

Levels, trends and determinants of contraceptive use among adolescent girls in Kenya



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APHIA II Operations Research Project/ Population Council

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Acronyms

AIDS	Acquired Immunodeficiency Syndrome
APHIA	AIDS, Population and Health Integrated Assistance
CBS	Central Bureau of Statistics
CDC	Centers for Disease Control and Prevention
CPR	Contraceptive Prevalence Rate
DFID	Department for International Development
HIV	Human Immunodeficiency Virus
JICA	Japan International Cooperation Agency
KDHS	Kenya Demographic and Health Survey
KEMRI	Kenya Medical Research Institute
KNBS	Kenya National Bureau of Statistics
NACC	National AIDS Control Council
NASCOP	National AIDS and STI Control Programme
NCAPD	National Coordinating Agency for Population and Development
NCPD	National Council for Population and Development
OR	Operations Research
SRH	Sexual and Reproductive Health
UNDP	United Nations Development Programme
UNICEF	United Nations Children's Fund
UNFPA	United Nations Fund for Population Activities
USAID	United States Agency for International Development

Executive summary

Despite continued investments in adolescent sexual and reproductive health (SRH) programs worldwide, challenges still exist in adequately meeting the SRH information and service needs of this subset of the population. The inadequacy of programs to effectively meet the SRH information and service needs of adolescents exposes them to undesired health consequences such as the risk of acquiring sexually transmitted infections (STIs) including HIV. Adolescent girls are disproportionately disadvantaged in terms of these risks including the risk of unintended pregnancies that are associated with poor outcomes such as miscarriages, stillbirths, unsafe abortion, and other complications that might result in infant or maternal deaths. Moreover, available evidence shows that although most pregnancies to adolescent girls in sub-Saharan Africa are unintended or mistimed, the use of family planning methods among this group remains low.

In Kenya, recent trends in contraceptive use among currently married women aged 15-49 years show that after experiencing a stall between 1998 and 2003, the contraceptive prevalence rate (CPR) increased between 2003 and 2008-2009. Although the increase in CPR after 2003 is encouraging, there is limited understanding of how these changes affected adolescents, especially girls, given the unique SRH challenges that they face. This report is therefore based on further analysis of the Kenya Demographic and Health Surveys (KDHS) data to understand the trends, differentials and determinants of contraceptive use among adolescent girls aged 15-19 years in the country over a ten-year period and to identify the programmatic implications of the observed patterns.

Key findings

- ***Low use of family planning methods among those who have ever had sex over time:*** Across all survey years, less than 40% of those who have ever had sex have ever used a method of family planning; less than 20% were currently using any contraceptive method; while less than 15% were currently using a modern method of family planning. However, current use of a modern method slightly increased from 10% in 1998 to 11% in 2003 and 14% in 2008-2009 with the increases occurring among adolescent girls with various socio-economic and demographic characteristics including those currently married.
- ***Low levels but steady increase in the use of modern methods over time among adolescent girls who had recent sex:*** The proportion currently using a modern method among adolescent girls who had sex in the one month preceding the survey remained low but increased from 16% in 1998 to 20% in 2003 and 25% in 2008-2009. Such increases occurred among those who were currently married (from 12% in 1998 to 15% in 2003 and 27% in 2008-2009) as well as among younger (15-17 years) and older (18-19 years) adolescents.
- ***Shift from pills to the use of injections and condoms over time although overall levels remain low:*** Among current users of any method, the proportion of adolescent girls currently using pills declined from 23% in 1998 to 13% in 2003

and 10% in 2008-2009. At the same time, the proportion currently using injections increased from 13% in 1998 to 31% in 2003 and 39% in 2008-2009 while the proportion currently using condoms increased from 21% in 1998 to 29% in 2003 and 34% in 2008-2009.

- ***Variations in trends in method choice by marital status and place of residence:*** Whereas the proportion of currently married adolescent girls using injections almost tripled over the ten-year period from 24% in 1998 to 41% in 2003 and 64% in 2008-2009, the proportion of unmarried adolescent girls using the method first increased before declining. Similarly, while the use of injections steadily increased in urban areas (from 9% in 1998 to 31% in 2003 and 57% in 2008-2009), it first increased in the rural areas and remained unchanged afterwards. However, there was a steady increase in the proportion using condoms over time among unmarried adolescent girls and those in the rural areas.
- ***Over time, public health facilities have become the preferred source of methods among current users:*** Although the proportion of current users of modern methods that obtained them from public and private health facilities was similar in 1998 (32%), private facilities gained prominence in 2003 (43% compared to 30% from public health facilities) before being overtaken by public facilities in 2008-2009 as the preferred source of methods (44% from public versus 29% from private facilities).
- ***Current users of modern methods from low socio-economic backgrounds obtain their methods mostly from private health facilities:*** The proportion of current users of modern methods in the poorest wealth quintile that obtained them from public health facilities declined over time (from 69% in 1998 to 64% in 2003 and 35% in 2008-2009) while the proportion that obtained the methods from private facilities increased from 6% in 1998 to 36% in 2003 and 43% in 2008-2009. In addition, all adolescent girls with no education and who were currently using a modern method obtained the methods from private facilities in 2008-2009.
- ***Radio is the most common source of family planning information for adolescent girls:*** The proportion of adolescent girls that learned about family planning from radio increased from 40% in 1998 to 54% in 2008-2009. Although a similar increase occurred among those who heard about family planning on television (from 14% in 1998 to 28% in 2008-2009), the proportions are substantially lower compared to radio. The proportion that heard about family planning on newspapers slightly increased from 27% in 1998 to 29% 2008-2009.
- ***Unmet need for family planning among married adolescent girls is slightly increasing over time:*** The proportion of currently married adolescent girls with unmet need for family planning (spacing and limiting) slightly increased from 27% in 1998 to 29% in 2003 and 30% in 2008-2009 in seven of the eight provinces of Kenya. These rates are higher than those of currently married women aged 20-49 years from the same regions (24% in 1998, 25% in 2003, and 26% in 2008-2009).

- ***More than half of adolescent girls would like to delay childbearing and about half desire three or fewer children across survey years:*** Among adolescent girls who have ever had sex and intend to have children in future, the proportion that would like to wait for two or more years declined from 63% in 1998 to 55% in 2003 before increasing to 64% in 2008-2009. In addition, the proportion of all adolescent girls who desire three or fewer children slightly increased from 49% in 1998 to 50% in 2003 and 52% in 2008-2009.

Programmatic implications

- ***Strengthen the provision of family planning information and services for adolescent girls:*** The low use of contraception, high levels of unmet need for family planning, and increasing desire for three or fewer children among adolescent girls over time all point to the need for strengthening the provision of family planning information and services for adolescent girls in Kenya. Modest improvements in current use of modern methods even among married adolescent girls suggest that opportunities exist for further improving the uptake of family planning information and services among this group.
- ***Make family planning services responsive to the needs of various groups of adolescent girls:*** For instance, the steady increase in the use of injections among married adolescent girls over time and the decline in the use of pills and condoms among this group suggest changing preference to more long-term methods that the girls have control over. In contrast, the steady decline in the use of pills among unmarried adolescent girls coupled with steady increase in condom use over time and initial increase followed by decline in the use of injections suggest preference for more short-term methods among this group of adolescents.
- ***Reach adolescent girls with family planning information through radio:*** The fact that radio is the most common source of family information for adolescent girls and that modest improvements in current use of modern methods over time were accompanied by an increase in the proportion of adolescent girls who heard about family planning on the radio suggests that this is an important medium for reaching young girls with such information. It could also reflect the fact that radio is affordable to many compared to television or newspapers.
- ***Strengthen the capacity of public health facilities to adequately respond to family planning information and service needs of adolescent girls:*** Although at par with private health facilities as the major source of family planning methods for adolescent girls in 1998, public health facilities were overtaken by private ones in 2003. Since then, however, public health facilities have emerged as the major source of family planning methods for adolescent girls. Strengthening their capacity to adequately respond to the needs of adolescent girls is therefore necessary for improving uptake of methods and reducing unmet need for family planning among this group.

Background

Despite continued investments in adolescent sexual and reproductive health (SRH) programs worldwide, challenges still exist in adequately meeting the SRH information and service needs of this subset of the population. These challenges are more pronounced in contexts such as that of sub-Saharan Africa which, among the major regions of the world, has the greatest proportion of adolescent girls who have begun childbearing (Gupta and Mahy 2003; Kaufman et al. 2001; Mba 2003; Westoff 2003). Moreover, in many parts of the region, adolescent sexuality and reproductive health remains a highly charged moral issue, which is compounded by the fact that in most cases, reproductive health services in the region are not oriented towards adequately meeting the needs of adolescents (Katz and Naré 2002; Warenius et al. 2006; Wood and Jewkes 2006). Addressing adolescent SRH therefore requires multifaceted interventions that include gaining community-wide acceptance in addition to providing information, life skills, support and access to youth-friendly services (Bearinger et al. 2007; Mmari and Magnani 2003; Williamson et al. 2009).

Addressing adolescent SRH issues therefore continues to be a major challenge to governments and programs in sub-Saharan Africa including Kenya. The inadequacy of programs to effectively meet the SRH information and service needs of adolescents exposes them to undesired health consequences such as the risk of acquiring sexually transmitted infections (STIs) including HIV. Adolescent girls are disproportionately disadvantaged in terms of these risks including the risk of unintended pregnancies that are associated with poor outcomes such as miscarriages, stillbirths, unsafe abortion, and other complications that might result in infant or maternal deaths (Machel 2001; Magadi 2003, 2006). In addition, available evidence shows that most pregnancies to adolescent girls in sub-Saharan Africa are unintended or mistimed and the use of family planning methods among this group remains low (Cleland et al. 2006; Magadi 2003; Magadi and Curtis 2003; Manzini 2001).

In Kenya, recent trends in contraceptive use among currently married women aged 15-49 years show that after experiencing a stall between 1998 and 2003, the contraceptive prevalence rate (CPR)—the percentage of currently married women aged 15-49 years using any method of family planning—increased from 39% in 2003 to 46% in 2008-2009 (CBS, MOH and ORC Macro 2004; KNBS and ICF Macro 2010; NCPD, CBS and Macro International 1999). Although the increase in CPR after 2003 is encouraging, there is limited understanding of how these changes affect adolescents, especially girls, given the unique SRH challenges that they face. This report is therefore based on further analysis of the Kenya Demographic and Health Surveys (KDHS) data to understand the trends, differentials and determinants of contraceptive use among adolescent girls aged 15-19 years in Kenya over a ten-year period. The analysis covers two time periods: (1) period of stall in CPR (1998 and 2003); and (2) period of increase in CPR (2003 and 2008-2009). The results will guide the planned review of the 2003 Kenya Adolescent Reproductive Health and Development policy by the National Coordinating Agency for Population and Development (NCAPD). The results are further expected to guide the Ministry of Health's Adolescent Reproductive Health Programme, and APHIA-*plus* partners in designing program activities that respond to the unique needs of adolescent girls.

Study objectives

- To examine the levels and trends in contraceptive use, choice and source of methods among adolescent girls aged 15-19 years in Kenya over a ten-year period;
- To explore the variations in contraceptive use, method choice and source over time by various socio-demographic and socio-economic characteristics of adolescent girls;
- To identify the implications of the observed levels, trends and variations in contraceptive use, method choice and source for programmatic actions.

Methodology

The data are from the 1998, 2003, and 2008-2009 KDHS, which comprise nationally representative samples of women and men of reproductive age group (15-49 and 15-54 years respectively). The 1998 KDHS interviewed 7,881 women from seven provinces of Kenya, namely, Nairobi, Central, Coast, Eastern, Nyanza, Rift Valley, and Western. Of these 1,852 (24%) were aged between 15-19 years. In 2003, a total of 8,195 women from all the eight provinces of Kenya (including North Eastern) were interviewed and 1,820 (22%) were aged 15-19 years. The 2008-2009 KDHS interviewed 8,444 women from the eight provinces and 1,767 (21%) were aged 15-19 years. For purposes of comparison across surveys, this report uses information on adolescent girls aged 15-19 years from seven provinces that were included in all the three surveys. North Eastern province is therefore excluded from the 2003 and 2008-2009 datasets.

In all surveys, respondents were asked about background characteristics (e.g. age, education, religion, household assets); reproductive history; knowledge and use of family planning methods; antenatal and delivery care; infant feeding practices including patterns of breastfeeding; childhood vaccinations; recent episodes of childhood illness and responses to illness; marriage and sexual activity; fertility preferences; husband's background and respondent's work status; childhood and adult mortality, including maternal mortality; AIDS-related knowledge, attitudes, and behavior; female circumcision; and nutritional status of children and mothers. The 2003 and 2008-2009 surveys included HIV testing and questions on domestic violence as well.

This report focuses on questions on background characteristics, family planning, and fertility preferences. Analysis entails cross-tabulation of indicators of family planning and fertility preferences by respondents' background characteristics including age, highest educational level, place of residence, region/province, wealth quintile and current marital status. The estimates are weighted using KDHS weights.

Characteristics of adolescent girls

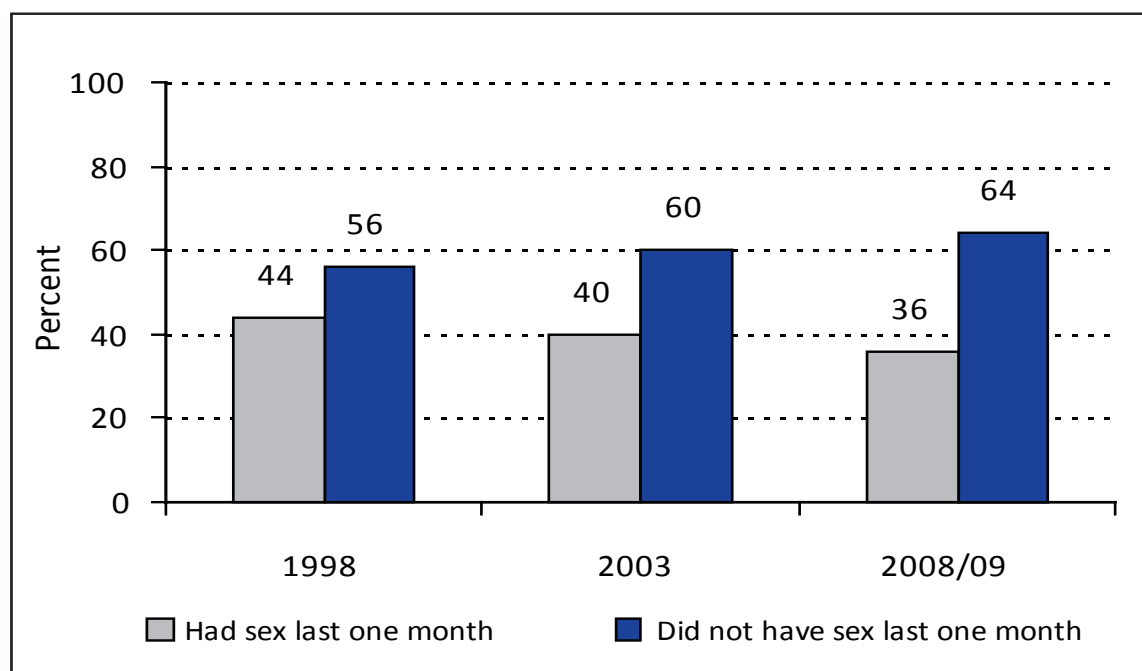
In all the survey years, more than half of the adolescent girls were aged below 18 years with the proportion reaching 62% in the 2008-09 survey (Table 1). The majority had primary level education and more than three-quarters resided in rural areas. Although the proportion of adolescent girls with secondary and above level of education remained stable at 23% between 1998 and 2003, this increased to 32% in 2008-2009. Despite the increase in the proportion with secondary and above level of education, the proportion in the lowest two wealth quintiles (poorest 40%) increased from 34% in 1998 to 36% in 2003 and 38% in 2008-2009 surveys respectively. In contrast, among all women aged 15-49 years, the proportion in the lowest two wealth quintiles declined from 39% in 1998 to 35% in 2003 and 34% in 2008-2009.

Table 1: Percent distribution of adolescent girls 15-19 years by various background characteristics, Kenya, 1998-2008/09

Characteristics	1998 (%)	2003 (%)	2008/09 (%)	All survey years (%)	Number of adolescent girls
Age group					
15-17	57.0	58.0	61.8	58.9	3,173
18-19	43.0	42.0	38.2	41.1	2,213
Highest education level					
No education	2.9	5.2	3.0	3.7	200
Primary	73.8	71.5	64.8	70.2	3,779
Secondary and above	23.3	23.3	32.2	26.1	1,407
Place of residence					
Rural	78.0	79.1	81.4	79.4	4,279
Urban	22.0	20.9	18.6	20.6	1,107
Region					
Nairobi	9.7	7.9	6.1	8.0	429
Central	7.8	12.6	9.3	9.9	534
Coast	7.1	8.0	8.2	7.7	417
Eastern	18.7	17.4	17.3	17.8	960
Nyanza	24.9	17.9	18.5	20.5	1,103
Rift Valley	19.3	21.5	26.8	22.4	1,207
Western	12.5	14.7	13.8	13.7	736
Wealth quintile					
Poorest	17.8	15.9	17.1	16.9	912
Poorer	16.1	19.6	21.0	18.8	1,014
Middle	24.2	20.7	22.3	22.4	1,208
Richer	19.2	22.0	21.3	20.8	1,121
Richest	22.7	21.8	18.3	21.0	1,131
Current marital status					
Never married	83.3	79.9	87.3	83.5	4,496
Currently married	15.4	17.7	11.9	15.0	810
Formerly married	1.3	2.4	0.8	1.5	80
Ever had sex					
Yes	43.5	42.3	36.9	41.0	2,208
No	56.4	57.6	62.9	58.9	3,170
Missing	0.1	0.1	0.2	0.2	8
Total	100.0	100.0	100.0	100.0	
Number of girls	1,851	1,817	1,718	5,386	5,386
<i>Notes:</i> Figures for 2003 and 2008-09 exclude North Eastern Province (NEP) which was not included in the 1998 survey; Percentages are weighted.					

With respect to marital status, the proportion of adolescent girls ever married increased from 17% in 1998 to 20% in 2003 before declining to 13% in 2008-2009 (Table 1).¹ At the same time, the proportion that had ever had sex declined from 44% in 1998 to 42% in 2003 and 37% in 2008-2009. Recent sexual activity also declined over the same period with the proportion having had sex in the one month preceding the survey (among those who have ever had sex) declining from 44% in 1998 to 40% in 2003 and 36% in 2008-2009 (Figure 1).

Figure 1: Percent distribution of adolescent girls 15-19 years who had ever had sex by recent sexual activity, Kenya, 1998-2008/09



Notes: Recent sexual activity refers to having had sex in the one month preceding the survey.

Contraceptive use

Across all survey years, less than 40% of adolescent girls who have ever had sex have ever used any method of family planning. The proportion that ever used any contraceptive method remained stable at 36% and 35% respectively between 1998 and 2003 before slightly increasing to 39% in 2008-2009. There was, however, a steady increase in the proportion that ever used a modern method of family planning over the same period with the greatest increase occurring between 2003 and 2008-2009 (Table 2). This occurred across all age groups, place of residence (rural and urban) and wealth quintiles except the middle quintile. The increase also occurred among adolescent girls with primary and above levels of education; those living in rural and urban areas; those from Central, Coast and Western provinces; as well as among those who were not currently married. Among currently married adolescent girls, ever use of a modern method remained unchanged at 24% between 1998 and 2003 before increasing to 37% in 2008-2009.

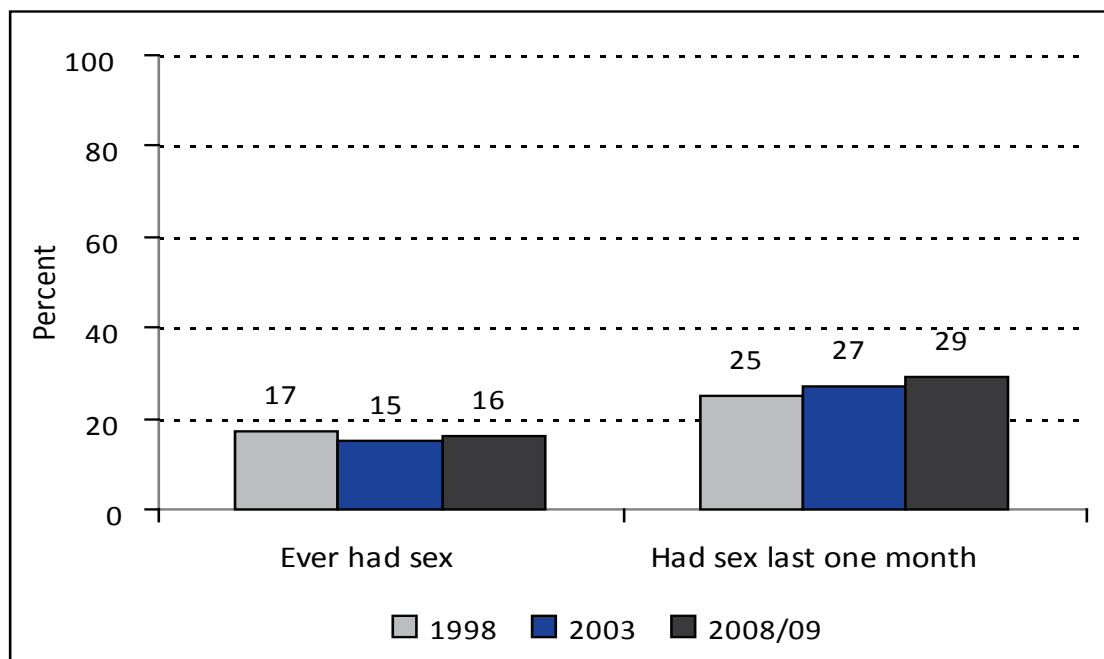
¹ The proportions of ever married adolescent girls in Kenya over time are slightly lower than those observed in Uganda in 2000-2001 (32%) and 2006 (22%) while the proportion ever married in 2008-2009 is comparable to that of Tanzania in 2003-2004 (14%) and 2007-2008 (13%).

Table 2: Percent distribution of adolescent girls who ever used any and modern family planning method among those who have ever had sex by various background characteristics, Kenya, 1998-2008/09

Characteristics	Ever use of any method			Ever use of a modern method		
	1998 (%)	2003 (%)	2008/09 (%)	1998 (%)	2003 (%)	2008/09 (%)
Age group						
15-17	27.2	26.7	32.5	14.4	19.4	31.7
18-19	40.5	39.2	44.6	27.2	28.3	40.5
Highest education level						
No education	17.0	13.0	13.6	13.5	11.1	10.1
Primary	32.7	33.7	36.5	20.2	23.7	34.4
Secondary and above	53.1	51.6	49.6	35.3	40.1	45.9
Place of residence						
Rural	34.3	32.4	36.6	20.0	22.8	33.4
Urban	40.0	42.0	48.9	30.1	32.8	48.8
Region						
Nairobi	46.9	35.2	49.6	34.7	28.2	49.6
Central	46.9	53.7	57.5	24.9	35.4	57.5
Coast	14.6	26.9	45.5	11.8	26.3	40.6
Eastern	45.4	33.2	31.1	31.8	22.8	29.7
Nyanza	32.8	21.9	50.2	19.6	18.4	47.0
Rift Valley	31.2	40.9	27.7	20.1	27.0	24.1
Western	34.8	39.6	32.5	16.3	26.4	32.0
Wealth quintile						
Poorest	28.9	19.9	20.9	11.9	13.5	18.2
Poorer	32.5	29.8	34.6	19.8	20.6	30.0
Middle	34.5	32.3	40.1	23.7	22.7	37.2
Richer	40.1	41.2	50.7	24.6	31.2	50.0
Richest	42.7	45.5	48.6	32.6	34.1	46.7
Current marital status						
Never/formerly married	35.3	34.3	38.7	22.2	26.0	36.5
Currently married	36.8	34.8	40.0	23.7	23.6	36.5
Girls 15-19 years	35.8	34.5	39.1	22.7	25.0	36.5
Number of girls	805	768	635	805	768	635
<i>Notes:</i> Figures for 2003 and 2008-09 exclude North Eastern Province (NEP) which was not included in the 1998 survey; Percentages are weighted.						

The level of current use of any family planning method among adolescent girls who have ever had sex is even lower with no remarkable change across survey years. In all survey years, less than 20% of adolescent girls who have ever had sex reported currently using any contraceptive method (17% in 1998; 15% in 2003; 16% in 2008-2009; Figure 2). Among those who had sex within the last one month preceding the survey, less than 30% used any family planning method across the survey years. However, the proportion using any family planning method among those who had sex in the one month preceding the survey modestly increased from 25% in 1998 to 27% in 2003 and 29% in 2008-2009 (Figure 2).

Figure 2: Percent distribution of adolescent girls 15-19 years currently using any contraceptive method by sexual activity, Kenya, 1998-2008/09



Across all survey years, less than 15% of adolescent girls who have ever had sex were currently using a modern method of family planning although the proportions modestly increased from 10% in 1998 to 11% in 2003 and 14% in 2008-2009 (Table 3). Such increase occurred among adolescents in the youngest age group, those with primary and above level of education, those living in rural and urban areas, those from Coast, Nyanza, and Western provinces, as well as among those currently married. For some of the characteristics, however, substantial increases occurred between 2003 and 2008-2009 while for others, there was a decline or stall in the proportion of adolescent girls who have ever had sex and were currently using a modern family planning method over the same period. In addition, a similar proportion of unmarried adolescent girls who have ever had sex and their married counterparts were currently using a modern method of contraception in 1998 but a higher proportion of the married compared to the unmarried adolescent girls were currently using a modern method in 2003 and 2008-2009.

Table 3: Percent distribution of adolescent girls 15-19 years currently using a modern method of family planning according to sexual activity by various background characteristics, Kenya, 1998-2008/09

Characteristics	Adolescent girls who have ever had sex			Adolescent girls who had sex one month preceding survey		
	1998 (%)	2003 (%)	2008/09 (%)	1998 (%)	2003 (%)	2008/09 (%)
Age group						
15-17	4.3	5.5	11.9	6.1	12.7	25.8
18-19	12.7	15.0	15.1	20.0	23.0	25.2
Highest education level						
No education	2.2	2.8	3.1	3.0	0.0	0.0
Primary	9.2	11.6	12.7	14.0	20.9	26.2
Secondary and above	13.7	15.9	17.7	30.1	39.7	31.5
Place of residence						
Rural	7.6	9.5	10.8	11.4	17.1	19.9
Urban	15.8	18.3	24.8	27.3	30.8	38.5
Region						
Nairobi	20.4	15.6	28.5	41.2	28.3	61.6
Central	13.9	14.4	25.6	14.5	35.0	55.0
Coast	4.8	11.4	22.0	5.9	13.1	36.6
Eastern	15.5	21.2	10.2	19.1	30.5	21.6
Nyanza	7.1	9.3	15.0	13.8	10.1	18.6
Rift Valley	7.6	11.4	7.3	15.5	19.9	16.7
Western	2.8	9.6	11.9	5.1	20.9	18.5
Wealth quintile						
Poorest	3.3	4.6	3.8	4.0	6.5	8.0
Poorer	9.7	9.9	12.7	15.3	18.8	19.9
Middle	10.0	12.7	12.8	18.9	23.6	27.0
Richer	11.6	12.4	24.8	19.5	20.9	54.8
Richest	14.1	16.0	13.2	25.2	27.7	19.1
Current marital status						
Never/formerly married	9.5	10.2	10.5	20.4	37.1	23.2
Currently married	10.2	13.2	20.3	12.4	15.3	26.5
Girls 15-19 years	9.8	11.4	13.7	15.7	20.1	25.1
Number of girls	805	768	635	359	308	226
<i>Notes:</i> Figures for 2003 and 2008-09 exclude North Eastern Province (NEP) which was not included in the 1998 survey; Percentages are weighted.						

Among adolescent girls who had sex in the last one month preceding the survey, the highest proportion of 25% that reported current use of a modern method of family planning was in 2008-2009 (Table 3). This represents modest increase from 20% in 2003 and 16% in 1998. Despite the noted increase in the proportion currently using a modern method among those who experienced recent sexual activity, disparities exist among adolescents of various socio-economic groups. For instance, although the increase occurred among adolescents residing in both urban and rural areas, the proportion currently using a modern method among those who experienced recent sexual activity was about twice as high in the urban compared to rural areas across all survey years. Moreover, current use of a modern method was consistently low among those with no education and among those in the poorest quintile. In addition,

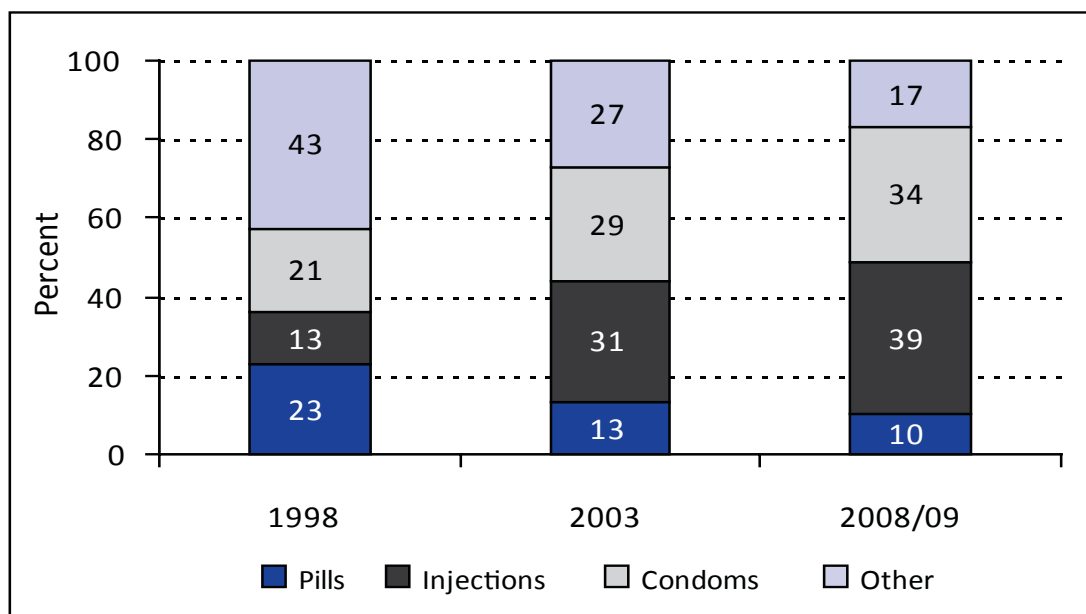
whereas more than 50% of adolescent girls in Nairobi and Central provinces who had sex in the one month preceding the survey were currently using a modern method in 2008-2009, the proportion is about three times lower in Nyanza, Rift Valley and Western provinces.

It is also worth noting that although the proportion of unmarried adolescent girls currently using a modern method among those who had sex recently increased from 20% in 1998 to 37% in 2003, this declined to near 1998 levels in 2008-2009 (Table 3). There was, however, a steady increase in the proportion of married adolescent girls currently using a modern method among those who had sex in the one month preceding the survey from 12% in 1998 to 15% in 2003 and 27% in 2008-2009. The increase also occurred across all age groups reaching 26% and 15% among those aged 15-17 and 18-19 years respectively in 2008-2009.

Method choice

Consistent with national trends, the proportion of adolescent girls currently using pills among current users of any method declined from 23% in 1998 to 13% in 2003 and 10% in 2008-2009 (Figure 3). In contrast, the proportion currently using injections increased from 13% in 1998 to 31% in 2003 and 39% in 2008-2009. Similarly, the proportion currently using condoms increased from 21% in 1998 to 29% in 2003 and 34% in 2008-2009. Despite the noted increase in use of injections and condoms over time, overall levels remained low at below 40%.

Figure 3: Percent distribution of adolescent girls currently using any method of family planning according to type of method, Kenya, 1998-2008/09



There was a dramatic decline in the use of pills among unmarried adolescent girls (from 24% in 1998 to 5% in 2003 and 6% in 2008-2009) and among those in the urban areas (from 33% in 1998 to 17% in 2003 and 15% in 2008-2009; Table 4). In contrast, the proportion of currently married adolescent girls using pills remained stable at 22% between 1998 and 2003 before declining to 14% in 2008-2009. But the proportion of adolescent girls using pills in the rural areas declined steadily from 17% in 1998 to 11% in 2003 and 7% in 2008-2009.

With respect to use of injections, there was a steady increase in the proportion of adolescent girls using the method over time across all age groups and among those with primary level or no education; in the urban areas; in Nairobi, Central, Coast, Eastern and Rift Valley provinces; and among those currently married (Table 4). In addition, the proportion of currently married adolescent girls using injections almost tripled between 1998 and 2008-2009 from 24% to 64% while the proportion of unmarried adolescent girls using the method first increased before declining. However, among unmarried adolescent girls and those in the rural areas, the inconsistent trends in the use of injections seem to be compensated for by the steady increase in the proportion using condoms over time.

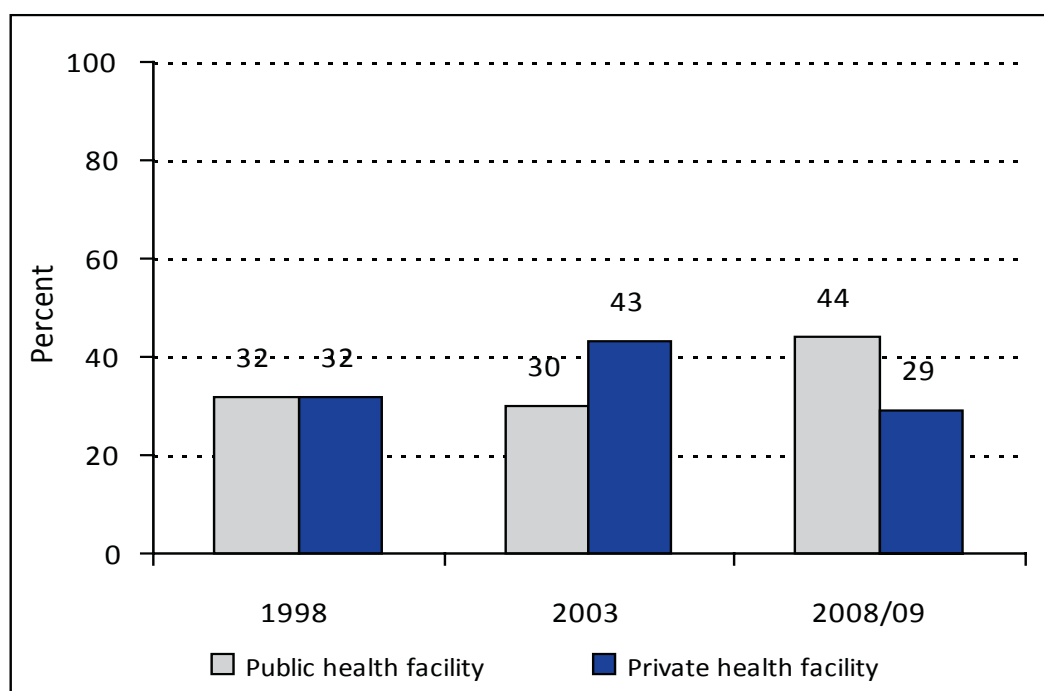
Table 4: Percent distribution of adolescent girls 15-19 years using pills, injections and condoms among current users of any method by various background characteristics, Kenya, 1998-2008/09

Characteristics	Pills			Injections			Condoms		
	1998 (%)	2003 (%)	2008/09 (%)	1998 (%)	2003 (%)	2008/09 (%)	1998 (%)	2003 (%)	2008/09 (%)
Age group									
15-17	2.1	15.4	1.3	4.4	19.1	26.3	30.0	23.2	59.4
18-19	29.4	12.0	15.2	15.8	34.5	47.1	18.0	30.6	18.4
Highest education level									
No education	0.0	23.2	0.0	29.5	37.2	100.0	0.0	0.0	0.0
Primary	26.1	11.2	12.0	12.5	36.4	38.9	19.7	25.0	31.5
Secondary and above	15.8	18.2	6.2	13.5	6.1	38.3	25.5	49.7	39.6
Place of residence									
Rural	16.7	10.8	7.1	15.7	31.0	29.8	20.1	26.7	43.8
Urban	32.8	17.3	15.1	8.8	30.6	56.8	22.3	33.8	15.8
Region									
Nairobi	46.2	14.7	27.2	7.7	16.1	31.6	23.1	48.8	37.1
Central	25.0	13.7	16.7	4.9	41.0	42.9	27.8	7.0	31.1
Coast	14.6	30.1	6.3	56.3	64.4	71.8	14.6	5.5	14.6
Eastern	21.3	0.0	9.7	5.7	23.4	50.4	31.8	56.9	12.0
Nyanza	20.7	15.6	6.7	17.5	26.7	10.0	15.2	43.4	56.1
Rift Valley	16.5	16.5	4.2	26.0	27.9	71.1	11.0	16.9	9.7
Western	0.0	8.4	11.7	4.6	37.6	38.3	16.0	15.5	50.0
Wealth quintile									
Poorest	10.8	10.5	6.8	13.5	36.0	31.4	8.4	11.9	24.6
Poorer	22.2	10.1	8.8	8.8	22.5	42.0	27.0	39.7	22.8
Middle	35.6	11.0	8.0	9.3	42.8	21.6	16.6	19.5	56.8
Richer	12.0	14.7	8.8	17.0	22.6	54.7	24.8	34.6	36.4
Richest	28.5	15.3	15.3	15.0	31.8	29.5	22.6	30.0	27.1
Current marital status									
Never/formerly married	23.5	5.1	6.2	7.2	21.8	18.1	25.4	42.8	56.4
Currently married	21.6	21.7	14.3	23.6	41.4	64.0	13.0	12.8	7.8
Number of girls	138	118	104	138	118	104	138	118	104
<i>Notes:</i> Figures for 2003 and 2008-09 exclude North Eastern Province (NEP) which was not included in the 1998 survey; Percentages are weighted.									

Last source of methods

Over the years, there has been a shift in the preferred source of modern methods of contraception among adolescent girls. In 1998, adolescent girls currently using modern methods of family were equally likely to obtain them from public and private health facilities (Figure 4). In 2003, a higher proportion of adolescent girls obtained the methods from private compared to public health facilities. However, by 2008-2009, public health facilities had overtaken private ones as the preferred source of methods. Moreover, the proportion obtaining the methods from private facilities declined to below 1998 levels by 2008-2009. At the national level, however, public health facilities continued to be the preferred source of methods for women 15-49 years although the proportion obtaining the methods from these sources declined from 58% in 1998 to 53% in 2003 before increasing to 57% in 2008-2009. The corresponding proportions of women 15-49 years who obtained the methods from private health facilities are 33%, 41% and 36% respectively.

Figure 4: Percent distribution of adolescent girls currently using a modern family planning method by last source of method, Kenya, 1998-2008/09



Although public health facilities were the most popular source of methods in 2008-2009, there was steady decline in the proportion of adolescent girls in the poorest wealth quintile who obtained the methods from these facilities over time (from 69% in 1998 to 64% in 2003 and 35% in 2008-2009; Table 5). In contrast, the proportion of adolescent girls in the poorest wealth quintile who obtained the methods from private health facilities increased sevenfold between 1998 and 2008-2009 from 6% to 43%. In addition, all adolescent girls with no education and who were currently using a modern method obtained the methods from private facilities in 2008-2009.

Table 5: Percent distribution of adolescent girls currently using a modern family planning method according to last source of method by various background characteristics, Kenya, 1998-2008/09

Characteristics	Public health facility			Private health facility		
	1998 (%)	2003 (%)	2008/09 (%)	1998 (%)	2003 (%)	2008/09 (%)
Age group						
15-17	14.1	15.8	40.6	25.6	55.4	15.4
18-19	35.7	33.5	45.7	33.2	39.9	37.6
Highest education level						
No education	39.4	61.7	0.0	60.6	38.4	100.0
Primary	36.9	34.7	47.6	28.1	43.0	29.0
Secondary and above	19.3	9.9	37.7	41.9	42.2	26.4
Place of residence						
Rural	37.7	33.5	42.2	26.1	43.2	22.1
Urban	25.2	24.3	46.2	39.9	41.7	40.2
Region						
Nairobi	20.0	19.3	25.2	50.0	34.0	40.4
Central	43.4	47.1	7.2	30.1	52.9	76.0
Coast	31.8	53.9	70.7	51.2	40.7	13.6
Eastern	31.2	29.5	70.3	14.8	18.1	13.0
Nyanza	24.7	20.9	24.6	45.4	48.0	25.6
Rift Valley	57.3	24.1	88.6	19.9	63.4	0.0
Western	22.3	51.9	25.2	0.0	34.8	55.7
Wealth quintile						
Poorest	68.8	64.4	34.5	5.5	35.6	42.5
Poorer	36.5	32.6	61.4	17.0	36.7	16.9
Middle	38.0	33.0	43.3	26.7	53.6	25.6
Richer	27.4	40.2	42.5	39.8	18.1	28.4
Richest	21.5	12.4	29.4	44.3	57.7	42.0
Current marital status						
Never/formerly married	24.4	22.8	29.3	32.1	31.8	22.7
Currently married	45.9	38.4	59.5	31.9	54.5	35.4
Number of girls	79	88	86	79	88	86

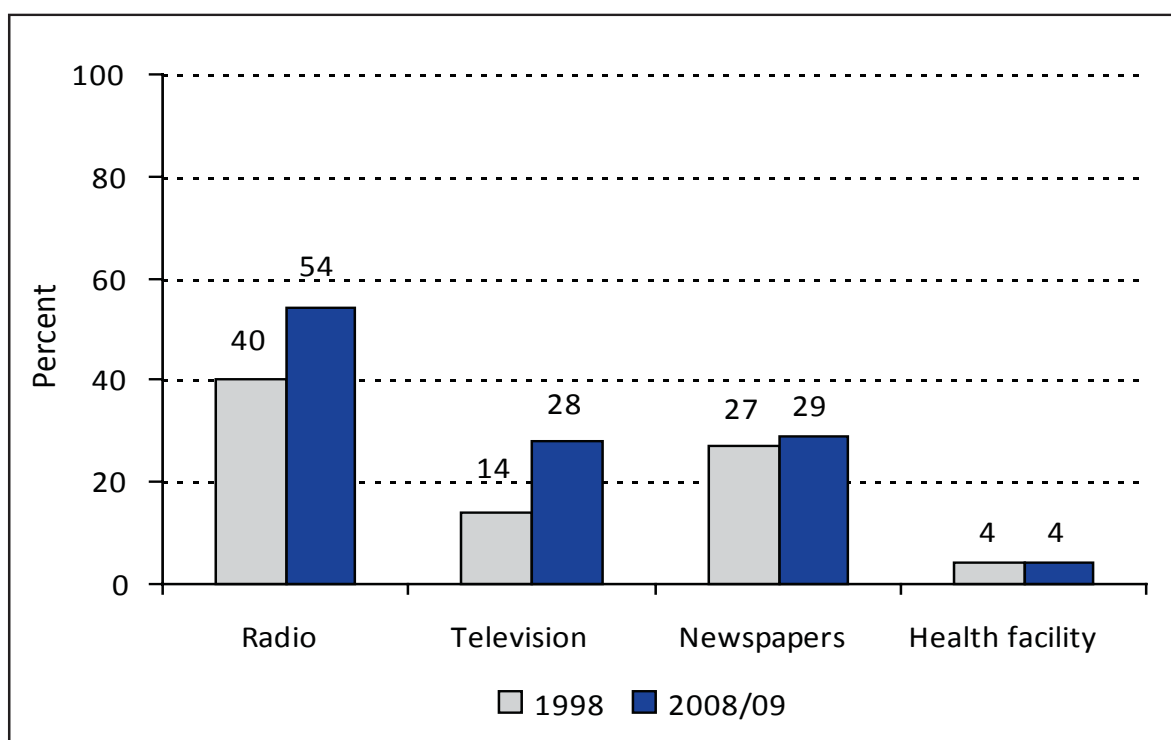
Notes: Figures for 2003 and 2008-09 exclude North Eastern Province (NEP) which was not included in the 1998 survey; Percentages are weighted.

Central and Western provinces recorded a steady increase in the proportion of adolescent girls currently using a modern method and who obtained the methods from private facilities reaching levels of 76% and 56% respectively in 2008-2009 (Table 5). In contrast, Coast province recorded a steady increase in the proportion of current users of modern methods who obtained them from public facilities from 31% in 1998 to 54% in 2003 and 71% in 2008-2009. Among currently married adolescents and those in the rural areas, the proportion obtaining the methods from public facilities first declined before increasing. This trend is, however, reversed for private facilities, that is, the proportion obtaining the methods from these facilities first increased before declining among these groups of adolescent girls.

Source of family planning information

Most adolescent girls heard about family planning information on the radio in the few months preceding the survey. The proportion increased from 40% in 1998 to 54% in 2008-2009 (Figure 5). Although substantially lower compared to radio, the proportion of adolescent girls who heard about family planning on television doubled from 14% in 1998 to 28% in 2008-2009. The proportion that learned about family planning in newspapers remained stable at 27% and 29% in 1998 and 2008-2009 respectively.

Figure 5: Percent distribution of adolescent girls by source of family planning information in the few months preceding the survey, Kenya 1998 and 2008/09



The increase in the proportion of adolescent girls who heard about family planning on the radio occurred across most socio-economic and socio-demographic groups except among those with no education and the unmarried adolescents (Table 6). In both survey years, the proportion of adolescents who heard about family planning on the radio was consistently lower among the younger age groups, those with no education, in the rural areas, from Eastern province, in the poorest wealth quintile, and among unmarried adolescents. Although the proportion of unmarried adolescent girls that heard about family planning on the radio remained unchanged at 38%, the proportion that heard about it on television doubled between 1998 and 2008-2009 from 14% in 1998 to 28% in 2008-2009. In contrast, the proportion of those with no education that heard about family planning through the same media declined from 11% in 1998 to 9% in 2008-2009.

Table 6: Percent distribution of adolescent girls who heard about family planning on radio, television and in newspapers in the few months preceding the survey by various background characteristics, Kenya, 1998 and 2008/09

Characteristics	Radio		Television		Newspapers	
	1998 (%)	2008/09 (%)	1998 (%)	2008/09 (%)	1998 (%)	2008/09 (%)
Age group						
15-17	33.8	49.0	9.6	24.0	23.0	24.2
18-19	48.8	61.9	19.0	34.2	32.0	35.3
Highest education level						
No education	18.7	16.5	11.1	9.1	7.6	4.2
Primary	36.6	48.5	10.5	19.0	20.7	18.8
Secondary and above	54.6	68.3	23.8	47.5	48.7	50.1
Place of residence						
Rural	37.3	35.4	9.3	22.4	24.3	24.4
Urban	50.8	64.6	29.0	52.1	36.0	46.3
Region						
Nairobi	46.9	61.4	30.6	59.4	31.6	44.5
Central	44.1	76.7	11.0	46.6	25.5	45.8
Coast	42.8	49.1	20.1	31.3	29.3	31.8
Eastern	29.1	31.0	10.4	17.0	25.6	18.7
Nyanza	36.3	66.8	6.4	31.7	23.3	34.0
Rift Valley	45.6	51.7	18.0	22.1	31.0	26.7
Western	47.5	53.6	11.0	19.1	25.0	15.8
Wealth quintile						
Poorest	25.2	30.8	5.9	8.5	18.8	8.2
Poorer	30.5	47.8	7.5	12.0	21.5	17.7
Middle	40.3	63.0	7.3	24.5	23.0	28.4
Richer	48.9	59.1	12.5	39.0	30.6	37.1
Richest	51.6	65.4	31.8	55.3	38.9	49.7
Current marital status						
Never/formerly married	38.4	38.4	14.0	28.2	27.9	29.2
Currently married	50.1	61.6	11.5	25.2	21.1	23.1
Number of girls	1,851	1,718	1,851	1,718	1,851	1,718
<p><i>Notes:</i> Figures for 2008-09 exclude North Eastern Province (NEP) which was not included in the 1998 survey; Figures for 2003 are not included because the questions referred specifically to condoms rather than family planning in general; Percentages are weighted.</p>						

Unmet need for family planning

Unmet need is a measure of the demand for family planning services among married women. Table 7 presents the distribution of currently married adolescent girls with unmet need for family planning (spacing and limiting) by various background characteristics across survey years. About one-third (30%) of currently married adolescent girls had unmet need in 2008-2009. This represents modest increase from 29% in 2003 and 27% in 1998. A similar trend is noted among women 20-49 years with the proportion with unmet need increasing by one percentage point each survey year from 24% in 1998 to 25% in 2003 and 26% in 2008-2009. Including North Eastern province in 2003 and 2008-2009 does not remarkably change the estimates for these years (28% in 2003 and 30% in 2008-2009 among adolescent girls 15-19 years; 24% in 2003 and 25% in 2008-2009 among women 20-49 years). It is therefore the case that across all survey years, currently married adolescent girls had higher levels of unmet need than all older married women aged 20-49 years.

Analysis of trends in unmet need among currently married adolescent girls shows some shifts across certain groups. For instance, unmet need was highest among the younger age group in 1998 (31%) but this shifted to the older age group in 2003 (29%) and 2008-2009 (31%). Similarly, although the highest proportion of currently married adolescent girls with unmet need in 1998 was among those with no education (32%), this shifted to among those with secondary and above education in 2003 (35%) and 2008-2009 (40%). Unmet need was also highest in Coast Province in 1998 (44%), Central Province in 2003 (39%), and Nairobi Province in 2008-2009 (41%). There has been a steady increase in the proportion of currently married adolescent girls in Nairobi with unmet need for family planning over the years with the proportion almost doubling between 1998 and 2003 (Table 7).

Table 7: Percent distribution of currently married adolescent girls with unmet need for family planning by various background characteristics, Kenya, 1998-2008/09

Characteristics	1998 (%)	2003 (%)	2008/09 (%)
Age group			
15-17	31.1	26.4	26.3
18-19	25.8	29.2	31.4
Highest education level			
No education	31.7	25.2	27.8
Primary	27.6	28.6	28.0
Secondary and above	15.7	34.5	39.5
Place of residence			
Rural	27.9	28.2	30.3
Urban	22.8	29.2	29.1
Region			
Nairobi	18.2	34.0	40.9
Central	33.1	39.1	16.2
Coast	43.9	18.4	32.3
Eastern	27.0	19.6	26.0
Nyanza	22.5	34.5	35.3
Rift Valley	22.9	27.3	24.5
Western	29.0	33.1	33.1
Wealth quintile			
Poorest	27.6	19.7	31.8
Poorer	34.1	39.9	26.4
Middle	33.6	24.8	16.1
Richer	20.3	28.3	31.5
Richest	11.5	28.8	42.3
Married adolescent girls 15-19 years	26.7	28.5	30.0
Number of girls	285	321	204
<i>Notes:</i> Figures for 2003 and 2008-09 exclude North Eastern Province (NEP) which was not included in the 1998 survey; Percentages are weighted.			

Fertility preferences

As expected, the majority of adolescent girls intend to have children in future. For instance, the proportion intending to have children in future among those who have ever had sex was 74% in 1998, 87% in 2003, and 86% in 2008-2009. However, across all survey years, more than half of those who have had sex and intend to

have children in future would like to delay childbearing, that is, wait for two years or more (Table 8). Although the proportion that would like to delay childbearing among this group declined from 63% in 1998 to 55% in 2003, it increased to 64% in 2008-2009. This trend occurred across all age groups, among those with primary and above level of education, in the rural areas, among those from Eastern and Nyanza provinces, among girls in the lower wealth quintiles (poorest, poorer and middle), as well as among unmarried and currently married adolescents.

Table 8: Percent distribution of adolescent girls who would like to delay childbearing and percentage whose ideal number of children is three or fewer by various background characteristics, Kenya, 1998-2008/09

Characteristics	Would like to delay childbearing ^a			Ideal number of children is three or fewer ^b		
	1998 (%)	2003 (%)	2008/09 (%)	1998 (%)	2003 (%)	2008/09 (%)
Age group						
15-17	58.8	47.1	57.0	46.0	49.2	51.5
18-19	65.1	59.4	68.8	52.3	50.2	53.6
Highest education level						
No education	46.4	51.4	48.0	27.0	18.9	11.4
Primary	62.9	55.1	61.2	43.3	46.6	45.8
Secondary and above	67.7	54.9	71.6	68.6	65.8	69.3
Place of residence						
Rural	66.3	52.4	64.0	43.5	45.3	47.5
Urban	53.0	63.2	61.4	67.1	65.8	73.5
Region						
Nairobi	60.7	62.1	83.0	70.4	71.9	73.2
Central	76.0	71.4	68.5	70.9	70.9	65.5
Coast	61.9	60.7	62.7	46.5	34.2	39.7
Eastern	70.7	30.8	73.9	53.3	59.5	65.3
Nyanza	59.1	45.3	64.6	48.2	34.7	51.6
Rift Valley	63.9	61.5	54.5	34.0	42.2	45.1
Western	57.2	73.0	61.0	36.1	44.9	40.4
Wealth quintile						
Poorest	61.5	47.2	65.7	33.2	28.8	29.9
Poorer	65.6	51.9	72.1	38.3	43.6	44.4
Middle	65.8	59.2	63.8	46.6	45.7	47.6
Richer	63.6	52.7	52.3	51.8	56.7	65.1
Richest	58.5	60.6	62.0	67.8	66.6	73.3
Current marital status						
Never/formerly married	59.6	46.6	61.2	49.7	52.8	53.5
Currently married	67.8	66.3	68.4	43.3	34.7	43.6
Girls 15-19 years	62.9	54.7	63.5	48.7	49.6	52.3
Number of girls	593	667	547	1,851	1,817	1,718
<i>Notes:</i> ^a Among those who have ever had sex and intend to have children in future; ^b Among all adolescent girls; Figures for 2003 and 2008-09 exclude North Eastern Province (NEP) which was not included in the 1998 survey; Percentages are weighted.						

The proportion of adolescent girls who desire three or fewer children modestly increased from 49% in 1998 to 50% in 2003 and 52% in 2008-2009 (Table 8). This trend occurred among adolescents in the younger age group, in the rural areas, in Nairobi, Eastern and Rift Valley provinces, and among unmarried adolescents. In addition, the proportion of unmarried adolescent girls who desire three or fewer children was consistently higher than that of those currently married across survey years. Moreover, although the proportion of adolescent girls desiring three or fewer children in Central province remained stable at 71% between 1998 and 2003, it declined to 66% in 2008-2009. Over the same period, the proportion of adolescent girls in the region that expressed a desire to delay childbearing declined from 76% in 1998 to 71% in 2003 and 69% in 2008-2009.

Summary of findings

This study involved secondary analysis of the Kenya Demographic and Health Survey data to examine levels, trends and determinants of contraceptive use, method choice and source among adolescent girls aged 15-19 years in Kenya over a decade from 1998 to 2008-2009. Key findings include:

- ***Low use of family planning methods among those who have ever had sex over time:*** Across all survey years, less than 40% of those who have ever had sex have ever used a method of family planning; less than 20% were currently using any contraceptive method; while less than 15% were currently using a modern method of family planning. However, current use of a modern method slightly increased from 10% in 1998 to 11% in 2003 and 14% in 2008-2009 with the increases occurring among adolescent girls with various socio-economic and demographic characteristics including those currently married.
- ***Low levels but steady increase in the use of modern methods over time among adolescent girls who had recent sex:*** The proportion currently using a modern method among adolescent girls who had sex in the one month preceding the survey remained low but increased from 16% in 1998 to 20% in 2003 and 25% in 2008-2009. Such increases occurred among those who were currently married (from 12% in 1998 to 15% in 2003 and 27% in 2008-2009) as well as among younger (15-17 years) and older (18-19 years) adolescents.
- ***Shift from pills to the use of injections and condoms over time although overall levels remain low:*** Among current users of any method, the proportion of adolescent girls currently using pills declined from 23% in 1998 to 13% in 2003 and 10% in 2008-2009. At the same time, the proportion currently using injections increased from 13% in 1998 to 31% in 2003 and 39% in 2008-2009 while the proportion currently using condoms increased from 21% in 1998 to 29% in 2003 and 34% in 2008-2009.
- ***Variations in trends in method choice by marital status and place of residence:*** Whereas the proportion of currently married adolescent girls using injections almost tripled over the ten-year period from 24% in 1998 to 41% in 2003 and 64%

in 2008-2009, the proportion of unmarried adolescent girls using the method first increased before declining. Similarly, although the use of injections steadily increased in urban areas (from 9% in 1998 to 31% in 2003 and 57% in 2008-2009), it first increased in the rural areas and remained unchanged afterwards. However, there was a steady increase in the proportion using condoms over time among unmarried adolescent girls and those in the rural areas.

- ***Over time, public health facilities have become the preferred source of methods among current users:*** Although the proportion of current users of modern methods that obtained them from public and private health facilities was similar in 1998 (32%), private facilities gained prominence in 2003 (43% compared to 30% from public health facilities) before being overtaken by public facilities in 2008-2009 as the preferred source of methods (44% from public versus 29% from private facilities).
- ***Current users of modern methods with low socio-economic status obtain their methods mostly from private health facilities:*** The proportion of current users of modern methods in the poorest wealth quintile that obtained them from public health facilities declined over time (from 69% in 1998 to 64% in 2003 and 35% in 2008-2009) while the proportion that obtained the methods from private facilities increased from 6% in 1998 to 36% in 2003 and 43% in 2008-2009. In addition, all adolescent girls with no education and who were currently using a modern method obtained the methods from private facilities in 2008-2009.
- ***Radio is the most common source of family planning information for adolescent girls:*** The proportion of adolescent girls that heard about family planning on radio increased from 40% in 1998 to 54% in 2008-2009. Although a similar increase occurred among those who heard about family planning on television (from 14% in 1998 to 28% in 2008-2009), the proportions are substantially lower compared to radio. The proportion that learned about family planning from newspapers slightly increased from 27% in 1998 to 29% 2008-2009.
- ***Unmet need for family planning among married adolescent girls is slightly increasing over time:*** The proportion of currently married adolescent girls with unmet need for family planning (spacing and limiting) slightly increased from 27% in 1998 to 29% in 2003 and 30% in 2008-2009 in seven of the eight provinces of Kenya. These rates are higher than those of currently married women aged 20-49 years from the same regions (24% in 1998, 25% in 2003, and 26% in 2008-2009).
- ***More than half of the adolescent girls would like to delay childbearing and about half desire three or fewer children across survey years:*** Among adolescent girls who have ever had sex and intend to have children in future, the proportion that would like to wait for two or more years declined from 63% in 1998 to 55% in 2003 before increasing to 64% in 2008-2009. In addition, the proportion of all adolescent girls who desire three or fewer children slightly increased from 49% in 1998 to 50% in 2003 and 52% in 2008-2009.

Programmatic implications

The above findings have important implications for programmatic actions including:

- ***Strengthening the provision of family planning information and services for adolescent girls:*** The low use of contraception, high levels of unmet need for family planning, and increasing desire for three or fewer children among adolescent girls over time all point to the need for strengthening the provision of family planning information and services for adolescent girls in Kenya. Modest improvements in current use of modern methods even among married adolescent girls suggest that opportunities exist for improving further the uptake of family planning information and services among this group.
- ***Making family planning services responsive to the needs of various groups of adolescent girls:*** For instance, the steady increase in the use of injections among married adolescent girls over time and the decline in the use of pills and condoms among this group suggest changing preference to more long-term methods that the girls have control over. In contrast, the steady decline in the use of pills among unmarried adolescent girls coupled with steady increase in condom use over time and initial increase followed by decline in the use of injections suggest preference for more short-term methods among this group of adolescents.
- ***Reaching adolescent girls with family planning information through radio:*** The fact that radio is the most common source of family information for adolescent girls and that modest improvements in current use of modern methods over time were accompanied by an increase in the proportion of adolescent girls who heard about family planning on radio suggests that this is an important medium for reaching young girls with such information. It could also reflect the fact that radio is affordable to many compared to television or newspapers.
- ***Strengthening the capacity of public health facilities to adequately respond to family planning information and service needs of adolescent girls:*** Although at par with private health facilities as the major source of family planning methods for adolescent girls in 1998, public health facilities were overtaken by private ones in 2003. Since then, however, public health facilities have emerged as the major source of family planning methods for adolescent girls. Strengthening their capacity to adequately respond to the needs of adolescent girls is therefore necessary for improving uptake of methods and reducing unmet need for family planning among this group.

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