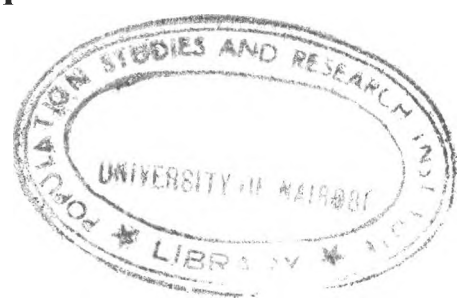
DETERMINANTS OF UNINTENDED PREGNANCY AMONG EVER MARRIED WOMEN IN KENYA

BY



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DECLARATION

This project is my original work and to the best of my knowledge it has not been presented for a Degree award in any other University.

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DEDICATION

I dedicate this work to my dear wife Eudias and our children Moses, Timothy and Faith because of their encouragement and support during the period of my studies.

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ABSTRACT

Despite increase in contraceptive prevalence and decline in total fertility rate, ever married women in Kenyan still experience unintended pregnancy. It is essential to identify the determinants of unintended pregnancy to facilitate policy makers and program managers to design programs and services especially for women who have the highest likelihood of having unintended pregnancy. This study therefore seeks to establish factors that influenced ever married women in Kenya to classify their pregnancy as unintended. Using data from the 2008-09 KDHS, a total of 5,696 live births were used as unit for analysis and attached to their mother's demographic, socio-economic, socio-cultural, access to family planning information/services. Bivariate and multivariate analysis was used to establish the relationship between selected independent variables and unintended pregnancy. The independent variables included, age, age at first marriage, number of living children, level of education, wealth index, type of place of residence, region, religion, husband desire for children, heard FP on radio last month and visited by FP worker last 12 months. The intervening variable was ever use of modern contraception while the dependent variable was unintended pregnancy.

The study findings showed that age, number of living children, level of education, wealth index, region, religion, husband desire for children, visited by FP worker last 12 months and ever use of modern contraception significantly influenced the likelihood of unintended pregnancy. The high likelihood of unintended pregnancy among ever married women who have ever used contraceptive method indicates the need for improving family planning services to avoid failure and discontinuation. Access to family planning information through media failed to show significance influence on unintended pregnancy, an indication for the need of improved strategies to provide such information especially on family planning services.

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CHAPTER ONE – INTRODUCTION

1.1 BACKGROUND

Unintended pregnancy is an important issue to address because it is often used as an indicator of the presence of risk factors for maternal mortality (Forrest, 1994). Some studies have suggested that the severity of unintended pregnancy may be important in understanding health impact among women (Pulley and Klerman, 2002). Many women result in terminating unintended pregnancy to avoid risks to their lives, psychological trauma and socio economic turmoil (IPAS, 2004). In addition to health risks, high rates of unintended pregnancy indicate women's inability to achieve their reproductive health intentions (Le et al., 2004).

Unintended pregnancy is defined as a pregnancy that is either mistimed or unwanted at the time of conception (Jain, 1999; Santelli et al., 2003). Mistimed pregnancy occurs when a woman did not want to get pregnant at that time while unwanted pregnancy occurs when a woman did not want to become pregnant at all.

About one in four births in the developing world (excluding China) is unwanted (Bongaarts, 1994). A worldwide study conducted in 2008 shows that out of the 208 million pregnancies that occurred in that year, 41% (85 million) were unintended (Singh et al., 2010). In the same report, the distribution of these pregnancies by world regions shows that in Europe, 7% were unintended, with corresponding proportions being 54% in Asia, 12% in Latin America and the Caribbean, 4% in North America and 23% in Africa. It is documented that the level of unintended pregnancy in Africa is high and reducing marginally from 92 per 1,000 women in 1995 to 86 per 1,000 by 2008 (Singns et al., 2009). Further, there are also regional variations in the level of unintended pregnancy with Eastern Africa having the highest number of 118 per

1,000 women, Middle Africa with 94 per 1,000 women while other Northern, Southern and Western Africa having a range of 56 and 83 per 1,000 women (Singns et al., 2009).

Over the past two decades, the total fertility rate has declined in Kenya, from 8.1 children per woman in 1978 to 4.6 in 2008 according to the Kenya Demographic Health Survey (KNBS and ICF Macro, 2010). This decline in fertility is partially the result of increase in proportions of married women using any method of contraception, rising from 7% to 46% in the same period. Despite these tremendous improvements in key fertility indicator, the proportion of pregnancy reported as unintended has decreased marginally from 53% in 1988 to 43% in 2008 (KNBS and ICF Macro, 2010). The unmet need for family planning remains high, stagnating at about 26% since 1998 and meeting this need is the challenge that faces policy makers and program planners. This figure represent the extent of unmet need for effective contraception either to delay or stop child bearing.

A complex set of social and psychological factors puts women at risk of unintended pregnancy. It is important to identify factors associated with unintended pregnancy, to enable policymakers and program planners to design programs and services specifically for the women who are most likely to experience this problem. Further unintended pregnancies are a consequence of multiple factors, including non-use of contraception (Barden et al., 2008). However, even in countries with a low desired family size and high use of contraceptive methods, unintended pregnancy is still common due to contraceptive failure and discontinuation (Blanc et al., 2002).

Globally, about 17% of married women would like to avoid pregnancy but are not using any form of contraceptive (John and William, 2002), thus having unmet need for family planning. Studies have shown that use of modern family planning methods can prevent unintended

pregnancy (Chiou et al., 2003). A study conducted in Upper Egypt showed that women with unmet need for family planning contributed the largest share of the unintended pregnancy (Casterline et al., 2003).

Addressing the unmet need for family planning would significantly reduce the number of unintended pregnancy and hence reduce fertility level thus contributing to reduction of high population growth. The factors that contribute unintended pregnancy needs further investigation in order to address appropriately reproductive health programs. Therefore this study intends to examine the influence of demographic, socio-economic, socio-cultural determinants together with access to family planning information and use of contraceptives on unintended pregnancy among ever married women in Kenya.

1.2 PROBLEM STATEMENT

The level of unintended pregnancy has been used as an indicator of the state of women's reproductive health and of the degree of autonomy women have in determining whether and when to bear children (Mazharuarul and Rashid, 2004). Resolving the problem of unintended pregnancy is critical for maternal and child health. Studies have shown a clear link between unintended pregnancy and factors known to improve wellbeing of mothers and their children (Casterline et al., 2003). In Kenya, despite high improvements, maternal and infant mortality remain key areas of concern. As a signatory to the Millennium Development Goals, Kenya targets to reduce by three quarters the maternal mortality ratio and by two thirds under-five mortality by 2015 (GoK, 2005). The Vision 2030, the blue print of development in Kenya works towards the same goal. Studies have shown that unintended pregnancy and high unmet need are the most common causes of maternal mortality in developing countries (WHO, 2005) and therefore the need to reduce it.

The purpose of this study informed by Adetuji, 1998 framework examines factors influencing high unintended pregnancy among ever married women in Kenya. The framework purports that use of contraception is a key factor that influence the outcome of pregnancy among women. Central to this study is to investigate the use of modern contraceptive among ever married women in Kenya on influencing unintended pregnancy. Studies have shown that women who are exposed to family planning information are likely to adopt modern contraceptive method. Additionally demographic, socio-economic and socio-cultural factors that influence unintended pregnancy will be determined.

In Kenya, the Total Fertility Rate (TFR) of 4.6 compared to total wanted fertility of 3.4 is an indication of high unmet need for family planning which explains the unintended pregnancy. This is further confirmed by low use of modern contraceptive methods among married women which stands at 39% according to the 2008-09 KDHS (KNBS and ICF Macro, 2010). As documented a reduction in the number of unintended pregnancy has a beneficial effect to the couple's wellbeing as well as on the population growth pattern and the country's socio-economic development (Haile, 1992). High population growth, translates into a high proportion of people in need of socio-economic services such as education and health. Investing large amount of resources in providing such services erodes what would have been saved and invested to boost economic growth. The findings of this study will inform policy makers and service providers the role of family planning programs on reducing unintended pregnancy among ever married women in Kenya.

1.3 RESEARCH QUESTION

The study question is:

1. What are the determinants of unintended pregnancy among ever married women in Kenya?

1.4 OBJECTIVES OF THE STUDY

The following are the study objectives.

a. To investigate the influence of modern contraceptive on unintended pregnancy among ever married women in Kenya
b. To investigate the influence of demographic and socio-cultural factors on unintended pregnancy among ever married women in Kenya.
c. To investigate the influence of social-cultural factors on unintended pregnancy among ever married women in Kenya.

1.5 JUSTIFICATION

Unintended pregnancy contributes to high fertility that fuels the high rate of population growth which outstrips a country's efforts to meet the social needs of its citizens and achieve national and global development goals. Addressing unintended pregnancy by reducing the unmet need for family planning provides an opportunity for policymakers to respond to high fertility while simultaneously improving health and slowing the rate of population growth. Low level of unintended pregnancy is an indicator of successive family planning programmes and lower fertility while a high level of unintended pregnancy would suggest family planning programmes have been less effective in enabling people fulfill to their fertility preference (Ikamari, 2000). In Kenya, there is high level of contraception knowledge, with ninety five percent of women knowing at least one method of family planning but slightly less than half (46%) of married women are using any contraceptive method. This gap between knowledge and contraceptive use among Kenyan women shows that there are other factors that prevent women from adopting their fertility preferences other than lack of family planning services (Ikamari, 2000). The level of unintended pregnancy can inform government policy makers and program managers how to

identify groups that are most in need of improved contraceptive services. Developing a more complete understanding of pregnancy intentions should advance efforts to increase contraceptive use, develop policies and programs to prevent unintended pregnancy and improve the health of women and their families.

Studies in unintended pregnancy provide linkage between unwanted fertility and stages of fertility transition. For instance, in 1989, a hypotheses was established that unwanted pregnancy patterns in developing countries has some relationship with overall patterns and trends in total fertility rates (Westoff et al., 1989). In addition, there is a relationship that exists between aggregate levels of unwanted fertility and the stage in which a country is along the course of fertility transition (Bongaarts and Lighbourne, 1990). Further, Bongaarts (1997) demonstrated that over time, a transition occurs in the proportion of unintended pregnancy observed in a population, which is likely to be related to fertility levels. This means unintended pregnancy is low during a high fertility period, increases when fertility begins to decline and becomes low again when the population reaches a low fertility level.

Kenya adopted the International Conference on Population and Development (ICPD) declaration report in 1994, that "All couples and individuals have the basic right to decide freely and responsibly the number and spacing of their children and to have the information, education and means to do so" (United Nations, 1995). The declaration shifted away from achieving just demographic targets but also meeting individual's needs and preferences. For this reason, family planning policies in Kenya have shifted from emphasizing on increasing contraceptive prevalence (to reduce fertility) to satisfying unmet need for family planning (to reduce unintended pregnancy) (Casterline et al., 2003).

Unintended pregnancy is an important concept in understanding the fertility of populations and the role of unmet need for family planning but more research is needed to explain the relationship and factors affecting contraceptive use, unintended pregnancy and fertility. This study therefore seeks to explore various factors that contribute to unintended pregnancy.

1.6 SCOPE AND LIMITATIONS OF THE STUDY

The limitation of the study is based on how data on unintended pregnancy is collected, which affects the quality of results during analysis. KDHS does not collect information on the opinions of male partners because the opinions of husbands or the child's father can weigh how much a woman evaluates the pregnancy intention. A woman may state that she does not want to have a child but her husband may not necessary agree with the view. Several studies have shown that a man's opinions are still dominant in decisions about fertility.

Since data used from a retrospective survey, women tend to change their definition of pregnancy depending on the outcome of the birth. It has been documented that retrospectively reported intentions generally become more positive over time, for example, a smiling baby may result in a more positive recollection of past intentions (Joyce et al., 2000). Further, pregnancy intentions involve emotional and psychological factors that current measures may not capture (Sable, 1999).

CHAPTER 2: LITERATURE REVIEW AND CONCEPTUAL FRAMEWORK

2.1 INTRODUCTION

This chapter contains a review of selected determinants of unintended pregnancy categorised as demographic, socio-economic, socio-cultural, access to family planning information and ever use of modern contraceptive method. In addition, a review of the conceptual framework used for analysis has also been included.

2.2 BACKGROUND

Unintended pregnancy is a complex concept and has been a subject of recent conceptual and methodological critiques (Trussell et al., 1999). Pregnancy intentions are increasingly viewed in form of emotional, rational, cultural and contextual dimensions (Santelli et al., 2003). There are various concepts that include reactions to pregnancies (Westoff, 1980), intention status (Kost and Forrest, 1995) and planning status of children (Baydar 1995). This study will adopt the current definition where the term unintended pregnancy has been accepted to describe the sum of both mistimed and unwanted pregnancy (Tsui et al., 1997; Brown and Eisenberg, 1995; Forrest and Singh, 1990). For a woman to be asked about the intention status of a pregnancy, that pregnancy must have resulted in a live birth.

This study is has adopted the conceptual framework, determinants of unintended pregnancy (Adetunji, 1998), that will help in understanding various factors that contribute to unintended pregnancy and subsequently leading to unwanted fertility in the Kenya. A general theory of fertility is derived by hypothesizing that the demand for children is primarily an outcome of social psychological processes within the family, subject to certain demographic, socio-economic and socio-cultural constraints (Bagozzi and Loo, 1978). Socio-economic factors are broad

variables that affect fertility, for instance, a family's relative social status is likely to affect their attitudes toward fertility and influence them to adopt a family size and pattern of consumption consistent with their social rank. Those families in higher socio-economic status as opposed to those in lower status, for example may experience more social pressure to provide higher investment services on children thus limiting their family size.

The intention of any pregnancy takes place within a complex of social relations. When a pregnancy comes sooner than desired or when a mother did not want any more children, the complexities associated with the pregnancy are more likely to be reported as perceived complications (Johnson et al., 2004). Socio-cultural factors influence fertility since they affect and constrain attitude formation and socio- cultural exchange within the family prior to the final decision of a desired family size.

Various studies have documented that occurrence of unintended pregnancy is contributed by several factors. This study therefore seeks to establish various demographic, socioeconomic, socio-cultural as well as access to family planning information that influence unintended pregnancy. Demographic factors include mother's age, age at first marriage and number of living children. Socio-economic factors include mother's level of education, place of residence and wealth index, while socio-cultural factors include religion, region, and husband desire for children. Access to family planning information includes exposure to family planning information through media and visit by family planning workers. Materials reviewed include journals such as Studies in Family Planning, Population Studies, African Populations Studies, Family Planning Perspectives, Maternal and Child Health, Perspectives on Sexual and Reproductive Health and International Family Planning Perspectives.

2.3 DEMOGRAPHIC FACTORS

2.3.1 Age of the Mother

The age of the mother is likely to have association with unintended pregnancy. Young women are likely to report mistimed pregnancy since they would have preferred to post phone the pregnancy in order to advance in education and career while older women are likely to report unwanted pregnancy since they would not have wanted more children after attaining their desired family size. Studies have shown that sub-Saharan Africa is among the major regions of the world, with the greatest proportion of adolescent girls who have begun childbearing (Gupta and Mahy, 2003; Kaufman et al., 2001; Mba, 2003). In addition, a study conducted in Nigeria showed that the higher the age of woman, the more likely that they report their pregnancy as unwanted (Okonofua et al., 1999). Women's age also determines if the pregnancy can either be classified as wanted later or unwanted. A study conducted in Ecuador showed that women in the age group 30-49 were more likely than younger women to say their pregnancy had been unwanted, (33% compared to 10-16%), while women in their twenties were more likely than both younger and older women to have classified their pregnancy as wanted later (22% compared to 12-17%) (Eggleston, 1999). Further, a study in Kenya showed that mothers aged thirty five and above were eight times more likely to have an unwanted pregnancy compared to teenage mothers (Ikamari, 2000).

2.3.2 Age at First Marriage

Women who marry at an early age, tend to complete their desired number of children, hence have more years in their life when unintended pregnancy can occur. On the other hand, delayed first marriage, combined with earlier ages at first intercourse, results in an extended period of time during which women are at risk of unintended pregnancy. A study conducted in Nepal

(NDHS, 2001), showed that an increase in every one year of age at first marriage reduced the likelihood of unintended pregnancy among women by about six percent (Ramesh, 2005). Studies have also shown that on average, women who marry early will have a longer exposure to the risk of becoming pregnant, and therefore, early age at first marriage often implies early age at childbearing and higher fertility in the society (MOPE, 2004) thus contributing to increase in unintended pregnancy.

2.3.3 Number of Living Children

Several studies have shown that number of living children is a determinant factor that influences unintended pregnancy. An analysis of trends, levels and determinants of unintended pregnancy in some developing countries showed that mothers with six or more living children were 2 to 13 times more likely to have unintended pregnancy as compared to those women with either 0 or 1 living child (Adetunji, 1998). In addition a study conducted in Indonesia on the determinants of unintended pregnancy among ever married women showed that the larger the number of living children the greater the risk of classifying her pregnancy as unintended (Jaeni, 2007). Generally most studies have shown that the proportion of unintended pregnancy increases with the number of living children. This pattern implies that a large proportion of women who already have several living children were likely to report them as unintended pregnancy.

2.4 SOCIO-ECONOMIC FACTORS

2.4.1 Mother's Level of Education

The role of education in preventing unintended pregnancy cannot be ignored. Educated women are more likely to know where to get family planning services, options available and use them correctly thus reducing the chances of discontinuation or failure (Martin, 1995). Educated

women, therefore, are less likely to have unintended pregnancy (Bongaarts, 1997). Further, some studies have shown that women with better levels of education were less likely to have unintended pregnancy as compared to those with less education (Shaheen et al., 2007). Education affects fertility by influencing family size preferred. Parents with higher education would desire to have fewer high quality children, invest more in them if their shadow price of quality is not high (Agwanda, 1999). In addition, women with better social economic status, have better access to contraception.

2.4.2 Wealth Index

In a study conducted in Chile, women in the age group 15-24 living in households of low socio-economic status (as measured by the father's level of education) were more likely than the daughters of better educated men to experience unintended pregnancy (Herold et al., 1994). Poverty also affects the likelihood of mistimed pregnancy, the odds that a pregnancy is wanted later compared with planned pregnancy decreases as poverty status improves, but only among married women (Kost and Forrest, 1995). Other studies have shown that poverty has a significant relationship with the rates of unintended pregnancy (Williams, 1991; Anderson, 1981).

2.4.3 Place of Residence

The place of residence whether rural or urban is a significant factor contributing to unintended pregnancy. Urban women are likely to have unintended pregnancy due to their smaller ideal number of children as compared to their rural counterparts, however one may also argue that women in rural areas may also have more unintended pregnancy than women in urban areas because they may lack access to contraceptives in addition to their low socio- economic

status. A study in Kenya showed that rural residence was associated with a higher chance of a mistimed birth than urban residence (Magadi, 2003).

2.5 SOCIAL-CULTURAL FACTORS

2.5.1 Region

Socio-cultural factors can influence unintended pregnancy by either reducing or increasing it. For instance, due to the regional diversity in Kenya in terms of ethnicity, cultural beliefs and contraceptive prevalence, the levels of unintended pregnancy are likely to differ across the regions (Ikamari, 2000). Further, there are some cultural practices that do not support the use of contraceptives thereby increasing the number of unintended pregnancy. On the other hand, there are some communities with strict cultural beliefs that do not allow pregnancy among unmarried women, hence reducing the number of unintended pregnancy. Studies have shown variation to fertility intention because of socio-cultural pattern and practices (Knodel, 1996).

2.5.2 Religion

The phenomenon of religion is receiving renewed attention in demography, and one of the theoretical approaches to examine its role in influencing fertility assumes that the effect of religion remains even after holding constant socio-economic factors. Further, it is hypothesized that the higher fertility of a religious group could be explained by the teachings of the religion on issues related to childbearing (Agadjanian, 2001; McQuillan, 2004). In addition, religion influences one's attitude towards childbearing, family size and family planning. Women who belong to religions that oppose the use of family planning are less likely to use contraceptives for fear of being against their religious beliefs, hence they have higher chances of unintended births than women who support and use contraceptives (Ikamari, 2000).

2.5.3 Husband Desire for Children

The role of inter spousal communication has been found to be significant on the use of contraceptives which affect intention of pregnancy in many societies. A study conducted among married women in Ipaja, Lagos State, in Nigeria showed that there is a positive relationship between inter-spousal communication and contraceptive use (Akanbi, 2010). Research in sub-Saharan Africa indicates that communication between spouses is important in order for them to initiate discussion on reproductive issues, reach agreement on desired number of children and for them to achieve their reproductive goals (Ezeh, 1993; Gage, 1995).

2.6 ACCESS TO FAMILY PLANNING INFORMATION

2.6.1 Exposure to Media

A study conducted in Nigeria shows exposure to mass media messages results in greater likelihood of using modern contraceptives (Okezie et al., 2010). Media exposure gives a wider range of information and sensitizes couples about family norms so that they have few numbers of children. Further, media exposure leads women to adopt contraceptive methods which can reduce unintended pregnancy (Westoff and Rodriguez, 1995; Odimegwu, 1999). Further preference for smaller families is likely to be stronger in cities than in rural areas, among more educated women and those who have been exposed to the mass media (Bankole et al., 1995).

2.6.2 Family Planning Worker's Visit

Several studies show that family planning workers' visit significantly increases the use of modern contraceptive because family planning outreach workers in the community provide information on family planning methods. A study in Kenya indicated that women who have been visited by FP outreach workers are more likely to use modern contraceptive methods, which may

bring down the chance of experiencing unintended pregnancy (Phillips et al., 1998). In Indonesia, a study conducted also shows that contraceptive continuation can be improved when family planning workers visit and attend more to the desires of their clients (Pariani et al., 1991).

2.7 EVER USE OF MODERN CONTRACEPTION

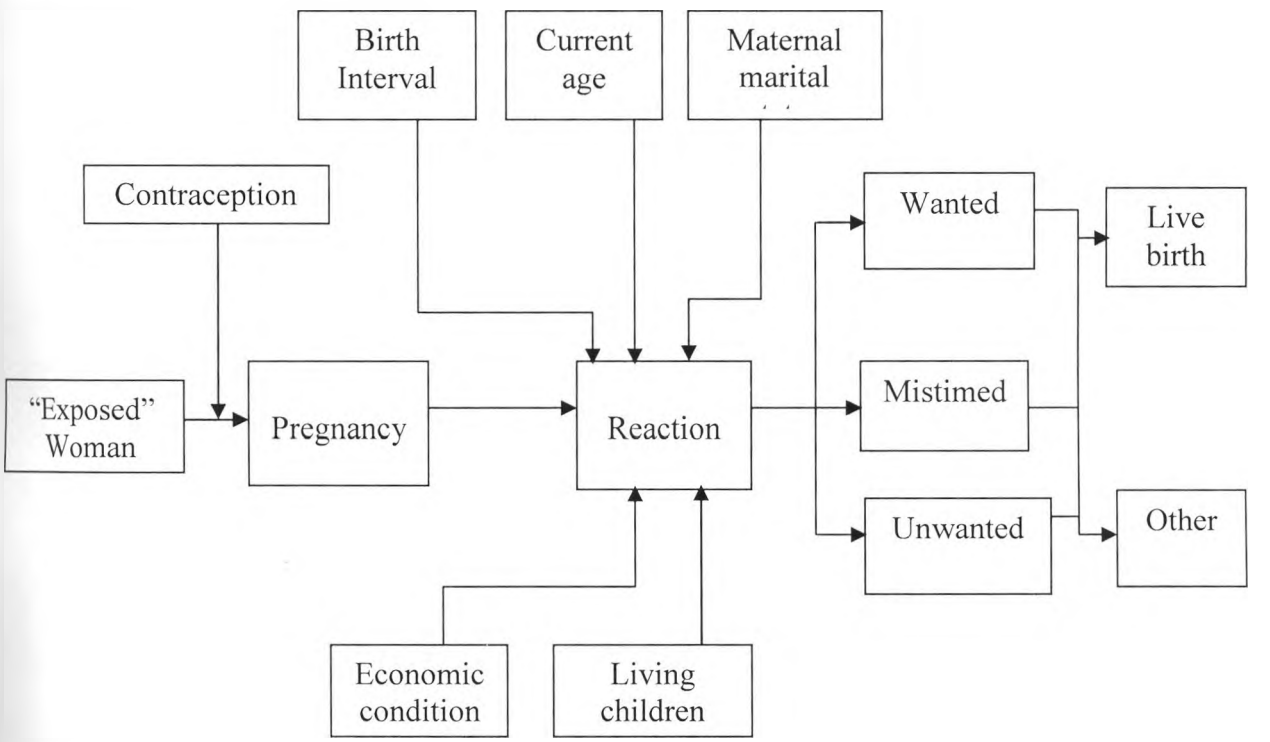
The most important factor influencing fertility and thus the odds of unintended pregnancy is the use of modern contraceptive methods (Bongaarts, 1997). Researches have shown that family planning can reduce about 25% to 40% of maternal deaths by preventing unintended pregnancies (Campbell et al., and Cleland et al., 2006). It has also been widely documented that most pregnancies among adolescent girls in sub-Saharan Africa are unintended or mistimed and it is largely because the use of contraceptives among this group remains low (Cleland et al., 2006; Magadi, 2003; Magadi, et al. 2003 and Manzini, 2001). However it is important to note that, even in countries with a low desired family size and higher use of contraceptive methods, unintended pregnancy are still common due to contraceptive failure and discontinuation (Chandra et al., 2005; Blanc et al., 2002).

2.8 CONCEPTUAL FRAMEWORK

This study is based on the conceptual framework developed by Adetunji, 1998 as illustrated in Figure 2.1 showing how exposed woman is at risk of becoming pregnant. Woman reaction to the intention status of pregnancy (wanted, mistimed and unwanted) is determined by previous birth interval, current age, marital status, economic condition and the living children. The result of the pregnancy is either a live birth or other outcome for instance abortion. In addition, it shows that with family planning intervention services, pregnancy can either be prevented or delayed. One of the goals of family planning programs is to assist women have the ability to decide when to have

children (avoid mistimed pregnancy) and how many children they want (avoid unwanted pregnancy). In addition, studies have shown that family planning programs can reduce fertility by assisting couples in preventing unplanned pregnancy. Therefore vigorous efforts to reduce unintended pregnancy through family planning programs and other measures are needed early in the fertility transition because, in their absence, unwanted fertility rates are likely to rise to high levels (Bongaarts 1997; Tsui 2001). In addition efforts to improve family planning services go a long way toward alleviating existing unmet need for contraception and would make a large contribution to reducing unintended pregnancy (Singh et al., 2010).

FIGURE 2.1: CONCEPTUAL FRAMEWORK



Source: Adetunji, A. (1998). Unintended Childbearing in Developing Countries: Levels, Trends and Determinants; DHS Report, Macro International Inc. Calverton, Maryland USA. Page 57.

When a woman discovers that she is pregnant, the major factor in the reaction process is any intention or circumstances that preceded the pregnancy. This framework further shows, that there are factors that affect women's reaction to pregnancy either positively or negatively thus classifying the pregnancy either as wanted, mistimed or unwanted (Westoff, 1980). For instance, the reactions of women whose pregnancy was classified as mistimed were correspondingly less enthusiastic. In theory, a woman who did not want any more children and became accidentally pregnant could still react with pleasure to the realization of pregnancy depending on factors affecting her positively (Westoff, 1980).

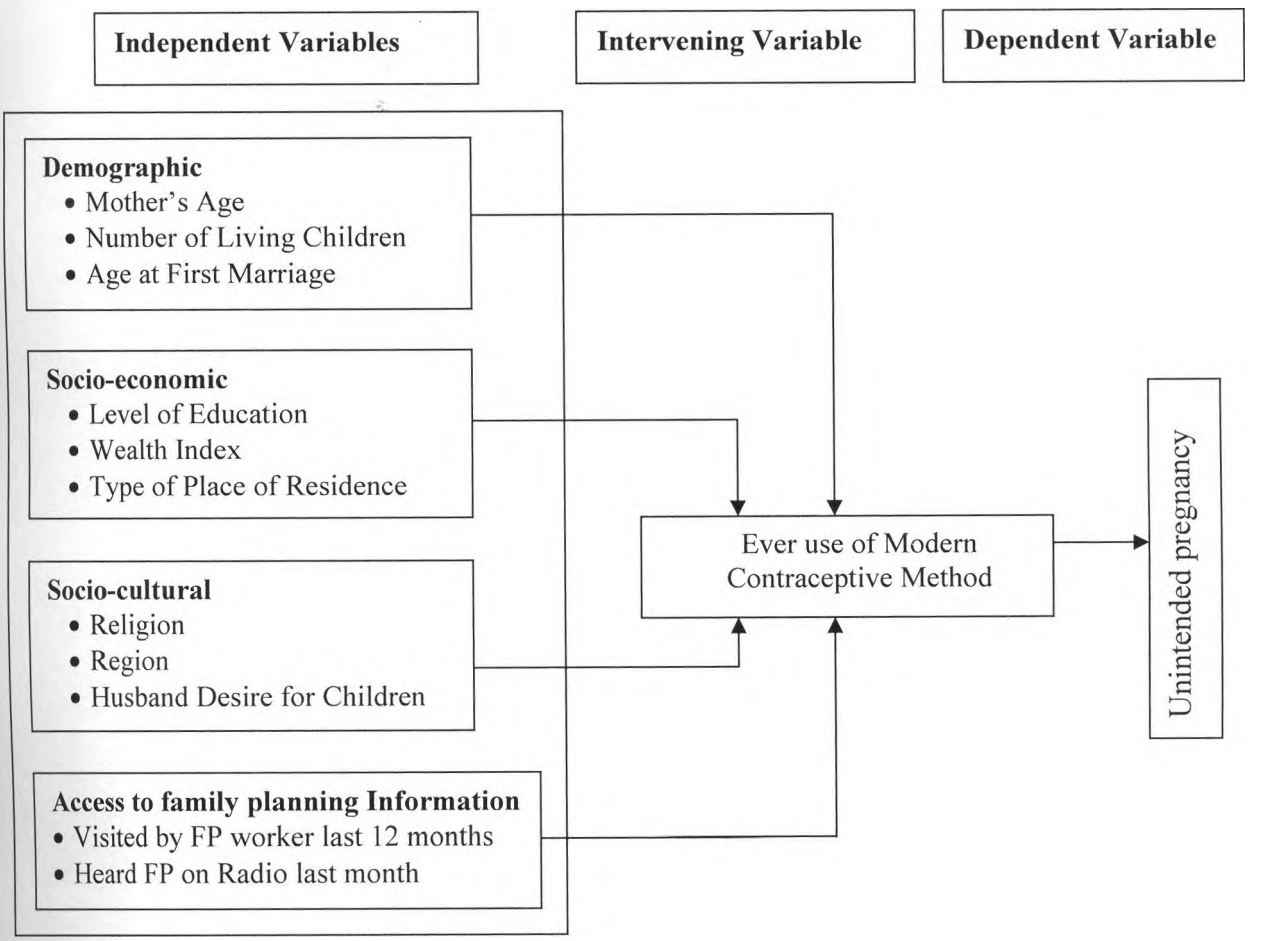
The factors that determine the woman's reaction can either positively or negatively influence the decision about pregnancy intention. If positive factors on pregnancy reaction outweigh the negative ones, then the pregnancy is likely to be reported as wanted while if the opposite happens then the pregnancy is likely to be reported either as mistimed or unwanted pregnancy. For example, a career woman in her mid-twenties with high economic social status and married is likely to report her pregnancy wanted unlike if the pregnancy was as a result of contraceptive failure during her critical point in her career where a break from working would bring financial strains in her family (Adler, 1992).

2.9 OPERATIONAL FRAMEWORK

This framework indicates relationships among factors that are known to influence unintended pregnancy. The factors in the conceptual framework have been modified to include selected broad categories that are mainly demographic, socio-economic, socio-cultural, family planning information characteristics which are independent variables as shown in Figure 2.2. The intervening variable is ever use of modern contraceptive method. The dependent variable is unintended pregnancy which is a measure of women's pregnancy intentions and is measured by

asking the respondents to recall their feeling when their last pregnancy five years before the survey occurred.

FIGURE 2.2: OPERATIONAL FRAMEWORK



2.9.1 Operational Hypotheses

a. Ever married women who have ever used modern contraceptive method are less likely to report unintended pregnancy than those women who have never used.

b. Ever married women with many numbers of living children are more likely to report unintended pregnancy than those women with few children.

c. The higher the level of mother's education, the lower the likelihood of unintended pregnancy among ever married women.

d. Ever married women exposed to family planning information are less likely to report unintended pregnancy than those women who are not exposed.

CHAPTER 3: METHODOLOGY

3.1 DATA SOURCE

This study used secondary data from the 2008-09 KDHS. This is a countrywide sample of 8,444 women aged 15 to 49 years to obtain the latest information on fertility levels, fertility preferences, infant and child mortality levels and maternal and child health. A sub-set of data where a total of 5,696 live births five years preceding the year of survey classified as wanted, and unintended pregnancy among ever married women were used as unit for analysis created by extracting data from the mother's history and joining them with her personal characteristics.

3.2 METHODS OF DATA ANALYSIS

Univariate, bivariate and multivariate analyses were undertaken. Univariate analysis was used to generate simple percentage of births (wanted and unintended) according to selected background characteristics of the mother. Bivariate analysis involved cross tabulation to generate tables showing distribution of births (wanted and unintended) among selected demographic, socio-economic, social-cultural, and access to family planning information/services. The chi square test was used to examine the association between the dependent and independent variables. Multivariate analysis entailed use of logistic regression to establish the influence of various determinants on unintended pregnancy. Since unintended pregnancy is a dichotomous variable, binary logistic regression was an appropriate analytical tool in analysis. The dependent variable took the value one if pregnancy was unintended while zero if the pregnancy was wanted. The description of all variables is shown in Table 3.1.

3.3 DESCRIPTION OF VARIABLES

Table 3.1: Description of Variables

Dependent variable			
	Variable	**Description**	**Variable Label**
	Pregnancy	Pregnancy intention status	1 = Unintended pregnancy 0 = Wanted pregnancy
Independent variables			
Demographic	Age of the Mother	Mother's age at conception	1 = 15 – 24 Years 2 = 25 – 34 Years 3 = 35 – 44 Years 4 = 44 – 49 Years
	Age at First Marriage	Mother's completed age at the time of first marriage	0 = Less or equal to 20 years 1 = More than 20 years
	Number of Living Children	Number of Living Children	0 = 0 - 2 Children 1 = 3 - 4 Children 2 = ≥ 5 Children
Socio-economic	Level of Education	Mother's highest level of education	0 = No Education 1 = Primary 2 = Secondary and above
	Type of Place of Residence	Mother's type of residence	0 = Rural 1 = Urban
	Wealth Index	Wealth status of the mother	0 = Poor 1 = Middle 2 = Rich
Socio-cultural	Region	Region of the mother	1= Nairobi 2 = Central 3 = Coast 4 = Eastern 5 = Nyanza 6 = Rift Valley 7 = Western 8 = North Eastern
	Religion	Mother's Religion	1 = Roman Catholic 2 = Protest./Other Christian 3 = Muslim 4 = No Religion
	Husband Desire for Children	Husband desire for children they should have is in agreement with the mother	0 = Agree 1 = Does not agree
Access to family planning information	Visited by FP worker last 12 months	Visited by a FP worker last 12 months	0 = No 1 = Yes
	Heard FP on Radio last month	Exposure to media on FP through radio	0 = No 1 = Yes
Intervening variable			
Ever use of contraceptive	Ever use of modern contraception	Ever use of modern contraceptive method	0 = No 1 = Yes

.4 DEPENDENT VARIABLE

The dependent variable of this study is unintended pregnancy among ever married women. It a measure of women's reproductive intentions and is measured by asking the respondent to :call their feeling when their last pregnancy occurred within five years before the survey. regnancy from a woman whose response was either mistimed or did not want a child at all, ere classified as unintended pregnancy.

5 INDEPENDENT VARIABLES

From the literature review, the following independent variables grouped as demographic, ɔcio-economic, socio-cultural and access to family planning information have been included ge, age at first marriage, number of living children, level of education, wealth index and type of ace of residence. In addition, other variables included religion, region, husband desire for ıildren, visited by FP worker last 12 months and heard FP on radio in the last month.

6 INTERVENING VARIABLE

The intervening variable in the study was the ever use of modern contraceptive method nong ever married women. It was hypothesized that the independent variables affect dependent ıriable (unintended pregnancy) through the intervening variable.

CHAPTER 4: DETERMINANTS FOR UNINTENDED PREGNANCY

4.1 INTRODUCTION

This chapter describes the various factors that determine unintended pregnancy among ever married women using several variables for data analysis. Background characteristics provided descriptive statistics of the study population, while bivariate analysis provided distribution of unintended pregnancy in the last five years before the survey by selected characteristics. The chi square method was used to determine the level of association. Multivariate analysis involved the use of logistic regression to establish significant factors that influence unintended pregnancy.

4.2 BACKGROUND CHARACTERISTICS

The study population consists of 5,696 live births that occurred five years preceding the survey classified either wanted or unintended pregnancy among ever married women, distributed by various demographic, socio-economic, socio-cultural and access to family planning information/services characteristics of the mother. Fifty nine percent of the births were reported as wanted pregnancy while forty one percent were unintended.

Descriptive statistics in Table 4.1 shows that almost half (48%) births occurred among ever married women in the age group 25-34 while the least births (2%) occurred in the 45-49 age group. Majority of births (76%) occurred among women who were at most 20 years in their first marriage compared to (24%) those above 20 years. The highest births (37%) occurred among women whose number of living children was equal or less than 2 while the least births (29%) occurred among women whose number of living children was equal or greater than five.

Table 4.1: Descriptive Statistics for the Determinants of Unintended Pregnancy among Ever Married Women in Kenya.

Characteristic		Number	Percentage
Age	15 – 24	1,806	31.7
	25 - 34	2,747	48.2
	35 - 44	1,037	18.2
	45 – 49	106	1.9
Age at First Marriage	≤20	4,321	75.9
	> 20	1,375	24.1
Number of Living Children	0 – 2	2,113	37.1
	3 – 4	1,948	34.2
	≥ 5	1,635	28.7
Level of Education	None	1,280	22.5
	Primary	3,209	56.3
	Secondary and above	1,207	21.2
Type of Place of Residence	Urban	1,332	23.4
	Rural	4,364	76.6
Wealth Index	Poor	2,736	48.0
	Middle	918	16.1
	Rich	2,042	35.8
Religion	Roman Catholic	968	17.0
	Protestant/Other Christian	3,283	57.6
	Muslim	1,190	20.9
	Other religion	255	4.5
Region	Nairobi	368	6.5
	Central	466	8.2
	Coast	846	14.9
	Eastern	702	12.3
	Nyanza	1,035	18.2
	Rift Valley	1,060	16.9
	Western	965	12.9
	Northeastern	581	10.2
Husband Desire for Children	Agrees	2,414	42.4
	Does not agree	3,282	57.6
Heard Family Planning on Radio last Month	No	2,136	37.5
	Yes	3,558	62.5
Visited by Family Planning Worker last 12 Months	No	5,226	91.7
	Yes	470	8.3
Ever use of Modern Contraceptive Method	No	2,180	38.3
	Yes	3,516	61.7

For the level of education, the highest (56%) percentage of births occurred among women :h primary education, 23% with no education and the rest (21%) among women with :ondary and higher education. There were more births (77%) among women in rural areas as npared to those living in urban areas. Almost half (48%) of births occurred among poor men, while least births (16%) occurred among women in the middle wealth index.

The percentage of births among women who are Protestants/other Christians was highest ?%) compared to Roman Catholic and Muslims (17% and 21%). For the distribution of births :ording to regions, Nyanza had the highest (18%), followed by Rift Valley (17%), while irobi province had the lowest (7%) births. Further, more births (58%) occurred among women ose husbands do not agree with the number of children they should have as compared to forty ɔ percent for those who agree. A higher proportion (63%) of births occurred among women o had heard FP information on radio as compared to those had not heard. About ninety two rcent of births occurred among women who were not visited by an FP worker compared to y 8% who were visited. Majority of births (62%) occurred among women who have ever used ɔdern contraceptive method compared to those births reported among women who have never :d modern contraceptive method.

PREGNANCY INTENTION STATUS – BIVARIATE ANALYSIS

The results in Table 4.2 show that unintended pregnancy were more likely to occur among :r married women in the age group 45-49 than those in the 35-44 age group (55% compared to ?%), while women in the age group 35-44 were more likely to report unintended pregnancy n those women in the 25-34 age group (44% compared to 39%) showing that older ever rried women were more likely to report unintended pregnancy than younger women.

Table 4.2: Distribution of the Determinants of Unintended Pregnancy among Ever Married Women in Kenya.

Characteristic	Wanted	Unintended	Total
Age			
15 – 24	58.7	41.3	1,806
25 – 34	61.1	38.9	2,447
35 – 44	56.1	43.9	1,037
45 – 49	45.3	54.7	106
X^2 =16.9: df = 3: sig. = 0.001			
Age at First Marriage			
≤20	58.1	41.9	4,321
> 20	62.5	37.5	1,375
X^2 =8.7: df = 1: sig. = 0.003			
Number of Living Children			
0 – 2	67.9	32.1	2,113
3 – 4	57.2	42.8	1,948
≥ 5	50.2	49.8	1,635
X^2 =125.0: df = 2: sig. = 0.000			
Level of Education			
None	79.9	20.1	1,280
Primary	49.6	50.4	3,209
Secondary and above	62.4	37.6	1,207
X^2 =353.9: df = 2: sig. = 0.000			
Type of Place of Residence			
Urban	66.1	33.9	1,332
Rural	57.0	43.0	4,364
X^2 =34.4: df = 1: sig. = 0.000			
Wealth Index			
Poor	57.8	42.2	2,736
Middle	53.5	46.5	918
Rich	63.5	36.5	2,042
X^2 =29.9: df = 2: sig. = 0.000			
Religion			
Roman Catholic	52.4	47.6	968
Protestant/Other Christian	52.1	47.9	3,283
Muslim	82.8	17.2	1,190
Other religion	65.9	34.1	255
X^2 =366.4: df = 3: sig. = 0.000			

Table 4.2: Distribution of the Determinants of Unintended Pregnancy among Ever Married Women in Kenya – Continuation.

Characteristic	Wanted	Unintended	Total
Region			
Nairobi	73.1	26.9	368
Central	55.4	44.6	466
Coast	66.8	33.2	846
Eastern	60.8	39.2	702
Nyanza	50.7	49.3	1,035
Rift Valley	47.8	52.2	965
Western	41.3	58.7	733
Northeastern	96.6	3.4	581
X^2 =568.4: df = 7: sig. = 0.000			
Husband Desire for Children			
Agree	61.7	38.3	2,414
Does not Agree	57.3	42.7	3,282
X^2 =11.5: df = 1: sig. = 0.001			
Heard FP on Radio last Month			
No	67.5	32.5	2,136
Yes	54.2	45.8	3,558
X^2 =97.4: df = 1: sig. = 0.000			
Visited by FP Worker last 12 Months			
No	58.8	41.2	5,226
Yes	62.6	37.4	470
X^2 =2.5: df = 1: sig. = 0.117			
Ever Use of Modern Contraception			
No	71.1	28.9	2,180
Yes	51.8	48.2	3,516
X^2 =207.3: df = 1: sig. = 0.000			

Women who married with less than twenty years in their first marriage were more likely to report unintended pregnancy than women who married with more than twenty years in their first marriage (42 percent compared to 38 percent). There was a positive relationship between number of living children and unintended pregnancy among ever married women. As the number of living children increased there was increase in the likelihood of unintended pregnancy. Women

vho had five or more living children were more likely to have unintended pregnancy as ompared to those who had either 3 or 4 children (50 percent compared to 43 percent).

The results further show that ever married women without education were less likely to report nintended pregnancy than women with primary education (20% compared with 50%), while vomen with secondary education and above were less likely to report unintended pregnancy than vomen with primary education (38 percent compared to 50 percent).

Ever married women in rural areas were more likely to report unintended pregnancy than hose women living in urban areas (43 percent compared to 34 percent). The results showed that ver married women in the middle wealth index were more likely to report unintended pregnancy han women in the rich wealth index (47 percent compared to 37 percent).

The results further indicates that ever married women who are Muslim were less likely to eport unintended pregnancy than women who are either Catholic or Protestants/other Christians 17 percent compared to 48 percent). There was great variation of unintended pregnancy by egions since they differ in terms of culture, religion, level of social and economic developments s well as acceptance of family planning programmes. The results show that ever married vomen from North Eastern province were the least likely to report unintended pregnancy ompared to women from Western province who were the most likely to have unintended regnancy (3 percent compared to 59 percent).

Ever married women who agree with their husband's desire for the number of children they hould have were less likely to report unintended pregnancy than women who did not agree (38 ercent compared to 43 percent). Further, ever married women who had heard information about P on the radio in the last month were more likely to report unintended pregnancy than women vho had not heard (46 percent compared with 33 percent). The results also showed that ever

married women who had ever used modern contraceptive method were more likely to report unintended pregnancy than those who have never used (48 percent compared to 29 percent).

The results further showed that the variables, number of living children, level of education, type of place of residence, wealth index, religion, region, heard FP on radio last month and ever use of modern contraception had a strong association with unintended pregnancy among ever married women. The variable, age, age at first marriage, husband desire for children showed a weak association with unintended pregnancy while the variable visited by FP worker last 12 months did not show any association.

4.4 MULTIVARIATE ANALYSIS

Multivariate analysis involved the use of binary logistic regression to establish factors that have a significant influence on unintended pregnancy. Logistic regression is the commonly used statistical model when examining the net effects of an independent variable on a certain dependent variable, which is dichotomous (taking the values 0 or 1).

The results in Table 4.3 show the significance of determinants on unintended pregnancy among ever married women. Age of the mother was a significant factor on unintended pregnancy among ever married women. Ever married women in the age group 35-44 were less likely (46%) to have unintended pregnancy as compared to women in age group 45-49 which was the reference category, while those in the age group 25-34 were 35% less likely to have unintended pregnancy. The results further showed that number of living children was a significant factor on unintended pregnancy among ever married women. Women with less or equal to 2 living children were 77% less likely to have unintended pregnancy as compared to women who had 5 or more living children which was the reference category, while those women with 3 or 4 living children were 49% less likely to have unintended pregnancy.

Table 4.3: Results of Logistic Regression for the Determinants of Unintended Pregnancy among Ever Married Women in Kenya.

		B	S.E.	Sig.	Exp(B)
Age	15 – 24	0.269	0.244	0.270	1.309
	25 – 34	-0.436	0.230	0.058	0.646
	35 – 44	-0.611	0.231	0.008	0.543
	45 – 49	-	-	-	-
Age at First Marriage	≤ 20 Yrs (RC)	-	-	-	-
	> 20 Yrs	0.017	0.080	0.831	1.017
Number of Living Children	0 – 2 Children	-1.469	0.109	0.000	0.230
	3 – 4 Children	-0.664	0.088	0.000	0.515
	≥ 5 Children (RC)	-	-	-	-
Level of Education	None (RC)	-	-	-	-
	Primary	0.753	0.105	0.000	2.124
	Secondary and above	0.568	0.131	0.000	1.765
Type of Place of Residence	Rural (RC)	-	-	-	-
	Urban	0.192	0.101	0.057	1.211
Wealth Index	Poor (RC)	-	-	-	-
	Middle	-0.232	0.087	0.008	0.793
	Rich	-0.396	0.091	0.000	0.673
Religion	Roman Catholic (RC)	-	-	-	-
	Protest./Other Christian	-0.100	0.079	0.204	0.905
	Muslim	-0.479	0.131	0.000	0.619
	Other Religion	-0.264	0.168	0.116	0.768
Region	Nairobi (RC)	-	-	-	-
	Central	0.538	0.172	0.002	1.713
	Coast	0.174	0.162	0.283	1.191
	Eastern	0.364	0.169	0.031	1.439
	Nyanza	0.496	0.158	0.002	1.643
	Rift Valley	0.793	0.159	0.000	2.210
	Western	0.868	0.162	0.000	2.382
	North Eastern	-1.856	0.295	0.000	0.156
Husband Desire for Children	Agree (RC)	-	-	-	-
	Does not agree	0.239	0.062	0.000	1.269
Heard FP on Radio Last Month	No (RC)	-	-	-	-
	Yes	-0.006	0.074	0.930	0.994
Visited by FP Worker Last 12 Months	No (RC)	-	-	-	-
	Yes	-0.299	0.110	0.007	0.742
Ever use of Modern Contraception	No (RC)	-	-	-	-
	Yes	0.599	0.074	0.000	1.820
	Constant	-0.537	0.284	0.058	0.584

The level of mother's education was a significant factor that influenced unintended pregnancy among ever married women. Women with primary education were 112% more likely to have unintended pregnancy as compared to those women with no education which was the reference category while women with secondary education and above were 77% more likely to have unintended pregnancy.

Wealth index was a significant factor that influenced unintended pregnancy among ever married women. Women in the middle wealth index group were 21% less likely to have unintended pregnancy as compared to those women in the poor wealth index group which was the reference category, while women in the rich wealth index group were 32% less likely to have unintended pregnancy.

Further, the results show that region was a significant predictor that influenced unintended pregnancy among ever married women. There was a great variation in the level of unintended pregnancy in different regions. Generally women from all other regions except North Eastern were more likely to have unintended pregnancy as compared to women in Nairobi which was the reference category. Women from Western, Rift Valley, Nyanza, Eastern and Central regions were 138%, 121%, 64%, 44% and 71% respectively more likely to have unintended pregnancy compared to women from Nairobi region which was the reference category while women from North Eastern were 84% less likely to have unintended pregnancy.

Religion showed a significant factor that influenced unintended pregnancy among ever married women. Women who are Muslims were 38% less likely to have unintended pregnancy compared to women who are in Roman Catholic religion which was the reference category while women who had no religion were 23% less likely to have unintended pregnancy. The study did

not establish significant relationship between women who are Protestants/other Christians and unintended pregnancy.

Further, the results show that husband desire for children was a significant predictor that influenced unintended pregnancy among ever married women. Women who did not agree with their husband desire for the number of children they should have were 27% more likely to have unintended pregnancy compared to those women who agreed, which was the reference category.

There was significant relationship between visited by FP Worker last 12 Months and unintended pregnancy among ever married women. Women who had been visited were 25% less likely to have unintended pregnancy compared those women had had not been visited. Ever use of modern contraception was a significant factor that influenced unintended pregnancy among ever married women. Women who had ever used modern contraception were 82% more likely to have unintended pregnancy compared to those who had never used which was the reference category.

The study did not establish significant relationship between the variables; age at first marriage, type of place of residence, heard FP on radio last month and unintended pregnancy among ever married women.

CHAPTER FIVE – SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 INTRODUCTION

This chapter provides summary of the findings, conclusion and recommendations on policy, program and further research on unintended pregnancy among ever married women in Kenya. The findings are from descriptive statistics, bivariate and multivariate analysis.

5.2 SUMMARY

The study indicates that more than half of the births (48%) occurred among ever married women of the age between 25 and 34 years and therefore having the highest number of unintended pregnancy. Further, the study shows evidence of significant relationship between selected determinants and unintended pregnancy among ever married Kenyan women. While using bivariate analysis, determinants which included age, age at first marriage, number of living children, level of education, type of place of residence, wealth status, region, religion, husband desire for children, heard FP on radio last month and ever use of modern contraceptive method were statistically significant. Only one determinant, visited by FP worker last 12 months did not show significant relationship.

For the multivariate analysis, the determinants that showed significance with unintended pregnancy included among ever married women included age, number of living children, level of education, wealth status, region, religion, husband desire for children, visited by FP worker last 12 months and ever use of modern contraceptive method. This study therefore shows that although some determinants were statistically significant while using bivariate analysis, they failed to show significant relationship during multivariate analysis. These include age at first marriage, type of place of residence and heard FP on radio last month.

5.3 CONCLUSION

The study shows evidence of a gap that require interventions that could substantially improve women's ability to achieve their desired fertility preference. From the study, there are several determinants that influence unintended pregnancy and have clear programmatic implications. Ever married women in the age group 25-34 are the most at risk for unintended pregnancy as compared to other age groups. Ever married women in this age group may not have completed their desired family size however, a high proportion of unintended pregnancy may be as a result of need for spacing of children. The study indicated a linear relationship between number of living children and unintended pregnancy thus confirming the hypotheses that the higher the number of living children, the higher the likelihood of unintended pregnancy.

In consistent with most studies, the level of mother's education showed significant relationship with unintended pregnancy. Women's education is an important determinant in explaining fertility behavior of women. Educated women are more likely to access and adopt modern methods of contraception, accept new ideas and are exposed to family planning information. In addition high literacy among women can raise their social awareness concerning economic and psychosocial consequences of high fertility. Therefore education is negatively associated with the level of unintended pregnancy.

Wealth index is an important determinant of unintended pregnancy and showed an inverse association at multivariate analysis. These findings are likely due to the fact that richer women, have more accessibility, wide range of choice and affordability of quality contraceptive services. Place of type of residence showed association at bivariate level but failed to show any significance at multivariate level, however the region determinant showed significance at both

levels. This regional diversity on the levels of unintended pregnancy in Kenya is likely due to disparities on socio-economic, socio-cultural and provision of quality family planning services.

Muslim women were at higher risk of experiencing unintended pregnancy as compared to non-Muslim women. This is evident by low uptake of modern contraceptive methods by Muslim women as compared to their non-Muslim women due to their traditional beliefs and cultural norms. Husband's desire for having children was significantly associated with increased probability of unintended pregnancy suggesting that husbands have important role in the occurrence of this event. In addition, in some cultures, women are more likely to be influenced by their husband and family members with regards to decision on their pregnancy timing and intention.

From the literature review, access to family planning information through FP health workers visit contributes to adoption of modern contraceptive method thus reducing unintended pregnancy, and therefore this study was consistent with this literature hence confirming the hypotheses that women who are exposed to family planning information are less likely to have unintended pregnancy.

The study showed high level of unintended pregnancy among women who have ever used modern contraceptive method, thus contradicting the hypotheses that women who have ever used contraceptive method are less likely to have unintended pregnancy. This is an important indication on issues regarding contraceptive failure, discontinuation and quality of contraceptive services. This shows provision of family planning services alone is not enough in reducing unintended pregnancy.

5.4 RECOMMENDATIONS

Policymakers, program planners and health service providers can benefit from these findings to formulate suitable programs. Ever married women who practice modern contraception to control fertility are most likely to report unintended pregnancy; this finding may narrow the scope for action where Kenya can make strides in terms of reducing unwanted fertility as well as the overall national levels of fertility by improving the quality of services and resources available to family planning programmes.

These results further indicate that particular groups of Kenyan women in terms of their characteristics are at significantly higher risk of unintended pregnancy and thus would benefit from quality family planning programs that are tailored to their needs. For example, the significant differences of unintended pregnancy that emerged by region and area of residence suggest that family planning programs need to be expanded and improved in rural areas and regions like North Eastern.

Further research is needed to identify cultural factors that differentiate women at high risk of unintended pregnancy from those who are able to plan their pregnancies while more information is needed on the role of family planning programs and services in preventing unintended pregnancy.

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