

Availability of health care facilities and early fertility in Kenya.

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1. Introduction. Improving maternal health has been established as a key development priority among the Millennium Development Goals (MDGs). Fifth Millennium Development Goal “*Improving maternal health*” is developed in two targets: 5A) Reduce by three quarters, between 1990 and 2015, the maternal mortality ratio; 5B) Achieve, by 2015, universal access to reproductive health.

Protecting the health of mother and baby requires good antenatal care, skilled attendants, a safe place to give birth, access to emergency obstetric care (UNFPA, 2002).

Sub-Saharan Africa - with Latin America and the Caribbean - shows one of the highest level of teenage pregnancies. In spite of the persistence of this situation, the analysis which aim at investigating the determinants and the different diffusion of teenage sexual behavior and childbearing on a local scale are not so widespread until now (Were, 2007). Some studies on this topic highlighted the presence of unmet reproductive health needs of adolescents in different regions. Nevertheless, upgrading reproductive and maternal health is usually associated with the eradication of inequality and poverty and with the presence of health care programs and services aimed at promoting girls’ education and poverty alleviation. At the same time, many problems associated with childbearing could be alleviated with appropriate health care during pregnancies.

Understanding and identifying the subject population is one of the first problem of the analysis when dealing with adolescents. To define who is an adolescent or what is a “teen” or a “youth” in a giving area is not an easy task in relation to early fertility. Because we need to draw a line somewhere we use the term adolescent flexibly considering the stage of life between childhood and adulthood and stretching it into the early twenties.

Limiting adolescent fertility can be considered a priority for women living in world’s developing regions. In many developing countries, poor women start bearing children between ages 15 and 19. Their higher levels of pregnancy reflect early marriage, less ability to negotiate delays in sex and reproduction, and less access to family planning. The consequences of adolescent childbearing have been studied in the literature, and include higher risks of pregnancy complications and maternal mortality, increased rates of infant mortality and malnutrition, higher overall parity and more closely spaced births.

Younger, unmarried women also are more likely than older married women to consider late, unsafe abortions as an alternative to carrying a pregnancy to term.

A consolidate assumption is that the diffusion of health facilities throughout developing countries represents a key factor to protect women’s health during pregnancy and delivery.

2. Trends in fertility in Kenya. Results from 2008-09 Kenyan Demographic and Health Survey (KDHS) show that the total fertility rate in the country seems to resume its decline since 1999, reaching a low of 4.6 children per woman. Indeed, after a steady decline observed since the end of the 80’s (table 1), fertility had started rising, even if slightly, from 1998.

At every age fertility is considerably higher in the rural areas (5.4 children per woman) than in the urban ones (3.3 children per woman). This disparity is due to favourable factors most probably associated with urbanisation (e.g., better education, higher status of women, better access to family planning information and services and later marriage).

Regional differentials are still large, and closely associated with regional disparities in knowledge and use of family planning methods (Opiyo, 2004). Rift Valley, North Eastern and Coast Regions show, by far, the highest rates of adolescent childbearing; percentages are lower in Eastern and Central Regions. The differentials in regional levels are confirmed in the most recent survey.

Adolescent fertility (15-19 years of age) seems to follow the general trend, and the decrease realised between the last two surveys is modest. Data from 2008-09 KDHS confirm that at the beginning of the XXI century, Kenya is one of the countries where adolescent fertility is reported to be among the highest in Africa.

Fertility rates under age 20 are persistently high showing even an upward in 1998-2003 (fig.1).

Table 1 - Age-specific fertility rates (per 1,000 women) and total fertility rates from Kenyan selected surveys and censuses: 1977-78 KFS, 1989 KDHS, 1993 KDHS, 1998 KDHS, 1999 Population and Housing Census, 2003 KDHS and 2008-09 KDHS.

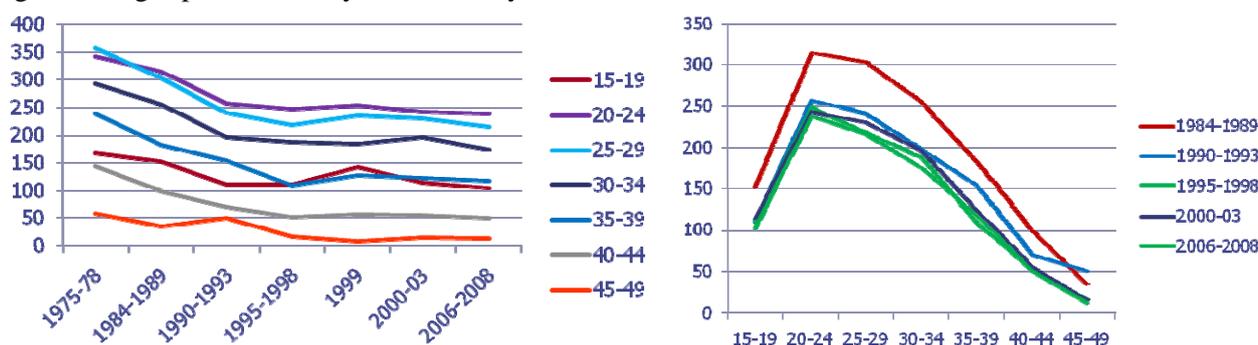
Age group	1977-78	1989	1993	1998	1999	2003	% change 1989-2003	2008-09	% change 2003- 2008/09
	KFS ¹ 1975-78	KDHS 1984-89	KDHS 1990-93	KDHS 1995-98		Census 2000-03		KDHS 2006-08	
15-19	168	152	110	111	142	114	-25.0	103	-9.6
20-24	342	314	257	248	254	243	-22.6	238	-2.1
25-29	357	303	241	218	236	231	-23.8	216	-6.5
30-34	293	255	197	188	185	196	-23.1	175	-10.7
35-39	239	183	154	109	127	123	-32.8	118	-4.1
40-44	145	99	70	51	56	55	-44.4	50	-9.1
45-49	59	35	50	16	7	15	-57.1	12	-20.0
TFR	8.1	6.7	5.4	4.7	5.0	4.9	-32.2	4.6	-1.2

Note: Rates refer to the three-year period preceding the surveys, except for the 1989 KDHS, which uses a five-year period, and the 1999 census, which uses a period that varies with the age groups used to make the correction.

1: Excludes the Northern part of the country. Sources: Opiyo, 2004; Munguti and Buluma, 2010.

Looking at the fertility curves (figure 1) we can see how age specific fertility rates reach their higher intensity in 20-24 and 25-29 age groups.

Figure 1 - Age specific fertility rates in Kenya between 1975-78 and 2006-2008



3. Aim of the paper, data and methods. The problem of teenage pregnancies should be analysed taking account of the socio-economic and socio-cultural environment in which the adolescents have lived and grown up. Cultural factors may influence teenage motherhood and reproductive health behaviour in addition to socio-economic aspects (Were, 2007; Lloyd, 2006; Bledsoe and Cohen, 1993, Ocholla-Ayayo, Wekesa and Ottieno, 1993).

In this paper we attempt to investigate the geographical and socioeconomic determinants of both teenage pregnancies and maternal health behaviours among adolescent women in Kenya as emerging from the 2003 and 2008-09 Kenya Demographic and Health Surveys.

The 2003 and 2008-09 KDHS were designed to produce separate estimates of key indicators for each of the eight provinces in the country, and employed a two-stage stratification sampling. In the first stage 400 sample points (clusters) were selected as primary sampling units. In the second stage a nationally representative sample survey of women age 15 to 49 (8,195 in 2003 and 8,444 in 2008-09) and men age 15 to 54 (3,578 and 3,465 respectively) were selected from clusters.

The DHS data sets also collect Global Positioning System locators for each of the primary sampling units (PSUs) included in the survey that enable a deep geographical analysis (Agwanda et al., 2004; David and Haberen, 2005). We added to these data the geographic information about Kenya Health Facilities for the year 2005 provided by The Kenya Medical Research Institute (KEMRI)-Welcome Trust Research Programme in order to ascertain the influence of the availability of health care facilities on adolescent

behaviour, particularly of those oriented to the specific needs of motherhood and reproductive and sexual health.

According to Kiragu et al. (1998), adolescent reproductive health in Kenya has now become an even greater priority at a policy level, as attested to by the recent sessional papers on AIDS as well as the national Information, Education, Communication, and Advocacy Strategy. Adolescent fertility occupies a prime place in the design and implementation of reproductive health strategies, policies, and programmes. A very important factor is represented by the availability of structures giving antenatal, delivery and postpartum care.

Our work consists in two parts. First of all we analyze the transition from sexual debut to first pregnancy before age 18 of Kenyan women from different regions, socio-economic status and cohorts. Then, we study the effect of individual, household and community factors on young women's propensity to adopt a safe maternal health care behaviour, taking into account the availability and the accessibility of health care facilities.

We perform a multivariate multilevel analysis to estimate the influence that individual-, household-, and community-level factors have on the risk of adolescent childbearing. In addition we use a spatial component taking into account the presence and proximity of maternal health services. Geographical location was considered at district level.

4. First results obtained on 2003 KDHS data highlight the persistence of some critical aspects concerning fertility behaviours of younger generations of Kenyan women at teen ages, despite a rise in the ages at first sexual intercourse, first marriage and first child.

More specifically when we consider fertility outcomes before the eighteenth birthday the proportion of out of wedlock pregnancies is rising in younger generation together with a narrowing of the distance between first sex and first pregnancy. The transition to first pregnancy before the age of 18 confirms a higher risk for younger cohorts together with the persistence of strong differences at regional level. Other important factors influencing early fertility seems to be education, marital status, the knowledge and debut of contraception. The mean number of children at PSU levels highlights the importance of the context on early fertility behaviour.

In the second part of our work we study the differences in the health seeking behavior and in the use of antenatal and delivery services for young women experiencing a birth before age 20 in the period 1-36 months prior to interview. In a framework of general spreading in the use of maternal health care, many differences persist. The maternal health care behaviour seems to depend on both individual and community variables. All other factors being equal, to live closer to every type of health facility increases the propensity to an appropriate maternal care during pregnancy and delivery. Most of the assessed between district difference is due to women's characteristics.

Our first results once more underline the necessity for developing countries to implement policy strategies and programs specifically addressed to women and health care.

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