

**PREDICTORS OF FAMILY PLANNING SERVICES UPTAKE AMONG
WOMEN OF REPRODUCTIVE AGE IN MOYALE SUB-COUNTY, KENYA**

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P57/23671/2011

**A RESEARCH THESIS SUBMITTED IN PARTIAL FULFILMENT FOR THE
AWARD OF THE DEGREE OF MASTER OF PUBLIC HEALTH
(MONITORING AND EVALUATION) IN THE SCHOOL OF PUBLIC HEALTH
OF KENYATTA UNIVERSITY.**

APRIL, 2016

DECLARATION

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

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DEDICATION

This thesis is dedicated to my wife Josphine K. Nzioki, grandmother Ngunyu and my late parents Muema and Kamutu; may your souls rest in eternal peace.

ACKNOWLEDGEMENTS

I praise the almighty God for his profound loving, kindness and grace which accompanied me during the entire research period. I thank all my lecturers at Kenyatta University, School of Public Health, from whom I have learned a lot throughout my training in the field of Public Health. I am particularly grateful to my supervisors Dr. George O. Otieno and Dr. Justus Osero for their unwavering, unconditional, constructive support and guidance throughout the entire research period. Your questions and critical comments immensely enriched the content of my research proposal and this thesis. May God bless you abundantly for the passion you have in your work.

Moreover, I appreciate Prof. Kabiru, Dr. Isaac Mwanzo and Dr. John Paul Oyore for academic mentorship, inspiration and encouragement they offered me during my studies.

To my loving brothers: George and Jackson, sisters: Jacinta, Muthoki, Fridah and Precious, Dr. Phillip Kyalo and Hassan Halakhe thank you very much for your support, encouragement and understanding throughout my study period. I further extend my gratitudes to the health workers, data collectors and all the respondents in Moyale Sub-county who participated in this study, your contribution was wholesome. To my classmates many thanks you were instrumental in this research.

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LIST OF ABBREVIATIONS AND ACRONYMS

AIDS	Acquired Immune Deficiency Syndrome
ANC	Ante Natal Care
DHMT	District Health Management Team
HF	Health Facility
HIV	Human Immunodeficiency Virus
HTC	HIV Testing and Counselling
KDHS	Kenya Demographic and Health Survey
KNBS	Kenya National Bureau of Statistics
KSPA	Kenya Service Provision Assessment
MCH/FP	Maternal and Child Health/Family planning
MDGs	Millennium Development Goals
MNCH	Maternal, Newborn and Child Health
MOH	Ministry of Health
MOMS	Ministry of Medical Services
MOPHS	Ministry of Public Health and Sanitation
MTCT	Mother to Child Transmission of HIV
NACOSTI	National Commission for Science Technology & Innovation
NAL	Northern Arid Lands
NCPD	National Council for Population and Development
NHSSP	National Health Sector Strategic Plan
RH/FP	Reproductive Health/ Family Planning
WHO	World Health Organization

DEFINITION OF TERMS

Family planning - Refers to the voluntary practice of regulating the number and spacing of children through contraception or other methods of birth control

Infecund women - Women who were first married five or more years ago, never used contraception, and have not had a birth in the past five years

FP uptake - Current use of any contraceptive method

Migration status - Refers to whether the respondent moved from one area of residence to another in the last six months

Preferred number of children - The number of children one would wish to have during his/her life time

Unmet need for FP- Percentage of women of reproductive age, either married or in a union, who are fecund and sexually active but are not using any method of contraception, and report not wanting any more children or wanting to delay the next child.

Total demand - Refers to the sum of unmet need (demand) for FP and the met demand for FP

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KDHS	Kenya Demographic and Health Survey
KNBS	Kenya National Bureau of Statistics
KSPA	Kenya Service Provision Assessment
MCH/FP	Maternal and Child Health/Family planning
MDGs	Millennium Development Goals
MNCH	Maternal, Newborn and Child Health
MOH	Ministry of Health
MOMS	Ministry of Medical Services
MOPHS	Ministry of Public Health and Sanitation
MTCT	Mother to Child Transmission of HIV
NACOSTI	National Commission for Science Technology & Innovation
NAL	Northern Arid Lands
NCPD	National Council for Population and Development
NHSSP	National Health Sector Strategic Plan
RH/FP	Reproductive Health/ Family Planning
WHO	World Health Organization

ABSTRACT

Family planning (FP) is one of the fundamental pillars of safe motherhood and a reproductive health right. However, the Northern arid lands of Kenya, where Moyale Sub-County lies, have continued to record low levels of family planning services uptake. This situation has led to poor health outcomes among women, children and the general population thus poor progress towards achievement of Millennium Development Goals (MDGs). Consequently, this study set out to determine the modern contraceptive methods used by the women, the level of unmet need for FP services, the total demand for FP services and the influence of socio-demographic, economic and cultural factors on FP uptake among the women. The study employed a cross-sectional descriptive design. Stratified two-stage random sampling method was used to obtain a sample of 170 respondents who were drawn from women visiting health facilities in the sub-county. Data was collected through interviews with randomly selected respondents, key informants, and focused group discussions. Informed consent was sought from all participants with confidentiality and privacy being maintained throughout the study. Data analysis for the quantitative and qualitative data was carried out using computer Statistical Package for Social Sciences (SPSS Version 20) and content analysis respectively. Chi-square was used to measure significant associations between independent and dependent variables with $P < 0.05$. Binary logistic regression analysis was used to determine the independent predictors and their contribution to FP uptake. The findings from this study showed that the prevalence of contraceptive uptake is 54.7%. Close to half of the respondents 45.3% were not using any contraceptive method. The total unmet demand for FP was found to be 24.8% while the total demand for FP was 79.8%. The significant predictors of FP uptake were experience of child loss (O.R = 0.183; $p = 0.001$), affiliation to Islamic religion (O.R = 4.036; $P = 0.026$), preferred number of children (O.R = 0.380; $P = 0.039$), inter-spousal communication (O.R = 5.500; $P = 0.045$), husbands education level (O.R = 7.598; $P = 0.022$), joint FP decision making (O.R = 4.992; $P = 0.020$) and social group approval (O.R = 4.495; $P = 0.001$). This study recommends creation of awareness and advocacy on benefits of smaller family sizes in the Sub-county, improved access to at least secondary education in the general population, FP campaigns and outreaches at the rural communities and women who have experience of child loss, formation of FP advocacy social groups and utilization of existing social groups for channeling FP messages to the community. The study further recommends strengthening and mainstreaming of male involvement and religious leaders participation in FP interventions and initiation of a communication program that explicitly promotes inter-spousal communication.

CHAPTER ONE: INTRODUCTION

1.1 Background to the study

Globally, 146 million married women of reproductive age had an unmet need for family planning in 2010 and it is estimated that by end of 2015 this number will increase to 153 million. The vast majority of these women are in the developing nations especially in African continent (Alkema, 2013).

Currently, in Sub - Saharan Africa (SSA), at least 25% of women aged 15-49 have unmet need for FP and about 14 million unintended pregnancies occur each year. Over the next 40 years, Africa's population is expected to double from 1 to 2 billion thus accounting for 22% of world population, up from 15% in 2010. In Kenya, the unmet need for family planning is at 25% while 17% of births are reported as unwanted or unplanned. Use of contraceptives is also generally lower in rural areas in comparison to urban areas with family planning use reported at 43% and 53% respectively. According to KDHS (2009), 88 % of women aged 15-49 years were not using any contraception method in Moyale sub -county while only 7 % of the married women or in a union reported current use of contraception.

Expansion of FP services in SSA can reduce maternal mortality and new born deaths by 69% and 45% respectively, unintended pregnancies by 77% and unsafe abortions from 5.2 million to 1.2 million per year (Singh,2009 & UNDP,2009). In this light, FP2020 has set a goal of expanding family planning services to reach an additional 120 million women who have desire to either limit or space their children globally.

Family planning (FP) is not only a key intervention for improving health but also, a key strategy for the achievement of national and international development goals including Kenya vision 2030 and Millennium Development Goals (MDGs) (MoH, 2010). FP is a human right and it is identified as a priority component in the National Reproductive Health Policy (MoH, 2007). All individuals have the right to access FP, including all FP-pertinent data regarding benefits and scientific progress made in the area of contraception.

In Kenya and other African countries, one of the main factors contributing to the challenge of achieving MDGs is the continued rapid growth of the population. The number of people in need of health, education, economic, and other services is large and increasing, which, in turn, means that the amount of resources, personnel, and infrastructure required to meet the MDGs is also increasing. In light of this fact, development efforts in support of the MDGs recognize the importance and benefits of slowing population growth. Enhancing FP use has the potential to helping Kenya significantly reduce the costs of meeting the five selected MDGs, including: achieving universal primary education, reducing child mortality, improving maternal health, ensuring environmental sustainability and combating HIV/AIDS, malaria, and other diseases (Republic of Kenya, 2007).

1.2 Statement of the problem

Low FP services uptake impacts negatively on health outcomes for women and their children. As such, the Kenyan government has set a target for increasing FP services uptake to over 70 per cent so as to achieve vision 2030 (Republic of Kenya,2010). In Moyale Sub-county FP services uptake remains unacceptably low and far below the

national target. This is mirrored in the low CPR (Contraceptive Prevalence Rate) of 12% and high fertility rate of 4.9 (DHIS, 2012 & KDHS, 2009). This worrying situation is attributed to various socio-demographic, economic and cultural factors as demonstrated by KDHS 2009. As such, this study examined the significance of these factors as predictors of FP services uptake in the Sub-county. To attain this, a cross-sectional descriptive study was conducted among women of reproductive age visiting health facilities in the Sub-county.

1.3 Justification of the Study

The findings from this study will be valuable in informing the government, non-governmental and private organizations, faith based organizations, individual women, programmers and policy makers on strategies to promote FP services uptake, interventions and FP delivery protocols that are responsive to the unique context and needs for Moyale Sub-county residents.

1.4 Research objectives

1.4.1 Broad Objective

To examine predictors of FP services uptake among women of reproductive age visiting health facilities in Moyale Sub-county

1.4.2 Specific Objectives

The specific objectives of this study were:

1. To determine the contraceptive methods used by the women of reproductive age visiting health facilities in Moyale Sub-county

2. To determine the level of unmet need for FP services among the women of reproductive age visiting health facilities in Moyale Sub-county
3. To determine the total demand for FP services among the women of reproductive age visiting health facilities in Moyale Sub-county
4. To find out the contributions of socio-demographic, economic and cultural factors on FP services uptake among the women of reproductive age visiting health facilities in Moyale Sub-county.

1.5 Research questions

1. What are the contraceptive methods used by women of reproductive age visiting health facilities in Moyale Sub-county?
2. What is the level of unmet need for FP services among women of reproductive age visiting health facilities in Moyale Sub-county?
3. What is the total demand for FP services among women of reproductive age visiting health facilities in Moyale Sub-county?
4. What are the contributions of socio demographic, economic and cultural factors on FP services uptake among women of reproductive age visiting health facilities in Moyale Sub-county?

1.6 Hypothesis

H₀: There is no relationship between socio demographic, cultural and economic factors and FP services uptake among women of reproductive age visiting health facilities in Moyale Sub-county.

1.7 Significance of the study

Currently there is limited information on the prevalence and determinants of FP services uptake in resource limited and Islam dominated regions of northern Kenya. This study will help fill in this gaps in knowledge by gauging the current level of FP services uptake and its predictors.

1.8 Limitations and delimitations

The study used a sample drawn from women of reproductive age visiting HF's in the Sub-county and who were seeking services such as immunization, FP and growth monitoring for their children. The study was limited to determination of contraceptive methods used by the women, total demand for FP services, level of unmet need for FP and contribution of factors influencing FP services uptake only. It did not extend to study of health system factors.

1.9 Conceptual framework

Figure 1.1 lays the conceptual framework for this study. Two groups of variables are used to examine factors influencing uptake of FP services. The independent variables, which influence the uptake of FP services of the study population, are subdivided into three sets. The first two are the underlying factors which include important demographic and socioeconomic variables. The third group of independent variables is the proximate determinants which are women's knowledge, attitudes, couple communication and perceptions about FP.

For this particular study, two dependent variables are considered (uptake and non-uptake of FP services). Demographic, socioeconomic and social cultural factors are assumed to

be the underlying determinants of FP services uptake. That is, the effect of the underlying factors is expected to reach the ultimate dependent variable through the assumed proximate variables.

Independent Variables

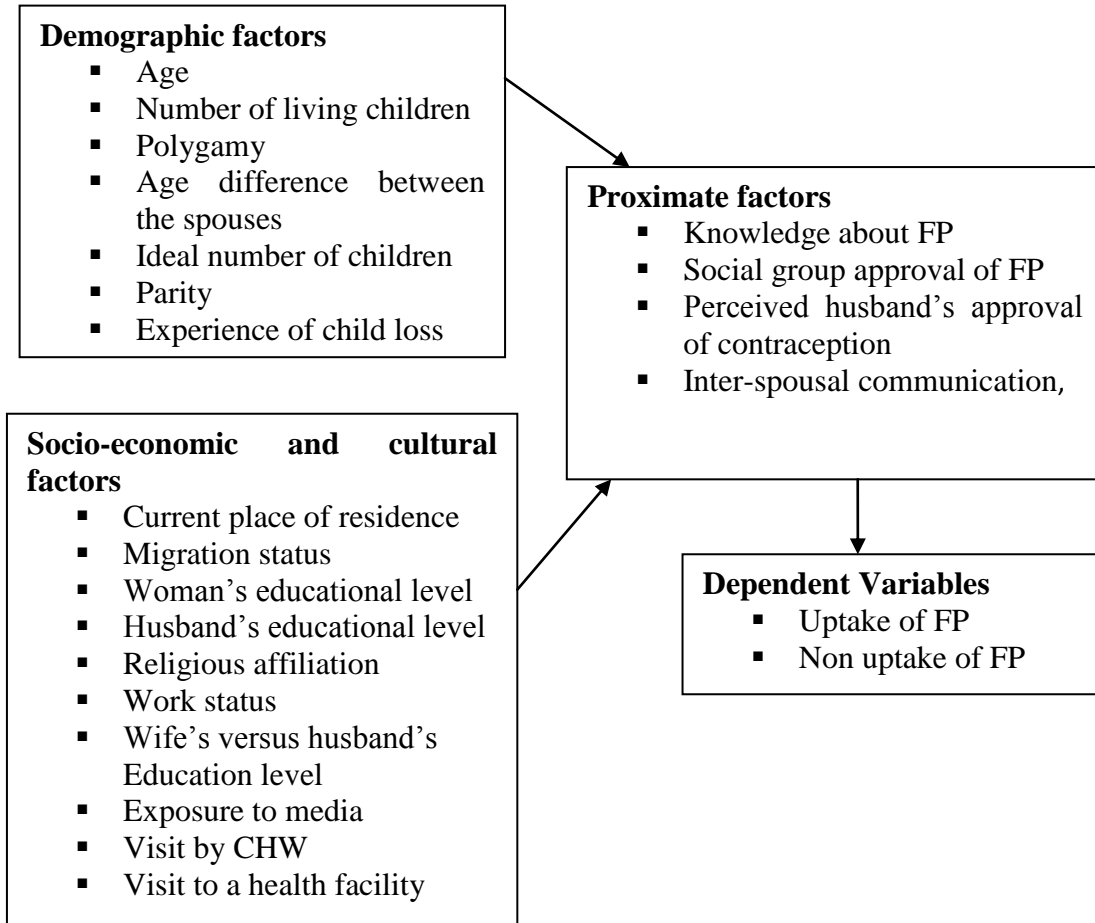


Figure 1.1: Conceptual framework for predictors of FP services uptake

Source: Adopted and modified from Korra, (2009).

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

This chapter primarily discusses the existing literature on FP while highlighting the knowledge gaps on FP which needs to be addressed. It also gives an overview of current global, regional, national and local trends in FP as well as explaining evolution of FP policy in Kenya.

2.2 Overview of FP

2.2.1 Global overview of FP

It is estimated that more than 100 million women globally especially in less developed countries or about 17% of all married women, would prefer to avoid pregnancy but are not using any form of family planning (Ross & Winfrey, 2009). Also, within the less developed regions of the world, about one-fourth of all pregnancies are unintended (Haub & Herstad, 2008), while an estimated 18 million unsafe abortions take place each year (Murray & Lopez, 2010), thereby contributing to the high maternal mortality and injuries.

Family planning is one of the fundamental pillars of safe motherhood and a reproductive health right. The practice of family planning is influenced by several socio economic, social cultural and demographic factors, hence its variation between regions of the world, countries and within countries. In Africa, it is pertinent to reposition family planning to accelerate the reduction of maternal and neonatal mortality in less developed countries.

2.2.2 FP overview in Kenya

The 2009 KDHS showed a decline in Total Fertility Rate (TFR) to 4.6 births per woman, which indicates that Kenya's fertility could be returning to the declining trend that was

observed from the mid-1970s to the late 1990s. Current fertility rates differ for urban and rural areas and across the provinces in Kenya. The TFR in rural areas (5.2 births) is significantly higher than in urban areas (2.9 births). Kenya has a low CPR of 45% with 25% unmet need for family planning (KDHS, 2009).

2.2.3 FP services provision in Kenya

According to 2010 KSPA, modern family planning services are available in 85% of all health care facilities in Kenya. Almost all (96%) government facilities offer family planning compared to 89% of NGO, 84% of private and only 44% of FBO facilities. Family planning services are widely available in all types of facilities, ranging from 80% of clinics to 89% of dispensaries. The 2010 KSPA indicated that most HFs (88%) providing temporary methods provide these services five or more days per week.

2.3 Evolution of the Kenyan population policy

It has been documented (WHO, 2005) that prior to evolution of modern contraception, population growth was checked by traditional population control mechanisms. When Kenya became independent in 1963, the question of controlling population growth began getting attention. This was as a result of the 1948 and 1962 population censuses which had documented rapid population growth which threatened economic development. The government subsequently adopted the first FP policy in 1965 as part of its development policy. This population policy did not have the political support but it saw the Ministry of Health issue guidelines covering FP to all its facilities and opened the first FP centers in Central province in 1968 (Blacker *et al.*, 2006).

In the early 1980s, the then government encouraged reduction in the population and budgetary allocations were made for FP services. The Sessional Paper No. 4 of 1984 on Population Policy Guidelines led to the establishment of the National Council for Population and Development (NCPD). The NCPD was to act as an umbrella organization in supporting, coordinating and strengthening the IEC programs and activities of the participating agencies. During this period, FP services were delivered through government health institutions, private hospitals, Non-Governmental Organizations and some church related health institutions. The 1997 draft National Population Policy for Sustainable Development called for an increase in contraceptive prevalence rate from 33 per cent (in 1993) to 68 per cent.

During the 1980s and early 1990s, the Kenyan government demonstrated considerable commitment to FP through the development of national policies and guidelines, involvement of high-level politicians, the establishment of the National Council for Population and Development (NCPD) in the Office of the Vice President, and support for increased distribution of contraceptives through governmental and non-governmental health facilities, and extensive information, education and communication (IEC) campaigns (Ajayi & Kekovole, 1999). In 1996 the NCPD published its National Population Advocacy and IEC Strategy for Sustainable Development, 1996 – 2010, the aim of which was to promote the use of modern contraceptive methods among less educated women (RoK, 1994).

2.4 Current FP policies and strategies in Kenya

In Kenya, several policies and strategies have been developed with the goal of strengthening the demand for and supply of FP services. The second National Health

Sector Strategic Plan (NHSSP II) for the period 2005-2010 recognizes RH (including FP) as an essential priority in the Kenya Essential Package for Health (KEPH). In addition, the Plan has a Community Strategy to strengthen the interface between all levels of the health care system. This strategy has provided a mechanism through which RH services, including FP, can be extended down to the grassroots level by community health workers (CHWs). The National Reproductive Health Policy (NRHP) 2009-2015 lists FP among the priority RH components, and has identified priority actions that must be taken to attain national and international goals. Its objectives are to reduce the unmet need for FP, reduce unplanned births, and narrow the socio-economic disparities in the Contraceptive Prevalence Rate.

2.5 Factors influencing uptake of FP services

The influence of physical access on the utilization of FP services is well founded, with many studies demonstrating the greater use of services among women who live in relative proximity to a service (Tsui *et al.*, 2009). Research into the barriers faced in accessing reproductive health services, however, now recognizes that problems of access extend beyond physical access to services, and include issues of economic, cultural and psychosocial access (Bertrand *et al.*, 2008).

Furthermore, the determinants to FP service use are seen as extending beyond factors operating at the individual and household levels, to include characteristics of the social and cultural environment and the health service infrastructure. This conceptualization of access incorporates factors operating at the individual, household and community level to influence an individual's ability to utilize a health service, thus framing an individual's access to services in terms of the socioeconomic and cultural context in which they live.

2.5.1 Socio-demographic and economic factors influencing FP services uptake

Demographic factors that have been shown to increase the likelihood of using reproductive health services are; low parity and younger maternal age (Magadi *et al.*, 2000). Socioeconomic factors, however, have been shown to be of greater importance in determining health service utilization than demographic factors (Obermeyer & Potter, 1991). Whilst demographic factors may shape the desire to use services (for example younger women may have more modern attitudes towards health care use) the socioeconomic status of an individual and the household in which they live determines the economic ability to utilize health services and economic dimension of access).

In terms of socioeconomic factors, the most consistently found determinant of reproductive health service utilization is a woman's level of educational attainment (Magadi *et al.*, 2000). It is thought that increased educational attainment operates through a multitude of mechanisms in order to influence service use, including increasing female decision-making power, increasing awareness of health services, changing marriage patterns and creating shifts in household dynamics (Obermeyer & Potter, 1991). Socioeconomic indicators such as urban residence, household living conditions (Magadi *et al.*, 2000), household income, women's employment in skilled work outside the home, high levels of husband's education and occupational status have also proven to be strong predictors of a woman's likelihood of utilizing reproductive health services.

Both demographic and socio-economic determinants of reproductive health service utilization are mediated by cultural influences on health service behavior (Goodburn, 1995). The health behavior of individuals is often mediated by community beliefs and norms, such that individual behavior is influenced by community perceptions of

individual actions and psychosocial aspect of access (Rutenberg & Watkins, 2002). Although individual demographic and socioeconomic factors may shape an individual's desire and ability to use a service, the cultural environment in which an individual lives exerts a strong influence on the extent to which these factors actually lead to service utilization.

2.5.2 Socio-cultural factors influencing FP services uptake

Most people's FP decisions reflect a range of outside influences. Social and cultural norms, gender roles, social networks, religion, and local beliefs influence peoples' choices (Caldwell & Caldwell, 2002). To a large extent, these community norms determine individual childbearing preferences and sexual and reproductive behavior. Community and culture affect a person's attitude towards FP, desired sex of children, preferences about family size, family pressures to have children and whether FP accords with customs and religious beliefs, (Dixon-Mueller, 1999).

Community norms also prescribe how much autonomy individuals have in making FP decisions. The larger the differences in reproductive intentions within a community, the more likely that community norms support individual choices (Dixon-Mueller, 1999). Household and community influences can be so powerful that they can obscure the line between individual desires and community norms. For instance, in some culture, many women reject contraception because bearing and raising children is the path to respect and dignity in the society (IPPF, 2006). In other countries most women use contraception because having small families is the norm (Lutz, 2003). People are often unaware that such norms influence their choices. In other cases they are particularly aware. For example, young people often decide not to seek FP because they do not want their parents

or other adults to know that they are sexually active. Many fear ridicule, disapproval and hostile attitude from service providers and others (Jejeebhoy, 2004). A person's social environment usually has more influence on FP decisions than do the attributes of specific contraceptives. In Kenya, for example, when new clients were asked to give a single reason for their choice of a specific FP method, most cited the attitudes of their spouse or their peers, or their religion or value (Kim *et al.*, 1998).

In many countries FP programs are part of national economic and social development efforts. Efforts to foster equity in decision-making and raise awareness about reproductive right of the family, community, and society also promote informed choice of FP (Jacobson, 2000). As women gain more autonomy, they are better able to claim their rights as individuals, including the right to act to protect their own reproductive health (Heise *et al.*, 1999).

Everybody belongs to informal social networks that influence their behavior to some degree (Montgomery, 2000). Social networks include the extended family, friends, neighbors, political groups, church group, youth groups, and other formal and informal associations. During the course of the day, women often speak to other women about FP and experience with contraceptive use. For many women, informal communication is a primary source of FP information (Rotenberg & Watkins, 2002).

The influence of social networks is crucial to informed choice. Most people seek the approval of others and modify their own behavior to please others or to meet others' expectations (Bongaarts 1996; Stash, 2000). Individual health behavior is influenced by how a person thinks that others view their behavior (Rutenberg & Watkins, 2000). In

Nigeria and other West African Countries for example, some women said that, it was difficult for them to use FP because their relatives or friends were not using it. These women were reluctant to be the first in their social group to use FP (Stash, 2000). People choose contraceptive methods that are commonly used in their community because they know that it is socially acceptable to do so, and they tend to know more about these methods (Rogers & Kincaid, 2004). Many women use the same FP method that others in their social networks use (Godley, 2011).

A study in urban Nigeria in 1998 found that the more widely used a method was, the more attractive it became to others in the cities and villages (Entwisle *et al.*, 1999). Entire communities may encourage one type of contraceptive based on the choices of early contraceptive users, rather than individual needs (Potter, 1999). Even when people are aware of the side effects or failures experienced by other users of a method, sometimes they still prefer it because it is familiar, (Entwisle *et al.*, 1999).

While social networks exerts a strong influence on more people's reproductive attitudes and behavior, FP programs themselves influence social norms through the diffusion of new ideas about contraceptive use (Cleland & Mauldin, 2001). As more and more people decide to use FP, it becomes increasingly acceptable for others to choose to do so as well, (Cleland & Wilson, 2004).

In summary, previous research into maternal use of FP service has highlighted the importance of looking beyond physical access to examine the influence that arises from the socio-economic and cultural environment in which an individual lives (Bertrand *et al.*, 2008). It is also notable that, in Kenya most of the FP studies have been done in

areas where there are neither strict cultural norms nor low levels of economic development like the arid lands of upper eastern Kenya. As a result, there is little information about demand for FP and the predictors of maternal use of FP in such areas. This study will help to bridge the knowledge gaps on the relationships between socio-demographic, economic and cultural factors and FP services uptake in context of low levels of economic development and strict cultural norms (Blacker *et al.*, 2006).

CHAPTER THREE: MATERIALS AND METHODS

3.1 Introduction

This chapter elaborates the study design used, variables, study population, sample size determination, research instruments and data collection techniques. It also describes the ethical considerations, data management and analysis techniques employed in the study.

3.2 Study design

This study employed a cross-sectional descriptive design using both quantitative and qualitative methods in data collection. This design was the most appropriate for this study since it gives a snapshot of a situation as it currently exists and the fact that all data are collected at one time.

3.3 Study variables

3.3.1 Dependent variables

The dependent variables of interest in this study were uptake and non-uptake of FP services. Uptake of FP services was described as current use of any FP method while non-uptake of FP services was described as lack of current use of any FP method.

3.3.2 Independent variables

In this study the independent variables for socio demographic included age, number of living children, marital status , age at first marriage, ideal number of children ,parity and experience of child loss while the variables for social economic and cultural factors were occupation, level of income, level of education , exposure to FP messages, place of residence, child preference, religion, visit to a health facility, inter spousal communication, perceived husband approval and social group approval.

3.4 Study area

3.4.1 Location of Moyale Sub-county

The study was carried out in health facilities in Moyale Sub-county in Marsabit County, Kenya. The Sub-county is situated in upper eastern arid lands of Kenya and is about 1200 kilometers North East of Nairobi city along the Nairobi - Addis Ababa highway. (Appendix vi). It covers an area of 9,600 Km². It borders the Republic of Ethiopia to the North, Wajir sub-counties to the east and south east and Marsabit Sub-county to the west and Southwest. The Sub-county population growth rate is 6.3 and current population is estimated at 72,000, with 49,634 of the Sub-county population being below 35 years. The Sub-county poverty levels are estimated at 66.8 per adult equivalent, and 63.6 per cent of households are estimated to be poor the main economic activity being livestock keeping. Adult literacy stands at 10.5 and 2.5 per cent males and females respectively. The Sub-county lies within the arid zone of Kenya and is generally hot, with temperatures varying from 20°C to 36°C. It is inhabited by pastoralists and agro-pastoralists with the Boranas being the main inhabitants. Other inhabitants include the Gabbras, Sakuye, Garres and Burjis. Islam is the most common religion followed closely by Christianity and then others. The Sub-county has poor road network and none of the roads in the area are asphalted and ranges from good murram to very poor dusty roads (KNBS, 2009).

3.4.2 Justification of study area

The Sub-county was purposively selected from the sub-counties with low CPR and high TFR since it presents the least security and logistical challenges. Furthermore, there has

been no study done to reveal the underlying factors for low uptake of FP services in the sub-county.

3.5 Study population

The study population comprised of women of reproductive age seeking health services at health facilities in the Sub-county, key informants and focused group discussants. The study was HF based rather than community based because most women in the Sub-county lead nomadic life and could not be easily found in their households except at service delivery points such as HFs.

3.5.1 Inclusion criteria

Women of reproductive age (18-49 years) and mature minors visiting HFs in the Sub-county and who gave consent to participate voluntarily in this study were included. The mature minors included women aged 15-17 years who are married, parents, or heads of households and could consent to study participation as they would for HIV counseling and testing in Kenya (RoK/MoH, 2001).

3.5.2 Exclusion criteria

Women of reproductive age (15-49 years) who were very sick and those who declined to participate were excluded from this study.

3.6 Sampling techniques and sample size determination

3.6.1 Sample size determination

The minimum sample size was determined using the Fisher's *et.al* (1998) statistical formula for calculating sample size; $n = Z^2 pq/d^2$

Where; n = Minimum sample size for a statistically significant survey, Z = Normal deviate at the portion of 95% confidence interval = 1.96, P = Prevalence value of family planning practice in Moyale Sub-county = 12% (KDHS, 2009 & DHIS, 2012) q = 1- p, d = Margin of error acceptable or measure of precision = 0.05

$$1.96^2 (0.12) (0.88)/0.05^2 = 162$$

Minimum sample size (n) = 162*5% adjustment to cater for recording errors
n=171.1≈170 respondents

3.6.2 Sampling technique

Stratified two stage random sampling was used in this study. The HFs in the sub-county were first stratified according to MOH service delivery levels (RoK, 2005). This resulted into three strata; Level II, III and IV from which HFs included in this study were randomly generated from each strata using computer. The respondents were distributed proportionately to each HF depending on the average number of women attended to in its MCH/FP clinic in the year 2012 as shown in table 3.1. This was followed by systematic random sampling of respondents at an interval of 6 women at each HF. A randomly generated number at each HF in the range of 1-9 was used as the starting point (Mugenda, 2008).

Table 3.1: Distribution of respondents per health facility

Health facility	HF Level (Strata)	Total No. of women /HF in year 2012	Average No. of women/ HF in each Month	Proportionate sample/Health facility
Moyale	IV	7255	605	102
Dabel	III	863	72	12
Yaballo	II	274	23	4
Butiye	II	534	45	8
Odda	II	429	36	6
Cross road	II	1625	135	23
Nana	II	1082	90	15
Totals			1005	170

3.7 Research instruments

The study used semi-structured interview schedules for collection of quantitative data while focused group discussions (FGDs) interview schedules and key informant interview (KII) schedules were used to collect qualitative data. The instruments were constructed based on the research questions and objectives of this study. The semi structured interview schedules were used to collect quantitative data from 170 respondents while six (6) focused group discussions and key informant interviews were held to gather qualitative data (Appendices ii, iii, iv & vi).

3.8 Pre-testing

The data collection tools were pre-tested at Sololo mission Hospital. This was done to ensure that data collection tools measured what they are intended to (validity) and that they consistently measured the variables in the study (reliability). All adjustments necessitated by this exercise were made to the instrument prior to actual data collection.

3.8.1 Validity

Validity of the data collection instruments was established during the pre-testing where questions were standardized to ensure they collect the required information on the various study variables.

3.8.2 Reliability

The reliability of the data collection instruments was ensured through:

1. Recruitment of experienced women in data collection as research assistants and training them on participant handling skills such as interviewing skills, content and meaning of questions, correct recording of responses, how to conduct FGD and orientation to study objectives and procedures. The training also covered demonstration of various FP methods and how they work. They were also given information on ethical considerations such as the need to observe confidentiality and obtain informed consent from participants prior to administering study tools
2. Support supervision of the research assistant was done on randomly selected interview sessions to observe the conduct of the sessions. Meetings were held thereafter to address problems arising and clarify issues that could affect data quality.
3. Checking for completeness, consistency and accuracy of completed data collection forms was done at the end of each day of data collection. The gaps identified were addressed with the respective research assistants.

3.9 Data collection techniques

Interview was the main data collection technique used in this study. Interviews with the women were conducted using a semi-structured interview schedule (Appendix ii) where a total of 170 respondents participated. A total of 6 Focused Group Discussions comprising of 8-10 CHWs were conducted at community Unit level using the FGD guide (Appendix iii) in the Sub-county. The key informants interviews were held with HF in charges, DHMT members, Provincial administrators, religious and women group leaders using the Key informants interview guide (Appendix iv).

3.10 Logistical and Ethical considerations

Ethical clearance was sought from Kenyatta University Ethical Review Committee (KUERC) while research permit was obtained from NACOSTI (Appendices viii & x). Permission to carry out the study in the Sub-county was sought from the provincial administration, the MOMS and MOPHS (Appendix xi). Written informed consent was sought from the study participants after they had been informed about the purpose of the study (Appendix i). The respondents were also informed that participation in the study was voluntary and that it was their right to accept or decline to participate, or withdraw from the study anytime. Confidentiality of the participants' responses was maintained throughout the study by using codes to differentiate the responses and conducting the interviews in privacy. The data gathered was entered into the computer and safeguarded with a password.

3.11 Data Management and Analysis

Data checking and cleaning was done simultaneously during data collection. At the end of every field day, data was checked for completeness and consistency. Data from focus group discussions and key informant interviews was transcribed at the end of each field day and analyzed by content analysis. Quantitative data was analyzed using the Statistical Package for Social Scientists (SPSS) version 18 software and complemented with Excel whenever necessary. Data was backed up by saving it in different folders in a computer and also on a removable flash disk.

The analysis process for quantitative data in this study involved three statistical methods. First, univariate analysis was applied to describe background characteristic of respondents, which contains descriptive statistics and frequency distribution. Chi-square analysis was adopted to explore the relationship between dependent and independent variables for categorical data. Next, binary logistic regression analysis was used to examine the likelihood of the independent variables in effecting dependent variables. A p value of <0.05 was considered significant. The findings from this study are presented in a form of a report which will be disseminated through seminars in the post graduate school and publication in peer reviewed journals.

CHAPTER FOUR: RESULTS

4.1 Introduction

This chapter focuses on the analysis and findings of the study. A total of 170 women who voluntarily consented to participate in the study were interviewed in this study. A total of six FGDs and KII were conducted. The study results are presented in form of narrative texts, tables, figures and charts.

4.1.1 Socio – demographic characteristics of the respondents

In this study, respondents of the ages 25-34 years make up approximately 46.4% of all age groups. This is followed by respondents of the ages 15-24 years and 35 and above years who make up 35.9% and 14.7% of the sample population respectively. This suggests that the women in Moyale Sub-county are relatively young. The study also shows that the majority of the respondents are married (75.9%), while 24.1% are single. Furthermore, the data shows that majority (69%) of the respondents have a parity of 0-3 children. Those with parity of 4-6 children constitute 24% while those with 7 or more make up to 7%.

The percentage distribution of highest level of education shows that majority of the respondents have primary education (44.1%), followed by those without education (42.4%). Approximately 11.2% of the respondents have secondary education and only 2.4% have attained tertiary education. In terms of religious affiliation, Muslims constitute the largest percentage (63.9%) while Roman Catholics and Protestants constitute 13.3% and 22.8% respectively. This indicates that majority of the respondents are Muslims. Table 4.1 summarizes these findings.

Table 4.1: Socio – demographic characteristics of the respondents

Characteristics	Category	n	(%)
Age of mother	15-24 years	61	36.7
	25-34	77	46.4
	35+	25	15.1
	Do not know	3	1.8
Marital status	Single	41	24.1
	Married	129	75.9
Parity	0-3	109	69
	4-6	38	24
	7+	11	7
Education level of the mother	None	72	42.4
	Primary	75	44.1
	Secondary	19	11.2
	Tertiary	4	2.3
Religious affiliation	Catholic	21	13.3
	Protestant/other	36	22.8
	Muslim	101	63.9

4.2 Contraceptive methods used by the respondents

Among all respondents who were currently using any FP method, most of them 45(48.4%) were using injectables. These was followed by 12(12.9%) pills, 12(12.9%) condoms, 11(11.8%) implants, 7(7.5%) lactational amenorrhea, 3(3.2%) female sterilization while IUD, withdrawal and rhythm method use was each 1(1.1%). Figure 4.1 below summarizes these findings. This finding was in concurrence with FGDs discussants who mentioned *injectables, Implants, pills and calendar as the most common methods for FP in the area. In addition a nurse who was key informant noted, “All the women whom I know are currently using either injections or implants.”*

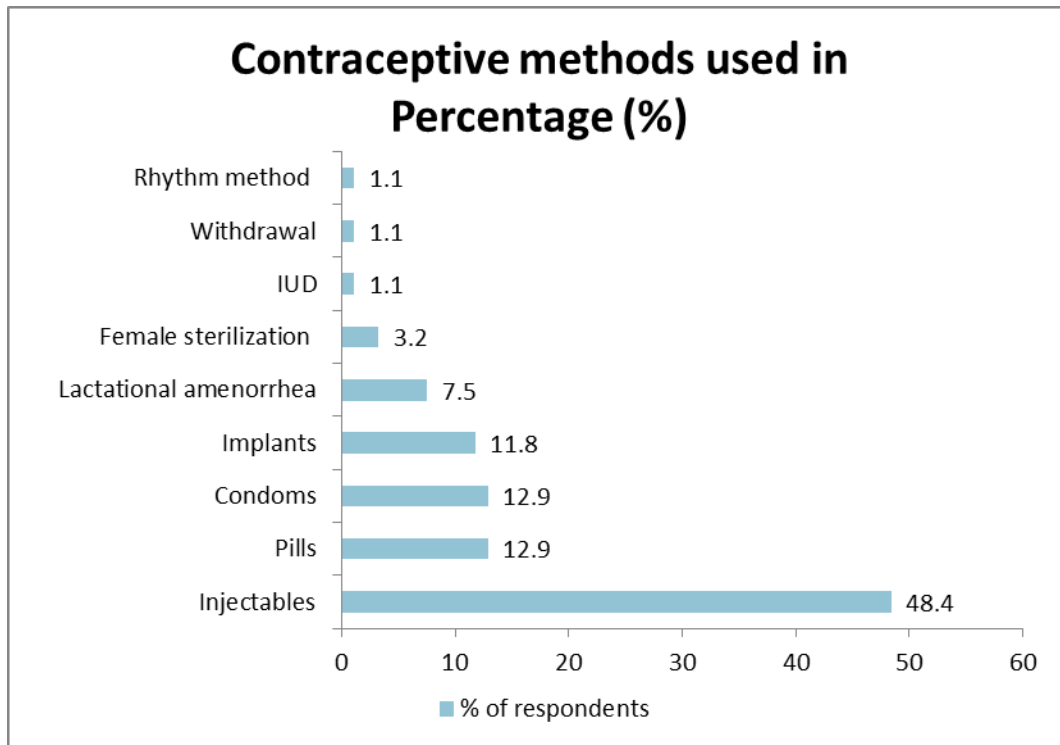


Figure 4.1: Contraceptive methods used by the respondents

4.2.1 Prevalence of FP uptake among the respondents

Of all the respondents, 93 (54.7%) reported to be currently using a FP method while 77(45.3%) were not. Figure 4.2 summarizes these findings.

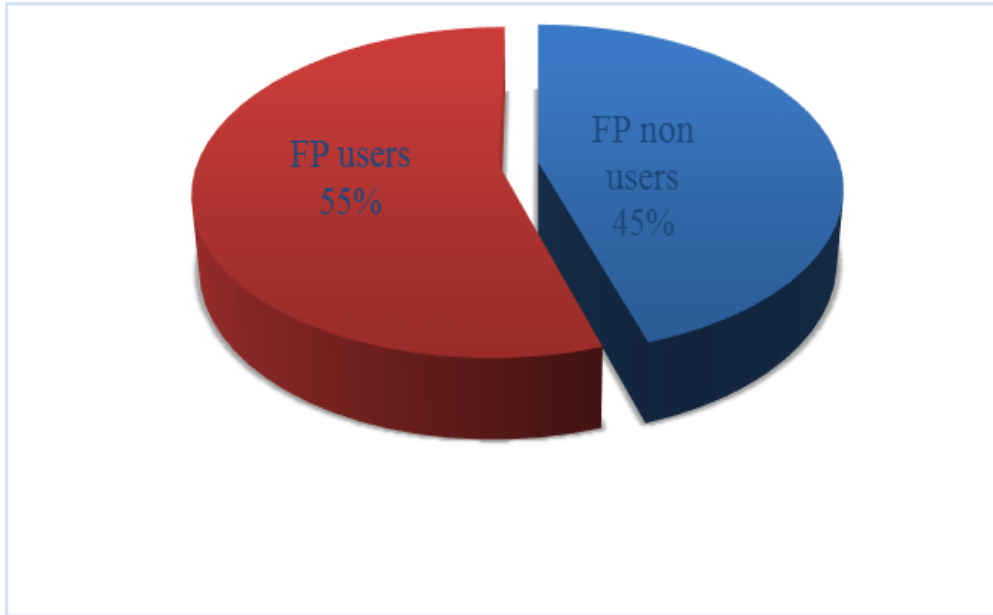


Figure 4.2: Prevalence of FP uptake among the respondents

4.3 Unmet need and total demand for FP

Among all 170 respondents, majority 158 (92.9%) were not pregnant while 12 (7.1%) were pregnant. Of all respondents who were not pregnant, 129 were married while only 29 were unmarried. Among the 129 married and not pregnant respondents, the FP non users constituted 58 respondents while the FP users 71 respondents. Of the 58 FP non users, 49 were not pregnant whereas 9 were pregnant. The 49 women who were not pregnant were also all fecund. Among the 48 respondents who were not pregnant, 21 wanted pregnancy soon, 17 wanted later, 8 were unsure if they wanted pregnancy in future while 2 wanted no more children. Of the 9 pregnant respondents, 4 reported that their pregnancy was intended, 2 mistimed and 3 unwanted. According to Mohammad *et al.*, 2013, the total unmet demand for FP is equal to the percentage of the sum of the number of married women who are neither pregnant nor currently not using any FP method and want a child later, unsure if they want pregnancy in future or want no more

children plus the number of married pregnant women whose pregnancy was either unintended or mistimed divided by the total number of married women. Thus in this study the total unmet demand for FP was 24.8 %. The unmet need for spacing was higher (21.7%) compared to the unmet need for limiting (3.1%) among the women. Figure 4.3 summarizes these findings. This unmet demand for FP resonated with the discussants in the FGDs. One middle aged female discussant indicated that *“many women in fora (grazing field) are in need of FP but they cannot access these services unlike us in the Manyattas.”* She added, *“Most of them use traditional methods which have failed to prevent pregnancy in most cases hence they give birth almost every year.”*

The total demand for FP, the percentage of the women currently using a FP method (55%) plus the total unmet demand for FP (24.8%), in this study was 79.8 %. This finding contrasted with views expressed by the key informants and FGD discussants who concurred that demand for FP is low in the area. A discussant remarked, *“FP is still very low in our Manyattas since it is perceived to be for women who are either educated or stay in towns only.”* This view was also supported by the DPHN, a Key informant, who observed that, *“women in this community do not utilize FP services since they believe that it is God who gives us children and we must take care of them.”*

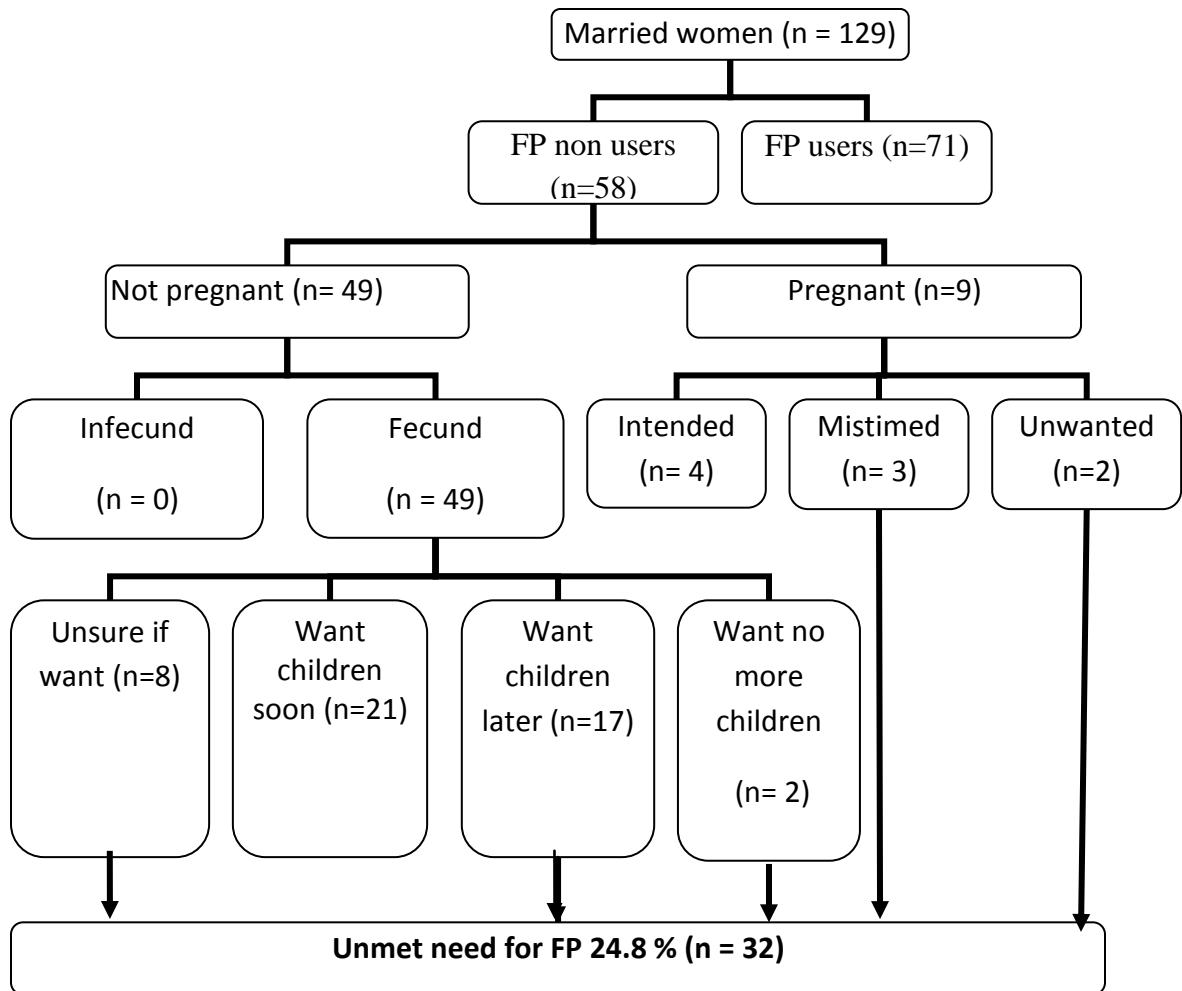


Figure 4.3: Algorithm for unmet need for FP

Source: Adopted and modified from Mohammad et al, 2013

4.4 Determinants of FP uptake

4.4.1 Socio - demographic determinants of FP uptake

Table 4.2 summarizes the analysis of Socio - demographic determinants of FP uptake from this study. Most of the respondents (47%) were in the 25-34 years age bracket followed by those in 15-24 years (36.7%) and lastly those aged 35 years and above (15.8%). No significant association was detected between respondent's age and FP uptake ($\chi^2 = 734$; $df = 2$; $p = 0.693$).

Most of the respondents (55.4%) in this study had spent less than 10 years in marriage while the rest (44.6%) had spent more than 10 years. There was no significant association between duration in marriage and FP uptake ($\chi^2 = 0.583$; $df = 1$; $p = 0.445$). In regard to migration status, majority of the respondents (91.1%) were residents in the Sub-county while non- residents were the minority (8.9%). No significant association was detected between migration status and FP uptake ($\chi^2 = 0.019$; $df = 1$; $p = 0.891$).

In this study, majority of the respondents (81%) had not experienced child loss compared to those who had experienced child loss before (19%). A strong significant relationship between experience of child loss and FP uptake was revealed ($\chi^2 = 9.966$; $df = 1$; $p = 0.002$). FP uptake was higher among respondents who had no experience of child loss (64.8%) compared to those who had experienced child loss before (33.3%).

This study showed that most of the respondents (43.7%) preferred to have 4-6 children in their lifetime, 34.2% preferred 0-3 while 22.2% preferred 7 or more children. There was statistically significant relationship between preferred number of children ($\chi^2 = 9.238$; df

= 2; $p = 0.01$) and FP uptake. FP use was higher in those who preferred to have 0-3 children in their lifetime (68.5%) relative to the rest; 4-6 (62.3%) and 7 or more (37.1%).

Also in this study, majority (69%) had a parity of 0-3 children, 24.1% had a parity of 4-6 children and 7% had a parity of 7 or more children. There was no significant association between parity and FP uptake ($\chi^2 = 4.096$; $df = 2$; $p = 0.129$).

In this study, the respondents who had age difference of less than 5 years with their husbands were 36.4%, while those whose age difference was 5-9 years and 10 years or more were 35.5% and 28% respectively. Age difference between the respondent and the husband had no significant association with FP uptake ($\chi^2 = 1.653$; $df = 2$; $p = 0.438$).

Table 4.2: Socio - demographic determinants of FP uptake

Characteristics	Category	n	%	FP uptake		Chi – square (χ^2)
				No (%)	Yes (%)	
Age of mother	15-24 years	58	36.7	22	36	$\chi^2 = 734$; df = 2 ; p = 0.693
	25-34	75	47.5	31	44	
	35+	25	15.8	12	13	
Duration in marriage	<10 years	62	55.4	28	34	$\chi^2 = 0.583$; df = 1; p = 0.445
	>10years	50	44.6	19	31	
Migration status	Resident	144	91.1	59	85	$\chi^2 = 0.019$; d f= 1; p = 0.891
	Non resident	14	8.9	6	8	
Experience child loss	No	128	81	45	83	$\chi^2 = 9.966$; df = 1; p = 0.002*
	Yes	30	19	20	10	
Preferred number of children	0-3	54	34.2	17	37	$\chi^2 = 9.238$; df = 2; p = 0.01*
	4 – 6	69	43.7	26	43	
	7+	35	22.2	22	13	
Parity	0-3	109	69	42	67	$\chi^2 = 4.096$; df = 2; p = 0.129
	6-Apr	38	24.1	17	21	
	7+	11	7	6	5	
Age difference between respondent and husband	<5	39	36.4	14	25	$\chi^2 = 1.653$; df = 2 ; p = 0.438
	9-May	38	35.5	18	20	
	10+	30	28	15	15	

*=Statistically significant

4.4.2 Socio-economic determinants of FP uptake

Table 4.3 summarizes the analysis of social-economic determinants of FP uptake from this study. In this study, most of the respondents (47.5%) had attained primary level education, 38.6% had no education while only 13.9% had attained secondary and above level of education. Respondents education was significantly associated with FP uptake ($\chi^2 = 6.907$; $df = 2$; $p = 0.032$). FP uptake was slightly higher among respondents with secondary and above levels of education (68.2%) compared to those who had primary level of education and no education at all who had 66.7% and 45.9% respectively.

In terms of place of residence, majority of the respondents (82.3%) resided in rural areas while only 17.7% resided in urban areas. A statistically significant relationship was found between place of residence and FP uptake ($\chi^2 = 5.46$; $df = 1$; $p = 0.019$). FP uptake was higher among respondents in urban areas (78.6%) relative to those in rural areas (54.7%).

Of all respondents in this study, 42.4% were unemployed, 38% temporally employed and 19.6% fully employed. Work status was significantly associated with FP uptake ($\chi^2 = 6.238$; $df = 2$; $p = 0.044$). FP uptake was highest among respondents who were permanently employed (77.4%) relative to those temporally employed (58.3%) and the unemployed (50.7%). This was reflected in the mixed responses which were given by discussants in FGDs where some said FP is for the educated and the employed while others thought it is for the big clans and the poor. One of the discussants said, *“FP should be for the employed people like teachers, health workers and those who stay in town. The nature of their life makes them very busy to take care of children.”* Another discussant had different opinion and she asserted, *“FP should be for the poor people, today for everything, you have to pay money; education, medical services... if poor with many*

children you will not be able to meet their needs.” Additionally a discussant had these to say, *“The big clans who have many members can use FP but not minority clans who are struggling to get more members so that they can gain political influence.”*

In regard to income per month, most of respondents (50.6%) had income of more than Ksh.5000 per month while 27.3% had less than Ksh.2500 and 22.1% between Ksh. 2500 and 5000. Income per month was not significantly associated with FP uptake ($\chi^2 = 3.657$; $df = 2$; $p = 0.161$). From the FGDs, most of the discussants identified economic factors as the key drivers for utilisation of FP services. A discussant had this to say, *“Economic status dictates (whether) to have many children or not; families with low income earnings should not have many children since this will have a negative impact on the ability to feed the family.”* In support of this view, another discussant said, *“In families with big herds of camels they should not use FP since they have enough to feed on, pay dowry and again they need many people to look after the camels.”*

In this study, most of the respondents’ husbands (36.8%) had attained only primary level education. This was followed by those with no education at all (23.7%), secondary level (22.8%) and tertiary level (16.7%). Respondents’ husband educational attainment was found to have a strong significant relationship with FP uptake ($\chi^2 = 14.574$; $df = 3$; $p = 0.002$). Highest FP use was found among respondents whose husbands had attained secondary levels of education (84.6%). This was followed by those who had tertiary (63.2%), primary level of education (57.1%) and no education at all (33.3%).

When it came to where the last delivery among the respondents was conducted, close to two thirds (63.7%) had delivered at a health facility, 31.2% at home and 5.1% at other

places. Place of last delivery showed a statistically significant relationship with FP uptake ($\chi^2 = 6.033$; $df = 2$; $p = 0.049$). Majority of the respondents who had lastly delivered in a health facilities (65%) were using FP while those who had delivered at home and at other places, had FP uptake of 53.1% and 50% respectively.

Among the respondents, majority (92 %) had exposure to media while 12 % had not. There was no significant relationship between exposure to media and FP uptake ($\chi^2 = 1.309$; $df = 1$; $p = 0.253$). In terms of knowledge on FP methods, 69.4% had knowledge about FP while 30.6 % did not. No significant association between knowledge on FP and FP uptake was detected ($\chi^2 = 0.002$; $df = 1$; $p = 0.964$).

Slightly more than two thirds of the respondents (63.6%) resided at distance of less than 1km away from nearest source of FP, 20.5% a distance of more than 2.5 km and 15.9% a distance of 1-2.5km. No significant association was found between distance to the nearest source of FP and FP uptake ($\chi^2 = 2.437$; $df = 2$; $p = 0.296$). Those never visited by a CHW in this study were the majority (93%) with the rest 7% reporting to have been visited by a CHW. Having been visited by CHW did not show significant association with FP uptake ($\chi^2 = 0.878$; $df = 1$; $p = 0.349$).

Table 4.3 Socio-economic determinants of FP uptake

Characteristics	Category	n	%	FP uptake		Chi – square (χ^2)
				No (%)	Yes (%)	
Education level of the mother	None	61	38.6	33	28	$\chi^2 = 6.907$; df = 2; p = 0.032*
	Primary	75	47.5	25	50	
	Secondary and above	22	13.9	7	15	
Place of residence	Rural	130	82.3	59	71	$\chi^2 = 5.46$; df = 1; p = 0.019*
	Urban	28	17.7	6	22	
Work status	Unemployed	67	42.4	33	34	$\chi^2 = 6.238$; df = 2; p = 0.044*
	Temporally employed	60	38	25	35	
	Fully employed	31	19.6	7	24	
Husband education level	None	27	23.7	18	9	$\chi^2 = 14.574$; df = 3; p = 0.002*
	Primary	42	36.8	18	24	
	Secondary	26	22.8	5	21	
	Tertiary	19	16.7	7	12	
Income per month	Below Ksh 2500	42	27.3	22	20	$\chi^2 = 3.657$; df = 2 ; p = 0.161
	2501-5,000	34	22.1	13	21	
	5001+	78	50.6	27	51	
Place of last delivery	At home	48	31.2	23	25	$\chi^2 = 6.033$; df = 2; p = 0.049*
	Health facility	99	63.7	35	64	
	Others	10	5.1	5	5	
Visited by CHW	No	147	93	59	88	$\chi^2 = 0.878$; df = 1; p = 0.349
	Yes	11	7	6	5	
Visited a health facility	No	23	14.6	15	8	$\chi^2 = 6.3$; df = 1; p = 0.012*
	Yes	134	85.4	50	84	
Exposure to media	No	12	8	7	5	$\chi^2 = 1.309$; df = 1; p = 0.253
	Yes	138	92	57	81	
Knowledge on FP	No	48	30.6	20	28	$\chi^2 = 0.002$; df = 1; p = 0.964
	Yes	109	69.4	45	64	
Distance to the nearest source of FP	<1 KM	96	63.6	36	60	$\chi^2 = 2.437$; df = 2; p = 0.296
	1-2.5 KM	24	15.9	8	16	
	>2.5 KM	31	20.5	16	15	

* = Statistically significant

4.4.3 Socio – cultural determinants of FP uptake

Table 4.3 summarizes the analysis of socio – cultural determinants of FP uptake from this study. In this study, majority of the respondents (82.2%) were in monogamous marriage while 19.8% were in polygamous marriage. Polygamy status had no significant association with FP uptake ($\chi^2 = 0.003$; $df = 1$; $p = 0.955$). Concerning inter-spousal communication, 35.1% of the respondents had never discussed FP with their partners, 29.8% had discussed once or twice while 35.1% discussed more often. Inter spousal communication had a strong significant relationship with FP uptake ($\chi^2 = 32.242$; $df = 2$; $p = 0.000$). Majority of the respondents (87%) who discussed FP more often with their husbands were using a FP method. For those who had discussed FP once or twice with their husbands and those who had never, FP uptake was 58.8% and 27.5% respectively.

This study revealed that more than half of the respondents' husbands (53.1%) approved FP, 16.8% disapproved while 30.1% did not know their husbands views on FP. A strong significant relationship was found between husbands approval on FP and FP uptake ($\chi^2 = 26.743$; $df = 2$; $p = 0.000$). Among those whose husbands approved FP, disapproved FP and those who did not know their husbands views on FP, the use of FP was 80%, 47.4% and 26.5% respectively. In the FGDs, majority of the women felt that men are opposed to FP and are not supportive of women's decisions to use FP services. One discussant noted, *“For me, I wish to use FP but when I propose it to my husband he does not reply; he just tells me: you are the one who knows its benefits”*

This study also showed that most of the respondents (37.7%) solely made decisions on FP use, 33.3% made the decision jointly with their partners, 20.2% the decision was mainly made by their partners and 8.8% by other people. A strong significant relationship

was found between FP decision maker at family level and FP uptake ($\chi^2 = 15.084$; $df = 3$; $p = 0.002$). FP uptake was highest (81.6%) where FP decision was made jointly. In the FGDs, discussants revealed that decisions pertaining FP at the household level are a preserve for the men, most of the discussants said, *“Men are the sole decision makers in our family settings and thus they decide on whether to use or not use FP; our traditions and culture recognize men as the final decision-makers.”* While expounding on this norm a discussant claimed, *“We fear if we use FP and suffer from adverse-effects, our husbands may refuse to pay for our medical treatment, leave us untreated to die or be divorced because we antagonize our husbands’ wishes.”* It was also disclosed that in some households, FP decisions are made jointly by the couple. One discussant explained, *“we discuss with my husband the number and interval between our children so that we prepare and plan our lives early enough to avoid straining our limited income”*. However there were some discussants who opined that in some cases women are the decision makers as evidenced by words of one of the discussants, *I secretly made the decision to use implant for FP for I did not wish to witness my children going without basic needs or turn into street children.* Despite all these divergent views, the discussants concurred that before any one solely decides to commence FP, she should inform his husband. A discussant said, *“Women play key role in safeguarding marriages. We should discuss and get consent from our husbands before we begin use of any FP method, otherwise we will be breaking our marriage something which can lead to adverse consequences to our children”*. In this study, 70.3% of the respondents belonged to social groups that did not approve FP while 29.7% belonged to social groups that approved it. A strong significant relationship was found between social group approval and FP uptake

($\chi^2 = 11.168$; $df = 1$; $p = 0.001$). In terms of religious affiliation, Muslims were the dominant (63.9%), followed by Protestants (22.8%) and lastly Roman Catholics (13.3%). Religious affiliation was found to have significant association with FP uptake ($\chi^2 = 6.82$; $df = 2$; $p = 0.033$). In one of the key informant interviews, a sheikh asserted, “*The Islamic family principles require parents to have fewer number of off springs that one can adequately raise in an Islamic setting.*” This is probably a pointer that Muslims are slowly embracing FP.

Table 4.4: Socio - cultural determinants of FP uptake

Characteristics	Category	N	%	FP uptake		Chi – square (χ^2)
				No (%)	Yes (%)	
Polygamy status	No	89	80.2	37	52	$\chi^2 = 0.003$; $df = 1$; $p = 0.955$
	Yes	22	19.8	9	13	
Inter-spousal communication on FP	Never	40	35.1	29	11	$\chi^2 = 32.242$; $df = 2$; $p \leq 0.001^*$
	Once or twice	34	29.8	14	20	
	More often	40	35.1	5	35	
Husband’s/partners views on FP	Disapproves	19	16.8	10	9	$\chi^2 = 26.743$; $df = 2$; $p \leq 0.001^*$
	Approves	60	53.1	12	48	
	Does not know	34	30.1	25	9	
FP decision maker in the family	Mainly respondent	43	37.7	26	17	$\chi^2 = 15.084$; $df = 3$; $p = 0.002^*$
	Mainly husband	23	20.2	9	14	
	Joint decision	38	33.3	7	31	
	Others	10	8.8	5	5	
Social approval	No	71	70.3	16	55	$\chi^2 = 11.168$; $df = 1$; $p \leq 0.001^*$
	Yes	30	29.7	17	13	
Religious affiliation	Roman catholic	21	13.3	14	7	$\chi^2 = 6.82$; $df = 2$; $p = 0.033^*$
	Protestant/other Christian	36	22.8	12	24	
	Muslim	101	63.9	39	62	

* = Statistically significant

4.5 Contribution of independent predictors on FP uptake

To determine the contribution of each explanatory variable to FP uptake, all explanatory variables which had shown significant relationship with FP uptake were further subjected to binary logistic regression analysis. The analysis results are summarized in Table 4.4a and 4.4b below.

Place of residence was found to increase the probability of FP uptake, respondents who resided in urban areas were two times (O.R = 2.275; $p = 0.147$) likely to use FP than their counterparts from rural areas.

Respondents with primary level of education were found to have 1.7 chances (O.R = 1.684; $p = 0.236$) of FP uptake compared to those who had no education at all. However the study showed secondary and above levels of education reduced the chances of FP uptake (O.R= 0.950, $P = 0.936$). Work status was found to increase the likelihood of FP uptake; respondents who were temporally employed workers were 1.7 times likely to use FP (O.R=1.749; $p= 0.203$) while fully employed workers were 3 times likely to use FP (O.R =2.961) compared to those who were unemployed.

In this study, respondents who had previously delivered in health facilities showed increased likelihood of 1.2 times of FP uptake (O.R = 1.235; $P = 0.628$) compared to those who had previously delivered at home. However those who had delivered in other places showed a reduced likelihood of FP uptake of 0.2 times (O.R = 0.279; $p = 0.205$) compared to those who had previously delivered at home.

Experience of child loss among the respondents was found to decrease the probability of using FP uptake by 0.183 times (O.R= 0.183; $p = 0.001$) compared to those who had

never lost a child. Respondents who had visited health facility six months before the study had increased likelihood of FP uptake of 2.5 times compared to those who had not (O.R = 2.472; $p = 0.799$). Respondents who were Muslims showed increased probability of 4 times FP uptake (O.R = 4.036; $p = 0.026$) while those who were protestants revealed increased probability of 3 times of FP uptake (O.R = 2.755; $p = 0.136$) compared to Roman Catholics.

The study showed that women whose preferred number of children was four or more were less likely to use FP than their counter parts whose ideal number of children was three or less (O.R = 0.895; $p = 0.353$). Equally, respondents whose ideal number of children was seven or more were also less likely to use FP (O.R = 0.380; $p = 0.039$) compared to those who had three or less children as their ideal numbers.

Respondents who often discussed FP with their husband/partners were 5 times likely to use FP (O.R = 5.5; $p = 0.045$) compared to their counterparts who had never while respondents who discussed once or twice about FP with their husband/partners were 1.3 times likely to use FP (O.R = 1.384; $p = 0.664$).

Respondents whose Husband/Partner approves FP use were 2 times (O.R = 2.189; $p = 0.043$) more likely to use FP services than those whose husband/Partner disapproves. Joint FP decision making and husband/partner being the decision maker were observed to increase FP uptake. Joint decision making increased the probability FP uptake by close to 5 (O.R= 4.992; $p = 0.020$) times while husband/partner being the decision maker increased the probability by almost 2 times (O.R = 1.624; $p = 0.545$).

Respondents whose husbands had primary education were found to have almost 2 times chances of FP uptake (O.R = 1.715; p = 0.438) compared to those whose husbands had no education at all. The study also showed secondary education increases the likelihood of FP by 7.6 times (O.R =7.598; p = 0.022) while tertiary education increased the chances of FP uptake by 1.4 times (O.R = 0.1.420; p = 0.682) compared to those whose husbands had no education at all.

Lastly, respondents who belonged to social groups that approved FP were 4 times (O.R = 4.495; P = 0.001) likely to use FP services compared to those who belonged to social groups that disapproved.

Table 4.5a: Independent predictors of FP uptake

Characteristics	OR	df	P value	95.0% C.I. for OR	
				Lower	Upper
Place of residence (Ref = Rural)					
Urban	2.275	1	0.147	0.748	6.921
Respondent education level (Ref = None)					
Primary	1.684	1	0.236	.0711	3.990
Secondary and above	.950	1	0.936	0.271	3.327
Work status (Ref = Housewife/unemployed)					
Casual work/temporally	1.749	1	0.203	0.740	4.135
Salaried worker/employed	2.961	1	0.061	0.950	9.231
Place of last delivery (Ref= Home)					
Health facility	1.235	1	0.628	0.525	2.907
Others	0.279	1	0.205	0.039	2.013
Experience of child loss (Ref = No)					
Yes	0.183	1	0.001*	0.068	0.491

*= Statistically significant

Table 4.5b: Independent predictors of FP uptake

Visited health facility (Ref = No)					
Yes	2.472	1	0.116	0.799	7.650
Religious affiliation (Ref=Roman catholic)					
Protestant/other Christian	2.755	1	0.136	0.726	10.452
Muslim and others	4.036	1	0.026*	1.186	13.737
Ideal number of children (Ref=0-3)					
4-6	0.895	1	0.815	0.353	2.269
7+	0.380	1	0.039*	0.123	1.176
Inter spousal communication (Ref=Never)					
Once or twice	1.384	1	0.664	0.319	5.999
More often	5.500	1	0.045*	0.973	31.099
Husband/Partner views on FP (Ref=Disapproves)					
Approves	2.189	1	0.043*	0.492	9.735
Does not know	0.411	1	0.280	0.082	2.064
FP decision maker (Ref=mainly respondent)					
Mainly husband/Partner	1.624	1	0.545	0.338	7.796
Joint decision	4.992	1	0.020*	1.284	19.419
Others	0.952	1	0.961	0.133	6.819
Husband education level (Ref = None)					
Primary	1.715	1	0.438	0.438	6.708
Secondary	7.598	1	0.022*	1.347	42.849
Tertiary	1.420	1	0.682	0.265	7.619
Social group approval of FP (Ref = No)					
Yes	4.495	1	0.001*	1.806	11.188

*=Statistically significant

CHAPTER FIVE: DISCUSSION, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter describes the discussion of the results of this study and relates it to literature from related studies. It elaborates the similarities and differences between the results of this study and those done by others on a similar or related topic. Furthermore, the chapter sums up the key findings from this research; outlines the implications of study findings; conclusions based on the research findings, recommendations and suggestions for further research.

5.1.1 Contraceptive methods used by the respondents

The results from this study show that slightly more than half of the women interviewed 54.7% were using a method of FP while 45.3% were not. This was slightly higher than KDHS (2009) but lower than KDHS (2014) finding which showed that 53.6% and 58 % of currently married women were using some method of contraception respectively. This could be due to FP programs in Kenya having already spread to all parts of the country and thus FP services are now easily accessed both in rural and urban areas. Additionally, there have been intensive FP promotion interventions in the Sub-county by *Aphia plus Imarisha* something which may have triggered increased demand for FP services.

According to this study the modern contraceptives which were in use by most of the respondents were injectable, followed by oral pills, condoms, implants and the least used was female sterilization. This finding is corroborates KDHS (2009 & 2014) finding that most of the married women used injectables (22%) followed by pills (7%). This is also

supported by Magadi & Curtis (2006) findings that injectables were the most popular FP methods among the rural and uneducated women in Kenya.

5.1.2 Level of unmet need and total demand for FP services among the respondents

From this study, the findings indicated that the total unmet demand for FP was 24.8% while the total demand for FP was 79.8% among the respondents. This finding was close to both KDHS (2009) and KDHS (2014) findings of 23.7% and 20% respectively. The total demand for FP was slightly higher compared to that of KDHS (2009) of 75.7% in the former Eastern province where Moyale Sub-county lies and that of KDHS (2014) of 75.3% in rural areas in Kenya.

5.1.3 Contributions of socio-demographic, economic and cultural factors on FP services uptake among the respondents

The findings from this study indicates that experience of child loss, affiliation to Islamic religion, ideal number of children, inter-spousal communication, husbands education level, joint FP decision making and social group approval were the statistically significant contributors to FP uptake.

Loss of children has shown a strong influence on the use of contraceptive in some studies in the past. In this study, experience of child loss among the respondents was found to decrease the probability of FP uptake compared to those who had never lost a child. This corroborates Chankapa *et al* (2011) finding that with increase in the number of losses of children use of contraceptive declines. This suggests that the number of living children has strong positive influence on current contraceptive use. This could be explained by the

fact that when a mother loses a child the desire for more children increases while chances of using contraceptive decreases.

Contrary to most previous studies in Muslim dominated areas, this study found respondents who were Muslims or Protestants were more likely to use FP compared to the Roman Catholics. This was probably because in this study most of the respondents were youth whose lifestyle and choices are not strictly influenced by religious affiliation. Also, some studies in the past seem to support this finding. In a study by Waitherero (2009) that investigated contraceptive use among young female youth in Kenya, it was found that Muslims were more likely to use contraceptives as opposed to Catholics. Other studies which concurred with this finding were; Mosha *et al* (2013), Okech (2011) & Bertrand & Farrell-Ross (2013). It is also worth noting that in Indonesia and Morocco, two predominantly Muslim countries, studies show high contraceptive prevalence rates of 57% and 52% respectively (Bertrand & Farrell-Ross, 2013).

This study also showed women whose ideal number of children was four or more were less likely to use FP than their counterparts whose ideal number of children was three or less. Equally, respondents whose ideal number of children was seven or more were also less likely to use FP. A possible explanation to this is that women with desire for more children may derail use of FP services until they attain the preferred number of children.

In this study, respondents who discussed with their husband/partners about FP showed increased probability of FP uptake compared to their counterparts who had never. This finding concurs with previous studies done by Dominick *et al* (2011) and Ogunjuyigbe *et al* (2009) where inter-spousal discussion of FP was found to be a strong positive predictor

of FP services uptake. This is because women who often discuss FP with their husbands/partners receive enough support from them to practice contraception. This was supported by a discussant who said, *“Women play key role in safeguarding marriages. We should discuss and get consent from our husbands before we begin use of any FP method, otherwise we will be breaking our marriage something which can lead to adverse consequences to our children”*.

As such, this implies that policy makers in FP programs need to target husbands by designing messages that promote male participation in family planning programs.

Previous studies in the developing world have indicated education is a critical factor in promotion of FP services uptake. As men attain higher levels of education they gain more knowledge on FP and thus they get more open to FP services uptake. The findings from this study are in line with this fact. The respondents whose husbands had primary education and above were more likely to use FP services compared to those whose husbands had no education at all. Pathi *et al* (2004) observed similar findings in their study of male involvement in family planning practices.

This study also confirmed findings from previous studies that husband/partner approval of FP has significant positive influence on woman’s contraceptive uptake. This study finds respondents whose husbands/partners approved FP use more likely to use FP services than those whose husbands/Partners disapprove. This compare with Rob *et al* (2007) findings which showed partner approval was more likely to be associated with use of modern contraceptive in six countries that included Kenya, Malawi, Tanzania, Ivory Cost, Burkina Faso, and Ghana. For example partner approval was 4 times more likely to

be associated with modern contraceptive use in Malawi (OR =3.59) and in Kenya (OR =3.49).

This study also complimented findings from other studies in the past which showed a significant positive relationship social group approval and FP uptake. In this study, respondents who belonged to social groups which approved FP had increased likelihood of FP services uptake compared to those who belonged to social groups that disapproved FP. This finding supports Ghazaleh *et al.*, (2010) findings which indicated that if a woman perceives that most others women in her community are using modern methods, she is more likely to use them as well. This underscores the influence of social networks in FP uptake decisions among the respondents as implied by other studies (Mosha *et al.*, 2013, Dominick *et al.*, 2011 & Okech, 2011).

5.2 Conclusion

This study results demonstrated that the prevalence of contraceptives uptake was slightly more than half (54.7%) among the women attending health facilities in Moyale Sub-county. Among the current FP users, 48.4% of the women use injectables, 12.9% oral pills, 12.9% condoms, 11.8% implants and 7.5% female sterilization. The total unmet need for FP services was 24.8% while the total demand for FP was 79.8%. The statistically significant predictors contributing to uptake of FP services among the respondents were: Experience of child loss, affiliation to Islam religion, preferred number of children, inter-spousal communication, husband's education level, joint FP decision making and social group approval.

5.3 Recommendations from the study

Based on the findings from this study, the following recommendations are made to the county government, programmers, national government and other stakeholders in reproductive health;

1. Programmers should ride on the high demand for FP in the area and create awareness and advocacy for long acting FP methods; the study revealed that majority of the respondents were using short acting methods which are unreliable and expensive in long run
2. Improve access to basic education in the general population and initiate adult learning in the villages to raise literacy level in the rural areas
3. Targeted FP campaigns should be directed to special groups in the communities like women in rural areas and women who have experience of child loss
4. Formation of FP advocacy social groups and utilization of existing social groups for channeling FP messages to the community
5. Strengthen and mainstream male involvement and religious leaders participation in FP interventions at all levels in the community
6. Communication program that explicitly promotes spousal communication is effective in increasing discussion about FP between spouses.

5.4 Suggestions for further research

1. Study on role of male involvement and inter-spousal communication on acceptance of family planning
2. A similar study should be carried out at community level in Moyale Sub-county

REFERENCES

- Ajayi, A. and Kekovole, J.,(1999). *Kenya's Population Policy: From Apathy to Effectiveness*, in A. Jain (ed.), *Do Population Policies Matter? Fertility and Politics in Egypt, India, Kenya and Mexico*, New York: Population Council, pp. 113-156.
- Alkema, L.(2009). *National, regional, and global rates and trends in contraceptive prevalence and unmet need for family planning between 1990 and 2015: a systematic and comprehensive analysis*, *Lancet*, 2013, 381(9878):1642–1652.
- Bertrand, J. & Farrell-Ross, M.(2013). *Islam, Polygyny and Modern Contraceptive Use in Francophone sub-Saharan Africa*. Tulane University, School of Public Health and Tropical Medicine.
- Bertrand, J. T., Hardee, K., Magnani, R. J., & Angle, M. A. Access (2008). Quality of Care and Medical Barriers in Family Planning Programs. *International Family Planning Perspectives*, 21(2): 64-69.
- Blacker, J., Opiyo, C., Jasseh, M., Sloggett, A. and Ssekamatte-Ssebuliba, J. (2006). 'Fertility in Kenya and Uganda: A comparative study of trends and determinants', 1990-2015. *Studies in Family Planning* 25(2): 77-95.
- Bongaarts, J., B. Casterline, Zeba A. Sathar, and Minhaj ul Haque (2006). *Obstacles to contraceptive use in Pakistan: A study in Punjab*.
- Caldwell J. C and C. P. Caldwell, (2002). Family Planning Programs in the Twenty-First Century. *Studies in Family Planning*, 33(1): 76-86.
- Casterline, B., E. Perez, and E. Biddlecon (1997). Factors underlying family planning practice in the Philippines. *Studies in Family Planning*, 28(3):173-191.
- Chankapa Y.D, Tsering D., Kar S., Basu M., Pal R. (2011). *Socio-demographic variables of contraceptive practice in Sikkim*. *Journal of Pharmaceutical & Bio-allied Sciences*, 3(3):368-74
- Cleland, J. and Wilson, (2004). Demand theories of the fertility transition: An iconoclastic view. *Population Studies*, 41(1): 5-30.
- Dixon-Mueller, Ruth and Adrienne, Germain (1999). *Population policy and women's right: Transforming reproductive choice*. Westport, Connecticut Praeger.
- Dominick Shattuck, Brad Kerner, Kate Gilles, Miriam Hartmann, Thokozani Ng'ombe, Greg Guest (2011), Encouraging Contraceptive Uptake by Motivating Men to Communicate About Family Planning: The Malawi Male Motivator Project *American Journal of Public Health*. 2011 June; 101(6): 1089–1095.

- Entwisle, B., Rindfuss, R.R., Guilkey, D.K., Chamrathirong, A., Curran, S.R., and Sawangdee, Y. (1999). Community and contraceptive choice in rural Thailand. *Family Planning*, 24(6): 366-374.
- Fisher, A. A., Laing, J. E. and Strocker, J.E. (1998). Handbook for Family Planning, Operation Research Design and Sampling. Population Council, 40-45.
- Freedman, R. (1997). Do family planning programs affect fertility preferences? A literature review. *Studies in Family Planning*, 28(1), 1-13.
- Ghazaleh Samandari, Ilene S. Speizer and Kathryn O'Connell (2010). The Role of social support and parity in contraceptive use in Cambodia. *International Perspectives on Sexual and Reproductive Health*, 36(3):122–131.
- Godley, J. (2011). Kinship networks and contraceptive choice in Nang Rong, Thailand. *International Family Planning Perspectives*. 27(1): 4-10, 41.
- GoK (2009). Kenya Demographic and Health Survey, 2008. National Council for Population and Development, Central Bureau of Statistics and Ministry of Planning and Development, Nairobi, Kenya. Marco International Inc. Calverton, Maryland USA.
- GoK (2014). Kenya Demographic and Health Survey, 2014. National Council for Population and Development, Central Bureau of Statistics, Ministry of Planning and Development and Kenya Medical Research Institute. Nairobi, Kenya.
- Goodburn, E. A., Gazi, R., & Chowdhury, M. (1995). "Beliefs and practices regarding delivery and postpartum maternal morbidity in rural Bangladesh", *Studies in Family Planning*, 26, (1): 22-32.
- GoK (2006). *The Health Sector MTEF 2006/7-2008/9. Sector Working Group Report (Final Draft)*, February 2006. Nairobi: Government of Kenya.
- Gubhaju, B. (2006). The influence of wives' and husbands' education levels on contraceptive method choice in Nepal, 1996-2006, Social Policy Research Centre, University of New South Wales, Sydney, Australia.
- Haub, C, Herstad B. (2008). *Family Planning Worldwide 2008 Data Sheet*, Washington DC: Population Reference Bureau.
- Heise, L., Ellesberg, M., and Gottemoeller, M. (1999). *Ending violence against women*. Population Reports Series No. 11 Baltimore, John Hopkins School of Public Health, Population Information Programme 44p.
- International Planned Parenthood Federation (IPPF), (2006). *IPPF Charter on Sexual and reproductive rights*. London: IPPF 63p.

- Jacobson, J.L. (2000). Transforming family planning programs: Towards a framework for advancing the reproductive rights agenda. *Reproductive Health Matters*, 8(15): 21-32.
- Jejeebhoy, S.J. (2004). The importance of social science research in protecting adolescents' sexual and reproductive choice. *Medicine and Law*, 18(2-3): 255-275.
- Johnson-Hanks, J. (2006). "On the politics and practice of muslim fertility: comparative evidence from West Africa." *Medical Anthropology Quarterly*, 20(1): 12-30.
- Heaton, T.B., Forste, R., and Otterstrom, S.M. (2002). Family transitions in Latin America: First intercourse, first union and first birth. *International Journal of Population Geography*, 8(1): 1-15.
- Kavitha, N. & Audinarayana, N. (1997) "Utilization and determinants of selected MCH care services in rural areas of Tamil Nadu." *Health and Population - Perspectives and Issues*, 20(3):112-125,339-359.
- Kim, Y.M., Kols, A., and Mudieke, S. (1998). Informed choice and decision-making in family planning counselling in Kenya. *International Family Planning Perspectives*, 24(1): 4-11, 42.
- Korra, A. (2002). *Attitudes toward family planning, and reasons for nonuse among women with unmet need for family planning in Ethiopia*. Calverton, Maryland USA: ORC Macro.
- Lindstrom, D.P. and Hernández, C.H. (2006). Internal migration and contraceptive knowledge and use in Guatemala. *International Family Planning Perspectives*, 32(3):146-153.
- Lutz, W. (2003). *Future reproductive behavior in industrialized countries*. In: Lutz W. (Ed.),
- Magadi, M. K., Madise N. J., & Rodrigues, R. N. (2000). "Frequency and timing of antenatal care in Kenya: Explaining the variations between women of different communities", *Social Science and Medicine*, 1(51), 551-561.
- Magadi, M.A and Curtis S.L, (2003). *Trends and determinants of contraceptive method choice in Kenya*, *Studies in Family Planning*, 34(3):149-159.
- Mohammad, E. M., Mohammad E., Mahdiah Y., Nouzar N. (2013). *Contraceptive use and unmet need for family planning in Iran*, *International Journal of Gynaecology and Obstetrics*. Elsevier Ireland Ltd.
- Magnani, R.J., Hotchkiss, D.R., Florence, C.S. and Shafer, L.A. (1999). The impact of family planning supply environment on contraceptive intention and use in morocco. *Studies in Family Planning*, 30(2), 120-132.

- Montgomery, M.R. and Chung, W. (2000). *Social network and the diffusion of fertility control: The Korean case presented at the seminar on values and fertility change sponsored by the International Union for the Scientific Study of Population*, Sion, Switzerland, Feb 16-19, 44p. (Unpublished).
- Mosha, I., Ruben R. (2013). Communication, knowledge, social network and family planning utilization among couples in Mwanza, Tanzania. *African Journal of Reproductive Health*, 2013 Sep; 17(3):57-69.
- Mugenda, A. (2008). *Social Science Research: Theory and Principles*. (Pp.179-180) Kijabe Printing press, Nairobi, Kenya.
- Murray C, Lopez A. (2010). Eds., *Health dimensions of sex and reproduction. In global burden of disease*, vol.5. Boston: Harvard University Press p. 280.
- Obermeyer, C. M. & Potter, J. E. (1993). "Maternal health care utilization in Jordan: A study of patterns and determinants", *Studies in Family Planning*, vol. 22, no. 3, pp. 177-187. *Planning: the unfinished agenda*, The Lancet, 368(9549) 1810-1827
Population Studies ,59 (3): 355-373.
- Ogunjuyigbe P., Ojofeitimi E., Liasu A. (2009), Spousal communication, changes in partner attitude, and contraceptive use among the Yorubas of southwest Nigeria, *Indian Journal of Community Medicine*, Apr 2009; 34(2): 112-6.
- Potter, J.E. (1999). The persistence of outmoded contraceptive regimes: The cases of Mexico and Brazil. *Population and Development Review*, 25(4), 703-739.
- Republic of Kenya (1994). *Health Policy Framework 1994-2010*, Nairobi: Government Printer.
- Republic of Kenya (2007). *Kenya Vision 2030, The popular version*, Nairobi: Government Printer.
- Republic of Kenya (2009). *Kenya Demographic and Health Survey 2008*. Nairobi: CBS and Calverton, MD: ORC.
- Republic of Kenya/ MoH (2007). *National Reproductive Health Policy: Enhancing reproductive health status for all Kenyans*. Nairobi: Government Printer.
- Republic of Kenya/ MoH (2010). *Kenya Service Provision Assessment*. Nairobi: Government Printer.
- Singh, S., (2009). *Adding it up: the costs and benefits of investing in family planning and maternal and newborn health*. New York: Guttmacher Institute and United Nations Population Fund.
- Singh, S., Prada, E., and Kestler, E. (2006). Induced abortion and unintended pregnancy in Guatemala. *International Family Planning Perspectives*, 32(3): 136-145.

- Republic of Kenya/MOH (2001). *National guidelines for Voluntary Counseling and Testing*. In: Council NAC, editor. Nairobi, Kenya: National AIDS and STD Control Programme (NASCOP).
- Republic of Kenya/MOH/ Health Sector Reform Secretariat (2005). *Taking the Kenya essential package for health to the community: A Strategy for the delivery of level one services*. Nairobi: Government Printer.
- Rogers, E.M. (2004). *Diffusion of innovation*. 1st ed. New York, Free Press.
- Ross J.A, Winfrey W.L (2009). Unmet need for contraception in the developing world and the former Soviet Union: An Updated Estimate. *International Family Planning Perspectives*, 28(3).
- Rutenberg, N. and Watkins, S.C. (2002). *The buzz outside and clinics: Conversations and contraception in Nyanza Province, Kenya*. *Studies in Family Planning* 28(4): 290-307.
- Stash, S. (2000). *Reasons for unmet need in Nepal: An attempt to pick up where fertility surveys leave off*. Ann Arbor, Michigan University of Michigan, Population Studies Center. 44p (unpublished).
- Rutherford, R. and Palmore, J.C. (1999). *Diffusion process affecting fertility*. In Bulatao, R., Lee, R., Hollerbach, P., Bongaarts, J. *Determinants of fertility in developing countries*, Vol. 2. New York, Academic Press. P. 295-339.
- Rosero-Bixby, L., Martin, T.C., and Martin-Garcia, T. (2008). Is Latin America starting to retreat from early and universal childbearing? Paper presented at the 2008 Annual Meeting of the Population Association of America Conference, New Orleans, USA, April 17-19, 2008.
- Tantawi, M.S. (1988). *The religious view of birth control*. Cairo, International Islamic Center for Population Studies and Research, Al Azhar University.
- Tsui, A.O., Croft, T.N., and J.L Trevitt (2009). Patterns and trends in adolescents' contraceptive use and discontinuation in developing countries and comparisons with adult women, *International Perspectives On Sexual and Reproductive Health*, 35(2): 63-71.
- UNDP (2009). *World Population Prospects, 2008 Revision*, New York: UN, 2009
- Vavrus, F. & Larsen, U. (2003). Girls' education and fertility transition: an analysis of recent trends in Tanzania and Uganda. *Economic Development and Cultural Change*, Vol. 51(4), pp. 945-76.
- Waitherero, M. B. (2009). "Factors influencing contraceptive use among female youth aged 15-24 years in Kenya". University of Nairobi, Kenya.

World Health Organization (2005), *World Health Report 2005*, Geneva: World Health Organization.

Zhang, D., Bi Y, Maddock, J.E, Li, S. (2010), Sexual and reproductive health knowledge among female college students in Wuhan, China. *Asia Pacific Journal of Public Health*, 2010; 22:118-126.

APPENDICES

Appendix I: Informed Consent Form for respondents

This Informed Consent Form is for women of reproductive age in Moyale Sub-county, Kenya and who I am inviting to participate in his study on family planning. The title of my research is "*Predictors of family planning services uptake among women of reproductive age in Moyale Sub-county, Kenya*" The principal investigator is Francis K. Muema, MPH student at Kenyatta University

Instructions:

This Informed Consent Form has two parts:

- Information Sheet (to share information about the research with you)
- Certificate of Consent (for signatures if you agree to take part)

You will be given a copy of the full Informed Consent Form

PART I: Information Sheet

Introduction

My name is _____ and we are conducting a study that asks women of reproductive age about family planning. *I am going to give you information and invite you to be part of this research. Before you decide, you can talk to anyone you feel comfortable with about the research. There may be some words that you do not understand. Please ask me to stop as we go through the information and I will take time to explain. If you have questions later, you can ask them to the study principal investigator.* We would very much appreciate your participation in this study.

Purpose of the research

In this study we shall be examining predictors of FP services uptake among women attending MCH/FP clinics at health facilities because this knowledge might be valuable in

informing the government, programmers and policy makers on how to develop FP services, interventions and delivery protocols which are responsive to needs of women in Moyale Sub-county.

Type of Research Intervention

This research will involve questions which I will read to you and then you say out loud may inform me to skip them and move on to the next question.

Participant selection

You are being invited to take part in this study because we feel that you as a woman of reproductive age you have experience can contribute much to our understanding and knowledge of family planning uptake in this community.

Voluntary Participation

Your participation in this research is entirely voluntary. It is your choice whether to participate or not. Whether you choose to participate or not, all the services you receive at this facility will continue and nothing will change. If you choose not to participate in this study, you will be offered the treatment that is routinely offered in this health facility and we will tell you more about it later. You may change your mind later and stop participating even if you agreed earlier.

Duration

The study usually takes between 45 to 60 minutes to complete

Risks and Side Effects

We are asking you to share with us some very personal and confidential information, and you may feel uncomfortable talking about some of the topics. You do not have to answer any question or take part in the discussion/interview/survey if you don't wish to do so,

and that is also fine. You do not have to give us any reason for not responding to any question, or for refusing to take part in the interview.

Benefits

There will be no direct benefit to you, but your participation is likely to help us find out more about family planning uptake in this area

Reimbursements

You will not be provided any incentive to take part in the study

Confidentiality and Sharing the Results

The information that we collect from this study will be kept confidential. Any information about you will have a number on it instead of your name. Only the researchers will know what your number is and we will lock that information up with a lock and key. It will not be shared with or given to anyone.

Right to Refuse or Withdraw

You do not have to take part in this research if you do not wish to do so and refusing to participate will not affect your treatment at this facility in any way. You will still have all the benefits that you would otherwise have at this facility. You may stop participating in the research at any time that you wish without losing any of your rights as a patient here.

Your treatment at this facility will not be affected in any way.

Who to Contact

If you have any questions you may ask them now or later, even after the study has started. If you wish to ask questions later, you may contact *Francis Kyalo Muema* (*Principle investigator*) on Cell phone: 0770775669, Email: *franciskyalo@yahoo.com*

This proposal has been reviewed and approved by Kenyatta University Ethics Review Committee (KU-ERC), which is a committee whose task it is to make sure that research participants are protected from harm. If you wish to find about more about the KU-ERC, contact *Chairman KU-ERC: P.O. Box 43844, Nairobi-00100; Tel: 8710901/12* Permission has also been granted by the National Council for Science and Technology (NCST).

*You can ask me any more questions about any part of the research study, if you wish to.
DO you have any questions?*

PART II: Certificate of Consent

If the participant is illiterate but gives oral consent, a witness must sign. A researcher or the person going over the informed consent must sign each the consent.

I have read the foregoing information, or it has been read to me. I have had the opportunity to ask questions about it and any questions that I have asked have been answered to my satisfaction. I consent voluntarily to participate as a participant in this research.

Print Name of Participant _____

Signature of Participant _____

If illiterate

A literate witness must sign (if possible, this person should be selected by the participant and should have no connection to the research team). Participants who are illiterate should include their thumb-print as well.

I have witnessed the accurate reading of the consent form to the potential participant, and the individual has had the opportunity to ask questions. I confirm that the individual has given consent freely.

Print name of witness _____ *AND* *Thumb print of participant*

Signature of witness _____

Date _____

Day/month/year

Statement by the researcher/person taking consent

I have accurately read out the information sheet to the potential participant, and to the best of my ability made sure that the participant understands that the following will be done:

- 1.
- 2.
- 3.

I confirm that the participant was given an opportunity to ask questions about the study, and all the questions asked by the participant have been answered correctly and to the best of my ability. I confirm that the individual has not been coerced into giving consent, and the consent has been given freely and voluntarily.

A copy of this ICF has been provided to the participant.

Print Name of Researcher/person taking the consent _____

Signature of Researcher /person taking the consent _____

Date _____

Day/month/year

Appendix II: Interview schedule

Interview schedule for study on Predictors of family planning services uptake among women of reproductive age in Moyale Sub-county, Kenya

Date of the interview.....

Record the time. Start.....Stop.....Time taken for the interview (minutes).....

1A. Socio-economic and socio-demographic characteristics of respondent

No	Questions	Answers
1.	What is your marital status	Never married.....1 Married.....2 Divorced.....3 Widowed.....4 Living with a man (cohabiting).....5
2.	If married, for how long has your marriage lasted?Years (tick appropriately according to answer above) ≤10 years.....1 >10 years.....2
3.	How old were you at your last birthday?Years (tick appropriately according to answer above) 15-24.....1 25-34.....2 35+.....3
4.	How old is your husband? (Compute age difference between husband and the wife and tick in the appropriate class)Years
5.	Polygamy; is your husband married to other wives? If yes move to the next Qn, if No move to Qn 7	Yes.....1 No.....2

6.	Are you the first, second, third...wife? _____	First.....1 Second.....2 Third.....3 Fourth.....4 Other (specify).....5
7.	How long have you been living continuously in Moyale Sub-county If less than 6months go to qn. 9 _____	(Tick answer) ≤ 6 MONTHS.....1 > 6 MONTH.....2
8.	Just before you moved here, did you live in a city, in a town, or in the countryside? _____	City1 Town2 Countryside..3
9.	Have you ever attended school? _____	Yes1 No.....2
10.	What is the highest level of school you attended: primary, vocational, secondary, or higher? _____	Primary.....1 Post-primary.....2 Secondary.....3 College.....4 University.....5
11.	How many children do you have now? _____	None.....1 1-3.....2 4-6.....3 7 and above.....4
12.	What is the highest level of school your husband attended: primary, vocational, secondary, or higher? Ask only if currently married _____	Primary1 Post-primary2 Secondary.3 College4 University.....5
13.	What is your occupation, that is, what kind of work do you mainly do? _____	Housewife/unemployed..1 Casual work/temporally.....2 Salaried worker/employed.....3 Others (specify).....4
14.	What is your approximate income per month? _____	Below Ksh 2500.....1 2501-5,000.....2 More than 5,0013
15.	Where did you deliver during your last pregnancy _____	At home.....1 Health facility.....2 Other (specify).....3

1B:Family planning knowledge and practice		
Now I would like to ask you some questions about reproductive health. Let me assure you again that your answers are completely confidential and will not be told to anyone.		
<i>Correctly answers either Qn. 17 or 18 is considered knowledgeable on FP</i>		
<u>16.</u>	FP knowledge; what are the benefits of FP (<i>List down</i>)	Knows.....1
<u>17.</u>	Which FP method(s) do you know(<i>List down</i>)	Doesn't know2
<u>18.</u>	Have you ever had a pregnancy that miscarried, was aborted, or ended in a stillbirth? IF NO, PROBE: Any baby who never cried nor showed signs of life?	NO.....1 YES.....2
<u>19.</u>	Sometimes it happens that children die. It may be painful to talk about and I am sorry to ask you about painful memories, but it is important to get correct information. Have you ever given birth to a son or daughter who was born alive but later died? IF NO, PROBE: Any baby who cried or showed signs of life but did not survive?	NO.....1 YES.....2
<u>20.</u>	Use of contraceptive; are you currently doing something or using any method to delay or avoid getting pregnant?	NO.....1 YES.....2
<u>21.</u>	Have you ever used anything or tried in any way to delay or avoid getting pregnant?	NO.....1 YES.....2
<u>22.</u>	When you got pregnant, did you want to get pregnant at that time?	NO.....1 YES.....2
<u>23.</u>	Do you want to have a baby later on, or do you not want any (more) children?	Have another child1 No more2 Undecided/don't know3
<u>24.</u>	Now I have some questions about the future. 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 (a/another) child1 No more/none.....2 Says she can't get pregnant.....3 Undecided/don't know8
<u>25.</u>	Which method are you using?	Female sterilizationA Male sterilizationB PillC

		pregnant/Not having sex 4
<u>28.</u>	Are you pregnant now?	Yes 1 No 2 Don't know.. . . . 3
<u>29.</u>	Do you think you will use a contraceptive method to delay or avoid pregnancy at any time in the future? (Ask if no on Qn.22)	Yes 1 No 2 Don't know 3
<u>30.</u>	When was the last time you had sexual intercourse?months ago
<u>31.</u>	If Yes, is it for spacing or limiting?	Spacing.....1 Limiting.....2 Other(specify).....3
<u>32.</u>	Does your husband/partner know that you are using a method of family planning?	Yes1 No2 Don't know.3
<u>33.</u>	Would you say that using contraception is mainly your decision, mainly your husband's/partner's decision, or did you both decide together?	Mainly respondent1 Mainly husband/partner...2 Joint decision.....3 Other.....6 (specify)
<u>34.</u>	Now I want to ask you about your husband's/partner's views on family planning. DO you think that your husband/partner approves or disapproves of couples using a method to avoid pregnancy?	Approves 1 Disapproves.....2 Does not know.....3
<u>35.</u>	How often have you talked to your husband/partner about family planning in the past year	Never 1 Once or twice.....2 More often.....3
<u>36.</u>	In the last 12 months, were you visited by a fieldworker who talked to you about family planning?	No.....1 Yes.....2
<u>37.</u>	In the last 12 months, have you visited a health facility for care for yourself (or your children)?	No.....1 Yes.....2
<u>38.</u>	Did any staff member at the health facility speak to you about family planning methods?	No.....1 Yes.....2
<u>39.</u>	In the last few months have you heard or read about FP: On the radio? On the television? In a newspaper or magazine? On billboards?	Radio..... Yes/No Television.... Yes/No Newspaper or magazine..... Yes/No Billboards/Poster/Flier..... Yes/No

1C: Socio-cultural factors		
	Questions	Answers
40.	What is your religion?	Roman catholic.....1 Protestant/other Christian2 Muslim.....3 No religion4 Other (specify).....5
41.	Does your religion encourage family planning?	Yes.....1 No.....2 Don't know.....3
42.	Does your mother in law play any role in your family planning decisions?	No.....1 Yes.....2 Don't know.....3
43.	How many children would you prefer to have?	None.....1 1-3.....2 4-6.....3 7 and above.....4
44.	Between boys and girls, who would you prefer to be more in your family, girls or boys?	None.....1 Boys.....2 Girls.....3
45.	DO you belong to any organized group like women group, merry go round,?	Yes.....1 No.....2 Don't know.....3
46.	If yes, does the group encourage use of FP?	Yes.....1 No.....2 Don't know.....3
47.	If yes, from your discussions with the group members which FP method(s) do they use or advocate for?	None00 Female sterilization 01 Male sterilization 02 Pill 03 IUD 04 Injectable 05 Implants 06 Condom 07 Female condom 08 Lactation amenorrhea (LAM).....09 Rhythm method 10 Withdrawal 11
48.	Which FP method would you recommend to your friends? List.....	Similar to one used by group.....1 Not similar to one used by the group.....2 None.....3

Appendix III: FGD guide

Focused group discussion (FGDs) on predictors of family planning services uptake among women attending MCH/FP clinics at health facilities in Moyale Sub-county, Kenya

Date...../...../..... Venue.....

Facilitator..... Moderator.....

No. of discussants..... Time for discussion 1hr. Start..... Finish.....

INSTRUCTIONS

1. Introductions.
2. Explain purpose of study.
3. Assure discussants of confidentiality.
4. Ask discussant for their informed consent to participate in discussion.
5. Explain importance of recording the discussion.

QUESTIONS

1. What is Family planning (FP)?
2. Should FP be promoted and provided in your community? If so: How? Why?
3. In general, what are the common methods for FP in this area?
4. How is the demand for FP services in this community? Explain
5. Are there women who would like to use FP services but they don't? if so or not :
Explain
6. Is the demand for FP fully met in this community? if so or not : Explain
7. Who among the family members in a household make decision for women to use
FP services in this community? Why them not the others?
8. Are there any kinds of women groups in this community? If so, which are they?
9. Do they share discussions on FP issues either as a group or among the members?
10. What influences use or non-use of FP services in this community?

11. Who should use FP services in this community and why?
12. Which barriers do women in your community have to using a FP services?
13. What could be done in your community to make it easier for women to use FP services?

Give the group space to raise any other issues that they feel are relevant
END

Thank you for your cooperation.

Appendix IV: Key informant interview guide

Key informant's interview guide on predictors of family planning services uptake among women attending MCH/FP clinics at health facilities in Moyale Sub-county, Kenya

Date...../...../.....Venue.....

Interviewer's name.....

Designation of the Key informant.....

Time: Start..... Finish.....

Time for discussion: 45minutes.

INSTRUCTIONS

1. Introductions.
2. Explain purpose of study.
3. Assure key informant of confidentiality.
4. Ask key informant for their informed consent to participate in the discussion.
5. Explain importance of recording the discussion.

QUESTIONS

1. Which are the common family planning (FP) methods in this community
2. What is the level of FP demand in this community? Kindly elaborate.
3. Currently, are there women in need of FP services in this community? Kindly elaborate.
4. What influences use of FP services in this community?
5. Should family planning be promoted and provided differently now in your community? If so: How? Why?
6. What could be done in your community to make it easier for women to use FP services?

Give the group space to raise any other issues that they feel are relevant

END

Appendix VI: Graduate school research authorization letter



KENYATTA UNIVERSITY GRADUATE SCHOOL

E-mail: dean-graduate@ku.ac.ke

Website: www.ku.ac.ke

P.O. Box 43844, 00100
NAIROBI, KENYA
Tel. 8710901 Ext. 57530

Our Ref: P57/23671/2011

DATE: 8th April, 2013

The Permanent Secretary,
Ministry of Higher Education, Science & Technology,
P.O. Box 30040,
NAIROBI

Dear Sir/Madam,

RE: RESEARCH AUTHORIZATION FRANCIS KYALO MUEMA – REG. NO. P57/23671/2011

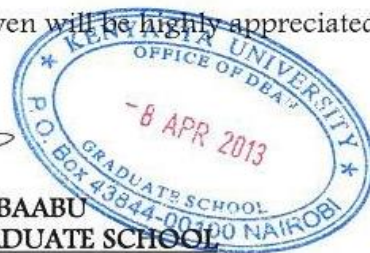
I write to introduce Mr. Francis Kyalo Muema who is a Postgraduate Student of this University. He is registered for M.P.H degree programme in the **Department Community Health**.

Mr. Muema intends to conduct research for a M.P.H proposal entitled, **“Predictors of Family Planning Services Uptake among Women of Reproductive Age in Moyale Sub- County, Kenya.”**

Any assistance given will be highly appreciated.

Yours faithfully,

MRS. LUCY N. MBAABU
FOR: DEAN, GRADUATE SCHOOL



JMO/rwm

Appendix VII: Kenyatta university ethics review committee approval letter



KENYATTA UNIVERSITY
ETHICS REVIEW COMMITTEE

Fax: 8711242/8711575
Email: kuerc.chairman@ku.ac.ke
kuerc.secretary@ku.ac.ke
Website: www.ku.ac.ke

P. O. Box 43844
Nairobi, 00100
Tel: 8710901/12

Our Ref: KU/R/COMM/51/199

Date: July 24th, 2013

Francis Kyalo Muema
School of Public Health
Kenyatta University
P. O. Box 43844, Nairobi.

Dear Mr. Kyalo,

APPLICATION NUMBER PKU/118/1104 OF 2013 – ‘PREDICTORS OF FAMILY PLANNING SERVICES UPTAKE AMONG WOMEN OF REPRODUCTIVE AGE IN MOYALE DISTRICT, KENYA – *VERSION 2*.

1. IDENTIFICATION OF PROTOCOL

The application before the committee is with a research topic, ‘Predictors of family planning services uptake among women of reproductive age in Moyale District, Kenya’ received on *19th April, 2013*.

2. APPLICANT

Francis Kyalo Muema
School of Public Health
Kenyatta University
P. O. Box 43844, Nairobi.

3. SITE

Moyale District, Kenya

4. DECISION

The committee has considered the research protocol in accordance with the Kenyatta University Research Policy (section 7.2.1.3) and the Kenyatta University Ethics Review Committee Guidelines, and is of the view that against the following elements of review,

- (i) Scientific design and conduct of study,
- (ii) Recruitment of research participant,
- (iii) Care and protection of research participants,
- (iv) Protection of research participant’s confidentiality,
- (v) Informed consent process,
- (vi) Community considerations.

AND APPROVED that the research may proceed for a period of ONE year from July 24th, 2013.

5. ADVICE/CONDITIONS

- i. Progress reports are submitted to the KU-ERC every six months and a full report is submitted at the end of the study.
- ii. Serious and unexpected adverse events related to the conduct of the study are reported to this board immediately they occur.
- iii. Notify the Kenyatta University Ethics Committee of any amendments to the protocol.
- iv. Submit an electronic copy of the revised proposal to KU-ERC.

When replying, kindly quote the application number above.

If you accept the decision reached and advice and conditions given please sign in the space provided below and return to KU-ERC a copy of the letter.



PROF. NICHOLAS K. GIKONYO
CHAIRMAN: KENYATTA UNIVERSITY ETHICS REVIEW COMMITTEE

I FRANCIS KYALO MUEMA.....
accept the advice given and will fulfill the conditions therein.

Signature.....[Signature].....Dated this day.....12..... of.....SEPTEMBER.....2013.

cc. Vice-Chancellor
Director: Institute for Research Science and Technology

Appendix VIII: NACOSTI research authorization letter



NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY AND INNOVATION

Telephone: +254-20-2213471,
2241349, 310571, 2219420
Fax: +254-20-318245, 318249
Email: secretary@nacosti.go.ke
Website: www.nacosti.go.ke
When replying please quote

9th Floor, Utalii House
Uhuru Highway
P.O. Box 30623-00100
NAIROBI-KENYA

Ref: No.

Date:

19th September, 2014

NACOSTI/P/14/7604/1744

Francis Kyalo Muema
Kenyatta University
P.O Box 43844-00100
NAIROBI.

RE: RESEARCH AUTHORIZATION

Following your application for authority to carry out research on *“Predictors of family planning services uptake among Women of reproductive age in Moyale District, Kenya,”* I am pleased to inform you that you have been authorized to undertake research in **Marsabit County** for a period ending **15th June, 2015**.

You are advised to report to **the County Commissioner and the County Director of Education, Marsabit County** before embarking on the research project.

On completion of the research, you are expected to submit **two hard copies and one soft copy in pdf** of the research report/thesis to our office.


DR. S. K LANGAT, OGW
FOR: SECRETARY/CEO

Copy to:

The County Commissioner
The County Director of Education
Marsabit County.

Appendix X: Ministry of Interior and coordination research authorization letter



**THE PRESIDENCY
MINISTRY OF INTERIOR AND CO-ORDINATION OF NATIONAL GOVERNMENT**

TELEGRAMS
Telephone – 069-2102001
Fax – 069-2102304
email: comarsabit@gmail.com

County Commissioner,
Marsabit County,
P.O. Box 1 – 60500,
MARSABIT

When replying please quote

Ref. No. EDU. 12/45 VOL. II/33

22nd. October, 2014.

TO WHOM IT MAY CONCERN.

**RE: RESEARCH AUTHORIZATION:
FRANCIS KYALO MUEMA**

I wish to introduce you to Francis Kyalo Muema who has been authorized by Kenyatta University to carry out research on ‘**Predictors of Uptake of Family Planning Services among Women of Reproductive Age in Moyale District, Kenya**’.

The researcher is hereby authorized to undertake the research in Marsabit County for a period ending **15th June, 2015**. On completion of the research, he will also be expected to submit a copy of the research thesis to the County Commissioner’s office-Marsabit.

**(P. KARANJAH)
FOR: COUNTY COMMISSIONER,
MARSABIT COUNTY.**

cc: Deputy County Commissioner
Moyale Sub-County