

**UTILIZATION OF CONTRACEPTIVES AMONG WOMEN
OF REPRODUCTIVE AGE ATTENDING NGONG SUB-
COUNTY HOSPITAL IN KAJIADO COUNTY KENYA**

MAGDALENE WANGECHI RWAMBA

**MASTER OF SCIENCE
(Public Health)**

**JOMO KENYATTA UNIVERSITY OF
AGRICULTURE AND TECHNOLOGY**

2021

**Utilization of Contraceptives among Women of Reproductive Age
Attending Ngong Sub-County Hospital in Kajiado County, Kenya**

Magdalene Wangechi Rwamba

**A Thesis Submitted in Partial Fulfillment of the Requirements for
the Degree of Master of Science in Public Health of the Jomo
Kenyatta University of Agriculture and Technology**

2021

DECLARATION

I declare that this thesis is my original work and has not been presented in any university for any award.

Signature.....Date.....

Magdalene W. Rwamba

The thesis is presented for examination with the approval of the following as university supervisors;

Signature.....Date.....

Prof Kenneth Ngunjiri, PhD
JKUAT, Kenya

Signature.....Date.....

Dr Joseph K. Mutai, PhD
KEMRI, Kenya

DEDICATION

This thesis is dedicated to my beloved husband Isaac, and our children for being sources of motivation and encouragement on deciding to join the course and the strength to complete my study.

ACKNOWLEDGEMENT

I take this opportunity to thank the Almighty God for enabling me to undertake this study. My gratitude also goes to my supervisors Prof Kenneth Ngure and Dr Joseph Mutai for their tireless guidance and patience. Special appreciation also goes to the County public service board of Kajiado County, the hospital administration, and the staff of MCH/FP Clinic/Outpatient of Ngong sub-county hospital for their hospitality and assistance they accorded me during the study period. God bless you abundantly.

TABLE OF CONTENTS

DECLARATION	ii
DEDICATION	iii
ACKNOWLEDGEMENT	iv
TABLE OF CONTENTS	v
LIST OF TABLES	x
LIST OF FIGURES	xi
LIST OF APPENDICES	xii
ABBREVIATION AND ACRONYMS	xiii
DEFINITION OF OPERATIONAL TERMS	xv
ABSTRACT	xvi
CHAPTER ONE	1
INTRODUCTION	1
1.1 Background Information.....	1
1.2 Statement of the problem.....	3
1.3 Justification of the study.....	4
1.4 Research Questions.....	5

1.5 Objectives	5
1.5.1 Main objective.....	5
1.5.2 Specific objectives.....	6
CHAPTER TWO	7
LITERATURE REVIEW.....	7
2.1 Uptake of Contraceptive	7
2.2 Contraceptive preference	10
2.3 Emerging issues in family planning	12
2.4 Factors Associated with Uptake of Contraceptives	13
2.4.1 Age of women	13
2.4.2 Religion	14
2.4.3 Marital status	14
2.4.4 Knowledge and awareness of Family planning.....	14
2.4.5 Social - cultural beliefs and attitudes	16
2.4.6 Service provider factors.....	17
2.4.7 Facility related factor.....	18
2.4.8 Level of Education	19
2.5 Conceptual Framework.....	19

CHAPTER THREE	21
MATERIALS AND METHODS	21
3.1 Study Site	21
3.2 Study Design.....	21
3.3 Study population.....	21
3.4 Study Criteria.....	22
3.4.1 Inclusion criteria.....	22
3.4.2 Exclusion criteria:.....	22
3.5 Sampling procedure	22
3.6 Sample size determination	23
3.7 Data collection	24
3.8 Data processing and Analysis.....	24
3.8.1 Validity	25
3.8.2 Reliability	25
3.9 Ethical considerations	25
CHAPTER FOUR.....	27
RESULTS	27
4.1 Socio demographic characteristics of respondents	27

4.2 Contraceptive proportion	29
4.2.1 Point of access to contraceptives	30
4.2.2 Awareness and knowledge of the various contraceptives	31
4.2.3. Benefits of Contraceptive use.....	32
4.2.4 Source of information.....	33
4.2.5 Community acceptance to contraceptive use	35
4.2.6 Reasons for community disapproval	35
4.3. Preference of contraceptive in use	36
4.3.1 Type of contraceptives based on socio-demographic factors.....	37
4.3.2 Spouse awareness on contraceptive use	38
4.3.3 Reason for spouse disapproval	39
4.3.4 Decision on contraceptive use	41
4.3.5 Community non- preferred contraceptive	41
4.4 Cultural practices affecting contraceptive use	42
4.4.1 Culture effect on contraceptive use	43
4.4.2 Access to contraceptives	44
4.4.3 Facility factors that affect the uptake of contraceptives	45
4.4.4 Suggestions on improving contraceptive use	46

CHAPTER FIVE	47
DISCUSSION, CONCLUSIONS AND RECOMMENDATIONS	47
5.1 Discussion.....	47
5.1.1 Proportion of Contraceptive Utilization	47
5.1.2 Contraceptive preference methods	49
5.1.3 Factors associated with uptake of contraceptives.....	52
5.2 Conclusions.....	54
5.3 Recommendations.....	55
5.4 Recommendation for Further Studies	55
REFERENCES	56
APPENDICES	63

LIST OF TABLES

Table 4.1: Socio demographic characteristics of the respondents	28
Table 4.2: Proportion of contraceptive use	29
Table 4.3: Relationship between contraceptive use and socio demographic factors	30
Table 4.5: Contraceptive type based on socio-demographic factors.....	37
Table 4.6: Spouse awareness on contraceptive use.....	38
Table 4.7: Relationship between spouse awareness and contraceptive use	39
Table 4.8: Relationship between culture effect and contraceptive use	44
Table 4.9: Access of contraceptives.....	45
Table 4.10: Contraceptive uptake in relation to facility factors.....	45

LIST OF FIGURES

Figure 2.1: Conceptual Framework Source: Author Year: 2019	20
Figure 4.1: Contraceptive access point	31
Figure 4.2: Awareness and knowlege of various contraceptive methods	31
Figure 4.3: Benefits of using contraceptives.....	33
Figure 4.4: Information source.....	34
Figure 4.5: Reason for community disapproval.....	35
Figure 4.6: Preference of contraceptive use.....	36
Figure 4.7: Reason for spouse disapproval	40
Figure 4.8: Decision on contraceptive use	41
Figure 4.9: Community non- preferred contraceptive	42
Figure 4.10: Culture practices affecting contraceptive use.....	43
Table 4.10: Contraceptive uptake in relation to facility factors.	45
Figure 4.11: Suggestions on improving contraceptive use	46

LIST OF APPENDICES

Appendix I: Consent of Participation	63
Appendix II: Questionnaire	66
Appendix III: Focus Group Discussion Guide for Women of Reproductive Age 15-49 Years.	73
Appendix IV: Approval Letter.....	76
Appendix V: Map of Kajiado County.....	79

ABBREVIATION AND ACRONYMS

AIDS	Acquired Immunodeficiency Syndrome
CDC	Center of Disease Control
CP	Contraceptive
CPR	Contraceptive Prevalence Rate
ERC	Ethical Review Committee
FGDS	Focus group discussions
FP	Family Planning
KDHS	Kenya Demographic Health Survey
IUCD	Intrauterine Contraceptive Device
LARC	Long- acting reversible contraceptives
MCH	Maternal Child Health
MDGS	Millennium Development Goals
MDHS	Malawi Demographic Health Survey
MMR	Maternal Mortality Ratio
MNH	Maternal and Newborn Health
NRHS	National Reproduction Health Strategy
RH	Reproductive Health

SDGS	Sustainable Development Goals
SPSS	Statistical Package for Social Science
SSA	Sub- Saharan Africa
STI	Sexually transmitted infections.
TFR	Total Fertility Rate
UNAIDS	United Nation Programme of HIV/AIDS
UNFPA	United Nation of Family Planning Association
USAID/HPI	United States Agency for International Development /Health Programs Initiatives.
WHO	World Health Organization
WRA	Women Reproductive Age

DEFINITION OF OPERATIONAL TERMS

Reproductive health	It is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity, in all matters relating to the reproductive system and to its functions and processes
Contraceptive utilization	Ever use of modern contraceptive (both current and past use).
Level of education	Will be defined as primary, secondary and college/university.
Income status	Approximate average income in Kenya shillings.
Contraception	The practice of utilizing family planning methods intended to prevent or space future pregnancy.
Unmet need	Sexually active married or unmarried women that do not want to have a child in the next one year or ever and are not using contraceptive method, yet they need to use it.

ABSTRACT

Utilization of contraceptives is still a major problem in the Sub-Saharan Africa. The government of Kenya has put various strategies and policies to facilitate use of contraceptives. Despite these policy measures total fertility rate still remains high at 3.9 births per woman (KDHS, 2014). The main objective of this study was to determine the utilization of contraceptives among women of reproductive age (15-49) years attending Ngong sub – county hospital in Kajiado County Kenya. The specific objectives were to determine proportion, to determine contraceptive preference and to establish factors associated with contraceptive utilization. The study adopted a descriptive cross-sectional method study design which was hospital based. The study population was women aged between (15-49) years attending maternal child health, and outpatient clinics at Ngong sub-county hospital that gave consent. Data was collected mainly using structured questionnaire and two focus group discussions. The questionnaire was administered to a sample of 380 women. Quantitative data was analyzed using SPSS version 23. Data was presented in frequencies, percentages and pie-charts. Odds ratio (OR) at (95%) confidence interval (CI) was done for association between the various variables and utilization of contraceptive. Chi-square test statistic was also done at significance level of ($P \leq 0.05$). Qualitative data was analyzed and presented in verbatim form. Confidentiality of the respondents was assured and maintained throughout the study. The study showed that (80%) of the respondents were using contraceptives and the remaining (20%) were not on any method. There was evidence that education and age greatly influences utilization of contraceptive. A greater proportion (61%) of those on contraceptive used Depo-Provera injection. For the success of family planning programs, male involvement was seen to be critical as they play an important role in the decision making process and use of contraceptives. There is need to encourage and facilitate the community based health workers to make deliberate efforts to reach out to the (20%) women not using contraceptives. Kajiado County health officials should scale up training and counselling for more health care providers to be trained on more effective and less expensive contraceptive methods such as Norplant and IUCD.

CHAPTER ONE

INTRODUCTION

1.1 Background Information

Contraceptive allows people to attain their desired number of children and determine the spacing of pregnancies. It is achieved through use of contraceptive methods and the treatment of infertility. Reproductive health, addresses the reproductive processes, functions and system at all stages of life (WHO, 2010). Reproductive health, therefore implies that people are able to have responsible, satisfying and safe sex life and that they have the capability to reproduce and the freedom to decide if, when and how often to do so. The attention drawn to the issue of contraception by international bodies like the World health organization (WHO), and United Nations fund for population agency (UNFPA) cannot be over- emphasized. This is due to the socio economic implications and health hazards that high population growth rate has increasingly manifested in the economies of developing countries. Inadequate family planning strategies have continuously exacerbated the vulnerability of developing countries, culminating into high maternal and infant mortality, increasing hard core poverty, disintegration of the extended family system, and high incidence of STI/HIV/AIDS. At least 25% of all maternal deaths can be prevented by family planning. One in 4 infants' deaths in developing countries can be prevented by spacing births at least two years apart. There are several contraceptive methods used in Kenya, they include, intrauterine pelvic device (IUD), Implants, injectables, pills, female and male sterilization and male and female condoms (KDHS, 2014).

The World Health Organization estimated the unmet need for contraceptives worldwide to be at 215 million women of child bearing age (15-49 years). About 200 million couples still have unmet need for contraceptives, 64 million are still using traditional methods of family planning and 29% of them are women in developing countries. Contraceptive use enables people to make their informed choices about their

sexual and reproductive health especially for benefit of women and children's health in the community (WHO, 2010). According to Moreland and Talbird (2006) when access to family planning services is increased the unmet need for family planning could be met thereby slowing population growth rate and reducing costs.

Many African economies are characterized by rapid population growth that is partly attributed to high fertility rate, high birth rates accompanied by steady declines in death rates, low contraceptive prevalence rate and high but declining mortality rate (Oyedokun, 2007). The USAID/HPI (2007) found that in Sub-Saharan Africa the rate of population growth was one of the highest in the world (2.8%) compared to the rest of the world. This is likely to be an impediment towards reduction of child mortality, improvement of maternal health, achievement of universal primary education, environmental sustainability and combating HIV/AIDS, malaria and other diseases. In a study it was estimated that over half of Kenyan's rapid rate of population growth is attributed to unwanted and mistimed birth. According to (KDHS, 2014) the population growth rate was increasing at the same rate as the 2009 gross domestic product 2.6% per annum, meaning that the real economic growth is virtually stagnant. A population growth rate above 2% per year makes it difficult for a country's institutions and technologies to keep up with the population pressures on all sectors of the economy (World Bank, 2009).

According to KDHS (2014), injectables are the widely used method of contraception at 26%. The report has also shown that 28% of married women with no education have an unmet need for family planning. (Mills *et al.*, 2010) observed that unmet need is often described as a problem of access and interpreted as women do not use contraceptives because they cannot find or afford them. While access is an issue, many other reasons have been cited by women for not using contraceptives, including lack of knowledge, culture, personal, religious and fear of side effects.

1.2 Statement of the problem

Non- use of contraceptives continues to be a public health concern in developing countries. According to KDHS (2008-09) by the age 15 years most adolescent girls have had their first sexual experience. This predisposes them to unplanned and unwanted pregnancies and STI's. Although many women in Kenya wish to avoid pregnancy they are not using contraceptives to make this possible as a result, 47% of birth are unplanned (KDHS,2014). United Nation family planning association UNFPA (2004) noted that family planning is one of the most basic and essential health care services that can promote and ensure reproductive health. At the house hold level, the high fertility rate may be contributing towards depletion of productive resources in the society, rising cost of living, ill health, poor nutrition and limited educational opportunities ultimately trapping women in a poverty cycle. The Kenyan government has adopted different strategies to highlight contraception a step towards increasing the CPR and reducing the need for unmet family planning (GOK,2019). This is a demonstration that the government has made available the information, but the uptake there of is wanting. Overall, the sexually active Kenyan population consists of young people who may want to prevent pregnancies but cannot do so because of perception about how to use contraceptive procedures (WHO, 2011).

The Kajiado County Integrated Development plan 2018- 2022 only indicates contraceptive and maternal health information from the Kenya Demographic Health Survey 2014. It does not give any contextual information on the contraceptive information uptake in Kajiado North sub-County. The total fertility rate of Kajiado County still remains high at (4.5%) while CPR is at (45.2%) which is lower than the average of 53.2% as compared to other counties and the national CPR of (58%) (KDHS, 2014). This study aimed to investigate the disconnect between the information that is available on contraceptives and the increase in figures of unwanted or unplanned pregnancies. The information available does not match the uptake of contraceptives.

1.3 Justification of the study

One mother dies in Kenya for every 250 successful deliveries, and one newborn dies for every 37 who are born. These deaths are a result of poor access to antenatal, obstetric, and postnatal care (Kenya National Bureau of Statistics [KNBS] & ICF Macro, 2014). Dismal statistics in pregnancy outcomes are compounded by poor access to reproductive health services and a consequently limited ability to plan pregnancies. A woman's ability to space and limit her pregnancies has a direct impact on her health and well-being as well as on the outcome of each pregnancy. FP is crucial in supporting child survival and reducing maternal mortality. Improved maternal and newborn health (MNH) is closely related to a community's social and economic empowerment, which in turn is promoted by enhanced access to quality FP services. The importance of FP in any strategy for safe motherhood and child survival is therefore not in question (Eltomy, Saboula, & Hussein, 2013). Over the past five years, Kenya has been undergoing a change in governance of the public health sector, devolving most functions from the central Ministry of Health (MOH) to the control of the 47 counties— newly created administrative units that are intended to disperse political governance. Guided by the Kenya Health Policy 2012–2030, county governments are now mandated to coordinate and manage the delivery of healthcare services at the county level; provision of FP services are one such responsibility. However, there is not much data exist to guide policy and implementation strategies within the counties. Data would facilitate an understanding of FP needs and guide supply, distribution, and awareness strategies. This is particularly important during the transition period, when data systems are being realigned and the level at which healthcare decisions are being made is changing. FP clients typically have a card onto which the details of the visit, the contraceptive provided, and the date of the next visit are recorded

The KDHS (2014) also revealed that the unmet need for family planning among the married with no education was (28%). This has led to women giving birth to more children than they can cater for. Accessibility, affordability and income are a major stumbling block to health as a result, most women are likely to face pregnancy and

childbearing complications leading to high child and maternal morbidity and mortality. This study sought to have a clear identification and understanding of the factors associated to utilization of contraceptives in order to close the gap of knowledge and take necessary measures to increase contraceptive uptake in the area. The results of this study will be helpful in empowering the women with health knowledge and skills required to prevent ill health, enhance and protect healthy behavior. The findings of this study will help the Ministry of health and the Kajiado County government in advancing practical solutions that will address the issues of awareness and perception. The study will also provide researchers with information about what has been researched on and what need to be improved on to enhance contraceptive use.

1.4 Research Questions

1. What is the proportion of contraceptive utilization among women of reproductive age attending Ngong sub-county hospital?
2. What are the contraceptive preference methods among women of reproductive age attending Ngong sub-county hospital?
3. What are the factors associated with utilization of contraceptives among women of reproductive age attending Ngong sub-county hospital?

1.5 Objectives

1.5.1 Main objective

To determine utilization of contraceptives among women of reproductive age attending Ngong sub-county hospital

1.5.2 Specific objectives

- 1.** To determine proportion of contraceptive utilization among women of reproductive age attending Ngong sub- county hospital.
- 2.** To determine the contraceptive preference methods among women of reproductive age attending Ngong sub- county hospital.
- 3.** To establish the factors associated with uptake of contraceptives among women of reproduction age years attending Ngong sub- county hospital.

CHAPTER TWO

LITERATURE REVIEW

2.1 Uptake of Contraceptive

Reproductive health, addresses the reproductive processes, functions and system at all stages of life (WHO, 2010). Reproductive health therefore implies that people are able to have a responsible, satisfying and safe sex life and that they have the capability to reproduce and the freedom to decide if, when and how often to do so. Contraceptive prevalence and the unmet need for family planning are key indicators for measuring improvements in access to reproductive health as assented in the 2030 Agenda for Sustainable Development under target 3.7. It states that by 2030 there should be universal access to sexual and reproductive health care services. (UNDESA,2015). It will include family planning, information, education and integration of reproductive health into national strategies and programs. The unmet need for contraception remains high. This inequity is fuelled by both a growing population, and a shortage of family planning services. In Asia, and Latin America and the Caribbean regions with relatively high contraceptive prevalence – the levels of unmet need are (10.9 %) and (10.4%), respectively. In Africa, (23.2%) of women of reproductive age have an unmet need for contraception (UNDESA, 2013).

Contraceptive use has increased in many parts of the world especially in Asia and Latin America but continues to be low in sub-Saharan Africa. Globally, use of modern contraception has risen slightly from (54%) in 1990 to (57.4%) in 2014. Regionally, the proportion of women aged (15–49) reporting use of a contraceptive method has risen minimally or plateaued between 2008 and 2014. In Africa it went from (23.6%) to (27.6%), in Asia it has raised slightly from (60.9%) to (61.6%), and in Latin America and the Caribbean it rose slightly from (66.7%) to (67%). Use of contraception by men makes up a relatively small subset of the above prevalence rates (UNDESA, 2013).

Contraception is one of the major determinants of fertility levels (Naheed, 2012). The following are the available methods of contraceptives globally: Combined contraceptives (COCs) or pill, progestogen only (POP) or mini pill, Implants (Norplant), Monthly injectables combined injectable contraceptives (CIC), Intrauterine device copper containing (IUD), male condoms and female condoms, Male sterilization (Vasectomy), female sterilization (Tubal ligation) and emergency contraceptives (Levonorgestrel 1.5mgs). The contraceptive methods for men are limited to male condoms and sterilization (vasectomy) (UNDESA, 2013). Unexpected or unplanned pregnancy poses a major public health challenge in women of reproductive age, especially in developing countries. According to Mustafa (2015) it has been estimated that of the 210 million pregnancies that occur annually worldwide, about 80 million (38%) are unplanned, 46 million (22%) end in abortion. More than 200 million women in development countries would like to delay their next pregnancy or even stop bearing children altogether, but many of them use no method at all. Those who do not use any contraceptive method may lack access or face barriers to using contraception. According to Guttmacher (2010) 146 million women worldwide aged 15-49 years who were married or in a union had an unmet need for FP. Trends in contraceptive prevalence and the projected growth in the number of potential contraceptive users indicate that increased investment is necessary to meet demand for contraceptive methods and improve reproductive health worldwide. In (2008), use of contraceptive methods prevented over 250,000 maternal deaths through reducing unintended pregnancies. This is equivalent to 40% of the 355,000 maternal deaths for the year. The number of maternal deaths would decrease by a further 30% in developing countries, if all women who wish to avoid pregnancy use an effective contraceptive method (Cleland *et al.*, 2012).

In Sub- Saharan Africa there is need for couples to use modern contraceptives because the region is experiencing high fertility levels and high population growth rate. According to Monjok *et al.*, (2010) in Nigeria, contraceptive prevalence rate by 2003 was 8% and this rose to 11%-13% by 2010. This low contraceptive rate had made

maternal and infant mortality very high. According to the Malawi Demographic Survey (2010) Malawi is one of the countries in the SSA whose population stood at 14.5 million by the year 2008. Its CPR was at (33%) among women of child bearing ages (15-49) years in 2004. Among these women of child bearing ages (42%) used modern contraceptive. The most common methods used in Malawi are injectables at (26%) female sterilization (10%) and pills (3%). According to Kayongo (2013) in a study done in Uganda (63%) of sexually active unmarried women (15-19) years and (43%) of sexually active unmarried women (20-24) years were not using any contraceptive method at all. Condom use in Uganda was reported low at only (2%) among married women.

Kenya's estimated birth rate is falling gradually while the population is getting slightly older, an analysis of demographic data revealed. The use of contraceptives has increased by six per cent in 2014 to (59%) in 2017. Kenya has surpassed its 2020 target of (58%). This has informed the Ministry's decision to revise its contraceptive prevalence rate upwards to (66%) by 2030 and (70 %) by 2050. Despite the increase in the uptake of modern contraceptives, investment in the sector has been insignificant with donor contribution to the sector declining. Moreover, contraceptives are not included in the National Hospital Fund (NHIF) cover. According to the National Council for Population and Development even though the government increased the contraceptive budget to 700 million in 2017, Kenya needs sh.23 billion to budget for contraceptives for all women in the country. Contraceptive prevalence rate is the percentage of women of reproductive age (15 to 49 years) using a modern contraceptive method.

As of 2014, Kenya's fertility rate was estimated at 3.7 births per woman which is still notably higher than the replacement- level (the birth rate at which the population replaces itself) defined as 2.1 births per woman. With 59 estimated births for every 1,000 people, Kajiado's birth rate is almost triple that of the county with the lowest rate. Nationwide, the estimated births per 1,000 people plunged from 43 births in 2011 to 32 births, according to data from the statistical abstracts 2015 and 2017. According to the KDHS (2008-09) a total fertility rate of 4.6 was observed in 2007 as compared to 4.9 in

2002. In rural areas of Kenya, it was recorded to have higher fertility rates than urban areas of 5.2 to 2.9 respectively. In Kenya 18% of married women reported an unmet need for contraception. Sexually active unmarried women reported a higher demand for family planning and a higher unmet need than currently married women. The total demand was 92%, while the level of unmet need was 27%. The most common methods used are the injectables at 26%. The contraceptive prevalence rate for the study area Ngong was 45.2% which was lower as compared to the national contraceptive prevalence rate which was at 58% (KDHS, 2014).

2.2 Contraceptive preference

Contraceptive preference is part of a dynamic process, not a discrete event and therefore difficult to pin down. It is influenced by the availability and supply of contraceptives over the choice to begin and to continue to use the contraceptives over a period of time (UNFPA, 2008). Globally FP programs have been fully backed, with World Health Organization giving directions by developing guidelines and evidence based approaches. WHO (2014) states that contraceptives use has increased from 54 % in 1990 to 63 % by the year 2007, through UNFPA to help guide the countries on the same.

In Africa it has risen from 17% to 28%, Asia 57% to 67% and 62 % to 72 % in Caribbean among WRA. Many countries have adopted different types of methods depending on their promotions by the national strategies. Female sterilizations remain the widely chosen methods, followed by IUCD (WHO, 2009). In Africa, the population growth had forced the countries to invest a lot in FP programs; developmental partners have in their own way supported the FP programs, because of the cyclic nature and the burdens of the outcome to the country. The lack of effective FP systems leads to high fertility rate which in turn lead to high maternal and infant mortality rate. African countries in the Sub-Sahara have adopted mostly short term methods of family planning, North of Sahara have invested a lot in IUCD at 37 % (Alhamdu, 2011).

Unmet need refers to number of sexually- active or married women who would like to delay childbearing or space births, but are not using birth control. According to the International Centre for Reproductive Health, the unmet need for limiting the number of children decreased from 9.2% to 7.5 % while unmet need for spacing decreased from 8.3% in 2014 to 8.2% in 2017. Kenya as a country has been slowly trying to increase its contraceptive prevalence rate with a population estimated to be 37.8 million, current growth rate of 2.9 % per annum and this is considered to be high (NRHS, 2009 -2015).

An example of family planning progress in Kenya is the Tupange project which was launched in 2011 in five cities and towns namely (Kakamega, Kisumu, Machakos, Mombasa, and Nairobi) as part of the Gates Foundation's Urban Reproductive Health Initiative. The five – year project used supply side and demand side components to promote the use of Long- acting reversible contraceptives which include intrauterine devices IUDs and implants, in urban areas. The supply- side strategies include physician training and supply chain improvement, while demand- side strategies aimed to increase awareness and dispel misconceptions through educational materials. LARCs are more effective than many common contraceptive methods including oral contraceptive pills, and injectable. They are also more cost- effective than oral contraceptive pills or condoms (Blumenthal *et al.*, 2011). However, there are disadvantages to LARC methods namely; they require a trained health provider for insertion and removal. It may be difficult for women, especially those in rural areas, to access LARC methods because misconceptions and negative perceptions are very common. The most common misconception around LARC s is that they pose a high risk of infection and permanent infertility (Blumenthal *et al.*, 2011). The CPR nationally stands at 58 % with injectable, pills and female sterilization being the commonly used methods. The country has 20 % of unmet FP need in rural and 13% in urban areas with the poorer women being the most disadvantaged. This represents a major reproductive challenge to any policy maker and the country in general (KDHS, 2014).

2.3 Emerging issues in family planning

Promotion of family planning and ensuring access to preferred contraceptive methods for women and couples is essential to securing the well-being and autonomy of women, while supporting the health and development of communities. A woman's ability to choose if and when to become pregnant, has a direct impact on her health and well-being. According to (WHO, 2014) family planning allows spacing of pregnancies and can delay pregnancies in young women at increased risk of health problems and death from early childbearing. It prevents unintended pregnancies, including those of older women who face increased risks related to pregnancy. Family planning enables women who wish to limit the size of their families to do so. Women who have more than 4 children are at an increased risk of maternal mortality. By reducing rates of unintended pregnancies, family planning also reduces the need for unsafe abortion. Family planning can prevent closely spaced and ill-timed pregnancies and births, which contribute to some of the world's highest infant mortality rates. Infants of mothers who die as a result of giving birth also have a greater risk of death and poor health (WHO, 2015).

Family planning reduces the risk of unintended pregnancies among women living with HIV, resulting in fewer infected babies and orphans. In addition, male and female condoms provide dual protection against unintended pregnancies and against STIs including HIV. Family planning enables women to make informed choices about their sexual and reproductive health. Family planning represents an opportunity for women to pursue additional education and participate in public life, including paid employment in non-family organizations. Additionally, having smaller families allows parents to invest more in each child. Children with fewer siblings tend to stay in school longer than those with many siblings. Pregnant adolescents are more likely to have preterm or low birth-weight babies. Babies born to adolescents have higher rates of neonatal mortality. Many adolescent girls who become pregnant have to leave school. This has long-term implications for them as individuals, their families and communities. Family planning is critical to slowing unsustainable population growth and the resulting negative impacts on the economy, environment, national and regional development efforts (WHO, 2015).

2.4 Factors Associated with Uptake of Contraceptives

2.4.1 Age of women

An American study found that those who began having sex at young ages were less likely to use contraception, and tend to engage in higher risk sexual behaviors such as alcohol or drug use prior to sexual intercourse (Moore *et al.*, 2008). A research in the United Kingdom found that, sex at an early age is compounded by lack of knowledge, lack of access to contraception, lack of skills and self-efficacy to negotiate contraception, or inadequate self-efficacy to resist pressure (Tripp, 2005). In a study by Noreen *et al.*, (2018) contraceptive use decreases with age. This shows that as fertility decreases with progression in age trend of contraceptive usages also declines. Consistent increase in contraceptive usages in age between 20- 34 years indicates that women of reproductive age group are more concern to use contraceptives. This type of relationship between age and contraceptive use has been observed in previous studies (Osmani *et al.*, 2015). The reason documented was that with advancing age rate of unintended pregnancies also decreases and another reason of decline is fear of adverse health outcomes (Solanke, 2017).

According to MDHS (2004) it was observed that women who were 35years and above about 53 to 70% were the ones utilizing modern contraceptives more than other age groups. The critical issue of this finding was that the younger the woman the less likely to use contraceptive as compared to the older ones. According to KDHS (2003) unmet contraceptive need in Kenya was highest among women younger than 35 years and declines thereafter. Kinaro (2013) in a study on perception and barriers to contraceptive use among adolescents observed that contraceptive use increased with age. Total demand increase for family planning varies by background characteristics. Total demand increase with age peaking at 35-39 years after which it declines (KDHS, 2014). Consequently, the age- specific fertility rate among adolescents age (15-19) years in Kenya is 103 per 1000 women. As a result, the contraceptive prevalence rate for any

method of contraception among unmarried sexually active adolescent girls aged (15-19) years in Kenya is 23% (KNBS and ICF Macro, 2010)

2.4.2 Religion

In study done by Najafi (2013) in Pakistan, Muslim wives in comparison to the non-Muslim wives were noted to have more children because of their religion which does not allow the use of contraceptives and culture which encourage women to give birth to as many children as possible. Therefore, it was observed that Muslim women are more likely to desire additional children and less likely to be using contraception when they desire no more children. In a study done in the City slums in Kenya revealed that Catholic faithful's utilization of contraceptives was lower compared to the Protestants. This is because Catholics faithful's discourage their followers from using contraceptives as birth control measures. Catholics are instead encouraged to rely more on observation of menstruation cycles and natural safe days of a woman (Wawire *et al.*, 2011).

2.4.3 Marital status

In a study done in two rural provinces in Cambodia on women 15-49 years on factors influencing decision- making on contraceptive use observed that women whose husbands had positive attitude towards contraceptives were more likely to use them than those who did not have spouse support (Samandari *et al.*, 2010). According to Kayongo (2013) in her study on factors that influence uptake of contraceptives among the youth in Busia District in Uganda observed that majority of the sexually active youth's contraceptive use was influenced by marital status and therefore to improve uptake, marital status has to be considered.

2.4.4 Knowledge and awareness of Family planning

According to Van Damme *et al.*, (2008) in a research done in Madagascar on gaps in knowledge on the range of available contraceptive methods, misinformation and fear of side effects and misconception were cited as reason for non-use of contraception. The

study revealed that most women particularly adolescent lacked knowledge of reproductive organs physiology and contraceptive methods. In a study done by Lawrence (2002) in Malawi to identify the barriers to use and access to FP methods, it was revealed that although respondents were able to mention a range of contraceptive methods, deeper knowledge about the use and side effects of methods was poor. Knowledge of methods is a prerequisite for making a decision to initiate contraceptive use. Nangendo (2012) in a study done in Western Yimbo division Bondo district in Western Kenya lack of FP knowledge was reported to be one of the main barriers to utilization of contraceptives among women of reproductive age in Sub-Saharan Africa. In this study again most of the respondents used FP methods but their use on specific methods was not consistent. Many of the women were not aware of a number of modern birth control methods. As result of lack of knowledge, women perceived several negative side effects.

Knowledge of modern contraceptives is a necessary precondition for use of any family planning services. Studies have shown that knowledge of contraceptives is associated with its uptake. The findings in a study done by Katherine et al (2011) which focused on women's knowledge on IUD, found out that most respondents had heard of IUD and were aware of its use in preventing pregnancy and this was associated with uptake of the device. In sub-Saharan Africa, where knowledge of all methods is reported to be low, the IUD is less known than any other method and this had led to its low use. (Amy et al, 2006). According to May et al (2011) knowledge of the IUD in many countries was relatively high compared to knowledge of any modern method but the key barrier hampering demand at the consumer level was the prevalence of misinformation and frightening negative myths and misconception about its use, combined with a lack of knowledge about the method's benefits. Health providers play a major role in creating awareness and giving objective information on contraceptive method which results to increased uptake.

Women who have misconceptions about the method are not likely to use it and usually clients have many misconceptions, fears and rumors about a method and its side effects.

Rumors are unconfirmed stories that are transferred from one person to another by word of mouth and a misconception is a mistaken interpretation of ideas or information. The significance of these misconceptions should not be underestimated, as they prompt many clients to choose less effective methods. Fears and concerns about perforation, insertion and infertility in case of Intrauterine device have also been found in various studies (Asker et al, 2006). In a study by Amna and Shaikh (2013), most family planning clients who had never used an IUD reported a negative impression of the method, mainly because of fear resulting from rumors and myths they had heard. Some of this myths and rumors includes “IUD can cause infertility, offensive discharge, irritation of the genital area, lead to painful intercourse, can shift (become displaced) resulting in pregnancy, “Can fail and one can get pregnant even with the IUD in place and that the device can burn the womb”. Fears and misconceptions cited include fear of design.” “The metal in the middle is scary.” “It can hurt you.” “It is like a broom; it can hurt you during sex.” “It is a wire which may rust and destroy you and fear that it causes bleeding” (Gutin et al, 2011).

2.4.5 Social - cultural beliefs and attitudes

Yee & Simon (2010) social network including friends, mothers and partners were key sources of contraception myths, misconception and vicarious experiences. It was established that information relayed by the social networks had a direct influence on contraceptive decision for many women. According to Nielsen (2012), socio- cultural issues such as status in relationship with partners and the importance of virginity, problems talking about sexual issues and contraception being taboo were reported to affect utilization of contraceptive uptake. Cultural, socioeconomic, and physical norms are identified as prominent obstacles of young people for utilizing sexual and reproductive health services (Regmi *et al.*, 2010). In Cambodia, women who believed that their husbands had a positive attitude towards contraception showed more successful contraceptive practice while women who were nervous about discussing about contraception with their husband were less likely to use the contraceptive method. In South Asia, apart from husbands the role of peers, mother in law, and elders in

contraceptive decision making is well documented (Samandari *et al.*, 2010). Lawrence (2002) in another study done in Malawi established that women reported male disapproval as barrier to use of contraception. Community elders also were reported to discourage contraceptive use among couples hence also acted as hindrance to contraceptives use. Pakistan Demographic and Health Survey key findings on various socio- cultural factors like in laws opposition/ husband opposition is also strong contributory factor of unmet need similar trend is also observed in previous research (Mustafa *et al.*,2015). According to Casterline *et al.*, (2001) in a study conducted on Punjabi women influence of husband and mother in laws in decision making on contraceptives affected the perception of the women as they would have conflict with their husbands' attitude towards fertility and it is not accepted socially and culturally.

2.4.6 Service provider factors

According to Wawire *et al.*, (2011) women perception in terms of facility provider factors such as quality, friendliness of staff and promotion may enhance contraceptive use. When the women are given proper attention they will be encouraged to return back to the same facility for contraceptives. According to Speizer *et al.*, (2015) where client/ provider relations are affected the effect was low contraceptive uptake in the facility involved. A study done in Kenya established that deficiencies in provider competence as well as relations between providers and client contribute to unmet need of family planning. Occasional absences of service providers during normal facility hours and requests of informal fees for services, was a hindrance to contraceptive use.

Friendliness of family planning staff had a marginal effect, implying that the likelihood of respondents using family planning services was higher if staff were friendly than when they were not. On quality of family planning services, the women using the service were higher for the women who perceived the services to be high quality than those who perceived otherwise. The positive impact of quality of the service is given a high consideration as supported by the theory where taste and preference is an important factor in making demand decision (Wawire *et al.*, 2011). According to KDHS (2014)

health care providers often lack training on more effective and less expensive family planning methods such as implants and intrauterine contraceptive devices (IUCDs).

2.4.7 Facility related factor

A study done in Brazil showed that unplanned pregnancies among adolescent happen despite the best of contraceptive intention. The effectiveness of adolescent pregnancy prevention programs remains below desired levels. Adolescent success in avoiding pregnancy often depends on having access to contraceptive information, method and services (Gomes, 2008).

According to Richter *et al.*, (2005), transport remains the major problem to access of modern contraceptives. The distance is far to the health facility such that most women of reproductive age are not able to reach for contraceptives. In a study done by West Off (2006) in some parts of Sub- Saharan Africa lack of access is a major reason for not using modern contraceptives due to supply problems as a result of the distance to the source. Out of stock of the contraceptives was also identified as a barrier to contraceptive use as a result of inaccessibility to health facilities.

According to UNFPA (2014), donor funding declined when Kenya was elevated to a middle- income country which saw donor contribution to family planning reduced from \$7 million to \$1 million. Counties are not investing much in family planning hence putting so much pressure on their availability and the operations of the sector, noting that family planning commodities were competing with other budgetary allocation, making it difficult to fill the gap. According to Wawire *et al.*, (2011) proximity of family planning services provider had a marginal effect implying that the further away from the family planning service provider, the lower the likelihood of seeking the services. The negative impact of distance from the service provider could be attributed to the fact that when the provider is far away from the woman, there is bound to be some imbedded costs in terms of transport as well as waiting and travelling time.

2.4.8 Level of Education

According to Noreen (2017) unmet needs are higher in women with level of education till primary and below and women with better education status are more likely to use contraceptives. Reason being that better education provides more information and also improves accessibility to family planning services. Women with better education status are more professionally engaged and trend of contraceptive usage is more as they want to limit family size because of their professional commitments (Saleem *et al.*, 2005). There is an association between high level of education and small family size. Women education can reduce fertility rate by 0.3-0.5 children per women (Abu- Ghaida *et al.*, 2004). Education has a positive effect on the use of contraceptives in young people as shown in the fact that between 15-24 years. and condoms are 53.7% compared to 5.3% among young people without training in Kenya (Kabiru &Orpinas, 2009).

2.5 Conceptual Framework

(The study was based on several factors as illustrated in figure 2.1.). Some of the socio-demographic factors that were associated with uptake of contraceptives were age, marital status, occupation and level of education. On contraceptive preference the most popular and unpopular methods were identified. Awareness and knowledge of contraceptive was seen also to affect the uptake of FP. Other factors identified were provider and client related, cultural beliefs and religion. The above factors acted as barriers and drivers affecting the demand and supply of contraceptives.

Independent variables

Dependent variables

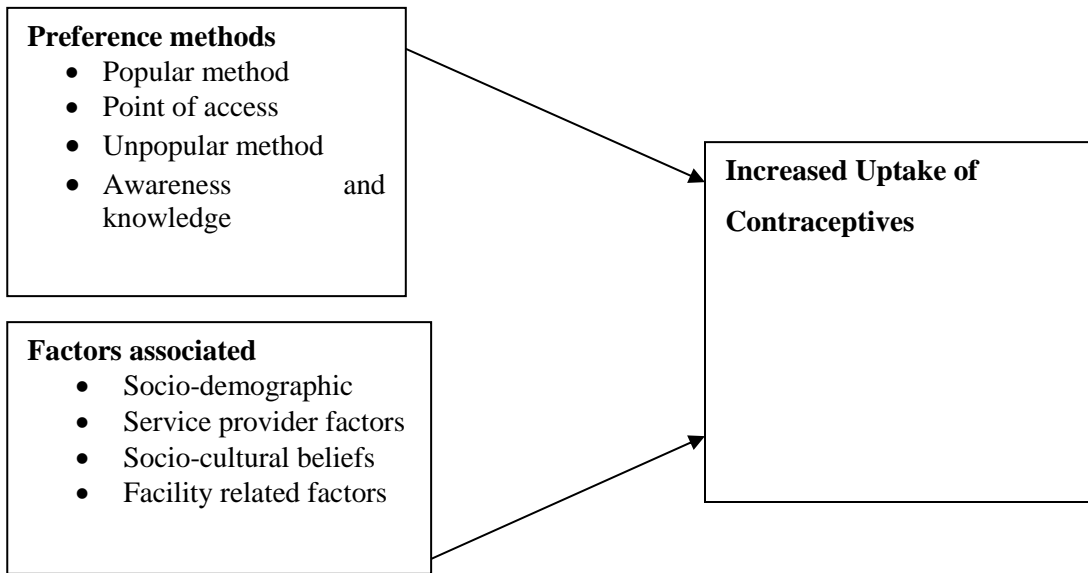


Figure 2.1: Conceptual Framework Source: Author Year: 2019

CHAPTER THREE

MATERIALS AND METHODS

3.1 Study Site

This study was carried out in Ngong Sub-County Hospital. It is situated in Kajiado North Constituency Kajiado County. It is in a town called Ngong. Ngong is a town near the Ngong hills along the Great Rift Valley. It is located in the south west of Nairobi in Southern Kenya. According to the Kenya National Bureau of Statistics and ICF Macro (2010) the general population of Ngong was estimated to be about 185,000 people. Ngong is a cosmopolitan town. The primary resources of income in the study area are livestock and agricultural initiatives. The livestock kept by the community include dairy and beef cattle, poultry, sheep and goats. Most of the cash crops in Ngong include maize which is used for both subsistence and commercial purposes. Tomatoes and other fruits like mangoes, oranges as well as vegetables are key cash crops in the community. Ngong sub-county hospital is one of the public health facilities in Kajiado North Constituency. According to KDHS (2014) the contraceptive prevalence rate in Kajiado county stands at 45.2% compared to the national which 58%.

3.2 Study Design

The study adopted a hospital based descriptive cross-sectional study using both quantitative and qualitative data collection techniques. The use of mixed methods increased the breadth and depth of understanding the research questions and offsetting each methods weakness. Qualitative data gave more information and grounding quantitative data findings (Wisdom and Creswell, 2013).

3.3 Study population

The study group was women of reproductive age between (15 - 49) years who attended maternal child health clinic (MCH) and the Outpatient Department at Ngong sub-County

Hospital in Kajiado County during the time of study. There were two Focus Group Discussions conducted on women aged (18-25) and (26-49) years.

3.4 Study Criteria

3.4.1 Inclusion criteria

The characteristics that the subjects had to have to be included in the study were;

1. Women who gave informed consent to participate in the study.
2. Women seeking maternal child health clinic (MCH) and Outpatient Department services at the Ngong sub- County during the study period.

3.4.2 Exclusion criteria:

The characteristics that disqualified prospective participants from the study even though they met the inclusion criteria were;

1. Women who were unwilling to participate due to their health condition at the outpatient department.
2. Women who were being attended to by a health worker at both the Outpatient department and maternal child health clinic.

3.5 Sampling procedure

According to the hospital records the MCH clinic was attended by an average of 40 mothers per day. The clinic operated five days in a week and therefore 200 clients per a week and 800 clients per month. There were a total of 1600 clients for the two months the study was conducted. The sample interval was 1600 divided by the sample size of 380 making it 4. Simple random sampling to pick the first participant from among the first 4 mothers. Systemic sampling was applied where every 4th client was sampled. If

the sampled mother did not meet the inclusion criteria or withdrew midway the next client was sampled.

3.6 Sample size determination

The required sample size was calculated using the percentage of contraceptive prevalence of the area under study which was 45.2 % (KDHS, 2014). The latest population of Ngong location is not known and so is the number of women aged between 15- 49 years.

The sample size was calculated based on Fisher's, (1998) as follows

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

Where n = maximum desired sample size

z = standard normal deviation set at 1.96, which corresponds with 95% CI

p = proportion of the target population estimated to using contraceptives (45.2% = 0.452)

d = Minimum error (degree of accuracy desired) set at 0.05

q = the proportion of the remaining population (1-P)

$$q = 1 - 0.452 = 0.548$$

$$n = \frac{1.96^2 \times 0.452 \times 0.548}{0.05^2} = 380$$

Desired sample size (n) was **380** women.

3.7 Data collection

Quantitative data was obtained through a structured questionnaire administered to selected mothers at the MCH clinic and outpatient department. The question was designed in English and administered by the researcher and/or trained researcher assistants. The pretest of the questionnaire was done a week before, where it was fine tuned to the final version. Apart of the waiting bay was set aside for the purpose of data collection to ensure privacy and confidentiality. Research assistants were trained and aided in data collection before commencement of the study. Two Focus Group Discussions were conducted among women aged (18 – 25) and (26 – 49) years to explore further the awareness, preference and factors associated with utilization of contraceptives. Each group comprised of 12 women. A guide was used on the various themes for example contraceptive preferences and factors associated with uptake of contraceptives. The researcher moderated the discussions while two research assistants helped in tape recording and taking notes as backups. After the second focus group discussion the principal researcher noted that the discussion had reached a saturation point (no new information was coming up) and therefore felt the two focus group discussions were satisfactory.

3.8 Data processing and Analysis

Qualitative data among women of reproductive age 18-49 years were subjected to a thematic content analysis. This approach entailed categorization of recurrent data collected under thematic areas (Green & Thorogood, 2010). Data was transcribed; translated into Codes (numbers) and entered on various themes (variables). The coding process was done after data had been entered into a computer according to its respective source. In the process of entering data into a computer, a template form was created and information was arranged according to the identified themes. From the themes generalizations were formulated. Differences were noted. The findings were presented in verbatim form.

Quantitative data was analyzed using SPSS version 23 software, Microsoft word and Excel. In descriptive statistics frequency (%) tables, measures of central tendency, standard deviation and pie charts were used to express quantitative data. In bivariate analyses, Odds ratio (OR) at 95% confidence interval (CI) was used for association between utilization of contraceptive, contraceptive preference methods and factors associated with utilization of contraceptive. Chi- square was also done to determine associations of the various variables at the significance level of $P \leq 0.05$.

3.8.1 Validity

A pre-test was done in a similar group to ensure completeness, coherence and accuracy of the data collection tools. The questions used were standardized and closed ended where appropriate to ensure that the responses were guided.

3.8.2 Reliability

Research assistants were trained and supervised to ensure they administered the questionnaires correctly and consistently during pretesting of tools and during data collection. Data handling and cleaning was done daily and errors were corrected immediately.

3.9 Ethical considerations

Ethical approval was sought from the Kenyatta National Hospital/University of Nairobi Ethical Review committee (KNH/UoN/ERC Ref.no. P689/10/2016). Courtesy calls and permission was sought to access the facility and use patients before undertaking the study at Ngong sub – county hospital from the County public service board and Medical Superintendent of the hospital. Informed consent from eligible respondents was sought and only those who gave consent were included in the study. For those women who were 15-17 years' consent was sought from their parents/ guardian. Throughout this study, privacy and confidentiality was emphasized. All data was collected in a private setting. Confidentiality was assured by use of identifiers and restriction of raw data to

only the principal researcher. After the data had been entered a password was employed to secure data.

Confidentiality of the respondent was assured and maintained throughout the study period. The respondents were informed that no names were required; no one was to know of their participation and the answers given in the interview. The respondents were informed that in case there was anything that would need attention, consent was to be sought before revealing any information. Permission and consent was sought from participants to use tape recorder.

CHAPTER FOUR

RESULTS

4.1 Socio demographic characteristics of respondents

A total of 380 women attending Ngong sub-county hospital were interviewed and filled questionnaires adequately. By religion this population consisted of (78%) Christians and (19%) Muslims. The mean age was 34.6 (\pm SD 5.2) years. Most of them were married, unemployed and had attained at least secondary school education (**Table 4.1**).

Table 4.1: Socio demographic characteristics of the respondents

Variable	Frequency	Percentage
PAge category (n=380)		
15-25	112	30
26-35	183	48
36-45	72	19
46-49	13	3
Marital status (n=380)		
Single	51	13
Married	267	70
Separated	36	9
Divorced	13	3
Widowed	13	3
Occupation (n=380)		
Small-scale business	145	38
Farmer	117	31
Civil servant	98	26
Others	20	5
Education level (n=380)		
No formal education	4	1
Primary	70	19
Secondary	180	47
College/ University	126	33
Religion (n=380)		
Protestants	195	51
Muslim	72	19
Catholics	102	27
Other	11	3
Income source (n=380)		
Salary	80	21
Farm Produce	100	26
Small-scale business	154	41
Others	46	12

Qualitative data was obtained through two focus group discussions conducted amongst women aged between 18-25 and 26-49 years who were randomly selected. Each group comprised of twelve women. The following were the themes; awareness of contraceptive methods, method of preference, reasons of non-preference, source of information and reasons for discontinuation of contraceptive use among respondents. Most of the women were married at (58%), unemployed at (50%) and had attained

secondary education at (42%). Most of the women were between the ages of 35-39 years. FGD participants were serialized on identity 1-24. The FGD participant's age distribution was not significant as older women were likely to be mature and more experienced.

4.2 Contraceptive proportion

80% of the respondents were on contraceptives however (20%) of women were not using any contraceptives method as shown in the table below (**Table 4.2**). The same was also reflected in the two focus group discussions where more than half of the women were using contraceptives.

Table 4.2: Proportion of contraceptive use

Variable	Frequency	Percent (%)
Contraceptive use (n=380)		
Yes	304	80
No	76	20

There was no significant association between religion and marital status of the respondents with their contraceptive current use $p= 0.096$ and 0.597 respectively. A significant association was found with age, education level and occupation of the respondents at $p= 0.004$; 0.01 and 0.001 respectively. The educated and employed were likely to be using contraceptives as compared to the uneducated and unemployed (**Table 4.3**).

Table 4.3: Relationship between contraceptive use and socio demographic factors

Variable	Use	Non Use	Statistical Test
Age			
15-25	50 (13.2%)	31(8.2%)	X ² ;10249;3df,P<0.05
26-35	84 (22.1%)	56 (14.7%)	(0.004)
36-45	60 (15.8%)	22 (5.8%)	
46-49	47 (12.4%)	30 (7.9%)	
Level of education			
Secondary and above	252 (66.3%)	44 (11.6%)	X ² ;9267;1df,P<0.05
Primary and below	68 (18%)	16 (4.2%)	(0.010)
Marital status			
Single	63 (16.6%)	100 (26.3%)	X ² ; 1881;2df,P>0.05
Married	110 (28.9%)	78 (20.5%)	(0.597)
Separated	19 (5%)	10 (2.6%)	
Occupation			
Employed	184 (48.4%)	13 (3.4%)	X ² ;14.368;1df,P<0.05
Un-employed	100 (26.3%)	83 (21.8%)	(0.001)
Religion			
Christian	249 (65.5%)	48 (12.6%)	X ² 3.085;1df,P>0.05
Muslim	21 (5.5%)	62 (16.3%)	(0.096)

4.2.1 Point of access to contraceptives

73% of those on contraceptives accessed it from the hospital however (20%) of them accessed the services from private clinics and a few of them (5%) from Pharmacies **(Figure 4.1)**.

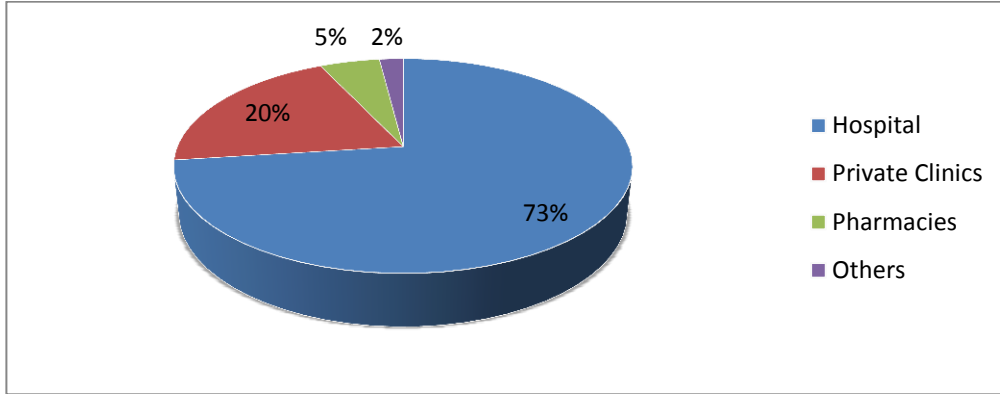


Figure 4.1: Contraceptive access point

4.2.2 Awareness and knowledge of the various contraceptives

80% of the respondents were aware of the various contraceptives methods. However, 15% of them were unaware and 5% were not sure.

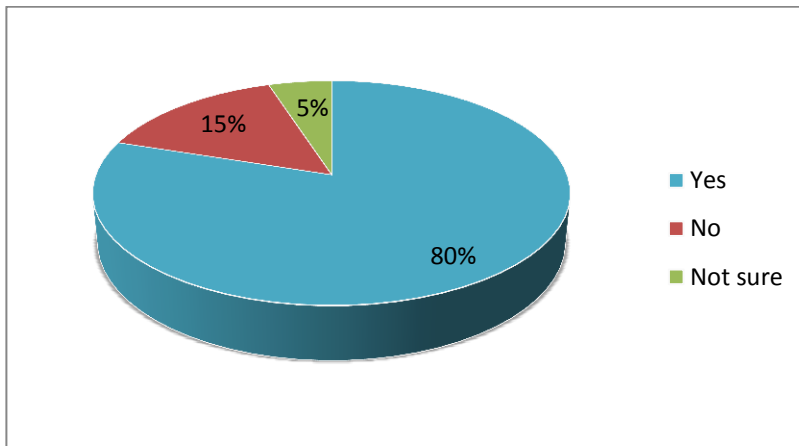


Figure 4.2: Awareness and knowledge of various contraceptive methods

From the two focus group discussions more than half of the women were using contraceptives. Most of the participants were able to cite at least three to four existing methods that they knew of or they had used. The various methods included pills,

injectables, IUCD, Implants and condoms. However, there were a few who were unable to cite any contraceptive method. A few of women that had no clue of any method however data was able to show that they had not attended school or they reached primary level of education. Majority of them were married. This would probably mean either their partners had no clue also or they did not advocate for any family planning method. It is important for both the married and single to use contraceptive because for the married, it helps in the spacing of children while for the single they may still be in school and it helps them prevent unwanted pregnancies thereby staying longer at school and finishing their studies. On completion of their studies they will be able to make informed choices over their life. They will also be in a position to seek better jobs there by empowering them financially giving them power to negotiate on sex issues. One of the participants in the FGD noted;

“Sisi tunajua njia ya dawa ya kumeza, sindano, coil, na mpira.” (Most of the women were able to cite Pills, Depo provera, condoms and IUCD as methods of family planning).

4.2.3 Benefits of Contraceptive use.

40% of the respondents cited benefit of using contraceptives as a means of improving children’s health and 35% of them recognized contraceptive use improved woman’s health and 15% cited improvement of economic status of the family as shown in the below (**Figure 4.3**).

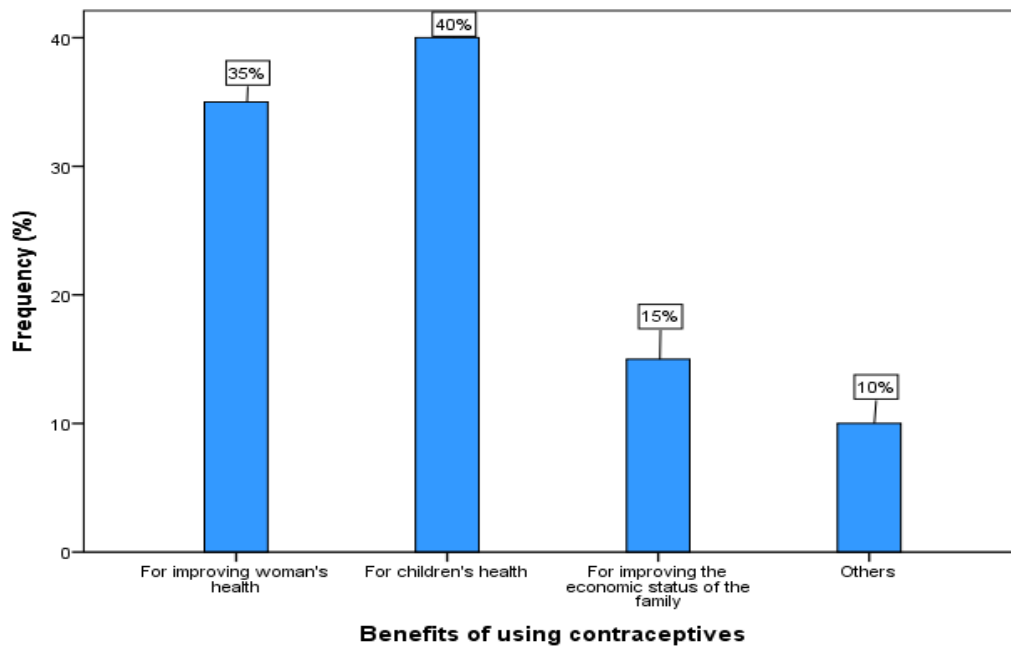


Figure 4.3: Benefits of using contraceptives.

4.2.4 Source of information

64% of those who were using contraceptives had gotten the information from the health workers while 18% got from mass media and 10% from neighbor/friends as shown in the figure below (**Figure 4.4**).

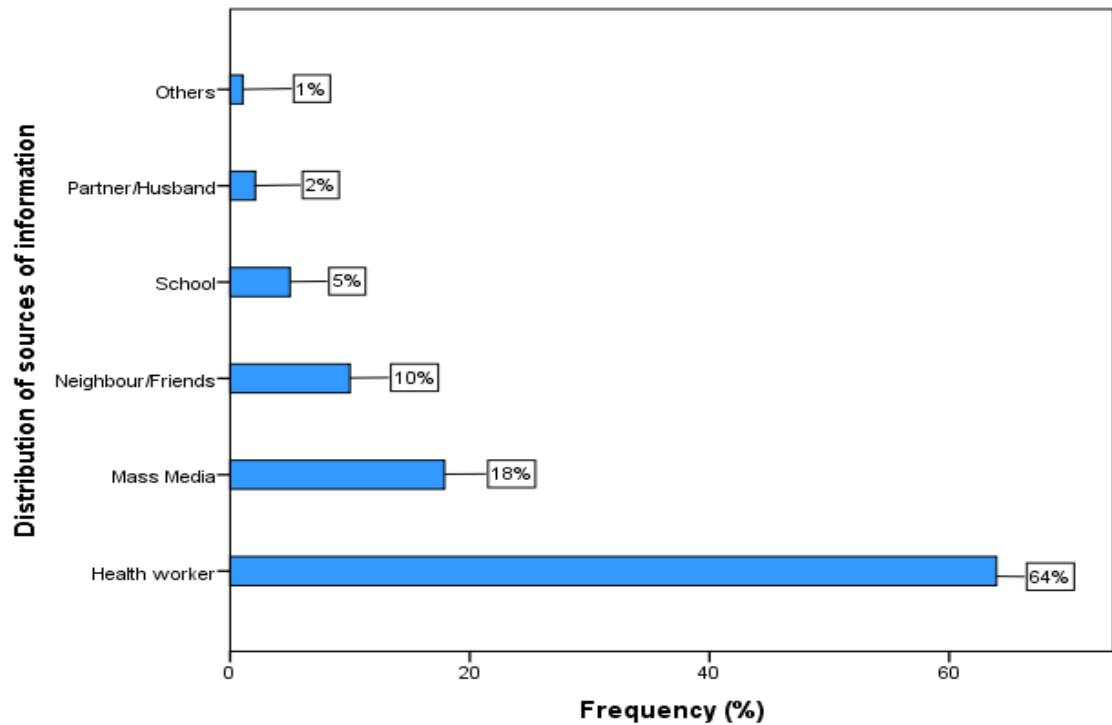


Figure 4.4: Information source

The respondents on both FGDs agreed to have gotten contraceptive information from government health facilities. A few of them received the information from friends, media and community members. The respondents suggested that health workers should take more time to explain to them about various methods available which includes their action and side effects. One of the respondents observed;

“Wamama weingi huja hapa kwa huduma ya upangaji wa uzazi kwa sababu daktari wanaelezea njia mwafaka inayokufaa. ” (Most women in this place prefer government facilities because they counsel the client on the methods available).

4.2.5 Community acceptance to contraceptive use

61% of the community accepted contraceptive use however (39%) did not embrace contraceptive use (Table 4.4).

Table 4.4: Community acceptance

Variable	Frequency	Percent
Community acceptance		
Yes	232	61
No	148	39

4.2.6 Reasons for community disapproval

Major reasons for disapproval of contraceptive among the community was because it was viewed as being against religious beliefs at (76%) while a few (10%) thought it was like killing babies and 5% viewed children as a sign of wealth (Figure 4.5).

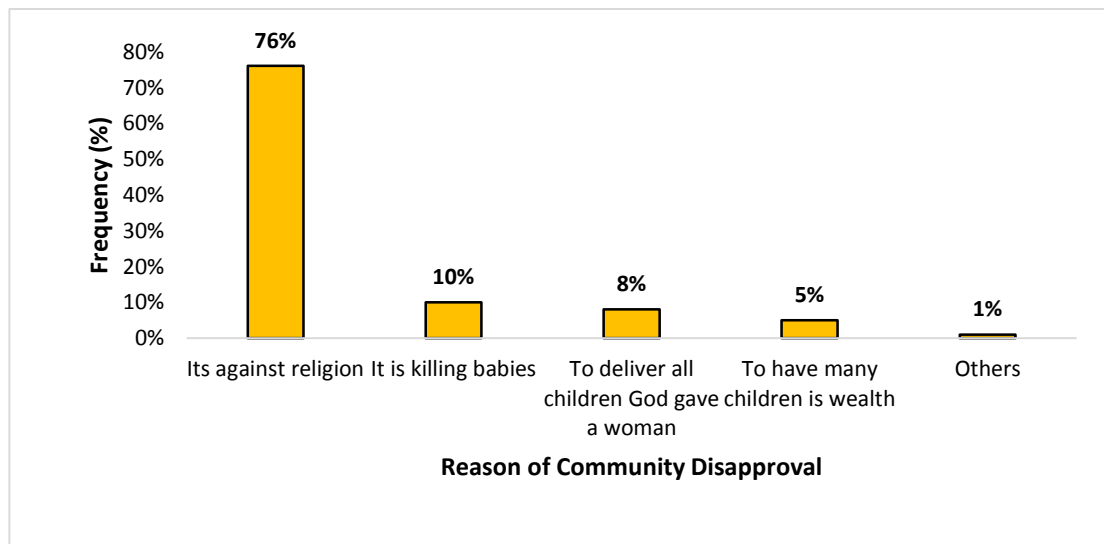


Figure 4.5: Reason for community disapproval

4.3 Preference of contraceptive in use

61% of women on contraceptives used Depo provera injection. 20% used Norplant which was double more than IUCD at 10% (**Figure 4.6**).

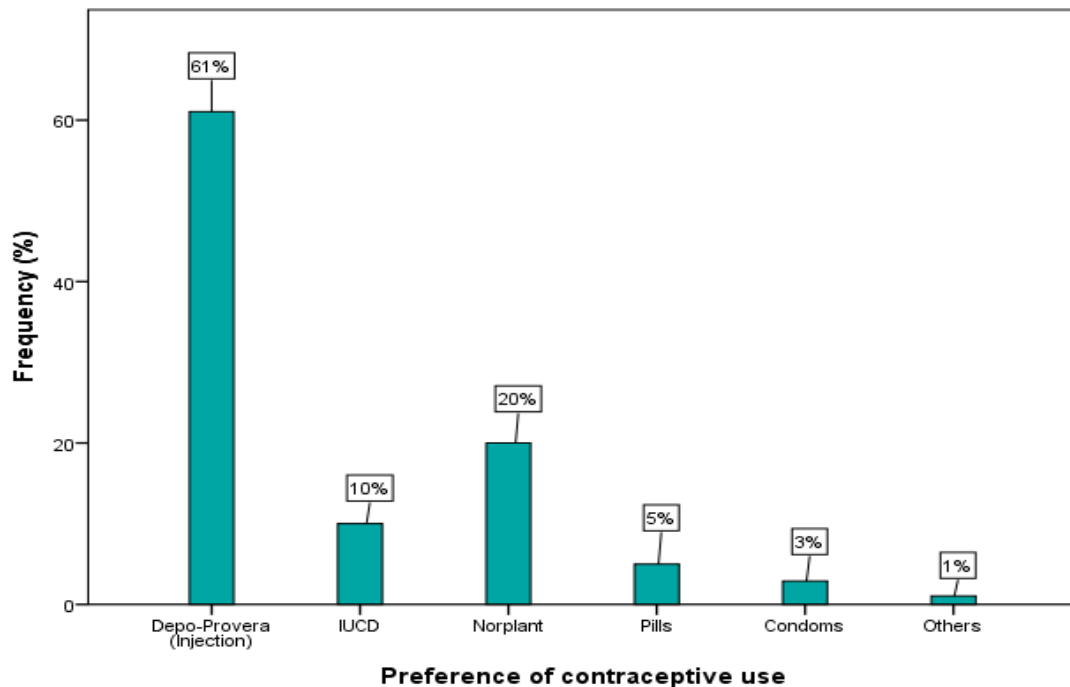


Figure 4.6: Preference of contraceptive use

On the FGDs the respondents preferred injectables mainly Depo-provera. The reasons given mostly were that it takes short time and it is not a long procedure unlike the IUCD. Depo provera also acts for three months and hence were able to be psychologically relaxed when having sexual intercourse with their spouses without the fear of pregnancy and also able to focus on economic activities to improve their livelihood. The injection can also be stopped without seeking help when they want to be pregnant. For the respondents whose spouses dislike family planning methods, Depo provera is discrete and the spouses may never know whether they use any family planning methods. One of the participants noted;

“*Depo provera haichukui muda na Bwana yangu hawezi kujua kama na tumia dawa ya kupanga uzazi.*” (Depo provera does not take a lot of time and my husband is not able to know that I am using contraceptives).

4.3.1 Type of contraceptives based on socio-demographic factors

Depo provera injection was the common contraceptive method used among the married business Christian women aged 36-45 years with secondary education. Distribution of other types of contraceptive within socio-demographic factors was as it is tabulated below (Table 4.5).

Table 4.5: Contraceptive type based on socio-demographic factors

Variable	Injection	IUCD	Norplant	Pills	Condoms
Marital status					
Single	35	24	17	14	17
Married	50	6	20	35	47
Divorced	20	5	3	26	20
Widowed	2	5	3	5	6
Occupation status					
Business	40	11	25	26	17
Farmer	10	15	10	14	25
Civil servant	25	14	20	31	33
Other	20	5	15	9	15
Education level					
No formal education	29	4	0	2	0
Primary	11	8	22	20	10
Secondary	50	34	14	50	30
College / university	7	14	24	23	30
Religion					
Christian	78	50	42	64	80
Muslim	22	0	12	12	20
Age group					
15-25	22	23	19	20	5
26-35	26	30	30	32	17
36-45	12	20	30	20	15
46-49	10	14	9	16	10

4.3.2 Spouse awareness on contraceptive use

75% of the partners to the women on contraceptives was aware about the use of contraceptive by their wives however 25% were not (Table 4.6).

Table 4.6: Spouse awareness on contraceptive use

Variable	Frequency	Percent
Spouse Awareness		
Yes	284	75
No	96	25

There was no significant association between the age, education and religion of the respondent with awareness of spouse on contraceptive use but a significant association was found with occupation and marital status of the respondent. The married and unemployed are likely to have their spouses aware of their contraceptive use as compared to the married and employed women (**Table 4.7**).

Table 4.7: Relationship between spouse awareness and contraceptive use

Variable	Aware	Not Aware	OR	95% CI	P-value	
Age			1.363	0.844	2.200	0.205
15-25	80	32	1.171	0.925	1.483	
26 - 35	140	43	0.682	0.299	1.552	
36- 49	42	43	0.859	0.673	1.097	
Level of education			1.177	0.648	2.143	0.590
Secondary and above	79	225	1.031	0.924	1.151	
Primary and below	19	57	0.876	0.537	1.430	
Marital status			2.480	1.528	4.026	0.025
Single	43	70	1.817	1.345	2.456	
Married	53	214	0.733	0.605	0.888	
Occupation			3.175	1.724	5.845	0.04
Employed	90	27	2.619	1.593	4.308	
Unemployed	70	193	0.825	0.728	0.935	
Religion			0.874	0.501	1.524	0.063
Christian	224	83	0.971	0.856	1.101	
Muslim	24	48	1.111	0.722	1.709	

4.3.3 Reason for spouse disapproval

54% agreed their spouses disliked the method used while (38%) of them wanted more children (5%) had the fear of side effects on the wife and 3% had no definite answers as shown in (Figure 4.7).

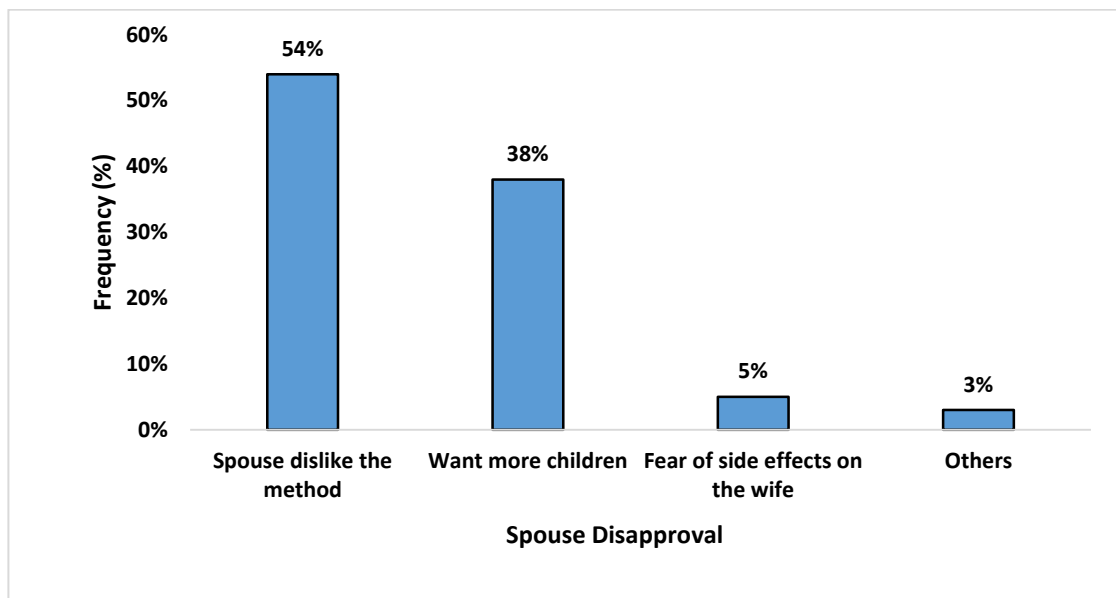


Figure 4.7: Reason for spouse disapproval

On the FGDs most of the study participants cited the need for more children, medical problems and fear of side effects as the main reasons for discontinuing contraceptive use. The women in the 18- 25 years were the majority in citing fear of side effects most probably because they are still young and for some of them they may be using contraceptive for the first time. The women in 26-49 years in the study showed that most of them discontinue contraceptive because of medical problems as many of them at this age have 3 or more children and lifestyle conditions may have been detected which they associate with contraceptive use. One of the respondents noted;

“Rafiki yangu alikuwa akitumia njia ya IUCD lakini damu yake ya mwezi ikazidi sana kama mwezi mzima mpaka ikabidi Daktari kuitoa.” (My friend used IUCD and her menses increased and took like a month until the doctor had the IUCD removed).

4.3.4 Decision on contraceptive use

Decision on contraceptive use was mostly made by the user herself at (55%) while (34%) decision was made by both the couple. Only (5%) was by the Husband (**Figure 4.8**).

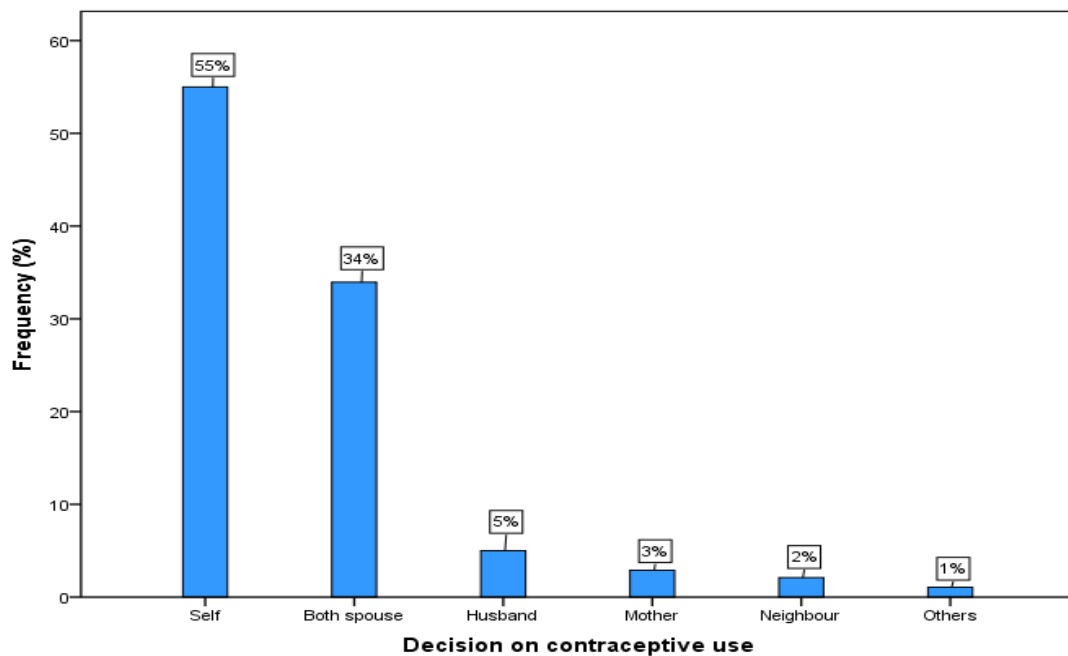


Figure 4.8: Decision on contraceptive use

4.3.5 Community non- preferred contraceptive

48% of the respondents disagreed with tubal ligation as a contraceptive method however (15%) did not embrace IUCD while (12%) did not prefer both Condoms and Norplant as methods as shown in (**Figure 4.9**).

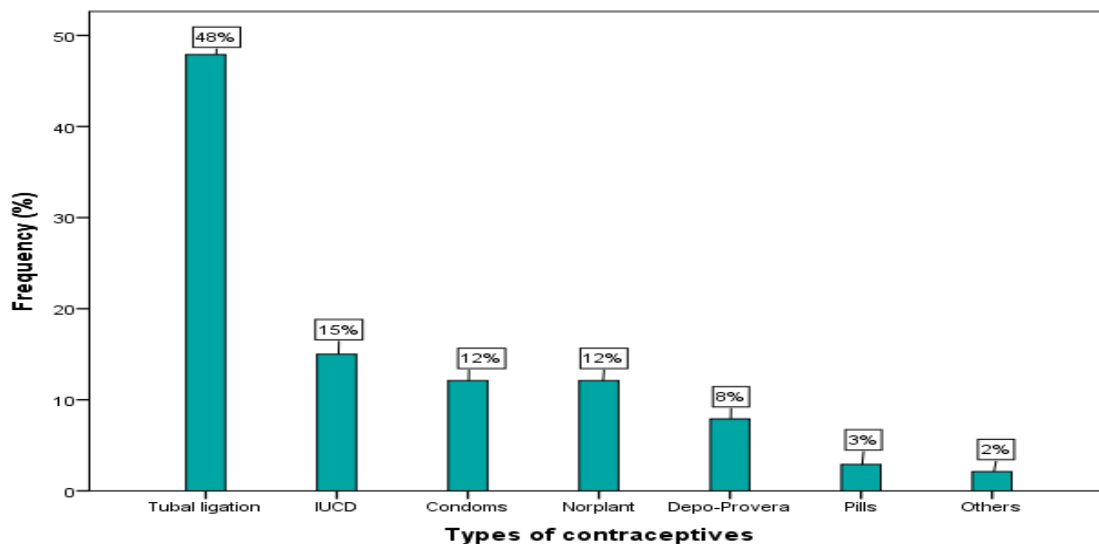


Figure 4.9: Community non- preferred contraceptive

Most of the respondents in the FGDs disagreed on the use of IUCD as a contraceptive method. They cited fear of side effects, misconceptions and myths as the main reasons. For example most of them cited increased abdominal cramps and headache while on the method. IUCD is not preferred as the insertion procedure is seen as invasive. There were several misconceptions mentioned like; the procedure may cause wound around their reproductive organs especially the uterus others cited disappearance of the IUCD during sexual intercourse. The women also said that implant move to other body parts from the insertion site. They expressed implant as interfering with their daily activities and hence the non-use of the long acting contraceptives.

4.4 Cultural practices affecting contraceptive use

50% practiced polygamy while (20%) embraced wife inheritance and (10%) religious beliefs inhibited them from embracing contraceptives and it was clear what 5% of them used. (Figure 4.10).

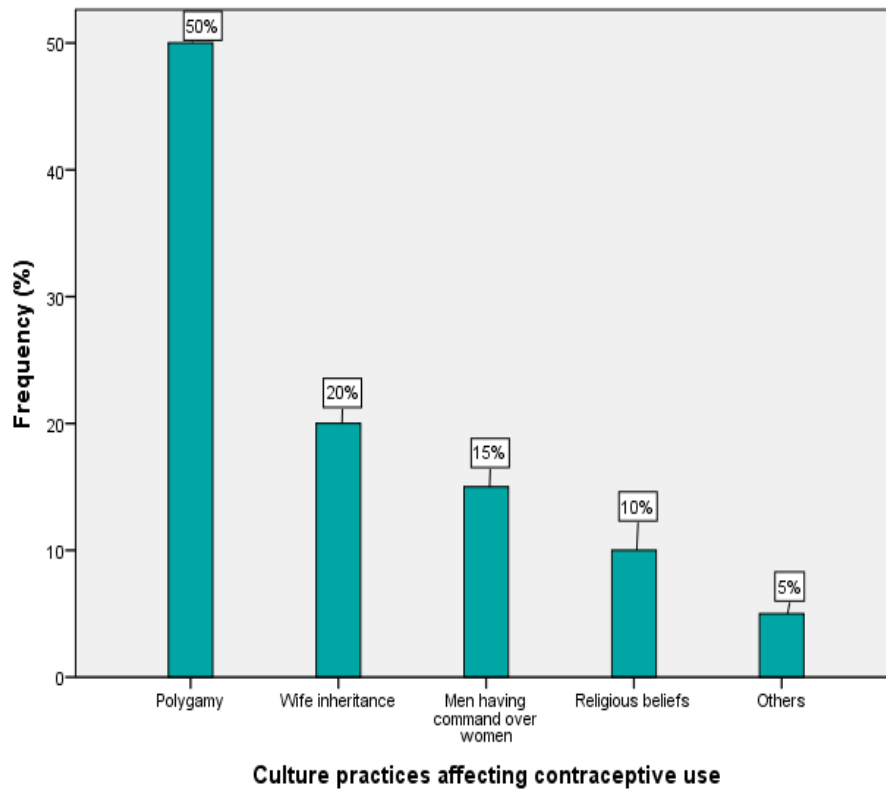


Figure 4.10: Culture practices affecting contraceptive use

4.4.1 Culture effect on contraceptive use

There was no significant association between marital status, religion, age of youngest child and desire for more children of the respondent with culture effect on contraceptive use but a significant association was found with education level, occupation and the age of the respondent. Women who were educated and employed were unlikely to have culture affect their contraceptive use. (Table 4.8).

Table 4.8: Relationship between culture effect and contraceptive use

Variable	Affecting	Not Affecting	OR	95% CI	P-value	
Age category						
15- 24	87	30	2.264	1.022	3.215	
25-35	112	36	1.925	0.712	2.202	0.043
36-49	90	25	1.075	0.834	1.387	
Level of education						
Secondary and above	188	118	2.877	0.797	3.966	0.021
Primary and below	54	20	0.060	1.032	4.112	
Marital status						
Single	84	30	0.767	0.543	1.086	0.148
Married	217	49	1.133	0.944	1.360	
Occupation						
Employed	78	20	0.437	0.263	0.726	0.002
Un-employed	225	57	2.188	0.037	4.361	
Religion						
Christian	234	74	0.969	0.855	1.098	0.632
Muslim	25	47	1.129	0.684	1.865	
Age of youngest child						
0-2	34	27	0.860	0.531	1.441	
3-4	140	43	0.258	0.184	0.536	0.132
>5	111	25	3.040	2.032	5.112	
Desire for more children						
Yes	119	60	0.877	0.05	1.800	0.703
No	31	170	2.027	1.200	4.100	

4.4.2 Access to contraceptives

The study showed that (47%) reported to have had a problem in accessing contraceptives at their points of access. 53% had no issue of accessing their contraceptive methods (Table 4.9).

Table 4.9: Access of contraceptives

Variable	Frequency	Percent
Contraceptive access		
Yes	179	47
No	201	53

4.4.3 Facility factors that affect the uptake of contraceptives

The uptake of contraceptives was affected by the facility from where one seeks the service. Those visiting the hospital had 100% uptake of the contraceptive as compared to those visiting the private clinics and pharmacy. Other facility factors like waiting period before service and contraceptive shortage did not affect uptake.

Table 4.10: Contraceptive uptake in relation to facility factors.

Variable	Uptake (%)	No uptake (%)	p-value	Chi-square value	DF
Point of access					
Pharmacy	89.5	10.5	P<0.05 (0.033)	68.974	2
Private clinic	97.0	3.0			
Hospital	100.0	0.0			
Access to CPs					
Yes	93.7	6.3	P>0.05 (0.371)	3.085	1
No	91.6	8.4			
Waiting period before service					
<15 min	90.9	9.1	P>0.05 (0.072)	42.615	3
15-30 min	87.0	13.0			
31-60 min	83.5	16.5			
>60 min	100.0	0.0			

4.4.4 Suggestions on improving contraceptive use

43% of the respondents reported the need to improve on its use. 20% of the respondents showed the need for male involvement in contraceptive use. 15% agreed that there was need to improve health workers' attitudes in order to enhance uptake of contraceptives. (Figure 4.11).

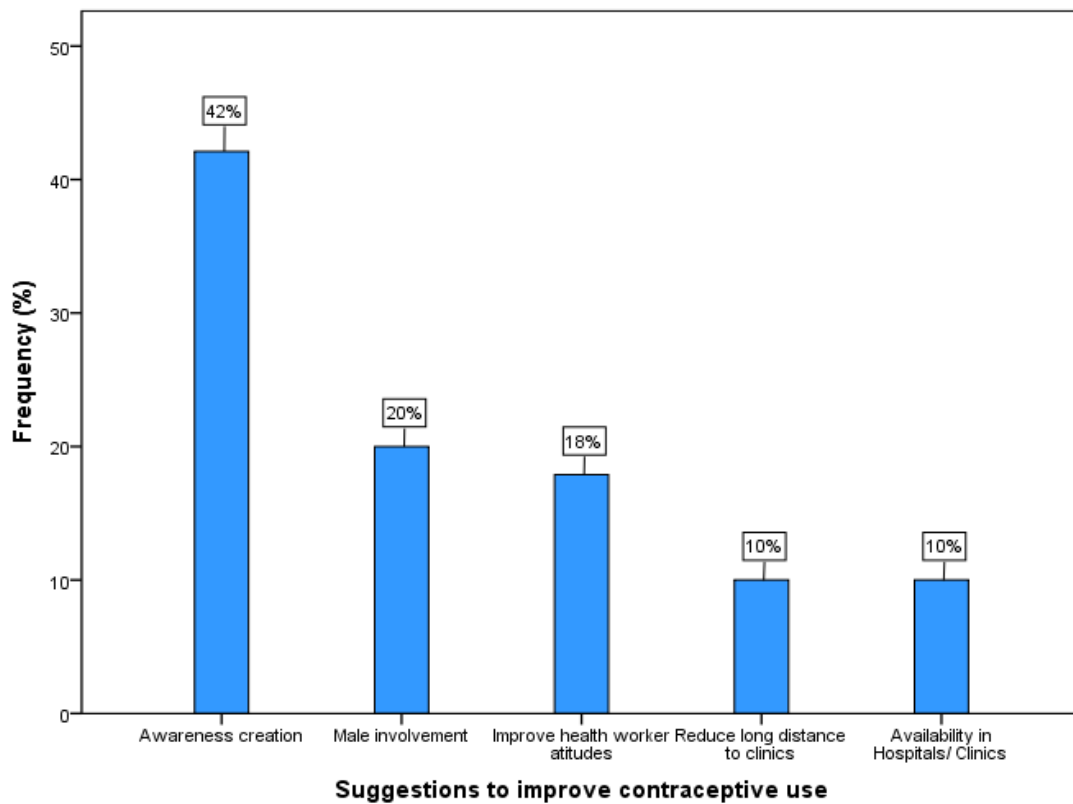


Figure 4.11: Suggestions on improving contraceptive use

CHAPTER FIVE

DISCUSSION, CONCLUSIONS AND RECOMMENDATIONS

5.1 Discussion

5.1.1 Proportion of Contraceptive Utilization

The contraceptive proportion in the study was found to be (80%), which is higher than the national average of (58%). This however is also higher compared to the County's CPR of (45. 2%). The difference between the study CPR, the national and the County could be due to the difference in the target population whereby the KDHS (2014) might have targeted the entire Kajiado County which comprised of the urban and rural settings, while in this study it was hospital based and the area is fairly urban compared with the other parts of the County.

73% of the respondents accessed the contraceptives from hospitals as compared to (20%) in private and (5%) from the pharmacies (2%) accessed from other sources. The two FGDs agreed on preferring government facilities as a source of contraceptive information. However, it was noted that some health workers waiting time was longer before giving service which was discouraging and hence some respondents preferred buying from the Pharmacy/Chemist. The respondents trusted the technical competency of the contraceptive providers at government facilities. However most of them expressed the need for the health worker to take more time to explain the various methods, their action and side effects and this would most likely bring the (20%) of women not using any contraceptives to change their mind and start using a method. Lack of access to the health facility may be a reason affecting uptake of contraceptives as some women in the area practice nomadism. 15% of the women agreed that there was need to improve health workers' attitudes in order to enhance uptake of contraceptives. According to Westoff (2006) in some parts of Sub- Saharan Africa lack of access was a

major reason for not using modern contraceptives due to supply problems as a result of the distance to the source.

35% of the women knew the benefits of contraceptives as improving the women health, (40%) improving child health and (15%) improving the economic status of the family (Leader's et al; 2008). showed that family planning is cost-effective interviewed that has impact on maternal mortality in developing countries. Successive family planning initiatives have the potential to reduce maternal infant and child mortality rates (Sandesara,2010). This is similar to WHO (2010) which stated that contraceptives enable people to make their informed choices about their sexual and reproductive health especially for benefit of women and children's health in the community. This is also similar to WHO (2010) where it was noted that economic burden in poor families can be reduced by having fewer, healthy children who can be cared for, educated as opposed to having many children where quality of life is compromised. Smaller families allow for scarce resources such as food, housing and health to be better managed and it also allows couples to engage freely in income generating activities (Leaders et al; (2008).

Muslim wives in comparison with non-Muslims were noted to have more children and were less likely to be using any contraceptive method. This is in line with a study done by Najafi (2013). The study noted that Muslim women were more likely to desire additional children and less likely to be using contraception when they desire no more children. This is because of their religious beliefs in their Islamic faith which does not advocate usage of any type of contraceptive. This study also noted that husbands who were involved in the choice of contraceptive method had a positive attitude towards contraceptives and were more supportive to their spouse. This study was similar to a study by Kayongo (2013). In her study, majority of the sexually active youth's contraceptive use was influenced by marital status and therefore to improve uptake, marital status has to be considered. This finding was also similar with a study done by Samandari *et al.*, (2010). The study stated that women whose husbands had positive attitude towards contraceptive use were more likely to utilize them than women who did not have spouse support. This study also noted that most married women were using

condom as a method of contraception perhaps because of fear of pregnancy or as a result of women having multiple partners. Condoms also reduce chances of contracting STI, HIV and AIDS.

5.1.2 Contraceptive preference methods

The study found that (61%) of those on contraceptives used Depo provera injection. This finding was similar with the Malawi Demographic Survey (2010) and the Kenya Demographic Health Survey (2014) which showed that the most common method used was the Depo provera injection at (26%). The two FDGs preferred Depo provera injection because it is discrete, as only the health worker and the client are able to know the method used. Most clients keep off the method used from their husbands. The participants also cited preferring the method as it takes at least 2-3 months before one can return for another dose. It also takes shorter time as the client can take the injection and is able to get back to her daily activities immediately. Depo provera injection was common among the married, in business and Christian women aged (35-39) years.

Both of the FDGs reported community acceptance as one of their challenges. They expressed fears of discussing the contraceptive method with their spouses and friends/relatives. This was consistent with a study by Yee & Simon (2010) which stated that social networks including friends, mothers and partners were key sources of contraception myths, misconceptions and vicarious experiences. The study revealed that (39%) of the respondents acknowledged that their community did not approve tubal ligation and IUCD as a contraceptive method at (48%) and (15%) respectively. This is similar to a study by Amna and Shaikh (2013), where most family planning clients who had never used an IUD reported negative impression of the method mainly because of fear resulting from rumors and myths they had heard. Some of the myths and rumors on IUD were that it causes infertility, offensive discharge, irritation of the genitals area leading to painful intercourse. “It can hurt you, it is like a broom, it can hurt you during sex.” It is a wire which may rust and destroy you and fear that it causes bleeding” (Gutin et al,2011). There was fear and concern about perforation, insertion and infertility

(Asker et al, 2006). The results were also similar with Van Damme (2008) which revealed that knowledge on the range of availability of contraceptive methods; misinformation and fear of side effects and misconception were cited as a reason for non-use of contraception. These results were supported by the Kenya demographic health survey that (36%) of women reported discontinuation within the first 12 months of using a method due to side effects and (16%) of married women not currently using were not doing so due to fear of side effects. The study was also similar to Blumenthal *et al.*, (2011) on LARCs methods where majority of the participants' cited misconceptions and negative perceptions for non- use of the methods. The most common misconceptions around LARCs are that they pose high risk of infection and permanent infertility.

This study further revealed that (47%) of the respondents reported to had a problem accessing contraceptive at their various facility. In this study, on suggestions on improving contraceptive uptake (15%) agreed that there was need to improve health workers' attitudes in order to enhance uptake. This study was similar to Speizer *et al.*, (2015) which cited deficiencies in provider competence as well as relations between providers and client contribute to unmet need of contraception. Participants reported not receiving detailed counseling from the health providers depending with the time one attends the clinic and also due to a seemingly shortage of staff. This study also showed that most women who had children less than 2 years were not using contraceptive at (55%). Therefore, these women should be counseled right after delivery to start family planning after 4-6 weeks because after the monthly menstrual period they can conceive and their bodies are not ready for another pregnancy. Conceiving after 6 weeks can affect the infant causing malnutrition leading to child morbidity and mortality. In the case of a mother she may have an abortion/ miscarriage and Anaemia which can cause morbidity and mortality. Hence there is need to counsel the women after giving birth to commence a family planning method after 4-6 weeks (UNFPA 2014). The major culture practice affecting contraceptive use was polygamy at (50%).

Couples may not use contraceptive even when they do not desire more children because of the fear of side effects and disapproval from both the spouse and the community. In some cases, couples may have used the methods before and did not work and counseling on the available family planning methods may have been inadequate. As noted by the respondents IUCD was not preferred at (10%) because it is considered to be invasive where by inserting and removal need professional and competent health personnel. There was fear of infection in the female reproductive organs and also the fear that the IUCD may disappear during menses and sexual intercourse.

These study findings observed that (54%) of spouse disapproval was because of their dislike on various contraceptive methods in use while (38%) is because they needed more children and (5%) for fear of side effects on the wife. In view of the above, there is need for male involvement in contraceptive use so that they understand the action and side effects of the various methods and together with the spouse get to select the favorable method with a view of their future need for more or no children in mind.

Knowledge of contraceptive is a necessary precondition for use of any family planning service. Studies have shown that knowledge of contraceptives is associated with uptake. This study noted that (80%) of the respondents were aware and had knowledge of the various methods (15%) were not aware and (5%) were not sure. This was similar to a study done by Katherine et al; (2011) which focused on women's knowledge on IUD, which found that most respondents had heard of IUD and were aware of its use in preventing pregnancy and this was associated with uptake of the device. This study was similar to Nangendo (2012) in a study done in Western Yimbo division Bondo district in Western Kenya where lack of FP knowledge was reported to be one of the main barriers to utilization of contraceptives among women of reproductive age in Sub- Saharan Africa.

5.1.3 Factors associated with uptake of contraceptives

a) Age of the women

The mean age of the participants was 38.6 (\pm SD 5.2) years with a range of (15-49) years. The age distribution on the uptake of contraceptive was statistically significant with (OR= 3.32; 95% CI (2.1 to 5.2)). This was similar to an American study which found that women who began having sex at a young age were less likely to be using contraceptive and tend to engage in higher risk behavior such as alcohol or drug use prior to sexual intercourse (Moore *et al.*,2008). A research in the United Kingdom found that, sex at an early age is compounded by lack of knowledge, lack of access to contraception, lack of skills and self-efficacy to negotiate contraception, or inadequate self-efficacy to resist pressure (Tripp, 2005). The study findings were also in line with a study done by Noreen *et al.*, (2018) which showed that contraception decreases with age. The study disagrees with a study done by Kinaro (2013) on perception and barriers to contraceptive use among adolescents which observed that contraceptive use increased with age. This study observed that most women between (15-25) years preferred using condoms. Most of these women in this age category are single and therefore they may be having multiple sexual partners. Apart from protecting one from pregnancy Condoms protect the women from STI, HIV and AIDS. The study revealed that majority of women aged (36-45) were using contraceptives and this may be because they want to space their children and also they do not wish to have the consequences of pregnancy like pre-eclampsia and *hyperemesis gravidarum* (excessive vomiting in pregnancy). This type of relationship between age and contraceptive use has been observed in previous studies (Osmani *et al.*, 2015). The reason documented was that with advancing age rate of unintended pregnancies also decreases and another reason of decline is fear of adverse health outcomes (Solanke, 2017).

b) Level of Education

This study showed a significant association between level of education and contraceptive use at ($p=0.01$). Women who had secondary level of education and above were likely to use contraceptive unlike those with primary level or have never been to school at all. These results were similar to a study done by Noreen (2017) which showed that unmet needs were higher in women with lower level of education (primary and below) while women with higher level of education were more likely to use contraceptive. This is because better education provides more information and improves accessibility to family planning services. Moreover, previous evidence has shown that women with better education status were professionally engaged and trend of contraceptive usage is more as they want to limit family size because of their professional commitments (Saleem *et al.*, 2005). This is also in line with a study done by Abu- Ghaida *et al.*, (2004) which showed that there was an association between higher level of education and small family size.

It showed that women education can reduce fertility rate by 0.3-0.5 children per woman.

c) Marital status

This study showed that contraceptive use was not statistically associated with marital status at ($p=0.597$). This was inconsistent with a study done in two rural provinces in Cambodia on women (15-49) years on factors influencing decision making on contraceptive use which observed that women whose husbands had positive attitude towards contraception were more likely to use them than those who did not have spouse support (Samandari *et al.*,2010). This study was similar to a study done in Malawi by Lawrence (2002) which showed that women who reported male disapproval of their family planning method were not using contraceptive. The findings were in line with a study conducted by Casterline *et al.*, (2001). The study showed women influence of husband and mother in laws in decision making on contraceptive affected the perception of the women as they would have conflict with their husbands' attitude towards fertility

and it is not accepted socially and culturally. This study was also in agreement with findings by Kayongo (2013) in her study on factors that influence uptake of contraceptive among youth in Busia District.

d) Occupation

The fact that women are employed or unemployed has statistical association with contraceptive uptake at ($p=0.001$). Women who had a consistent income were empowered financially and hence are better placed to negotiate sexual issues. Studies have shown that women who have secondary education and above and are employed or have a consistent income the trend of contraceptive usage is more as they want to limit family size because of their professional commitments (Saleem *et al.*, 2005).

5.2 Conclusions

This study makes the following conclusions;

1. The proportion of contraceptive use was (80%). This is an indication that women understand the importance associated with contraceptive use. Contraceptive use leads to an improved child- maternal health. However, there is need to reach out to the remaining (20%) that are not using contraceptives.
2. The most preferred methods were Depo-provera at (61%), Norplant and IUCD at (20%) and (10%) respectively. This is because the methods are discrete and the women are able to continue with their socio-economic activities for a longer time.
3. The study showed that level of education greatly influences utilization of contraceptives. This is because better education provides more information and improves accessibility to family planning services.

5.3 Recommendations

Based on the conclusions the following are recommendations;

1. Kajiado County health officials should ensure continued supply of contraceptives for use by women and make sure they are taken care of and accessed in all levels of health care. The use of community based health workers will make deliberate efforts to reach out to the 20% of women not using any method. Special considerations (sensitization and improving accessibility) to be targeted towards women who are practising nomadism.
2. Kajiado County health officials should scale up training and counselling for more health care providers to be trained on more effective and less expensive contraceptive methods such as Norplant and IUCD.
3. Sensitization by the County government on the importance of having small families should be done at all levels of governance by various stakeholders concerned with matters of reproductive health.

5.4 Recommendation for Further Studies

The current study was hospital based focusing on uptake of contraceptives in Ngong Sub- County Hospital in Kajiado North sub County. Researchers can adapt this methodology and increase the sample size and cover a wider area and compare results.

REFERENCES

- Abu- Ghaida D. & Klasen S. (2004). The costs of missing the Millennium Development Goals on gender equality *World Development* 32(7), 1075-1107.
- Alhamdu, H. & Ayanti, J. (2011) *Using Role Model Mothers in Rural Committee to increase uptake of IUCD among Muslim women in North West, Nigeria.*
- Khan, A., & Shaikh, B. T. (2013). An all time low utilization of intrauterine contraceptive device as a birth spacing method-a qualitative descriptive study in district Rawalpindi, Pakistan. *Reproductive health*, 10(1), 1-5.
- Pollack, A., Ross, J., & Perkin, G. (2006). Intrauterine devices (IUDs) in developing countries: assessing opportunities for expanding access and use. *Assessment prepared for the Hewlett Foundation population Program.*
- Asker, C., Stokes-Lampard, H., Wilson, S., & Beavan, J. (2006). What is it about intrauterine devices that women find unacceptable? Factors that make women non-users: a qualitative study. *BMJ Sexual & Reproductive Health*, 32(2), 89-94.
- Blumenthal, P.D. & Voedish A. & Gemsell- Danielsson, K. (2011) Strategies to prevent unintended pregnancy increasing use of long-acting reversible contraception. *Human reproduction updates*, 17(1)121-37.
- Bongaarts, J.J. & Sinding, S.W. (2011) Family Planning as an economic investment. *SAIS Review*, 31(2), 35-44.
- Casterline J.B, & Sathar Z.A. (2001) Obstacles to contraceptive use in Pakistan: A study in Punjab. ul Haque M. *Stud fam plann.* 32(2): 95-110.
- Centre for Disease Control (2001) Family planning in Public Health Achievement.
- Cleland, J., Conde- Agudelo, A. Peterson, H. Ross, J. & Tsui, A. (2012) Contraception and health. *The Lancet.* 2012; 380, 149-56.

- Eko- Jimmy E. Osonwa Kalu O. Osuchukwu Nelson C. Offiong & Dominic A. (2013) Prevalence of contraceptive use among women of reproductive age in Calabar Metropolis, South Nigeria. *International Journal of Humanities and Social Science invention* 2(6).
- Fishers, L.D, (1998). Self- designing clinical trials. *Statistics Medical* 17, 1551-1562
- Gomes K.R.O & I.S Speizer & D.D.C Oliveira & Moura N.B (2008) Contraceptive method Use by Adolescents in Brazilian State Capital. *Journal of Paediatric and Adolescent Gyanaecology* 21(4), 213-219.
- Green, J., & Thorogood, N. (2010) *Qualitative methods for Health Research*, (2nd ed.) London: Sage Publication.
- Guttmacher Institute (2012). Cost and benefits of investing in contraceptives services in Sub- Saharan Africa, *Guttmacher Institute Fact sheet*.
- Doskoch, P. (2013). Global levels of contraceptive use by married women have risen, especially in developing countries. *International Perspectives on Sexual and Reproductive Health*, 39(2), 103.
- Gutin, S. A., Mlobeli, R., Moss, M., Buga, G., & Morroni, C. (2011). Survey of knowledge, attitudes and practices surrounding the intrauterine device in South Africa. *Contraception*, 83(2), 145-150.
- Health Policy Initiatives Task Order (2007) Inequalities in the Use of Family Planning and Reproductive Health Services: Implications for Policies and Programs, Futures Group international.
- Hladky, K. J., Allsworth, J. E., Madden, T., Secura, G. M., & Peipert, J. F. (2011). Women's knowledge about intrauterine contraception. *Obstetrics and gynecology*, 117(1), 48.

- Kayongo, S. B. (2013). Uptake of modern contraception among youths (15-24) at community level in Busia District, Uganda. *Unpublished Master's Thesis*. Makerere University School of Public Health, Kampala, Uganda.
- Kenya Integrated Household Budget Survey (2015-16) Provide updated parameters for sharing of national resources as provided in the constitution of Kenya, 2010.
- Kenya National Bureau of Statistics & ICF international, (2010).
- Kinaro, J.W. (2013). They will Wonder What Kind of a Girl I: Adolescent perception towards Contraceptive use in Nairobi. *Advances in Sexual Medicine*, 3, 1-10.
- La Pelle, N., (2004) Simplifying qualitative data analysis using general purpose software tools, *Field Methods*, 16(1), 85-108.
- Lawrence, R. (2002) *Opportunities and choices Reproductive Health research fact sheet 14 funded by DFID*.
- Leaders, R, & Workers, H. (2008). Somali Refugee Attitudes, Perceptions, and knowledge of reproductive Health, Family planning and Gender- based Violence (pp.1-37).
- Mills, S., Bos, E., & Suzuki, E. (2010). Unmet need for contraception.
- May, K., Ngo, T. D., & Hovig, D. (2011). Expanding contraceptive choices for women: promising results for the IUD in sub-Saharan Africa. *London: Marie Stopes International*, 6.
- Moore- Messman T.L & Aubrey A. Coates & Kathryn J. & Carrie F. Johnson (2008) Sexuality, Substance Use and Susceptibility to Victimization: Risk for Rape and Sexual Coercion in a Prospective Study to College Women. *Journal of Interpersonal Violence*, 23(12), 1730-1746.

- Moreland, S., & Talbird, S. (2006). Achieving the Millennium Development Goals: The contribution of fulfilling the unmet need for family planning.
- Mustafa, G., Azmat, S. K., Hameed, W., Ali, S., Ishaque, M., Hussain, W., ... & Munroe, E. (2015). Family planning knowledge, attitudes, and practices among married men and women in rural areas of Pakistan: Findings from a qualitative need assessment study. *International journal of reproductive medicine*, 2015.
- Rahim, n. (2012). Level of knowledge, attitude and practice of contraception among women of reproductive age group. *Journal of medical sciences*, 20(3), 112-115.
- Najafi-Sharjabad, F., Yahya, S. Z. S., Rahman, H. A., Hanafiah, M., & Manaf, R. A. (2013). Barriers of modern contraceptive practices among Asian women: a mini literature review. *Global Journal of health science*, 5(5), 181.
- Nangendo, S. M. (2012). Knowledge and use of family planning methods and services in West Yimbo Division, Bondo district, Western Kenya. *African Study Monographs*, 33(4), 233-251.
- Kragelund Nielsen, K., Nielsen, S. M., Butler, R., & Lazarus, J. V. (2012). Key barriers to the use of modern contraceptives among women in Albania: a qualitative study. *Reproductive health matters*, 20(40), 158-165.
- Noreen, K., Khan, K. A., Khan, N., Khan, S. A., & Khalid, N. (2018). Contraceptive Prevalence Rate, Unmet Need for Family Planning and Its Associated Factors among Women of Reproductive Age Group. *Pakistan Journal of Public Health*, 8(2), 63-69.
- Osmani, A. K., Reyer, J. A., Osmani, A. R., & Hamajima, N. (2015). Factors influencing contraceptive use among women in Afghanistan: secondary analysis of Afghanistan Health Survey 2012. *Nagoya journal of medical science*, 77(4), 551.

- Oyedokun, A. O. (2007). Determinants of contraceptive usage: lessons from women in Osun State, Nigeria. *J Human Soc Sci*, 1(2), 1-14.
- Regmi, P. R., Van Teijlingen, E., Simkhada, P., & Acharya, D. R. (2010). Barriers to sexual health services for young people in Nepal. *Journal of health, population, and nutrition*, 28(6), 619.
- Republic of Kenya (2003) Demographic Health Survey of 2003, Nairobi: Government Printer.
- Republic of Kenya (2008-09) Demographic Health Survey, Nairobi: Government Printer.
- Republic of Kenya (2014) Demographic health Survey, Nairobi: Government Printer.
- Republic of Malawi (2004) Malawi Demographic Health Survey 2004.
- Republic of Malawi (2010) Malawi Demographic Health Survey 2010.
- Richter, M. S., & Mlambo, G. T. (2005). Perceptions of rural teenagers on teenage pregnancy. *Health SA Gesondheid*, 10(2), 61-69.
- Saleem, S., & Bobak, M. (2005). Women's autonomy, education and contraception use in Pakistan: a national study. *Reproductive health*, 2(1), 1-8.
- Samandari, G., Speizer, I. S., & O'Connell, K. (2010). The role of social support and parity on contraceptive use in Cambodia. *International perspectives on sexual and reproductive health*, 122-131.
- Sandesara, A. (2010). *Factors associated with refugee men's involvement in family planning in Nyarugugu camop, Kasulu District Tanzania* (Doctoral dissertation, Muhimbili University of Health and Allied Sciences).

- Solanke, B. L. (2017). Factors influencing contraceptive use and non-use among women of advanced reproductive age in Nigeria. *Journal of Health, Population and Nutrition*, 36(1), 1-14.
- Tumlinson, K., Okigbo, C. C., & Speizer, I. S. (2015). Provider barriers to family planning access in urban Kenya. *Contraception*, 92(2), 143-151.
- Tripp, J., & Viner, R. (2005). Sexual health, contraception, and teenage pregnancy. *Bmj*, 330(7491), 590-593.
- United Nations Population UNFPA (2005) *Reducing Poverty and Achieving for investing in Developments Goals: Arguments for investing in Reproductive Health and Rights*. New York: UNFPA.
- Darroch, J. E. (2013). Trends in contraceptive use. *Contraception*, 87(3), 259-263.
- United Nations Department of Economic and Social Affairs Population Division (2013) *Monitoring Global Population Trends*
- USAID/HPI/ (2007). *Achieving Equity for the poor in Kenya: Understanding level of Inequalities and Barriers to family planning services*, Washington D.C.
- Randrianasolo, B., Swezey, T., Van Damme, K., Khan, M. R., RABENJA, N. L., RAHARINIVO, M., ... & BEHETS, F. (2008). Barriers to the use of modern contraceptives and implications for woman-controlled prevention of sexually transmitted infections in Madagascar. *Journal of biosocial science*, 40(6), 879-893.
- Wawire, N.W & Okech. T.C & Mburu, T.M (2011). Contraceptive Use among women of Reproductive Age in Kenya's City Slums. *International Journal of Business and Social Science* 2, 22-43.

- West off (2006) New Estimates of the Unmet Need for the family planning. *East African on reproductive Health*.
- Haub, C., & Kaneda, T. (2011). world population data sheet. Population Reference Bureau, Washington, DC.
- World Health Organization (2004) *Adolescent Health and development*. Department of Child and Adolescent Health and Development.
- World Health Organization (2009). *Improve Reproductive Health*. Retrieved from <http://www.unfpa.org/rh>.
- Kuruvilla, S., Schweitzer, J., Bishai, D., Chowdhury, S., Caramani, D., Frost, L., ... & Bustreo, F. (2014). Success factors for reducing maternal and child mortality. *Bulletin of the World Health Organization*, 92, 533-544.
- Yee, Lynn, and Melissa Simon. "The role of the social network in contraceptive decision-making among young, African American and Latina women." *Journal of Adolescent Health* 47, no. 4 (2010): 374-380.

APPENDICES

Appendix I: Consent of Participation

Participant..... Date.....

UTILIZATION OF CONTRACEPTIVES AMONG WOMEN OF REPRODUCTIVE AGE ATTENDING NGONG SUB- COUNTY HOSPITAL IN KAJIADO COUNTY KENYA

Investigator.....Date.....

The purpose

I am Magdalene W. Rwamba, a postgraduate student in college of health sciences of Jomo Kenyatta University (ITROMID). The main objective of this study is to determine the utilization of contraceptives among women of reproductive age (15-49 years) attending Ngong sub- county hospital in Kajiado, Kenya. The study also seeks to determine the contraceptive prevalence rate among women of reproductive age attending Ngong sub- county hospital; to examine the contraceptive preference methods among women of reproductive age attending Ngong sub-county hospital; and to establish the factors associated with uptake of contraceptive s among women of reproductive age attending Ngong sub- county hospital. I hope that you will feel free to discuss with me your views on the utilization of contraceptives and factors associated with uptake among women of reproductive age attending Ngong sub-county hospital.

Procedures

Participation in the study will require I ask you some questions on the utilization of contraceptives and factors associated with the uptake. This will involve filling in a questionnaire with the information. You may ask questions related to the study at any

time. You may refuse to respond to any questions and you may stop participating at any time without consequences to you.

Discomfort and risks

There will be minimum risk to you for participating in the study. However, some questions you will be asked will be of a sensitive nature and may make you uncomfortable. If this happens you may refuse to answer if you so, choose. You may also stop the interview at any time. The interview shall take approximately 30 minutes of your time.

Benefits

There may be no direct benefits or compensation to you as an individual but the information generated will be used by the administrators and other stakeholders to come up with strategies to improve the utilization of contraceptives among women of reproductive age attending Ngong sub-county hospital.

Voluntary Participation and Withdrawal

Your participation is entirely voluntary and should you change your mind you are free to opt out at any time. You may skip questions or stop participating at any time without any penalty.

Confidentiality

I will not identify you and no information that will make it possible for anyone to identify you will be required in this study. The information provided will only be used for academic purposes and will not be given to any organization or individual for any other use. All information will be kept under lock and key and the electronic information will be under a password.

Contact information

Any queries regarding this study may be directed to me, Magdalene W. Rwamba cell phone number 0722243203. In addition, if you have any questions on your rights as a research participant you can contact the Kenyatta National Hospital Ethics and Research Committee (KNH/UoN/ERC) by calling 2726300 extensions 44355.

Having been informed about the study and having read the above and understood all that it entails, do willingly give consent to participate in the study.

Participant **sign/** **thumb** **print.....**
Date.....

Researcher's signature..... **Date.....**

Appendix II: Questionnaire

Please answer the questions below as accurately as possible. All the information provided will strictly be treated with utmost confidentiality. Your answers shall be used for academic purposes only. In the closed ended questions, please tick your answer against each question in the spaces provided. In the open ended questions kindly write the responses in the spaces provided.

SECTION A: SOCIO- DEMOGRAPHIC CHARACTERISTICS

1. Age of respondent ----- (completed years)

2. Marital status (**Tick one**)

1. Single
2. Married
3. Separation
4. Divorced
5. Widow

3. Religion of respondent

1. Catholic
2. Muslim
3. Protestant

4. What is your level of education?

1. None
2. Primary
3. Secondary
4. College / University

5. Occupation of the respondent

1. Small scale business
2. Farmer
3. Civil servant
4. Others -----(**specify**)

6. Main source of income in your house

1. Salary
2. Farm produce
3. Small -scale business
4. Others..... (**specify**)

7. Are you willing to have more children?

1. Yes
2. No

8. What is the age of your youngest child?

1. 0-2
2. 3-4
3. >5

9. What do you understand about contraceptives?

1. Having few children
2. Spacing the children
3. Getting a number of children, you want
4. Don't know
5. Others(**specify**)

10. Which type of contraceptives do you know (Multiple response)

1. Pills
2. Condoms
3. Depo-Provera (injection)
4. Intra uterine contraceptives device (loop)
5. Norplant
6. Tubal ligation
7. Vasectomy
8. Others(specify)

11. Are you aware of any benefits of using contraceptives?

1. Yes, If yes, skip to Q11
2. No
3. Not sure

12. If yes, what are they? (Multiple response)

1. for improving woman's health
2. for children's health
3. for improving the economic status of the family
4. Others(specify)

SECTION 2: PROPORTION OF CONTRACEPTIVE USE

13. Have you ever used modern contraceptives? (tick one)

- a. Yes If yes, skip to Q14
- b. No

14. If No, why have you never used any type of modern contraceptives (**Multiple response**)

1. I dislike them
2. Husband does not allow me to use
3. Fear of side effects
4. Not available
5. Other reasons.....(**specify**)

15. Are you currently using any type of modern contraceptives?

1. Yes
2. No

16. If yes to Q14, what type of modern FP method are you currently using?

1. Depo-Provera (Injection)
2. Intra-Uterine Contraceptive device (Loop)
3. Norplant / jadelle
4. Pills
5. Tubal ligation
6. Condoms
7. Others..... (**specify**)

17. What was the source of information on contraceptives?

1. Health Worker
2. Mass Media (Radio /TV
3. Neighbor/ friends
4. School
5. Partner/ Husband
6. Others(**specify**)

18. From where do you access modern contraceptives?

1. Hospitals
2. Private clinics
3. Pharmacies
4. Others.....(specify)

SECTION 3: CONTRACEPTIVE PREFERENCE

19. Have you ever had a problem in accessing contraceptive?

1. Yes
2. No

20. How long approximately do you take at the facility before being served?

Is your spouse aware that you are using modern contraceptives?

1. Yes
2. No

21. If No, give reasons why?

1. Spouse dislike the method
2. Want more children
3. Fear of side effects to wives
4. Other.....(specify)

22. What are your suggestions on improving use of contraceptives use?

1. Creation of awareness
2. Availability in Hospital/Clinics

3. Reduce long distance to the clinics
4. Improve health workers' attitudes
5. Male involvement
6. Others..... (specify)

23. Does your community accept contraceptives?

1. Yes
2. No

24. If No, Why not? (Multiple response)

1. Is against religion
2. It is killing babies
3. To deliver all children God gave a woman
4. To have many children is wealth
5. Others.....(specify)

25. Who makes the decision on use of contraceptives?

1. My self
2. My husband
3. Both of us (husband / wife)
4. Neighbor's/Friends
5. My mother
6. Others.....(specify)

26. Which methods of contraceptives do women in this community not prefer?
(Multiple response)

1. Depo-Provera
2. IUCD

3. Norplant
4. Tubal ligation
5. Contraceptive pills
6. Condoms
7. Others.....(specify)

27. Are there any cultural practices in this community that prevents women from using modern contraceptives?

1. Yes
2. No

28. If yes, which ones are they? (**Multiple response**)

1. Wife inheritance
2. Polygamy
3. Religious beliefs
4. Men having commands over women
5. Others.....(specify)

Thank you for responding to the questions.

Appendix III: Focus Group Discussion Guide for Women of Reproductive Age 15-49 Years.

MODERATOR'S GUIDE.

Step1: Obtain oral informed consent individually from each focus group participant

Step 2: Conduct the focus group discussion

Interviewer Script

Thank You for coming. I am Magdalene Rwamba. I am from Jomo Kenyatta University of Agriculture and Technology. The purpose of this discussion today is to get your views on FP. The information you provide will help in planning for ways to increase contraceptive uptake and reduce some of the consequences for example unintended pregnancies.

I would encourage you to speak as freely as possible. The responses you give in this discussion will be confidential. There will be no right or wrong answers. Kindly put your phones on silent mode. We would also like to record your answers both by writing and using a tape recorder to help in the analysis of your answers.

Please do bear in mind that there is no harm in not participating nor is there a direct benefit in participating except that the information will be useful to policy makers and researchers

The discussion will take about an hour and half. Do you agree to participate in this discussion?

Note that you may leave at any time during the discussion.

1. The purpose of using a family planning method Probe;

- The various methods
- Method preferences
- Reasons for preferences
- Reason of non-preferences.....
- Benefits for the preferences

2. Who decides on the family planning method used? Probe;

- If married is the spouse involved in decision making of the method?
- Does the community approve of family planning?
- Do you discuss with friends about family planning? No / Yes. If No, why?.....

3. Who do the women consult for family planning information? Probe;

Health care provider - why?

Partner / Husband – why?

School – why?

Mass media – why?

Neighbours and friends – why?

Others, specify - why?

4. Where do the women obtain contraceptive services? Probe

Hospital - Cost, quality and accessibility.

Pharmacies - Cost, quality and accessibility.

Private clinics - Cost, quality and accessibility.

Others - Cost, quality and accessibility.

5. What do you think about the skills of the staff in this clinic? Probe;

- Their role in contraceptive use
- Availability of the method chosen
- Are they friendly?
- The quality of counseling
- The waiting time

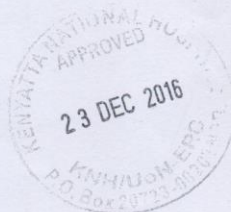
6. What suggestions do you have on how to increase uptake of contraceptives by women/ couples?

Thank participants for the time and contribution

Appendix IV: Approval Letter



UNIVERSITY OF NAIROBI
COLLEGE OF HEALTH SCIENCES
P O BOX 19676 Code 00202
Telegrams: varsity
Tel: (254-020) 2726300 Ext 44355



KNH-UoN ERC
Email: uonknh_erc@uonbi.ac.ke
Website: <http://www.erc.uonbi.ac.ke>
Facebook: <https://www.facebook.com/uonknh.erc>
Twitter: @UONKNH_ERC https://twitter.com/UONKNH_ERC



KENYATTA NATIONAL HOSPITAL
P O BOX 20723 Code 00202
Tel: 726300-9
Fax: 725272
Telegrams: MEDSUP, Nairobi

Ref: KNH-ERC/A/491

23rd December 2016

Magdalene Rwamba
TM310-3157/2015
JKUAT

Dear Magdalene

REVISED RESEARCH PROPOSAL – UTILIZATION OF CONTRACEPTIVES AMONG WOMEN OF REPRODUCTIVE AGE ATTENDING NGONG SUB-COUNTY HOSPITAL (P689/10/2016)

This is to inform you that the KNH- UoN Ethics & Research Committee (KNH- UoN ERC) has reviewed and **approved** your above revised proposal. The approval period is from 23rd December 2016 – 22nd December 2017.

This approval is subject to compliance with the following requirements:

- a) Only approved documents (informed consents, study instruments, advertising materials etc) will be used.
- b) All changes (amendments, deviations, violations etc) are submitted for review and approval by KNH-UoN ERC before implementation.
- c) Death and life threatening problems and serious adverse events (SAEs) or unexpected adverse events whether related or unrelated to the study must be reported to the KNH-UoN ERC within 72 hours of notification.
- d) Any changes, anticipated or otherwise that may increase the risks or affect safety or welfare of study participants and others or affect the integrity of the research must be reported to KNH- UoN ERC within 72 hours.
- e) Submission of a request for renewal of approval at least 60 days prior to expiry of the approval period. (*Attach a comprehensive progress report to support the renewal*).
- f) Clearance for export of biological specimens must be obtained from KNH- UoN ERC for each batch of shipment.
- g) Submission of an *executive summary* report within 90 days upon completion of the study. This information will form part of the data base that will be consulted in future when processing related research studies so as to minimize chances of study duplication and/ or plagiarism.

For more details consult the KNH- UoN ERC website <http://www.erc.uonbi.ac.ke>

Protect to discover

Yours sincerely,



PROF. M. L. CHINDIA
SECRETARY, KNH-UoN ERC

- c.c. The Principal, College of Health Sciences, UoN
The Deputy Director, CS, KNH
The Chairperson, KNH- UoN ERC
The Assistant Director, Health Information, KNH
Supervisors: Dr. Kenneth Ngure, Dr. Joseph Mutai

Protect to discover

30th March, 2017
Magdalene Wangeci Rwamba
Dep. of Public and Community Health,
School of Public Health,
Jomo Kenyatta University of
Agriculture & Technology (JKUAT)
P.O. BOX 62200-00200,
NAIROBI

The Medical Superintendent,
Ngong Sub District Hospital
P. O. BOX 99-00208 Ngong Hills,
KAJIADO

COUNTY PUBLIC HEALTH OFFICER
KAJIADO COUNTY
Date: 11/04/2017

*Recommended Subject to
Approval by County
Public Health
Board.*

Dear Sir/Madam,

RE: PERMISSION TO CONDUCT RESEARCH IN NGONG SUB-COUNTY HOSPITAL

I am a student undertaking a Master of Science in Public Health (TM 310-3157/2015) at JKUAT, Nairobi. As part of a requirement for the fulfillment of the degree I am expected to conduct a research study. The topic of my study is "Utilization of Contraceptives among women of reproductive age attending Ngong sub- County Hospital." This research project is to be conducted under the supervision of Dr. Kenneth Ngure of the Department of Public and Community Health, JKUAT; and Dr. Joseph Mutai of the Centre of Public Health Research, Kenya Medical Research Institute (KEMRI).

The study group will be women of reproductive age (15-49) years who will be attending MCH/FP clinic and the outpatient department. This will be done between the months of April to May and it will involve interviews and use of structured questionnaires. Upon successful completion of the study a copy of the full research report will be provided to the Medical Superintendent Ngong sub- county Hospital Kajiado County.

The purpose of this letter therefore, is to kindly request you to permit the study. Enclosed herein find a copy of the approval letter and other research instruments to be used during the period. Thanks for your support.

Yours Sincerely,

[Signature]
Magdalene Wangeci Rwamba

TM310-3157/2015
Enl(3)

*County public Health office
- Ngong sub-county
Approved for 3 months
to do research at the
facility for the said
period.
A copy to be
provided to the CPSB
[Signature]*

COUNTY GOVERNMENT OF KAJIADO
OFFICE OF THE SECRETARY
COUNTY PUBLIC SERVICE BOARD
11 APR 2017
RECEIVED
SIGNATURE: *[Signature]*
P.O. Box 664 - 01100, Kajiado

Appendix V: Map of Kajiado County

