---|---|---|---|---|---|---|---|---|
| No education | .182 | .012 | 1264 | 1158 | 1.118 | .067 | .158 | .206 |
| With secondary education or higher | .182 | .016 | 1264 | 1158 | 1.437 | .086 | .151 | .214 |
| Never married (in union) | .262 | .017 | 1264 | 1158 | 1.384 | .065 | .228 | .297 |
| Currently married (in union) | .636 | .019 | 1264 | 1158 | 1.390 | .030 | .599 | .674 |
| Married before age 20 | .714 | .020 | 946 | 860 | 1.356 | .028 | .674 | .753 |
| Had first sexual intercourse before 18 | .796 | .019 | 946 | 860 | 1.465 | .024 | .758 | .835 |
| Children ever born | 3.442 | .092 | 1264 | 1158 | .999 | .027 | 3.259 | 3.626 |
| Children ever born to women over 40 | 7.693 | .248 | 198 | 171 | 1.163 | .032 | 7.197 | 8.189 |
| Children surviving | 2.813 | .079 | 1264 | 1158 | 1.044 | .028 | 2.654 | 2.972 |
| Knowing any contraceptive method | .991 | .003 | 802 | 737 | 1.041 | .003 | .984 | .998 |
| Knowing any modern method | .991 | .003 | 802 | 737 | 1.041 | .003 | .984 | .998 |
| Knowing source for any modern method | .959 | .008 | 802 | 737 | 1.104 | .008 | .944 | .975 |
| Ever used any contraceptive method | .444 | .023 | 802 | 737 | 1.290 | .051 | .399 | .490 |
| Currently using any method | .238 | .020 | 802 | 737 | 1.311 | .083 | .199 | .277 |
| Currently using a modern method | .215 | .021 | 802 | 737 | 1.415 | .096 | .174 | .256 |
| Currently using pill | .042 | .009 | 802 | 737 | 1.236 | .208 | .025 | .060 |
| Currently using IUD | .013 | .005 | 802 | 737 | 1.275 | .386 | .003 | .024 |
| Currently using injections | .082 | .011 | 802 | 737 | 1.189 | .141 | .059 | .104 |
| Currently using condom | .006 | .003 | 802 | 737 | .975 | .429 | .001 | .012 |
| Currently using female sterilisation | .071 | .011 | 802 | 737 | 1.265 | .162 | .048 | .094 |
| Currently using periodic abstinence | .018 | .005 | 802 | 737 | 1.011 | .262 | .009 | .028 |
| Using public sector source | .699 | .031 | 193 | 179 | .930 | .044 | .637 | .760 |
| Want no more children | .401 | .022 | 802 | 737 | 1.293 | .056 | .356 | .446 |
| Want to delay at least 2 years | .267 | .022 | 802 | 737 | 1.408 | .082 | .223 | .311 |
| Ideal number of children | 3.831 | .046 | 1187 | 1082 | 1.064 | .012 | 3.740 | 3.922 |
| Mothers received tetanus injection | .911 | .008 | 1106 | 1011 | .811 | .009 | .894 | .927 |
| Mothers received medical care at birth | .485 | .017 | 1106 | 1011 | .919 | .035 | .451 | .519 |
| Had diarrhoea in the last 24 hours | .070 | .008 | 930 | 852 | .972 | .116 | .054 | .086 |
| Had diarrhoea in the last 2 weeks | .177 | .012 | 930 | 852 | .943 | .069 | .153 | .201 |
| Treated with ORS packets | .301 | .049 | 169 | 151 | 1.310 | .162 | .203 | .398 |
| Consulted medical personnel | .419 | .040 | 169 | 151 | .981 | .095 | .340 | .499 |
| Having health card, seen | .608 | .043 | 190 | 174 | 1.222 | .071 | .521 | .694 |
| Received BCG vaccination | .936 | .028 | 190 | 174 | 1.592 | .030 | .879 | .992 |
| Received DPT vaccination (3 doses) | .796 | .039 | 190 | 174 | 1.345 | .049 | .717 | .874 |
| Received polio vaccination (3 doses) | .799 | .039 | 190 | 174 | 1.345 | .049 | .721 | .877 |
| Received measles vaccination | .761 | .039 | 190 | 174 | 1.265 | .051 | .683 | .839 |
| Fully immunised | .697 | .041 | 190 | 174 | 1.239 | .059 | .615 | .780 |

Table B.10 Sampling errors - Rift Valley Province, Kenya 1993

| Variable | Value (R) | Standard error (SE) | Number of cases Unweighted (N) | Number of cases Weighted (WN) | Design effect (DEFT) | Relative error (SE/R) | Confidence limits R-2SE | Confidence limits R+2SE |
|---|---|---|---|---|---|---|---|---|
| No education | .225 | .020 | 1754 | 1562 | 2.006 | .089 | .185 | .265 |
| With secondary education or higher | .217 | .023 | 1754 | 1562 | 2.349 | .107 | .171 | .263 |
| Never married (in union) | .305 | .014 | 1754 | 1562 | 1.285 | .046 | .277 | .333 |
| Currently married (in union) | .635 | .015 | 1754 | 1562 | 1.267 | .023 | .606 | .664 |
| Married before age 20 | .600 | .019 | 1331 | 1195 | 1.389 | .031 | .563 | .638 |
| Had first sexual intercourse before 18 | .605 | .021 | 1331 | 1195 | 1.576 | .035 | .563 | .648 |
| Children ever born | 3.342 | .111 | 1754 | 1562 | 1.413 | .033 | 3.120 | 3.564 |
| Children ever born to women over 40 | 7.908 | .246 | 241 | 206 | 1.216 | .031 | 7.416 | 8.400 |
| Children surviving | 3.091 | .099 | 1754 | 1562 | 1.375 | .032 | 2.892 | 3.289 |
| Knowing any contraceptive method | .929 | .009 | 1074 | 992 | 1.119 | .009 | .912 | .947 |
| Knowing any modern method | .921 | .011 | 1074 | 992 | 1.300 | .012 | .899 | .942 |
| Knowing source for any modern method | .874 | .015 | 1074 | 992 | 1.495 | .017 | .844 | .905 |
| Ever used any contraceptive method | .495 | .022 | 1074 | 992 | 1.454 | .045 | .450 | .539 |
| Currently using any method | .278 | .016 | 1074 | 992 | 1.176 | .058 | .246 | .311 |
| Currently using a modern method | .210 | .014 | 1074 | 992 | 1.109 | .066 | .182 | .237 |
| Currently using pill | .043 | .006 | 1074 | 992 | .975 | .140 | .031 | .055 |
| Currently using IUD | .020 | .007 | 1074 | 992 | 1.602 | .342 | .006 | .034 |
| Currently using injections | .079 | .009 | 1074 | 992 | 1.066 | .111 | .062 | .097 |
| Currently using condom | .007 | .003 | 1074 | 992 | 1.122 | .409 | .001 | .013 |
| Currently using female sterilisation | .059 | .008 | 1074 | 992 | 1.085 | .132 | .044 | .075 |
| Currently using periodic abstinence | .049 | .008 | 1074 | 992 | 1.194 | .160 | .034 | .065 |
| Using public sector source | .624 | .040 | 289 | 247 | 1.413 | .065 | .543 | .705 |
| Want no more children | .425 | .018 | 1074 | 992 | 1.170 | .042 | .390 | .461 |
| Want to delay at least 2 years | .280 | .015 | 1074 | 992 | 1.112 | .054 | .249 | .310 |
| Ideal number of children | 4.104 | .117 | 1669 | 1476 | 2.173 | .028 | 3.871 | 4.338 |
| Mothers received tetanus injection | .880 | .013 | 1509 | 1309 | 1.265 | .014 | .855 | .905 |
| Mothers received medical care at birth | .460 | .024 | 1509 | 1309 | 1.503 | .052 | .413 | .508 |
| Had diarrhoea in the last 24 hours | .043 | .008 | 1447 | 1251 | 1.162 | .175 | .028 | .058 |
| Had diarrhoea in the last 2 weeks | .118 | .011 | 1447 | 1251 | 1.113 | .091 | .097 | .140 |
| Treated with ORS packets | .425 | .049 | 155 | 148 | 1.111 | .116 | .327 | .524 |
| Consulted medical personnel | .446 | .059 | 155 | 148 | 1.338 | .131 | .329 | .563 |
| Having health card, seen | .688 | .029 | 294 | 263 | 1.060 | .042 | .630 | .745 |
| Received BCG vaccination | .970 | .014 | 294 | 263 | 1.425 | .014 | .942 | .999 |
| Received DPT vaccination (3 doses) | .848 | .024 | 294 | 263 | 1.145 | .029 | .799 | .896 |
| Received polio vaccination (3 doses) | .851 | .022 | 294 | 263 | 1.065 | .026 | .806 | .896 |
| Received measles vaccination | .833 | .025 | 294 | 263 | 1.159 | .030 | .782 | .883 |
| Fully immunised | .759 | .030 | 294 | 263 | 1.207 | .040 | .698 | .819 |

Table B.11 Sampling errors - Western Province, Kenya 1993

| Variable | Value (R) | Standard error (SE) | Number of cases Unweighted (N) | Number of cases Weighted (WN) | Design effect (DEFT) | Relative error (SE/R) | Confidence limits R-2SE | Confidence limits R+2SE |
|---|---|---|---|---|---|---|---|---|
| No education | .138 | .010 | 945 | 1096 | .872 | .071 | .118 | .158 |
| With secondary education or higher | .258 | .027 | 945 | 1096 | 1.867 | .103 | .205 | .311 |
| Never married (in union) | .292 | .016 | 945 | 1096 | 1.065 | .054 | .260 | .323 |
| Currently married (in union) | .648 | .019 | 945 | 1096 | 1.220 | .029 | .610 | .686 |
| Married before age 20 | .651 | .027 | 693 | 799 | 1.481 | .041 | .598 | .705 |
| Had first sexual intercourse before 18 | .666 | .025 | 693 | 799 | 1.385 | .037 | .616 | .715 |
| Children ever born | 3.372 | .093 | 945 | 1096 | .834 | .028 | 3.187 | 3.558 |
| Children ever born to women over 40 | 7.856 | .330 | 129 | 149 | 1.110 | .042 | 7.197 | 8.515 |
| Children surviving | 2.929 | .070 | 945 | 1096 | .732 | .024 | 2.789 | 3.069 |
| Knowing any contraceptive method | .986 | .005 | 611 | 710 | 1.015 | .005 | .976 | .996 |
| Knowing any modern method | .982 | .005 | 611 | 710 | 1.015 | .006 | .971 | .993 |
| Knowing source for any modern method | .950 | .009 | 611 | 710 | 1.042 | .010 | .931 | .968 |
| Ever used any contraceptive method | .477 | .024 | 611 | 710 | 1.182 | .050 | .429 | .525 |
| Currently using any method | .251 | .025 | 611 | 710 | 1.405 | .098 | .201 | .300 |
| Currently using a modern method | .217 | .025 | 611 | 710 | 1.496 | .115 | .167 | .267 |
| Currently using pill | .061 | .016 | 611 | 710 | 1.640 | .261 | .029 | .092 |
| Currently using IUD | .022 | .006 | 611 | 710 | .925 | .249 | .011 | .033 |
| Currently using injections | .085 | .011 | 611 | 710 | 1.011 | .134 | .062 | .108 |
| Currently using condom | .007 | .002 | 611 | 710 | .655 | .323 | .002 | .011 |
| Currently using female sterilisation | .042 | .009 | 611 | 710 | 1.138 | .220 | .023 | .060 |
| Currently using periodic abstinence | .015 | .004 | 611 | 710 | .804 | .264 | .007 | .023 |
| Using public sector source | .693 | .040 | 160 | 187 | 1.089 | .057 | .613 | .773 |
| Want no more children | .495 | .026 | 611 | 710 | 1.268 | .052 | .444 | .546 |
| Want to delay at least 2 years | .269 | .021 | 611 | 710 | 1.197 | .080 | .226 | .312 |
| Ideal number of children | 3.798 | .095 | 905 | 1046 | 1.662 | .025 | 3.608 | 3.988 |
| Mothers received tetanus injection | .902 | .011 | 891 | 1001 | .916 | .012 | .881 | .924 |
| Mothers received medical care at birth | .539 | .027 | 891 | 1001 | 1.267 | .049 | .486 | .592 |
| Had diarrhoea in the last 24 hours | .087 | .009 | 808 | 905 | .885 | .106 | .068 | .105 |
| Had diarrhoea in the last 2 weeks | .192 | .016 | 808 | 905 | 1.059 | .081 | .161 | .223 |
| Treated with ORS packets | .254 | .050 | 152 | 173 | 1.288 | .195 | .155 | .354 |
| Consulted medical personnel | .381 | .045 | 152 | 173 | 1.074 | .118 | .291 | .471 |
| Having health card, seen | .753 | .038 | 165 | 187 | 1.126 | .051 | .676 | .830 |
| Received BCG vaccination | .931 | .027 | 165 | 187 | 1.339 | .029 | .878 | .985 |
| Received DPT vaccination (3 doses) | .823 | .030 | 165 | 187 | 1.004 | .037 | .763 | .884 |
| Received polio vaccination (3 doses) | .809 | .030 | 165 | 187 | .954 | .037 | .750 | .868 |
| Received measles vaccination | .738 | .044 | 165 | 187 | 1.255 | .060 | .649 | .827 |
| Fully immunised | .695 | .037 | 165 | 187 | 1.008 | .053 | .621 | .769 |

Table B.12 Sampling errors - Mombasa City, Murangja rural and Nyeri rural, Kenya 1993

| Variable | Value (R) | Standard error (SE) | Number of cases Unweighted (N) | Number of cases Weighted (WN) | Design effect (DEFT) | Relative error (SE/R) | Confidence limits R-2SE | Confidence limits R+2SE |
|---|---|---|---|---|---|---|---|---|
| **MOMBASA CITY** | | | | | | | | |
| No education | .183 | .028 | 372 | 178 | 1.382 | .152 | .127 | .238 |
| With secondary education or higher | .352 | .041 | 372 | 178 | 1.640 | .115 | .271 | .433 |
| Never married (in union) | .360 | .030 | 372 | 178 | 1.184 | .082 | .301 | .419 |
| Currently married (in union) | .530 | .033 | 372 | 178 | 1.270 | .062 | .464 | .595 |
| Knowing any contraceptive method | .990 | .007 | 197 | 94 | .955 | .007 | .976 | 1.000 |
| Knowing any modern method | .990 | .007 | 197 | 94 | .955 | .007 | .976 | 1.000 |
| Knowing source for any modern method | .949 | .016 | 197 | 94 | 1.040 | .017 | .917 | .982 |
| Ever used any contraceptive method | .650 | .033 | 197 | 94 | .980 | .051 | .583 | .717 |
| Currently using any method | .376 | .043 | 197 | 94 | 1.240 | .114 | .290 | .461 |
| Currently using a modern method | .320 | .045 | 197 | 94 | 1.345 | .140 | .230 | .409 |
| Currently using pill | .112 | .033 | 197 | 94 | 1.450 | .292 | .046 | .177 |
| Currently using IUD | .061 | .025 | 197 | 94 | 1.483 | .416 | .010 | .112 |
| Currently using injections | .046 | .009 | 197 | 94 | .622 | .203 | .027 | .064 |
| Currently using condom | .030 | .007 | 197 | 94 | .553 | .223 | .017 | .044 |
| Currently using female sterilisation | .066 | .017 | 197 | 94 | .945 | .254 | .032 | .100 |
| Currently using periodic abstinence | .056 | .013 | 197 | 94 | .789 | .232 | .030 | .082 |
| **MURANG'A RURAL** | | | | | | | | |
| No education | .102 | .011 | 361 | 265 | .681 | .106 | .081 | .124 |
| With secondary education or higher | .230 | .025 | 361 | 265 | 1.138 | .110 | .179 | .280 |
| Never married (in union) | .338 | .019 | 361 | 265 | .754 | .056 | .300 | .376 |
| Currently married (in union) | .565 | .024 | 361 | 265 | .920 | .043 | .517 | .613 |
| Knowing any contraceptive method | .995 | .005 | 204 | 150 | .978 | .005 | .986 | 1.000 |
| Knowing any modern method | .995 | .005 | 204 | 150 | .978 | .005 | .986 | 1.000 |
| Knowing source for any modern method | .956 | .016 | 204 | 150 | 1.136 | .017 | .923 | .989 |
| Ever used any contraceptive method | .701 | .022 | 204 | 150 | .685 | .031 | .657 | .745 |
| Currently using any method | .471 | .027 | 204 | 150 | .779 | .058 | .416 | .525 |
| Currently using a modern method | .402 | .022 | 204 | 150 | .627 | .054 | .359 | .445 |
| Currently using pill | .108 | .015 | 204 | 150 | .691 | .140 | .078 | .138 |
| Currently using IUD | .098 | .031 | 204 | 150 | 1.508 | .321 | .035 | .161 |
| Currently using injections | .093 | .018 | 204 | 150 | .863 | .189 | .058 | .128 |
| Currently using condom | .039 | .016 | 204 | 150 | 1.161 | .403 | .008 | .071 |
| Currently using female sterilisation | .064 | .011 | 204 | 150 | .659 | .177 | .041 | .086 |
| Currently using periodic abstinence | .069 | .022 | 204 | 150 | 1.264 | .327 | .024 | .113 |
| **NYERI RURAL** | | | | | | | | |
| No education | .054 | .009 | 367 | 175 | .732 | .159 | .037 | .072 |
| With secondary education or higher | .365 | .042 | 367 | 175 | 1.665 | .115 | .281 | .449 |
| Never married (in union) | .384 | .016 | 367 | 175 | .642 | .042 | .352 | .417 |
| Currently married (in union) | .556 | .022 | 367 | 175 | .860 | .040 | .511 | .601 |
| Knowing any contraceptive method | .995 | .005 | 204 | 97 | .949 | .005 | .986 | 1.000 |
| Knowing any modern method | .995 | .005 | 204 | 97 | .949 | .005 | .986 | 1.000 |
| Knowing source for any modern method | .985 | .008 | 204 | 97 | .910 | .008 | .970 | 1.000 |
| Ever used any contraceptive method | .833 | .031 | 204 | 97 | 1.199 | .038 | .771 | .896 |
| Currently using any method | .642 | .044 | 204 | 97 | 1.310 | .069 | .554 | .730 |
| Currently using a modern method | .603 | .041 | 204 | 97 | 1.185 | .068 | .522 | .684 |
| Currently using pill | .181 | .018 | 204 | 97 | .679 | .101 | .145 | .218 |
| Currently using IUD | .123 | .037 | 204 | 97 | 1.628 | .306 | .048 | .197 |
| Currently using injections | .152 | .021 | 204 | 97 | .849 | .141 | .109 | .195 |
| Currently using condom | .029 | .013 | 204 | 97 | 1.130 | .456 | .003 | .056 |
| Currently using female sterilisation | .118 | .024 | 204 | 97 | 1.040 | .200 | .071 | .165 |
| Currently using periodic abstinence | .034 | .014 | 204 | 97 | 1.111 | .413 | .006 | .063 |

Table B.13 Sampling errors - Kilifi rural, Taita Taveta rural and Machakos rural, Kenya 1993

| Variable | Value (R) | Standard error (SE) | Number of cases: Unweighted (N) | Number of cases: Weighted (WN) | Design effect (DEFT) | Relative error (SE/R) | Confidence limits: R-2SE | Confidence limits: R+2SE |
|---|---|---|---|---|---|---|---|---|
| **KILIFI RURAL** | | | | | | | | |
| No education | .510 | .036 | 337 | 289 | 1.310 | .070 | .439 | .582 |
| With secondary education or higher | .089 | .034 | 337 | 289 | 2.162 | .377 | .022 | .156 |
| Never married (in union) | .208 | .020 | 337 | 289 | .920 | .098 | .167 | .248 |
| Currently married (in union) | .688 | .021 | 337 | 289 | .840 | .031 | .646 | .731 |
| Knowing any contraceptive method | .953 | .013 | 232 | 199 | .920 | .013 | .927 | .978 |
| Knowing any modern method | .944 | .014 | 232 | 199 | .918 | .015 | .916 | .972 |
| Knowing source for any modern method | .836 | .033 | 232 | 199 | 1.357 | .040 | .770 | .902 |
| Ever used any contraceptive method | .306 | .035 | 232 | 199 | 1.148 | .114 | .236 | .376 |
| Currently using any method | .138 | .022 | 232 | 199 | .953 | .157 | .095 | .181 |
| Currently using a modern method | .103 | .016 | 232 | 199 | .806 | .156 | .071 | .136 |
| Currently using pill | .030 | .012 | 232 | 199 | 1.106 | .413 | .005 | .055 |
| Currently using IUD | .009 | .006 | 232 | 199 | 1.044 | .736 | .000 | .021 |
| Currently using injections | .030 | .007 | 232 | 199 | .665 | .248 | .015 | .045 |
| Currently using condom | .000 | .000 | 232 | 199 | NP | .000 | .000 | .000 |
| Currently using female sterilisation | .034 | .013 | 232 | 199 | 1.084 | .377 | .008 | .061 |
| Currently using periodic abstinence | .030 | .011 | 232 | 199 | 1.014 | .378 | .007 | .053 |
| **TAITA TAVETA RURAL** | | | | | | | | |
| No education | .114 | .016 | 281 | 62 | .854 | .142 | .081 | .146 |
| With secondary education or higher | .221 | .035 | 281 | 62 | 1.421 | .160 | .150 | .291 |
| Never married (in union) | .352 | .034 | 281 | 62 | 1.194 | .097 | .284 | .420 |
| Currently married (in union) | .569 | .037 | 281 | 62 | 1.234 | .064 | .496 | .642 |
| Knowing any contraceptive method | .994 | .006 | 160 | 35 | .992 | .006 | .981 | 1.000 |
| Knowing any modern method | .994 | .006 | 160 | 35 | .992 | .006 | .981 | 1.000 |
| Knowing source for any modern method | .969 | .011 | 160 | 35 | .804 | .011 | .947 | .991 |
| Ever used any contraceptive method | .550 | .058 | 160 | 35 | 1.464 | .105 | .434 | .666 |
| Currently using any method | .338 | .044 | 160 | 35 | 1.173 | .130 | .250 | .425 |
| Currently using a modern method | .287 | .042 | 160 | 35 | 1.172 | .146 | .203 | .372 |
| Currently using pill | .119 | .023 | 160 | 35 | .906 | .196 | .072 | .165 |
| Currently using IUD | .031 | .010 | 160 | 35 | .759 | .335 | .010 | .052 |
| Currently using injections | .106 | .024 | 160 | 35 | .989 | .227 | .058 | .155 |
| Currently using condom | .025 | .009 | 160 | 35 | .706 | .350 | .008 | .042 |
| Currently using female sterilisation | .006 | .006 | 160 | 35 | .986 | .986 | .000 | .019 |
| Currently using periodic abstinence | .037 | .012 | 160 | 35 | .771 | .310 | .014 | .061 |
| **MACHAKOS RURAL** | | | | | | | | |
| No education | .084 | .016 | 438 | 571 | 1.229 | .194 | .052 | .117 |
| With secondary education or higher | .258 | .030 | 438 | 571 | 1.423 | .115 | .198 | .318 |
| Never married (in union) | .290 | .022 | 438 | 571 | 1.016 | .076 | .246 | .334 |
| Currently married (in union) | .621 | .029 | 438 | 571 | 1.245 | .047 | .563 | .679 |
| Knowing any contraceptive method | .996 | .004 | 272 | 355 | 1.029 | .004 | .989 | 1.000 |
| Knowing any modern method | .996 | .004 | 272 | 355 | 1.029 | .004 | .989 | 1.000 |
| Knowing source for any modern method | .967 | .011 | 272 | 355 | 1.020 | .011 | .945 | .989 |
| Ever used any contraceptive method | .710 | .034 | 272 | 355 | 1.227 | .048 | .642 | .777 |
| Currently using any method | .382 | .034 | 272 | 355 | 1.156 | .089 | .314 | .451 |
| Currently using a modern method | .272 | .032 | 272 | 355 | 1.167 | .116 | .209 | .335 |
| Currently using pill | .092 | .023 | 272 | 355 | 1.291 | .247 | .047 | .137 |
| Currently using IUD | .033 | .010 | 272 | 355 | .900 | .296 | .014 | .053 |
| Currently using injections | .048 | .020 | 272 | 355 | 1.523 | .413 | .008 | .087 |
| Currently using condom | .011 | .007 | 272 | 355 | 1.148 | .661 | .000 | .026 |
| Currently using female sterilisation | .088 | .018 | 272 | 355 | 1.052 | .206 | .052 | .125 |
| Currently using periodic abstinence | .107 | .016 | 272 | 355 | .874 | .154 | .074 | .139 |

NP = Not possible to calculate

Table B.14 Sampling errors - Meru rural, Kisii/Nyamira rural and Siaya rural, Kenya 1993

| Variable | Value (R) | Standard error (SE) | Number of cases Unweighted (N) | Number of cases Weighted (WN) | Design effect (DEFT) | Relative error (SE/R) | Confidence limits R-2SE | Confidence limits R+2SE |
|---|---|---|---|---|---|---|---|---|
| **MERU RURAL** | | | | | | | | |
| No education | .223 | .027 | 364 | 388 | 1.253 | .123 | .168 | .277 |
| With secondary education or higher | .151 | .020 | 364 | 388 | 1.062 | .132 | .111 | .191 |
| Never married (in union) | .286 | .025 | 364 | 388 | 1.067 | .089 | .235 | .336 |
| Currently married (in union) | .668 | .025 | 364 | 388 | .997 | .037 | .618 | .717 |
| Knowing any contraceptive method | .979 | .008 | 243 | 259 | .874 | .008 | .963 | .995 |
| Knowing any modern method | .979 | .008 | 243 | 259 | .874 | .008 | .963 | .995 |
| Knowing source for any modern method | .942 | .012 | 243 | 259 | .784 | .012 | .919 | .966 |
| Ever used any contraceptive method | .646 | .051 | 243 | 259 | 1.661 | .079 | .544 | .748 |
| Currently using any method | .412 | .038 | 243 | 259 | 1.206 | .093 | .335 | .488 |
| Currently using a modern method | .403 | .040 | 243 | 259 | 1.255 | .098 | .324 | .482 |
| Currently using pill | .173 | .030 | 243 | 259 | 1.252 | .176 | .112 | .234 |
| Currently using IUD | .074 | .018 | 243 | 259 | 1.064 | .242 | .038 | .110 |
| Currently using injections | .111 | .023 | 243 | 259 | 1.149 | .209 | .065 | .158 |
| Currently using condom | .008 | .006 | 243 | 259 | .959 | .677 | .000 | .019 |
| Currently using female sterilisation | .037 | .008 | 243 | 259 | .655 | .215 | .021 | .053 |
| Currently using periodic abstinence | .008 | .006 | 243 | 259 | .959 | .677 | .000 | .019 |
| **KISII/NYAMIRA RURAL** | | | | | | | | |
| No education | .152 | .014 | 488 | 461 | .879 | .094 | .123 | .180 |
| With secondary education or higher | .207 | .023 | 488 | 461 | 1.239 | .110 | .161 | .252 |
| Never married (in union) | .320 | .024 | 488 | 461 | 1.150 | .076 | .271 | .368 |
| Currently married (in union) | .594 | .026 | 488 | 461 | 1.170 | .044 | .542 | .646 |
| Knowing any contraceptive method | .997 | .004 | 290 | 274 | 1.021 | .004 | .990 | 1.000 |
| Knowing any modern method | .997 | .004 | 290 | 274 | 1.021 | .004 | .990 | 1.000 |
| Knowing source for any modern method | .976 | .010 | 290 | 274 | 1.118 | .010 | .956 | .996 |
| Ever used any contraceptive method | .628 | .025 | 290 | 274 | .895 | .041 | .577 | .678 |
| Currently using any method | .403 | .034 | 290 | 274 | 1.171 | .084 | .336 | .471 |
| Currently using a modern method | .379 | .038 | 290 | 274 | 1.343 | .101 | .303 | .456 |
| Currently using pill | .055 | .014 | 290 | 274 | 1.019 | .248 | .028 | .083 |
| Currently using IUD | .017 | .010 | 290 | 274 | 1.276 | .567 | .000 | .037 |
| Currently using injections | .162 | .022 | 290 | 274 | .994 | .133 | .119 | .205 |
| Currently using condom | .017 | .007 | 290 | 274 | .892 | .396 | .004 | .031 |
| Currently using female sterilisation | .128 | .028 | 290 | 274 | 1.405 | .216 | .072 | .183 |
| Currently using periodic abstinence | .017 | .008 | 290 | 274 | .989 | .439 | .002 | .032 |
| **SIAYA RURAL** | | | | | | | | |
| No education | .240 | .019 | 408 | 196 | .893 | .079 | .202 | .278 |
| With secondary education or higher | .147 | .019 | 408 | 196 | 1.095 | .131 | .109 | .185 |
| Never married (in union) | .221 | .020 | 408 | 196 | .982 | .092 | .180 | .261 |
| Currently married (in union) | .630 | .026 | 408 | 196 | 1.072 | .041 | .579 | .681 |
| Knowing any contraceptive method | .984 | .009 | 257 | 124 | 1.113 | .009 | .967 | 1.000 |
| Knowing any modern method | .984 | .009 | 257 | 124 | 1.113 | .009 | .967 | 1.000 |
| Knowing source for any modern method | .942 | .013 | 257 | 124 | .878 | .014 | .916 | .967 |
| Ever used any contraceptive method | .397 | .028 | 257 | 124 | .901 | .069 | .342 | .452 |
| Currently using any method | .152 | .027 | 257 | 124 | 1.205 | .178 | .098 | .206 |
| Currently using a modern method | .109 | .024 | 257 | 124 | 1.245 | .223 | .060 | .157 |
| Currently using pill | .023 | .011 | 257 | 124 | 1.120 | .453 | .002 | .044 |
| Currently using IUD | .004 | .004 | 257 | 124 | 1.046 | 1.046 | .000 | .012 |
| Currently using injections | .047 | .011 | 257 | 124 | .828 | .234 | .025 | .069 |
| Currently using condom | .000 | .000 | 257 | 124 | NP | .000 | .000 | .000 |
| Currently using female sterilisation | .031 | .013 | 257 | 124 | 1.174 | .409 | .006 | .057 |
| Currently using periodic abstinence | .039 | .012 | 257 | 124 | 1.003 | .312 | .015 | .063 |

NP = Not possible to calculate

Table B.15 Sampling errors - South Nyanza rural, Kericho rural and Nakuru rural, Kenya 1993

| Variable | Value (R) | Standard error (SE) | Number of cases Unweighted (N) | Number of cases Weighted (WN) | Design effect (DEFT) | Relative error (SE/R) | Confidence limits R-2SE | Confidence limits R+2SE |
|---|---|---|---|---|---|---|---|---|
| **SOUTH NYANZA RURAL** | | | | | | | | |
| No education | .206 | .027 | 257 | 306 | 1.053 | .129 | .153 | .259 |
| With secondary education or higher | .117 | .021 | 257 | 306 | 1.044 | .180 | .075 | .159 |
| Never married (in union) | .140 | .034 | 257 | 306 | 1.581 | .245 | .072 | .209 |
| Currently married (in union) | .759 | .045 | 257 | 306 | 1.685 | .059 | .669 | .849 |
| Knowing any contraceptive method | .985 | .009 | 195 | 232 | 1.023 | .009 | .967 | 1.000 |
| Knowing any modern method | .985 | .009 | 195 | 232 | 1.023 | .009 | .967 | 1.000 |
| Knowing source for any modern method | .938 | .018 | 195 | 232 | 1.049 | .019 | .902 | .975 |
| Ever used any contraceptive method | .323 | .041 | 195 | 232 | 1.224 | .127 | .241 | .405 |
| Currently using any method | .128 | .018 | 195 | 232 | .741 | .139 | .093 | .164 |
| Currently using a modern method | .113 | .019 | 195 | 232 | .828 | .167 | .075 | .150 |
| Currently using pill | .036 | .008 | 195 | 232 | .563 | .209 | .021 | .051 |
| Currently using IUD | .005 | .005 | 195 | 232 | 1.008 | 1.008 | .000 | .015 |
| Currently using injections | .036 | .016 | 195 | 232 | 1.168 | .435 | .005 | .067 |
| Currently using condom | .000 | .000 | 195 | 232 | NP | .000 | .000 | .000 |
| Currently using female sterilisation | .036 | .008 | 195 | 232 | .617 | .229 | .019 | .052 |
| Currently using periodic abstinence | .010 | .007 | 195 | 232 | 1.008 | .711 | .000 | .025 |
| **KERICHO RURAL** | | | | | | | | |
| No education | .174 | .027 | 322 | 266 | 1.256 | .153 | .121 | .227 |
| With secondary education or higher | .165 | .026 | 322 | 266 | 1.250 | .157 | .113 | .216 |
| Never married (in union) | .311 | .033 | 322 | 266 | 1.283 | .107 | .244 | .377 |
| Currently married (in union) | .646 | .035 | 322 | 266 | 1.322 | .055 | .575 | .717 |
| Knowing any contraceptive method | .923 | .021 | 208 | 172 | 1.142 | .023 | .881 | .965 |
| Knowing any modern method | .923 | .021 | 208 | 172 | 1.142 | .023 | .881 | .965 |
| Knowing source for any modern method | .889 | .032 | 208 | 172 | 1.477 | .036 | .825 | .954 |
| Ever used any contraceptive method | .394 | .045 | 208 | 172 | 1.314 | .113 | .305 | .483 |
| Currently using any method | .264 | .039 | 208 | 172 | 1.288 | .149 | .185 | .343 |
| Currently using a modern method | .236 | .041 | 208 | 172 | 1.385 | .173 | .154 | .317 |
| Currently using pill | .024 | .013 | 208 | 172 | 1.225 | .543 | .000 | .050 |
| Currently using IUD | .000 | .000 | 208 | 172 | NP | .000 | .000 | .000 |
| Currently using injections | .139 | .026 | 208 | 172 | 1.070 | .185 | .088 | .191 |
| Currently using condom | .000 | .000 | 208 | 172 | NP | .000 | .000 | .000 |
| Currently using female sterilisation | .067 | .022 | 208 | 172 | 1.266 | .327 | .023 | .111 |
| Currently using periodic abstinence | .024 | .014 | 208 | 172 | 1.331 | .589 | .000 | .052 |
| **NAKURU RURAL** | | | | | | | | |
| No education | .163 | .021 | 252 | 182 | .915 | .131 | .120 | .205 |
| With secondary education or higher | .206 | .028 | 252 | 182 | 1.108 | .137 | .150 | .263 |
| Never married (in union) | .290 | .017 | 252 | 182 | .593 | .059 | .256 | .324 |
| Currently married (in union) | .635 | .023 | 252 | 182 | .748 | .036 | .589 | .680 |
| Knowing any contraceptive method | .981 | .010 | 160 | 116 | .963 | .011 | .961 | 1.000 |
| Knowing any modern method | .981 | .010 | 160 | 116 | .963 | .011 | .961 | 1.000 |
| Knowing source for any modern method | .944 | .018 | 160 | 116 | .971 | .019 | .908 | .979 |
| Ever used any contraceptive method | .506 | .049 | 160 | 116 | 1.230 | .096 | .409 | .604 |
| Currently using any method | .287 | .045 | 160 | 116 | 1.241 | .155 | .198 | .377 |
| Currently using a modern method | .231 | .041 | 160 | 116 | 1.237 | .179 | .148 | .314 |
| Currently using pill | .038 | .014 | 160 | 116 | .951 | .382 | .009 | .066 |
| Currently using IUD | .031 | .019 | 160 | 116 | 1.363 | .602 | .000 | .069 |
| Currently using injections | .081 | .028 | 160 | 116 | 1.314 | .350 | .024 | .138 |
| Currently using condom | .019 | .011 | 160 | 116 | 1.069 | .613 | .000 | .042 |
| Currently using female sterilisation | .063 | .013 | 160 | 116 | .677 | .208 | .037 | .088 |
| Currently using periodic abstinence | .056 | .015 | 160 | 116 | .820 | .266 | .026 | .086 |

NP = Not possible to calculate

Table B.16 Sampling errors - Nandi rural, Uasin Gishu rural and Bungoma rural, Kenya 1993

| Variable | Value (R) | Standard error (SE) | Number of cases Unweighted (N) | Number of cases Weighted (WN) | Design effect (DEFT) | Relative error (SE/R) | Confidence limits R-2SE | Confidence limits R+2SE |
|---|---|---|---|---|---|---|---|---|
| **NANDI RURAL** | | | | | | | | |
| No education | .166 | .022 | 403 | 164 | 1.177 | .131 | .123 | .210 |
| With secondary education or higher | .181 | .025 | 403 | 164 | 1.292 | .137 | .132 | .231 |
| Never married (in union) | .325 | .020 | 403 | 164 | .837 | .060 | .286 | .364 |
| Currently married (in union) | .603 | .021 | 403 | 164 | .844 | .034 | .562 | .644 |
| Knowing any contraceptive method | .992 | .006 | 243 | 99 | 1.052 | .006 | .980 | 1.000 |
| Knowing any modern method | .992 | .006 | 243 | 99 | 1.052 | .006 | .980 | 1.000 |
| Knowing source for any modern method | .959 | .013 | 243 | 99 | 1.053 | .014 | .932 | .986 |
| Ever used any contraceptive method | .432 | .044 | 243 | 99 | 1.394 | .103 | .343 | .521 |
| Currently using any method | .239 | .030 | 243 | 99 | 1.087 | .125 | .179 | .298 |
| Currently using a modern method | .222 | .031 | 243 | 99 | 1.145 | .138 | .161 | .283 |
| Currently using pill | .033 | .006 | 243 | 99 | .532 | .185 | .021 | .045 |
| Currently using IUD | .012 | .007 | 243 | 99 | .926 | .532 | .000 | .025 |
| Currently using injections | .123 | .020 | 243 | 99 | .940 | .161 | .084 | .163 |
| Currently using condom | .012 | .009 | 243 | 99 | 1.279 | .736 | .000 | .031 |
| Currently using female sterilisation | .041 | .013 | 243 | 99 | 1.027 | .319 | .015 | .067 |
| Currently using periodic abstinence | .008 | .006 | 243 | 99 | 1.076 | .759 | .000 | .021 |
| **UASIN GISHU RURAL** | | | | | | | | |
| No education | .152 | .028 | 315 | 113 | 1.403 | .187 | .095 | .209 |
| With secondary education or higher | .171 | .021 | 315 | 113 | 1.008 | .125 | .129 | .214 |
| Never married (in union) | .400 | .033 | 315 | 113 | 1.176 | .081 | .335 | .465 |
| Currently married (in union) | .527 | .031 | 315 | 113 | 1.114 | .060 | .464 | .590 |
| Knowing any contraceptive method | 1.000 | .000 | 166 | 60 | NP | .000 | 1.000 | 1.000 |
| Knowing any modern method | .994 | .005 | 166 | 60 | .852 | .005 | .984 | 1.000 |
| Knowing source for any modern method | .934 | .020 | 166 | 60 | 1.030 | .021 | .894 | .974 |
| Ever used any contraceptive method | .410 | .042 | 166 | 60 | 1.101 | .103 | .325 | .494 |
| Currently using any method | .259 | .037 | 166 | 60 | 1.097 | .144 | .184 | .334 |
| Currently using a modern method | .211 | .027 | 166 | 60 | .857 | .129 | .156 | .265 |
| Currently using pill | .030 | .014 | 166 | 60 | 1.042 | .460 | .002 | .058 |
| Currently using IUD | .012 | .009 | 166 | 60 | 1.011 | .713 | .000 | .029 |
| Currently using injections | .078 | .021 | 166 | 60 | .981 | .262 | .037 | .119 |
| Currently using condom | .000 | .000 | 166 | 60 | NP | .000 | .000 | .000 |
| Currently using female sterilisation | .090 | .025 | 166 | 60 | 1.109 | .274 | .041 | .140 |
| Currently using periodic abstinence | .048 | .021 | 166 | 60 | 1.284 | .444 | .005 | .091 |
| **BUNGOMA RURAL** | | | | | | | | |
| No education | .116 | .019 | 396 | 280 | 1.171 | .162 | .078 | .154 |
| With secondary education or higher | .270 | .021 | 396 | 280 | .961 | .079 | .227 | .313 |
| Never married (in union) | .283 | .024 | 396 | 280 | 1.068 | .086 | .234 | .331 |
| Currently married (in union) | .644 | .025 | 396 | 280 | 1.053 | .039 | .594 | .694 |
| Knowing any contraceptive method | .996 | .004 | 255 | 180 | 1.002 | .004 | .988 | 1.000 |
| Knowing any modern method | .996 | .004 | 255 | 180 | 1.002 | .004 | .988 | 1.000 |
| Knowing source for any modern method | .957 | .012 | 255 | 180 | .934 | .012 | .933 | .981 |
| Ever used any contraceptive method | .486 | .023 | 255 | 180 | .726 | .047 | .441 | .532 |
| Currently using any method | .208 | .016 | 255 | 180 | .645 | .079 | .175 | .241 |
| Currently using a modern method | .169 | .023 | 255 | 180 | .967 | .135 | .123 | .214 |
| Currently using pill | .039 | .012 | 255 | 180 | .945 | .294 | .016 | .062 |
| Currently using IUD | .008 | .005 | 255 | 180 | .986 | .696 | .000 | .019 |
| Currently using injections | .082 | .024 | 255 | 180 | 1.385 | .290 | .035 | .130 |
| Currently using condom | .004 | .004 | 255 | 180 | 1.006 | 1.000 | .000 | .012 |
| Currently using female sterilisation | .035 | .010 | 255 | 180 | .831 | .273 | .016 | .055 |
| Currently using periodic abstinence | .012 | .007 | 255 | 180 | 1.037 | .596 | .000 | .026 |

NP = Not possible to calculate

Table B.17 Sampling errors - Kakamega rural, Kenya 1993

| Variable | Value (R) | Standard error (SE) | Number of cases Unweighted (N) | Number of cases Weighted (WN) | Design effect (DEFT) | Relative error (SE/R) | Confidence limits R-2SE | Confidence limits R+2SE |
|---|---|---|---|---|---|---|---|---|
| No education | .123 | .016 | 381 | 514 | .969 | .132 | .091 | .156 |
| With secondary education or higher | .241 | .038 | 381 | 514 | 1.718 | .156 | .166 | .317 |
| Never married (in union) | .294 | .019 | 381 | 514 | .828 | .066 | .255 | .333 |
| Currently married (in union) | .651 | .026 | 381 | 514 | 1.074 | .040 | .598 | .703 |
| Knowing any contraceptive method | .984 | .006 | 248 | 334 | .758 | .006 | .972 | .996 |
| Knowing any modern method | .976 | .008 | 248 | 334 | .822 | .008 | .960 | .992 |
| Knowing source for any modern method | .940 | .014 | 248 | 334 | .913 | .015 | .912 | .967 |
| Ever used any contraceptive method | .500 | .028 | 248 | 334 | .869 | .055 | .445 | .555 |
| Currently using any method | .282 | .037 | 248 | 334 | 1.296 | .132 | .208 | .356 |
| Currently using a modern method | .258 | .035 | 248 | 334 | 1.267 | .137 | .188 | .329 |
| Currently using pill | .085 | .028 | 248 | 334 | 1.563 | .327 | .029 | .140 |
| Currently using IUD | .024 | .009 | 248 | 334 | .960 | .388 | .005 | .043 |
| Currently using injections | .093 | .017 | 248 | 334 | .948 | .189 | .058 | .128 |
| Currently using condom | .012 | .004 | 248 | 334 | .576 | .331 | .004 | .020 |
| Currently using female sterilisation | .044 | .015 | 248 | 334 | 1.109 | .328 | .015 | .073 |
| Currently using periodic abstinence | .016 | .007 | 248 | 334 | .901 | .448 | .002 | .031 |

# APPENDIX C

# DATA QUALITY TABLES

# APPENDIX C

# DATA QUALITY TABLES

Table C.1 Household age distribution

Single-year age distribution of the de facto household population by sex (weighted), Kenya 1993

| | Males | | Females | | | Males | | Females | |
|---|---|---|---|---|---|---|---|---|---|
| Age | Number | Percent | Number | Percent | Age | Number | Percent | Number | Percent |
| 0 | 562 | 3.1 | 596 | 3.0 | 35 | 221 | 1.2 | 223 | 1.1 |
| 1 | 594 | 3.2 | 535 | 2.7 | 36 | 126 | 0.7 | 181 | 0.9 |
| 2 | 620 | 3.4 | 602 | 3.0 | 37 | 105 | 0.6 | 124 | 0.6 |
| 3 | 631 | 3.4 | 695 | 3.5 | 38 | 152 | 0.8 | 183 | 0.9 |
| 4 | 648 | 3.5 | 593 | 3.0 | 39 | 114 | 0.6 | 100 | 0.5 |
| 5 | 563 | 3.1 | 597 | 3.0 | 40 | 236 | 1.3 | 226 | 1.1 |
| 6 | 722 | 3.9 | 822 | 4.1 | 41 | 106 | 0.6 | 92 | 0.5 |
| 7 | 640 | 3.5 | 715 | 3.6 | 42 | 124 | 0.7 | 114 | 0.6 |
| 8 | 649 | 3.5 | 705 | 3.5 | 43 | 116 | 0.6 | 140 | 0.7 |
| 9 | 579 | 3.2 | 623 | 3.1 | 44 | 78 | 0.4 | 103 | 0.5 |
| 10 | 715 | 3.9 | 710 | 3.6 | 45 | 168 | 0.9 | 149 | 0.7 |
| 11 | 499 | 2.7 | 461 | 2.3 | 46 | 105 | 0.6 | 86 | 0.4 |
| 12 | 606 | 3.3 | 667 | 3.3 | 47 | 88 | 0.5 | 72 | 0.4 |
| 13 | 593 | 3.2 | 693 | 3.5 | 48 | 85 | 0.5 | 77 | 0.4 |
| 14 | 508 | 2.8 | 627 | 3.1 | 49 | 82 | 0.4 | 62 | 0.3 |
| 15 | 500 | 2.7 | 337 | 1.7 | 50 | 154 | 0.8 | 202 | 1.0 |
| 16 | 423 | 2.3 | 421 | 2.1 | 51 | 39 | 0.2 | 106 | 0.5 |
| 17 | 383 | 2.1 | 390 | 2.0 | 52 | 82 | 0.5 | 155 | 0.8 |
| 18 | 398 | 2.2 | 408 | 2.0 | 53 | 64 | 0.3 | 130 | 0.7 |
| 19 | 312 | 1.7 | 311 | 1.6 | 54 | 58 | 0.3 | 119 | 0.6 |
| 20 | 346 | 1.9 | 496 | 2.5 | 55 | 95 | 0.5 | 106 | 0.5 |
| 21 | 234 | 1.3 | 291 | 1.5 | 56 | 104 | 0.6 | 105 | 0.5 |
| 22 | 240 | 1.3 | 307 | 1.5 | 57 | 66 | 0.4 | 87 | 0.4 |
| 23 | 265 | 1.4 | 328 | 1.6 | 58 | 64 | 0.3 | 82 | 0.4 |
| 24 | 201 | 1.1 | 314 | 1.6 | 59 | 63 | 0.3 | 43 | 0.2 |
| 25 | 238 | 1.3 | 316 | 1.6 | 60 | 158 | 0.9 | 174 | 0.9 |
| 26 | 198 | 1.1 | 260 | 1.3 | 61 | 43 | 0.2 | 51 | 0.3 |
| 27 | 185 | 1.0 | 233 | 1.2 | 62 | 57 | 0.3 | 87 | 0.4 |
| 28 | 230 | 1.3 | 309 | 1.6 | 63 | 60 | 0.3 | 71 | 0.4 |
| 29 | 177 | 1.0 | 228 | 1.1 | 64 | 38 | 0.2 | 48 | 0.2 |
| 30 | 325 | 1.8 | 398 | 2.0 | 65 | 87 | 0.5 | 98 | 0.5 |
| 31 | 127 | 0.7 | 181 | 0.9 | 66 | 33 | 0.2 | 36 | 0.2 |
| 32 | 234 | 1.3 | 212 | 1.1 | 67 | 33 | 0.2 | 40 | 0.2 |
| 33 | 170 | 0.9 | 167 | 0.8 | 68 | 50 | 0.3 | 64 | 0.3 |
| 34 | 172 | 0.9 | 161 | 0.8 | 69 | 37 | 0.2 | 26 | 0.1 |
| | | | | | 70+ | 444 | 2.4 | 423 | 2.1 |
| | | | | | Don't know/ missing | 69 | 0.4 | 41 | 0.2 |
| | | | | | Total | 18289 | 100.0 | 19935 | 100.0 |

Note: The de facto population includes all residents and nonresidents who slept in the household the night before the interview.

Table C.2 Age distribution of eligible and interviewed women

Percent distribution in five-year age groups of the de facto household population of women aged 10-54 and of interviewed women aged 15-49, and percentage of eligible women who were interviewed (weighted), Kenya 1993

| Age | Household population of women | | Interviewed women age 15-49 | | Percentage interviewed (weighted) |
|---|---|---|---|---|---|
| | Number | Percent | Number | Percent | |
| 10-14 | 3158 | NA | NA | NA | NA |
| 15-19 | 1867 | 23.3 | 1724 | 22.9 | 92.3 |
| 20-24 | 1736 | 21.7 | 1667 | 22.1 | 96.0 |
| 25-29 | 1346 | 16.8 | 1258 | 16.7 | 93.4 |
| 30-34 | 1118 | 14.0 | 1067 | 14.2 | 95.4 |
| 35-39 | 811 | 10.1 | 755 | 10.0 | 93.0 |
| 40-44 | 675 | 8.4 | 639 | 8.5 | 94.7 |
| 45-49 | 446 | 5.6 | 424 | 5.6 | 95.1 |
| 50-54 | 712 | NA | NA | NA | NA |
| 15-49 | 7999 | 100.0 | 7533 | 100.0 | 94.2 |

Note: The de facto population includes all residents and nonresidents who slept in the household the night before interview.
NA = Not applicable

Table C.3 Completeness of reporting

Percentage of observations missing information for selected demographic and health questions (weighted), Kenya 1993

| Subject | Reference group | Percentage missing information | Number of cases |
|---|---|---|---|
| **Birth date** | Births in last 15 years | | |
| Month only | | 8.3 | 17549 |
| Month and year | | 0.3 | 17549 |
| Age at death | Deaths to births in last 15 years | 0.5 | 1652 |
| Age/date at first union[1] | Ever-married women | 2.6 | 5260 |
| Respondent's education | All women | 0.0 | 7540 |
| Child's size at birth | Births in last 59 months | 1.0 | 2839 |
| **Anthropometry** | Living children 0-59 months | | |
| Height missing | | 10.7 | 5643 |
| Weight missing | | 8.8 | 5643 |
| Height and weight missing | | 10.8 | 5643 |
| Diarrhoea in last 2 weeks | Living children age 0-59 months | 2.4 | 5643 |

[1]Both year and age missing

Table C.4 Births by calendar year since birth

Distribution of births by calendar years since birth for living (L), dead (D), and all (T) children, according to reporting completeness, sex ratio at birth, and ratio of births by calendar year, Kenya 1993

| | Number of births | | | Percentage with complete birth date[1] | | | Sex ratio at birth[2] | | | Calendar ratio[3] | | | Male | | | Female | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Year | L | D | T | L | D | T | L | D | T | L | D | T | L | D | T | L | D | T |
| 93 | 397 | 23 | 421 | 100.0 | 91.7 | 99.5 | 77.0 | 162.8 | 80.3 | NA | NA | NA | 173 | 15 | 187 | 225 | 9 | 233 |
| 92 | 1205 | 85 | 1289 | 98.9 | 95.3 | 98.6 | 108.9 | 71.0 | 105.9 | 164.3 | 121.0 | 160.5 | 628 | 35 | 663 | 577 | 50 | 626 |
| 91 | 1069 | 117 | 1186 | 98.3 | 96.9 | 98.2 | 100.2 | 75.8 | 97.5 | 89.5 | 125.8 | 92.1 | 535 | 50 | 585 | 534 | 67 | 601 |
| 90 | 1185 | 101 | 1286 | 97.1 | 92.4 | 96.7 | 103.0 | 110.1 | 103.5 | 106.1 | 91.4 | 104.8 | 601 | 53 | 654 | 584 | 48 | 632 |
| 89 | 1163 | 104 | 1267 | 96.0 | 77.1 | 94.4 | 91.5 | 129.5 | 94.1 | 103.5 | 108.8 | 103.9 | 556 | 59 | 614 | 608 | 45 | 653 |
| 88 | 1064 | 90 | 1154 | 97.1 | 82.8 | 95.9 | 107.0 | 95.3 | 106.0 | 87.8 | 73.2 | 86.5 | 550 | 44 | 594 | 514 | 46 | 560 |
| 87 | 1259 | 143 | 1402 | 94.0 | 80.2 | 92.6 | 89.3 | 129.4 | 92.7 | 110.3 | 127.8 | 111.9 | 594 | 81 | 675 | 665 | 62 | 728 |
| 86 | 1220 | 133 | 1353 | 91.8 | 85.3 | 91.1 | 86.2 | 115.2 | 88.7 | 107.1 | 101.5 | 106.5 | 565 | 71 | 636 | 655 | 62 | 717 |
| 85 | 1019 | 120 | 1139 | 91.7 | 80.5 | 90.5 | 101.0 | 108.6 | 101.8 | 85.9 | 93.0 | 86.6 | 512 | 62 | 574 | 507 | 57 | 564 |
| 84 | 1152 | 124 | 1276 | 87.3 | 85.5 | 87.1 | 88.6 | 115.4 | 90.9 | NA | NA | NA | 541 | 67 | 608 | 611 | 58 | 668 |
| 89-93 | 5019 | 430 | 5449 | 97.8 | 90.5 | 97.2 | 98.7 | 97.0 | 98.5 | NA | NA | NA | 2493 | 212 | 2705 | 2526 | 218 | 2745 |
| 84-88 | 5714 | 610 | 6324 | 92.3 | 82.8 | 91.4 | 93.5 | 113.8 | 95.3 | NA | NA | NA | 2762 | 325 | 3086 | 2952 | 286 | 3238 |
| 79-83 | 4619 | 547 | 5166 | 88.4 | 78.6 | 87.4 | 96.8 | 111.6 | 98.2 | NA | NA | NA | 2272 | 288 | 2560 | 2348 | 259 | 2606 |
| 74-78 | 3095 | 444 | 3539 | 86.0 | 70.2 | 84.0 | 99.3 | 113.0 | 101.0 | NA | NA | NA | 1542 | 236 | 1778 | 1552 | 208 | 1761 |
| < 74 | 2798 | 605 | 3403 | 82.7 | 68.4 | 80.2 | 96.3 | 108.5 | 98.4 | NA | NA | NA | 1373 | 315 | 1688 | 1425 | 290 | 1715 |
| All | 21245 | 2637 | 23881 | 90.6 | 77.8 | 89.2 | 96.6 | 109.1 | 97.9 | NA | NA | NA | 10441 | 1376 | 11817 | 10804 | 1261 | 12065 |

NA = Not applicable

[1]Both year and month of birth given

[2]$(B_m/B_f)*100$, where $B_m$ and $B_f$ are the numbers of male and female births, respectively

[3]$[2B_x/(B_{x-1}+B_{x+1})]*100$, where $B_x$ is the number of births in calendar year $x$

Table C.5 Reporting of age at death in days

Distribution of reported deaths under 1 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, Kenya 1993

| Age at death (in days) | Number of years preceding the survey | | | | Total |
|---|---|---|---|---|---|
| | 0-4 | 5-9 | 10-14 | 15-19 | 0-19 |
| <1 | 55 | 60 | 60 | 37 | 212 |
| 1 | 33 | 32 | 38 | 17 | 120 |
| 2 | 12 | 26 | 12 | 10 | 59 |
| 3 | 8 | 8 | 13 | 8 | 38 |
| 4 | 5 | 2 | 3 | 3 | 13 |
| 5 | 3 | 1 | 3 | 3 | 10 |
| 6 | 1 | 3 | 1 | 4 | 10 |
| 7 | 15 | 17 | 19 | 12 | 63 |
| 8 | 0 | 1 | 1 | 0 | 3 |
| 9 | 0 | 2 | 2 | 1 | 6 |
| 10 | 1 | 3 | 2 | 1 | 7 |
| 11 | 0 | 1 | 1 | 0 | 2 |
| 13 | 1 | 0 | 0 | 0 | 1 |
| 14 | 15 | 11 | 11 | 5 | 42 |
| 15 | 0 | 1 | 0 | 1 | 2 |
| 17 | 0 | 1 | 0 | 0 | 1 |
| 18 | 1 | 0 | 0 | 0 | 1 |
| 20 | 0 | 1 | 1 | 1 | 3 |
| 21 | 2 | 2 | 1 | 4 | 10 |
| 22 | 0 | 0 | 0 | 1 | 1 |
| 23 | 1 | 0 | 0 | 0 | 1 |
| 26 | 2 | 2 | 0 | 0 | 4 |
| 29 | 0 | 0 | 0 | 2 | 2 |
| 30 | 3 | 4 | 2 | 0 | 9 |
| Missing | 0 | 2 | 0 | 0 | 2 |
| Total 0-30 | 159 | 179 | 171 | 111 | 620 |
| Percent early neonatal | 73.5 | 73.5 | 76.3 | 73.9 | 74.4 |

[1](0-6 days/0-30 days) * 100

Table C.6 Reporting of age at death in months

Distribution of reported deaths under 2 years of age by age at death in months and the percentage of infant deaths reported to occur at ages under one month, for five-year periods of birth preceding the survey, Kenya 1993

| Age at death (in months) | Number of years preceding the survey | | | | Total |
|---|---|---|---|---|---|
| | 0-4 | 5-9 | 10-14 | 15-19 | 0-19 |
| <1[a] | 159 | 180 | 171 | 111 | 622 |
| 1 | 19 | 14 | 23 | 9 | 65 |
| 2 | 25 | 24 | 15 | 6 | 70 |
| 3 | 24 | 28 | 30 | 17 | 99 |
| 4 | 17 | 25 | 16 | 15 | 73 |
| 5 | 16 | 26 | 13 | 17 | 72 |
| 6 | 34 | 26 | 22 | 17 | 99 |
| 7 | 17 | 14 | 11 | 17 | 59 |
| 8 | 15 | 34 | 21 | 5 | 75 |
| 9 | 13 | 18 | 10 | 11 | 52 |
| 10 | 3 | 4 | 5 | 6 | 17 |
| 11 | 12 | 6 | 8 | 2 | 27 |
| 12 | 29 | 31 | 36 | 31 | 126 |
| 13 | 5 | 4 | 3 | 4 | 16 |
| 14 | 4 | 3 | 3 | 8 | 18 |
| 15 | 6 | 3 | 3 | 5 | 16 |
| 16 | 5 | 3 | 4 | 2 | 13 |
| 17 | 1 | 3 | 4 | 1 | 9 |
| 18 | 11 | 11 | 13 | 17 | 52 |
| 19 | 1 | 0 | 0 | 1 | 2 |
| 20 | 1 | 4 | 2 | 0 | 7 |
| 21 | 1 | 5 | 3 | 1 | 10 |
| 22 | 2 | 1 | 0 | 0 | 4 |
| 24 | 0 | 0 | 1 | 1 | 2 |
| Missing | 1 | 1 | 0 | 0 | 2 |
| 1 year | 1 | 0 | 2 | 1 | 4 |
| Total 0-11 | 355 | 399 | 344 | 233 | 1331 |
| Percent neonatal[b] | 44.8 | 45.3 | 49.8 | 47.7 | 46.7 |

[a]Includes deaths under 1 month reported in days
[b](Under 1 month/under 1 year) * 100

# APPENDIX D

# PERSONS INVOLVED IN THE KENYA 1993 DHS

# APPENDIX D

# PERSONS INVOLVED IN THE KENYA 1993 DHS

**Administrative**

Amb. S.B.A. Bullut, Director NCPD
Jotham A. Mwaniki, Director CBS
Pius P. Kallaa, Director CBS

**National Council for Population and Development**

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Kimeli Chepsiror
Michael K.M. Mbayah
Charles Oisebe
Peter W. Thumbi
Paul M.L. Kizito
Timothy Takona
Kagwiria Kioga

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J. Owuor

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L.N. Thairu
J. Kekovole
F. Njui
D. Okumu
Z. Muganzi

**Field Officers**

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Emmanuel S. Adienge
George A. Kichamu
Ben O. Osindo
Nelson N. Nyaga
Churchil O. Ndire
Nzioka K. Munge
Edward K. Kisaka
Willie M.O. Nyambati
Peter Reriani
Joseph Omagwa
Alex Juma

**District Statistical Officers**

P.V. Omukule
A.N. Njoroge
J.C. Amoi
C.N. Omolo
A.V. Mulewa
N. Mugo
F.C. Ochollo
A.O. Sunga
R.T. Kiai
S.E. Onsare
G.O. Ogwang
A.M. Nyamari
S.K. Ndungu
J.N. Gichimu
F.K. Ng'ang'a
F.M. Kamau
M. Musyoka
J.O. Opiyo
J.A. Were
R.M. Nzuli
P.M. Muturi
O. Okuthe
R.C. Buluma
G.O. Otieno
P.R. Muriithi
E.K. Gitahi
S.A. Ndili
S.R. Nthenge
D. Ngesa
C.O. Obiero
J.O. Odero
R.K. Tanui
M.O. Ogot
J.E. Owour
L.A. Lugadiru

**Field Staff**

**Kalenjin**
Charlotte Chelangat
Odilia Masionge
Margaret Kinutai
Selly Chebon
Magdalene Chepkirwok
Lilian Langat
Betsy Kiptanui
Peter K. Keter
Ephantus Imwara
Chep Ngeno Gloria
Florence Kaptich
Caroline Chepkoech
Christine Kepkemei
Anne Jepkemboi
Dominic Kipkoech

**Kamba**
Agnes Kisese
Winfred Nzioki
Lucy M. Mangati
Jane N. Josiah
Agnes Mutuo Kimatu
Esther Nzisa Mutua
Secret Mathii Siku
Jane Mwikali Ndambuki
Robert M. Musii

**Kikuyu**
Jane W. Njuguna
Margaret W. Kung'u
Jane N. Kamau
Mary W. Ndegwa
Mercy W. Njeri
Jane H.W. Muriuki
Mercy W. Njoka
Martha G. Gathiru
Violet W. Karongo
Samuel M. Kamunya
Ruth N. Waweru
Faith W. Nderitu
Nancy M. Wamae
Beatrice W. Njiru
Mary W. Kanyingi
Juliana Githui
Bilha W. Waweru
John M. Kariuki

**Meru/Embu**
Agnes Rinyiru
Jane Ntinyari
Purity Gacheri
Loise N. Mutea
Clara Guantai
Pamela Nkirote
Timothy Kanake

**Mijikenda**
Jane H. Lumwe
Eddah R. Lumbukeni
Lizzie M. Ngao
Rachel F. Mwasindo
Tabia N. Katana
Constance D. Mnazi
Gladys N. Chamli
John Mwongolo

**Kisii**
Alice Omariba
Jannes Mandieka
Doreen Arita
Florence Nyakundi
Margaret Kwamboka
Joyce Mayiyette
Wilchester Ondimu
Zebedeo Makori

**Luo**
Florine Ndire
Jane P. Okoth
Dorothy A. Otieno
Naomi A. Were
Carolyne A. Yala
Jael Achieng
Roselyne Midega
Noah Ochiel

**Swahili**
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Caroline Njeru
Emily Kandi
Grace M. Mwema
Elizabeth Mwanzia
Ruwaida A. Mohammed
Patricia Mwakondi
Henry Mchapo

**Masai**
Eva Nyaga
Catherine M. Nooseli
Rebecca P. Leseketeti
Peter L. Lengewa

**Luhya**
Beverly Opwora
Salma N. Musa
Madline Ijayi
Everline Muyome
Jane Osindo
Violete Kahombi
Damaris K. Sianzu
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Joan Musimbi
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# APPENDIX E

# QUESTIONNAIRES

25 Nov/92 NATIONAL COUNCIL FOR POPULATION AND DEVELOPMENT
CENTRAL BUREAU OF STATISTICS
KENYA DEMOGRAPHIC AND HEALTH SURVEY 2
HOUSEHOLD SCHEDULE

CONFIDENTIAL
Data used
for research
purposes only

## IDENTIFICATION

PROVINCE _____

DISTRICT _____

LOCATION/TOWN _____

SUBLOCATION/WARD _____

NASSEP CLUSTER NUMBER.....

KDHS CLUSTER NUMBER.....

HOUSEHOLD NUMBER.....

NAIROBI/MOMBASA=1, SMALL CITY=2, TOWN=3, RURAL=4...

NAME OF HOUSEHOLD HEAD _____

HOUSEHOLD SELECTED FOR MALE SURVEY? (YES=1, NO=2)

| INTERVIEWER VISITS | 1 | 2 | 3 | FINAL VISIT |
|---|---|---|---|---|
| DATE | | | | DAY / MONTH / YEAR |
| INTERVIEWER'S NAME | | | | NAME |
| RESULT * | | | | RESULT |
| NEXT VISIT: DATE / TIME | | | | NO.OF VISITS |

TOTAL IN HOUSEHOLD

TOTAL WOMEN 15-49

MEN 20-54

LINE NO. OF RESP. TO HOUSE HOLD SCHEDULE

* 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
4 POSTPONED
5 REFUSED
6 DWELLING VACANT OR ADDRESS NOT A DWELLING
7 DWELLING DESTROYED
8 DWELLING NOT FOUND
9 OTHER _____ (SPECIFY)

LANGUAGE OF QUESTIONNAIRE: ENGLISH 1 0

| | FIELD EDITED BY | OFFICE EDITED BY | KEYED BY | KEYED BY |
|---|---|---|---|---|
| NAME | | | | |
| DATE | | | | |

EN HH 1

## 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* | RESIDENCE | | SEX | AGE | EDUCATION (IF AGED 6 YEARS OR OLDER) | | | PARENTAL SURVIVORSHIP AND RESIDENCE FOR PERSONS LESS THAN 15 YEARS OLD*** | | | | ELIGIBILITY WOMEN | HUSBAND LINE NUMBER | ELIGIBILITY MEN |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | IF ATTENDED SCHOOL | | | IF ALIVE | | IF ALIVE | | | |
| | Please give me the names of the persons who usually live in your household and guests of the household who stayed here last night, starting with the head of the household. | What is the relationship of (NAME) to the head of the household? | Does (NAME) usually live here? | Did (NAME) sleep here last night? | Is (NAME) male or female? | How old is (NAME)? | Has (NAME) ever been to school? | What is the highest level of school (NAME) attended? What is the highest standard or form (NAME) completed at that level?** | IF AGED LESS THAN 25 YEARS: Is (NAME) still in school? | Is (NAME)'s natural mother alive? | Does (NAME)'s natural mother live in this household? IF YES: What is her name? RECORD MOTHER'S LINE NUMBER | Is (NAME)'s natural father alive? | Does (NAME)'s natural father live in this household? IF YES: What is his name? RECORD FATHER'S LINE NUMBER | CIRCLE LINE NUMBER OF ALL WOMEN AGED 15-49 | WRITE LINE NUMBER OF THE HUSBAND OF EACH ELIGIBLE WOMAN. WRITE 00 IF NOT MARRIED OR IF HUSBAND NOT IN HOUSEHOLD. | CIRCLE LINE NUMBER OF ALL MEN AGED 20-54 (IF HOUSEHOLD FALLS IN MALE SAMPLE) |
| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | (12) | (13) | (14) | (15) | (16) | (17) |
| | | | YES NO | YES NO | M F | IN YEARS | YES NO | LEVEL FORM | YES NO | YES NO DK | | YES NO DK | | | | |
| 01 | | | 1 2 | 1 2 | 1 2 | | 1 2 | | 1 2 | 1 2 8 | | 1 2 8 | | 01 | | 01 |
| 02 | | | 1 2 | 1 2 | 1 2 | | 1 2 | | 1 2 | 1 2 8 | | 1 2 8 | | 02 | | 02 |
| 03 | | | 1 2 | 1 2 | 1 2 | | 1 2 | | 1 2 | 1 2 8 | | 1 2 8 | | 03 | | 03 |
| 04 | | | 1 2 | 1 2 | 1 2 | | 1 2 | | 1 2 | 1 2 8 | | 1 2 8 | | 04 | | 04 |
| 05 | | | 1 2 | 1 2 | 1 2 | | 1 2 | | 1 2 | 1 2 8 | | 1 2 8 | | 05 | | 05 |
| 06 | | | 1 2 | 1 2 | 1 2 | | 1 2 | | 1 2 | 1 2 8 | | 1 2 8 | | 06 | | 06 |
| 07 | | | 1 2 | 1 2 | 1 2 | | 1 2 | | 1 2 | 1 2 8 | | 1 2 8 | | 07 | | 07 |
| 08 | | | 1 2 | 1 2 | 1 2 | | 1 2 | | 1 2 | 1 2 8 | | 1 2 8 | | 08 | | 08 |
| 09 | | | 1 2 | 1 2 | 1 2 | | 1 2 | | 1 2 | 1 2 8 | | 1 2 8 | | 09 | | 09 |
| 10 | | | 1 2 | 1 2 | 1 2 | | 1 2 | | 1 2 | 1 2 8 | | 1 2 8 | | 10 | | 10 |

ENG HH 2

HOUSEHOLD SCHEDULE CONTINUED

| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | (12) | (13) | (14) | (15) | (16) | (17) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | YES NO | YES NO | M F | IN YEARS | YES NO | LEVEL FORM | YES NO | YES NO DK | | YES NO DK | | | | |
| 11 | | | 1 2 | 1 2 | 1 2 | | 1 2 | | 1 2 | 1 2 8 | | 1 2 8 | | 11 | | 11 |
| 12 | | | 1 2 | 1 2 | 1 2 | | 1 2 | | 1 2 | 1 2 8 | | 1 2 8 | | 12 | | 12 |
| 13 | | | 1 2 | 1 2 | 1 2 | | 1 2 | | 1 2 | 1 2 8 | | 1 2 8 | | 13 | | 13 |
| 14 | | | 1 2 | 1 2 | 1 2 | | 1 2 | | 1 2 | 1 2 8 | | 1 2 8 | | 14 | | 14 |
| 15 | | | 1 2 | 1 2 | 1 2 | | 1 2 | | 1 2 | 1 2 8 | | 1 2 8 | | 15 | | 15 |
| 16 | | | 1 2 | 1 2 | 1 2 | | 1 2 | | 1 2 | 1 2 8 | | 1 2 8 | | 16 | | 16 |
| 17 | | | 1 2 | 1 2 | 1 2 | | 1 2 | | 1 2 | 1 2 8 | | 1 2 8 | | 17 | | 17 |
| 18 | | | 1 2 | 1 2 | 1 2 | | 1 2 | | 1 2 | 1 2 8 | | 1 2 8 | | 18 | | 18 |
| 19 | | | 1 2 | 1 2 | 1 2 | | 1 2 | | 1 2 | 1 2 8 | | 1 2 8 | | 19 | | 19 |
| 20 | | | 1 2 | 1 2 | 1 2 | | 1 2 | | 1 2 | 1 2 8 | | 1 2 8 | | 20 | | 20 |

TICK HERE IF CONTINUATION SHEET USED ☐ TOTAL NUMBER OF ELIGIBLE WOMEN ☐☐ TOTAL NUMBER OF ELIGIBLE MEN ☐☐

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 ☐ → ENTER EACH IN TABLE NO ☐

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 ☐ → ENTER EACH IN TABLE NO ☐

3) Do you have any guests or temporary visitors staying here, or anyone else who slept here last night? YES ☐ → ENTER EACH IN TABLE NO ☐

* CODES FOR Q.3
RELATIONSHIP TO HEAD OF HOUSEHOLD:
01= HEAD
02= WIFE OR HUSBAND
03= SON OR DAUGHTER
04= SON OR DAUGHTER-IN-LAW
05= GRANDCHILD
06= PARENT
07= PARENT-IN-LAW
08= BROTHER OR SISTER
09= OTHER RELATIVE
10= ADOPTED/FOSTER CHILD
11= NOT RELATED
98= DK

** CODES FOR LEVEL OF EDUCATION:
0= NURSERY
1= PRIMARY
2= SECONDARY
3= UNIVERSITY
8= DK

CODES FOR STANDARD/FORM/YEAR:
00= LESS THAN 1 YEAR COMPLETED
98= DON'T KNOW

*** These questions refer to the biological parents of the child. Record 00 if parent not member of household.

ENG HH 3

| NO. | QUESTIONS AND FILTERS | CODING CATEGORIES | GO TO |
|---|---|---|---|
| 18 | What is the source of water your household uses for handwashing and dishwashing for most of the year? | PIPED WATER<br>PIPED INTO HOUSE/COMPOUND/PLOT.11<br>PUBLIC TAP.....12<br>WELL WATER<br>WELL WITH PUMP.....21<br>WELL WITHOUT PUMP.....22<br>SURFACE WATER<br>LAKE, POND.....31<br>RIVER/STREAM.....32<br>RAINWATER.....41<br>OTHER_____51 | <br>→20<br><br><br><br><br><br><br>→20 |
| 19 | How long does it take to go there, get water, and come back? | MINUTES..... [ ][ ][ ]<br>ON PREMISES.....996 | |
| 20 | Does your household get drinking water from this same source? | YES.....1<br>NO.....2 | →22 |
| 21 | What is the source of drinking water for members of your household? | PIPED WATER<br>PIPED INTO HOUSE/COMPOUND/PLOT.11<br>PUBLIC TAP.....12<br>WELL WATER<br>WELL WITH PUMP.....21<br>WELL WITHOUT PUMP.....22<br>SURFACE WATER<br>LAKE, POND.....31<br>RIVER/STREAM.....32<br>RAINWATER.....41<br>OTHER_____51 | |
| 22 | What kind of toilet facility does your household have? | FLUSH TOILET<br>OWN FLUSH TOILET.....11<br>SHARED FLUSH TOILET.....12<br>PIT TOILET/LATRINE<br>TRADITIONAL PIT TOILET.....21<br>VENTILATED IMPROVED PIT TOILET.22<br>NO FACILITY/BUSH/FIELD.....31<br>OTHER _____41 | |
| 23 | Does your household have:<br>Electricity?<br>A radio?<br>A television?<br>A refrigerator? | YES NO<br>ELECTRICITY.....1 2<br>RADIO.....1 2<br>TELEVISION.....1 2<br>REFRIGERATOR.....1 2 | |
| 24 | How many rooms in your household are used for sleeping? | ROOMS..... [ ][ ] | |
| 25 | MAIN MATERIAL OF THE FLOOR.<br><br>RECORD OBSERVATION. | EARTH/DUNG.....11<br>RUDIMENTARY FLOOR<br>WOOD PLANKS.....21<br>FINISHED FLOOR<br>PARQUET OR POLISHED WOOD.....31<br>VINYL/LINOLEUM/ASPHALT STRIPS.32<br>CERAMIC TILES.....33<br>CEMENT.....34<br>OTHER 41 | |
| 26 | MAIN MATERIAL OF THE WALL.<br><br>RECORD OBSERVATION. | MUD/DUNG.....11<br>RUDIMENTARY WALLS<br>WOOD/TIMBER.....21<br>FINISHED WALLS<br>BRICKS.....31<br>CEMENT/STONE BLOCKS.....32<br>OTHER 41 | |
| 27 | MAIN MATERIAL OF THE ROOF.<br><br>RECORD OBSERVATION. | GRASS/THATCH.....11<br>RUDIMENTARY ROOF<br>CORRUGATED IRON (MABATI).....21<br>FINISHED ROOF<br>TILES.....31<br>OTHER 41 | |
| 28 | Does any member of your household own:<br>A bicycle?<br>Land?<br>Cattle, goats or sheep?<br>Cash crops such as tea, coffee, cotton? | YES NO<br>BICYCLE.....1 2<br>LAND.....1 2<br>CATTLE, GOATS, OR SHEEP....1 2<br>CASH CROPS.....1 2 | |

ENG HH 4

NATIONAL COUNCIL FOR POPULATION AND DEVELOPMENT
CENTRAL BUREAU OF STATISTICS
KENYA DEMOGRAPHIC AND HEALTH SURVEY 2
WOMAN'S QUESTIONNAIRE

CONFIDENTIAL
Data used for research purposes only

## IDENTIFICATION

PROVINCE _____

DISTRICT _____

LOCATION/TOWN _____

SUBLOCATION/WARD _____

NASSEP CLUSTER NUMBER.....

KDHS CLUSTER NUMBER.....

HOUSEHOLD NUMBER.....

NAIROBI/MOMBASA=1, SMALL CITY=2, TOWN=3, RURAL=4...

NAME OF HOUSEHOLD HEAD _____

NAME AND LINE NUMBER OF WOMAN _____

| INTERVIEWER VISITS | 1 | 2 | 3 | FINAL VISIT |
|---|---|---|---|---|
| DATE | | | | DAY / MONTH / YEAR |
| INTERVIEWER'S NAME | | | | NAME |
| RESULT * | | | | RESULT |
| NEXT VISIT: DATE / TIME | | | | TOTAL NUMBER OF VISITS |

* RESULT CODES: 1 COMPLETED 2 NOT AT HOME 3 POSTPONED 4 REFUSED 5 PARTLY COMPLETED 6 INCAPACITATED 7 OTHER _____ (SPECIFY)

LANGUAGE OF QUESTIONNAIRE: ENGLISH 1 0

LANGUAGE USED IN INTERVIEW**.....

RESPONDENT'S LOCAL LANGUAGE**.....

TRANSLATOR USED (NOT AT ALL=1; SOMETIMES=2; ALL THE TIME=3).....

** LANGUAGE CODES: 01 KALENJIN 02 KAMBA 03 KIKUYU 04 KISII 05 LUHYA 06 LUO 07 MERU/EMBU 08 MIJIKENDA 09 KISWAHILI 10 ENGLISH 11 OTHER

| NAME / DATE | FIELD EDITED BY | OFFICE EDITED BY | KEYED BY | KEYED BY |
|---|---|---|---|---|
| | | | | |

SECTION 1. RESPONDENT'S BACKGROUND

| NO. | QUESTIONS AND FILTERS | CODING CATEGORIES | SKIP TO |
|---|---|---|---|
| 101 | RECORD THE TIME. | HOUR..... [ ][ ]<br>MINUTES..... [ ][ ] | |
| 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 Nairobi or Mombasa, in another city or town or in the countryside? | NAIROBI/MOMBASA.....1<br>OTHER CITY/TOWN.....2<br>COUNTRYSIDE.....3 | |
| 103 | How long have you been living continuously in (NAME OF SUBLOCATION, TOWN OR CITY)? | YEARS..... [ ][ ]<br>ALWAYS.....95<br>VISITOR.....96 | 105 |
| 104 | Just before you moved here, did you live in Nairobi or Mombasa, in another city or town or in the countryside? | NAIROBI/MOMBASA.....1<br>OTHER CITY/TOWN.....2<br>COUNTRYSIDE.....3 | |
| 105 | In what month and year were you born? | MONTH..... [ ][ ]<br>DOES NOT KNOW MONTH.....98<br>YEAR..... [ ][ ]<br>DOES NOT KNOW YEAR.....98 | |
| 106 | How old were you at your last birthday?<br>COMPARE AND CORRECT 105 AND/OR 106 IF INCONSISTENT. | AGE IN COMPLETED YEARS... [ ][ ] | |
| 107 | Have you ever attended school? | YES.....1<br>NO.....2 | 111 |
| 108 | What is the highest level of school you attended: primary, secondary, or university? | PRIMARY.....1<br>SECONDARY.....2<br>UNIVERSITY.....3 | |
| 109 | What is the highest (standard/form/year) you completed at that level? | STANDARD/FORM/YEAR..... [ ][ ] | |
| 109A | What is the highest certificate you obtained? | NO CERTIFICATE.....00<br>CEE (Std. 4).....01<br>CPE/KPE (Std.7).....02<br>KAPE/KCPE (Std. 8).....03<br>KJSE (Form 2).....04<br>O LEVEL.....05<br>KCSE.....06<br>A LEVEL.....07<br>ANY UNIVERSITY DEGREE.....08<br>OTHER_____09<br>(SPECIFY) | |
| 110 | CHECK 108: PRIMARY [ ] SECONDARY OR ABOVE [ ] | | 112 |
| 111 | Can you read a letter or newspaper in any language easily, with difficulty, or not at all? | EASILY.....1<br>WITH DIFFICULTY.....2<br>NOT AT ALL.....3 | 113 |
| 112 | Do you usually read a newspaper or magazine at least once a week? | YES.....1<br>NO.....2 | |

ENG WOM 2

| NO. | QUESTIONS AND FILTERS | CODING CATEGORIES | GO TO |
|---|---|---|---|
| 113 | Do you usually listen to a radio at least once a week? | YES.....1<br>NO.....2 | |
| 114 | Do you usually watch television at least once a week? | YES.....1<br>NO.....2 | |
| 115 | What is your religion? | CATHOLIC.....1<br>PROTESTANT/OTHER CHRISTIAN.....2<br>MUSLIM.....3<br>NO RELIGION.....4<br>OTHER_____5<br>(SPECIFY) | |
| 116 | What is your ethnic group/tribe? | KALENJIN.....01<br>KAMBA.....02<br>KIKUYU.....03<br>KISII.....04<br>LUHYA.....05<br>LUO.....06<br>MERU/EMBU.....07<br>MIJIKENDA/SWAHILI.....08<br>SOMALI.....09<br>TAITA/TAVETA.....10<br>OTHER_____11<br>(SPECIFY) | |
| 116A | Do you belong to any women's organisation or group? | YES.....1<br>NO.....2 | |
| 117 | CHECK Q.4 IN THE HOUSEHOLD QUESTIONNAIRE<br>THE WOMAN INTERVIEWED IS NOT A USUAL RESIDENT ☐ ↓ | THE WOMAN INTERVIEWED IS A USUAL RESIDENT ☐ | →201 |
| 118 | Now I would like to ask about the place in which you usually live.<br>Do you usually live in Nairobi or Mombasa, in a small city, in a town or in the countryside? | NAIROBI/MOMBASA.....1<br>SMALL CITY.....2<br>TOWN.....3<br>COUNTRYSIDE.....4 | |
| 119 | In which district is that located?<br>WRITE NAME OF DISTRICT CLEARLY. | DISTRICT_____ ☐☐<br>_____ | |
| 120 | Now I would like to ask about the household in which you usually live.<br>What is the source of water your household uses for handwashing and dishwashing for most of the year? | PIPED WATER<br>PIPED INTO HOUSE/COMPOUND/PLOT.11<br>PUBLIC TAP.....12<br>WELL WATER<br>WELL WITH PUMP.....21<br>WELL WITHOUT PUMP.....22<br>SURFACE WATER<br>LAKE, POND.....31<br>RIVER/STREAM.....32<br>RAINWATER.....41<br>OTHER_____51 | →122<br>→122 |
| 121 | How long does it take to go there, get water, and come back? | MINUTES..... ☐☐☐<br>ON PREMISES.....996 | |
| 122 | Does your household get drinking water from this same source? | YES.....1<br>NO.....2 | →124 |

ENG WOM 3

| NO. | QUESTIONS AND FILTERS | CODING CATEGORIES | GO TO |
|---|---|---|---|
| 123 | What is the source of drinking water for members of your household? | PIPED WATER<br>PIPED INTO HOUSE/COMPOUND/PLOT.11<br>PUBLIC TAP.....12<br>WELL WATER<br>WELL WITH PUMP.....21<br>WELL WITHOUT PUMP.....22<br>SURFACE WATER<br>LAKE, POND.....31<br>RIVER/STREAM.....32<br>RAINWATER.....41<br>OTHER _____51 | |
| 124 | What kind of toilet facility does your household have? | FLUSH TOILET<br>OWN FLUSH TOILET.....11<br>SHARED FLUSH TOILET.....12<br>PIT TOILET/LATRINE<br>TRADITIONAL PIT TOILET.....21<br>VENTILATED IMPROVED PIT TOILET.22<br>NO FACILITY/BUSH/FIELD.....31<br>OTHER _____41 | |
| 125 | Does your household have:<br><br>Electricity?<br>A radio?<br>A television?<br>A refrigerator? | YES NO<br><br>ELECTRICITY.....1 2<br>RADIO.....1 2<br>TELEVISION.....1 2<br>REFRIGERATOR.....1 2 | |
| 126 | How many rooms in your household are used for sleeping? | ROOMS..... [ ][ ] | |
| 127 | Could you describe the main material of the floor of your home? | NATURAL FLOOR<br>EARTH/DUNG.....11<br>RUDIMENTARY FLOOR<br>WOOD PLANKS.....21<br>FINISHED FLOOR<br>PARQUET OR POLISHED WOOD.....31<br>VINYL/LINOLEUM/ASPHALT STRIPS.32<br>CERAMIC TILES.....33<br>CEMENT.....34<br>OTHER _____41 | |
| 127A | Could you describe the main material of the walls of your home? | NATURAL WALLS<br>MUD/DUNG.....11<br>RUDIMENTARY WALLS<br>WOOD/TIMBER.....21<br>FINISHED WALLS<br>BRICKS.....31<br>CEMENT/STONE BLOCKS.....32<br>OTHER _____41 | |
| 127B | Could you describe the main material of the roof of your home? | NATURAL ROOF<br>GRASS/THATCH.....11<br>RUDIMENTARY ROOF<br>CORRUGATED IRON (MABATI).....21<br>FINISHED ROOF<br>TILES.....31<br>OTHER _____41 | |
| 128 | Does any member of your household own:<br><br>A bicycle?<br>Land?<br>Cattle, goats or sheep?<br>Cash crops such as tea, coffee or cotton? | YES NO<br><br>BICYCLE.....1 2<br>LAND.....1 2<br>CATTLE, GOATS, OR SHEEP....1 2<br>CASH CROPS.....1 2 | |

ENG WOM 4

SECTION 2. REPRODUCTION

| NO. | QUESTIONS AND FILTERS | CODING CATEGORIES | SKIP TO |
|---|---|---|---|
| 201 | Now I would like to ask about all the births you have had during your life. Have you ever given birth? | YES.....1<br>NO.....2 | 206 |
| 202 | Do you have any sons or daughters to whom you have given birth who are now living with you? | YES.....1<br>NO.....2 | 204 |
| 203 | How many sons live with you?<br>And how many daughters live with you?<br><br>IF NONE RECORD '00'. | SONS AT HOME..... [ ][ ]<br>DAUGHTERS AT HOME..... [ ][ ] | |
| 204 | Do you have any sons or daughters to whom you have given birth who are alive but do not live with you? | YES.....1<br>NO.....2 | 206 |
| 205 | How many sons are alive but do not live with you?<br>And how many daughters are alive but do not live with you?<br><br>IF NONE RECORD '00'. | SONS ELSEWHERE..... [ ][ ]<br>DAUGHTERS ELSEWHERE..... [ ][ ] | |
| 206 | Sometimes it happens that children die. It may be very painful to talk about and I am sorry to ask you about painful memories, but it is important to get the right information.<br>Have you ever given birth to a boy or girl who was born alive but later died?<br><br>IF NO, PROBE: Any baby who cried or showed any sign of life but only survived a few hours or days? | YES.....1<br>NO.....2 | 208 |
| 207 | In all, how many boys have died?<br>And how many girls have died?<br><br>IF NONE RECORD '00'. | BOYS DEAD..... [ ][ ]<br>GIRLS DEAD..... [ ][ ] | |
| 208 | SUM ANSWERS TO 203, 205, AND 207, AND ENTER TOTAL.<br><br>IF NONE RECORD '00'. | TOTAL..... [ ][ ] | |
| 209 | CHECK 208:<br><br>Just to make sure that I have this right: you have had in TOTAL ____ births during your life. Is that correct?<br><br>YES [ ] ↓ NO [ ] → PROBE AND CORRECT 201-208 AS NECESSARY | | |
| 210 | CHECK 208:<br><br>ONE OR MORE BIRTHS [ ] ↓ NO BIRTHS [ ] | | 223 |

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211 Now I would like to talk to you about all of 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<br>What name was given to your (first,next) baby? | 213<br>RECORD SINGLE OR MULT-IPLE BIRTH STATUS. | 214<br>Is (NAME) a boy or a girl? | 215<br>In what month and year was (NAME) born?<br>PROBE: What is his/her birthday? OR: In what season was he/she born? | 216<br>Is (NAME) still alive? | 217<br>IF ALIVE:<br>How old was (NAME) at his/her last birthday?<br>RECORD AGE IN COMPLETED YEARS. | 218<br>IF ALIVE:<br>Is (NAME) living with you? | 219<br>IF LESS THAN 15 YRS. OF AGE:<br>With whom does he/she live?<br>IF 15+: GO TO NEXT BIRTH. | 220 IF DEAD:<br>How old was he/she when he/she died?<br>IF "1 YEAR",PROBE: How many months old was (NAME)?<br>RECORD DAYS IF UNDER 1 MONTH, MONTHS IF UNDER 2 YEARS, OR YEARS. |
|---|---|---|---|---|---|---|---|---|
| 01 (NAME) | SING.1<br>MULT.2 | BOY..1<br>GIRL.2 | MONTH<br>YEAR. | YES.1<br>NO..2 → 220 | AGE IN YEARS | YES.....1 (GO NEXT BIRTH)<br>NO.....2 | FATHER.....1<br>GRANDPARENTS...2<br>OTHER RELATIVE.3<br>NON-RELATIVE...4<br>SCHOOL.....5<br>(GO NEXT BIRTH) | DAYS...1<br>MONTHS.2<br>YEARS..3 |
| 02 (NAME) | SING.1<br>MULT.2 | BOY..1<br>GIRL.2 | MONTH<br>YEAR. | YES.1<br>NO..2 → 220 | AGE IN YEARS | YES.....1 (GO NEXT BIRTH)<br>NO.....2 | FATHER.....1<br>GRANDPARENTS...2<br>OTHER RELATIVE.3<br>NON-RELATIVE...4<br>SCHOOL.....5<br>(GO NEXT BIRTH) | DAYS...1<br>MONTHS.2<br>YEARS..3 |
| 03 (NAME) | SING.1<br>MULT.2 | BOY..1<br>GIRL.2 | MONTH<br>YEAR. | YES.1<br>NO..2 → 220 | AGE IN YEARS | YES.....1 (GO NEXT BIRTH)<br>NO.....2 | FATHER.....1<br>GRANDPARENTS...2<br>OTHER RELATIVE.3<br>NON-RELATIVE...4<br>SCHOOL.....5<br>(GO NEXT BIRTH) | DAYS...1<br>MONTHS.2<br>YEARS..3 |
| 04 (NAME) | SING.1<br>MULT.2 | BOY..1<br>GIRL.2 | MONTH<br>YEAR. | YES.1<br>NO..2 → 220 | AGE IN YEARS | YES.....1 (GO NEXT BIRTH)<br>NO.....2 | FATHER.....1<br>GRANDPARENTS...2<br>OTHER RELATIVE.3<br>NON-RELATIVE...4<br>SCHOOL.....5<br>(GO NEXT BIRTH) | DAYS...1<br>MONTHS.2<br>YEARS..3 |
| 05 (NAME) | SING.1<br>MULT.2 | BOY..1<br>GIRL.2 | MONTH<br>YEAR. | YES.1<br>NO..2 → 220 | AGE IN YEARS | YES.....1 (GO NEXT BIRTH)<br>NO.....2 | FATHER.....1<br>GRANDPARENTS...2<br>OTHER RELATIVE.3<br>NON-RELATIVE...4<br>SCHOOL.....5<br>(GO NEXT BIRTH) | DAYS...1<br>MONTHS.2<br>YEARS..3 |
| 06 (NAME) | SING.1<br>MULT.2 | BOY..1<br>GIRL.2 | MONTH<br>YEAR. | YES.1<br>NO..2 → 220 | AGE IN YEARS | YES.....1 (GO NEXT BIRTH)<br>NO.....2 | FATHER.....1<br>GRANDPARENTS...2<br>OTHER RELATIVE.3<br>NON-RELATIVE...4<br>SCHOOL.....5<br>(GO NEXT BIRTH) | DAYS...1<br>MONTHS.2<br>YEARS..3 |
| 07 (NAME) | SING.1<br>MULT.2 | BOY..1<br>GIRL.2 | MONTH<br>YEAR. | YES.1<br>NO..2 → 220 | AGE IN YEARS | YES.....1 (GO NEXT BIRTH)<br>NO.....2 | FATHER.....1<br>GRANDPARENTS...2<br>OTHER RELATIVE.3<br>NON-RELATIVE...4<br>SCHOOL.....5<br>(GO NEXT BIRTH) | DAYS...1<br>MONTHS.2<br>YEARS..3 |
| 08 (NAME) | SING.1<br>MULT.2 | BOY..1<br>GIRL.2 | MONTH<br>YEAR. | YES.1<br>NO..2 → 220 | AGE IN YEARS | YES.....1 (GO NEXT BIRTH)<br>NO.....2 | FATHER.....1<br>GRANDPARENTS...2<br>OTHER RELATIVE.3<br>NON-RELATIVE...4<br>SCHOOL.....5<br>(GO NEXT BIRTH) | DAYS...1<br>MONTHS.2<br>YEARS..3 |

| 212 What name was given to your (first,next) baby? | 213 RECORD SINGLE OR MULT-IPLE BIRTH STATUS. | 214 Is (NAME) a boy or a girl? | 215 In what month and year was (NAME) born? PROBE: What is his/her birthday? OR: In what season was he/she born? | 216 Is (NAME) still alive? | 217 IF ALIVE: How old was (NAME) at his/her last birthday? RECORD AGE IN COMPLETED YEARS. | 218 IF ALIVE: Is (NAME) living with you? | 219 IF LESS THAN 15 YRS. OF AGE: With whom does he/she live? IF 15+: GO TO NEXT BIRTH. | 220 IF DEAD: How old was he/she when he/she died? IF "1 YEAR", PROBE: How many months old was (NAME)? RECORD DAYS IF UNDER 1 MONTH, MONTHS IF UNDER 2 YEARS, OR YEARS. |
|---|---|---|---|---|---|---|---|---|
| 09 (NAME) | SING.1 MULT.2 | BOY..1 GIRL.2 | MONTH YEAR. | YES.1 NO..2 → 220 | AGE IN YEARS | YES.....1 (GO NEXT BIRTH) NO.....2 | FATHER.....1 GRANDPARENTS...2 OTHER RELATIVE.3 NON-RELATIVE...4 SCHOOL.....5 (GO NEXT BIRTH) | DAYS...1 MONTHS.2 YEARS..3 |
| 10 (NAME) | SING.1 MULT.2 | BOY..1 GIRL.2 | MONTH YEAR. | YES.1 NO..2 → 220 | AGE IN YEARS | YES.....1 (GO NEXT BIRTH) NO.....2 | FATHER.....1 GRANDPARENTS...2 OTHER RELATIVE.3 NON-RELATIVE...4 SCHOOL.....5 (GO NEXT BIRTH) | DAYS...1 MONTHS.2 YEARS..3 |
| 11 (NAME) | SING.1 MULT.2 | BOY..1 GIRL.2 | MONTH YEAR. | YES.1 NO..2 → 220 | AGE IN YEARS | YES.....1 (GO NEXT BIRTH) NO.....2 | FATHER.....1 GRANDPARENTS...2 OTHER RELATIVE.3 NON-RELATIVE...4 SCHOOL.....5 (GO NEXT BIRTH) | DAYS...1 MONTHS.2 YEARS..3 |
| 12 (NAME) | SING.1 MULT.2 | BOY..1 GIRL.2 | MONTH YEAR. | YES.1 NO..2 → 220 | AGE IN YEARS | YES.....1 (GO NEXT BIRTH) NO.....2 | FATHER.....1 GRANDPARENTS...2 OTHER RELATIVE.3 NON-RELATIVE...4 SCHOOL.....5 (GO NEXT BIRTH) | DAYS...1 MONTHS.2 YEARS..3 |
| 13 (NAME) | SING.1 MULT.2 | BOY..1 GIRL.2 | MONTH YEAR. | YES.1 NO..2 → 220 | AGE IN YEARS | YES.....1 (GO NEXT BIRTH) NO.....2 | FATHER.....1 GRANDPARENTS...2 OTHER RELATIVE.3 NON-RELATIVE...4 SCHOOL.....5 (GO NEXT BIRTH) | DAYS...1 MONTHS.2 YEARS..3 |
| 14 (NAME) | SING.1 MULT.2 | BOY..1 GIRL.2 | MONTH YEAR. | YES.1 NO..2 → 220 | AGE IN YEARS | YES.....1 (GO NEXT BIRTH) NO.....2 | FATHER.....1 GRANDPARENTS...2 OTHER RELATIVE.3 NON-RELATIVE...4 SCHOOL.....5 (GO TO 221) | DAYS...1 MONTHS.2 YEARS..3 |

221 COMPARE 208 WITH NUMBER OF BIRTHS IN HISTORY ABOVE AND MARK:

NUMBERS ARE SAME ☐ → NUMBERS ARE DIFFERENT ☐ → (PROBE AND RECONCILE)

CHECK: FOR EACH BIRTH: YEAR OF BIRTH IS RECORDED. ☐

FOR EACH LIVING CHILD: CURRENT AGE IS RECORDED. ☐

FOR EACH BIRTH INTERVAL 4 YEARS OR MORE: WRITE THE REASON. ☐

FOR AGE AT DEATH 12 MONTHS: PROBE TO DETERMINE EXACT NUMBER OF MONTHS. ☐

222 CHECK 215 AND ENTER THE NUMBER OF BIRTHS SINCE JANUARY 1988. IF NONE, RECORD 0. ☐

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| NO. | QUESTIONS AND FILTERS | CODING CATEGORIES | SKIP TO |
|---|---|---|---|
| 223 | Now I would like to ask you about some current events in your life. Are you pregnant? | YES.....1<br>NO.....2<br>UNSURE.....8 | <br><br>226 |
| 224 | For how many months have you been pregnant? | MONTHS..... [ ][ ] | |
| 225 | 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</u> want to become pregnant at all? | THEN.....1<br>LATER.....2<br>NOT AT ALL.....3 | |
| 226 | When did your last menstrual period start? | DAYS AGO.....1 [ ][ ]<br>WEEKS AGO.....2 [ ][ ]<br>MONTHS AGO.....3 [ ][ ]<br>YEARS AGO.....4 [ ][ ]<br><br>IN MENOPAUSE.....994<br>MENSTRUATION NOT YET RESUMED SINCE HER LAST BIRTH.....995<br>HAS NEVER MENSTRUATED IN HER WHOLE LIFE.....996 | |
| 228 | During which times of the monthly cycle does a woman have the greatest chance of becoming pregnant? | DURING HER PERIOD.....1<br>RIGHT AFTER HER PERIOD HAS ENDED.....2<br>IN THE MIDDLE OF THE CYCLE.....3<br>JUST BEFORE HER PERIOD BEGINS...4<br>OTHER_____5<br>(SPECIFY)<br>DOES NOT KNOW.....8 | |

ENG WOM 8

SECTION 3. CONTRACEPTION

**301** 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. Which ways or methods have you heard about?

CIRCLE CODE 1 IN 302 FOR EACH METHOD MENTIONED SPONTANEOUSLY.
THEN MOVE DOWN THE COLUMN, READING THE NAME AND DESCRIPTION OF EACH METHOD NOT MENTIONED SPONTANEOUSLY.
CIRCLE CODE 2 IF METHOD IS RECOGNISED, AND CODE 3 IF NOT RECOGNISED.
THEN, FOR EACH METHOD WITH CODE 1 OR 2 CIRCLED IN 302, ASK 303-304 BEFORE PROCEEDING TO THE NEXT METHOD.

| | 302 Have you ever heard of (METHOD)? READ DESCRIPTION OF EACH METHOD. | 303 Have you ever used (METHOD)? | 304 Do you know where a person could go to get (METHOD)? |
|---|---|---|---|
| 01 PILL Women can take a pill every day. | YES/SPONT.....1<br>YES/PROBED.....2<br>NO.....3 | YES.....1<br>NO.....2 | YES.....1<br>NO.....2 |
| 02 IUD Women can have a loop or coil placed inside them by a doctor or a nurse. | YES/SPONT.....1<br>YES/PROBED.....2<br>NO.....3 | YES.....1<br>NO.....2 | YES.....1<br>NO.....2 |
| 03 INJECTIONS Women can have an injection by a doctor or nurse which stops them from becoming pregnant for several months. | YES/SPONT.....1<br>YES/PROBED.....2<br>NO.....3 | YES.....1<br>NO.....2 | YES.....1<br>NO.....2 |
| 04 FOAM TABLETS/JELLY/NEO-SAMPOON Women can place foam tablets, a diaphragm, sponge, jelly or cream inside them before intercourse. | YES/SPONT.....1<br>YES/PROBED.....2<br>NO.....3 | YES.....1<br>NO.....2 | YES.....1<br>NO.....2 |
| 05 CONDOM Men can use a rubber sheath during sexual intercourse. | YES/SPONT.....1<br>YES/PROBED.....2<br>NO.....3 | YES.....1<br>NO.....2 | YES.....1<br>NO.....2 |
| 06 FEMALE STERILISATION Women can have an operation to avoid having any more children. | YES/SPONT.....1<br>YES/PROBED.....2<br>NO.....3 | Have you ever had an operation to avoid having any more children?<br>YES.....1<br>NO.....2 | YES.....1<br>NO.....2 |
| 07 MALE STERILISATION Men can have an operation to avoid having any more children. | YES/SPONT.....1<br>YES/PROBED.....2<br>NO.....3 | YES.....1<br>NO.....2 | YES.....1<br>NO.....2 |
| 08 NORPLANT Women can have some small rods put under their skin in their arm. | YES/SPONT.....1<br>YES/PROBED.....2<br>NO.....3 | YES.....1<br>NO.....2 | YES.....1<br>NO.....2 |
| 09 RHYTHM, COUNTING DAYS A woman can count the days of her cycle and avoid having sexual intercourse on the days when she is more likely to become pregnant. | YES/SPONT.....1<br>YES/PROBED.....2<br>NO.....3 | YES.....1<br>NO.....2 | Do you know where a person can obtain advice on how to use this method?<br>YES.....1<br>NO.....2 |
| 10 NATURAL FAMILY PLANNING A woman can take her temperature every day or check her vaginal mucus to tell which days to avoid having sexual intercourse. | YES/SPONT.....1<br>YES/PROBED.....2<br>NO.....3 | YES.....1<br>NO.....2 | Do you know where a person can obtain advice on how to use natural family planning?<br>YES.....1<br>NO.....2 |
| 11 WITHDRAWAL Men can be careful and pull out before climax. | YES/SPONT.....1<br>YES/PROBED.....2<br>NO.....3 | YES.....1<br>NO.....2 | |
| 12 Have you heard of any other ways or methods that women or men can use to avoid pregnancy?<br>1 _____ (SPECIFY)<br>2 _____ (SPECIFY)<br>3 _____ (SPECIFY) | YES/SPONT.....1<br>NO.....3 | YES.....1<br>NO.....2<br>YES.....1<br>NO.....2<br>YES.....1<br>NO.....2 | |

**305** CHECK 303: NOT A SINGLE "YES" (NEVER USED) ☐ ↓ AT LEAST ONE "YES" (EVER USED) ☐ → SKIP TO 307A

| NO. | QUESTIONS AND FILTERS | CODING CATEGORIES | SKIP TO |
|---|---|---|---|
| 306 | Have you ever used anything or tried in any way to delay or avoid getting pregnant? | YES..... [ ]<br>NO..... [ ] | →324 |
| 307 | What have you used or done?<br><br>CORRECT 303-305 (AND 302 IF NECESSARY). | | |
| 307A | CHECK 303:<br>EVER USED NATURAL FAMILY PLANNING [ ] ↓ | NEVER USED NATURAL FAMILY PLANNING [ ] | →308 |
| 307B | The last time you used natural family planning, how did you determine on which days to avoid having sexual intercourse? | TOOK BODY TEMPERATURE.....1<br>CHECKED CERVICAL MUCUS.....2<br>BODY TEMPERATURE AND MUCUS.....3<br>COUNTING DAYS.....4<br>OTHER_____5<br>(SPECIFY) | |
| 308 | Now I would like to ask you about the time when you first did something or used a method to avoid getting pregnant.<br><br>How many living children did you have at that time, if any?<br><br>IF NONE, RECORD '00'. | NUMBER OF CHILDREN..... [ ][ ] | |
| 309 | CHECK 223:<br>NOT PREGNANT OR UNSURE [ ] ↓<br>PREGNANT [ ] | | →324 |
| 310 | CHECK 303:<br>WOMAN NOT STERILISED [ ] ↓<br>WOMAN STERILISED [ ] | | →312A |
| 311 | Are you currently doing something or using any method to delay or avoid getting pregnant? | YES.....1<br>NO.....2 | →324 |
| 312<br><br>312A | Which method are you using?<br><br>CIRCLE '06' FOR FEMALE STERILIZATION. | PILL.....01<br>IUD.....02<br>INJECTIONS.....03<br>FOAM TABLETS,JELLY,DIAPHRAGM...04<br>CONDOM.....05<br>FEMALE STERILISATION.....06<br>MALE STERILISATION.....07<br>NORPLANT.....08<br>RHYTHM, COUNTING DAYS.....09<br>NATURAL FP, MUCUS, TEMPERATURE.10<br>WITHDRAWAL.....11<br>OTHER_____12<br>(SPECIFY) | →318<br><br>→323 |
| 313 | At the time you first started using the pill, did you have a physical checkup by a doctor or nurse?<br><br>PROBE: Did you have your blood pressure checked or an internal examination? | YES.....1<br>NO.....2<br>DOES NOT KNOW.....8 | |
| 317 | How much does one (packet/cycle) of pills cost you? | SHILLINGS..... [ ][ ][ ]<br>FREE.....996<br>DOES NOT KNOW.....998 | |

ENG WOM 10

| NO. | QUESTIONS AND FILTERS | CODING CATEGORIES | SKIP TO |
|---|---|---|---|
| 318 | CHECK 312:<br>SHE/HE STERILISED ☐ → Where did the sterilisation take place?<br>USING ANOTHER METHOD ☐ → Where did you obtain (METHOD) the last time?<br>_____ (NAME OF PLACE) | PUBLIC SECTOR<br>GOVERNMENT HOSPITAL.....11<br>GOVERNMENT HEALTH CENTRE.....12<br>GOVERNMENT DISPENSARY.....13<br>MEDICAL PRIVATE SECTOR<br>MISSION,CHURCH HOSPITAL/CLINIC.21<br>FPAK HEALTH CENTRE/CLINIC.....22<br>OTHER NON-GOVERNMENTAL SERVICE.23<br>PRIVATE HOSPITAL OR CLINIC.....24<br>PHARMACY.....25<br>PRIVATE DOCTOR..... .....26<br>MOBILE CLINIC.....31<br>COMMUNITY BASED DISTRIBUTOR/ COMMUNITY HEALTH WORKER.....41<br>SHOP.....51<br>FRIENDS/RELATIVES.....61<br>OTHER_____71 (SPECIFY)<br>DOES NOT KNOW.....98 | →321 |
| 319 | How long does it take to travel from your home to this place?<br>IF LESS THAN 2 HOURS, RECORD MINUTES. OTHERWISE, RECORD HOURS. | MINUTES.....1 ☐☐☐<br>HOURS.....2 0☐☐<br>DOES NOT KNOW.....9998 | |
| 320 | Do you walk or use some means of transportation to get there? | WALK.....1<br>USE TRANSPORT.....2<br>DOES NOT KNOW.....8 | |
| 321 | CHECK 312:<br>SHE/HE STERILISED ☐ →<br>USING ANOTHER METHOD ☐ | | →323 |
| 322 | In what month and year was the sterilisation operation performed? | MONTH..... ☐☐<br>YEAR..... ☐☐ | →333A |
| 323 | For how many months have you been using (CURRENT METHOD) continuously?<br>IF LESS THAN 1 MONTH, RECORD '00'. | MONTHS..... ☐☐<br>8 YEARS OR LONGER.....96 | →329 |
| 324 | Do you intend to use a method to delay or avoid pregnancy at any time in the future? | YES.....1<br>NO.....2<br>DOES NOT KNOW/NOT SURE.....8 | →326<br>→330 |
| 325 | What is the main reason you do not intend to use a method?<br>IF SHE SAYS SHE IS TOO YOUNG, ASK WHAT SHE WILL DO WHEN SHE IS OLDER.<br>IF SHE SAYS SHE IS BREASTFEEDING OR HER PERIOD HAS NOT YET RETURNED, ASK WHAT SHE WILL DO WHEN SHE STOPS BREASTFEEDING OR HER PERIODS RESUME.<br>IF ANSWERS TO THESE PROBES REQUIRE CHANGING Q324, DO SO. | WANTS CHILDREN.....01<br>LACK OF KNOWLEDGE.....02<br>HUSBAND OPPOSED TO USING.....03<br>COST TOO MUCH.....04<br>SIDE EFFECTS.....05<br>FEARS IT WILL MAKE HER STERILE.06<br>OTHER HEALTH CONCERNS.....07<br>HARD TO GET METHODS.....08<br>RELIGION.....09<br>OPPOSED TO FAMILY PLANNING.....10<br>FATALISTIC.....11<br>OTHER PEOPLE OPPOSED.....12<br>INFREQUENT SEX.....13<br>DIFFICULT TO GET PREGNANT.....14<br>MENOPAUSAL/HAD HYSTERECTOMY....15<br>INCONVENIENT.....16<br>OTHER_____17 (SPECIFY)<br>DOES NOT KNOW.....98 | →330 |
| 326 | Do you intend to use a method within the next 12 months? | YES.....1<br>NO.....2<br>DOES NOT KNOW.....8 | |

ENG WOM 11

| NO. | QUESTIONS AND FILTERS | CODING CATEGORIES | SKIP TO |
|---|---|---|---|
| 327 | When you use a method, which method would you prefer to use? | PILL.....01<br>IUD.....02<br>INJECTIONS.....03<br>FOAM TABLETS,JELLY,DIAPHRAGM...04<br>CONDOM.....05<br>FEMALE STERILISATION.....06<br>MALE STERILISATION.....07<br>NORPLANT.....08<br>RHYTHM, COUNTING DAYS.....09<br>NATURAL FP, MUCUS, TEMPERATURE.10<br>WITHDRAWAL.....11<br>OTHER_____12<br>(SPECIFY)<br>UNSURE.....98 | →330 |
| 328 | Where can you get (METHOD MENTIONED IN 327)?<br>_____<br>(NAME OF PLACE) | PUBLIC SECTOR<br>GOVERNMENT HOSPITAL.....11<br>GOVERNMENT HEALTH CENTRE.....12<br>GOVERNMENT DISPENSARY.....13<br>MEDICAL PRIVATE SECTOR<br>MISSION,CHURCH HOSPITAL/CLINIC.21<br>FPAK HEALTH CENTRE/CLINIC.....22<br>OTHER NON-GOVERNMENTAL SERVICE.23<br>PRIVATE HOSPITAL OR CLINIC.....24<br>PHARMACY.....25<br>PRIVATE DOCTOR.....26<br>MOBILE CLINIC.....31<br>COMMUNITY BASED DISTRIBUTOR/<br>COMMUNITY HEALTH WORKER.....41<br>SHOP.....51<br>FRIENDS/RELATIVES.....61<br>OTHER_____71<br>(SPECIFY)<br>DOES NOT KNOW.....98 | →332<br>→333A<br>→333A<br>→333A |
| 329 | CHECK 312:<br>USING RHTHYM, COUNTING DAYS, WITHDRAWAL OR OTHER TRADITIONAL METHOD ☐ ↓<br>USING A MODERN METHOD ☐ | | →333A |
| 330 | Do you know of a place where you can obtain a method of family planning? | YES.....1<br>NO.....2 | →333A |
| 331 | Where is that?<br>_____<br>(NAME OF PLACE) | PUBLIC SECTOR<br>GOVERNMENT HOSPITAL.....11<br>GOVERNMENT HEALTH CENTRE.....12<br>GOVERNMENT DISPENSARY.....13<br>MEDICAL PRIVATE SECTOR<br>MISSION,CHURCH HOSPITAL/CLINIC.21<br>FPAK HEALTH CENTRE/CLINIC.....22<br>OTHER NON-GOVERNMENTAL SERVICE.23<br>PRIVATE HOSPITAL OR CLINIC.....24<br>PHARMACY.....25<br>PRIVATE DOCTOR.....26<br>MOBILE CLINIC.....31<br>COMMUNITY BASED DISTRIBUTOR/<br>COMMUNITY HEALTH WORKER.....41<br>SHOP.....51<br>FRIENDS/RELATIVES.....61<br>OTHER_____71<br>(SPECIFY) | →333A |
| 332 | How long does it take to travel from your home to this place?<br>IF LESS THAN 2 HOURS, RECORD MINUTES. OTHERWISE, RECORD HOURS. | MINUTES.....1 [ ][ ][ ]<br>HOURS.....2 [0][ ][ ]<br>DK.....9998 | |
| 333 | Do you walk or use some means of transportation to get there? | WALK.....1<br>USE TRANSPORT.....2<br>DOES NOT KNOW.....8 | |

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| NO. | QUESTIONS AND FILTERS | CODING CATEGORIES | GO TO |
|---|---|---|---|
| 333A | How did you first hear about family planning? | RADIO.....01<br>TELEVISION.....02<br>NEWSPAPERS.....03<br>POSTERS.....04<br>HUSBAND.....05<br>FRIENDS/RELATIVES.....06<br>HEALTH WORKER/CLINIC.....07<br>COMMUNITY BASED DISTRIBUTOR/<br>COMMUNITY HEALTH WORKER.....08<br>OTHER_____09<br>(SPECIFY)<br>CAN'T REMEMBER/DOES NOT KNOW...98 | |
| 333B | From which place or person did you get the most information? | RADIO.....01<br>TELEVISION.....02<br>NEWSPAPERS.....03<br>POSTERS.....04<br>HUSBAND.....05<br>FRIENDS/RELATIVES.....06<br>HEALTH WORKER/CLINIC.....07<br>COMMUNITY BASED DISTRIBUTOR/<br>COMMUNITY HEALTH WORKER.....08<br>OTHER_____09<br>(SPECIFY)<br>CAN'T REMEMBER/DOES NOT KNOW...98 | |
| 334 | In the last 6 months, have you heard a radio program about family planning? | YES.....1<br>NO.....2<br>DOES NOT KNOW.....8 | 335 |
| 334A | Which program have you heard?<br><br>Any others?<br><br>DO NOT READ CODES TO RESPONDENT.<br><br>CIRCLE ALL MENTIONED. | MWENDA POLE.....A<br>PANGA UZAZI.....B<br>MAISHA YA JAMII YAKO.....C<br>JIFUNZE NA UENDELEA.....D<br>MAISHA BORA.....E<br>AFYA YAKO.....F<br>DAKTARI AKUSHAURI.....G<br>KUELEWANA NI KUZUNGUMZA.....H<br>OTHER_____I<br>(SPECIFY)<br>DOES NOT KNOW/CANNOT REMEMBER...J | |
| 335 | Do you think that information about family planning should be available to young people? | YES.....1<br>NO.....2<br>OTHER_____3<br>(SPECIFY)<br>DOES NOT KNOW.....8 | |
| 335A | Do you think that family planning services should be available for young people? | YES.....1<br>NO.....2<br>OTHER_____3<br>(SPECIFY)<br>DOES NOT KNOW.....8 | |
| 336 | In some communities there is a woman or man who is trained to talk to families in that area about family planning. Sometimes they visit each house and talk about family planning and give out supplies. Other times they have supplies in their houses. Is there any woman or man like that in your area? | YES.....1<br>NO.....2<br>DOESN'T KNOW.....8 | <br>401<br>401 |
| 337 | How many times has this person visited your home in the last six months? | TIMES..... [ ][ ] | |

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| | | | | |
|---|---|---|---|---|
| 401 | CHECK 222: ONE OR MORE BIRTHS SINCE JAN. 1988 ☐ | NO BIRTHS SINCE JAN. 1988 ☐ → (SKIP TO 501) | | |
| 402 | ENTER THE LINE NUMBER, NAME, AND SURVIVAL STATUS OF EACH BIRTH SINCE JANUARY 1988 IN THE TABLE. ASK THE QUESTIONS ABOUT ALL OF THESE BIRTHS. BEGIN WITH THE LAST BIRTH. (IF THERE ARE MORE THAN 3 BIRTHS, USE ADDITIONAL FORMS).<br><br>Now I would like to ask you some more questions about the health of all your children born in the past 5 years. We will talk about one child at a time. | | | |
| | LINE NUMBER FROM Q. 212 | ☐☐ | ☐☐ | ☐☐ |
| | FROM Q. 212 AND Q. 216 | LAST BIRTH<br>NAME _____<br>ALIVE ☐ DEAD ☐ | NEXT-TO-LAST BIRTH<br>NAME _____<br>ALIVE ☐ DEAD ☐ | SECOND-FROM-LAST BIRTH<br>NAME _____<br>ALIVE ☐ DEAD ☐ |
| 403 | At the time you became pregnant with (NAME), did you want to become pregnant then, did you want to wait until later or did you want no (more) children at all? | THEN.....1 (SKIP TO 405)<br>LATER.....2<br>NO MORE.....3 (SKIP TO 405) | THEN.....1 (SKIP TO 405)<br>LATER.....2<br>NO MORE.....3 (SKIP TO 405) | THEN.....1 (SKIP TO 405)<br>LATER.....2<br>NO MORE.....3 (SKIP TO 405) |
| 404 | How much longer would you like to have waited? | MONTHS.....1 ☐☐<br>YEARS.....2 ☐☐<br>DOES NOT KNOW.....998 | MONTHS.....1 ☐☐<br>YEARS.....2 ☐☐<br>DOES NOT KNOW.....998 | MONTHS.....1 ☐☐<br>YEARS.....2 ☐☐<br>DOES NOT KNOW.....998 |
| 405 | When you were pregnant with (NAME), did you see anyone for antenatal care for this pregnancy?<br><br>IF YES, Whom did you see? Anyone else?<br><br>RECORD ALL PERSONS SEEN. | HEALTH PROFESSIONAL<br>DOCTOR.....A<br>NURSE/MIDWIFE.....B<br>OTHER PERSON<br>TRAINED TRADITIONAL BIRTH ATTENDANT.....C<br>UNTRAINED TRADITIONAL BIRTH ATTENDANT.....D<br>OTHER_____E (SPECIFY)<br>NO ONE.....F (SKIP TO 409) | HEALTH PROFESSIONAL<br>DOCTOR.....A<br>NURSE/MIDWIFE.....B<br>OTHER PERSON<br>TRAINED TRADITIONAL BIRTH ATTENDANT.....C<br>UNTRAINED TRADITIONAL BIRTH ATTENDANT.....D<br>OTHER_____E (SPECIFY)<br>NO ONE.....F (SKIP TO 409) | HEALTH PROFESSIONAL<br>DOCTOR.....A<br>NURSE/MIDWIFE.....B<br>OTHER PERSON<br>TRAINED TRADITIONAL BIRTH ATTENDANT.....C<br>UNTRAINED TRADITIONAL BIRTH ATTENDANT.....D<br>OTHER_____E (SPECIFY)<br>NO ONE.....F (SKIP TO 409) |
| 406 | Were you given an antenatal card for this pregnancy? | YES.....1<br>NO.....2<br>DOES NOT KNOW.....8 | YES.....1<br>NO.....2<br>DOES NOT KNOW.....8 | YES.....1<br>NO.....2<br>DOES NOT KNOW.....8 |
| 407 | How many months pregnant were you when you first saw someone for an antenatal check on this pregnancy? | MONTHS..... ☐☐<br>DOES NOT KNOW.....98 | MONTHS..... ☐☐<br>DOES NOT KNOW.....98 | MONTHS..... ☐☐<br>DOES NOT KNOW.....98 |
| 408 | How many antenatal visits did you have during this pregnancy? | NO. OF VISITS... ☐☐<br>DOES NOT KNOW.....98 | NO. OF VISITS... ☐☐<br>DOES NOT KNOW.....98 | NO. OF VISITS... ☐☐<br>DOES NOT KNOW.....98 |
| 409 | When you were pregnant with (NAME) were you given an injection in the arm to prevent the baby from getting tetanus, that is, convulsions after birth? | YES.....1<br>NO.....2 (SKIP TO 411)<br>DOES NOT KNOW.....8 | YES.....1<br>NO.....2 (SKIP TO 411)<br>DOES NOT KNOW.....8 | YES.....1<br>NO.....2 (SKIP TO 411)<br>DOES NOT KNOW.....8 |
| 410 | During this pregnancy how many times did you get this injection? | TIMES..... ☐<br>DOES NOT KNOW.....8 | TIMES..... ☐<br>DOES NOT KNOW.....8 | TIMES..... ☐<br>DOES NOT KNOW.....8 |

| | | LAST BIRTH<br>NAME | NEXT-TO-LAST BIRTH<br>NAME | SECOND-FROM-LAST BIRTH<br>NAME |
|---|---|---|---|---|
| 411 | Where did you give birth to (NAME)? | HER HOME, OTHER HOME...11<br>GOVERNMENT HOSPITAL/<br>HLTH CENT./MATERNITY.21<br>PRIVATE SECTOR<br>MISSION HOSP/CLINIC..31<br>PRIVATE HOSP./CLINIC.32<br>OTHER_____41<br>(SPECIFY) | HER HOME, OTHER HOME...11<br>GOVERNMENT HOSPITAL/<br>HLTH CENT./MATERNITY.21<br>PRIVATE SECTOR<br>MISSION HOSP/CLINIC..31<br>PRIVATE HOSP./CLINIC.32<br>OTHER_____41<br>(SPECIFY) | HER HOME, OTHER HOME...11<br>GOVERNMENT HOSPITAL/<br>HLTH CENT./MATERNITY.21<br>PRIVATE SECTOR<br>MISSION HOSP/CLINIC..31<br>PRIVATE HOSP./CLINIC.32<br>OTHER_____41<br>(SPECIFY) |
| 412 | Who assisted with the delivery of (NAME)?<br><br>Anyone else?<br><br>PROBE FOR THE TYPE OF PERSON AND RECORD ALL PERSONS ASSISTING. | HEALTH PROFESSIONAL<br>DOCTOR.....A<br>NURSE/MIDWIFE.....B<br>OTHER PERSON<br>TRAINED TRADITIONAL<br>BIRTH ATTENDANT.....C<br>UNTRAINED TRADITIONAL<br>BIRTH ATTENDANT.....D<br>RELATIVE/FRIEND.....E<br>OTHER_____F<br>(SPECIFY)<br>NO ONE.....G | HEALTH PROFESSIONAL<br>DOCTOR.....A<br>NURSE/MIDWIFE.....B<br>OTHER PERSON<br>TRAINED TRADITIONAL<br>BIRTH ATTENDANT.....C<br>UNTRAINED TRADITIONAL<br>BIRTH ATTENDANT.....D<br>RELATIVE/FRIEND.....E<br>OTHER_____F<br>(SPECIFY)<br>NO ONE.....G | HEALTH PROFESSIONAL<br>DOCTOR.....A<br>NURSE/MIDWIFE.....B<br>OTHER PERSON<br>TRAINED TRADITIONAL<br>BIRTH ATTENDANT.....C<br>UNTRAINED TRADITIONAL<br>BIRTH ATTENDANT.....D<br>RELATIVE/FRIEND.....E<br>OTHER_____F<br>(SPECIFY)<br>NO ONE.....G |
| 413 | Was (NAME) born on time or prematurely? | ON TIME.....1<br>PREMATURELY.....2<br>DOES NOT KNOW.....8 | ON TIME.....1<br>PREMATURELY.....2<br>DOES NOT KNOW.....8 | ON TIME.....1<br>PREMATURELY.....2<br>DOES NOT KNOW.....8 |
| 414 | Was (NAME) delivered by caesarian section? | YES.....1<br>NO.....2 | YES.....1<br>NO.....2 | YES.....1<br>NO.....2 |
| 415 | When (NAME) was born, was he/she:<br>very large,<br>large,<br>average,<br>small,<br>or very small? | VERY LARGE.....1<br>LARGE.....2<br>AVERAGE.....3<br>SMALL.....4<br>VERY SMALL.....5<br>DOES NOT KNOW.....8 | VERY LARGE.....1<br>LARGE.....2<br>AVERAGE.....3<br>SMALL.....4<br>VERY SMALL.....5<br>DOES NOT KNOW.....8 | VERY LARGE.....1<br>LARGE.....2<br>AVERAGE.....3<br>SMALL.....4<br>VERY SMALL.....5<br>DOES NOT KNOW.....8 |
| 416 | Was (NAME) weighed at birth? | YES.....1<br>NO.....2<br>(SKIP TO 418) | YES.....1<br>NO.....2<br>(SKIP TO 419) | YES.....1<br>NO.....2<br>(SKIP TO 419) |
| 417 | How much did (NAME) weigh? | KILOGRAMS..... [ ][ ].[ ]<br>DOES NOT KNOW.....98 | KILOGRAMS..... [ ][ ].[ ]<br>DOES NOT KNOW.....98 | KILOGRAMS..... [ ][ ].[ ]<br>DOES NOT KNOW.....98 |
| 418 | Has your period returned since the birth of (NAME)? | YES .....1<br>(SKIP TO 420)<br>NO.....2<br>(SKIP TO 421 ) | | |
| 419 | Did your period return between the birth of (NAME) and your next pregnancy? | | YES .....1<br>NO.....2<br>(SKIP TO 423 ) | YES .....1<br>NO.....2<br>(SKIP TO 423 ) |
| 420 | For how many months after the birth of (NAME) did you not have a period? | MONTHS..... [ ][ ]<br>DOES NOT KNOW.....98 | MONTHS..... [ ][ ]<br>DOES NOT KNOW.....98 | MONTHS..... [ ][ ]<br>DOES NOT KNOW.....98 |
| 421 | CHECK 223:<br><br>RESPONDENT PREGNANT? | NOT PREGNANT [ ]<br>PREGNANT OR UNSURE [ ]<br>(SKIP TO 423) | | |
| 422 | Have you resumed sexual relations since the birth of (NAME)? | YES.....1<br>NO.....2<br>(SKIP TO 424) | | |
| 423 | For how many months after the birth of (NAME) did you not have sexual relations? | MONTHS..... [ ][ ]<br>DOES NOT KNOW.....98 | MONTHS..... [ ][ ]<br>DOES NOT KNOW.....98 | MONTHS..... [ ][ ]<br>DOES NOT KNOW.....98 |

| | | LAST BIRTH<br>NAME | NEXT-TO-LAST BIRTH<br>NAME | SECOND-FROM-LAST BIRTH<br>NAME |
|---|---|---|---|---|
| 424 | Did you ever breastfeed (NAME)? | YES.....1<br>(SKIP TO 426)<br>NO.....2 | YES.....1<br>(SKIP TO 433)<br>NO.....2 | YES.....1<br>(SKIP TO 433)<br>NO.....2 |
| 425 | Why did you not breastfeed (NAME)? | MOTHER ILL/WEAK.....01<br>CHILD ILL/WEAK.....02<br>CHILD DIED.....03<br>NIPPLE/BREAST PROBLEM.04<br>INSUFFICIENT MILK.....05<br>MOTHER WORKING.....06<br>CHILD REFUSED.....07<br>OTHER_____08<br>(SPECIFY)<br>(SKIP TO 435) | MOTHER ILL/WEAK.....01<br>CHILD ILL/WEAK.....02<br>CHILD DIED.....03<br>NIPPLE/BREAST PROBLEM.04<br>INSUFFICIENT MILK.....05<br>MOTHER WORKING.....06<br>CHILD REFUSED.....07<br>OTHER_____08<br>(SPECIFY)<br>(SKIP TO 435) | MOTHER ILL/WEAK.....01<br>CHILD ILL/WEAK.....02<br>CHILD DIED.....03<br>NIPPLE/BREAST PROBLEM.04<br>INSUFFICIENT MILK.....05<br>MOTHER WORKING.....06<br>CHILD REFUSED.....07<br>OTHER_____08<br>(SPECIFY)<br>(SKIP TO 435) |
| 426 | How long after birth did you first put (NAME) to the breast?<br><br>IF LESS THAN 1 HOUR, RECORD '00' HOURS.<br>IF LESS THAN 24 HOURS, RECORD HOURS.<br>OTHERWISE, RECORD DAYS. | IMMEDIATELY.....000<br>HOURS.....1 [ ][ ]<br>DAYS.....2 [ ][ ] | | |
| 427 | CHECK 216:<br><br>CHILD ALIVE? | ALIVE [ ] DEAD [ ] (SKIP TO 433) | | |
| 428 | Are you still breast-feeding (NAME)? | YES.....1<br>NO.....2<br>(SKIP TO 433) | | |
| 429 | How many times did you breastfeed last night between sunset and sunrise?<br><br>IF ANSWER IS NOT NUMERIC, PROBE FOR APPROXIMATE NUMBER | NUMBER OF NIGHTTIME FEEDINGS [ ][ ] | | |
| 430 | How many times did you breastfeed yesterday during the daylight hours?<br><br>IF ANSWER IS NOT NUMERIC, PROBE FOR APPROXIMATE NUMBER | NUMBER OF DAYLIGHT FEEDINGS [ ][ ] | | |
| 431 | At any time yesterday or last night was (NAME) given any of the following?:<br><br>Plain water?<br>Sugar water?<br>Juice?<br>Baby formula?<br>Fresh milk?<br>Tinned or powdered milk?<br>Other liquids?<br>Porridge, uji?<br>Other solid or mushy food? | YES NO<br>PLAIN WATER.....1 2<br>SUGAR WATER.....1 2<br>JUICE.....1 2<br>BABY FORMULA.....1 2<br>FRESH MILK.....1 2<br>TINNED/POWDRD.MILK.1 2<br>OTHER LIQUIDS.....1 2<br>PORRIDGE, UJI.....1 2<br>SOLID/MUSHY FOOD...1 2 | | |
| 432 | CHECK 431:<br>FOOD OR LIQUID GIVEN YESTERDAY? | "YES" TO ONE OR MORE [ ] (SKIP TO 437)<br>"NO" TO ALL [ ] (SKIP TO 436) | | |

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| | | LAST BIRTH<br>NAME _____ | NEXT-TO-LAST BIRTH<br>NAME _____ | SECOND-FROM-LAST BIRTH<br>NAME _____ |
|---|---|---|---|---|
| 433 | For how many months did you breastfeed (NAME)? | MONTHS..... [ ][ ]<br>UNTIL DIED.....96<br>(SKIP TO 436) | MONTHS..... [ ][ ]<br>UNTIL DIED.....96<br>(SKIP TO 436) | MONTHS..... [ ][ ]<br>UNTIL DIED.....96<br>(SKIP TO 436) |
| 434 | Why did you stop breastfeeding (NAME)? | MOTHER ILL/WEAK.....01<br>CHILD ILL/WEAK.....02<br>CHILD DIED.....03<br>NIPPLE/BREAST PROBLEM.04<br>INSUFFICIENT MILK.....05<br>MOTHER WORKING.....06<br>CHILD REFUSED.....07<br>WEANING AGE.....08<br>BECAME PREGNANT.....09<br>STARTED USING CONTRACEPTION.....10<br>OTHER _____ 11<br>(SPECIFY) | MOTHER ILL/WEAK.....01<br>CHILD ILL/WEAK.....02<br>CHILD DIED.....03<br>NIPPLE/BREAST PROBLEM.04<br>INSUFFICIENT MILK.....05<br>MOTHER WORKING.....06<br>CHILD REFUSED.....07<br>WEANING AGE.....08<br>BECAME PREGNANT.....09<br>STARTED USING CONTRACEPTION.....10<br>OTHER _____ 11<br>(SPECIFY) | MOTHER ILL/WEAK.....01<br>CHILD ILL/WEAK.....02<br>CHILD DIED.....03<br>NIPPLE/BREAST PROBLEM.04<br>INSUFFICIENT MILK.....05<br>MOTHER WORKING.....06<br>CHILD REFUSED.....07<br>WEANING AGE.....08<br>BECAME PREGNANT.....09<br>STARTED USING CONTRACEPTION.....10<br>OTHER _____ 11<br>(SPECIFY) |
| 435 | CHECK 216:<br>CHILD ALIVE? | ALIVE [ ] DEAD [ ]<br>(SKIP TO 437) | ALIVE [ ] DEAD [ ]<br>(SKIP TO 437) | ALIVE [ ] DEAD [ ]<br>(SKIP TO 437) |
| 436 | Was (NAME) ever given water or anything else to drink or eat (other than breastmilk)? | YES.....1<br>NO.....2<br>(SKIP TO 440) | YES.....1<br>NO.....2<br>(SKIP TO 440) | YES.....1<br>NO.....2<br>(SKIP TO 440) |
| 437 | How many months old was (NAME) when you started giving the following on a regular basis?: | | | |
| | Formula or milk other than breastmilk? | AGE IN MONTHS... [ ][ ]<br>NOT GIVEN.....96 | AGE IN MONTHS... [ ][ ]<br>NOT GIVEN.....96 | AGE IN MONTHS... [ ][ ]<br>NOT GIVEN.....96 |
| | Plain water? | AGE IN MONTHS... [ ][ ]<br>NOT GIVEN.....96 | AGE IN MONTHS... [ ][ ]<br>NOT GIVEN.....96 | AGE IN MONTHS... [ ][ ]<br>NOT GIVEN.....96 |
| | Other liquids? | AGE IN MONTHS... [ ][ ]<br>NOT GIVEN.....96 | AGE IN MONTHS... [ ][ ]<br>NOT GIVEN.....96 | AGE IN MONTHS... [ ][ ]<br>NOT GIVEN.....96 |
| | Porridge or uji? | AGE IN MONTHS... [ ][ ]<br>NOT GIVEN.....96 | AGE IN MONTHS... [ ][ ]<br>NOT GIVEN.....96 | AGE IN MONTHS... [ ][ ]<br>NOT GIVEN.....96 |
| | Any solid or mushy food? | AGE IN MONTHS... [ ][ ]<br>NOT GIVEN.....96 | AGE IN MONTHS... [ ][ ]<br>NOT GIVEN.....96 | AGE IN MONTHS... [ ][ ]<br>NOT GIVEN.....96 |
| | IF LESS THAN 1 MONTH, WRITE '00' | | (SKIP TO 440) | (SKIP TO 440) |
| 438 | CHECK 216:<br>CHILD ALIVE? | ALIVE [ ] DEAD [ ] (SKIP TO 440) | | |
| 439 | Did (NAME) drink anything from a bottle with a nipple yesterday or last night? | YES.....1<br>NO.....2<br>DOES NOT KNOW.....8 | | |
| 440 | GO BACK TO 403 FOR NEXT BIRTH; OR, IF NO MORE BIRTHS, GO TO FIRST COLUMN OF 441 | | | |

## SECTION 4B. IMMUNISATION AND HEALTH

**441** ENTER THE LINE NUMBER AND NAME OF EACH BIRTH SINCE JANUARY 1988 IN THE TABLE. ASK THE QUESTIONS ABOUT ALL OF THESE BIRTHS. BEGIN WITH THE LAST BIRTH. (IF THERE ARE MORE THAN 3 BIRTHS, USE ADDITIONAL FORMS).

LINE NUMBER FROM Q. 212

| | LAST BIRTH | NEXT-TO-LAST BIRTH | SECOND-FROM-LAST BIRTH |
|---|---|---|---|
| | NAME _____ | NAME _____ | NAME _____ |
| | ALIVE ☐ DEAD ☐ | ALIVE ☐ DEAD ☐ | ALIVE ☐ DEAD ☐ |
| **442** Do you have a health card where (NAME'S) vaccinations are written down? IF YES: May I see it, please? | YES, SEEN.....1 (SKIP TO 444) YES, NOT SEEN.....2 (SKIP TO 446) NO CARD.....3 | YES, SEEN.....1 (SKIP TO 444) YES, NOT SEEN.....2 (SKIP TO 446) NO CARD.....3 | YES, SEEN.....1 (SKIP TO 444) YES, NOT SEEN.....2 (SKIP TO 446) NO CARD.....3 |
| **443** Did you ever have a vaccination card for (NAME)? | YES.....1 (SKIP TO 446) NO.....2 | YES.....1 (SKIP TO 446) NO.....2 | YES.....1 (SKIP TO 446) NO.....2 |

**444** (1) COPY VACCINATION DATES FOR EACH VACCINE FROM THE CARD.
(2) WRITE '44' IN 'DAY' COLUMN IF CARD SHOWS THAT A VACCINE WAS GIVEN BUT NO DATE WAS RECORDED.

| | | DAY | MONTH | YEAR | DAY | MONTH | YEAR | DAY | MONTH | YEAR |
|---|---|---|---|---|---|---|---|---|---|---|
| TUBERCULOSIS (BCG) | BCG | | | | BCG | | | BCG | | |
| DPT 1st DOSE | D1 | | | | D1 | | | D1 | | |
| DPT 2nd DOSE | D2 | | | | D2 | | | D2 | | |
| DPT 3rd DOSE | D3 | | | | D3 | | | D3 | | |
| POLIO-BIRTH DOSE | P0 | | | | P0 | | | P0 | | |
| POLIO-1st DOSE | P1 | | | | P1 | | | P1 | | |
| POLIO-2nd DOSE | P2 | | | | P2 | | | P2 | | |
| POLIO-3rd DOSE | P3 | | | | P3 | | | P3 | | |
| MEASLES | MEA | | | | MEA | | | MEA | | |

| | | | |
|---|---|---|---|
| **445** Has (NAME) received any vaccinations that are not recorded on this card? RECORD 'YES' ONLY IF RESPONDENT MENTIONS BCG, DPT 1-3, POLIO 0-3 AND/OR MEASLES VACCINE(S). | YES.....1 (PROBE FOR VACCINATIONS AND WRITE '66' IN THE CORRESPONDING DAY COLUMN IN 444) NO.....2 DK.....8 (SKIP TO 448) | YES.....1 (PROBE FOR VACCINATIONS AND WRITE '66' IN THE CORRESPONDING DAY COLUMN IN 444) NO.....2 DK.....8 (SKIP TO 448) | YES.....1 (PROBE FOR VACCINATIONS AND WRITE '66' IN THE CORRESPONDING DAY COLUMN IN 444) NO.....2 DK.....8 (SKIP TO 448) |
| **446** Did (NAME) ever receive any vaccinations to prevent him/her from getting diseases? | YES.....1 NO.....2 (SKIP TO 448) DOES NOT KNOW.....8 | YES.....1 NO.....2 (SKIP TO 448) DOES NOT KNOW.....8 | YES.....1 NO.....2 (SKIP TO 448) DOES NOT KNOW.....8 |
| **447** Please tell me if (NAME) (has) received any of the following vaccinations: | | | |
| A BCG vaccination against tuberculosis, that is, an injection in the left forearm that made a scar? | YES.....1 NO.....2 DOES NOT KNOW.....8 | YES.....1 NO.....2 DOES NOT KNOW.....8 | YES.....1 NO.....2 DOES NOT KNOW.....8 |
| Polio vaccine, that is, drops in the mouth? | YES.....1 NO.....2 DOES NOT KNOW.....8 | YES.....1 NO.....2 DOES NOT KNOW.....8 | YES.....1 NO.....2 DOES NOT KNOW.....8 |
| IF YES: How many times? | NUMBER OF TIMES..... ☐ | NUMBER OF TIMES..... ☐ | NUMBER OF TIMES..... ☐ |
| An injection against measles, that is, in the top part of the right arm? | YES.....1 NO.....2 DOES NOT KNOW.....8 | YES.....1 NO.....2 DOES NOT KNOW.....8 | YES.....1 NO.....2 DOES NOT KNOW.....8 |
| **448** CHECK 216: CHILD ALIVE? | ALIVE ☐ (SKIP TO 450) DEAD ☐ | ALIVE ☐ (SKIP TO 450) DEAD ☐ | ALIVE ☐ (SKIP TO 450) DEAD ☐ |

**449** GO BACK TO 442 FOR NEXT BIRTH; OR, IF NO MORE BIRTHS, SKIP TO 480.

| | | LAST BIRTH<br>NAME | NEXT-TO-LAST BIRTH<br>NAME | SECOND-FROM-LAST BIRTH<br>NAME |
|---|---|---|---|---|
| 450 | Has (NAME) been ill with a fever at any time in the last 2 weeks? | YES.....1<br>NO.....2<br>DOES NOT KNOW.....8 | YES.....1<br>NO.....2<br>DOES NOT KNOW.....8 | YES.....1<br>NO.....2<br>DOES NOT KNOW.....8 |
| 451 | Has (NAME) been ill with a cough at any time in the last 2 weeks? | YES.....1<br>NO.....2<br>(SKIP TO 455)<br>DOES NOT KNOW.....8 | YES.....1<br>NO.....2<br>(SKIP TO 455)<br>DOES NOT KNOW.....8 | YES.....1<br>NO.....2<br>(SKIP TO 455)<br>DOES NOT KNOW.....8 |
| 452 | Has (NAME) been ill with a cough in the last 24 hours? | YES.....1<br>NO.....2<br>DOES NOT KNOW.....8 | YES.....1<br>NO.....2<br>DOES NOT KNOW.....8 | YES.....1<br>NO.....2<br>DOES NOT KNOW.....8 |
| 453 | For how many days (has the cough lasted/did the cough last)?<br>IF LESS THAN 1 DAY, RECORD '00'. | DAYS..... [ ][ ] | DAYS..... [ ][ ] | DAYS..... [ ][ ] |
| 454 | When (NAME) had the illness with a cough, did he/she breathe faster than usual with short, rapid breaths? | YES.....1<br>NO.....2<br>DOES NOT KNOW.....8 | YES.....1<br>NO.....2<br>DOES NOT KNOW.....8 | YES.....1<br>NO.....2<br>DOES NOT KNOW.....8 |
| 455 | CHECK 450 AND 451:<br>FEVER OR COUGH? | "YES" IN EITHER 450 OR 451 [ ] ✓<br>[ ] OTHER → (SKIP TO 460) | "YES" IN EITHER 450 OR 451 [ ] ✓<br>[ ] OTHER → (SKIP TO 460) | "YES" IN EITHER 450 OR 451 [ ] ✓<br>[ ] OTHER → (SKIP TO 460) |
| 456 | Was anything given to treat the fever/cough? | YES.....1<br>NO.....2<br>(SKIP TO 458)<br>DOES NOT KNOW.....8 | YES.....1<br>NO.....2<br>(SKIP TO 458)<br>DOES NOT KNOW.....8 | YES.....1<br>NO.....2<br>(SKIP TO 458)<br>DOES NOT KNOW.....8 |
| 457 | What was given to treat the fever/cough?<br>Anything else?<br>RECORD ALL MENTIONED. | INJECTION.....A<br>ANTIBIOTIC PILL, SYRUP.B<br>ANTIMALARIAL PILL OR SYRUP.....C<br>COUGH SYRUP.....D<br>OTHER PILL OR SYRUP....E<br>HOME REMEDY/ HERBAL MEDICINE.....F<br>OTHER_____G<br>(SPECIFY) | INJECTION.....A<br>ANTIBIOTIC PILL, SYRUP.B<br>ANTIMALARIAL PILL OR SYRUP.....C<br>COUGH SYRUP.....D<br>OTHER PILL OR SYRUP....E<br>HOME REMEDY/ HERBAL MEDICINE.....F<br>OTHER_____G<br>(SPECIFY) | INJECTION.....A<br>ANTIBIOTIC PILL, SYRUP.B<br>ANTIMALARIAL PILL OR SYRUP.....C<br>COUGH SYRUP.....D<br>OTHER PILL OR SYRUP....E<br>HOME REMEDY/ HERBAL MEDICINE.....F<br>OTHER_____G<br>(SPECIFY) |
| 458 | Did you seek advice or treatment for the fever/cough? | YES.....1<br>NO.....2<br>(SKIP TO 460) | YES.....1<br>NO.....2<br>(SKIP TO 460) | YES.....1<br>NO.....2<br>(SKIP TO 460) |
| 459 | Where did you seek advice or treatment?<br>Anywhere else?<br>RECORD ALL MENTIONED. | PUBLIC SECTOR<br>GOVERNMENT HOSPITAL...A<br>GOVT.HEALTH CENTRE....B<br>GOVT. DISPENSARY.....C<br>MEDICAL PRIVATE SECTOR<br>MISSION,CHURCH HOSPITAL OR CLINIC..D<br>OTHER NON-GOVT.SERVIC.E<br>PVT. HOSPITAL/CLINIC..F<br>PHARMACY.....G<br>PRIVATE DOCTOR.....H<br>MOBILE CLINIC.....I<br>COMMUNITY HLTH WORKER...J<br>OTHER PRIVATE SECTOR<br>SHOP.....K<br>HERBALIST.....L<br>RELATIVE/FRIEND.....M<br>OTHER_____N<br>(SPECIFY) | PUBLIC SECTOR<br>GOVERNMENT HOSPITAL...A<br>GOVT.HEALTH CENTRE....B<br>GOVT. DISPENSARY.....C<br>MEDICAL PRIVATE SECTOR<br>MISSION,CHURCH HOSPITAL OR CLINIC..D<br>OTHER NON-GOVT.SERVIC.E<br>PVT. HOSPITAL/CLINIC..F<br>PHARMACY.....G<br>PRIVATE DOCTOR.....H<br>MOBILE CLINIC.....I<br>COMMUNITY HLTH WORKER...J<br>OTHER PRIVATE SECTOR<br>SHOP.....K<br>HERBALIST.....L<br>RELATIVE/FRIEND.....M<br>OTHER_____N<br>(SPECIFY) | PUBLIC SECTOR<br>GOVERNMENT HOSPITAL...A<br>GOVT.HEALTH CENTRE....B<br>GOVT. DISPENSARY.....C<br>MEDICAL PRIVATE SECTOR<br>MISSION,CHURCH HOSPITAL OR CLINIC..D<br>OTHER NON-GOVT.SERVIC.E<br>PVT. HOSPITAL/CLINIC..F<br>PHARMACY.....G<br>PRIVATE DOCTOR.....H<br>MOBILE CLINIC.....I<br>COMMUNITY HLTH WORKER...J<br>OTHER PRIVATE SECTOR<br>SHOP.....K<br>HERBALIST.....L<br>RELATIVE/FRIEND.....M<br>OTHER_____N<br>(SPECIFY) |

| | | LAST BIRTH<br>NAME | NEXT-TO-LAST BIRTH<br>NAME | SECOND-FROM-LAST BIRTH<br>NAME |
|---|---|---|---|---|
| 460 | Has (NAME) had diarrhoea in the last two weeks? | YES.....1<br>(SKIP TO 462)<br>NO.....2<br>DOES NOT KNOW.....8 | YES.....1<br>(SKIP TO 462)<br>NO.....2<br>DOES NOT KNOW.....8 | YES.....1<br>(SKIP TO 462)<br>NO.....2<br>DOES NOT KNOW.....8 |
| 461 | GO BACK TO 442 FOR NEXT BIRTH OR, IF NO MORE BIRTHS, SKIP TO 480 | | | |
| 462 | Has (NAME) had diarrhoea in the last 24 hours? | YES.....1<br>NO.....2<br>DOES NOT KNOW.....8 | YES.....1<br>NO.....2<br>DOES NOT KNOW.....8 | YES.....1<br>NO.....2<br>DOES NOT KNOW.....8 |
| 463 | For how many days (has the diarrhoea lasted/did the diarrhoea last)? | DAYS..... [ ][ ] | DAYS..... [ ][ ] | DAYS..... [ ][ ] |
| 463A | How many stools did (NAME) have on the worst day of the diarrhoea? | NUMBER OF STOOLS [ ][ ] | NUMBER OF STOOLS [ ][ ] | NUMBER OF STOOLS [ ][ ] |
| 464 | Was there any blood in the stools? | YES.....1<br>NO.....2<br>DOES NOT KNOW.....8 | YES.....1<br>NO.....2<br>DOES NOT KNOW.....8<br>(SKIP TO 468) | YES.....1<br>NO.....2<br>DOES NOT KNOW.....8<br>(SKIP TO 468) |
| 465 | CHECK 424/428:<br>LAST CHILD STILL BREASTFED? | YES [ ] NO [ ] (SKIP TO 468) | | |
| 466 | During (NAME)'s diarrhoea, did you change the frequency of breastfeeding? | YES.....1<br>NO.....2<br>(SKIP TO 468) | | |
| 467 | Did you increase the number of breastfeeds, reduce them or did you stop completely? | INCREASED.....1<br>REDUCED.....2<br>STOPPED COMPLETELY.....3 | | |
| 468 | (Aside from breastmilk) Was he/she given the same amount to drink as before the diarrhoea, or more, or less? | SAME.....1<br>MORE.....2<br>LESS.....3<br>DOES NOT KNOW.....8 | SAME.....1<br>MORE.....2<br>LESS.....3<br>DOES NOT KNOW.....8 | SAME.....1<br>MORE.....2<br>LESS.....3<br>DOES NOT KNOW.....8 |
| 469 | Was anything given to treat the diarrhoea? | YES.....1<br>NO.....2<br>(SKIP TO 471)<br>DOES NOT KNOW.....8 | YES.....1<br>NO.....2<br>(SKIP TO 471)<br>DOES NOT KNOW.....8 | YES.....1<br>NO.....2<br>(SKIP TO 471)<br>DOES NOT KNOW.....8 |
| 470 | What was given to treat the diarrhoea?<br><br>Anything else?<br><br>RECORD ALL MENTIONED. | FLUID FROM ORS PACKET..A<br>ANTIBIOTIC PILL, SYRUP.B<br>OTHER PILL OR SYRUP....C<br>INJECTION.....D<br>I.V. (INTRAVENOUS).....E<br>HOME REMEDY OR HERBS...F<br>OTHER _____ G<br>(SPECIFY) | FLUID FROM ORS PACKET..A<br>ANTIBIOTIC PILL, SYRUP.B<br>OTHER PILL OR SYRUP....C<br>INJECTION.....D<br>I.V. (INTRAVENOUS).....E<br>HOME REMEDY OR HERBS...F<br>OTHER _____ G<br>(SPECIFY) | FLUID FROM ORS PACKET..A<br>ANTIBIOTIC PILL, SYRUP.B<br>OTHER PILL OR SYRUP....C<br>INJECTION.....D<br>I.V. (INTRAVENOUS).....E<br>HOME REMEDY OR HERBS...F<br>OTHER _____ G<br>(SPECIFY) |
| 471 | Did you seek advice or treatment for the diarrhoea? | YES.....1<br>NO.....2<br>(SKIP TO 473) | YES.....1<br>NO.....2<br>(SKIP TO 473) | YES.....1<br>NO.....2<br>(SKIP TO 473) |
| 472 | Where did you seek advice or treatment?<br><br>Anywhere else?<br><br>RECORD ALL MENTIONED. | PUBLIC SECTOR<br>GOVERNMENT HOSPITAL...A<br>GOVT.HEALTH CENTRE....B<br>GOVT. DISPENSARY.....C<br>MEDICAL PRIVATE SECTOR<br>MISSION,CHURCH<br>HOSPITAL OR CLINIC..D<br>OTHER NON-GOVT.SERVIC.E<br>PVT. HOSPITAL/CLINIC..F<br>PHARMACY.....G<br>PRIVATE DOCTOR.....H<br>MOBILE CLINIC.....I<br>COMMUNITY HLTH WORKER...J<br>OTHER PRIVATE SECTOR<br>SHOP.....K<br>HERBALIST.....L<br>RELATIVE/FRIEND.....M<br>OTHER _____ N<br>(SPECIFY) | PUBLIC SECTOR<br>GOVERNMENT HOSPITAL...A<br>GOVT.HEALTH CENTRE....B<br>GOVT. DISPENSARY.....C<br>MEDICAL PRIVATE SECTOR<br>MISSION,CHURCH<br>HOSPITAL OR CLINIC..D<br>OTHER NON-GOVT.SERVIC.E<br>PVT. HOSPITAL/CLINIC..F<br>PHARMACY.....G<br>PRIVATE DOCTOR.....H<br>MOBILE CLINIC.....I<br>COMMUNITY HLTH WORKER...J<br>OTHER PRIVATE SECTOR<br>SHOP.....K<br>HERBALIST.....L<br>RELATIVE/FRIEND.....M<br>OTHER _____ N<br>(SPECIFY) | PUBLIC SECTOR<br>GOVERNMENT HOSPITAL...A<br>GOVT.HEALTH CENTRE....B<br>GOVT. DISPENSARY.....C<br>MEDICAL PRIVATE SECTOR<br>MISSION,CHURCH<br>HOSPITAL OR CLINIC..D<br>OTHER NON-GOVT.SERVIC.E<br>PVT. HOSPITAL/CLINIC..F<br>PHARMACY.....G<br>PRIVATE DOCTOR.....H<br>MOBILE CLINIC.....I<br>COMMUNITY HLTH WORKER...J<br>OTHER PRIVATE SECTOR<br>SHOP.....K<br>HERBALIST.....L<br>RELATIVE/FRIEND.....M<br>OTHER _____ N<br>(SPECIFY) |

| | | LAST BIRTH<br>NAME | NEXT-TO-LAST BIRTH<br>NAME | SECOND-FROM-LAST BIRTH<br>NAME |
|---|---|---|---|---|
| 473 | CHECK 470:<br><br>ORS FLUID FROM PACKET MENTIONED? | NO, ORS FLUID NOT MENTIONED ☐<br>YES, ORS FLUID MENTIONED ☐ (SKIP TO 475) | NO, ORS FLUID NOT MENTIONED ☐<br>YES, ORS FLUID MENTIONED ☐ (SKIP TO 475) | NO, ORS FLUID NOT MENTIONED ☐<br>YES, ORS FLUID MENTIONED ☐ (SKIP TO 475) |
| 474 | Was (NAME) given water mixed with Oralite or ORS sachet when he/she had the diarrhoea? | YES.....1<br>NO.....2 (SKIP TO 479)<br>DOES NOT KNOW.....8 | YES.....1<br>NO.....2 (SKIP TO 479)<br>DOES NOT KNOW.....8 | YES.....1<br>NO.....2 (SKIP TO 479)<br>DOES NOT KNOW.....8 |
| 475 | For how many days was (NAME) given the Oralite/ORS?<br><br>IF LESS THAN 1 DAY, WRITE 00 | DAYS..... ☐☐<br>DOES NOT KNOW.....98 | DAYS..... ☐☐<br>DOES NOT KNOW.....98 | DAYS..... ☐☐<br>DOES NOT KNOW.....98 |
| 479 | GO BACK TO 442 FOR NEXT BIRTH; OR, IF NO MORE BIRTHS, GO TO 480 | | | |

| NO. | QUESTIONS AND FILTERS | CODING CATEGORIES | SKIP TO |
|---|---|---|---|
| 480 | CHECK 470 AND 474 (ALL COLUMNS):<br><br>ORS FLUID FROM SACHET GIVEN TO ANY CHILD ☐ | ORS FLUID FROM SACHET NOT GIVEN TO ANY CHILD OR 470 AND 474 NOT ASKED ☐ | →484 |
| 481 | Have you ever heard of a special product called ORS or Oralite you can get for the treatment of diarrhoea? | YES.....1<br>NO.....2 | →483 |
| 482 | Have you ever seen a sachet like this before?<br><br>SHOW SACHETS. | YES.....1<br>NO.....2 | →501 |
| 483 | Have you ever prepared a solution with one of these sachets to treat diarrhoea in yourself or someone else? SHOW SACHETS. | YES.....1<br>NO.....2 | →486 |
| 484 | The last time you prepared Oralite (ORS), did you prepare the whole sachet at once or only part of the sachet? | WHOLE SACHET AT ONCE.....1<br>PART OF SACHET.....2 | →486 |
| 485 | What container did you use to measure the water the last time you made Oralite (ORS)? | SMALL KIMBO (1/2 KG).....01<br>LARGE KIMBO (1 KG).....02<br>BEER BOTTLE (TUSKER).....03<br>BEER BOTTLE (PREMIUM).....04<br>TREETOP BOTTLE (750 ML).....05<br>SODA BOTTLE (250 ML).....06<br>TEACUP.....07<br>GLASS.....08<br>OTHER_____09<br>(SPECIFY) | |
| 485A | How many of these containers did you mix with the contents of the ORS sachet? | NUMBER OF CONTAINERS..... ☐ | |
| 486 | Where can you get Oralite/ORS sachets?<br><br>PROBE: Anywhere else?<br><br>RECORD ALL PLACES MENTIONED. | PUBLIC SECTOR<br>GOVERNMENT HOSPITAL.....A<br>GOVERNMENT HEALTH CENTRE.....B<br>GOVERNMENT DISPENSARY.....C<br>MEDICAL PRIVATE SECTOR<br>MISSION,CHURCH HOSPITAL,CLINIC.D<br>OTHER NON-GOVERNMENTAL SERVICE.E<br>PRIVATE HOSPITAL/CLINIC.....F<br>PHARMACY.....G<br>PRIVATE DOCTOR.....H<br>MOBILE CLINIC.....I<br>COMMUNITY HLTH WORKER.....J<br>OTHER PRIVATE SECTOR<br>SHOP.....K<br>HERBALIST.....L<br>RELATIVE/FRIEND.....M<br>OTHER_____N<br>(SPECIFY) | |

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SECTION 5. MARRIAGE

| NO. | QUESTIONS AND FILTERS | CODING CATEGORIES | SKIP TO |
|---|---|---|---|
| 501 | Now we come to matters of marriage. Have you ever been married or lived with a man? | YES.....1<br>NO.....2 | →512 |
| 502 | Are you now married or living with a man, or are you now widowed, divorced, or no longer living together? | MARRIED.....1<br>LIVING TOGETHER.....2<br>WIDOWED.....3<br>DIVORCED.....4<br>NO LONGER LIVING TOGETHER.....5 | →507 |
| 503 | Does your husband/partner usually live with you or does he usually stay somewhere else? | LIVES WITH HER.....1<br>STAYS SOMEWHERE ELSE.....2 | →504 |
| 503A | Where does he usually stay? | WITHIN SAME DISTRICT.....1<br>NAIROBI.....2<br>MOMBASA.....3<br>OUTSIDE DISTRICT.....4<br>DOES NOT KNOW.....8 | |
| 504 | Does your husband/partner have any other wives besides yourself? | YES.....1<br>NO.....2 | →507 |
| 505 | How many other wives/partners does he have? | NUMBER..... [ ][ ]<br>DOES NOT KNOW.....98 | |
| 507 | Have you been married or lived with a man only once, or more than once? | ONCE.....1<br>MORE THAN ONCE.....2 | |
| 508 | In what month and year did you start living with your (first) husband/partner? | MONTH..... [ ][ ]<br>DOES NOT KNOW MONTH.....98<br>YEAR..... [ ][ ]<br>DOES NOT KNOW YEAR.....98 | |
| 509 | How old were you when you started living with him? | AGE..... [ ][ ]<br>DOES NOT KNOW AGE.....98 | |
| 510 | CHECK 508 AND 509: YEAR AND AGE GIVEN?<br>YES [ ] NO [ ] | | →513 |
| 511 | CHECK CONSISTENCY OF 508 AND 509:<br>YEAR OF BIRTH (105) [ ][ ]<br>PLUS +<br>AGE AT MARRIAGE (509) [ ][ ]<br>=<br>CALCULATED YEAR OF MARRIAGE [ ][ ]<br>IF NECESSARY, CALCULATE YEAR OF BIRTH<br>CURRENT YEAR 9 3<br>MINUS -<br>CURRENT AGE (106) [ ][ ]<br>=<br>CALCULATED YEAR OF BIRTH [ ][ ]<br>IS THE CALCULATED YEAR OF MARRIAGE WITHIN ONE YEAR OF THE REPORTED YEAR OF MARRIAGE (508) ?<br>YES [ ] (SKIP TO 513) NO [ ] | | →PROBE AND CORRECT 508 AND 509. |

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| NO. | QUESTIONS AND FILTERS | CODING CATEGORIES | SKIP TO |
|---|---|---|---|
| 512 | IF NEVER MARRIED OR LIVED WITH A MAN:<br>Have you ever had sexual intercourse? | YES.....1<br>NO.....2 | →520 |
| 513 | Now we need some details about your sexual activity in order to get a better understanding of family planning and fertility. How old were you when you first had sexual intercourse? | AGE..... [ ][ ]<br>FIRST TIME WHEN MARRIED.....96 | |
| 514 | In the last four weeks, on how many days did you have sexual intercourse?<br>IF NONE, WRITE '00'. | DAYS..... [ ][ ] | |
| 516 | How many different men have you had sexual intercourse within the last 6 months? IF 00, SKIP TO 518. | NUMBER OF MEN..... [ ][ ] | |
| 517 | Did you use a condom with any of these men? | YES.....1<br>NO.....2 | |
| 518 | How many different men have you had sexual intercourse with in your whole life? | NUMBER OF MEN..... [ ][ ] | |
| 519 | When was the last time you had sexual intercourse? | DAYS AGO.....1 [ ][ ]<br>WEEKS AGO.....2 [ ][ ]<br>MONTHS AGO.....3 [ ][ ]<br>YEARS AGO.....4 [ ][ ]<br>BEFORE LAST BIRTH.....996 | |
| 520 | Now I have a few questions about a very important topic. Have you heard of a disease called AIDS? | YES.....1<br>NO.....2 | →531 |
| 521 | From which sources of information or persons have you heard about AIDS in the last month?<br>Any others?<br>CIRCLE ALL MENTIONED. | RADIO.....A<br>TV.....B<br>NEWSPAPERS.....C<br>HEALTH WORKERS.....D<br>PRIESTS/PREACHERS/KADHIS.....E<br>HUSBAND.....F<br>FRIENDS/RELATIVES.....G<br>SCHOOLS.....H<br>BOOKLETS/PAMPHLETS/POSTERS.....I<br>BARAZAS.....J<br>OTHER_____K<br>(SPECIFY)<br>NONE.....L | |
| 522 | How is AIDS transmitted?<br>Any other ways?<br>DO NOT READ CODES. CIRCLE ALL MENTIONED. | SEXUAL INTERCOURSE.....A<br>SHAVING/RAZORS.....B<br>INJECTIONS.....C<br>CIRCUMCISION, TATTOOS.....D<br>MOTHER TO CHILD.....E<br>TRANSFUSION OF INFECTED BLOOD...F<br>OTHER_____G<br>(SPECIFY)<br>DOES NOT KNOW.....H | |

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| NO. | QUESTIONS AND FILTERS | CODING CATEGORIES | SKIP TO |
|---|---|---|---|
| 523 | Do you think that you can get AIDS from<br><br>shaking hands with someone who has AIDS?<br>kissing someone who has AIDS?<br>wearing the clothes of someone who has AIDS?<br>sharing eating utensils with someone who has AIDS?<br>touching someone who has died from AIDS?<br>mosquito, flea or bedbug bites? | YES NO DK<br><br>HANDSHAKING.....1 2 8<br>KISSING.....1 2 8<br>SHARING CLOTHES.....1 2 8<br>SHARING EATING UTENSILS....1 2 8<br>TOUCHING SOMEONE WHO DIED..1 2 8<br>MOSQUITO/FLEA/BEDBUG BITES.1 2 8 | |
| 524 | Is it possible for a healthy looking person to be infected with the AIDS virus? | YES.....1<br>NO.....2<br>DOES NOT KNOW.....8 | |
| 525 | Is it possible for a woman who has the AIDS virus to give birth to a child with the AIDS virus? | YES.....1<br>NO.....2<br>DOES NOT KNOW.....8 | |
| 526 | Can people protect themselves from getting AIDS or is there nothing that people can do? | CAN PROTECT THEMSELVES.....1<br>NOTHING THEY CAN DO.....2<br>DOES NOT KNOW.....8 | <br>→528<br>→528 |
| 527 | How can people protect themselves from getting AIDS?<br><br>DO NOT READ CODES TO RESPONDENT.<br><br>Any other ways?<br><br>CIRCLE ALL MENTIONED. | DO NOT HAVE SEX AT ALL.....A<br>LIMIT NUMBER OF SEXUAL PARTNERS.B<br>USE CONDOMS DURING SEX.....C<br>STERILIZE SYRINGES/NEEDLES.....D<br>AVOID PROSTITUTES.....E<br>OTHER_____F<br>(SPECIFY) | |
| 528 | Do you know anyone who has AIDS or anyone who has died from AIDS? | YES.....1<br>NO.....2 | |
| 529 | Do you think that you yourself can catch AIDS? | YES.....1<br>NO.....2<br>DOES NOT KNOW.....8 | <br>→531<br>→531 |
| 530 | How do you think you might catch AIDS? | FROM HUSBAND/PARTNER.....1<br>FROM NEEDLES/INJECTIONS.....2<br>FROM BLOOD TRANSFUSIONS.....3<br>OTHER_____4<br>(SPECIFY)<br>NOT SURE/DOES NOT KNOW.....8 | |
| 531 | PRESENCE OF OTHERS AT THIS POINT. | YES NO<br>CHILDREN UNDER 10.....1 2<br>HUSBAND.....1 2<br>OTHER MALES.....1 2<br>OTHER FEMALES.....1 2 | |

SECTION 6. FERTILITY PREFERENCES

| NO. | QUESTIONS AND FILTERS | CODING CATEGORIES | SKIP TO |
|---|---|---|---|
| 601 | CHECK 312:<br>NEITHER STERILISED ☐ ↓<br>HE OR SHE STERILISED ☐ | | →607 |
| 602 | CHECK 502:<br>CURRENTLY MARRIED OR LIVING TOGETHER ☐ ↓<br>NOT MARRIED/ NOT LIVING TOGETHER ☐ | | →614 |
| 603 | CHECK 223:<br>NOT PREGNANT OR UNSURE ☐ → 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?<br>PREGNANT ☐ → Now I have some questions about the future. After the child you are expecting, would you like to have another child or would you prefer not to have any more children? | HAVE A (ANOTHER) CHILD.....1<br>NO MORE/NONE.....2<br>SAYS SHE CAN'T GET PREGNANT.....3<br>UNDECIDED, DOES NOT KNOW.....8 | →610 |
| 604 | CHECK 223:<br>NOT PREGNANT OR UNSURE ☐ → How long would you like to wait from now before the birth of (a/another) child?<br>PREGNANT ☐ → How long would you like to wait after the birth of the child you are expecting before the birth of another child? | MONTHS.....1 ☐☐<br>YEARS.....2 ☐☐<br>SOON/NOW.....994<br>SAYS SHE CAN'T GET PREGNANT...995<br>OTHER _____ 996<br>(SPECIFY)<br>DOES NOT KNOW.....998 | →610 |
| 605 | CHECK 216 AND 223:<br>HAS LIVING CHILD(REN) OR PREGNANT?<br>YES ☐ ↓<br>NO ☐ | | →610 |
| 606 | CHECK 223:<br>NOT PREGNANT OR UNSURE ☐ → How old would you like your youngest child to be when your next child is born?<br>PREGNANT ☐ → How old would you like the child you are expecting to be when your next child is born? | AGE OF CHILD<br>YEARS..... ☐☐<br>DOES NOT KNOW.....98 | →610 |
| 607 | Would you recommend to a friend or relative in your circumstances to have an operation not to have any more children? | YES.....1<br>NO.....2 | →610 |
| 608 | Why not? | _____ ☐☐<br>_____ | |

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| NO. | QUESTIONS AND FILTERS | CODING CATEGORIES | SKIP TO |
|---|---|---|---|
| 610 | Do you think that your husband/partner approves or disapproves of couples using a method to avoid pregnancy? | APPROVES.....1<br>DISAPPROVES.....2<br>DOES NOT KNOW.....8 | |
| 610A | Have you ever talked to your husband/partner about household finances and economic matters such as the costs of children? | YES.....1<br>NO.....2 | |
| 611 | Have you ever talked to your husband/partner about family planning? | YES.....1<br>NO.....2 | →612 |
| 611A | How often have you talked to your husband/partner about family planning in the past year? | NEVER.....1<br>ONCE OR TWICE.....2<br>MORE OFTEN.....3 | |
| 612 | Have you and your husband/partner ever discussed the number of children you would like to have? | YES.....1<br>NO.....2 | |
| 613 | Do you think your husband/partner wants the <u>same</u> number of children that you want, or does he want <u>more</u> or <u>fewer</u> than you want? | SAME NUMBER.....1<br>MORE CHILDREN.....2<br>FEWER CHILDREN.....3<br>DOES NOT KNOW.....8 | |
| 614 | How long should a couple wait before starting sexual intercourse after the birth of a baby? | MONTHS.....1 [ ][ ]<br>YEARS.....2 [ ][ ]<br>OTHER_____996<br>(SPECIFY) | |
| 615 | Should a mother wait until she has completely stopped breastfeeding before starting to have sexual relations again, or doesn't it matter? | WAIT.....1<br>DOESN'T MATTER.....2 | |
| 616 | In general, do you approve or disapprove of couples using a method to avoid getting pregnant? | APPROVE.....1<br>DISAPPROVE.....2 | |
| 617 | CHECK 216:<br>HAS LIVING CHILD(REN) [ ] → 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?<br>NO LIVING CHILDREN [ ] → If you could choose exactly the number of children to have in your whole life, how many would that be?<br>RECORD SINGLE NUMBER OR OTHER ANSWER. | NUMBER..... [ ][ ]<br>OTHER ANSWER_____96<br>(SPECIFY) | →618 |
| 617A | How many boys?<br>How many girls? | NUMBER OF BOYS..... [ ][ ]<br>NUMBER OF GIRLS..... [ ][ ]<br>OTHER_____96<br>(SPECIFY) | |
| 618 | What do you think is the best number of months or years between the birth of one child and the birth of the next child? | MONTHS.....1 [ ][ ]<br>YEARS.....2 [ ][ ]<br>OTHER_____996<br>(SPECIFY) | |

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## SECTION 7. HUSBAND'S BACKGROUND AND WOMAN'S WORK

| NO. | QUESTIONS AND FILTERS | CODING CATEGORIES | SKIP TO |
|---|---|---|---|
| 701 | CHECK 501:<br>EVER MARRIED OR LIVED TOGETHER ☐ → ASK QUESTIONS ABOUT CURRENT OR MOST RECENT HUSBAND/PARTNER.<br>NEVER MARRIED/ NEVER LIVED TOGETHER ☐ | | 708 |
| 702 | Did your (last) husband/partner ever attend school? | YES.....1<br>NO.....2 | 704B |
| 703 | What was the highest level of school he attended: primary, secondary, or university? | PRIMARY.....1<br>SECONDARY.....2<br>UNIVERSITY.....3<br>DOES NOT KNOW.....8 | 704B |
| 704 | What was the highest (standard/form/year) he completed at that level? | STANDARD/FORM/YEAR..... ☐☐<br>DOES NOT KNOW.....98 | |
| 704A | CHECK 703:<br>PRIMARY ☐ → SECONDARY OR ABOVE ☐ | | 705 |
| 704B | Can (Could) he read a letter or newspaper in any language easily, with difficulty, or not at all? | EASILY.....1<br>WITH DIFFICULTY.....2<br>NOT AT ALL.....3<br>DOES NOT KNOW.....8 | |
| 705 | What kind of work does (did) your (last) husband/partner mainly do?<br>LEAVE BOXES BLANK | _____ ☐☐<br>_____<br>_____ | |
| 706 | CHECK 705:<br>WORKS (WORKED) IN AGRICULTURE ☐ → DOES (DID) NOT WORK IN AGRICULTURE ☐ | | 708 |
| 707 | (Does/did) your husband/partner work mainly on his own land or family land, or (does/did) he rent land, or (does/did) he work on someone else's land? | HIS/FAMILY LAND.....1<br>RENTED LAND.....2<br>SOMEONE ELSE'S LAND.....3 | |
| 707A | (Does/did) he earn a regular wage or salary? | YES.....1<br>NO.....2<br>DOES NOT KNOW.....8 | |

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| NO. | QUESTIONS AND FILTERS | CODING CATEGORIES | SKIP TO |
|---|---|---|---|
| 708 | Aside from your own housework, are you currently working? | YES.....1<br>NO.....2 | →710 |
| 709 | 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.<br><br>Are you currently doing any of these things or any other work? | YES.....1<br>NO.....2 | →717 |
| 710 | What is your occupation, that is, what kind of work do you do?<br><br>LEAVE BOXES BLANK. | _____ [ ][ ]<br>_____<br>_____ | |
| 711 | In your current work, do you work for a member of your family, for someone else, or are you self-employed? | FOR FAMILY MEMBER.....1<br>FOR SOMEONE ELSE.....2<br>SELF-EMPLOYED.....3 | |
| 712 | Do you earn cash for this work?<br><br>PROBE: Do you make money for working? | YES.....1<br>NO.....2 | |
| 713 | Do you do this work at home or away from home? | HOME.....1<br>AWAY.....2 | |
| 714 | CHECK 215/216/212: HAS CHILD BORN SINCE JAN. 1988 AND LIVING AT HOME? | YES [ ] ↓ NO [ ] | →717 |
| 715 | While you are working, do you usually have (NAME OF YOUNGEST CHILD AT HOME) with you, sometimes have him/her with you, or never have him/her with you? | USUALLY.....1<br>SOMETIMES.....2<br>NEVER.....3 | →717 |
| 716 | Who usually takes care of (NAME OF YOUNGEST CHILD AT HOME) while you are working? | HUSBAND/PARTNER.....01<br>OLDER CHILD(REN).....02<br>OTHER RELATIVES.....03<br>NEIGHBORS.....04<br>FRIENDS.....05<br>SERVANTS/HIRED HELP.....06<br>CHILD IS IN SCHOOL.....07<br>INSTITUTIONAL CHILDCARE.....08<br>OTHER_____09<br>(SPECIFY) | |
| 717 | RECORD THE TIME | HOUR..... [ ][ ]<br>MINUTES..... [ ][ ] | |

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## SECTION 8. HEIGHT AND WEIGHT

| 801 | CHECK 222: | | |
|---|---|---|---|
| | ONE OR MORE BIRTHS SINCE JAN. 1988 | ☐ | NO BIRTHS SINCE JAN. 1988 ☐ → END |

INTERVIEWER: IN 802 (COLUMNS 2-4) RECORD THE LINE NUMBER FOR EACH CHILD BORN SINCE JANUARY 1988 AND STILL ALIVE. IN 803 AND 804 RECORD THE NAME AND BIRTH DATE FOR THE RESPONDENT AND FOR ALL LIVING CHILDREN BORN SINCE JANUARY 1988. IN 806 AND 808 RECORD HEIGHT AND WEIGHT OF THE RESPONDENT AND THE LIVING CHILDREN. (NOTE: ALL RESPONDENTS WITH ONE OR MORE BIRTHS SINCE JANUARY 1988 SHOULD BE WEIGHED AND MEASURED EVEN IF ALL OF THE CHILDREN HAVE DIED. IF THERE ARE MORE THAN 3 LIVING CHILDREN BORN SINCE JANUARY 1988, USE ADDITIONAL FORMS).

| | 1 RESPONDENT | 2 YOUNGEST LIVING CHILD | 3 NEXT-TO-YOUNGEST LIVING CHILD | 4 SECOND-TO-YOUNGEST LIVING CHILD |
|---|---|---|---|---|
| 802 LINE NO. FROM Q.212 | | ☐☐ | ☐☐ | ☐☐ |
| 803 NAME FROM Q.212 FOR CHILDREN | (NAME) _____ | (NAME) _____ | (NAME) _____ | (NAME) _____ |
| 804 DATE OF BIRTH FROM Q.105 FOR RESPONDENT FROM Q.215 FOR CHILDREN, AND ASK FOR DAY OF BIRTH | MONTH.... ☐☐ YEAR..... ☐☐ | DAY..... ☐☐ MONTH.... ☐☐ YEAR..... ☐☐ | DAY..... ☐☐ MONTH.... ☐☐ YEAR..... ☐☐ | DAY..... ☐☐ MONTH.... ☐☐ YEAR..... ☐☐ |
| 805 BCG SCAR ON LOWER LEFT ARM | | SCAR SEEN.....1 NO SCAR.....2 | SCAR SEEN.....1 NO SCAR.....2 | SCAR SEEN.....1 NO SCAR.....2 |
| 806 HEIGHT (in centimeters) | ☐☐☐.☐ | ☐☐☐.☐ | ☐☐☐.☐ | ☐☐☐.☐ |
| 807 WAS HEIGHT/LENGTH OF CHILD MEASURED LYING DOWN OR STANDING UP? | | LYING.....1 STANDING.....2 | LYING.....1 STANDING.....2 | LYING.....1 STANDING.....2 |
| 808 WEIGHT (in kilograms) | ☐☐☐.☐ | 0☐☐.☐ | 0☐☐.☐ | 0☐☐.☐ |
| 809 MID-UPPER ARM CIRCUMFERENCE (in millimeters) | ☐☐☐ | ☐☐☐ | ☐☐☐ | ☐☐☐ |
| 810 DATE WEIGHED AND MEASURED | DAY..... ☐☐ MONTH.... ☐☐ YEAR..... ☐☐ | DAY..... ☐☐ MONTH.... ☐☐ YEAR..... ☐☐ | DAY..... ☐☐ MONTH.... ☐☐ YEAR..... ☐☐ | DAY..... ☐☐ MONTH.... ☐☐ YEAR..... ☐☐ |
| 811 RESULT | MEASURED.....1 NOT PRESENT....3 REFUSED.....4 OTHER.....6 _____ (SPECIFY) | CHILD MEASURED.1 CHILD SICK.....2 CHILD NOT PRESENT.....3 CHILD REFUSED..4 MOTHER REFUSED.5 OTHER.....6 _____ (SPECIFY) | CHILD MEASURED.1 CHILD SICK.....2 CHILD NOT PRESENT.....3 CHILD REFUSED..4 MOTHER REFUSED.5 OTHER.....6 _____ (SPECIFY) | CHILD MEASURED.1 CHILD SICK.....2 CHILD NOT PRESENT.....3 CHILD REFUSED..4 MOTHER REFUSED.5 OTHER.....6 _____ (SPECIFY) |

812 NAME OF MEASURER: _____ ☐☐ NAME OF ASSISTANT: _____ ☐☐

** Adapt question locally after determining the most common injection site (usually the left arm or shoulder).

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## INTERVIEWER'S OBSERVATIONS
(To be filled in after completing interview)

Comments About Respondent: _____

_____

_____

Comments on Specific Questions: _____

_____

_____

Any Other Comments: _____

_____

## SUPERVISOR'S OBSERVATIONS

_____

_____

_____

_____

Name of Supervisor: _____ Date: _____

## EDITOR'S OBSERVATIONS

_____

_____

_____

_____

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2 Nov/92

NATIONAL COUNCIL FOR POPULATION AND DEVELOPMENT
CENTRAL BUREAU OF STATISTICS
KENYA DEMOGRAPHIC AND HEALTH SURVEY 2--MAN'S QUESTIONNAIRE

CONFIDENTIAL

## IDENTIFICATION

PROVINCE _____

DISTRICT _____

LOCATION/TOWN _____

SUBLOCATION/WARD _____

NASSEP CLUSTER NUMBER.....

KDHS CLUSTER NUMBER.....

HOUSEHOLD NUMBER.....

NAIROBI/MOMBASA=1, SMALL CITY=2, TOWN=3, RURAL=4...

NAME OF HOUSEHOLD HEAD _____

NAME AND LINE NUMBER OF MAN _____

NAME AND LINE NUMBER OF WIFE _____

NAME AND LINE NUMBER OF SECOND WIFE _____

| INTERVIEWER VISITS | 1 | 2 | 3 | FINAL VISIT |
|---|---|---|---|---|
| DATE | | | | DAY / MONTH / YEAR |
| INTERVIEWER'S NAME | | | | NAME |
| RESULT * | | | | RESULT |
| NEXT VISIT: DATE / TIME | | | | TOTAL NUMBER OF VISITS |

* RESULT CODES: 1 COMPLETED 2 NOT AT HOME 3 POSTPONED 4 REFUSED 5 PARTLY COMPLETED 6 INCAPACITATED 7 OTHER _____ (SPECIFY)

LANGUAGE OF QUESTIONNAIRE: ENGLISH

LANGUAGE USED IN INTERVIEW**.....

RESPONDENT'S LOCAL LANGUAGE**.....

TRANSLATOR USED (NOT AT ALL=1; SOMETIMES=2; ALL THE TIME=3).....

** LANGUAGE: 01 KALENJIN 02 KAMBA 03 KIKUYU 04 KISII 05 LUHYA 06 LUO 07 MERU/EMBU 08 MIJIKENDA 09 KISWAHILI 10 ENGLISH 11 OTHER

| | FIELD EDITED BY | OFFICE EDITED BY | KEYED BY | KEYED BY |
|---|---|---|---|---|
| NAME | | | | |
| DATE | | | | |

SECTION 1. RESPONDENT'S BACKGROUND

| NO. | QUESTIONS AND FILTERS | CODING CATEGORIES | SKIP TO |
|---|---|---|---|
| M101 | RECORD THE TIME. | HOUR..... [ ][ ]<br>MINUTES..... [ ][ ] | |
| M102 | 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 Nairobi or Mombasa, in another city or town or in the countryside? | NAIROBI/MOMBASA.....1<br>OTHER CITY/TOWN.....2<br>COUNTRYSIDE.....3 | |
| M103 | How long have you been living continuously in (NAME OF SUBLOCATION, TOWN OR CITY)? | YEARS..... [ ][ ]<br>ALWAYS.....95<br>VISITOR.....96 | M105 |
| M104 | Just before you moved here, did you live in Nairobi or Mombasa, in another city or town, or in the countryside? | NAIROBI/MOMBASA.....1<br>OTHER CITY/TOWN.....2<br>COUNTRYSIDE.....3 | |
| M105 | In what month and year were you born? | MONTH..... [ ][ ]<br>DOES NOT KNOW MONTH.....98<br>YEAR..... [ ][ ]<br>DOES NOT KNOW YEAR.....98 | |
| M106 | How old were you at your last birthday?<br>COMPARE AND CORRECT M105 AND/OR M106 IF INCONSISTENT. | AGE IN COMPLETED YEARS... [ ][ ] | |
| M107 | Have you ever attended school? | YES.....1<br>NO.....2 | M111 |
| M108 | What is the highest level of school you attended: primary, secondary, or university? | PRIMARY.....1<br>SECONDARY.....2<br>UNIVERSITY.....3 | |
| M109 | What is the highest (standard/form/year) you completed at that level? | STANDARD/FORM/YEAR..... [ ][ ] | |
| M109A | What is the highest certificate you obtained? | NO CERTIFICATE.....00<br>CEE (Std. 4).....01<br>CPE/KPE (Std.7).....02<br>KAPE/KCPE (Std. 8).....03<br>KJSE (Form 2).....04<br>O LEVEL.....05<br>KCSE.....06<br>A LEVEL.....07<br>ANY UNIVERSITY DEGREE.....08<br>OTHER _____ (SPECIFY) 09 | |
| M110 | CHECK M108:<br>PRIMARY [ ]<br>SECONDARY OR ABOVE [ ] | | M112 |
| M111 | Can you read a letter or newspaper in any language easily, with difficulty, or not at all? | EASILY.....1<br>WITH DIFFICULTY.....2<br>NOT AT ALL.....3 | M113 |
| M112 | Do you usually read a newspaper or magazine at least once a week? | YES.....1<br>NO.....2 | |

| NO. | QUESTIONS AND FILTERS | CODING CATEGORIES | GO TO |
|---|---|---|---|
| M113 | Do you usually listen to a radio at least once a week? | YES.....1<br>NO.....2 | |
| M114 | Do you usually watch television at least once a week? | YES.....1<br>NO.....2 | |
| M115 | What kind of work do you mainly do? | _____ [ ][ ]<br>_____<br>_____ | |
| M116 | CHECK M115:<br>WORKS IN AGRICULTURE [ ]<br>DOES NOT WORK IN AGRICULTURE [ ] | | →M118 |
| M117 | Do you work mainly on your own land or family land or do you rent land or work on someone else's land? | HIS/FAMILY LAND.....1<br>RENTED LAND.....2<br>SOMEONE ELSE'S LAND.....3 | →M119 |
| M118 | Do you earn a regular wage or salary? | YES.....1<br>NO.....2<br>DOES NOT KNOW.....8 | |
| M119 | What is your religion? | CATHOLIC.....1<br>PROTESTANT/OTHER CHRISTIAN.....2<br>MUSLIM.....3<br>NO RELIGION.....4<br>OTHER_____5<br>(SPECIFY) | |
| M120 | What is your ethnic group/tribe? | KALENJIN.....01<br>KAMBA.....02<br>KIKUYU.....03<br>KISII.....04<br>LUHYA.....05<br>LUO.....06<br>MERU/EMBU.....07<br>MIJIKENDA/SWAHILI.....08<br>SOMALI.....09<br>TAITA/TAVETA.....10<br>OTHER_____11<br>(SPECIFY) | |
| M121 | CHECK Q.4 IN THE HOUSEHOLD QUESTIONNAIRE<br>THE MAN INTERVIEWED IS NOT A USUAL RESIDENT [ ]<br>THE MAN INTERVIEWED IS A USUAL RESIDENT [ ] | | →M201 |
| M122 | Now I would like to ask about the place in which you usually live.<br>Do you usually live in Nairobi or Mombasa, in a small city, in a town or in the countryside? | NAIROBI/MOMBASA.....1<br>SMALL CITY.....2<br>TOWN.....3<br>COUNTRYSIDE.....4 | |
| M123 | In which district is that located?<br>WRITE NAME OF DISTRICT CLEARLY. | DISTRICT_____ [ ][ ]<br>_____ | |

ENG MAN 3

| NO. | QUESTIONS AND FILTERS | CODING CATEGORIES | GO TO |
|---|---|---|---|
| M124 | Now I would like to ask about the household in which you usually live.<br><br>What is the source of water your household uses for handwashing and dishwashing for most of the year? | PIPED WATER<br>PIPED INTO HOUSE/COMPOUND/PLOT.11<br>PUBLIC TAP.....12<br>WELL WATER<br>WELL WITH PUMP.....21<br>WELL WITHOUT PUMP.....22<br>SURFACE WATER<br>LAKE.....31<br>RIVER/STREAM.....32<br>POND.....33<br>RAINWATER.....41<br>OTHER_____51<br>(SPECIFY) | <br>M126<br><br><br><br><br><br><br><br>M126 |
| M125 | How long does it take to go there, get water, and come back? | MINUTES..... [ ][ ][ ]<br>ON PREMISES.....996 | |
| M126 | Does your household get drinking water from this same source? | YES.....1<br>NO.....2 | M128 |
| M127 | What is the source of drinking water for members of your household? | PIPED WATER<br>PIPED INTO HOUSE/COMPOUND/PLOT.11<br>PUBLIC TAP.....12<br>WELL WATER<br>WELL WITH PUMP.....21<br>WELL WITHOUT PUMP.....22<br>SURFACE WATER<br>LAKE.....31<br>RIVER/STREAM.....32<br>POND.....33<br>RAINWATER.....41<br>OTHER_____51<br>(SPECIFY) | |
| M128 | What kind of toilet facility does your household have? | FLUSH TOILET<br>OWN FLUSH TOILET.....11<br>SHARED FLUSH TOILET.....12<br>PIT TOILET/LATRINE<br>TRADITIONAL PIT TOILET.....21<br>VENTILATED IMPROVED PIT TOILET.22<br>NO FACILITY/BUSH/FIELD.....31<br>OTHER _____41<br>(SPECIFY) | |
| M129 | Does your household have:<br><br>Electricity?<br>A radio?<br>A television?<br>A refrigerator? | YES NO<br><br>ELECTRICITY.....1 2<br>RADIO.....1 2<br>TELEVISION.....1 2<br>REFRIGERATOR.....1 2 | |
| M130 | How many rooms in your household are used for sleeping? | ROOMS..... [ ][ ] | |
| M131 | Could you describe the main material of the floor of your home? | NATURAL FLOOR<br>EARTH/DUNG.....11<br>RUDIMENTARY FLOOR<br>WOOD PLANKS.....21<br>FINISHED FLOOR<br>PARQUET OR POLISHED WOOD.....31<br>VINYL/LINOLEUM/ASPHALT STRIPS.32<br>CERAMIC TILES.....33<br>CEMENT.....34<br>OTHER _____41<br>(SPECIFY) | |

ENG MAN 4

| NO. | QUESTIONS AND FILTERS | CODING CATEGORIES | GO TO |
|---|---|---|---|
| M132 | Could you describe the main material of the walls of your home? | NATURAL WALLS<br>MUD/DUNG.....11<br>RUDIMENTARY WALLS<br>WOOD/TIMBER.....21<br>FINISHED WALLS<br>BRICKS.....31<br>CEMENT/STONE BLOCKS.....32<br>OTHER _____41<br>(SPECIFY) | |
| M133 | Could you describe the main material of the roof of your home? | NATURAL ROOF<br>GRASS/THATCH.....11<br>RUDIMENTARY ROOF<br>CORRUGATED IRON (MABATI).....21<br>FINISHED ROOF<br>TILES.....31<br>OTHER _____41<br>(SPECIFY) | |
| M134 | Does any member of your household own:<br><br>A bicycle?<br>A motorcycle?<br>A car?<br>Land?<br>Cattle, goats or sheep?<br>Cash crops? | YES NO<br><br>BICYCLE.....1 2<br>MOTORCYCLE.....1 2<br>CAR.....1 2<br>LAND.....1 2<br>CATTLE, GOATS, OR SHEEP....1 2<br>CASH CROPS.....1 2 | |

ENG MAN 5

SECTION 2. MARRIAGE

| NO. | QUESTIONS AND FILTERS | CODING CATEGORIES | SKIP TO |
|---|---|---|---|
| M201 | Have you ever been married or lived with a woman? | YES.....1<br>NO.....2 | <br>→M301 |
| M202 | Are you now married or living with a woman, or are you widowed, divorced, or no longer living together? | MARRIED.....1<br>LIVING TOGETHER.....2<br>WIDOWED.....3<br>DIVORCED.....4<br>NO LONGER LIVING TOGETHER.....5 | <br><br>→M205 |
| M203 | How many wives do you have? | NUMBER..... [ ][ ] | |
| M204 | Do you stay together with your wife (any of your wives)? | YES.....1<br>NO, WITH NONE.....2 | |
| M205 | Have you been married or lived with a woman only once, or more than once? | ONCE.....1<br>MORE THAN ONCE.....2 | |
| M206 | In what month and year did you start living with your (first) wife/partner? | MONTH..... [ ][ ]<br>DOES NOT KNOW MONTH.....98<br>YEAR..... [ ][ ]<br>DOES NOT KNOW YEAR.....98 | |
| M207 | How old were you when you started living with her? | AGE..... [ ][ ]<br>DOES NOT KNOW AGE.....98 | |
| M208 | CHECK M206 AND M207: YEAR AND AGE GIVEN?<br>YES [ ] ↓ NO [ ] | | →M301 |
| M209 | CHECK CONSISTENCY OF M206 AND M207:<br>YEAR OF BIRTH (M105) [ ][ ]<br>PLUS +<br>AGE AT MARRIAGE (M207) [ ][ ]<br>=<br>CALCULATED YEAR OF MARRIAGE [ ][ ]<br><br>IF NECESSARY, CALCULATE YEAR OF BIRTH<br>CURRENT YEAR [9][3]<br>MINUS -<br>CURRENT AGE (106) [ ][ ]<br>=<br>CALCULATED YEAR OF BIRTH [ ][ ]<br><br>IS THE CALCULATED YEAR OF MARRIAGE WITHIN ONE YEAR OF THE REPORTED YEAR OF MARRIAGE (M206)?<br>YES [ ] NO [ ] | | →PROBE AND CORRECT M206 AND M207. |

ENG MAN 6

SECTION 3. CONTRACEPTION

**M301** 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. Which ways or methods have you heard about?

CIRCLE CODE 1 IN M302 FOR EACH METHOD MENTIONED SPONTANEOUSLY.
THEN MOVE DOWN THE COLUMN, READING THE NAME AND DESCRIPTION OF EACH METHOD NOT MENTIONED SPONTANEOUSLY.
CIRCLE CODE 2 IF METHOD IS RECOGNISED, AND CODE 3 IF NOT RECOGNIZED.
THEN, FOR EACH METHOD WITH CODE 1 OR 2 CIRCLED IN M302, ASK M303-M304 BEFORE PROCEEDING TO THE NEXT METHOD

| | M302 Have you ever heard of (METHOD)? READ DESCRIPTION OF EACH METHOD. | M303 Have you ever used (METHOD)? | M304 Do you know where a person could go to get (METHOD)? |
|---|---|---|---|
| 01 PILL Women can take a pill every day. | YES/SPONT.....1<br>YES/PROBED.....2<br>NO.....3 | YES.....1<br>NO.....2 | YES.....1<br>NO.....2 |
| 02 IUD Women can have a loop or coil placed inside them by a doctor or a nurse. | YES/SPONT.....1<br>YES/PROBED.....2<br>NO.....3 | YES.....1<br>NO.....2 | YES.....1<br>NO.....2 |
| 03 INJECTIONS Women can have an injection by a doctor or nurse which stops them from becoming pregnant for several months. | YES/SPONT.....1<br>YES/PROBED.....2<br>NO.....3 | YES.....1<br>NO.....2 | YES.....1<br>NO.....2 |
| 04 FOAM TABLETS/JELLY/NEO-SAMPOON Women can place foam tablets, a diaphragm, sponge, jelly or cream inside them before intercourse. | YES/SPONT.....1<br>YES/PROBED.....2<br>NO.....3 | YES.....1<br>NO.....2 | YES.....1<br>NO.....2 |
| 05 CONDOM Men can use a rubber sheath during sexual intercourse. | YES/SPONT.....1<br>YES/PROBED.....2<br>NO.....3 | YES.....1<br>NO.....2 | YES.....1<br>NO.....2 |
| 06 FEMALE STERILISATION Women can have an operation to avoid having any more children. | YES/SPONT.....1<br>YES/PROBED.....2<br>NO.....3 | Has your wife/woman ever had an operation to avoid having any more children?<br>YES.....1<br>NO.....2 | YES.....1<br>NO.....2 |
| 07 MALE STERILISATION Men can have an operation to avoid having any more children. | YES/SPONT.....1<br>YES/PROBED.....2<br>NO.....3 | Have you ever had this operation?<br>YES.....1<br>NO.....2 | YES.....1<br>NO.....2 |
| 08 NORPLANT Women can have some small rods put under their skin in their arm. | YES/SPONT.....1<br>YES/PROBED.....2<br>NO.....3 | YES.....1<br>NO.....2 | YES.....1<br>NO.....2 |
| 09 RHYTHM, COUNTING DAYS A woman can count the days of her cycle and avoid having sexual intercourse on the days when she is more likely to become pregnant. | YES/SPONT.....1<br>YES/PROBED.....2<br>NO.....3 | YES.....1<br>NO.....2 | Do you know where a person can obtain advice on how to use this method?<br>YES.....1<br>NO.....2 |
| 10 NATURAL FAMILY PLANNING A woman can take her temperature every day or check her vaginal mucus to tell which days to avoid having sexual intercourse. | YES/SPONT.....1<br>YES/PROBED.....2<br>NO.....3 | YES.....1<br>NO.....2 | Do you know where a person can obtain advice on how to use natural family planning?<br>YES.....1<br>NO.....2 |
| 11 WITHDRAWAL Men can be careful and pull out before climax. | YES/SPONT.....1<br>YES/PROBED.....2<br>NO.....3 | YES.....1<br>NO.....2 | |
| 12 Have you heard of any other ways or methods that women or men can use to avoid pregnancy?<br>1 _____ (SPECIFY)<br>2 _____ (SPECIFY)<br>3 _____ (SPECIFY) | YES/SPONT.....1<br>NO.....3 | YES.....1<br>NO.....2<br>YES.....1<br>NO.....2<br>YES.....1<br>NO.....2 | |

**M305** CHECK M303: NOT A SINGLE "YES" (NEVER USED) ☐ AT LEAST ONE "YES" (EVER USED) ☐ → SKIP TO M308

| NO. | QUESTIONS AND FILTERS | CODING CATEGORIES | SKIP TO |
|---|---|---|---|
| M306 | Have you or your wife or partner ever used anything or tried in any way to delay or avoid having a baby? | YES.....[ ]<br>NO.....[ ] | →M318 |
| M307 | What have you used or done?<br><br>CORRECT M303-M305 (AND M302 IF NECESSARY). | | |
| M308 | Now I would like to ask you about the time when you first did something or used a method to avoid pregnancy.<br><br>How many living children did you have at that time, if any?<br><br>IF NONE, RECORD '00'. | NUMBER OF CHILDREN..... [ ][ ] | |
| M309 | Are you doing something now or using any method with any partner to delay or avoid pregnancy? | YES.....1<br>NO.....2 | →M316 |
| M310 | Which method are you using?<br><br>IF USING MORE THAN ONE METHOD, CIRCLE CODE FOR METHOD THAT COMES FIRST ON THE LIST (WITH LOWEST CODE NUMBER), AND WRITE NAME OF OTHER METHOD HERE:<br><br>_____ | PILL.....01<br>IUD.....02<br>INJECTIONS.....03<br>FOAM TABLETS,JELLY,DIAPHRAGM...04<br>CONDOM.....05<br>FEMALE STERILISATION.....06<br>MALE STERILISATION.....07<br>NORPLANT.....08<br>RHYTHM, COUNTING DAYS.....09<br>NATURAL FP, MUCUS, TEMPERATURE.10<br>WITHDRAWAL.....11<br>OTHER_____12<br>(SPECIFY) | →M315 |
| M311 | CHECK M310:<br><br>SHE/HE STERILISED [ ] → Where did the sterilisation take place?<br><br>USING ANOTHER METHOD [ ] → Where did you (or your wife/partner) obtain (METHOD) the last time?<br><br>_____<br>(NAME OF PLACE) | PUBLIC SECTOR<br>GOVERNMENT HOSPITAL.....11<br>GOVERNMENT HEALTH CENTRE.....12<br>GOVERNMENT DISPENSARY.....13<br>MEDICAL PRIVATE SECTOR<br>MISSION,CHURCH HOSPITAL/CLINIC.21<br>FPAK HEALTH CENTRE/CLINIC.....22<br>OTHER NON-GOVERNMENTAL SERVICE.23<br>PRIVATE HOSPITAL OR CLINIC.....24<br>PHARMACY.....25<br>PRIVATE DOCTOR.....26<br>MOBILE CLINIC.....31<br>COMMUNITY BASED DISTRIBUTOR/<br>COMMUNITY HEALTH WORKER.....41<br>SHOP.....51<br>FRIENDS/RELATIVES.....61<br>OTHER_____71<br>(SPECIFY)<br>DOES NOT KNOW.....98 | →M313 |
| M312 | How long does it take to travel from your home to this place?<br><br>IF LESS THAN 2 HOURS, RECORD MINUTES. OTHERWISE, RECORD HOURS. | MINUTES.....1 [ ][ ][ ]<br>HOURS.....2 [0][ ][ ]<br>DOES NOT KNOW.....9998 | |
| M313 | CHECK M310:<br><br>SHE/HE STERILISED [ ] ↓<br>USING ANOTHER METHOD [ ] | | →M315 |
| M314 | In what month and year was the sterilisation operation performed? | MONTH..... [ ][ ]<br>YEAR..... [ ][ ] | →M316 |

ENG MAN 8

| NO. | QUESTIONS AND FILTERS | CODING CATEGORIES | TO |
|---|---|---|---|
| M315 | For how many months have you been using (CURRENT METHOD) continuously?<br>IF LESS THAN 1 MONTH, RECORD '00'. | MONTHS..... [ ][ ]<br>8 YEARS OR LONGER.....96 | |
| M316 | Have you used a condom in the last four weeks? | YES.....1<br>NO.....2 | M317A |
| M317 | How much did the condom you last used cost? | COST IN SHILLINGS..... [ ][ ]<br>PARTNER OBTAINED.....95<br>FREE.....96<br>DOES NOT KNOW.....98 | |
| M317A | CHECK M309: NOT CURRENTLY USING METHOD OR BLANK [ ] ✓ USING A METHOD [ ] | | M323 |
| M318 | Do you intend to use a method to delay or avoid pregnancy at any time in the future? | YES.....1<br>NO.....2<br>DOES NOT KNOW/NOT SURE.....8 | M320<br><br>M324 |
| M319 | What is the main reason you do not intend to use a method?<br><br>IF HE SAYS HE IS TOO YOUNG, ASK WHAT HE WILL DO WHEN HE IS OLDER. | WANTS CHILDREN.....01<br>LACK OF KNOWLEDGE.....02<br>HUSBAND OPPOSED TO USING.....03<br>COST TOO MUCH.....04<br>SIDE EFFECTS.....05<br>FEARS IT WILL MAKE HER STERILE.06<br>OTHER HEALTH CONCERNS.....07<br>HARD TO GET METHODS.....08<br>RELIGION.....09<br>OPPOSED TO FAMILY PLANNING.....10<br>FATALISTIC.....11<br>OTHER PEOPLE OPPOSED.....12<br>INFREQUENT SEX.....13<br>DIFFICULT TO GET PREGNANT.....14<br>MENOPAUSAL/HAD HYSTERECTOMY....15<br>INCONVENIENT.....16<br>OTHER_____17<br>(SPECIFY)<br>DOES NOT KNOW.....98 | M324 |
| M320 | Do you intend to use a method within the next 12 months? | YES.....1<br>NO.....2<br>DOES NOT KNOW.....8 | |
| M321 | When you use a method, which method would you prefer to use? | PILL.....01<br>IUD.....02<br>INJECTIONS.....03<br>FOAM TABLETS,JELLY,DIAPHRAGM...04<br>CONDOM.....05<br>FEMALE STERILISATION.....06<br>MALE STERILISATION.....07<br>NORPLANT.....08<br>RHYTHM, COUNTING DAYS.....09<br>NATURAL FP, MUCUS, TEMPERATURE.10<br>WITHDRAWAL.....11<br>OTHER_____12<br>(SPECIFY)<br>UNSURE.....98 | M324 |
| M322 | Where can you get (METHOD MENTIONED IN M321)?<br><br>_____<br>(NAME OF PLACE) | PUBLIC SECTOR<br>GOVERNMENT HOSPITAL.....11<br>GOVERNMENT HEALTH CENTRE.....12<br>GOVERNMENT DISPENSARY.....13<br>MEDICAL PRIVATE SECTOR<br>MISSION,CHURCH HOSPITAL/CLINIC.21<br>FPAK HEALTH CENTRE/CLINIC.....22<br>OTHER NON-GOVERNMENTAL SERVICE.23<br>PRIVATE HOSPITAL OR CLINIC.....24<br>PHARMACY.....25<br>PRIVATE DOCTOR.....26<br>MOBILE CLINIC.....31<br>COMMUNITY BASED DISTRIBUTOR/<br>COMMUNITY HEALTH WORKER.....41<br>SHOP.....51<br>FRIENDS/RELATIVES.....61<br>OTHER_____71<br>(SPECIFY)<br>DOES NOT KNOW.....98 | M326<br><br>M327<br>M327<br><br>M327 |

| NO. | QUESTIONS AND FILTERS | CODING CATEGORIES | GO TO |
|---|---|---|---|
| M323 | CHECK M310:<br>USING RHYTHM, COUNTING DAYS, WITHDRAWAL OR OTHER TRADITIONAL METHOD ☐ ↓ | USING A MODERN METHOD ☐ | →M327 |
| M324 | Do you know of a place where you can obtain a method of family planning? | YES.....1<br>NO.....2 | →M327 |
| M325 | Where is that?<br>_____<br>(NAME OF PLACE) | PUBLIC SECTOR<br>GOVERNMENT HOSPITAL.....11<br>GOVERNMENT HEALTH CENTRE.....12<br>GOVERNMENT DISPENSARY.....13<br>MEDICAL PRIVATE SECTOR<br>MISSION,CHURCH HOSPITAL/CLINIC.21<br>FPAK HEALTH CENTRE/CLINIC.....22<br>OTHER NON-GOVERNMENTAL SERVICE.23<br>PRIVATE HOSPITAL OR CLINIC.....24<br>PHARMACY.....25<br>PRIVATE DOCTOR.....26<br>MOBILE CLINIC.....31<br>COMMUNITY BASED DISTRIBUTOR/<br>COMMUNITY HEALTH WORKER.....41<br>SHOP.....51<br>FRIENDS/RELATIVES.....61<br>OTHER_____71<br>(SPECIFY) | →M327 |
| M326 | How long does it take to travel from your home to this place?<br>IF LESS THAN 2 HOURS, RECORD MINUTES. OTHERWISE, RECORD HOURS. | MINUTES.....1 [ ][ ][ ]<br>HOURS.....2 [0][ ][ ]<br>DK.....9998 | |
| M327 | How did you first hear about family planning? | RADIO.....01<br>TELEVISION.....02<br>NEWSPAPERS.....03<br>POSTERS.....04<br>WIFE.....05<br>FRIENDS/RELATIVES.....06<br>HEALTH WORKER/CLINIC.....07<br>CBD/CHW.....08<br>BARAZAS.....09<br>OTHER_____10<br>(SPECIFY)<br>CAN'T REMEMBER/DOES NOT KNOW...98 | |
| M328 | From which place or person did you get the most information? | RADIO.....01<br>TELEVISION.....02<br>NEWSPAPERS.....03<br>POSTERS.....04<br>WIFE.....05<br>FRIENDS/RELATIVES.....06<br>HEALTH WORKER/CLINIC.....07<br>CBD/CHW.....08<br>BARAZAS.....09<br>OTHER_____10<br>(SPECIFY)<br>CAN'T REMEMBER/DOES NOT KNOW...98 | |
| M329 | In the last 6 months, have you heard a radio program about family planning? | YES.....1<br>NO.....2<br>DOES NOT KNOW.....8 | →M331 |

ENG MAN 10

| NO. | QUESTIONS AND FILTERS | CODING CATEGORIES | GO TO |
|---|---|---|---|
| M330 | Which program have you heard?<br><br>Any others?<br><br>DO NOT READ CODES TO RESPONDENT.<br><br>CIRCLE ALL MENTIONED. | MWENDA POLE.....A<br>PANGA UZAZI.....B<br>MAISHA YA JAMII YAKO.....C<br>JIFUNZE NA UENDELEA.....D<br>MAISHA BORA.....E<br>AFYA YAKO.....F<br>DAKTARI AKUSHAURI.....G<br>KUELEWANA NI KUZUNGUMZA.....H<br>OTHER_____I<br>(SPECIFY)<br>DOES NOT KNOW/CANNOT REMEMBER...J | |
| M331 | Do you think that information about family planning should be available to young people? | YES.....1<br>NO.....2<br>OTHER_____3<br>(SPECIFY)<br>DOES NOT KNOW.....8 | |
| M332 | Do you think that family planning services should be available for young people? | YES.....1<br>NO.....2<br>OTHER_____3<br>(SPECIFY)<br>DOES NOT KNOW.....8 | |
| M333 | In some communities there is a woman or man who is trained to talk to families in that area about family planning. Sometimes they visit each house and talk about family planning and give out supplies. Other times they have supplies in their houses. Is there any woman or man like that in your area? | YES.....1<br>NO.....2<br>DOESN'T KNOW.....8 | <br>M335<br>M335 |
| M334 | How many times has this person visited your home in the last six months? | TIMES..... [ ][ ] | |
| M335 | During which times of the monthly cycle does a woman have the greatest chance of becoming pregnant? | DURING HER PERIOD.....1<br>RIGHT AFTER HER PERIOD HAS ENDED.....2<br>IN THE MIDDLE OF THE CYCLE.....3<br>JUST BEFORE HER PERIOD BEGINS...4<br>OTHER_____5<br>(SPECIFY)<br>DOES NOT KNOW.....8 | |

ENG MAN 11

| NO. | QUESTIONS AND FILTERS | CODING CATEGORIES | GO TO |
|---|---|---|---|
| M401 | CHECK M201:<br><br>NEVER MARRIED OR LIVED TOGETHER WITH A WOMAN ☐ ↓ | EVER MARRIED OR LIVED WITH A WOMAN ☐ | →M403 |
| M402 | Have you ever had sexual intercourse? | YES.....1<br>NO.....2 | →M410 |
| M403 | Now we need some details about your sexual activity in order to get a better understanding of family planning and fertility. How old were you when you first had sexual intercourse? | AGE..... ☐☐<br>FIRST TIME WHEN MARRIED.....96 | |
| M404 | In the last four weeks, on how many days did you have sexual intercourse?<br><br>IF NONE, WRITE '00'. | DAYS..... ☐☐ | |
| M406 | How many different women have you had sexual intercourse within the last 6 months? IF 00, SKIP TO M408. | NUMBER OF WOMEN..... ☐☐ | |
| M407 | Did you use a condom with any of these women? | YES.....1<br>NO.....2 | |
| M408 | How many different women have you had sexual intercourse with in your whole life? | NUMBER OF WOMEN..... ☐☐ | |
| M409 | When was the last time you had sexual intercourse? | DAYS AGO.....1 ☐☐<br>WEEKS AGO.....2 ☐☐<br>MONTHS AGO.....3 ☐☐<br>YEARS AGO.....4 ☐☐<br>BEFORE LAST BIRTH.....996 | |
| M410 | Now I have a few questions about a very important topic. Have you heard of a disease called AIDS? | YES.....1<br>NO.....2 | →M421 |
| M411 | From which sources of information or persons have you heard about AIDS in the last month?<br><br>Any others?<br><br>CIRCLE ALL MENTIONED. | RADIO.....A<br>TV.....B<br>NEWSPAPERS.....C<br>HEALTH WORKERS.....D<br>PRIESTS/PREACHERS/KADHIS.....E<br>WIFE.....F<br>FRIENDS/RELATIVES.....G<br>SCHOOLS.....H<br>BOOKLETS/PAMPHLETS/POSTERS.....I<br>BARAZAS.....J<br>OTHER _____ K<br>(SPECIFY)<br>NONE.....L | |
| M412 | How is AIDS transmitted?<br><br>Any other ways?<br><br>DO NOT READ CODES. CIRCLE ALL MENTIONED. | SEXUAL INTERCOURSE.....A<br>SHAVING/RAZORS.....B<br>INJECTIONS.....C<br>CIRCUMCISION, TATTOOS.....D<br>MOTHER TO CHILD.....E<br>TRANSFUSION OF INFECTED BLOOD...F<br>OTHER _____ G<br>(SPECIFY)<br>DOES NOT KNOW.....H | |

ENG MAN 12

| NO. | QUESTIONS AND FILTERS | CODING CATEGORIES | SKIP TO |
|---|---|---|---|
| M413 | Do you think that you can get AIDS from<br><br>shaking hands with someone who has AIDS?<br>kissing someone who has AIDS?<br>wearing the clothes of someone who has AIDS?<br>sharing eating utensils with someone who has AIDS?<br>touching someone who has died from AIDS?<br>mosquito, flea or bedbug bites? | YES NO DK<br><br>HANDSHAKING.....1 2 8<br>KISSING.....1 2 8<br>SHARING CLOTHES.....1 2 8<br>SHARING EATING UTENSILS....1 2 8<br>TOUCHING SOMEONE WHO DIED..1 2 8<br>MOSQUITO/FLEA/BEDBUG BITES.1 2 8 | |
| M414 | Is it possible for a healthy looking person to be infected with the AIDS virus? | YES.....1<br>NO.....2<br>DOES NOT KNOW.....8 | |
| M415 | Is it possible for a woman who has the AIDS virus to give birth to a child with the AIDS virus? | YES.....1<br>NO.....2<br>DOES NOT KNOW.....8 | |
| M416 | Can people protect themselves from getting AIDS or is there nothing that people can do? | CAN PROTECT THEMSELVES.....1<br>NOTHING THEY CAN DO.....2<br>DOES NOT KNOW.....8 | <br>→M418<br>→M418 |
| M417 | How can people protect themselves from getting AIDS?<br><br>DO NOT READ CODES TO RESPONDENT.<br><br>Any other ways?<br><br>CIRCLE ALL MENTIONED. | DO NOT HAVE SEX AT ALL.....A<br>LIMIT NUMBER OF SEXUAL PARTNERS.B<br>USE CONDOMS DURING SEX.....C<br>STERILIZE SYRINGES/NEEDLES.....D<br>AVOID PROSTITUTES.....E<br>OTHER _____ F<br>(SPECIFY) | |
| M418 | Do you know anyone who has AIDS or anyone who has died from AIDS? | YES.....1<br>NO.....2 | |
| M419 | Do you think that you yourself can catch AIDS? | YES.....1<br>NO.....2<br>DOES NOT KNOW.....8 | <br>→M421<br>→M421 |
| M420 | How do you think you might catch AIDS? | FROM WIFE/PARTNER.....1<br>FROM NEEDLES/INJECTIONS.....2<br>FROM BLOOD TRANSFUSIONS.....3<br>OTHER _____ 4<br>(SPECIFY)<br>NOT SURE/DOES NOT KNOW.....8 | |
| M421 | In the last 12 months, have you noticed any discharge from your penis? | YES.....1<br>NO.....2<br>NOT SURE/DOES NOT KNOW.....8 | |
| M422 | PRESENCE OF OTHERS AT THIS POINT. | YES NO<br>CHILDREN UNDER 10.....1 2<br>WIFE.....1 2<br>OTHER MALES.....1 2<br>OTHER FEMALES.....1 2 | |

ENG MAN 13

SECTION 5. FERTILITY PREFERENCES

| NO. | QUESTIONS AND FILTERS | CODING CATEGORIES | SKIP TO |
|---|---|---|---|
| M501 | How many sons do you have who are your own?<br>IF NONE, WRITE '00'. | NUMBER OF SONS..... [ ][ ] | |
| M502 | How many daughters do you have who are your own?<br>IF NONE, WRITE '00'. | NUMBER OF DAUGHTERS..... [ ][ ] | |
| M503 | CHECK M310:<br>NEITHER STERILISED [ ] ↓ | HE OR SHE STERILISED [ ] | →M507 |
| M504 | CHECK M202:<br>CURRENTLY MARRIED OR LIVING TOGETHER [ ] ↓ | NOT MARRIED/ NOT LIVING TOGETHER [ ] | →M515 |
| M505 | Now I have some questions about the future.<br>Would you like to have another (a) child or would you prefer not to have any (more) children? | HAVE A (ANOTHER) CHILD.....1<br>NO MORE/NONE.....2<br>SAYS SHE CAN'T GET PREGNANT.....3<br>UNDECIDED, DOES NOT KNOW.....8 | →M509 |
| M506 | How long would you like to wait before the birth of another (a) child? | MONTHS.....1 [ ][ ]<br>YEARS.....2 [ ][ ]<br>SOON/NOW.....994<br>SAYS WIFE CAN'T GET PREGNANT..995<br>OTHER _____ 996<br>(SPECIFY)<br>DOES NOT KNOW.....998 | →M509 |
| M507 | Would you recommend to a friend or relative in your circumstances to have an operation not to have any more children? | YES.....1<br>NO.....2 | →M509 |
| M508 | Why not? | _____ [ ][ ]<br>_____ | |
| M509 | Do you think that your wife/partner approves or disapproves of couples using a method to avoid pregnancy? | APPROVES.....1<br>DISAPPROVES.....2<br>DOES NOT KNOW.....8 | |
| M510 | Have you ever talked to your wife/partner about household finances and economic matters such as the costs of children? | YES.....1<br>NO.....2 | |
| M511 | Have you ever talked to your wife/partner about family planning? | YES.....1<br>NO.....2 | →M513 |

ENG MAN 14

| NO. | QUESTIONS AND FILTERS | CODING CATEGORIES | SKIP TO |
|---|---|---|---|
| M512 | How often have you talked to your wife/partner about family planning in the past year? | NEVER.....1<br>ONCE OR TWICE.....2<br>MORE OFTEN.....3 | |
| M513 | Have you and your wife/partner ever discussed the number of children you would like to have? | YES.....1<br>NO.....2 | |
| M514 | Do you think your wife/partner wants the <u>same</u> number of children that you want, or does she want <u>more</u> or <u>fewer</u> than you want? | SAME NUMBER.....1<br>MORE CHILDREN.....2<br>FEWER CHILDREN.....3<br>DOES NOT KNOW.....8 | |
| M515 | How long should a couple wait before starting sexual intercourse after the birth of a baby? | MONTHS.....1 [ ][ ]<br>YEARS.....2 [ ][ ]<br>OTHER _____ 996<br>(SPECIFY) | |
| M516 | Should a mother wait until she has completely stopped breastfeeding before starting to have sexual relations again, or doesn't it matter? | WAIT.....1<br>DOESN'T MATTER.....2 | |
| M517 | In general, do you approve or disapprove of couples using a method to avoid getting pregnant? | APPROVE.....1<br>DISAPPROVE.....2 | |
| M518 | CHECK M501 AND M502:<br>HAS LIVING CHILD(REN) [ ] → 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?<br>NO LIVING CHILDREN [ ] → If you could choose exactly the number of children to have in your whole life, how many would that be?<br>RECORD SINGLE NUMBER OR OTHER ANSWER. | NUMBER..... [ ][ ]<br>OTHER ANSWER _____ 96 → M520<br>(SPECIFY) | |
| M519 | How many boys?<br>How many girls? | NUMBER OF BOYS..... [ ][ ]<br>NUMBER OF GIRLS..... [ ][ ]<br>OTHER _____ 96<br>(SPECIFY) | |
| M520 | What do you think is the best number of months or years between the birth of one child and the birth of the next child? | MONTHS.....1 [ ][ ]<br>YEARS.....2 [ ][ ]<br>OTHER _____ 996<br>(SPECIFY) | |
| M521 | RECORD THE TIME | HOUR..... [ ][ ]<br>MINUTES..... [ ][ ] | |

ENG MAN 15

## INTERVIEWER'S OBSERVATIONS
(To be filled in after completing interview)

Comments About Respondent: _____

_____

_____

Comments on Specific Questions: _____

_____

_____

Any Other Comments: _____

_____

## SUPERVISOR'S OBSERVATIONS

_____

_____

_____

_____

Name of Supervisor: _____ Date: _____

## EDITOR'S OBSERVATIONS

_____

_____

_____

_____

ENG MAN 16

KENYA DEMOGRAPHIC AND HEALTH SURVEY 1993
NATIONAL COUNCIL FOR POPULATION AND DEVELOPMENT
CENTRAL BUREAU OF STATISTICS

SERVICES AVAILABILITY QUESTIONNAIRE

PROVINCE _____

DISTRICT _____

LOCATION/TOWN _____

SUBLOCATION/WARD _____

NASSEP CLUSTER NUMBER.....

KDHS CLUSTER NUMBER.....

NAIROBI/MOMBASA=1, SMALL CITY=2, TOWN=3, RURAL=4

SUPERVISOR NAME AND NUMBER _____

DATE QUESTIONNAIRE IS COMPLETED..... DAY

MONTH

YEAR

INFORMANTS WHO PROVIDED INFORMATION:
(WRITE POSITION, E.G., NURSE IN HEALTH CENTER, CBD)

1. _____

2. _____

3. _____

4. _____

5. _____

| | FIELD EDITED BY | OFFICE EDITED BY | KEYED BY | KEYED BY |
|---|---|---|---|---|
| NAME | | | | |
| DATE | | | | |

## I. COMMUNITY-BASED SERVICES

| NO. | QUESTIONS | CODING CATEGORIES | SKIP TO |
|---|---|---|---|
| 1 | In some communities there is a woman or man who is trained to talk to families in that area about family planning. Sometimes they visit each house and talk about family planning and give out supplies. Other times they have family planning supplies in their houses. Is there any woman or man like this who covers this cluster? | YES.....1<br>NO.....2 | → 7 |
| 2 | What is this person's name?<br>TRY TO GET NAME. IF NOT, WRITE DOES NOT KNOW.<br>IF MORE THAN ONE PERSON, WRITE NAME OF OTHER PERSON..... | _____<br>_____<br>(NAME OF CBD WORKER)<br>_____<br>_____<br>(NAME OF OTHER CBD WORKER) | |
| 3 | Does this community-based family planning distributor work for the Kenya government (Ministry of Health) or does she/he work for a church organisation or another organisation like the Family Planning Association of Kenya or Maendeleo ya Wanawake, or NCCK? | GOVERNMENT.....1<br>NON-GOVERNMENT.....2<br>NOT SURE/DOES NOT KNOW.....8 | → 5 |
| 4 | Can you tell me the name of the organisation that she/he works for?<br>IF YES, WRITE NAME ON THE LINE | YES.....1<br>_____<br>NO.....2 | |
| 5 | Does this person provide family planning methods or only information about family planning? | PROVIDES METHODS.....1<br>ONLY INFORMATION.....2 | → 7 |
| 6 | Does this community family planning distributor provide:<br>a: the pill?<br>b: Condoms?<br>c: Foaming tablets? | PILL:<br>YES.....1<br>NO.....2<br>DO NOT KNOW.....8<br>CONDOM:<br>YES.....1<br>NO.....2<br>DO NOT KNOW.....8<br>FOAMING TABLETS:<br>YES.....1<br>NO.....2<br>DO NOT KNOW.....8 | |
| 7 | Is this area visited by a mobile clinic that supplies family planning methods? | YES.....1<br>NO.....2 | → 10 |
| 8 | How often does the mobile family planning clinic visit? | NO. OF TIMES [ ][ ] PER MONTH. 1<br>YEAR...2 | |
| 9 | Does the mobile family planning clinic provide:<br>a: Pills?<br>b: IUD?<br>c: Injection? | PILL:<br>YES.....1<br>NO.....2<br>DO NOT KNOW.....8<br>IUD:<br>YES.....1<br>NO.....2<br>DO NOT KNOW.....8<br>INJECTION:<br>YES.....1<br>NO.....2<br>DO NOT KNOW.....8 | |

| NO. | QUESTIONS | CODING CATEGORIES | SKIP TO |
|---|---|---|---|
| 10 | If women do not go to the hospital or the health centre to deliver, who helps them to deliver? Is there a traditional birth attendant in this area to help women deliver? | YES.....1<br>NO.....2<br>DO NOT KNOW.....8 | |
| 11 | Is this cluster covered by a community health worker? | YES.....1<br>NO. .....2 → 14<br>DO NOT KNOW.....8 → 14 | |
| 12 | Does the community health worker provide any medications such as ORS, malaria pills, or only information? | PROVIDES MEDICATIONS.....1<br>ONLY INFORMATION.....2 → 14 | |
| 13 | Does this community health worker provide:<br><br>a: Oral rehydration salts (ORS) packets?<br><br>b: Malaria medicine?<br><br>c: Condoms?<br><br>d: Anything else? (WRITE ON LINE) | ORS:<br>YES.....1<br>NO.....2<br>DO NOT KNOW.....8<br><br>MALARIA MEDICINE:<br>YES.....1<br>NO.....2<br>DO NOT KNOW.....8<br><br>CONDOM:<br>YES.....1<br>NO.....2<br>DO NOT KNOW.....8<br><br>_____ | |

II. HOSPITALS

| | | | |
|---|---|---|---|
| 14 | What is the name of the nearest hospital that provides health services to people in this cluster?<br><br>IF DOES NOT KNOW NAME, WRITE "DOES NOT KNOW". | _____<br><br>_____ | |
| 15 | Is that a government hospital, or is it operated by a church or is it private? | GOVERNMENT.....1<br>MISSION/CHURCH.....2<br>PRIVATE EMPLOYER.....3<br>OTHER PRIVATE.....4<br>OTHER _____5<br>(SPECIFY) | |
| 16 | How far is the hospital from here in kilometers?<br><br>IF LESS THAN 1 KM., RECORD '00'. IF 97 KM.OR MORE, WRITE 97<br>IF UNKNOWN RECORD '98'(BUT TRY TO GET AN ESTIMATE) | KILOMETRES..... [ ][ ] | |
| 17 | How do most people in this cluster get from here to this hospital? | CAR / MOTORCYCLE.....1<br>PUBLIC TRANSPORT (BUS,TAXI).....2<br>BICYCLE.....3<br>ANIMAL / ANIMAL CART.....4<br>WALKING.....5<br>OTHER_____6<br>(SPECIFY) | |
| 18 | How long does it take to get from here to this hospital using (MEANS MENTIONED ABOVE)?<br><br>RECORD IN MINUTES IF LESS THAN 2 HOURS AND IN HOURS IF 2 HOURS OR MORE. | HOURS.....1 [0][ ][ ]<br><br>MINUTES.....2 [ ][ ][ ] | |
| 19 | Does this hospital provide:<br><br>antenatal care?<br>delivery care?<br>child immunisations?<br>family planning services? | YES NO DK<br><br>ANTENATAL CARE.....1 2 8<br>DELIVERY CARE.....1 2 8<br>CHILD IMMUNISATIONS....1 2 8<br>FAMILY PLANNING.....1 2 8 | |

| NO. | QUESTIONS | CODING CATEGORIES | SKIP TO |
|---|---|---|---|
| 20 | What is the name of the nearest health centre that provides health services to people in this cluster?<br><br>IF DOES NOT KNOW NAME, WRITE "DOES NOT KNOW". | _____<br><br>_____ | |
| 21 | Is that a government health centre or is it operated by a church or is it private? | GOVERNMENT.....1<br>MISSION/CHURCH.....2<br>PRIVATE EMPLOYER.....3<br>OTHER PRIVATE.....4<br>OTHER _____5<br>(SPECIFY) | |
| 22 | How far is the health centre from here in kilometres?<br><br>IF LESS THAN 1 KM., RECORD '00'<br>IF 97 KM OR MORE RECORD '97',<br>IF UNKNOWN RECORD '98' (BUT TRY TO GET AN ESTIMATE) | KILOMETRES..... [ ][ ] | |
| 23 | How do most people in this cluster get from here to this health centre? | CAR / MOTORCYCLE.....1<br>PUBLIC TRANSPORT (BUS,TAXI).....2<br>BICYCLE.....3<br>ANIMAL / ANIMAL CART.....4<br>WALKING.....5<br>OTHER_____6<br>(SPECIFY) | |
| 24 | How long does it take to get from here to this health centre using (MEANS MENTIONED ABOVE)?<br><br>RECORD IN MINUTES IF LESS THAN 2 HOURS AND IN HOURS IF 2 HOURS OR MORE. | HOURS.....1 [0][ ][ ]<br><br>MINUTES.....2 [ ][ ][ ] | |
| 25 | Does this health centre provide:<br><br>antenatal care?<br>delivery care?<br>child immunisations?<br>family planning services? | YES NO DK<br><br>ANTENATAL CARE.....1 2 8<br>DELIVERY CARE.....1 2 8<br>CHILD IMMUNISATIONS....1 2 8<br>FAMILY PLANNING.....1 2 8 | |
| 26 | Is there another health centre that provides services to people in this cluster?<br><br>IF YES: What is the name of this place?<br>IF DOES NOT KNOW NAME, WRITE "DOES NOT KNOW". | YES.....1<br><br>_____<br>(NAME)<br>NO.....2 | → 32 |
| 27 | Is that a government health centre or is it operated by a church or is it private? | GOVERNMENT.....1<br>MISSION/CHURCH.....2<br>PRIVATE EMPLOYER.....3<br>OTHER PRIVATE.....4<br>OTHER _____5<br>(SPECIFY) | |
| 28 | How far is the health centre from here in kilometers?<br><br>IF LESS THAN 1 KM., RECORD '00'.<br>IF 97 KM OR MORE RECORD '97'. IF UNKNOWN, RECORD '98'. | KILOMETRES..... [ ][ ] | |
| 29 | How do most people in this cluster get from here to this health centre? | CAR / MOTORCYCLE.....1<br>PUBLIC TRANSPORT (BUS,TAXI).....2<br>BICYCLE.....3<br>ANIMAL / ANIMAL CART.....4<br>WALKING.....5<br>OTHER_____6<br>(SPECIFY) | |

| NO. | QUESTIONS | CODING CATEGORIES | SKIP TO |
|---|---|---|---|
| 30 | How long does it take to get from here to the health centre using (MEANS MENTIONED ABOVE)?<br><br>RECORD IN MINUTES IF LESS THAN 2 HOURS AND IN HOURS IF 2 HOURS OR MORE. | HOURS.....1 [0][ ][ ]<br><br>MINUTES.....2 [ ][ ][ ] | |
| 31 | Does this health centre provide:<br><br>antenatal care?<br>delivery care?<br>child immunisations?<br>family planning services? | YES NO DK<br><br>ANTENATAL CARE.....1 2 8<br>DELIVERY CARE.....1 2 8<br>CHILD IMMUNISATIONS....1 2 8<br>FAMILY PLANNING.....1 2 8 | |

IV. DISPENSARIES

| | | | |
|---|---|---|---|
| 32 | Is there a dispensary that provides services to the people in this cluster?<br><br>IF YES: What is the name of this dispensary?<br><br>IF DOES NOT KNOW NAME, WRITE "DOES NOT KNOW". | YES.....1<br><br>_____<br>(NAME)<br>NO.....2 → 39 | |
| 33 | Is that a government dispensary or is it operated by a church or is it private? | GOVERNMENT.....1<br>MISSION/CHURCH.....2<br>PRIVATE EMPLOYER.....3<br>OTHER PRIVATE.....4<br>OTHER _____5<br>(SPECIFY) | |
| 34 | How far is the dispensary from here in kilometres?<br><br>IF LESS THAN 1 KM., RECORD '00'<br>IF 97 KM OR MORE RECORD '97',<br>IF UNKNOWN RECORD '98' (BUT TRY TO GET AN ESTIMATE). | KILOMETRES..... [ ][ ] | |
| 35 | How do most people in this cluster get from here to this dispensary? | CAR / MOTORCYCLE.....1<br>PUBLIC TRANSPORT (BUS,TAXI).....2<br>BICYCLE.....3<br>ANIMAL / ANIMAL CART.....4<br>WALKING.....5<br>OTHER _____6<br>(SPECIFY) | |
| 36 | How long does it take to get from here to this dispensary using (MEANS MENTIONED ABOVE)?<br><br>RECORD IN MINUTES IF LESS THAN 2 HOURS AND IN HOURS IF 2 HOURS OR MORE. | HOURS.....1 [0][ ][ ]<br><br>MINUTES.....2 [ ][ ][ ] | |
| 37 | Does this dispensary provide:<br><br>antenatal care?<br>delivery care?<br>child immunisations?<br>family planning services? | YES NO DK<br><br>ANTENATAL CARE.....1 2 8<br>DELIVERY CARE.....1 2 8<br>CHILD IMMUNISATIONS....1 2 8<br>FAMILY PLANNING.....1 2 8 | |
| 38 | Is there any other dispensary that people in this cluster use?<br><br>IF YES: How many dispensaries do people in this cluster use? | YES.....1<br>NO.....2 → 39<br><br>NUMBER..... [ ] | |
| 39 | Do shops in this area sell condoms? | YES.....1<br>NO.....2<br>DO NOT KNOW.....8 | |

## V. AVAILABILITY BY METHOD

| | | | |
|---|---|---|---|
| 40 | What is the name of the nearest place to this cluster where contraceptive pills can be obtained? | NEAREST PILL PROVIDER NAME _____ | |
| 41 | How far is it (in kms) from here?<br>IF LESS THAN 1 KM., RECORD '00'<br>IF 97 KM OR MORE RECORD '97'<br>IF UNKNOWN RECORD '98' | KILOMETRES..... [ ][ ] | |
| 42 | What is the name of the nearest place to this cluster where condoms can be obtained? | NEAREST CONDOM PROVIDER NAME _____ | |
| 43 | How far is it (in kms) from here?<br>IF LESS THAN 1 KM., RECORD '00'<br>IF 97 KM OR MORE RECORD '97',<br>IF UNKNOWN RECORD '98' (BUT TRY TO GET AN ESTIMATE). | KILOMETRES..... [ ][ ] | |
| 44 | What is the name of the nearest place to this cluster where a woman could get a family planning injection? | NEAREST INJECTABLE PROVIDER NAME _____ | |
| 45 | How far is it (in kms) from here?<br>IF LESS THAN 1 KM., RECORD '00'<br>IF 97 KM OR MORE RECORD '97',<br>IF UNKNOWN RECORD '98' (BUT TRY TO GET AN ESTIMATE). | KILOMETRES..... [ ][ ] | |
| 46 | What is the name of the nearest place to this cluster where foaming tablets can be obtained? | NEAREST FOAMING TABLET PROVIDER _____ | |
| 47 | How far is it (in kms) from here?<br>IF LESS THAN 1 KM., RECORD '00'<br>IF 97 KM OR MORE RECORD '97',<br>IF UNKNOWN RECORD '98' (BUT TRY TO GET AN ESTIMATE). | KILOMETRES..... [ ][ ] | |
| 48 | What is the name of the nearest place to this cluster where IUDs can be inserted? | NEAREST IUD PROVIDER NAME _____ | |
| 49 | How far is it (in kms) from here?<br>IF LESS THAN 1 KM., RECORD '00'<br>IF 97 KM OR MORE RECORD '97',<br>IF UNKNOWN RECORD '98' (BUT TRY TO GET AN ESTIMATE). | KILOMETRES..... [ ][ ] | |
| 50 | What is the name of the nearest place to this cluster where a woman could go to get a sterilisation operation? | NEAREST STERILISATION PROVIDER NAME _____ | |
| 51 | How far is it (in kms) from here?<br>IF LESS THAN 1 KM., RECORD '00'<br>IF 97 KM OR MORE RECORD '97',<br>IF UNKNOWN RECORD '98' (BUT TRY TO GET AN ESTIMATE). | KILOMETRES..... [ ][ ] | |
| 52 | Has there been any special educational campaign in this cluster over the past 6 months that was intended to increase awareness about the problem of AIDS? | YES.....1<br>NO.....2 | |