

**DETERMINANTS OF ADOLESCENT CHILDBEARING
IN KENYA: EVIDENCE FROM KDHS 2008/09.**

By

Oduor Maurice

Q50/72198/2008



This research project is submitted to the Population Studies and Research Institute, University of Nairobi in partial fulfillment of the requirements for a Master of Arts degree in Population Studies.

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Declaration

This research project is my original work and has not been presented for a degree in any other university.

 Signature i^{Ja}le /11J a o l O

Maurice Oduor Reg. No.: Q50/72198/2008

This research project has been submitted with our approval as university supervisors.

Signature.^.!

Dr. A.T.A Otieno

Singaturc.....V. Date.....l

Mr. George Odipo

Dedication

To my mother Mary Adhiambo for her unrelenting sacrifice and unfailing love and to my grandmother Wilfrida Ajwang' for her undying spirit in influencing my life and lastly to my late dad Ofula Omondi whose experience inspires me every day in my academic endeavours.

Acknowledgement

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Abstract

Adolescent pregnancy has been increasingly perceived as a problem and the International Conferences on Population and Development (ICPDs) have identified the adolescents as a distinct target group in need of comprehensive reproductive health programmes and services, this study investigates different factors largely grouped under socio-economic, cultural and demographic factors that affect fertility based on the Kenya Demographic and Health Survey data, 2008.. The social-economic variables considered are region of residence, place of residence and education level while the cultural variables considered are; ethnicity and religion and the demographic variable considered is marital status. Conceptual framework employed herein is based on Bongaarts model and both descriptive (frequency and cross tabulation) as well as multivariate analyses are utilized.

The proportion of those who begin childbearing before age twenty increases with age. While only less than 2% of adolescents aged 15 have begun childbearing, by age 19. the proportion increases to more than one third. Analysis of Kenya's regional differentials in adolescent childbearing shows that Nyanza province has the highest proportion of adolescent who have begun childbearing at 23.8% followed by Coast province at 21.4% while Central province has the least at 9.3% followed by Nairobi Province at 11.4%. This trend is also reflected in the ethnic differentials in adolescent childbearing where the Luo adolescents lead at 23.6% followed by Mijikenda/Swahili/Taita/Taveta at 20.0% while the Embu/KikuyuMeru at 6.9%. There is not much of a differential in adolescent childbearing between urban and rural women- the proportions being 16.7% and 15.5% respectively. Muslim adolescents have the highest proportion of childbearing compared to other religions. The findings of this study with respect to education indicate that there is a declining trend in adolescent childbearing as level of education

rises. 19.7% of adolescents with no education have begun childbearing compared to only 9.4% of adolescent with secondary* level of education who reported to have begun childbearing.

In multivariate analysis, the effect of region of residence on adolescent childbearing in Kenya is dependent on other variables. Type of place of residence is not a significant factor in adolescent childbearing as is religious affiliation. Ethnicity which is somewhat related to region of residence, is a factor in determining adolescent childbearing. Educational attainment has been found to significantly influence adolescent childbearing supporting other studies with similar findings (UN, 1987; Ainsworth, 1994; Martin and Juarez 1995 and Mboup and Saha, 1998) as is marital status.

Although the study focused on few possible determinants of adolescent childbearing in Kenya - other factors that have been shown to influence adolescent childbearing include contraceptive use, age of entry into marriage, age at first intercourse and wealth status-, the findings demonstrate the by supporting girl child education and increase age of entry into marriage would significantly reduce adolescent childbearing in Kenya.

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CHAPTER ONE

INTRODUCTION

1.1 Background Information

Adolescent is phenomenon that has not been clearly defined and various studies have used different criterion to define it. The WHO (1974) defined adolescence as that period in one's life between 10 and 20 years in which: (i) the individual progresses from the point of initial appearance of secondary sexual characteristics to that of sexes maturity; (ii) the individual's psychological processes and patterns of identification develop from those of a child to those of an adult; (iii) a transition is made from a state of total socio-economic dependence to one of relative independence. Studies on adolescent in Kenya have applied different criteria in their definition with age being the most common characteristic used in the definition of adolescent. Adolescent may also be defined to include ages 15 to 24 inclusive, which is the criterion often used by researchers and health planners working on adolescent sexuality and reproductive health. World over, this segment of the population constitute a high percentage in comparison to other segments of the world population. The definition of adolescents applied in this study is ages 15-19.

Sub-Saharan Africa has some of the highest levels of adult and adolescent childbearing in the world. Since the 1980s, several countries in the region have begun a transition toward lower fertility. This has generally been accompanied by an upward trend in the age at first birth, although wide variations remain across countries and social groups. Modernization has been claimed to be an instigator of fertility decline in many societies (Caldwell 1976, Coale 1973, Easterlin 1983). Increased education, innovations in health care and improved communication are thought to bring about forces dissolving traditional tendencies toward large families and

replacing them with individualism marked by material aspirations. In particular, a strong correlation between women's education and reduced childbearing consistently emerges from studies throughout the developing world (Ainsworth 1994, Martin and Juarez 1995). Mboup and Saha (1998) found that in many countries of sub-Saharan Africa, women with no schooling have about two to three children more than women with secondary or higher education. Fertility decline is due in part to delayed childbearing among younger and adolescent women. Lower fertility preferences might reduce the pressure for women to start childbearing at a young age in order to meet their family size goals. A growing body of literature on reproductive health and behaviour among the adolescent populations in sub-Saharan Africa has emerged since the late 1980s.

Adolescent fertility has been increasingly viewed as a source of social and policy concern, therefore, this study attempts to establish how socio-economic, cultural and demographic factors contribute to adolescent childbearing in Kenya based on the KDHS 2008. Various studies have demonstrated differentials in adolescent childbearing based on the above mentioned factors and that is what this study seeks to establish. The study employs both descriptive and regression analysis in the study to identify the determinants of adolescent childbearing in Kenya.

1.2 Problem Statement

Adolescent childbearing is an issue of global concern. It is a phenomenon with significant ramifications at personal, societal, national and global levels (Susheela, 1998). However, its challenges are more prominent in the developing countries, where government officials working in the social sectors readily identify it as one of the pressing social issues. However, this perception is rarely translated into programmes intended for adolescents, or into programmes which, although intended for them, effectively reach them. UNFPA, (2004) estimates that 14

million adolescent girls give birth annually. Adolescent pregnancy and childbearing rates in Africa are the highest in the world; where annual births per 1,000 women aged 15-19 years are as high as 229 in Angola, 230 in Liberia and 233 in Niger as compared to 2 in Democratic People's Republic of Korea, 4 in Netherlands and 5 in Sweden and Switzerland (UNICEF, 2004). The changing family structures have greatly affected the adolescent lives and socialization (Sessional Paper No. 4, 1984).

Adolescent childbearing contributes immensely to a higher school dropout. It increases the risk of unsafe abortion. High rates of population growth is also attributable to high rates of adolescent childbearing because of many years of exposure and limited or non use of contraceptives. This non use of contraceptives among adolescents has been observed to increase the risk of contracting STIs including HIV/AIDS. Kenya Demographic and Health Survey (2008) preliminary results indicate that those mothers less than 20 years of age whose last live birth was protected against neonatal tetanus was 64.7% compared to 74.5% and 66.5% for mothers 20-34 years and 35+ years respectively. This reflects the health seeking behavior differentials among women of different ages with respect to child health. Therefore adolescent childbearing is a matter requiring serious consideration in Kenya.

1.3 Objectives of the study

General Objective

Examine the effect of social-economic, cultural and demographic factors on adolescent childbearing in Kenya.

Specific Objectives

1. To establish the effect of social-economic factors on adolescent childbearing in Kenya.
2. To establish the effect of cultural factors on adolescent childbearing in Kenya.
3. To establish the effect of demographic factors on adolescent childbearing in Kenya.

1.4 Study Justification

Studies focusing mainly on adolescent or youth issues have been patchy and scattered. KDHS (2008) final report shows that forty-one percent of women are in the 15-24 age-group. This group thus forms a significant part of Kenyan female population, therefore warranting studies to inform programmes to address their issues. In the past few years the issue of adolescent pregnancy has been increasingly perceived as a problem. The International Conference on Population and Development (ICPD) identified the adolescents as a distinct target group in need of comprehensive reproductive health programmes and services. . Adolescents have a very high age-specific fertility rate and also make a significant contribution to total fertility (Gyepi-Garbrah, 1985). In many developing countries, government officials working in the social sectors readily identify it as one of the pressing social issues. However, this perception is rarely translated into adolescents' focused programmes, or into programmes which, although intended for them, effectively reach them. On the current trends, Africa will increasingly be unable to feed its children or find jobs for its school leavers (World Bank, 1989).

Adolescents have been identified as the critical cohort in the sub-Saharan fertility transition; they form the leading edge of a much-hyped-for revolution in reproductive behavior (Orubuloye et al, 1994). Furthermore, their rapidly growing numbers increase the impact of any future changes in the timing or quantum of early childbearing on the projected population growth (Lloyd, 1994). According to Kiragu et al. (1998), adolescent reproductive health has now become an even

greater priority at a policy level, as attested to by the Sessional papers on AIDS as well as the national Information, Education, Communication, and Advocacy Strategy. A better understanding of teenage fertility can result in improved services to this very vulnerable special group.

1.5 Scope and Limitations

The attempts to establish the determinants of adolescent childbearing in Kenya based on the 2008 Kenya Demographic and Health Survey data with focus on women aged 15-19. The factors affecting adolescent fertility to be investigated in this study are education level, ethnicity, religion and place of residence, region of residence and marital status which are classified into socio-economic, cultural and demographic categories.

The first limitation of the study is that it uses secondary data. Secondly, the focus is on few variables stated above whereas there are other variables which equally may influence adolescent childbearing such contraceptive use, age of entry into marriage, age at first intercourse and wealth status among others. Thirdly, the study is based on quantitative data but for inferential analysis, there is need to also employ qualitative data.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

In those developed countries where substantial numbers of young women give birth as teenagers, adolescent fertility has been a long-standing concern and is increasingly becoming a concern in the developing world. According to data provided by the United Nations Population Division, young people aged 15-24 accounted for 20.5 per cent of the African population in 2005 (UN, 2006). Studies in several districts in Kenya show early inception into sexuality among adolescents (Lema and Njau, 1988). A continued trend in early inception of adolescents into sexuality has great influence on Kenya's overall fertility and related challenges.

2.2 Adolescent childbearing

2.2.1 Challenges of Adolescent Sexuality

In the 1994 International Conference on Population and Development, Reproductive health was a key theme. The Cairo Program of Action's chapter on reproductive rights goes beyond the World Population Plan of Action in specifically underscoring the need to contend with the adolescent reproductive health issues of unplanned pregnancies, sexually transmitted disease, and unsafe abortion. The Program of Action acknowledges the need to urgently address the well documented maternal and infant health problems of high risk pregnancies including, by definition, the pregnancies of adolescent women.

About 15 million babies are born to young women ages 15 to 19 (hereafter, "adolescents") each year. These are high-risk births from the perspective of the health of both mother and child. They are also high-cost births when the associated negative effects on the quality of life and role of women in society are considered. About 8 in every 10 of these babies, or 13 million, are born in

the developing countries of Asia, Africa, and Latin America. Thirteen percent of all children born in these countries are born to teenage mothers.

Apart from the health risks, adolescent childbearing and the conditions associated with it are fundamental factors determining the quality of life and role of women in a society. Untimely pregnancy can force young women to discontinue their education, reducing their employment options later in life. In addition, childbearing at early ages tends to be associated with higher fertility over women's reproductive lives. Rapid population growth continues to represent a challenge to many nations in terms of providing education, health services and employment for their people now and in the future.

2.2.2 Recent Trends in Adolescent Childbearing

Most countries experienced a decline in adolescent childbearing in the 1980s and 1990, although substantial numbers of women still gave birth in their adolescent years. According to fertility surveys conducted in sub-Saharan Africa in the 1990s, the percentage of women aged 20 to 24 who gave birth before age 20 ranged from a low of approximately 40 percent in Ghana to a high of around 70 percent in Chad. Mali, Niger, and Uganda with most francophone (French-speaking) countries having elevated rates by comparison to the Anglophone (English-speaking) countries (Barbara, Bruce and Greene, 1998).

The proportions of adolescents are projected to increase during the next quarter century. The size of the adolescent cohort will grow by about 40 million, to 298 million young women by the year 2020, and nearly all of this growth will occur in the developing world. However, over 400,000 more births to teenage mothers — a 10 percent increase over the 1996 level — will occur in Sub-Saharan Africa by the end of the 1996-2020 period. Sub-Saharan African adolescent fertility

rates (births per 1,000 women ages 15 to 19) are generally higher than those for countries in other regions of the world.

2.2.3 Rural-Urban Differentials

Urban women have lower fertility because they desire smaller families, marry later, and are more likely to use family planning. Offsetting these effects to some extent, urban women breast-feed less often and for shorter durations than rural-resident women, leading to earlier return of ovulation following a birth and correspondingly shorter birth intervals (United Nations 1987). While these generalizations refer to all women rather than to adolescent women per se, data from countries where DHS or CDC surveys were conducted in the late 1980's or early 1990's are consistent with the statement. With few exceptions, the percentage of urban adolescent women who have begun childbearing is less than the corresponding percentage of rural women. About 24 percent of rural women in the developing world begin childbearing in their teenage years, versus 16 percent of urban women. Both shares are higher in Sub-Saharan Africa — 30 percent of rural and 21 percent of urban adolescents — than in other major regions of the world.

2.2.4 Education, Marriage and Adolescent fertility

Women with more education marry later and have lower fertility within marriage. The United Nations' (1987) analysis of World Fertility Survey data indicated that in the late 1970's and early 1980's women with seven or more years of schooling married nearly 4 years later, on average, than women with no education — reducing adolescent and, potentially, lifetime fertility. The same women also had about 25 percentage points higher contraceptive use (another fertility reducing effect), although they breast-fed children 8 months less than women with no education (a counterbalancing effect that could increase fertility). More recent survey data show that,

regardless of the absolute level of fertility among adolescents, the proportion of young women who have begun childbearing (i.e., have either given birth or are now pregnant) among those with secondary or higher education is only about 30 percent of that for women with no education among 16 countries for which DHS data are available. Even a primary education is associated with significantly later initiation of childbearing — on average, the proportion of young women with primary schooling who begin childbearing as adolescents is about 60 percent of that of women with no schooling.

Marriage marks the transition to adulthood in many societies; the point at which certain options in education, employment, and participation in society are foreclosed; and the beginning of regular exposure to the risks of pregnancy and childbearing. Variation in age of entry into marriage helps explain differences in fertility across populations and helps explain trends in fertility within individual populations over time. Populations with later mean ages at first marriage also tend to be more urbanized, to have higher levels of educational attainment and, more often, to use family planning within marriage. The relationship between the pace of marriage by age 20 and adolescent fertility, based on survey data collected in the late 1980's and early 1990's. Proportions of teenage women marrying are declining in most countries, including Sub-Saharan African countries. A comparison of these percentages provides evidence of the trend in teenage marriages over approximately a 15-year period. Smaller proportions of the younger cohorts of women report being married when they were adolescents than do older women from the same populations. The differences are somewhat smaller for Latin America and the Caribbean, but the same general trend is evident for Africa, Asia, and Latin America. Even though there is a general trend towards later marriage throughout the developing world, teenage marriages continue to prevail in many countries and in Africa in particular. In just over half the

Sub-Saharan African countries represented here, at least 1 out of every 4 women ages 15 to 19 is married.

2.2.5 Development and Adolescent Childbearing

Since the late 1960's, general improvements in public acceptance of women's rights in the area of fertility limitation and the expansion of government services to under-served populations have been associated with substantial increases in the use of contraception by women in all age groups. However, the extent to which contraceptive use, rather than rising age at marriage, has been important in determining declines in fertility rates has varied from country to country. In general, the use of family planning by adolescent women has been and remains less important a determinant of their fertility than age at entry into union (United Nations 1987). A comparison of WFS and DHS data documents regional changes that have occurred in modern method prevalence. The data suggest that use of family planning by married adolescents has risen in most, though not in all, countries of the developing world during the past 10 to 20 years. Prevalence has risen as adolescent women have become increasingly aware of, and motivated to use, contraceptives for delaying the onset of childbearing or for spacing their pregnancies, and as family planning services have become more readily available in many countries.

The Cairo Program of Action calls upon all countries to "assess the extent of national unmet need for good quality family planning services and its integration in the reproductive health context, paying particular attention to the most vulnerable and underserved groups in the population". The pregnancies associated with adolescent unmet need are high-risk pregnancies — in terms of both maternal and infant health — as well as being unplanned. For this reason, perhaps even more than for reasons having to do with the various social disadvantages and societal costs of early childbearing, this group of women should be considered for special

attention as governments of the developing world formulate their responses to the reproductive health challenges highlighted in Cairo. Alan Guttmacher Institute (1998) reported that there has been decline in adolescent fertility attributed to rise in the age at first marriage and a delay in the age at first birth, and an increase in contraceptive use after the first birth.

2.2.6 Adolescent Childbearing in Kenya

In Kenya, for example, the government has developed Adolescent Reproductive Health and Development Plan of Action 2005-2015 in an attempt to address reproductive health issues among Kenyan. The objectives of the Plan of Action are: (i) to spell out strategies of implementation that will enhance the achievement of the goal and objectives of the ARH&D Policy by 2015; (ii) to identify priority activities and major implementers of the national ARH&D programme up to 2015 according to the stipulations of the Policy; (iii) to provide an avenue and basis for resource mobilization and management of a sustainable national ARH&D programme; (iii) to outline a logical framework for implementing the Policy that will also be used for monitoring and evaluation purposes. Analysis of the determinants of adolescent childbearing can contribute in assessing the viability of these programs.

2.3 Hypothesis

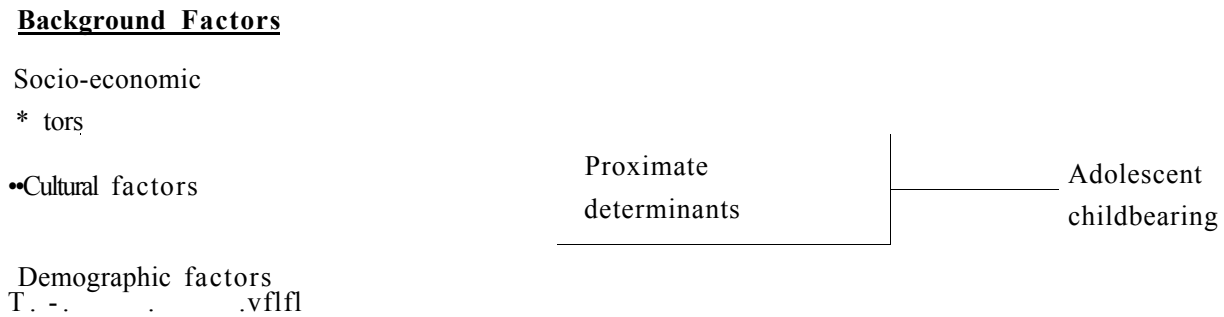
- Socio-economic, cultural and demographic factors influence adolescent childbearing in Kenya.

2.4 Conceptual Framework

The study adopts the proximate determinants of fertility model first developed by Davis and Blake (1956) and later modified by Bongaarts (1978). This model illustrates how the socio-economic, cultural and demographic factors operate through the proximate determinants in influencing fertility. Childbearing among adolescents result from interaction between sexual

intercourse and contraceptive use (UN, 1988). Bongaarts model postulates that the socio-economic, cultural and demographic factors operate through the proximate determinants to influence fertility in general. Adolescent childbearing being a component of total fertility of a country can as well be analyzed using the same model.

Figure 1: Conceptual Framework



Source: Adapted from Bongaarts (1978)

2.6 Conceptual Definition

Adolescence: Period of life from puberty to adulthood (roughly ages 12 - 20) characterized by marked physiological changes, development of sexual feelings, efforts toward the construction of identity, and a progression from concrete to abstract thought.

Childbearing: Synonymous with pregnancy: childbearing refers to the carrying of one or more offspring, known as a fetus or embryo, inside the womb of a female.

Millennium Development Goals: The eight international development goals that all 192 United Nations member states and at least 23 international organizations have agreed to achieve by the year 2015. They include reducing extreme poverty, reducing child mortality rates, fighting disease epidemics such as AIDS, and developing a global partnership for development.

Region of residence: Nairobi, Central, Coast, Eastern, Nyanza, Rift Valley, Western and North Eastern.

Place of **residence**: Urban and Rural.

Ethnicity: Embu/KikuyuMeru, Kalenjin, Kamba, Kisii, Luhya and I.uo, Mijikenda/Swahili/Taita/Taveta and Others.

Marital **status**: Never married, In Union and Not living together.

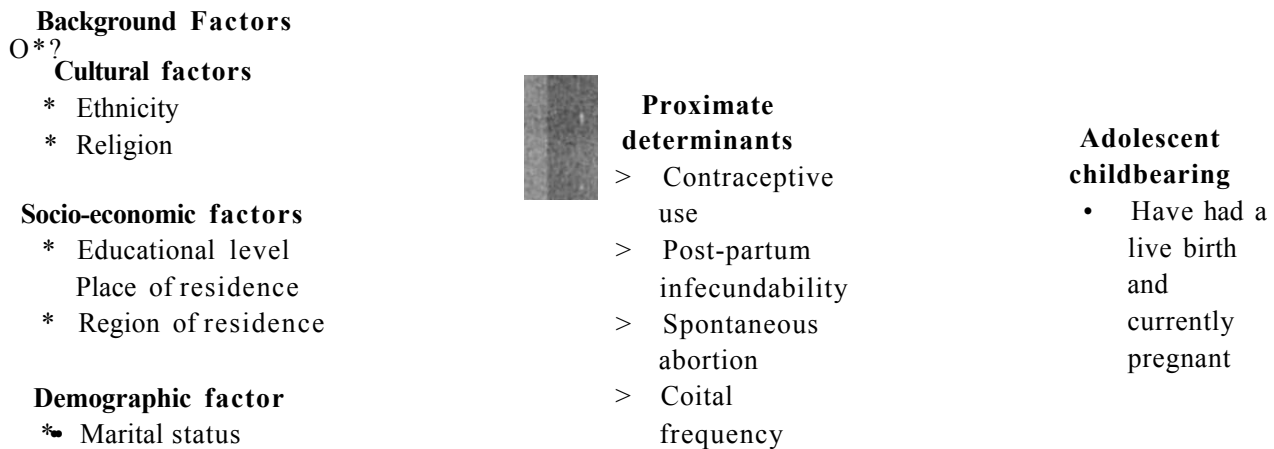
Level of **education**: No Education, Primary Education and Secondary* Education.

Religion: Roman Catholic, Protestant/other Christian. Muslim, and No religion.

2.5 Operational Framework

The operational framework is specified to reflect how the selected independent variables are related to the dependent variable. These selected explanatory variables include; religion, place of residence, level of education, region of residence, marital status and ethnicity while the dependent variable is adolescent childbearing.

Figure 2: Operational framework



Source: Adapted from Bongaarts (1978)

CHAPTER THREE

THE METHODOLOGY

3.1 Study design

The study is based on 2008 Kenya Demographic and Health Survey (KDHS) data. KDHS is a national sample survey of households designed to provide detailed information on fertility levels, marriage, sexual activity, fertility preferences, awareness and use of family planning methods, breastfeeding practices, nutritional status of women and young children, childhood and maternal mortality, maternal and child health, child survival, awareness and behavior regarding HIV/AIDS and other sexually transmitted infections (STIs). Other aspects covered by the survey are childhood illness, ownership and use of mosquito nets, domestic violence and HIV testing.

3.2 Sampling procedures

The study employs 2008 KDHS data. The KDHS is household-based, and therefore the sample was drawn from the population residing in households in the country. Representative samples of approximately 10,000 households are drawn and constructed to allow for separate estimates for key indicators for each of the eight provinces in Kenya, as well as for urban and rural areas separately.

All women age 15-49 years who were either usual residents or visitors present in sampled households on the night before the survey were eligible to be interviewed in the survey. In addition, in every second household selected for the survey, all men age 15-54 years were also eligible to be interviewed. All women and men living in the households selected for the Men's Questionnaire and eligible for the individual interview were asked to voluntarily give a few drops of blood for HIV testing. This study aims to focus on women aged 15-19 years from the KDHS 2008 sample population.

Table 1: Variables in the study and there measurements

Variable	Measurement
Adolescent childbearing	Adolescent (15-19) who have given birth and those currently pregnant
Region of residence	Nairobi Central Coast Eastern Nyanza Rift Valley Western North Eastern
Place of residence	Urban Rural
Religion	Roman Catholic Protestant/other Christian Muslim No religion
Marital status	Never married In Union Not living together
Level of education	No education Primary education Secondary* education
Ethnicity	Embu/ Kikuyu/ Meru Kalenjin Kamba Kisii Luhya Luo Mijikenda/Swalli li i/Tai ta/Ta veta Other

3.3 Method of Analysis

The data for this study is derived from the 2008 Kenya Demographic and Health Surveys (2003 KDHS). Statistical Package for Social Sciences (SPSS) software is used in the analysis. From the sample population of 2008 KDHS, a sample of women aged <20 years is computed and their

socio-economic and demographic characteristics analyzed with respect to childbearing. Data is analyzed using frequencies, cross tabulation with chi-square as well as logistic regression analysis.

Frequency distribution analysis is done to show the proportions of adolescents 15-19 years who have had a live birth or are pregnant with first child. Cross tabulation shows the distribution of adolescents 15-19 years by their socio-economic, cultural and demographic characteristics. Cross tabulation analysis shows the proportion of adolescents who have begun childbearing before age 20 against the selected dependent variables and the association therein using the chi-square tests. Logistic regression analysis is applied because the dependent variable is binary and also it describes the relationship between the dependent variable - the risk of giving birth before age 20- and the independent variables - ethnicity, religion, educational level, place of residence, region of residence, marital status. Logistic regression analysis is necessary for testing the effect of independent variable on the dependent variable. The odds ratios are used to establish the likelihood of an adolescent beginning childbearing before age 20.

CHAPTER FOUR

DETERMINANTS OF ADOLESCENT CHILDBEARING

4.1 Introduction

Kenya's adolescents' socio-demographic and socioeconomic characteristics have been documented in several publications namely: the 1977/78 Kenya Childbearing Survey, the 1979, 1989, 1999 and 2009 Population Censuses and the 1984 Kenya Contraceptive Prevalence Survey. Kiragu et al. (1998) notes that adolescent reproductive health has 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. KDHS reports show that generally, the percentage of adolescents who have begun childbearing declined from 2003 to 2008. These changes are likely to cause a significant reduction in the number of births in coming years.

This analysis explores the relationship between the selected and significant socio-economic, cultural and demographic variables and the adolescent childbearing. The variables are region of residence, type of place of residence, ethnicity, religion, highest educational level and marital status. Cross-tabulation and logistic regression has been used in the analysis. The findings based on the KDHS 2008 data are discussed below.

4.2 Descriptive Analysis

Adolescents by age at childbearing.

The study aims first to show the distribution of adolescent childbearing by single ages. This distribution is necessary to show the differentials among the various ages of adolescence with respect to childbearing. The results are shown in Table 4.1.

Table 4.1: Age-specific Adolescent childbearing

Percentage of women age 15-19 who have begun childbearing, by specific age, Kenya 2008-09		
Background Characteristics	Percentage	Total number of women
Age		
15	1.9	317
16	8.9	437
17	15.7	332
18	21.0	353
19	32.7	321
Total	15.7	1761

Table depicts the extent of age specific adolescent childbearing among ages 15-19 who have begun childbearing. It is noted that the proportion of those who begin childbearing before age twenty increases with age. While only less than 2% of adolescents aged 15 have begun childbearing, by age 19, the proportion increases to more than 30%. This implies that the proportion of adolescents (15-19 years) who have begun childbearing increases proportionately with increase in age.

4.3 Cross tabulation analysis

Table 4.2 shows the cross tabulation analysis of adolescent childbearing by selected background characteristics. The percentages represent adolescents who have begun childbearing by various background factors.

Region of Residence

Wang and Yang (1996) found out that both type of place of residence and region influence fertility. Analysis of Kenya's regional differentials in adolescent childbearing as presented in the Table 4.2 shows that Nyanza province has the highest proportion of adolescent who have begun childbearing at 23.8%, followed by Coast province at 21.4%; while Central province has the

least at 9.3% followed by Nairobi Province at 11.4%. This trend is also reflected in the ethnic differentials in adolescent childbearing where the Luo adolescents lead at 23.6% followed by Mijikenda/Swahili/Taita/Taveta at 20.0% while the Embu/KikuyuMeru at 6.9%. It is plausible therefore to infer that ethnic fertility behavior impacts on regional fertility levels and thereby the national fertility levels.

Type of Place of Residence

Equally Table 4.2 indicates that there is not much variation in adolescent childbearing between urban and rural women- the proportions being 16.7% and 15.5% respectively. Although several surveys have established that fertility in urban areas is lower than the fertility in rural areas all over the world (World Fertility Survey 2005), the Kenyan scenario seems to be quite contrary because urban proportion is higher than rural proportion.

Ethnic Affiliation

As noted earlier, the regional/provincial differentials in adolescent are also reflected in ethnic differentials. Although Embu and Meru reside in Eastern Province while Kikuyu reside in Central Province, their cultural behaviors are not significantly different and thus they have been grouped together. Also grouped together due to their cultural similarities are Mijikenda, Taita and Taveta. This analysis shows that Luo lead in adolescent childbearing at 23.6% followed by Mijikenda/Taita/Taveta at 20.0% and Kalenjin at 19.7% respectively while Embu/Kikuyu/Meru is least at 6.9%.

Table 4.2: Cross tabulation

Percentage of women age 15-19 who have begun childbearing, by selected background characteristics, Kenya 2008-09

Background Characteristics	Percentage who have begun childbearing	Total number of women
Region		
Nairobi	11.4	105
Central	9.3	161
Coast	21.4	140
Eastern	12.4	298
Nyanza	23.8	319
Rift Valley	15.0	460
Western	14.0	236
North Eastern	14.0	43
Type of place of residence		
Urban	16.7	329
Rural	15.5	1432
Ethnicity		
Embu/Kikuyu/Meru	6.9	333
Kalenjin	19.7	259
Kamba	15.0	214
Kisii	17.0	106
Luhya	15.9	328
Luo	23.6	254
Mijikenda/Swahili/Taita/Taveta	20.0	115
Others	11.8	152
Religion		
Roman Catholic	11.5	443
Protestant/Other Christians	16.8	1152
Muslim	18.5	146
No Religion	31.6	19*
Highest Educational Level		
No Education	19.7	71
Primary Education	18.6	1128
Secondary Education+	9.4	561
Current Marital Status		
Never Married	7.9	1535
In Union	69.3	212
Not Living Together	64.3	14*

* Sample size is too small for consideration

Religious Affiliation

Differential fertility behaviors have been reported among different religious and cultural groups throughout the world. Religious beliefs are significant determinants of adolescent childbearing. Different religions have different worldviews on matters relating to sexuality and childbearing. For example, an analysis of the 1996 Austrian Family and Fertility Survey shows that women's denominational affiliation and religiosity affect the number of children born (Heineck, 2005). The results in Table 4.2 indicate that Muslim adolescents have the highest proportion of childbearing compared to other religions. These findings are in tandem with Dreze and Murthi, (2001) who reported higher fertility rates among Indian Muslims compared to other religious groups. However, a study by Gupta and Leite, (1999) conducted in North America suggested that Catholics have higher fertility rates compared to other religious groups. Notwithstanding these contradictory findings, religious affiliation is a determinant of fertility in general.

Educational Attainment

A consistent finding of analyses of fertility behavior in developing countries is a strong correlation between the level of women's education and fertility behavior. Education has been found to significantly reduce fertility either by extending age at first birth or age of entry into marital union (marriage being a significant contributor to high fertility). Generally, women with more education marry later and have lower fertility within marriage (UN, 1987). The findings of this study with respect to education indicates that there is a declining trend in adolescent childbearing as level of education rises as is manifested in Table 4.2 above. 19.7% of adolescents with no education have begun childbearing compared to only 9.4% of adolescent with secondary* level of education who reported to have begun childbearing. This confirms that education plays a critical role in determining the age at childbearing. For example, Akman

: «12) has found that 80 percent female literacy is needed for achieving the replacement level fertility in developing countries such as Bangladesh.

Marital Status

Marriage as an institution for procreation is confirmed by the results in the Table 4.2 where a high proportion of those adolescent who reported to have been married also reported to have begun childbearing. There is a perception that most teenage childbearing takes place prior to carriage. In fact, throughout the developing world-and in contrast to the situation in developed countries-the majority of young women who give birth as teenagers do so within marriage. Indeed, one reason why adolescent childbearing has declined in many developing countries is that the proportion of women marrying during their teenage years has fallen. The findings shows that more than seventy percent of married adolescents have begun childbearing in comparison to less than ten percent of never married adolescents.

4.3 Multivariate Analysis

Logistic analysis has been used in this study to show the individual and combined effect of the predictor variables on the dependent variable. The dependent variable in this study is adolescent childbearing while the independent variables are region of residence, type of place of residence, ethnicity, religion, highest level of education and marital status. Because the dependent variable and is a categorical variable- either have begun childbearing or not- binary regression method is employed.

The regression model can be written in the form of $y = 1/(1+e^{-z})$ where y is the probability that an adolescent will begin childbearing before age 20, e is the base of natural log and z is the linear

ca-bination ($z = P_0 + P_1 X_1 + P_2 X_2 + \dots + P_k X_k$) and P_0, P_1, P_2 and p_x regression coefficients of the independent variables and X_1, X_2 , and X_k are independent variables.

The relationship between the predictor variables and adolescent childbearing is provided in Table 4.3. Model I analyses the effect of five variables namely region, type of place of residence, highest educational level, religion, and current marital status, excluding ethnicity whereas model II analyses the effects of other variable excluding region of residence. The exclusion of ethnicity and region of residence in models I and II respectively is because the two variables are related, to that extent an attempt is made to estimate how they both influence the effect of other variable in the absence of each of them in the analysis. Model III contains all the variables in the study.

Model I

This model excludes ethnicity in the analysis. When other factors are held constant, only educational level and marital status significantly determine adolescent childbearing. Regional differentials in adolescent childbearing are not statistically significant. Although rural adolescents are 0.91 times less likely to begin childbearing before age 20 compared to their urban counterparts, the difference is not statistically significant. Adolescents with primary education are 2.33 times more likely than adolescents with no education to begin childbearing before age while the difference between adolescents with secondary* education and those without education is not statistically significant. Differences in adolescent childbearing by religious affiliations are not statistically significant. Adolescents in unions and those not living together are 28.26 and 25.41 times more likely than never married adolescent to begin childbearing before age 20 respectively.

Table 4.3: Multivariate Analysis

Variable	Model I			Model II			Model III		
	B	S.E	Exp(B)	B	S.E	Exp(B)	B	S.E	Exp (B)
Region of residence									
Wobani (RC)									***
Central	-0.34	0.53	0.71				0.13	0.59	1.14
•St	0.08	0.50	1.08				0.34	0.63	1.41
•em	0.21	0.48	1.24				0.45	0.56	1.57
jma	0.49	0.47	1.63				0.84	0.56	2.31
1 Valley	0.07	0.46	1.08				-0.76	0.52	0.47
estern	0.20	0.48	1.22				-0.83	0.57	0.43
jrtheastern	0.12	0.77	1.13				0.36	0.81	1.43
of place of residence									
•ar(RC)									
nJ	-0.10	0.25	0.90	-0.07	0.22	0.94	-0.10	0.27	0.91
Vacation level									
[Education (RC)]			**			**			**
nan	0.85	0.45	2.33***	0.53	0.48	1.69	0.55	0.50	1.74
ccndary +	0.31	0.48	1.37	0.02	0.51	1.02	0.08	0.52	1.08
Religion									
vW Catholic (RC)									
distant' other Christian	0.29	0.20	1.34	0.30	0.20	1.35	0.29	0.21	1.34
uslim	-0.07	0.43	0.93	0.41	0.45	1.51	0.04	0.49	1.05
o religion*	-0.22	0.68	0.80	-0.22	0.70	0.81	-0.24	0.71	0.79
kiicity									
EuKikuyu/Meru (RC)						**			**
rienjin				0.80	0.32	2.22**	1.70	0.55	5.46**
Mb				0.74	0.34	2.11**	0.49	0.42	1.64
a				0.64	0.41	1.90	0.03	0.63	1.03
hi				0.80	0.31	2.22**	1.68	0.53	5.35**
o				0.79	0.32	2.20**	0.26	0.58	1.30
ijikenda' Swahili/Taita/Taveta				0.17	0.47	1.18	0.17	0.67	1.18
krs				-0.33	0.49	0.72	0.05	0.62	1.05
Marital status									
to married (RC)			**			**			**
Inion	3.34	0.19	28.26**	3.34	0.20	28.21**	3.38	0.20	29.29**
«in Union*	3.24	0.59	25.41**	3.30	0.59	27.16**	3.31	0.60	27.29**
instant	-3.41	0.60	0.03**	-3.56	0.60	0.03**	-3.72	0.73	0.02**

RC - (reference category) * = sample size too small to warrant consideration

** = (p < 0.05)

*** = (p << U)

Model II

Model II excludes region of residence in the analysis. Holding other factors constant, highest educational level, ethnicity and marital status are significant determinants of adolescent childbearing. Like in model I type of place of residence is not significantly associated with adolescent childbearing in Kenya although the United Nations 1987 study and others conducted in the late 1980's and 1990's show urban-rural differential in adolescent childbearing. Religion is also not significantly associated with adolescent childbearing. Ethnic affiliation is significantly associated with adolescent childbearing. Findings show that Kalenjin, Luhya and Luo adolescents are 2.22, 22.2 and 2.20 times more likely to begin childbearing at age 20 compared to Embu/Kikuyu/Meru adolescents respectively.

Model III

Model III includes all the variables in the study. In this model, educational attainment, ethnicity and marital status are found to significantly influence adolescent childbearing in Kenya while type of place of residence is significant in influencing adolescent childbearing. Type of place of residence is not a significant factor in adolescent childbearing in Kenya. Contrary to model I, region of residence is found to significantly influence adolescent childbearing in Kenya, this implies that the effect of region of residence on adolescent childbearing is dependent on other variables. Equally, the variation in adolescent childbearing between Luo and Embu/Kikuyu/Meru adolescents is found to be significant in model III.

J 4 Discussion of findings

The general objective of the study is to estimate the effect of region of residence, type of place of residence, highest educational level, religion, ethnicity and marital status, herein referred to

generally as socio-economic, cultural and demographic factors on adolescent childbearing in **Kenya.**

In descriptive analysis, Central province has the lowest and Nyanza province has the highest. Urban adolescent childbearing is higher compared to their rural. Ethnic differentials exhibit regional differentials. Roman Catholic adolescents are the least when it comes to adolescent childbearing. Educational attainment reduces adolescent childbearing significantly- by almost 50%- especially between those with primary education and below and those with secondary education and above while differentials by marital status are very big between never married adolescents and those in union.

From multivariate analysis, it is established that educational attainment, ethnicity and marital status are significant determinants of adolescent childbearing in Kenya ($p=0.05$). In all the models, they are found to be statistically significant in determining adolescent childbearing. The effect of region of residence on adolescent childbearing is dependent on other factors while religion and type of place of residence are found not to be significant in all the three models although other studies have shown significant differences in fertility between urban and rural women including adolescents (UN, 1987).

The findings of this study especially on the effect of educational attainment on adolescent childbearing supports findings of previous studies that educational attainment affects fertility (UN, 1987; Ainsworth, 1994; Martin and Juarez 1995 and Mboup and Saha, 1998). Major finding of multivariate analysis is that ethnic affiliation significantly influences adolescent childbearing in Kenya.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATION

5.1 Summary

This study focuses on adolescents aged 15-19 years in Kenya their childbearing characteristics. The data used is the Kenya Demographic and Health Survey 2008-09 which is a national survey. This group represents around 40% of Kenya's women population and therefore forms an integral part of national fertility changes. Not only does it represent fertility concerns but it also presents health challenges based on both physiological and biological underdevelopment characteristic of adolescents with respect to childbearing. Therefore, the study attempts to establish the socio-economic (region of residence, type of place of residence and educational attainment), cultural (ethnicity and religion) and demographic (marital status) determinants of adolescent childbearing in Kenya. The study is based on Bongaarts model of analyzing fertility. These factors are analyzed using descriptive, cross tabulation and multivariate methods. The findings are discussed in chapter four.

5.2 Conclusion

Through several studies, a number of explanations, both social and biological, have been developed to elucidate the phenomenon of modern-day adolescent fertility and the set of circumstances that surrounds it-circumstances that are not unique to Kenya nor even to sub-Saharan Africa (Senderowitz and Paxman, 1985; Liskin, 1985; United Nations, 1989).

This study was designed to find out the whether some of these sets of circumstance apply to Kenyan scenario as well as to make suggestions on appropriate remedial measures and intervention strategies. They have been grouped into socio-economic, cultural and demographic variables.

The findings of many researchers on the sexual behavior of the youth in Africa captured in the report of the 1st Inter-African Conference on adolescent health in sub-Saharan Africa held in Nairobi Kenya reveals that entry into active sexual activity is increasingly very early, a finding which is not reflected in policy intervention nor in program development for young people. Therefore, a better understanding of adolescent childbearing can result in improved services to this very vulnerable special group. In an attempt to address the reproductive health needs and to reduce childbearing of this special group, the government, through the National Coordinating Agency for Population and Development, put in place an Adolescent Reproductive Health Policy.

It is established that marriage, educational attainment and ethnic affiliation are the major determinants of adolescent childbearing in Kenya. Whereas marriage and educational attainment can be influenced, ethnic affiliation cannot. Problems associated with adolescent childbearing have been documented in various studies and the need to address the issue of adolescent childbearing cannot be underscored. Marriage among adolescents is still a major problem in Africa and therefore for adolescent childbearing to be reduced, age of entry into union will have to be addressed. Although it may be difficult to legislate about marriage, influencing age of entry would significantly reduce adolescent childbearing for example, addressing the unmet need for contraceptive.

53 Recommendations

Recommendation for Policy

Educational attainment has been established as one of the significant determinant of adolescent childbearing. Therefore, influencing education either through policy legislation for example

compulsory primary or through incentives to promote girl child education would significantly reduce adolescent childbearing in Kenya.

These findings reinforce our understanding that the government should continue its efforts to promote female education, especially higher education. There is need to mainstream adolescent reproductive health education in the school curriculum. In addition, school dropout especially among adolescent girls needs to be addressed because they contribute significantly to adolescent childbearing which is compounded by lack of opportunities due to limited education further complicates their development.

Full implementation of the various policies such as the youth development policy, gender policy, adolescent reproductive health and development policy among others would help address the challenges of adolescent childbearing in Kenya.

Recommendation for Research

For a comprehensive understanding of the determinants of adolescent childbearing in Kenya, other factors that have been found to influence it elsewhere for example contraceptive use, age of entry into marriage, age at first intercourse and wealth status among others will need to be studied.

In addition, ethnic variations may be attributable to cultural differences and therefore a study of such cultural variations would be recommended. It is also important to employ qualitative research methods to study adolescent childbearing in Kenya for a comprehensive understanding of the issue and to be able to holistically inform policy and program development.

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