

**Unmet Need for Family Planning Among Women
of Reproductive Age Living in Makadara
Division, Nairobi County, Kenya.**

BY

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**A THESIS SUBMITTED IN PARTIAL FULFILLMENT OF THE
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DECLARATION

This research thesis is my original work and has not been presented for an award in any other University.

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DEDICATION

This work is dedicated to my wife Agnes Wanja, son Emmanuel, our daughters Yvonne and Michelle for their patience, understanding, encouragement and support while pursuing this course.

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ABBREVIATIONS AND ACRONYMS

CBD: Community-based Distributor

CI: Confidence Interval

CPR: Contraceptive Prevalence Rate

DHS: Demographic and Health Survey

FP: Family Planning

GOK: Government of Kenya

IEC: Information, Education and Communication

IPDC: International Population and Development Conference

KDHS: Kenya Demographic and Health Survey

KNBS: Kenya National Bureau of Statistics

LAM: Lactational Amenorrhoea Method

MDG: Millennium Development Goal

MNCH: Mother and Child Health

NFHS: National Family Health Survey

OR: Odds Ratio

PMTCT: Prevention of Mother to Child Transmission

RH: Reproductive Health

SPSS: Statistical Packages for Social Sciences

UN: United Nations

UNFPA: United Nations Population Fund

WFS: World Fertility Survey

WHO: World Health organization

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ABSTRACT

Throughout the whole world, the unmet need for family planning data has become a very useful tool in measuring and predicting the contraceptive needs of a population. Access to family planning services and awareness has improved greatly, but the unmet need for family planning continues to remain high. Kenya is one of the fastest growing countries in population worldwide mainly due to low contraceptive use and high unmet need for family planning. In this study, the proportion of unmet needs for family planning and the factors responsible for this unmet need for family planning among women of reproductive age in Makadara Division, Nairobi County, Kenya were determined. Few research studies have been done to investigate the unmet need for family planning for the past years creating a need for investigation with the aim of informing health services interventions. In the study, a community-based cross sectional household survey was conducted. A total of 196 study participants of women of reproductive age (15- 49years) from Makadara Division were selected through cluster sampling. All participants were interviewed using a pre tested structured questionnaire modeled on KDHS. The data collected was analysed using SPSS version 20. The Westoff model revealed that the total unmet need for family planning was 17%; 12% for birth spacing and 5% for birth limiting. Multivariate regression revealed that the unmet need was significantly associated with age, region of residence, experience of child loss, education level, partner's education level and knowledge level on contraceptives ($p < 0.05$). The unmet need for family planning was still quite high among the respondents and associated with various determinants that should be considered while planning for scaling-up healthcare program. To address this current high level of unmet need for family planning in urban regions, the county government should focus on promoting level of education beyond primary level, improve maternal and child healthcare, and adopt region and age specific programmatic actions in order to reduce unmet need to an acceptable level.

CHAPTER ONE: INTRODUCTION

1.1 Background Information

Women who want to postpone their next birth for two or more years or who want to stop childbearing altogether but are not using a contraceptive method are considered to have an unmet need for family planning. Pregnant women are considered to have an unmet need for family planning if their pregnancy was mistimed or unwanted. Similarly, amenorrhoeic women who are not using family planning and whose last birth was mistimed or unwanted have an unmet need. Women who are currently using a family planning method are said to have a met need for family planning. (KDHS, 2014; UNFPA, 2010; Westoff, 2006). Throughout the whole world, there has been a progress in the access to family planning services and products, but the unmet needs for family planning continue to remain high. In the developing countries the number of individuals wishing to use family planning supplies and services but do not have access to modern contraceptives still remain high (Subhash,2013; Laya, 2012; Wubegzier and Alemayehu, 2011). Limited attention has been paid to determine the causes of the unmet need for family planning especially among low income urban residents, despite family planning being an important issue in public health policy for women in the entire population (Laya, 2012).

In Kenya, total fertility rate of 4.6 children per woman for the three-year period preceding the survey (2006-2008) is lower than the rate of 4.9 got from the 2003 Kenya Demographic and Health Survey (KDHS) and the rate of 5.0 from the 1999 Population and Housing Census. Furthermore, a relatively high level of contraceptive prevalence among Kenyans, the KDHS 2008/9 data revealed that unwanted pregnancies are common having about 17 percent of births unwanted and 26 percent are mistimed. From the same source of survey, KDHS 2008-09, indicates that almost 46 percent of the married women in Kenya use a family planning method with 39 percent using modern family planning

method while about 6 percent use traditional methods. Among the currently married women of reproductive age in Kenya, 25 percent have unmet need for family planning (KDHS, 2008/9; WHO, 2012).

In the developing countries, inadequate access to family planning results in high rate of unintended pregnancies, unsafe abortions and leading indirectly to maternal deaths. This may also be associated with infant deaths generally among the poor. Despite all these problems, very few studies have been done to assess the unmet need of family planning since 2008-09 KDHS survey. In this study, the determinants of the unmet need of family planning among women of reproductive age living in Makadara Division, Kenya was determined with the aim of informing health service interventions.

1.2 Problem Statement

An estimated 150 million women worldwide want to delay or avoid pregnancy but at the same time are not using family planning methods. The lack of usage of family planning among married women is attributed to lack of knowledge, socio-economical problem, fear of side effects, religious cause, insufficiency of FP services, uncooperative husband and limited supply and high cost (Sedgh *et al.*, 2007; Oyedokun, 2007; Okech *et al.*, 2011; Korra, 2002).

In Kenya, despite the various strategies and policies on FP, total fertility rate still remains high at 4.6%, while CPR and unmet need for family planning are estimated at 46% and 24%, respectively. Out of all the live births, 43% births are unintended (17% are unwanted and 26% are mistimed) implying that women may not be achieving their desired family size (KDHS, 2008-09). The probability that a pregnant woman will seek to terminate an unintended pregnancy is proportional with increase in unmet need, making

more essential the demand for contraceptive use. It is estimated that there are 316,560 spontaneous and induced abortions annually, that is for every 100 live births in Kenya, there are 29 abortions that occur. It is also estimated that one in 39 women die from pregnancy-related causes in Kenya (Guttmacher Institute, 2009; Laya, 2012; Ipas, 2009). The large unmet need for FP and the high number of unintended pregnancies with related unsafe abortions clearly poses a threat to the well being of Kenyan citizens and attainment of Vision 2030 goals.

Despite all these problems, no study has been documented that investigate the proportions of unmet need for FP among women living in Makadara Division, Nairobi County to date. Lack of this essential periodical indicator on unmet need for FP becomes a great challenge to policy formulators and implementers in designing, monitoring and evaluation of FP programs.

1.3 Justification

The rise in unmet need for FP despite the increase in the use of FP implies that Kenyan women face certain barriers in meeting their reproductive intentions and having desired number of children. A logical understanding of these barriers and the women's characteristics with unmet need is important for Kenya's population policy and monitoring of family planning programme. Makadara Division is one of the highly populated Divisions in Nairobi County with a poverty level of 59% (KNBS, 2010). It is believed that data obtained in Makadara Division, Nairobi County of Kenya and other parts on the proportions of the unmet need, knowledge on contraceptives and understanding the determinants for unmet need can provide policy makers, planners and program managers from the government and other stakeholders with the essential

information for strengthening FP programmes in Makadara Division and other parts of the country. With well strategized programmes on FP, child and maternal deaths will be reduced, unwanted pregnancy reduced and Millennium Development Goals (MDG) 4 and 5 attained.

1.4 Research Questions

The study aimed to seek the answers to the following research questions:-

- a) Which demographic factors determine the unmet need for FP among women of reproductive age living in Makadara Division?
- b) Which socio-economic factors determine the unmet need for FP among women of reproductive age living in Makadara Division?
- c) Which cultural factors determine the unmet need for FP among women of reproductive age living in Makadara Division?
- d) How does knowledge level on contraceptives determine the unmet need for FP among women of reproductive age living in Makadara Division?

1.5 Research Hypotheses

H₀: There is no significant relationship between selected demographic, socio-economic, cultural and knowledge level on contraceptives variables with the total unmet need for family planning.

H_A: There is significant relationship between selected demographic, socio-economic, cultural and knowledge level on contraceptives variables with the total unmet need for family planning.

1.6 Research Objectives

1.6.1 Broad Objective

The broad objective of the study was to determine the determinants of the unmet need for family planning among women of reproductive age living in Makadara Division, Nairobi County, Kenya.

1.6.2 Specific Objectives

1. To determine which demographic factors are responsible for the unmet need for family planning among women of reproductive age living in Makadara Division.
2. To evaluate which socio-economic factors are responsible for the unmet need for family planning among women of reproductive age living in Makadara Division.
3. To identify how socio-cultural factors that are responsible for the unmet need for family planning among women of reproductive age living in Makadara Division.
4. To determine the effect of knowledge level on contraceptives on the unmet need for family planning among women of reproductive age living in Makadara Division.

1.7 Significance of the Study

During the 5thMDG conference, the unmet need for FP was added as an indicator for monitoring maternal health progress. In this study, the determinants and proportions of unmet need of family planning among reproductive age women of Makadara Division was assessed with the aim of informing health service for interventions. Periodicals unmet need proportion is an important indicator for national FP programmes because it helps in monitoring and evaluations of practiced strategies thus serves as an evaluation

tool. Furthermore, if the need for family planning is met, the associated harmful risks of unwanted pregnancies such as maternal death and unsafe abortion can be prevented, and the family health will be improved. It is estimated that the lives of more than 150,000 women will be saved with access to sufficient family planning each year worldwide. With the study results, awareness can be raised and family planning efforts can be reinforced to address unrealistic view of risk and promote uptake of family planning services. This will reduce the number of unwanted pregnancies, number of abortions and the proportion of births at high risks among women all over the country and specifically those living in Makadara Division.

1.8 Limitations of the Study

The researcher was confined to the reproductive aged women living in Makadara Division only. There was also non inclusion of men in the study since their participation could provide information on insight towards the determinants of unmet need for family planning.

1.9 Assumptions

One major assumption was that all sampled respondents represent the characteristics of all women of reproductive age living in Makadara Division of Nairobi County. The 196 women of reproductive age replicated all the women characteristics and opinions. The respondents were ready to answer the questions and give true information to the research questions. The research instrument was assumed to be as accurate as possible and also the questionnaire response rate to be 100 percent.

1.10 Conceptual Framework of Unmet Need for Family Planning

Independent variables
Variable

Dependent

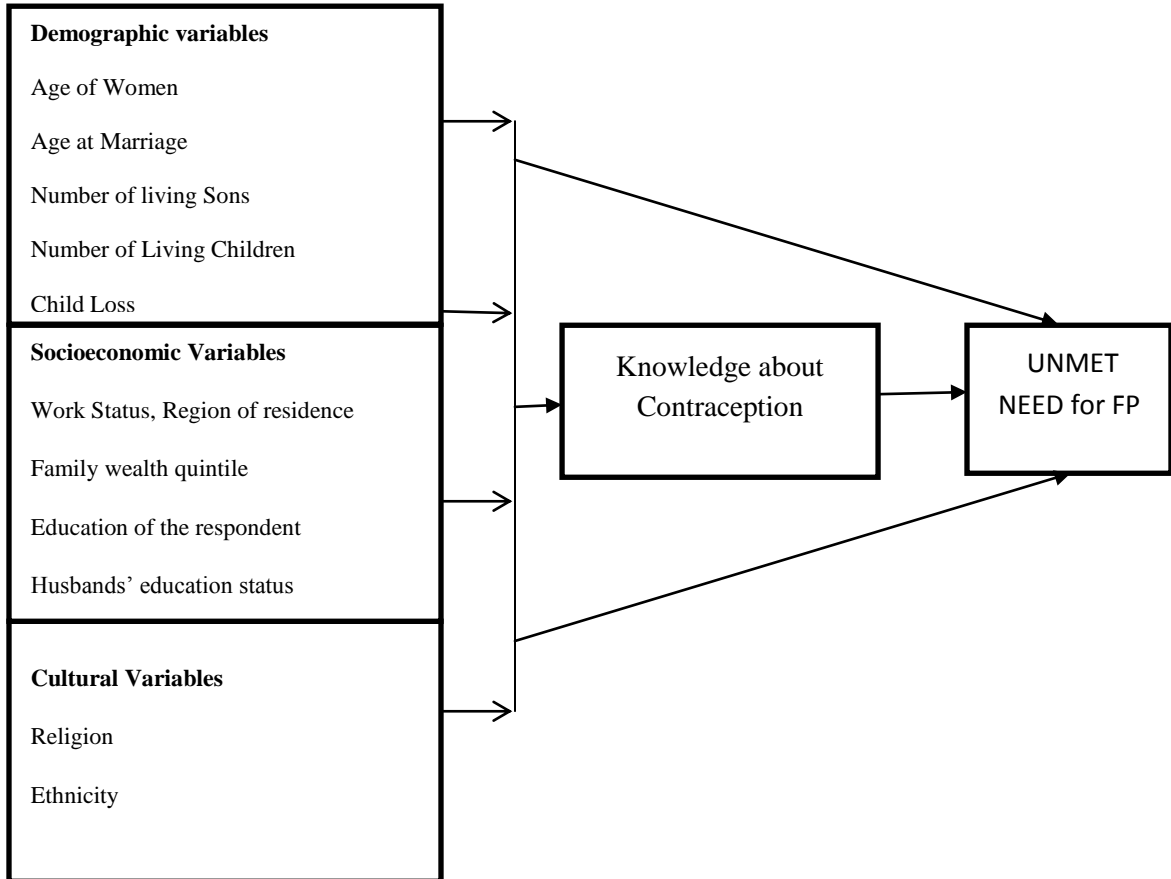


Figure 1.1: Conceptual Framework showing the relationship between independent variables and the Unmet Need for family planning (Kaushik, 1999).

1.11 Definition of Terms

Modern Family Planning – refers to a program which enables couples and individuals to decide freely and responsibly the number and spacing of their children and to have the information and means to do so, and to have informed choice and access to a full range of safe and effective modern methods of preventing pregnancy.

Unmet need for family planning – is referring to those women who prefer to space or limit childbearing but she is not using any effective modern contraceptive to fulfill its desire.

Fecund – a woman of reproductive age who is not pregnant at the moment but is capable of childbearing

Infecund – a woman of reproductive age who had never been pregnant for at least five years of trying to conceive a baby

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

This chapter presents an in-depth background of the empirical review of other research papers, journals and magazines carried out by various authors related to the study. It enables the researcher and other readers to obtain a solid background and understanding of unmet need proportions, determinants of unmet need of FP and knowledge levels on contraceptives among women of reproductive age.

2.2 Prevalence of unmet need for FP among women of reproductive age

Despite all the efforts made to increase in uptake of contraceptive method the total met need has hardly changed over time. However, there are wide regional variations in total unmet need, but determinant variables of unmet need in many regions are more or less the same. Several groups of women continue to have high unmet need for family planning which includes younger aged, older age, low or uneducated, having higher number of living children, women with low knowledge on contraceptives and those not exposed to mass media and women in lowest wealth quintiles. Many studies have documented that women living in slums generally receive inadequate services to deal with their reproductive health care, and immediate attendants often lacked the knowledge to deal with these issues when they occur in the neighborhood (Sedgh *et al.*, 2007; Samira and Nihad, 2011). Many couples are sexually active and prefer not becoming pregnant, but they are not using any contraceptive method. These women are considered to have unmet need of family planning (Ferdousi *et al.*, 2010; Laya, 2012; Westoff, 2006; Abdel and Amira, 2013).

2.2.1 Westoff Model

This model tries to formulate the procedure of attaining the proportion of the unmet need for FP among women of reproductive age. The idea of unmet need of FP clearly brings out the gap between women's reproductive intentions and their contraceptive use behavior. The indicator is useful for tracking progress towards the target of achieving universal access to reproductive health and family planning programmes. Information on unmet need for family planning can lead someone in knowing the contraceptive prevalence rate. The sum of contraceptive prevalence and unmet need equals to the total demand for family planning.

Unmet need for contraception is generally measured with household surveys, in which married/in union women of reproductive age respond to a number of precisely structured questions. A woman is first asked whether she is using any method of contraception, whether for the purpose of limiting or spacing births. If she is using contraception, including traditional methods, she is considered to be a contraceptive user, and therefore does not have unmet need. Women who are not using contraception are then asked whether they are pregnant or amenorrheic. In the calculation of unmet need, pregnant or amenorrheic women whose pregnancy was mistimed or unwanted are added to the proportion with unmet need, even though they do not at the time of the survey have an immediate need for contraception given their pregnancy. Women who are not pregnant or amenorrheic and are infecund do not have unmet need, nor do women who want to become pregnant soon in less than 2 years according to the revised definition of unmet need for FP (Westoff *et al.*, 2012; Bradley *et al.*, 2012).

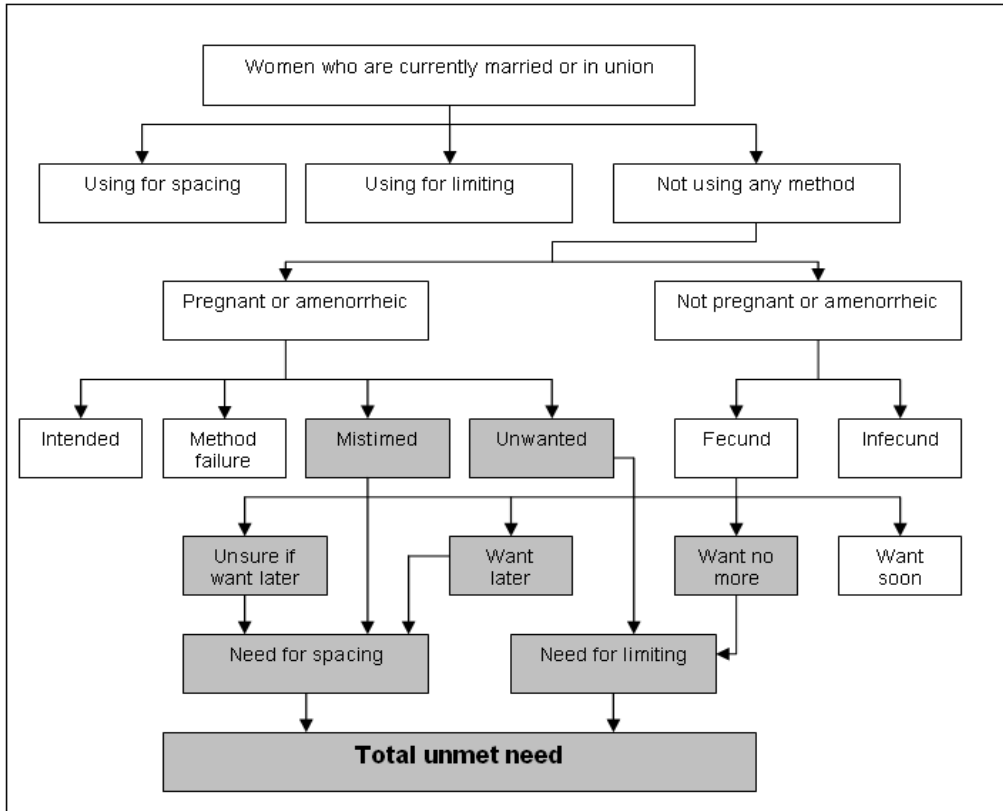


Figure 2.1: Framework to Estimate Total Unmet Need (Westoff, 2012)

2.2.2 Importance of Unmet Need Proportion

According to Bradley *et al.*, (2008) it was found that the idea of unmet need for family planning is important for finding women who may want to use, but are not currently using, a method of contraception and the reduction of unmet need of family planning has significant outcome. Policy makers are normally concerned about unmet need for family planning because unmet need for FP normally leads to unintended pregnancies which in turn pose risks for women in general. In Africa and other developing countries about 25% of pregnancies are unintended (unwanted or mistimed) and this leads to mostly unsafe abortions in the long run. In addition, unwanted births pose risks for children's health and wellbeing and contribute to rapid population growth in poor countries. In general, unmet

need for FP directly impacts on total fertility rate(TFR) and if the countries can be able to completely eliminate the unmet need , the fertility rate would go down (Subhash, 2013).

By reducing the TFR, mothers and women are assured of good health by preventing unwanted

Pregnancies and with decreasing unmet need reduces the maternal morbidity and mortality .Unmet need in a different context can be seen as a way of ensuring women's rights by making sure that they have the rights to choose the number of their children, the time of pregnancies, and exercising their autonomy (Assefa and Fikrewold , 2011). Lack of reproductive health services is one of the reasons for unmet need and therefore the prevalence of unmet need gives a clear picture family planning program kept in place. As an evaluation tool for FP, identification of causes and the factors responsible for lack of services can be useful in the implementation of strategies that will improve family planning service and promoting the uptake of contraceptives.

2.2.3 Unmet need for FP among women in Kenya.

In Kenya, studies on the effect of determining factors on prevalence of unmet need are few. However, the National Research Council report on Population Dynamics of Kenya and the Kenya demographic and health surveys included some of these factors in the multivariate regression analysis of determinants of contraceptive use. Few other researchers in Kenya have also shown interest in determining factors responsible for the unmet need among Kenyan women. In general, the results indicated that availability of family planning services, percent of rural population literacy, availability of paved roads, knowledge on contraceptives and percent living in urban areas at the district level significantly affected women's use of contraception. In spite of the fact that women

report diverse inhibiting factors which contribute to unmet need status, very limited investigation of the underlying forces behind these factors has been undertaken. In Kenya Demographic and Health Surveys, 1989 and 1993 showed that the level of total unmet need to a large extent declined for women residing in urban areas (41% in 1989 with 26% in 1993) and in Central and Rift Valley provinces; for women with secondary education (45 percent in 1989 with 27 percent in 1993); for women with parities 0-3; those who desired less than 3 children; and for those whose husbands approved of family planning and those who discussed family planning matters with their partners more often; and for those whose husbands had secondary level education (from 45 percent to 32 percent). The unmet need increased among the Kamba, Kisii, Luo and MijiKenda ethnic groups, those who were in polygamous relationship and those who had never used any modern contraception from 34 percent to 46 percent.(KDHS 2003; 2008/9; Ojaka, 2008). The KDHS 2003 and 2008/9 study showed that unmet need for FP in Kenya remained high, 27.5% and 25% respectively, with 20% of birth unwanted and 25% mistimed. Today only about 40-50% of the total potential demand of FP is being satisfied by use modern methods of FP. It can also be seen that there is an increase in the unmet need among western and nyanza residence, those with no education, among certain tribes, polygamous families and families with no husband approval. This implies that there is greater variation in the unmet need for family planning determinants among regions in Kenya. However, the proportion of the unmet need for FP that showed a decrease, it is still too high according to the WHO recommendations. Therefore it is essential for periodic research studies to be done to monitor the proportion and their determinants for proper and timely strategic implementations of the health interventions.

2.3 Demographic determinants of Unmet need for FP among women of reproductive age.

Every year, more than 500,000 women die of causes related to pregnancy and childbirth, with 90 per cent occurring in Africa and Asia. In many cases, a lack of family planning leads to unwanted pregnancies and eventually ending up in abortion cases. Of the 76 million women in developing countries who experience unintended pregnancies each year, approximately 20 percent end to unsafe abortions which translates to 68 000 maternal deaths globally (Oyedokun, 2007; WHO, 2010). Furthermore, many women of reproductive age in developing countries like Kenya use family planning methods to prevent unwanted and unplanned pregnancies. Contraceptive prevalence rate levels have increased from 10 percent in the 1960s to more than 50 percent in the 1990s in developing countries (Guttmacher Institute, 2009).

The determinants for not using contraception or family planning services are varying due to differences in social, economic and cultural backgrounds among married women. High quality FP services and appropriate contraception may be inaccessible, unavailable, or costly for many women, especially in low-income countries. There is also limited choice of contraceptives may be due to the contraceptive cost, side effects, dislike, or beliefs (WHO, 2010, Omwago *et al.*, 2006). Determinants of the unmet need for FP may be due to economic reasons, social, cultural and/or lack of knowledge on contraceptives. Unmet need for FP varies between regions of the world, countries or within countries and is determined by several socio-cultural factors such as women autonomy (Ndaruhuye *et al.*, 2009), by socio-demographic factors such as women's age,

age at marriage, sons preference and number of children surviving, and by socio-economic factors such as work status, educational level of both couples, and standard of living (Igwegbe *et al.*, 2009; Gebreselassie and Pav, 2013; Wubegzier and Alemayehu, 2011). A study carried out in Nepal found out that there is a significant association between unmet need for FP and gender preference for children. It states that women would prefer to have more sons as compared to girl child. Therefore, if a woman wants probably more extra sons there is a high tendency of this group of women having unmet need (Andurkar *et al.*, 2006; Ojaka, 2008). Using the logistic regression model, while age, parity, residence, age at marriage and experience of child death were not associated with total unmet need for family planning, women education, husband education and woman's occupation (housewife) were associated with the total unmet need (Abdel and Amira, 2013). Many studies have found that increasing the contraceptive use helps couples achieve their reproductive intentions and improve their lifestyles both socially, economically, and directly leads to a reduction in maternal and child mortality (Sedgh *et al.*, 2007; Andurkar *et al.*, 2006). In Kenya, Only the recent nationwide scientific research the KDHS 2008-09 has been done to find the proportion of the unmet need of FP in Kenya with very few researches done at community level. Although there are some studies done (Okech, 2011; Omwago, 2006; Kamau *et al.*, 1996) regarding family planning, none of them had primary data on unmet need for family planning. Most of them relied on secondary data for analysis on unmet need. Similarly, none of the studies captured both proportions of unmet, knowledge level on contraceptives and determinants of unmet need in one study as our current study.

2.4 Socio-Economic determinants of Unmet need for FP among women of reproductive age.

It is believed that the more a woman advances in education there is a high tendency of higher levels of contraceptive prevalence rate, smaller family size, and lower levels of unmet need (Ferdousi *et al.*, 2010; Bernstein *et al.*, 2007; Kamau *et al.*, 1996). Several studies show that women's work status is related to unmet need. Women who are working outside the home have a lower probability of having unmet need than those who work at home or indoors (Oluwasanmi *et al.*, 2011). One other study done in southern Sudan found out that unmet need for family planning declines with a woman's educational achievement and employment status, as the woman become more and more empowered (Abdel and Amira, 2013). In East Africa, studies document that unmet need for FP is lower for women with better education. For instance in Uganda, unmet need was lower for women with secondary or higher education and in Kenya, women with primary incomplete education were 2 times more likely to experience unmet need for family planning compared to those with primary complete or higher education (Assefa and Fikrewold, 2011). The same case applies with place of residence and husband's education. When both husband's and wife's education were put in the same model, husband's education became insignificant, suggesting that wife's level of education was more important if couple's unmet need were to be reduced (Ojaka, 2008).

A study done by Assefa and Fikrewold (2011) found out that resident women residing in rural areas were significantly more likely to be affected by all types of unmet need for family planning (spacing, limiting and total unmet need) with OR=4.79, 2.46 and 3.63, respectively). Studies in other sub-Saharan African countries also showed that rural women had significantly higher unmet need compared to urban women.

Most of the studies on unmet need mainly focused on rural residents where it is believed the proportion of unmet need is high ignoring the fact that unmet need does not necessarily mean that family planning services are not available but may be due to women lack information, or that the quality of the services on offer does not inspire the necessary confidence, or that women themselves have little say in decision making which can be evidenced in urban regions. This study therefore has been done in urban region of Makadara Division which also has a characteristic of both slum settlement and a non-slum settlement with residents of different cultural and socio-economic background. This research therefore tries to bridge the gap by providing essential data on unmet need for FP necessary as an indicator for public health interventions specifically family planning programmes.

2.5 Cultural determinants of Unmet need for FP among women of reproductive age

Basically, at the community level, individual women may fear social isolation or accusation on the accessibility of FP services from friends or close relatives in the community. Culturally, in some communities the use of contraception may be taken as a cause of sexual unfaithfulness among the taker. It is also believed that married women may need partners consent to access family planning services or contraceptive use at an individual level (UNFPA, 2010). Numerous studies have shown that the foremost determinant for an unmet need are lack of knowledge about contraception (Subhash, 2003), health concerns or fear of the side effects of contraception, and opposition of husbands, other relatives, or lack of self-rule among women themselves (Khan *et al.*, 2008; Igwegbe *et al.*, 2009). Nearly half of the respondents (46.1%) in a study done in Gazipur Division in India were not using contraceptives in fear of side effect, religious prohibition, partners' non cooperation, lack of knowledge about method, lack of

information by F.P. worker and economical constraints (Ferdousi *et al.*,2010). It is evidenced that discussion about the use of contraceptives between couples showed significant association with contraception use in Butajira Division of south east Ethiopia. Couples who discussed family planning were 2.2 (95% CI: 1.8, 2.7) times more likely to use the family planning compared to those who did not discuss about family planning (Wubegzier and Alemayehu, 2011).

Another study done in Pakistan found out that although socio-demographic factors were important in determining couple's unmet need, some of them proved rather significant, for example, religion. Religion has been shown in other studies as a key factor that may determine the use of family planning, particularly Catholic and Muslim. Muslims had significantly higher unmet needs than Hindus (29.7% vs.19.8%; $p = 0.04$),(Samira and Nihad, 2011). It is therefore, important that our study include these cultural determinants that may be causes of unmet need among the residents of Makadara Division characterized by all types of religion and different ethnic background.

2.6 Knowledge on Contraceptive Use among women of reproductive age

Rapid population growth is the characteristic of many developing countries brought about by high fertility rate, high birth rates accompanied by steady declines in death rates and low contraceptive prevalence rate. (Abdel and Amira, 2013; Korra, 2002). The Kenya government in collaboration with other stakeholders involved in the provision of FP services have put in place various strategies and policies to increase uptake of FP services. These are aimed at increasing contraceptive prevalence rate (CPR), reduction in both total fertility rate (TFR) and unmet need for FP services. Despite the various

strategies and policies, total fertility rate still remains high at 4.6 percent, while CPR and unmet need for family planning are estimated at 46 percent and 24 percent, respectively (Okech *et al.*, 2011). This is an implication that either the women are not aware of the contraceptives available, lack of health personnel or contraceptives or not knowledgeable on the use of these contraceptives.

Family planning can eliminate approximately 32% of maternal deaths and 10% of newborn, infant and child deaths by reducing high risk births. GOK's strategy is to achieve a contraceptive prevalence rate increase from 46% to 56% by 2015 and meet 70% of unmet need through creation of demand through developing and disseminating IEC tools, increased demand for and availability of modern contraceptives, including long acting and permanent methods, expanded coverage of integrated FP, MNCH, PMTCTs and other HIV prevention and treatment services and lastly by improving the contraceptive commodity security (Abdel and Amira, 2013; Kamau *et al.*, 1996; Okech *et al.*, 2011). This can only be achieved if only researches are done to determine the proportion of unmet need and their determinants which vary from region to region in order to apply different strategies depending on the need on the ground.

The provision of contraceptive information is elementary to the ability of married women including adolescents to make informed choices about reproductive health decisions. It should be noted that the mean number of the family planning methods one knows becomes the indication for the knowledge level and awareness on contraceptives. Nepal Demographic Health Survey conducted in 2006, showed that 26.4% of unmet need for FP among married women of reproductive age had unmet need at national level. Unmet need for limiting was highest (15.2%) where as spacing method constitutes at 9.4%. The major

reason for non-use of contraception were absence of husband, fear of side effect and having no information about contraceptives (Ojakaa, 2008; Ferdousi *et al.*, 2010; Samira and Nihad, 2011). This creates a need for studies to be done to be able to ascertain the knowledge level on contraceptives in Kenya to be able to know the mean number of contraceptives one knows.

A study done in India by the National Family Welfare Programme which was launched in 2000 found out that 98 percent of women know a modern method, but only 49 percent know a traditional method and at least 98 percent of women and men aged 15-49 years know one or more methods of contraception. Many research studies have established that among the traditional methods, rhythm method is well known than withdrawal while the folk is the least known method (Ferdousi *et al.*, 2010; Ndaruhuye *et al.*, 2009; Okech *et al.*, 2011). It is also noted that a higher percentage of rural women are less knowledgeable on contraceptives as compared to their urban counterparts. This can be attributed most by the mass media role played in urban centers. Moreover, awareness of methods for spacing is much lower in rural areas as compared with urban areas which the awareness is much pronounced. The study revealed that 59 percent of currently married women in rural areas know all three spacing methods, compared with 81 percent in urban areas (Sedgh *et al.*, 2007).

A study done among female university students in Lesotho on the awareness and use of and barriers to family planning services found out that 97.5% of the students were aware of contraceptives and family planning. Many of the respondents (69.4%) knew about family planning while still in secondary schools and the primary source of information about family planning and contraceptives was through classroom discussion and teaching

(57.8%). 4.4% of the respondents knew through internet which was the least common source of information (Oluwasanmi *et al.*, 2011). In Butajira Division, South Central Ethiopia it was revealed that Depo-Provera and pills were known by more than 97% of married women. This was followed by male condom and Norplant by about 82% and 75% of the respondents, respectively. In this study also the least known modern contraceptive method was foam/jelly (14%). There was a low level of knowledge on traditional methods such as rhythm method (21.3%), lactational amenorrhea method (LAM) (31%) and withdrawal (20.2%) among married women of reproductive age (Wubegzier and Alemayehu, 2011). In Kenya, however, according to Population Reference Bureau (PRB) 2009, knowledge of family planning among married women of reproductive age of 15-49 is above 90 percent giving a contented demand of 63 percent. In fact only 2 percent of married women are currently not using contraception due to lack of knowledge.

Family planning among women of reproductive age in Kenya is an important aspect in reproductive health as evidenced in both rural and urban settings. KDHS 2008-09 study survey indicates that almost 46 percent of the married women in Kenya use a family planning method with 39 percent using modern family planning method while about 6 percent use traditional methods. Among the currently married women of reproductive age in Kenya, 25 percent have unmet need for family planning as per the KDHS 2008-09 study. This creates a need for more researches on proportion and causes of unmet need for family planning to be done nationally and more so at regional and community levels. Most of the research studies done on family planning services in general such as Andurkar *et al.*, (2006), Bernstein *et al.*, (2007), Ferdousi *et al.*, (2010) were done outside

Africa while those that were done in Africa (Abdel *et al.*,2013; Gebreselassie *et al.*,2013; Igwegbe *et al.*,2009;Kamau *et al.*, 1996;Khan *et al.*, 2008; Korra, 2009; Ndaruhuye *et al.*,2009; Okech, 2011; Oluwasanmi *et al.*,2011; Omwago, 2006) relied on secondary data from demographic health surveys in their countries.

CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Introduction

This chapter describes the various methods which were used when collecting and analyzing data from the field. It is divided into research design, the study population, sampling techniques, data collection methods and ethical issues.

3.2 Research Design

A community-based cross sectional household survey was conducted to determine the unmet need for family planning proportion, and factors influencing the unmet need in Makadara Division, Nairobi County in Kenya. A structured questionnaire modeled from the KDHS 2008/9 was administered to a sample of women of reproductive age (15-49 years) to collect information. This approach was appropriate in assisting the researcher to gather information on the proportion of unmet need of FP, determinants of unmet need of FP and the knowledge level on contraceptives among the women living in Makadara Division. In this study, the perception of unmet need was applied to women of reproductive age (15yrs-49yrs) and it was estimated using Westoff model (Westoff, 2006).

3.3 Study Variables

3.3.1 Independent Variables

In this study, the independent variables were demographic variables (age of women, age at marriage/union, number of living sons, child loss experience and number of living children), socio-economic factors (household economic status, women's education, husbands' education status, work status and region of residence), and cultural variables

(Religion, Ethnicity). Knowledge on contraceptive methods was also included in the analysis to assess its effect on unmet need proportion.

3.3.2 Dependent Variables

The main dependent variable in this study was the proportion of unmet need for family planning among the reproductive aged women in Makadara Division. According to Westoff (2006), the unmet need for family planning is measured as the proportion of currently married/union women who are not currently using a method of family planning but want to postpone or limit childbearing. Total unmet need is the sum of unmet need for birth spacing and for birth limiting. Currently married or in union women who are not currently using a method of contraception, are fecund, and want to wait for two or more years before having another child are considered to have an unmet need for spacing. Women have an unmet need for limiting if they are not using a method of contraception, are pregnant or amenorrhoeic, and have an unwanted pregnancy or previous birth. This also includes women who are not using a method, who are not pregnant or amenorrhoeic, and who are fecund and want no more children.

3.4 Location of the study

Makadara Division is an administrative and electoral Division in Kenya. It is one of eight Divisions of Nairobi County. It consists of central and south of central areas of Nairobi. Makadara Division has common boundaries with Embakasi Division of Nairobi. The entire Division is located within Nairobi City County area. The Division has an area of 13 km². It was known as Doonholm Division at the 1963 and 1969 elections, then as Bahati Division and since 1997 elections it has been known as Makadara Division. The

population of Makadara Division is about 160,434 (KNBS, 2010). The inhabitants' economic status is that almost 50% are below poverty line and many have low primary and secondary enrollment. Makadara has also young population structure. Makadara Division was chosen as an ideal study site since it is made up of both slum and non slum settlements. In addition, Makadara Division is settled by different ethnic groups with different socio-cultural backgrounds which were essential in the study in determining the various causes of unmet need for FP.

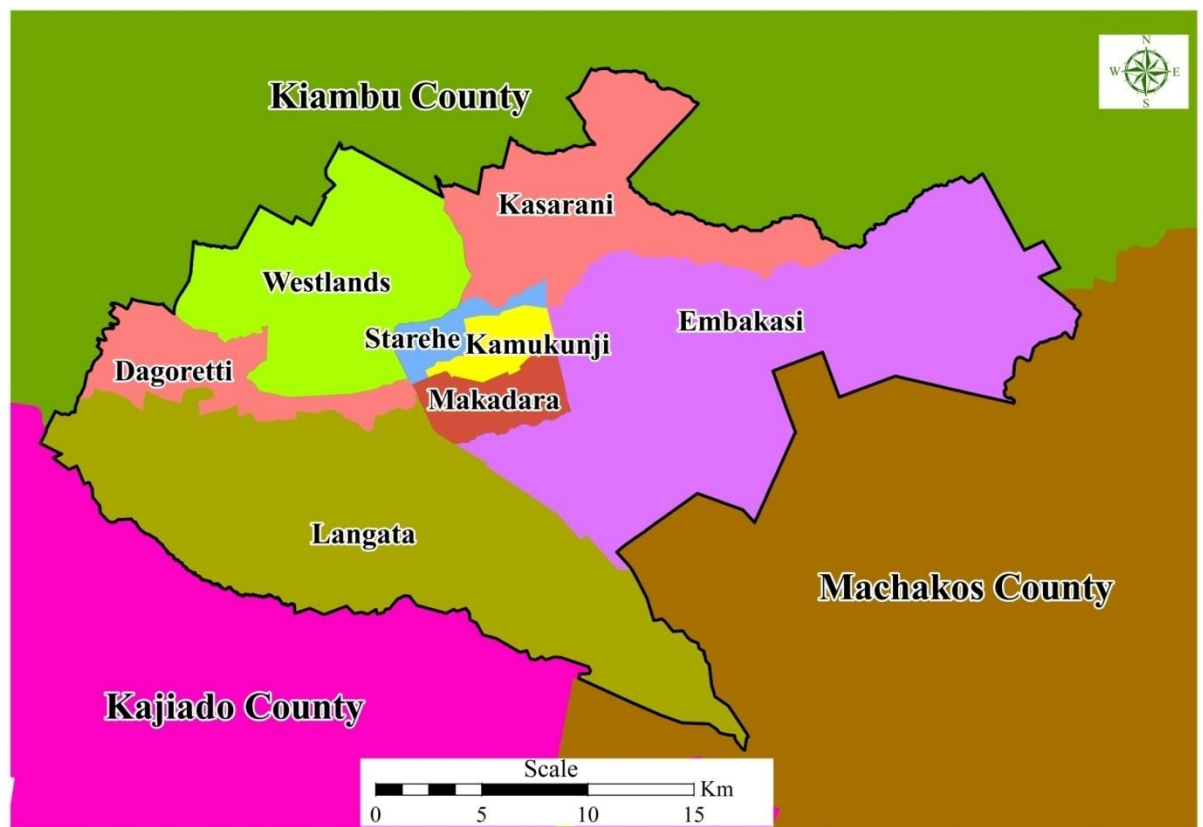


Figure 3.1: A map showing Makadara Division with its neighboring division in Nairobi County

3.5 Study Population

Target population is the specific population from which the information is derived. The study was carried out in Makadara Division, Nairobi County. To be eligible for the survey, participants needed to be women of the reproductive age (15-49 years), sexually active, married or in union and have resided in Makadara Division for the past 4 years. Inclusion criteria was those women of reproductive age (15-49yrs) who are married or in union, sexually active, fecund those who consented and residents of Makadara Division. Those excluded from the study included women who never had sex, non residents, unmarried/not in union, declared infecund, and sterilized.

3.6 Sampling Techniques and Sample size

3.6.1 Sampling Techniques

From the population frame the required number of respondents were randomly selected in order to make the sample. 196 women targeted were selected using the cluster sampling technique. Clusters were formed from the four regions namely Viwandani, Maringo/Hamza, Harambee, and Makongeni. After the clusters were formed, random sampling was done from each cluster to form a representative sample. According to Kothari (2004), cluster sampling technique frequently minimizes the sampling error in the population thus increasing the precision of any estimate method.

3.6.2 Sample size Determination

The sample size was determined using the formula below for a population greater than 10,000 (Kothari, 2004)

$$n = \frac{z^2 pq}{e^2}$$

Where n=desired sample size.

z = standard normal deviate to the required confidence level which is 1.96.

p = the proportion in the population estimated to have characteristics being measured which is 15%.(KDHS 2008/9).

$$q = 1 - p$$

e = acceptance error = 5%

$$n = \frac{(1.96)^2(0.15)(0.85)}{(0.05)^2}$$

$$n = 196$$

Table 3.1 Sampling frames per region

WARDS	TOTAL POPULATION	PERCENTAGE (%)	SAMPLE SIZES
Maringo/Hamza	52,293	$(52293/160434)100=32.59$	$(32.59\%)(196) = 64$
Viwandani	44,881	27.97	55
Harambee	32,238	20.09	39
Makongeni	31,022	19.33	38
TOTAL	160,434	100	196

Source: KNBS, 2010

The total population included both men, women of reproductive age, youth and children.

Sampling was only done on women of reproductive age. The total population in each

ward was used to find proportionality of the samples to be taken compared to the total population of the whole division.

3.7 Research Instrument

A modified survey questionnaire from the KDHS 2008/9 was used to estimate the proportion of the unmet need for family planning among women of reproductive age. Moreover, the questionnaire used in this study included questions that derived to the unmet need for family planning proportions, the reasons for the unmet need, knowledge on contraceptives and other vital information such as age, occupation, number of children among others to support the study. The structured questionnaire included three sections. Section A included 14 items on socio-demographic characteristics. Section B had 10 items on unmet need proportion determination while section C had 20 items for measuring the knowledge levels on contraceptives.

3.8 Pretest

3.8.1 Description of sharpening of the data collection instrument

The researcher carried out a pretest study to validate the questionnaire. To establish the validity of the research instrument, the researcher sought opinion of the research supervisors in the department of Environmental Health. This facilitated the necessary revisions and modification of the research instruments thereby enhancing validity. During the pretest, the researcher randomly selected a pretest group of 3 respondents from each of the four Regions namely Maringo/Hamza, Viwandani, Harambee and Makongeni giving a total of 12 respondents.

The pretest data was not to be included in the actual study. The pretest study also enabled the researcher to familiarize with the research and its administration procedure as well as identifying items required for modification.

3.8.1 Validity

The questionnaires were given to some academician and statisticians who included my supervisor to critique it. These professionals commented on the necessary areas to change in order to establish the content validity of the instrument. A more improved questionnaire for the study was then developed.

3.8.2 Reliability

The questionnaire was initially administered to 12 respondents during the pretest study. Comments and suggestions made during pretesting were used to improve the instrument. Questions in the study instrument that were unclear were reframed for clarity. The pretest data was not included in the actual study.

3.9 Data Collection Techniques

Data was collected through the primary sources by use of a structured questionnaire administered to a woman of reproductive age in each household. According to Cochran (1977), a self administered questionnaire is the only way to elicit self report on people's opinions, attitudes, beliefs, and values. A questionnaire consisted of structured, closed ended questions to collect quantitative data basically on the proportion of unmet need of FP, determinants of unmet need of FP and the knowledge level on contraceptives among the women of reproductive age living in Makadara Division. Interviewers were trained

and supervised by the researcher before any field work was done to ensure validity and reliability. Where the respondent was an illiterate the researcher personally administered the questionnaire. The researcher used cluster random sampling which ensured that each unit in the population had an equal chance of being selected in each region.

3.10 Data Analysis

The data in the questionnaires was checked for accuracy and whether it was fully completed before coding. The analysis for this study used both descriptive and multivariate logistic regression methods. Descriptive statistics used included frequency and percentages. Unmet need for FP proportions were analysed using the Westoff model. Given that our study did not collect direct measures of income, an index of wealth was created based on the ownership of household goods and durables. The index divides households into three categories in this study: low, middle, and high. To construct the index, each of these assets was assigned a weight (factor score) generated through principal component analysis. Each household was then assigned a score for each asset, and the scores were summed for each household. Knowledge level on contraceptives was measured by administering twenty questions on contraceptives. Each question answered correctly was awarded one mark while questions answered incorrectly were awarded zero mark. The total score ranging from 0-20 obtained by each respondent was recorded. These scores were then grouped as Poor (0-6), Moderate (7-13) or Good (14-20). Knowledge level obtained was then analysed to find its effect on unmet need for FP. Binary logistic regression was used to estimate the effects of respondent characteristics on total unmet need. In the model, number of living children, age of the respondent, age at marriage, number of living sons, experience of child loss, place of residence, respondents' education level, partners' education level, religion of the household, wealth status of household, knowledge level on contraceptives and work status of respondents were used as explanatory variables. The association strength was estimated by calculating the odds ratios (OR) with 95% confidence intervals (CI). A *p* value of less than 0.05 was considered statistically significant for all analyses. Statistical Package for Social Sciences (SPSS) application version 20 was used to analyze the data.

3.11 Ethical Considerations

The study received ethical clearance and approval from Kenyatta University Ethical Review Committee and the Ministry of Education, Science and Technology. The researcher also assured the respondents that the information will be used strictly for the study and the source of the information remains anonymous as the respondents were not to give their names and contacts. The researcher conformed to the principle of voluntary consent where respondents were willingly ready to participate in the study. The researcher also disclosed the real purpose of the study. For the respondents who were below 18 years of age, the consent was sought from either the parent or the husband.

CHAPTER FOUR: RESULTS AND DISCUSSION

4.1 Introduction

The section presents the data as captured from the questionnaires from the households. Numeric data was analysed through the use of descriptive statistics, and the output was then presented through the use of tables. The researcher targeted 196 female respondents. The response rate was 100% since the researcher was able to reach 196 female respondents. This was reasonable and adequately taken from initial random sample and ensured that all the cases had equal opportunity in the study.

4.2 Respondents Characteristics.

Out of 196 respondents, majority of the sampled respondents were in the 25-34 years age bracket with 56.1% (n=110) with only 28.6% (n=56) were in the age bracket of 15-24 years and 15.3% (n=30) was in the age bracket of 35-49 years. About 47.4% (n=93) got married at an age bracket of 25 and above with majority 52.6% (n=103) got married/union at an age bracket of 15-24. More than half of the respondents 80.1% (n=157) had 0-2 living children and only 19.9% (n=39) had more than 3 children. Nearly 88.8% had between 0-2 living sons while the rest 11.2% (n=17) had more than two living sons. Only 13.3% (n=26) of the respondents had experienced child loss or death while the rest 86.7% (n=170) had never experienced any as shown in table 4.4. Twenty seven percent (n=53) of the respondents had no basic education, 45.4% (n=89) had only primary education, while 52.6% (n=103) had secondary education and above. Most of the respondents from the region were from the Agikuyu community with 27% (n=53) followed by those from the Luhya community represented by 23% (n=45), and the least 12.3% (n=24) were from the Somali community.

Table 4.1: Socio-Demographic Characteristics of Women of Reproductive Age living in Makadara Division, Nairobi County, December, 2014 (N=196)

Explanatory Variable		Frequency N	(%)
Respondents Age	15-24	56	28.6
	25-34	110	56.1
	35-49	30	15.3
Age at Marriage/Union	15-24	103	52.6
	25+	93	47.4
Number of living Children	0-2	157	80.1
	3+	39	19.9
Number of living Sons	0-2	174	88.8
	3+	22	11.2
Experience of Child Loss	Yes	26	13.3
	No	170	86.7
Respondents Education level	No formal Education	53	27
	Primary	89	45.4
	Secondary+	54	27.6
Partners Education level	No formal Education	20	10.2
	Primary	73	37.2
	Secondary+	103	52.6
Ethnicity	Luo	33	16.8
	Luhya	45	23
	Agikuyu	53	27
	Somali	24	12.3
	Others	41	20.9
Work Status	Employed	35	17.9
	Unemployed/House wife	91	46.4
	Business	70	35.6
Religion	Catholics	72	36.7
	Protestants/other Christians	68	34.7
	Muslims	29	14.8
	Traditional + Others	27	13.8
Wealth Quintile	Low	131	66.8
	Middle	51	26
	High	14	7.2

About, 52.6% (n=103) of the respondent's husbands had achieved secondary education and above, followed by those who said that their husbands had only primary education at 37.2% (n=73) and a small number, 10.2% (n=20) of respondents had partners who had no

formal education. Most of the respondents were unemployed represented by 46.4% (n=91) while 17.9% (n=35) were employed. However, 35.6% (n=70) were operating their own businesses. Respondents who were Roman Catholics followers accounted 36.7% (n=72), followed by 34.7% (n=68) who were Protestants and the rest were either Muslims or traditionalists represented by 14.8% (n=29) and 13.8% (n=27) respectively. About 66.8% (n=131) of the respondents were categorized as having low wealth quintile, 26% (n=51) as moderate while a small percentage 7.2% (n=14) were categorized as having high wealth quintile.

4.3 Proportion of unmet need among women of reproductive age in Makadara division

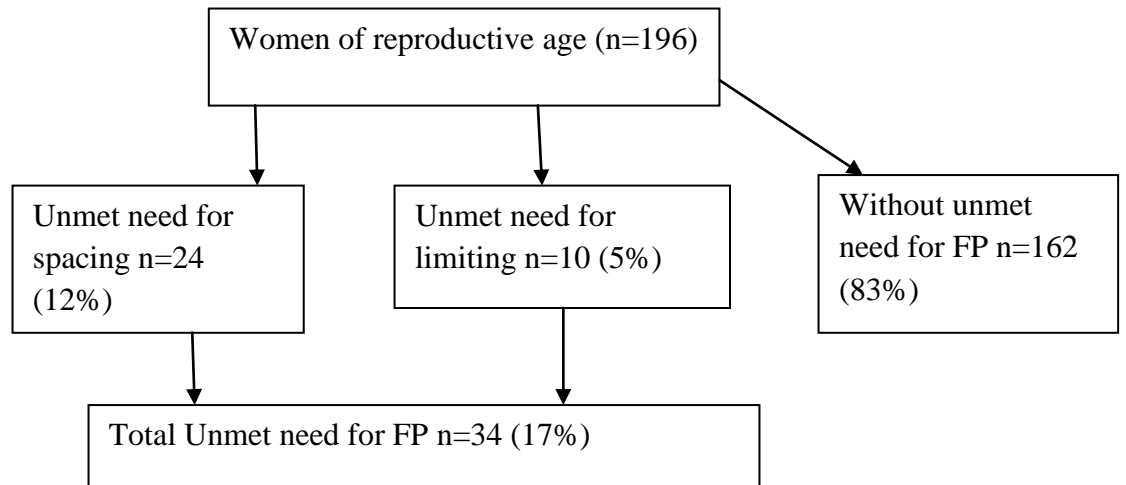


Figure 4.1: Prevalence of unmet need for family planning among women living in Makadara Division.

Out of the 196 respondents, 24 respondents representing 12% had total unmet need for spacing pregnancy while 10 respondents representing 5% had unmet need for limiting child bearing as shown in figure 4.1 above. The total unmet need rate was therefore 17% (n=34).

4.4 Determinants of Unmet Need for FP among Women of Reproductive age living in Makadara Division.

In the study, various explanatory variables were subjected to a regression model to determine whether they have any significant association with the dependent variable, unmet need for FP.

4.4.1 Demographic determinants of unmet need for FP among women living in Makadara Division.

Table 4.2 shows the distribution of the unmet needs according to the demographic variables in the study. Amongst them, a total of 17 respondents were in the age group of 15 to 24 years, while for the age group of 35 years and above had only 8 respondents with unmet need for FP. The model results indicate that women's age shows a strong relationship and likelihood of having unmet need ($P=0.008$). It is about two and half more likely for women with ages above 35 years to have unmet needs as compared to those in the ages 15-24 years ($OR=2.556$). However, women in the ages 20-34 years had about 37% chance of meeting their FP needs compared to those aged 15-24 years ($OR=0.063$). This implies that older women have more unmet need which might be attributed to lack of contraceptive uptake for limiting birth among this age group. Young

women (15-24 years) do have unmet need probably due to lack of knowledge on contraceptives.

Table 4.2: Demographic Determinants of Unmet Need for family Planning among women living in Makadara Division (n=196).

Explanatory Variable	With Unmet Need No.(%)	Without unmet Need No.(%)	P	OR	95% CI	
					Lower	Upper
Age						
15-24	17(30.4)	39(69.6)		1		
25-34	9(7.5)	101(92.5)	*0.008	0.06	0.005	0.73
35-49	8(26.7)	22(73.3)		2.56	1.15	5.68
Age at marriage/union						
15-24	22(21.4)	81(78.6)	0.343	1		
25+	12(12.9)	81(87.1)		0.42	0.070	2.53
Number of living children						
0-2	22(14)	135(86)		1		
3+	12(30.8)	27(69.2)	0.918	1.71	0.050	5.85
Number of living sons						
0-2	18(10.3)	156(89.7)	0.482	1		
3+	16(72.7)	6(27.3)		0.703	0.118	4.192
Experience of child loss						
Yes	14(53.8)	12(46.2)	*0.026	1		
No	20(11.8)	150(88.2)		0.103	0.014	0.76

P-significant value; OR- odds Ratio; CI-Confidence interval

* Significant P values

The study also indicates a strong significant relationship between child loss and unmet need for FP (p=0.026). Women who have an experience of child death have a high rate of unmet need for family planning; 53.8% (n=14) of the respondents with the unmet need for FP had experienced child loss while 11.8% (n=20) had no experience of child loss. The study indicates that there was less likelihood of women who have not experienced

child loss to have unmet need (OR=0.103). It is believed that when a child in a family dies, a woman becomes more anxious to replace the dead one leading to reluctance in taking contraceptives. This implies that proper health services geared towards child survival is essential in-order to increase the uptake of FP services.

From the study model, age at marriage/union, number of living sons and number of living children, were not associated with total unmet needs for family planning. However, it can be seen that the unmet need of FP likeliness increases as the number of living children increases and reduces when the number of living sons and age at marriage/union increases as compared to the reference category.

4.4.2 Socio-Economic determinants of unmet need for FP among women living in Makadara Division.

Table 4.3 shows the distribution of the unmet needs according to the socioeconomic variables in the study. More than 75% of respondents with unmet need of FP were from both Makongeni and Viwandani. The study reveals that there is statistical significant association of the unmet need of FP with the region of study among respondents living in Makadara division ($p=0.004$). The result indicates that residents from Harambee are less likely to have unmet need for FP compared to Maringo residents. Viwandani and Makongeni residents were more likely to have unmet need for FP (OR=1.18; OR=2.60) respectively compared to residents. This implies that the more economically stable a respondent is, the more likely she meets her FP needs and therefore it is important to empower women economically especially those from Viwandani and Makongeni in-order for them to have easier access to FP services.

Table 4.3: Socio-Economic Determinants of Unmet Need for family Planning among women living in Makadara Division (n=196).

Explanatory Variable	With Unmet Need No.(%)	Without unmet Need No.(%)	P	OR	95% CI	
					Lower	Upper
Region of residence						
Maringo/Hamza	5(7.8)	59(92.2)		1		
Harambee	5(12.8)	34(87.2)	*0.004	0.59	0.04	1.66
Viwandani	13(23.6)	42(76.4)		1.18	0.15	1.42
Makongeni	11(28.9)	27(71.1)		2.60	0.46	7.41
Education Level						
No formal Education	12(22.6)	41(77.4)		1		
Primary	16(18)	73(82)	*0.000	0.25	0.05	0.62
Secondary +	6(11.1)	48(88.9)		0.06	0.07	0.22
Partners education level						
No formal Education	11(55)	9(45)	*0.007	1		
Primary	15(18.1)	58(81.9)		0.075	0.008	0.665
Secondary +	8(7.8)	95(92.2)		0.005	0.000	0.895
Work status						
Employed	6(17.1)	29(82.9)		1		
Unemployed	20(22)	71(78)		0.831	0.07	1.02
Business	8(11.4)	62(88.6)	0.460	0.232	0.02	1.37
Wealth status						
Low	22(16.8)	109(83.2)		1		
Middle	7(13.7)	44(86.3)	0.434	0.33	0.000	1.23
High	5(35.7)	9(64.3)		0.29	0.000	0.82

P-significant value; OR- odds Ratio; CI-Confidence interval

**Significant P values*

In the multivariate model, it showed that unmet need for FP was positively associated with the level of education of the respondents ($p < 0.05$). Women who attained secondary education and above had less likelihood of having unmet need for FP (OR=0.06) while those who attained primary education level (OR=0.25) as compared to those respondents with no formal education. This implies that the higher the education attained, the

likeliness of meeting the FP needs increases. The possible explanation for this could be that women empowered through education have good knowledge on contraceptives and have better access to health facilities compared to uneducated women.

In this study, partner's education level was significantly associated with the unmet need for FP ($p= 0.007$). The result indicates that the higher the level of education of the partner, the less the likelihood that a respondent would report unmet need for FP. Specifically partners having more than secondary education increased the chance of met need for FP by 99.5% while primary education increased the chance by 92.5% among the respondents. This implies that formal education in general among both men and women is important for the increase in FP uptake among women of reproductive age in Makadara Division.

From the study model, work status and the family wealth quintile ($P>0.05$) were not associated with total unmet needs for family planning.

4.4.3 Socio-Cultural determinants of unmet need for FP among women living in Makadara Division.

Table 4.4 shows the distribution of the unmet needs according to the socio-cultural variables in the study. Somali and Agikuyu residents had the highest percentages of 29.2% and 20.8% respectively with unmet need of FP. However, ethnicity had no significant relationship with the total unmet need for FP in this study. It can also be seen that the Agikuyu community were 2.04 times more likely to have unmet need than the reference category. Religion had no significant relationship with the total unmet need ($p>$

0.05) but the study shows that the Muslims were more likely to have unmet need than the Catholics (OR=8.36).

Table 4.4: Socio-Cultural Determinants of Unmet Need for family Planning among women living in Makadara Division (n=196).

Explanatory Variable	With Unmet Need No.(%)	Without unmet Need No.(%)	P	OR	95% CI	
					Lower	Upper
Ethnicity						
Luo	6(18.2)	27(81.8)	0.063	1		
Luhya	5(11.1)	40(88.9)		1.07	0.08	1.41
Agikuyu	11(20.8)	42(79.2)		2.04	0.69	2.53
Somali	7(29.2)	17(70.8)		2.31	0.00	3.30
Others	5(12.2)	36(87.8)		1.49	0.31	2.32
Religion						
Catholics	12(16.7)	60(83.3)	0.080	1		
Protestants/other						
Christians	7(10.3)	61(89.7)		0.772	0.14	2.35
Muslims	10(34.5)	19(65.5)		2.36	0.15	2.66
Traditional + Others	5(18.5)	22(81.5)		0.15	0.013	1.71

P-significant value; OR- odds Ratio; CI-Confidence interval

4.4.4 Knowledge level on contraceptives among women of reproductive age in Makadara Division

The knowledge level of the respondents on both modern and traditional contraceptives was explored to capture their knowledge on various types and usage of contraceptives.

A maximum of 20 knowledge items measured on a likert scale were used. These items covered knowledge within the scope on contraceptives mode of action, types, timing and their uses. Their scores were recorded and analysed after grouping them.

Table 4.5: Distribution of Scores for knowledge level on contraceptives

Scores	Frequency(n)	Percentages (%)
0-6	84	42.9
7-13	80	40.8
14-20	32	16.3
TOTAL	196	100

Every question answered correctly was awarded one mark and zero for those answered wrongly. Those who scored between 0 and 6 marks were regarded as having poor knowledge, between 7 and 13 as having moderate knowledge while 14 and above were regarded as having good knowledge on contraceptives. One of the questions the respondents were asked was to identify and list any contraceptives they knew. The table 4.5 above gives the distribution of scores..

Table 4.6: Distribution of Knowledge level on contraceptives among women of reproductive age living in Makadara Division (n=196).

Explanatory Variable	With Unmet Need No.(%)	Without unmet Need No.(%)	P	OR	95% CI	
					Lower	Upper
Knowledge level on contraceptives						
Poor	18(21.4)	66(78.6)	*0.035	1		
Moderate	10(12.5)	70(87.5)		0.360	0.029	6.323
Good	6(18.8)	26(81.2)		0.193	0.021	1.786

P-significant value; OR- odds Ratio; CI-Confidence interval

* *P value significant*

When the respondents were subjected to general questions on contraceptives to capture their knowledge level, 16.3% (n=32) had good knowledge, 40.8% (n=80) had moderate knowledge while a greater majority 42.9% (n=84) had poor knowledge on contraceptives as shown in Table 4.7. From the results it can be observed that there was significant association ($p=0.035$) between knowledge level and FP needs. The results thus indicate that the higher the knowledge level, the more likely that a respondent will have met need for FP. This result demonstrates the fact that improved knowledge on contraceptives increases the uptake of contraceptives.

4.5 DISCUSSIONS

4.5.1 Unmet need for family planning

The study shows that the total unmet need for family planning among women living in Makadara Division was 17% at the time of the survey. This indicator of 17% among women of reproductive age is much lower than the current national unmet need for FP of 25.6% but higher as compared to Nairobi which has an average unmet need of 15% according to the KDHS 2008/2009 report. Unmet need for birth spacing and birth limiting nationally is 12.5% and 13.1% respectively while in the study was 12% and 5% respectively. This shows that there is a decrease in unmet need for birth limiting. This could be attributed to the increase in contraceptive use among limiters with no difference in contraceptive use behavior for the spacers in the study especially among 15-24 age groups. This is also observed in other studies among the low- income countries (Wubegzier and Alemayehu, 2011; Abdel and Amira, 2013, Samira and Nihad, 2011; Subhash, 2013). Generally, an increase in unmet need for FP in Nairobi may be attributed

to lack of knowledge on contraceptives, low level of education among women of reproductive age and poor maternal and child healthcare.

4.5.2 Demographic determinants of unmet need for FP among women living in Makadara Division.

Age and experience of child loss were positively associated with the total unmet need for FP ($p < 0.05$). This study shows a strong significant relationship between child loss and unmet need in that women who have an experience of child death have a high rate of unmet need for family planning ($p = 0.026$). It is believed that when a child in a family dies, a woman becomes more anxious to replace the dead one leading to reluctance in taking contraceptives and thus increase the rates of unmet need (Okech *et al.*, 2011). The multivariate model results also indicate that women's age shows a strong relationship and likelihood of having unmet need ($P = 0.008$). It is about two and half times more likely for women with ages above 35 years to have unmet needs as compared to those in the ages 15-24 years ($OR = 2.556$) but less likely among women at ages between 25 to 34 years ($OR = 0.063$). This implies that older women have more unmet need which might be attributed to lack of contraceptive uptake for limiting birth among this age group. Young women do have unmet need probably due to lack of knowledge on contraceptives and the desire to have more children. Shrivastava *et al* (2011) also reported highest percentage of unmet needs for family planning in 15-19 years age group. Earlier studies had also revealed that the use of contraceptive measure was least among married women of similar age group (Ndaruhuye *et al.*, 2009; Oluwasanmi *et al.*, 2011; Samira and Nihad, 2011; Subhash, 2013).

4.5.3 Socio-Economic determinants of unmet need for FP among women living in Makadara Division.

Region of residence, partners' education level and respondent education level were positively associated with the total unmet need for FP ($p < 0.05$). Studies elsewhere revealed same patterns of relationship where the level of education of the women and the maternal health services such as the uptake of family planning were positively associated. Women with primary education or no education at all were almost 2 times likely to experience unmet need for FP in comparison to post primary counterparts (Wubegzier and Alemayehu, 2011; Shrivastava *et al.*, 2011; Subhash, 2013). Husband s' education level was also associated with the unmet need for FP in this study implying that husband education is associated with the utilization of family planning services. Low level of education is believed and shown that it leads to little understanding on fertility, maternal and side effects of contraceptives (Kamau *et al.*, 1996; Ndaruhuye *et al.*, 2009; Okech *et al.*, 2011; Omwago *et al.*, 2006). Additionally, this study also showed positive association between region of residence and the unmet need for FP. Viwandani and Makongeni residents had higher rates of unmet need compared to other regions (Table 4.3). This may be attributed probably to poverty levels, low education levels and religion of these respondents.

4.5.4 Socio-Cultural determinants of unmet need for FP among women living in Makadara Division.

From the study, ethnicity had no significant relationship with the total unmet need for FP in this study. It can also be seen that the Agikuyu community were two times more likely

to have unmet need than the reference category. Omondi-Odhiambo (1997) had documented that couples in Nairobi, Central and Eastern (where conformity to traditional reproductive practices are weaker), are more likely to use contraception and hence have lower unmet need than those who live in patriarchal communities of Nyanza, Coast, Western and Rift Valley. In 2003, total unmet need was highest in Nyanza province. However in 1998 as well as 1993, it was highest in Western province. In all the three years, total unmet need was lowest, surprisingly, not in an urban area such as Nairobi city, but in Central province. This corresponds with the high contraceptive prevalence observed in Central province (Westoff and Cross 2006; KDHS, 2003; Ojaka, D. 2008). Religion had also no significant relationship with the total unmet need ($p > 0.05$) but the study shows that the Muslims were more likely to have unmet need for FP than the Catholics. Other studies show contrary to the study that there is significant relationship between unmet need and religion (Subhash, 2013; Laya, 2012).

4.5.5 Knowledge level on contraceptives and unmet need for FP

From the study, it was found that only 16.3% ($n=32$) had good knowledge, 40.8% ($n=80$) had moderate knowledge while a greater majority 42.9% ($n=84$) had poor knowledge on contraceptives as shown in Table 4.5. From the results in Table 4.6, it can be observed that there was a significant association ($p=0.035$) between knowledge level and unmet FP needs. Previous studies have shown that lack of sufficient knowledge on contraceptives and reproduction may contribute to almost two thirds of unmet need for family planning (Samira and Nihad, 2011; Subhash, 2013). Knowledge of specific contraceptive methods remains low, although knowledge of at least one method of contraception is high in the study population. Unmet need was found to be higher among those with poor

contraceptive knowledge, 21.4% (n=18). This gives a clear indication that women with good knowledge on contraceptives are less likely to have unmet needs for FP. Poor knowledge on contraceptives may be an indication that the education level of both men and women in the area is low.

CHAPTER FIVE: SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter highlights the outcome of the findings of the study in relation to unmet need for family planning proportions, knowledge levels on contraception and the determinants of unmet need for family planning in Makadara division, Nairobi County, Kenya. This chapter therefore brings out the summary, conclusions and recommendations drawn from the analysed results. It also shows how the demographic, socio-economic, knowledge on contraceptives and cultural variables influence on the uptake of contraceptives among women of reproductive age. Finally suggestions for further research related to the study were made.

5.2 Summary:

A total of 196 women of reproductive age from Makadara Division participated in the study. Nearly a half of the respondents (56.1%) were in the age group of 25-34 years, followed closely by those who are in the age bracket of 15-24 years with 28.6% (n=56). Most of the respondents 52.6% (n=103) were married or in union at an age bracket of 15-24 years. About 45.4% (n=89) of the respondents had completed primary education while only 27.6% (n=54) had completed secondary education and above. In respect to their husbands' educational status, only about 10.2% (n=20) did not have formal education and 52.6% (n=103) had attended secondary education and above. Most of the respondents 80.1% (n=157) had between 0-2 living children and only 11.2% (n=22) had 3 and above living sons. Only 13.3% (n=26) of the respondents had a child loss. About 47% (n=91) were unemployed/ housewives with 36% (n=70) doing business

and the rest employed. Majority of the respondents 66.8% (n=131) were categorized as poor, while 26% (n=51) were categorized as middle in the wealth quintile. The highest numbers of the respondents were Agikuyu (27%), Luhya (23%) and least were Somali with 12.3% of the respondents. Most of the respondents were from Catholic religion with equal representation of 14% each from Muslims and traditionalists.

Nearly 42.9% (n=84) of the respondents had poor knowledge on contraceptives. The unmet need for birth spacing for FP was 12% while for birth limiting was 5%. This gave a total unmet need for FP among women of reproductive age in Makadara Division to be 17%. Age (p=0.008), region of residence (p=0.004), knowledge on contraceptives (p=0.035), experience of child loss (p=0.026), partners' education level (p=0.007) and education level (p=0.000) of the respondents were significantly associated to the total unmet need for family planning (Table 4.2, 4.3, 4.4, 4.6).

5.3 Conclusion

Kenya at the moment is experiencing a lot of pressure on its resources due to a tremendous increase in population growth especially in urban settlements. This has brought about a significant challenge for the country as more and more slums develop in major cities in Kenya.

- From this study, it is clear that the unmet need for family planning is still very high in Makadara Division and therefore there is urgent need for the Nairobi County government, non- governmental organizations and other stakeholders in reproductive health to act swiftly towards reducing the total fertility rate of its citizens in order to realize the Kenya 2030 vision and health MDGs.
- In the study it is clearly seen that the unmet need for FP is dominant among young

mothers of between 15-24 years and fecund women of advanced ages and this makes age a factor of consideration during programmatic interventions. Experience of child loss and the region of residence also play an important role in the determination of women intention to use FP methods. Education level of the women and their spouses also determines their uptake of contraceptives according to the finding of the study.

5.4 Recommendations

The researcher recommends that:

- Through the ministry of health, the Nairobi county government should support family planning education at all levels. This can be achieved by developing activities and programmes that will assist and encourage young girls to remain in school and pursue higher levels of education. Husband education level has been seen as one of the main determinant of unmet need of family planning and therefore the health providers and policy makers should target mostly men who are believed to be the final decision makers on family planning during awareness campaigns.
- Both public and private sectors (NGOs, CBOs) and other institutions that are involved in family planning programmes are expected to instigate and promote targeting programmes for the uptake of the family planning services in the slums settlements in urban poor areas like Viwandani and Makongeni.
- Study reveals a need to address the contraceptive needs of women according to their ages. Married women aged 15-24 and those aged above 34 years had a high

unmet need for family planning. Therefore these creates a need for the health sector and stakeholders in Nairobi County at large to intensively promote family planning methods to young women according to their particular needs, with particular emphasis on long-term methods for those women who are ready to accept them.

- Health professionals especially field staff should be trained to provide an informed choice to women of reproductive age and also adequate knowledge should be imparted regarding family planning and contraceptive uptake.
- Additionally, Knowledge of contraceptive methods remains low among the residents of Makadara Division, although knowledge of at least one method of contraception is high in the population. Therefore, County government and other stake holders should create awareness of all methods of family planning, their advantages and disadvantages and suitability for specific conditions. Family planning outreach activities by the health workers should be encouraged and supported in order to enhance knowledge of the available family planning services.
- Lastly, there should be coordination between public and private sector to provide adequate family planning services and supplies.

5.5 Further Research

The researcher recommends further studies to be done in the following areas:

- The researcher recommends similar study to be done on respondents from post primary learning institutions within the surrounding.

- It is also important for a study to be done on the unmet need for family planning among men of reproductive age living in the study area.
- More studies should also explore how the demographic, socioeconomic and cultural variables can influence family perception about contraceptives, spousal communication regarding fertility and the desire to control fertility which directly affects the outcome on unmet need for FP.

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Appendix I: Informed Consent

My name is Raymond Mukhongo and I'm a postgraduate student at Kenyatta University. I am conducting a study on "Unmet Need for Family Planning among Women of Reproductive Age Living in Makadara Division, Nairobi County, Kenya". The information will be used by the Ministry of Medical Services and the Ministry of Public Health and Sanitation to create awareness on contraceptives and increase the uptake of family planning services in this division as well as in other regions of Kenya.

Procedures to be followed

Participation in this study will require that I ask you some questions related to the study. I will record the information from you in a questionnaire. You have the right to refuse participation in this study. Please remember that participation in the study is voluntary. You may ask questions related to the study at any time. You may refuse to respond to any questions and you may stop an interview at any time. You may also stop being in the study at any time without any consequences to the services you receive medical centers or any other organization now or in the future.

Discomforts and risks

Some of the questions you will be asked are on intimate subject and may be embarrassing or make you uncomfortable. If this happens, you may refuse to answer these questions if you so choose. You may also stop the interview at any time. The interview may add approximately half an hour of your time.

Benefits

By participating in this study, with the crucial information you will provide, awareness can be raised and family planning efforts can be reinforced to address unrealistic view of risk and promote uptake family planning services thus reducing the number of unwanted pregnancies, number of abortions and the proportion of births at high risks among men and women all over the country and specifically those living in Makadara Division.

Rewards

No reward was given to the respondents who consented.

Confidentiality

The interviews will be conducted in a private setting within the household. Your name will not be recorded on the questionnaire. The questionnaire will be kept in a locked cabinet for safe keeping at Kenyatta University. Everything will be kept private.

Contact information

If you have any questions you may contact Dr. M.N. Keraka on 0721817521 or Dr. D. Akunga on 0722552157 or the Kenyatta University Ethical Review Committee Secretariat on kuerc@ku.ac.ke.

Participant's Statement

The above information regarding my participation in the study is clear to me. I have been given a chance to ask questions and my questions have been answered to my satisfaction. My participation in this study is entirely voluntary. I understand that my records will be

kept private and that I can leave the study at any time. I understand that I will still get the same medical care whether I decide to leave the study or not and my decision will not change the care I will receive from medical centers.

Name of the Participant..... Date.....

Signature/ Thumb print.....

Investigator's statement

I, the undersigned, have explained to the volunteer in a language she understands, procedures to be followed in the study and the risks and benefits involved.

Name of the interviewer.....

Date.....

Interviewer signature.....

Appendix II: Questionnaire

SECTION A: Personal Characteristics

Please put a tick (✓) in the box next to the right response

Demographic Characteristics of the Study Population

1. Age

15-24 35-49

25 -34

2. Age at Marriage/ union

15-24 35-49

25 -34

3. Number of Living Children

0 3- 4

1-2 5+

4. Number of Living Sons

0 3 - 4

1- 2 5+

5. Experience of Child Loss

Yes No

Socio-Economic Characteristics of the study population

6. Region of Residence

Maringo/Hamza Harambee

Makongeni Viwandani

7. Education level

No formal education	<input type="checkbox"/>	Secondary	<input type="checkbox"/>
Primary	<input type="checkbox"/>	Tertiary/ Higher	<input type="checkbox"/>

8. Partner's Education

No formal education	<input type="checkbox"/>	Secondary	<input type="checkbox"/>
Primary	<input type="checkbox"/>	Tertiary/ Higher	<input type="checkbox"/>

9. Work Status

Employed	<input type="checkbox"/>	Business	<input type="checkbox"/>
Unemployed	<input type="checkbox"/>		

10. Wealth quintile

Low	<input type="checkbox"/>
Middle	<input type="checkbox"/>
High	<input type="checkbox"/>

Characteristic of household dwelling unit

- source of water.....
- type of toilet facilities.....
- materials used for the floor, walls, and roof of the house.....
- ownership of various durable goods.....
- ownership of agricultural land.....,
- ownership of domestic animals.....
- ownership and use of mosquito nets

Cultural Characteristics of the study population

11. Religion

Roman Catholic

Muslim

Protestant/other Christian

Traditional +other

12. Ethnicity

Luo

Luhya

Agikuyu

Somali

Others

SECTION B: Questions and Filters for Unmet Need Proportions

1. Are you pregnant at the moment?

Yes.....Go to 2-5

Nogo to 6-11

Unsure.....go to 6-11

2. If yes, did you want to get pregnant at that time?

Yes.....

No.....

3. Did you want to have a baby later on or did you not want any (more) Children?

Later.....

No more

4. After the child you are expecting now, would you like to have another child, or would you prefer not to have any more children?

Have another child

No more

Undecided/don't know

5. After the birth of the child you are expecting now, how long would you like to

wait before the birth of another child? Indicate in figures to the right response.

0- 6 Months	<input type="checkbox"/>	7-12 Months	<input type="checkbox"/>
1-2 years	<input type="checkbox"/>	2+ years	<input type="checkbox"/>
Says she can't get pregnant	<input type="checkbox"/>		

6. If NOT pregnant or unsure

a) Are you currently doing something or using any method to delay or avoid getting pregnant?

Yes.....

No.....

b) Have you ever used anything or tried in anywayto delay or avoid getting pregnant?

Yes.....

No.....

7. Has your menstrual period returned since the birth of your last born?

Yes.....

No.....

8. In what month and year did you start living with him your first husband/partner?

Indicate the year and month.....

9. Would you like to have (a/another) child, or would you prefer not to have any (more) children?

Have (a/another) child.....

No more/none.....

Says she can't get pregnant.....

Undecided/don't know

10. How long would you like to wait from now before the birth of (a/another) child?

Months.....

Years

Soon/now

Says she can't get pregnant.....

After marriage

Other ____ (specify)

SECTION C: Knowledge of contraceptive methods

Please put a tick (√) in the box next to the right response

i) Which of the following contraceptives do you know?

- | | | | |
|-------------------------|--------------------------|-------------------------------|--------------------------|
| Female sterilisation | <input type="checkbox"/> | Male sterilisation | <input type="checkbox"/> |
| Pills | <input type="checkbox"/> | IUD | <input type="checkbox"/> |
| Injectables | <input type="checkbox"/> | Implants | <input type="checkbox"/> |
| Male condom | <input type="checkbox"/> | Female condom | <input type="checkbox"/> |
| Emergency contraception | <input type="checkbox"/> | | |
| Rhythm | <input type="checkbox"/> | Withdrawal | <input type="checkbox"/> |
| Folk method | <input type="checkbox"/> | Lactational amenorrhoea (LAM) | <input type="checkbox"/> |

ii) An IUD can be fitted up to five days after sex and prevent pregnancy. **True or False**

iii) Emergency contraceptive pills are most likely to stop or delay ovulation. . **True or False**

iv) Breast-feeding is 98 per cent effective in preventing pregnancy. . **True or False**

v) Most methods of contraception do protect you from sexually transmitted infections. **True or False**

vi) The calendar method is a very effective for birth control. **True or False**

vii) If taken within 72 hours of unprotected sex, the ECP can reduce the chance of pregnancy by 70-80%. **True or False**

viii) Vasectomy is a method of sterilization that is not permanent? **True or False**

ix) A Woman who is still breastfeeding can get pregnant. **True or False**

x) You can't get pregnant if the woman doesn't have an orgasm. **True or False**

xi) Use of injectables after sex can prevent pregnancy. **True or False**

- xii) Having sex standing up will not prevent pregnancy. **True or False**
- xiii) A single condom can be used many times to prevent pregnancy. **True or False**
- xiv) Certain antibiotics can lessen the effectiveness of hormonal contraceptives. **True or False**
- xv) There a pregnancy risk if your partner isn't wearing a condom but pulls out before he ejaculates? **True or False**
- xvi) There are some pills that reduce menstrual bleeding. **True or False**
- xvii) Female sterilization is a permanent method of contraception. **True or False**
- xviii) Withdrawal is one of the newly introduced method of contraception. **True or False**
- xix) Lactational amenorrhoea method use hormonal means in the prevention of pregnancy. . **True or False**
- xx) IUD is mostly used in males who are HIV positive. **True or False**

THANK YOU

Appendix III: A map showing Makadara Division with its neighboring division in Nairobi County

