INTRAUTERINE DEVICE UPTAKE AMONG WOMEN SEEKING FAMILY PLANNING SERVICES AT MBAGATHI AND MAMA LUCY KIBAKI HOSPITALS IN NAIROBI COUNTY, KENYA

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P57/20438/2010

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APRIL 2015
DECLARATION
This thesis is my original work and has not been presented for a degree in any other University.

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APPROVAL BY SUPERVISORS
This thesis has been submitted for review with our approval as University Supervisors.

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DEDICATION

I dedicate this thesis to all women of reproductive age both users and non-users of family planning.
ACKNOWLEDGEMENT

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<tbody>
<tr>
<td>AIDS-</td>
<td>Acquired Immuno Deficiency Syndrome</td>
</tr>
<tr>
<td>CI-</td>
<td>Confidence Interval</td>
</tr>
<tr>
<td>CPR –</td>
<td>Contraceptive Prevalence Rate</td>
</tr>
<tr>
<td>DMPA-</td>
<td>Depot Medroxy progesterone Accetate</td>
</tr>
<tr>
<td>FGDs-</td>
<td>Focused Group Discussions</td>
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<tr>
<td>FHI-</td>
<td>Family Health International</td>
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<tr>
<td>FP-</td>
<td>Family Planning</td>
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<tr>
<td>HIV-</td>
<td>Human Immuno Deficiency Virus</td>
</tr>
<tr>
<td>IUD-</td>
<td>Intrauterine Device</td>
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<tr>
<td>KEMSA-</td>
<td>Kenya Medical Supply Agency</td>
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<tr>
<td>KEMRI-</td>
<td>Kenya Medical Research Institute</td>
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<td>KDHS -</td>
<td>Kenya Demographic and Health Survey</td>
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<td>KNBS-</td>
<td>Kenya National Bureau of Standard</td>
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<tr>
<td>LAPMs-</td>
<td>Long Acting and Permanent Methods</td>
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<tr>
<td>MDGs-</td>
<td>Millennium Development Goals</td>
</tr>
<tr>
<td>MLE-</td>
<td>Measurement, Learning and Evaluation</td>
</tr>
<tr>
<td>MLK-</td>
<td>Mama Lucy Kibaki</td>
</tr>
<tr>
<td>MOH-</td>
<td>Ministry Of Health</td>
</tr>
<tr>
<td>PID-</td>
<td>Pelvic Inflammatory Disease</td>
</tr>
<tr>
<td>SD-</td>
<td>Standard Deviation</td>
</tr>
<tr>
<td>SPSS-</td>
<td>Statistical Package for Social Sciences</td>
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<td>WHO-</td>
<td>World Health Organization</td>
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DEFINITION OF TERMS

**Barriers to IUD uptake** - factors that prevent/hinder uptake of the IUD

**Contraceptive prevalence** - percentage of women who are currently using, or whose sexual partner is currently using, at least one method of contraception. It is usually reported for married or in union women aged 15 to 49 years. A union involves a man and a woman regularly cohabiting in a marriage-like relationship

**Contraceptive prevalence rate** - proportion of population of childbearing age (15-49) that is currently using either a modern or a traditional contraceptive method.

**Drivers to IUD uptake** - factors that support uptake of the IUD

**Family planning** - ability of individuals and couples to anticipate and attain their required number of children, spacing and timing their births

**Family planning services** - educational, comprehensive medical or social activities which enable individuals to determine freely the number, spacing and timing of their children, and to select the means by which this may be achieved (WHO 2009)

**Unintended pregnancies** is defined as a pregnancy that the woman would have preferred to have at another time (mistimed) or would not have wanted at any time (unwanted)

**Uptake** - acceptance and insertion of IUD

**Women of reproductive age** - women aged 15-49 years.
ABSTRACT

Intrauterine Device is a method of contraception, which is underutilized in Sub Saharan African countries including Kenya despite the method being safe, long acting, reversible and effective in preventing unintended pregnancies. The main objective of this study was to determine the uptake of Intrauterine Device among women seeking Family Planning services at Mbagathi and Mama Lucy Kibaki hospitals in Nairobi County. The specific objectives were to establish the level of Intra Uterine Device uptake among women seeking Family Planning services and to determine drivers and barriers to Intrauterine Device uptake among the study population. This was a descriptive cross sectional facility based study involving women of reproductive ages 15-49 years seeking family planning services at the two level four Government Hospitals in Nairobi County. Systematic sampling method was used to select respondent and 380 women who were distributed proportionately in the two facilities were interviewed. Data was collected using both quantitative and qualitative approaches where an interviewer administered questionnaires, focus group discussions and key informant interviews were used as the data collection tools. Descriptive statistics were used to describe the variables while chi square tests assessed associations. Logistic regression was performed for variables that were significant at bivariate analysis. The uptake of IUD among respondent was 7.9%. The uptake of IUD increased with age with those above 30 years using the device more than those below 30 years. Parity was significant in uptake of the method with those having more than two children using the method more compared to those who had one or two children (p<0.0001). Majority of women (84.6%) were able to identify what an IUD is and how it is used. Awareness of the fact that the facility was providing the IUD significantly influenced the uptake. Myths, rumours and misconception were mentioned by 71.3% of women but having heard them was not associated with uptake of IUD (p=0.167), however they were cited to be barrier to IUD uptake by key informant. The main myths, rumours and misconception that were mentioned included; One can conceive with IUD and give birth to a baby with device embedded in the body (35.8%), IUD can travel to other parts of the body (26.6%) and spread infections to other parts of the body (19.6%). Fear and conceptual concern were also cited as barrier to IUD uptake. Eighty three percent of the IUD users were satisfied with the device and 97% of the users would recommend the method to others. FP providers influenced IUD uptake by either recommending or advising against it. In conclusion the uptake of IUD was 7.9%. Parity, awareness of IUD availability and a favourable perception were the main drivers to IUD uptake. Myths, rumours and misconceptions largely persist in the region. The study recommends to the ministry of health a need to increase IUD uptake and Family planning programmes a need to focus more on young women and those of lower parity to increase the uptake of IUD. Health providers need to dispel myths, rumours and misconceptions and allay fears and concern about IUD. The study recommends further study to find out health provider’s influence on IUD uptake as well as a similar or comparative study in rural areas to find out IUD uptake and for ease of generalisation.
CHAPTER ONE: INTRODUCTION

1.1 Background of the study

The intrauterine device (IUD) is a long-term reversible contraceptive method that is suitable for women of all reproductive ages, and represents the most cost effective reversible method for preventing unwanted pregnancies. It is one of the most highly effective, convenient and widely used Family Planning (FP) methods in some parts of the world (Amy et al, 2006). The method requires little effort on the part of the user once inserted and offers ten to twelve years of protection against pregnancy. It is suitable in delaying and spacing birth irrespective of parity. Also, the World Health Organization (WHO) has shown that IUD is suitable for women living with HIV/AIDS (WHO, 2010). Discontinuation and failure rate among the IUD users is minimal and therefore has a significant effect on Contraceptive Prevalence Rate (CPR) in a low resource setting such as Kenya.

Uptake of IUD in developing countries has been declining progressively over the last decade. The use of the IUD in relation to other contraceptive methods is reported to have either stagnated or declined (WHO, 2010). In the year 2007, the IUD was used by an estimated 23% of the 721 million users of any contraceptive method; making it the most commonly used reversible method worldwide. When excluding China from the global estimates, IUDs account for 12% of all contraceptive use worldwide (United Nations, 2009). However, the IUD represents only 2% of modern method contraceptive use in sub-Saharan Africa, revealing the under-utilization of this method of contraception in the region despite it being such an important choice for women elsewhere (May et al, 2011). For example annual reports in Ghana showed a steady decline in the use of IUD from 3.3 to 1.9 percent between year 1995 and year 2001 among all women (WHO, 2010; Salem, 2006).
Increasing IUD uptake is particularly important in sub-Saharan Africa, where family planning uptake is often motivated by women’s desire to limit the number of births. Evidence from sub-Saharan Africa suggests there is a large discrepancy between the proportion of women who want to limit the number of births and the proportion using Long Acting and Permanent Methods (LAPMs). This implies large unmet need for LAPMs such as the IUD. Furthermore, contraceptive provision in many Sub-Saharan African countries has relied predominantly on short-term methods, such as oral pills, condoms and Injectables (UN, 2012).

In Kenya while contraceptive prevalence has reached 58 percent, only 3.4 percent of married women in Kenya are currently using the IUD (KNBS, 2015). It is therefore of great importance to understand uptake of IUD among women seeking FP services, so as to enhance its use and increase the CPR at the same time contribute to the health maintenance of women in reproductive ages by avoiding unplanned pregnancy and induced abortions.

1.2 Problem statement

Intrauterine device is a highly effective, long term and reversible method of family planning but the method is underutilised both worldwide and locally (WHO, 2010). In Kenya, the trends in IUD use show a decline from previous years. According to KDHS reports, IUD use in 1993, 2003 and 2008 was 4.2, 2.5, and 1.6 percent respectively among married women aged 15-49 years, showing a steady decline (KNBS, 2009). According to KDHS 2014, there has been an increase in IUD use with 3.4% of married woman using IUD but this increase has not matched the obvious benefits of IUD. Among the most commonly used contraceptives in Kenyan informal settlements, IUD is the least used at 4% compared to condoms (35%), pills (33%) and
injection (19%) (Oketch et al, 2011). Though contraceptive prevalence has been on the rise from 46% in 2009 to the current 58%, only 3.4 percent of married women in Kenya are currently using the IUD (KNBS, 2015). In addition, IUD was the least used modern contraceptive methods among married women in Kenya, represented by 1.6% compared to Injectables (21.6%), pills (7.2%), sterilization (4.8%), implants (1.9%) and condoms (1.8%) (Alaii et al, 2012). It was also the least preferred method among those who intended to use contraceptive method in future at 1.9% as compared to 7.7% for implant which is also a long term contraceptive method (KNBS, 2009). This trend therefore, creates a need to understand the uptake of IUD as well as drivers and barriers to IUD uptake. Primary health facilities in Nairobi county have been reported to be lacking grossly both in commodities and supplies as well as lack of trained personnel to offer IUD services and this has led to a declining trend in IUD uptake in the region (Mwangi, 2009) but level four and above public health facilities have regular supplies and are ideal for provision of IUD. The study was carried out at Mbagathi and Mama Lucy Kibaki Hospitals, which are high volume, level four hospitals in Nairobi County with the highest uptake of FP services in the region.

1.3 Justification

The significantly high unmet need for FP in Kenya which currently stands at 18% and the CPR of 58% coupled with the low IUD uptake of 3.4% (KNBS, 2015), calls for strengthening of approaches geared towards improving use of FP services particularly the long term methods which include IUD. Many studies have looked into family planning in general and only few studies have examined IUD use more so in a health facility set up. Understanding the major drivers as well as the major barriers to the IUD uptake among women seeking FP services at Mbagathi and Mama Lucy Kibaki Hospitals will generate knowledge and information that will be useful in guiding
policy interventions. The findings of this study will particularly be useful in seeking solutions to barriers of IUD uptake and strengthening drivers to increase IUD uptake and will therefore help to create demand for IUDs, enhance the quality of services, reduce reliance on the relatively expensive FP methods that burdens the National Family Planning Programme, and increase women’s access to a full range of contraception options. Given the high efficacy and safety of IUDs, increasing its use will expand women’s contraceptive choices with great implications for increasing overall contraceptive prevalence which will result to a decline in overall population growth as well as reducing unintended pregnancy that leads to induced abortion, a major cause of maternal morbidity and mortality in the region. Mbagathi and Mama Lucy Kibaki Hospitals are the main Nairobi county Hospitals with highest FP uptake in addition to offering all FP services.

1.4 Research questions

1. What is the level of IUD uptake among women seeking FP services at Mbagathi and Mama Lucy Kibaki Hospitals in Nairobi County?

2. What are the drivers to IUD uptake among women seeking FP services at Mbagathi and Mama Lucy Kibaki Hospitals in Nairobi County?

3. What are the barriers to IUD uptake among women seeking FP services at Mbagathi and Mama Lucy Kibaki Hospitals in Nairobi County?

1.5 Null hypothesis

There are no significant associations between IUD uptake and socio-demographic or reproductive health factors among women seeking FP services at Mbagathi and Mama Lucy Kibaki Hospitals in Nairobi County.
1.6 Objectives

1.6.1 Broad objective

To determine Intrauterine Device uptake among women seeking FP services at Mbagathi and Mama Lucy Kibaki Hospitals in Nairobi County

1.6.2 Specific objectives

1. To establish the level of IUD uptake among respondent seeking FP services at Mbagathi and Mama Lucy Kibaki Hospital in Nairobi County
2. To determine the drivers to IUD uptake among women seeking FP services at Mbagathi and Mama Lucy Kibaki Hospital in Nairobi County
3. To determine the barriers to IUD uptake among women seeking FP services at Mbagathi and Mama Lucy Kibaki Hospital in Nairobi County

1.7 Significance and anticipated output

The purpose of this research was to determine the IUD uptake among women seeking FP services at Mbagathi and Mama Lucy Kibaki Hospitals in Nairobi County. The study provided knowledge on drivers and barriers to IUD uptake which will be used to guide policy on increasing the uptake of the method. The findings from the study will be used by decision makers in development of strategies to strengthen the uptake of IUD as a long term method of contraception that have a significant impact on CPR. The findings are useful to District Health Management Teams in their future planning in increasing IUD uptake as a method of contraception. The study is a requirement for the award of Masters Degree in Public Reproductive Health in Kenyatta University.

1.8 Limitation and delimitation

The study was based on data collected from two government facilities in Nairobi County, thus private facilities were excluded and this is a limitation because women
also seek services in private facilities. There has been no other similar study in these facilities and the findings of this study will be useful to the management of the facilities in their future planning as well as the policy makers in addressing the barriers and enhancing the drivers identified. Majority of women seek family planning services in public facilities thus the findings may be used to cover a wider population of women.

1.9 Conceptual framework

Brief description of the Conceptual Framework

Figure 1.1 below illustrates the conceptual framework. The researcher examined the IUD uptake and both drivers and barriers from clients’ perspectives and grouped them into client and service delivery related barriers and drivers. Client related and service delivery related drivers included age, occupation, parity, future fertility desires, previous FP use, knowledge and awareness, partner influence for they have been found to greatly influence the woman’s choice of contraceptive method. Client related and service delivery related barriers are factors that have been reported to hinder uptake of IUD and they include religion, history of birth, affordability and myths/misconception/rumours. These barriers and drivers affects both supply and demand for IUD which eventually leads to increased or decreased uptake of IUD, thus affecting the Contraceptive Prevalence Rate. The factors are reviewed in detail in the literature review.
Figure 1.1 Conceptual framework modified from Egessa John Joseph, 2010

Client and service related drivers
Age, Parity, marital status, occupation, fertility desires, Knowledge and awareness, previous FP use, Partner influence, favourable perception

Client and service related barriers
Religion, History of birth, affordability, myths/rumours/misconception

(Independent variables)

Demand and supply of IUD

IUD uptake
(Independent variable)
CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

The unmet need for family planning which is the percentage of women aged 15 to 49, married or in a union, who report the desire to delay or avoid pregnancy, but are not using any form of contraception in the world, has shown a slow decline over time. MDGs report 2012 indicates that, the rate of progress in the developing regions has even decelerated between 2000 and 2010 (UN, 2012), indicating the potential for expansion of family planning programmes. One in four women of childbearing age in a marriage or union had an unmet need for contraception in Sub-Saharan Africa (WHO 2010).

Intrauterine devices (IUDs) are small T- or horseshoe-shaped devices made of plastic, which are inserted into a woman’s uterus to prevent pregnancy. IUDs have been used since the beginning of the twentieth century, but became a popular contraceptive method from the 1960s onwards (Amy et al, 2006). IUDs may be copper-bearing or Levonorgestrel (hormone)-releasing. Copper-bearing IUDs can remain in place for up to 12 years (WHO, 2010). Most women can use the IUD, including young women, women who have not had children, HIV-infected women, and women with AIDS who are clinically well on treatment. The method is suitable for those who wish to space, delay, or limit births, and it is appropriate for women who are postpartum or post abortion (WHO, 2007; WHO, 2010). The IUD is one of the most highly effective, convenient, cost-effective, and widely used FP methods in some parts of the world (WHO, 2010). Fewer than 10 in every 1,000 users become pregnant in the first year of IUD use and one act can confer up to 12 years of contraceptive protection, in addition the IUD’s commodity cost is the lowest of any method per year of use (Nguyen et al, 2011)
2.2 Types and benefits of using IUD

There are two types of IUDs currently available in over 100 countries. The most widely available IUD is the Copper bearing IUD (TCu 380A). It is highly effective and long acting, easy to insert, and has a low complication rate. The other type is a hormone releasing IUD also known as Levonorgestrel Intrauterine System (LnG IUS or IUD). Studies that compare the two IUDs suggest that despite a decrease in irregular and menstrual bleeding, continuation rates for LnG IUS are lower than with the TCu 380A (Amy et al, 2006; MOH 2010). IUDs in general work by preventing effective sperm function and therefore fertilization. The TCu 380A releases copper ions and causes an inflammatory response with associated local increase of prostaglandins, white blood cells, and change in the normal fluids present in the uterus and fallopian tubes. Mirena is a steroid releasing device that acts locally to cause high levels of levonorgestrel in the endometrial tissue that lines the uterus, but low levels of systemic hormone (Amy et al, 2006). Both types are appropriate for women of all reproductive ages (15-49 years) and parities. They represent a form of contraception that is private, easy to use, extremely effective and completely reversible (May et al, 2011). Given the immediate return to fertility after IUD removal, the IUD is highly appropriate for adolescents and young women, the IUD can be used for women seeking medium or long-term contraception. After initial insertion, the IUD requires almost no attention on the part of the user and its effectiveness is not dependent on daily or monthly action. Because the method does not require daily adherence, it has been shown to be substantially more effective than user-dependent hormonal methods that suffer higher typical use failure rates (Moreau et al, 2007; Kost et al, 2008). IUD is one of the most cost effective methods for women and family planning programmes. It is an ideal postpartum method because it does not interfere with lactation, facilitates adequate birth spacing and does not require repeat health care visits for contraceptive refills (Melissa et al, 2012).
2.3. Side effects of IUD

The side effects of IUD include bleeding, backache and cramping commonly during the first few months of use which can easily be improved upon (Amy et al, 2006). Usually there is exaggeration of the concern that users are at increased risk of pelvic inflammatory disease (PID) if they have a sexually transmitted infection (STI) at the time of insertion. Research shows that even in settings of high STI prevalence, the risk of PID in IUD users is very low. For example, a modelling exercise from Benin, Burkina Faso, Ghana, Guinea, and Mali, where the prevalence of Chlamydial and gonococcal infections was more than 4% the estimated risk of PID was only 0.075% (or less than 1 in 1300) among IUD users indicating the effect is rare. Other side effects that have been associated with device use include bleeding in the first few months of insertion and backache (Stanback and Shelton, 2008).

2.4 Uptake of the IUD

According to United Nation (2012) report, the global figure of IUD uptake masks the variation of IUD use across the globe. Updates from World Contraceptive Use 2009 indicate that 25% of users of any contraceptive method use the IUD in Asia, followed by 20% in Europe. These proportions are reflected by the predominance of IUD use in China (50% of all users) where women prefer the device due to its long lasting nature as well as being safe, convenient, cost effective and high efficacy in preventing pregnancy (UN, 2009). When excluding China from the global estimates, IUDs account for 12% of all contraceptive use worldwide (WHO, 2010). However, the IUD represents only 2% of modern method contraceptive use in Sub-Saharan Africa, revealing the under-utilization of this method in the region despite it being such an important choice for women elsewhere (UN, 2012). Only 3.4 percent of married women in Kenya are currently using the IUD (KNBS, 2015).
2.5 Drivers and Barriers to IUD uptake

Drivers are the factors that support or facilitate uptake of the IUD and they include client knowledge and awareness on the method as well as influence from providers, family members, and partners. Women who are aware of the IUD and its benefits are most likely to use the method as compared to those who are not (Espey et al, 2003). Clients with wide experiences on IUD will report of facilitators to uptake of the method while barriers are dominant in those who have not yet used the methods. Barriers are the obstacles or factors that hinder women from using IUD and include fears, rumours, little or lack of knowledge (Melissa et al, 2012). Both drivers and barriers are related to client and service delivery. Studies that have looked at drivers to IUD uptake have highlighted the major themes that includes, influence from providers, family members, and partners as well as participants’ own experiences. Those that have looked at the barriers have cited fears and misconceptions in addition to religious beliefs (Katherine et al, 2011).

2.5.1 Socio-demographic and reproductive health factors

Socio-demographic factors as well as reproductive health factors can be either drivers or barriers to IUD use. Age and education status were found to influence uptake of IUD while marital status and religion had no influence on uptake of the method. Future plan of fertility as well as high parity has also been found to be a driver in use of IUD (Serawit and Alemayehu, 2012). History of birth has been found to affect the use of IUD, with those having no history of birth being reluctant to use the method as compared to those who have a history of birth or those who are parous (Moreau et al, 2007). With the current eligibility criteria, IUD can be used by adolescent and those who have not yet given birth (MOH, 2008).
2.5.2 Knowledge and awareness

Knowledge of modern contraceptives is a necessary precondition for use of any family planning services. Studies have shown that knowledge of IUD as one of family planning methods 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 (79%) had heard of IUD and were aware of its use in preventing pregnancy (85%) and this was significantly 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 is relatively high compared to knowledge of any modern method but the key barrier hampering demand at the consumer level is the prevalence of misinformation and frightening negative myths and rumours 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 IUD as a contraceptive method which results in uptake of the device.

2.5.3 Misconceptions and fears

Women who have misconceptions about the method are not likely to use it and usually clients have many misconceptions, fears and rumours about the IUD and its side effects. Rumours 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 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 rumours and myths they had heard. Some of this myths and rumours 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).

2.5.4 Partner influence

Partner, peers and family members are very influential in uptake of contraceptives and some are particularly persuasive. Receiving active support or ambivalence from a partner about choosing the IUD, may lead to uptake of the method while opposition due to partner’s attitude toward future childbearing and concerns about the device hinder uptake. Nearly all of the participants who reported partner opposition did not use the device (Melissa et al, 2012). Discussion with partner on family planning and contraceptives also hinder or facilitate uptake of a contraceptive method such as IUD as those women who discuss with their partners finds it easier to use the method.

2.5.5 Provider influence

Healthcare providers strongly influence IUD decision-making, sometimes preventing and at other times facilitating device uptake (Melissa et al, 2012). Provider-related barriers and drivers are important as these are potentially modifiable. Health providers are supposed to inform all potential users about the method, and to prescribe it to clients who require it. Health providers’ attitude regarding family planning plays an important role, either in choosing or continuing contraception with IUD. Attitudes
affect how providers counsel about IUD. There is usually a difference between what providers says when asked what they counsel about IUD and what clients report when asked what they are counselled on IUD. In a study by Amna and Shaikh, 2013, all providers seemed to have reservations regarding IUD provision which is attributed to lack of knowledge about the contraindications for the IUD and to a reluctance to commit the time and effort to inserting the device especially in an environment where providers feel over-burdened and under-supplied and therefore they admitted they do not counsel for it. Some clients have reported that their provider recommended and even insisted on the IUD (Melissa et al, 2012).

Providers may not provide IUD to their clients because they may not be familiar with the latest evidence on eligibility criteria and so may unintentionally deny a client an IUD for inappropriate medical reasons or, they may not offer comprehensive information about all methods during counselling, which limits the ability of a client to make an informed contraceptive choice (FHI, 2007). The study by Rubin & Winrob (2010), also found that lack of discussion and information about the IUD from healthcare providers limited the respondents from choosing the method.

Studies have shown that, participants have been informed of eligibility requirements that precluded them from obtaining an IUD such as being under 18 years old or above age 40. Some clients have been denied an IUD because of previous sexually transmitted infection or because of having procured an abortion. This also correspond to a study by Agha et al (2011) who also found providers considering women with children and in their peak reproductive years to be ideal candidates for the IUD while those below age 19, and multiparous women were not considered suitable for IUD insertion.
Skills of a provider may also influence the uptake of IUD in that if providers are not trained in IUD insertion, they will not be able to offer the device to clients. During revitalizing of IUD in Kenya in year 2006, many providers had inaccurate or outdated knowledge and were uncomfortable with providing IUD services, because they had not had sufficient or recent training/practice or needed updated counselling skills. The extra time needed for counselling and insertion was noted to be a significant disincentive for providers (The ACQUIRE Project/Engender Health, 2006). Despite being dissatisfied with Depot Medroxy progesterone Acetate (DMPA) side effects, two participants remained on the method because their providers were not trained to insert IUDs (Melissa et al, 2012).

Provider biases against IUD also arise due to various concerns. For example, providers continue to worry unnecessarily about facilitating infections in their clients through IUD provision (Espey et al, 2003). Over half (57%) of the providers in AMUA project facilities in Kenya, said they were concerned about the association between IUD and infections (MOH, 2008).

2.5.6 Availability and accessibility

Availability and accessibility have been shown to restrict or facilitate client’s uptake of IUD as they both affect the demand and supply of the commodity. Stock-outs of IUD force clients to choose a method that they may not prefer sometimes leading to discontinuation and unwillingness of clients to adopt any type of contraception (MLE, Tupange and KEMRI, 2011). A 2004 Service Provision Assessment (SPA) in Kenya found out that, only 50 percent of all health facilities countrywide had both IUD and the basic equipment necessary for IUD removals and insertions i.e. gloves, cotton wool, forceps, speculums, tenaculum and uterine sound. Stock out are more commonly recorded in lower primary health facilities such as health centres and
dispensaries where supplies are distributed on a quarterly basis (Central Bureau of
Statistics, 2005). Out of 82 facilities in urban areas that were sampled by Tupange
project 2011, only 49 percent were providing the IUD and 20 percent of these
facilities had recorded stock out in the past one year prior to the survey (MLE,
Tupange and KEMRI, 2011).

Limited access to IUD remains a problem as compared to other methods that are
becoming increasingly available through commercial outlets and community-based
distribution (MOH, 2010). Provision of IUD is confined to a health facility and
distance to such facilities as well as fees for services can make it difficult to obtain
services. Clients also need to know of the availability of the method in the facility for
them to utilise it.

2.6 Synopsis of literature review

Understanding the drivers and barriers to uptake of IUD is an important aspect in the
provision of quality services, expansion of coverage and utilization of services.
Increasing access to IUD as a contraceptive method by raising awareness and
knowledge on benefits of IUD among both providers and clients will contribute to a
significant increase in IUD uptake, reduce unwanted pregnancies and pregnancy-
related maternal deaths as well as increase the CPR.
CHAPTER THREE: MATERIALS AND METHODS

3.1. Introduction

This chapter specifies the materials and methods used to determine intrauterine device uptake among women seeking FP services in Mbagathi and Mama Lucy Kibaki Hospital, Nairobi County.

3.2. Study design

The study used descriptive cross-sectional study design that utilised both qualitative and quantitative methods of data collection to determine the uptake of IUD among women seeking family planning services at Mbagathi and Mama Lucy Kibaki Hospitals. The design was chosen because it described the uptake of the IUD at a given point in time.

3.3 Variables

The independent variables were age, marital status, occupation, religion, parity, fertility desires, history of birth, previous FP use, knowledge and awareness, myths/misconceptions/rumours, partner influence, affordability and favourable perception. The dependent variable was the IUD uptake which was measured through a dichotomous response of using or not using.

3.4 Location of study

The study was carried out at Mbagathi and Mama Lucy Kibaki Hospitals located in Dagoretti and Embakasi Districts respectively in Nairobi County. The two hospitals provide family planning services, curative in-patient and out-patient services, HIV counselling and testing and immunization services. In addition the hospitals provide comprehensive obstetric care services that include surgical operation and blood
transfusion. Both facilities offer all the FP methods with Mama Lucy Kibaki Hospital (MLKH) taking a lead in handling the highest numbers of FP clients in Nairobi County with about 6000 FP clients every year while Mbagathi has about 3600 FP clients per year.

The two facilities were purposively selected because they are high volume level four government facilities and are the main County Referral Hospitals in Nairobi County. According to KDHS 2009, Nairobi County had the second highest rate of uptake of Family Planning services with a CPR of 55 percent and therefore was an ideal area to achieve the objectives of this study. According to National FP guidelines (MOH, 2010), FP counselling and provision of full range of FP methods including the IUD should be done in level four, five and six hospitals. Mama Lucy Kibaki Hospital and Mbagathi Hospital are level four hospitals and both offer FP counselling and full range of FP methods including the IUD as per FP Guideline 2010. A previous study done in Nairobi county in primary health facilities found Health centres to be grossly lacking adequate commodities to provide IUD in addition to lack of basic operational requirements for IUD provision (Mwangi, 2009). In Kenya the most common single source of all contraceptives is government Hospitals (KNBS, 2009). In addition the two hospitals serve a cosmopolitan and multicultural Kenya’s capital city which comprises women in their reproductive ages from different social classes.

3.5 Study population

This included all women seeking family planning services at Mbagathi and Mama Lucy Kibaki Hospitals within the months of March/April 2014. The study targeted all women of reproductive age ranging between 15-49 years seeking FP services in the region. The average monthly attendance of FP clinic is 800 women for the two facilities.
3.6 Inclusion and exclusion criteria

3.6.1 Inclusion criteria

Women seeking family planning services in Mbagathi and Mama Lucy Kibaki Hospitals aged 15 to 49 years and willing to participate were included. One health care provider offering FP services in each of the facility was interviewed as the key informant. Focus group discussion included a group of 5-8 women seeking FP services in each of the facility and willing to participate in the study.

3.6.2 Exclusion criteria

The study excluded women seeking family planning services who were unwilling to participate, those who were sick and those who were confirmed pregnant. All those women who did not consent were also excluded.

3.7 Sampling Technique

Purposive sampling was used to select the study hospitals. Systematic sampling was used to select respondents. The sampling interval was calculated from \( k = \frac{N}{n} \) where \( N \) was the target population in a month and \( n \) was the sample size. For Mbagathi \( k = \frac{300}{142} = 2.1 \) and for Mama Lucy Kibaki Hospital (MLKH) \( k = \frac{500}{238} = 2.1 \). This was rounded off to 3 giving \( k^{th} \) value of 3. Upon arrival of the research assistants at the study site on the day of interview, the first respondent was selected randomly from the register of clients waiting to be served at the FP clinic and within the sampling interval. After that, every 3\(^{rd}\) client seeking services at that FP clinic was approached with an intention to enrol her in the study. Clear explanation about the study was done after which each client was asked to sign the consent form voluntarily. The sampling interval provided the research assistants adequate time to complete interviewing one participant before embarking on the next one and thereby maximizing the interview
time. Additionally, it also avoided extended waiting time on the part of the client/patient after receiving the services.

### 3.8 Sample size determination

Sample size was calculated using Fishers’ formula as quoted by Mugenda O and Mugenda G (1999). In a context where the target population is more than 10,000 the formula is

\[
n = \frac{Z^2pq}{d^2}
\]

\( n \) = desired sample size

\( z \) = standard normal deviate (1.96) that corresponds to 95% confidence level.

\( p \) = the proportion in the target population with a specific characteristic (55% CPR in Nairobi county)

\( q = 1.0 - p \)

\( d \) = the degree of accuracy desired (0.05 was used)

\[ n = 1.96^2 \times 0.55 \times 0.45 / 0.05^2 \]

\( n = 380 \)

The sample size was distributed based on monthly target for each facility as shown in Table 3.1:

<table>
<thead>
<tr>
<th>Facility</th>
<th>Number of clients per month</th>
<th>Proportion of the sample %</th>
<th>Number to be sampled</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mbagathi Hospital</td>
<td>300</td>
<td>37</td>
<td>142</td>
</tr>
<tr>
<td>MLKH</td>
<td>500</td>
<td>63</td>
<td>238</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>800</strong></td>
<td><strong>100</strong></td>
<td><strong>380</strong></td>
</tr>
</tbody>
</table>
3.9 Pre-testing of Research Instruments

This was done in Riruta Health Centre, though a level three health facility it offers IUD in addition to serving a similar study population of Nairobi County. This was to ensure the questions were complete and standardized. Forty clients were interviewed using interviewer administered questionnaire and information gathered was useful in ensuring proper flow of questions as well as correction of mistakes identified.

3.9.1 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 standardised and closed ended where appropriate to ensure that the responses were guided.

3.9.2 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.

3.10 Data collection techniques

Four research assistants who were recently graduated nurses were recruited and taken through a comprehensive training period before data collection began. Interviewer administered questionnaire was used to collect most of the quantitative data. Qualitative data was collected through focus group discussions targeting women seeking FP services in the facility who were not subjected to interviewer administered questionnaire and key informant interviews targeting FP services providers. FGD
participants were selected with the help of the FP providers and this involved both users and non users of IUD.

3.11 Construction of research instruments

Questionnaire designed to elicit responses on major drivers and barriers to IUD uptake was used to collect most of the quantitative data. Focus group discussions guide was used to collect qualitative data from a group of 5-8 women seeking FP services in each facility. Key informant interview guide was also be used to collect additional qualitative data on IUD uptake from FP service providers.

3.12 Data entry and analysis

Data was entered into a spreadsheet (Microsoft excel) and exported into Statistical Package for Social Sciences (SPSS) version 21.0 after which analysis was done. Descriptive statistics that were used included frequencies, percentages, counts and means. Cross tabulations were used to describe the variables. Bivariate analysis involved chi square test analysis to assess associations between various independent variables and the dependent variable and where conditions for Chi square test were not satisfactory; Fisher’s exact test was used. Logistic regression analysis was also used using variables that were found to be significant by bivariate analysis to determine the factors that were predictive of IUD uptake. Confidence intervals were calculated for the uptake of IUD and for the odds ratio. Threshold for statistical significance was set at p<0.05. Qualitative data from focused group discussion and key informant interview was transcribed verbatim into MS word files and thematic analysis was done to provide indepth understanding of drivers and barriers of IUD uptake.
3.13 Ethical Considerations

Ethical approval was sought from Kenyatta University Ethics and Research Committee after permission was granted by graduate school. Permission was also sought from Ministry of Higher Education, Science and Technology and from the Ministry of Health to include Provincial Health Management Team of Nairobi County, District Health Management Team of Embakasi and Dagoretti District, Medical Superintendent and Head of the Family Planning department in each facility. Informed Consent was sought from each respondent on voluntary basis with an assurance of confidentiality.
CHAPTER FOUR: RESULTS

4.1. Introduction
This chapter displays results and analysis of the findings. The results have addressed
the specific objectives of the study by using both quantitative and qualitative data.
Descriptive and inferential statistics have been used to elaborate the results.

4.2. Background characteristics of the respondents
The characteristics of the participants are outlined in Table 4.1. Overall, a total of 380
women of reproductive age were recruited to take part in the current study. Their ages
ranged from a minimum of 19 years to a maximum of 48 years with the mean
(standard deviation (sd)) age being 27.3(4.8) years. Majority of the participants were
below 30 years of age (72.4%) and this constituted 30% who were aged 24 years and
below and 42.4%, who were in age category of 25 to 29 years of age. Other
participants (19.5%) were in age category of 30 to 34 years of age while the rest
(8.2%) were 35 and above years of age.
Concerning marital status the results show that most of the respondents were married
(88.2%) while the rest (11.8%) were unmarried. On religion, Christianity was the
predominant religion of the participants in this study (98.7%) and this comprised of
Protestants (68.4%) and Catholics (30.3%). Muslims constituted 1.3 % of the study
sample.
Analysis of the highest level of education attained by the respondents showed that
48.2% had secondary school education while 27.4% had post secondary school
education. The rest (23.4%) had either primary school education or no formal
education. Concerning the occupations of the study women, a sizeable proportion of
the women were unemployed (44.5%) while others were either self-employed
(31.8%), casual labourers (5.3%) or in salaried jobs (18.4%). The distribution of the
sample amongst the two participating public hospitals was determined based on the
proportional to population size (PPS) approach with Mama Lucy contributing a larger proportion of the sample (62.6%) and the remainder being recruited from Mbagathi District hospital (37.4%) as shown in Table 4.1. The residence of the women taking part in the study was also recorded with most of the women being from Embakasi (46.6%), Dagoretti (17.4%) or Langata (15.8%).

**Table 4.1:** Background characteristics of the study participants

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Frequency(n=380)</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Age (years)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>24≤</td>
<td>114</td>
<td>30</td>
</tr>
<tr>
<td>25-29</td>
<td>161</td>
<td>42.4</td>
</tr>
<tr>
<td>30-34</td>
<td>74</td>
<td>19.5</td>
</tr>
<tr>
<td>≥35</td>
<td>31</td>
<td>8.2</td>
</tr>
<tr>
<td><strong>Marital status</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Married</td>
<td>335</td>
<td>88.2</td>
</tr>
<tr>
<td>Unmarried</td>
<td>45</td>
<td>11.8</td>
</tr>
<tr>
<td><strong>Religion</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Protestant</td>
<td>260</td>
<td>68.4</td>
</tr>
<tr>
<td>Catholic</td>
<td>115</td>
<td>30.3</td>
</tr>
<tr>
<td>Muslim</td>
<td>5</td>
<td>1.3</td>
</tr>
<tr>
<td><strong>Education level</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Primary/no formal education</td>
<td>93</td>
<td>24.4</td>
</tr>
<tr>
<td>Secondary</td>
<td>183</td>
<td>48.2</td>
</tr>
<tr>
<td>College/University</td>
<td>104</td>
<td>27.4</td>
</tr>
<tr>
<td><strong>Occupation</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Unemployed</td>
<td>169</td>
<td>44.5</td>
</tr>
<tr>
<td>Casual labourer</td>
<td>20</td>
<td>5.3</td>
</tr>
<tr>
<td>Self-employed</td>
<td>121</td>
<td>31.8</td>
</tr>
<tr>
<td>Salaried job</td>
<td>70</td>
<td>18.4</td>
</tr>
<tr>
<td><strong>Hospital</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mbagathi</td>
<td>142</td>
<td>37.4</td>
</tr>
<tr>
<td>Mama Lucy</td>
<td>238</td>
<td>62.6</td>
</tr>
<tr>
<td><strong>Residence</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Embakasi</td>
<td>177</td>
<td>46.6</td>
</tr>
<tr>
<td>Dagoretti</td>
<td>66</td>
<td>17.4</td>
</tr>
<tr>
<td>Langata</td>
<td>60</td>
<td>15.8</td>
</tr>
<tr>
<td>Others*</td>
<td>77</td>
<td>21.2</td>
</tr>
</tbody>
</table>

*Kikuyu (2), Kasarani (40), Kajiado (5), Makadara (23), Mavoko (3), Westlands (4)*
4.3. Reproductive health characteristics of the respondents

Of the 380 women sampled, 372 (97.9%) had at least one child. Analyses on the parity showed that the median number of children was two (interquartile range: one to two children). Overall, 20.2% had three children or more as shown in Table 4.2. Analysis on the sex of the children showed a general downward trend in proportions of women having many children regardless of whether they were boys or girls.

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Frequency (n)</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Have children</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>372</td>
<td>97.9</td>
</tr>
<tr>
<td>No</td>
<td>8</td>
<td>2.1</td>
</tr>
<tr>
<td>Number of Children</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>172</td>
<td>46.2</td>
</tr>
<tr>
<td>2</td>
<td>125</td>
<td>33.6</td>
</tr>
<tr>
<td>3</td>
<td>48</td>
<td>12.9</td>
</tr>
<tr>
<td>&gt;=4</td>
<td>27</td>
<td>7.2</td>
</tr>
<tr>
<td>Girls</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>174</td>
<td>46.8</td>
</tr>
<tr>
<td>2</td>
<td>68</td>
<td>18.3</td>
</tr>
<tr>
<td>&gt;=3</td>
<td>20</td>
<td>5.4</td>
</tr>
<tr>
<td>Boys</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>167</td>
<td>44.9</td>
</tr>
<tr>
<td>2</td>
<td>56</td>
<td>15.1</td>
</tr>
<tr>
<td>&gt;=3</td>
<td>9</td>
<td>2.4</td>
</tr>
</tbody>
</table>

The study also endeavoured to assess the fertility desires of the women taking part in the research. Out of the 380 women interviewed, 233 (61.3%) reported they wished to bear more children. A probe into the number of children they wished to bear showed that slightly over a half of the respondents (51.5%) wanted one more child while the others wished to bear two (35.2%) and the rest wished to bear three or more (12.9%) children (Table 4.3). Those who had their last child aged twenty four months and above were 29.3%, while those aged less than six months were 27.7%, still others had their last child aged six to twelve months (23.4%) and thirteen to twenty four months (19.6%). Investigations into the outcomes of the last delivery found that all women
had live births. Of the 233 women who reported they wished to bear more children, 21 (9.0%) and 65 (27.9%) said they planned to get pregnant in less than one year and between one and three years respectively. Majority reported that they planned to get pregnant in a period exceeding three years (62.2%). Asked if they discussed about family planning choices with their partners, most of the women responded in the affirmative (80.0%) as shown in table 4.3.

### Table 4.3: Reproductive health characteristics of respondents

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Frequency (n)</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wish to have more children</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>233</td>
<td>61.3</td>
</tr>
<tr>
<td>No</td>
<td>147</td>
<td>38.7</td>
</tr>
<tr>
<td>Number of children wished to have</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>120</td>
<td>51.7</td>
</tr>
<tr>
<td>2</td>
<td>82</td>
<td>35.3</td>
</tr>
<tr>
<td>&gt;=3</td>
<td>30</td>
<td>12.9</td>
</tr>
<tr>
<td>Time since last delivery (Months)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>&gt;24</td>
<td>109</td>
<td>29.3</td>
</tr>
<tr>
<td>13-24</td>
<td>73</td>
<td>19.6</td>
</tr>
<tr>
<td>6-12 months</td>
<td>87</td>
<td>23.4</td>
</tr>
<tr>
<td>&lt; 6 months</td>
<td>103</td>
<td>27.7</td>
</tr>
<tr>
<td>Outcome of last delivery</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Alive</td>
<td>372</td>
<td>100</td>
</tr>
<tr>
<td>Duration to get pregnant again</td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt; 1 year</td>
<td>21</td>
<td>9.0</td>
</tr>
<tr>
<td>1-3 years</td>
<td>65</td>
<td>27.9</td>
</tr>
<tr>
<td>&gt; 3 years</td>
<td>145</td>
<td>62.2</td>
</tr>
<tr>
<td>No response</td>
<td>2</td>
<td>0.9</td>
</tr>
<tr>
<td>Discusses FP choice with partner</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>304</td>
<td>80.0</td>
</tr>
<tr>
<td>No</td>
<td>76</td>
<td>20.0</td>
</tr>
</tbody>
</table>

### 4.4. Respondent’s knowledge and awareness of modern contraceptives

The current study also sought to assess the client’s knowledge and awareness of modern contraceptives as shown in table 4.4 below. All the respondents were aware of modern methods of contraception considering that all of them could identify at least one method. In fact 27.6%, 37.1% and 19.7% could identify, respectively, three, four or five methods out of a total of six methods the current survey focused on.
Condoms, injectables, pills and intrauterine devices (IUDs) were the most known methods of modern contraception having been mentioned by, respectively, 94.7%, 92.4%, 90.5% and 80.3% of the respondents. Tubal ligation was the least known contraception with only 22 respondents (5.8%) saying they were aware of it.

**Table 4.4: Respondent’s knowledge and awareness**

<table>
<thead>
<tr>
<th>Contraceptive</th>
<th>No. of respondents aware</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intrauterine device</td>
<td>305</td>
<td>80.3</td>
</tr>
<tr>
<td>Pills</td>
<td>344</td>
<td>90.5</td>
</tr>
<tr>
<td>Injectables</td>
<td>351</td>
<td>92.4</td>
</tr>
<tr>
<td>Implants</td>
<td>244</td>
<td>64.2</td>
</tr>
<tr>
<td>Tubal ligation</td>
<td>22</td>
<td>5.8</td>
</tr>
<tr>
<td>Condoms</td>
<td>360</td>
<td>94.7</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>No. of contraceptives identified</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>13</td>
<td>3.4</td>
</tr>
<tr>
<td>2</td>
<td>36</td>
<td>9.5</td>
</tr>
<tr>
<td>3</td>
<td>105</td>
<td>27.6</td>
</tr>
<tr>
<td>4</td>
<td>141</td>
<td>37.1</td>
</tr>
<tr>
<td>5</td>
<td>75</td>
<td>19.7</td>
</tr>
<tr>
<td>6</td>
<td>10</td>
<td>2.6</td>
</tr>
</tbody>
</table>

Sources of information on the modern contraceptives included; displays in hospital facilities (66.3%), health service providers (42.6%), peers (24.5%) and media (17.6%). Internet and partners were the lowest ranked sources of information on contraceptives as shown in Figure 4.1.
Further, the 305 respondents who had mentioned IUD as an FP method were further interviewed on the knowledge about IUD in particular. Most (251, 84.6%) were able to identify IUD as a device inserted in a woman’s uterus to prevent pregnancy. Just like in the responses to all the contraceptives, displays at the health facilities and service provider’s were the most common sources of information. More than half of the sampled women reported that they were not aware that the facility they were in offered IUD as an FP method (156, 51.1%). In addition, more than half of the respondents (141, 46.2%) thought that the service was affordable while 117 (38.4%) participants reported IUD was unaffordable or they did not know (Table 4.5).
Table 4.5: Respondent’s knowledge and awareness of IUD

<table>
<thead>
<tr>
<th>Attribute</th>
<th>Frequency (n)</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Knowledge of IUD</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>258</td>
<td>84.6</td>
</tr>
<tr>
<td>No</td>
<td>47</td>
<td>15.4</td>
</tr>
<tr>
<td>Source of information on IUD</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Media</td>
<td>15</td>
<td>6.0</td>
</tr>
<tr>
<td>Provider</td>
<td>108</td>
<td>43.0</td>
</tr>
<tr>
<td>Peers</td>
<td>61</td>
<td>24.3</td>
</tr>
<tr>
<td>School</td>
<td>19</td>
<td>7.6</td>
</tr>
<tr>
<td>Hospital facility</td>
<td>132</td>
<td>52.6</td>
</tr>
<tr>
<td>Seminar</td>
<td>13</td>
<td>5.2</td>
</tr>
<tr>
<td>Socialization process</td>
<td>22</td>
<td>8.8</td>
</tr>
<tr>
<td>Aware that facility offers IUD as an FP method</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>149</td>
<td>48.9</td>
</tr>
<tr>
<td>No</td>
<td>156</td>
<td>51.1</td>
</tr>
<tr>
<td>Getting IUD from the facility</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Affordable</td>
<td>141</td>
<td>54.7</td>
</tr>
<tr>
<td>Unaffordable /Don’t know</td>
<td>117</td>
<td>45.3</td>
</tr>
</tbody>
</table>

4.5. Current Contraceptives Use

Of the 380 women recruited in this study, 295 (77.6%) were using one of the modern methods of contraception. Injectable contraceptives were the most commonly used methods of contraception by the study participants (44.7 %) followed by pills (24.1%) and implants (15.6%). IUDs and condoms were least popular methods of contraception having been reported in 10.2 % and 5.0 % of the women interviewed respectively (Figure 4.2). A total of 204(53.6%) out of the 380 women who were sampled in this study, reported that they had used other FP methods before. These contraceptives included pills, injectable, condoms and implants as reported by 43%, 32.3%, 13.3% and 7.0% of the respondents respectively. Additionally, seven respondents (4.4%) had used IUDs prior to using the method they were using at the time of the survey. On the other hand no respondent reported using tubal ligation.
4.5.1. Intrauterine Device Uptake

Thirty participants were currently using IUD as a contraceptive method, constituting 7.9% (95% confidence interval: 2.6-13.2).

4.5.2. Current use of IUD

Details concerning current IUD use at the time of the study are presented in Table 4.6. One-half of these women (50.0%) were aware that they were inserted with Copper T (TCu 380A) type of IUD while the rest did not know. Further investigations revealed that most of the ‘current’ users had been on IUD for one year or less (70.0%) composed of those who had been on IUD for six months or less (36.7%) and those who had been on IUD for six to twelve months (33.3%). Nine women (30.0%) had been on IUD for more than one year from the time this study was carried out.

Enquiries into the reasons that informed the choice of IUD as an FP method showed that convenience of use (73.3%), side effects of other methods (60.0%) and desire to
avoid hormonal contraceptives (33.3%) were the chief reasons for choosing IUD as an FP method. Other reasons cited included cost-friendliness (26.7%) and service provider's influence (10.0%).

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Frequency (n=30)</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Type of IUD used</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Copper T (TCu 380A)</td>
<td>15</td>
<td>50.0</td>
</tr>
<tr>
<td>Don’t know</td>
<td>15</td>
<td>50.0</td>
</tr>
<tr>
<td><strong>Duration of use</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>≤ 6 months</td>
<td>11</td>
<td>36.7</td>
</tr>
<tr>
<td>7-12 months</td>
<td>10</td>
<td>33.3</td>
</tr>
<tr>
<td>&gt;12</td>
<td>9</td>
<td>30.0</td>
</tr>
<tr>
<td><strong>Reason for using IUD</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Side effects of other methods</td>
<td>18</td>
<td>60.0</td>
</tr>
<tr>
<td>Convenience of use</td>
<td>22</td>
<td>73.3</td>
</tr>
<tr>
<td>Desire to avoid hormonal contraceptives</td>
<td>10</td>
<td>33.3</td>
</tr>
<tr>
<td>Cost-friendliness</td>
<td>8</td>
<td>26.7</td>
</tr>
<tr>
<td>Health service provider's influence</td>
<td>3</td>
<td>10.0</td>
</tr>
</tbody>
</table>

### 4.5.3. Attributes related to IUD use

Table 4.7 outlines the attributes related to IUD use. Majority of the respondents who were on IUD at the time of the survey (93.3%) reported that the provider had discussed with them the various details pertaining the IUD as an FP method before conducting the insertion procedure. The discussions covered types (14.3%) benefits (96.4%), side effects (78.6%) as well as the cost effectiveness (10.7%) of IUD. In addition, 83.3% of the respondents reported discussing placement of IUD in the uterus with the health service provider.

Twenty eight respondents were first time users of IUD as a family planning method while others were second and third time users (one in each case). Satisfaction with the method among the ‘current’ users was high with 25 of the 30 users (83.3%) assenting to the inquiry on satisfaction. On the contrary, five ‘current’ IUD users (16.7%) expressed their dissatisfaction with the method. The reasons for dissatisfaction
included discouragement by peers, fear of infection, lower abdominal pains, weight gain as well as what ‘others’ say about the method.

### Table 4.7: Attributes related to IUD use

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Frequency (n=30)</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Discussed IUD with provider the first time it was inserted</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>28</td>
<td>93.3</td>
</tr>
<tr>
<td>No</td>
<td>2</td>
<td>6.6</td>
</tr>
<tr>
<td><strong>Aspects discussed</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Types</td>
<td>4</td>
<td>14.3</td>
</tr>
<tr>
<td>Benefits</td>
<td>27</td>
<td>96.4</td>
</tr>
<tr>
<td>Side effects</td>
<td>22</td>
<td>78.6</td>
</tr>
<tr>
<td>Cost effectiveness</td>
<td>3</td>
<td>10.7</td>
</tr>
<tr>
<td>Its placement in the uterus</td>
<td>25</td>
<td>83.3</td>
</tr>
<tr>
<td><strong>Number of times IUD inserted</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>28</td>
<td>93.3</td>
</tr>
<tr>
<td>≥2</td>
<td>2</td>
<td>6.6</td>
</tr>
<tr>
<td><strong>Satisfied with the method</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>25</td>
<td>83.3</td>
</tr>
<tr>
<td>No</td>
<td>5</td>
<td>16.7</td>
</tr>
</tbody>
</table>

#### 4.5.4. Previous use of IUD

Seven women reported that they had used IUD at some point in their life though at the time of the survey they were not using IUD. Three of them had been inserted with Copper T (TCu 380A) while their counterparts (four) were not aware of the type of IUD they had used (Table 4.8). All these ‘previous’ users had been inserted with an IUD once and all reported using the method for a period not exceeding twelve months.

### Table 4.8: Details concerning previous use of IUD

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Frequency</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Type of IUD previously used</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Copper T (TCu 380A)</td>
<td>3</td>
<td>42.9</td>
</tr>
<tr>
<td>Don’t know</td>
<td>4</td>
<td>57.1</td>
</tr>
<tr>
<td><strong>Experienced problem in IUD use</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>5</td>
<td>71.4</td>
</tr>
<tr>
<td>No</td>
<td>2</td>
<td>28.6</td>
</tr>
</tbody>
</table>
Five (71.4%) of the ‘previous’ IUD users reported they had experienced problems following the adoption of IUD as a family planning method (Table 4.8). Out of the five, three (60%) complained of experiencing pain and, in particular, lower abdominal pains and pain during sexual intercourse. Complaints of heavy menses as well as nausea and discomfort were reported by one respondent in each case. The same complaints were attributed to discontinuation of the method by this group of ‘previous’ users. Discontinuation of IUD use was followed by a switch to injectable by three ‘previous’ users while the rest (two) opted to stay without any modern contraception.

4.5.5. Attributes of those who never used IUD

Table 4.9 presents the responses, from women who have never used IUD, to enquiries on selected attributes related to IUD method of contraception. Of the 343 women who had never used IUD, 149 (43.4%) assented to having ever discussed IUD method with the service provider. Most of them reported they had discussed aspects of placement of IUD in the uterus (75.8%) while side effects and benefits of IUD were reported as being part of the discussion with the service provider by 65.8% and 79.9% of the respondents respectively. Cost effectiveness and types of IUDs were reported to have been discussed by ten respondents (6.7%) in each case. Table 4.9

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Frequency(n)</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ever discussed IUD method with provider</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>149</td>
<td>43.4</td>
</tr>
<tr>
<td>No</td>
<td>194</td>
<td>56.6</td>
</tr>
<tr>
<td>Aspects discussed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Types</td>
<td>10</td>
<td>6.7</td>
</tr>
<tr>
<td>Cost effectiveness</td>
<td>10</td>
<td>6.7</td>
</tr>
<tr>
<td>Its placement in the uterus</td>
<td>113</td>
<td>75.8</td>
</tr>
<tr>
<td>Side effects</td>
<td>98</td>
<td>65.8</td>
</tr>
<tr>
<td>Benefits</td>
<td>119</td>
<td>79.9</td>
</tr>
</tbody>
</table>
4.6. Drivers to IUD uptake

In order to determine drivers to IUD uptake, associations of socio-demographic factors, reproductive health factors, knowledge, awareness and uptake of IUD were established by use of chi square test or Fisher’s exact test. Odds ratios and their corresponding 95% confidence intervals were calculated to quantify the effect of selected variables on IUD uptake.

4.6.1 Socio demographic factors and uptake of IUD

Table 4.10 shows the association between IUD uptake as a method of contraception and selected demographic attributes. There was significant positive association between age and IUD uptake with the proportion of those using IUD increasing with age. Those who were above 30 years were two times likely to use IUD (OR= 2.145; 95% CI: 1.003-4.587; P=0.045) compared to those who were below 30 years. Marital status, level of education and occupation of the respondent did not have any significant association with using IUD as an FP method. Although a higher proportion of respondents from Mama Lucy hospital reported ever using IUD as compared to Mbagathi hospital the differences in proportions did not reach statistical significance (8.8% against 6.3% respectively; OR=1.430; 95% CI: 0.636-3.215; p=0.385).
Table 4.10: Association between socio-demographic factors and IUD uptake

<table>
<thead>
<tr>
<th>Variable</th>
<th>IUD uptake</th>
<th>OR</th>
<th>95% CI</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No n (%)</td>
<td>Yes n (%)</td>
<td>Lower</td>
<td>Upper</td>
</tr>
<tr>
<td>Age (years)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>≥30</td>
<td>92(87.6%)</td>
<td>13(12.4%)</td>
<td>2.145</td>
<td>1.003</td>
</tr>
<tr>
<td>&lt;30</td>
<td>258(93.8%)</td>
<td>17(6.2%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Marital status</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Married</td>
<td>308(91.9%)</td>
<td>27(8.1%)</td>
<td>1.227</td>
<td>0.357</td>
</tr>
<tr>
<td>Others</td>
<td>42(93.3%)</td>
<td>3(6.7%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Education</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(Post) secondary</td>
<td>264(92.0%)</td>
<td>23(8.0%)</td>
<td>1.070</td>
<td>0.444</td>
</tr>
<tr>
<td>No formal/Primary</td>
<td>86(92.5%)</td>
<td>7(7.5%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Occupation</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Self-employed/Salaried</td>
<td>171(89.5%)</td>
<td>20(10.5%)</td>
<td>2.094</td>
<td>0.953</td>
</tr>
<tr>
<td>Unemployed/casual labourer</td>
<td>179(94.7%)</td>
<td>10(5.3%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hospital</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mama Lucy</td>
<td>217(91.2%)</td>
<td>21(8.8%)</td>
<td>1.430</td>
<td>0.636</td>
</tr>
<tr>
<td>Mbagathi</td>
<td>133(93.7%)</td>
<td>9(6.3%)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* Fisher’s exact test (FET)

4.6.2 Reproductive health factors and uptake of IUD

Table 4.11 represents associations of various reproductive health variables with IUD uptake. The number of children a woman had was statistically significantly associated with IUD uptake (p=0.016). Significantly more women who had more than two children were found to use IUD (17.3%) as opposed to those who had one or two children (8.1%). The variables ‘wish to have more children’ and ‘plans to get pregnant in a certain time’ were not associated, statistically, with IUD uptake. Those who had never discussed the choice of contraception with their partners were equally likely to use IUD as those who discussed contraception choice with their partners (p=0.308). Having previously used any FP method was not statistically significant in uptake of IUD (P=0.85) but more women who had previously used any FP method used the IUD than those who were not (10.3% versus 5.1%, respectively) as presented in Table 4.11.
Table 4.11: Association between reproductive health factors and IUD uptake

<table>
<thead>
<tr>
<th>Variable</th>
<th>Total</th>
<th>IUD uptake</th>
<th>OR</th>
<th>95% CI</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>No</td>
<td>Yes</td>
<td>Lower</td>
<td>Upper</td>
</tr>
<tr>
<td>Parity</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&gt;2</td>
<td>75</td>
<td>64(85.3%)</td>
<td>11(14.7%)</td>
<td>2.515</td>
<td>1.141</td>
</tr>
<tr>
<td>1 or 2</td>
<td>295</td>
<td>278(93.6%)</td>
<td>19(6.4%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>372</td>
<td>342(91.9%)</td>
<td>30(8.1%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wish to have more children</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>147</td>
<td>132(89.8%)</td>
<td>15(10.2%)</td>
<td>1.652</td>
<td>0.782</td>
</tr>
<tr>
<td>Yes</td>
<td>233</td>
<td>218(93.6%)</td>
<td>15(6.4%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>380</td>
<td>350(92.1%)</td>
<td>30(7.9%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Plans to get pregnant in</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>≤3 years</td>
<td>146</td>
<td>138(92.0%)</td>
<td>8(8.0%)</td>
<td>1.452</td>
<td>0.545</td>
</tr>
<tr>
<td>&gt;3 years</td>
<td>88</td>
<td>20(92.0%)</td>
<td>7(8.0%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>234</td>
<td>219(93.6%)</td>
<td>15(6.4%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Discusses FP choice with partner</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>304</td>
<td>282(92.8%)</td>
<td>22(7.2%)</td>
<td>0.644</td>
<td>0.274</td>
</tr>
<tr>
<td>No</td>
<td>74</td>
<td>66(89.2%)</td>
<td>8(10.8%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>378</td>
<td>348(92.1%)</td>
<td>30(7.9%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Previous FP use</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>204</td>
<td>183(89.7%)</td>
<td>21(10.3%)</td>
<td>2.129</td>
<td>0.949</td>
</tr>
<tr>
<td>No</td>
<td>176</td>
<td>167(94.9%)</td>
<td>9(5.1%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>380</td>
<td>350(90.3%)</td>
<td>30(7.9%)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

4.6.3 Knowledge, awareness, perception and IUD uptake

Knowledge of IUD based on the ability to correctly identify the description of an IUD was not significantly associated with increased uptake of IUD (p=0.088). A higher proportion of those who were able to tell what an IUD is, were using it as compared to those who could not correctly define what an IUD is (10.9% against 4.3% respectively). Furthermore, awareness that the health facility offers IUD as an FP method was found to significantly increase uptake of IUD (p=0.040). More women who knew that the facility was offering IUD method used IUD than those who were not aware of this fact (13.4% versus 6.4%, respectively). In addition one of the key
informants reported that availability of IUD in the facility has been a driver to IUD uptake as she noted:

“There has not been any stock out of the device in the recent past and all supplies necessary for IUD provision are readily available. Any client who chooses the device usually receive it immediately (KI, A).

All the participants were asked if they had a favourable perception on IUD and if they would recommend IUD use to other women, 40.7% responded in the affirmative while 59.3% said they would not recommend Those who had a favourable perception about IUD and would recommend IUD to others were more likely to be using IUD than those who would not (p<0.001) Table 4.12.

**Table 4.12: Association between knowledge, awareness, perception and IUD uptake**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Total</th>
<th>Using IUD</th>
<th>OR</th>
<th>95% CI</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>No</td>
<td>Yes</td>
<td>Lower</td>
<td>Upper</td>
</tr>
<tr>
<td>Knowledge of IUD</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>258</td>
<td>230 (89.1%)</td>
<td>28 (10.9%)</td>
<td>2.739</td>
<td>0.971</td>
</tr>
<tr>
<td>No</td>
<td>47</td>
<td>45 (95.7%)</td>
<td>2 (4.3%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>305</td>
<td>275 (90.2%)</td>
<td>30 (9.8%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Awareness that the facility offers IUD</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>149</td>
<td>129 (86.6%)</td>
<td>20 (13.4%)</td>
<td>2.264</td>
<td>1.022</td>
</tr>
<tr>
<td>No</td>
<td>156</td>
<td>146 (93.6%)</td>
<td>10 (6.4%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>305</td>
<td>275 (90.2%)</td>
<td>30 (9.8%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Favourable perception</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>153</td>
<td>124 (81.0%)</td>
<td>29 (19.0%)</td>
<td>52.855</td>
<td>7.114</td>
</tr>
<tr>
<td>No</td>
<td>227</td>
<td>226 (99.6%)</td>
<td>1 (0.4%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>380</td>
<td>350 (90.3%)</td>
<td>30 (7.9%)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Fisher’s exact test (FET)*

**4.7 Factors predictive of IUD uptake**

To determine factors predictive of IUD uptake, a logistic regression analysis model was run and the outputs are presented in Table 4.13. Having one or two children increased the likelihood of using IUD significantly (aOR=8.545; 95% CI: 4.399-16.599, p<0.001). Awareness that the facility offers IUD as a method of contraception
had a significant influence on the uptake of IUD (aOR=1.824; 95% CI: 1.003-3.219, p=0.038). Age was not significantly associated with IUD uptake (aOR=1.787; 95% CI: 0.951-3.359, p=0.071). Having a favourable perception about IUD was associated with increased likelihood of IUD uptake (aOR=5.816; 95% CI: 3.204-10.559, p<0.001) as shown in Table 4.13.

<table>
<thead>
<tr>
<th>Variable</th>
<th>B</th>
<th>S.E.</th>
<th>aOR</th>
<th>95% C.I.</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. of Children ((REF: &gt;2)</td>
<td>2.145</td>
<td>0.339</td>
<td>8.545</td>
<td>4.399-16.599</td>
<td>&lt;0.0001</td>
</tr>
<tr>
<td>Aware that facility offers IUD (REF: No)</td>
<td>0.601</td>
<td>0.29</td>
<td>1.824</td>
<td>1.033-3.219</td>
<td>0.038</td>
</tr>
<tr>
<td>Age (REF: ≥30 years)</td>
<td>0.581</td>
<td>0.322</td>
<td>1.787</td>
<td>0.951-3.359</td>
<td>0.071</td>
</tr>
<tr>
<td>Favourable perception (REF: No)</td>
<td>1.761</td>
<td>0.304</td>
<td>5.816</td>
<td>3.204-10.559</td>
<td>&lt;0.0001</td>
</tr>
</tbody>
</table>

### 4.8 Barriers to IUD uptake

To establish the barriers to IUD, associations of selected variables was established using chi-square test or Fisher’s exact test. Odds ratios and their corresponding 95% confidence intervals were also calculated to quantify the effect of selected variables on IUD uptake. Qualitative data gathered from interviewer administered questionnaires, focus group discussions and key informants was also analysed and various barriers emerged as explained below.

#### 4.8.1 Association between selected variables and IUD uptake

Religion, history of having given birth and opinion on affordability were assessed as in relation to IUD uptake as shown in Table 4.14. The results showed that none of the women who had no history of having given birth used IUD (0.0%) as compared 8.1% of women who had history of birth and used the method. However, the difference in the two groups was not significant (p=0.862). Opinion on affordability of IUD was
not statistically significant (p=0.359) in uptake of IUD but one of the key informants mentioned cost of the device as a barrier to IUD uptake as she reported: “Sometimes when clients are told about the charges (200 KShs) some opt for other free methods” (KI, A)

Table 4.14: Association between IUD uptake and selected attributes

<table>
<thead>
<tr>
<th>Attribute</th>
<th>Using IUD</th>
<th>OR</th>
<th>95% CI</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No</td>
<td>Yes</td>
<td>Lower</td>
<td>Upper</td>
</tr>
<tr>
<td>Religion</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Catholic/Muslim</td>
<td>110(91.7%)</td>
<td>10(8.3%)</td>
<td>1.091</td>
<td>0.494</td>
</tr>
<tr>
<td>Protestant</td>
<td>240(92.3%)</td>
<td>20(7.7%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>350(92.1%)</td>
<td>30(7.9%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>History of having given birth</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>8(100.0%)</td>
<td>0(0.0%)</td>
<td>0.919</td>
<td>0.892</td>
</tr>
<tr>
<td>Yes</td>
<td>342(91.9%)</td>
<td>30(8.1%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>350(92.1%)</td>
<td>30(7.9%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Opinion on affordability of IUD</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Unaffordable</td>
<td>107(91.5%)</td>
<td>10(8.5%)</td>
<td>0.682</td>
<td>0.299</td>
</tr>
<tr>
<td>Affordable</td>
<td>124(87.9%)</td>
<td>17(12.1%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>231(89.5%)</td>
<td>27(10.5%)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* Fisher’s exact test (FET)

4.8.2 Reasons for not using IUD

The participants who had not used IUD were probed on the reasons for failing to adopt the IUD method. The outcomes are presented in Table 4.15. Fear about the method (‘fear of side effects’, ‘fear of what people say about it’ and ‘fear of the procedure’) was the most frequently mentioned reason for not using IUD (63.2%) followed by ‘being satisfied with the current method’ (35.6%). Thirteen percent reported that they felt they had inadequate ‘little’ information on the method to enable them to make decision on IUD use. This was also echoed by participants in FGD as one of them said;

“unatoka nyumbani kama umeshaamua, kama ni sindano unandungwa na ikiwa ni tembe unapewa, na hakuna maneno ingine mnaongea” (You come
from home already decided on the method, if Injectables or pills you are given and therefore need no further discussions)  **FGD; B 2**

Eight respondents (2.3%) reported they had opted not to take the IUD because their partners opposed it. Few women (7, 2.0%) cited provider influence as the reason for not choosing IUD. Three percent failed to choose IUD for other reasons as shown in Table 4.15.

<table>
<thead>
<tr>
<th>Reasons for not using the method</th>
<th>Frequency(n)</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Satisfied with the current method</td>
<td>122</td>
<td>35.6</td>
</tr>
<tr>
<td>Fear</td>
<td>217</td>
<td>63.2</td>
</tr>
<tr>
<td>Fear of what others say about it /side effects</td>
<td>194</td>
<td>56.5</td>
</tr>
<tr>
<td>Fear of procedure</td>
<td>23</td>
<td>6.7</td>
</tr>
<tr>
<td>Little information on the method</td>
<td>45</td>
<td>13.1</td>
</tr>
<tr>
<td>Don’t like it</td>
<td>9</td>
<td>2.6</td>
</tr>
<tr>
<td>My partner opposed</td>
<td>8</td>
<td>2.3</td>
</tr>
<tr>
<td>Provider insisted on other methods</td>
<td>7</td>
<td>2.0</td>
</tr>
<tr>
<td>Others*</td>
<td>10</td>
<td>3.0</td>
</tr>
</tbody>
</table>

* IUD lasts for 12 years (1), It's expensive (1), Never thought about it (1), Want to use it now (1), I do not know where to access the IUD (1), IUD not always available (5)

FGD participants voiced fear and concerns related to the device, some worried about the possibility of IUD causing some discomfort during intercourse. Other comments that participants mentioned were centered on insertion procedure, one participant said:

“**The procedure is very complicated; you have to come with a partner for the size of the penis to be taken**”.  **FGD B2**

Another participant voiced:

“**The procedure requires a machine to insert and the machine is scaring**”  
**FGD A5**
4.8.3 Rumours, myths and misconceptions

Participants were asked of what they had heard about IUD and their responses were determined if they were myths, misconceptions or rumours. Majority of respondents (271, 71.3%) had heard of a rumour, myth or misconception but 109, 28.7% had not heard any. Having heard a rumour, myth or misconception was not associated with the uptake of IUD (p=0.167) but those who had heard them used the IUD more than those who had not heard any (11.1% versus 6.4%) Table 4.16 displays some of the common rumours, myths and misconceptions which included; ‘One can conceive when using IUD and baby born with device embedded in the body’ (35.8%), ‘The IUD might travel to other body organs’ (26.6%), ‘The IUD might spreads infections to other parts of the body’ (16.6%), ‘IUD causes infertility’ (13.2%) and ‘IUD causes cancer’ (9.9%). (Table 4.16).

Table 4.16: Rumours, myths and misconceptions about IUD use

<table>
<thead>
<tr>
<th>Myths/rumours/Misconceptions</th>
<th>Frequency (n=271)</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>One can conceive with IUD and baby is born with device embedded in the body</td>
<td>97</td>
<td>35.8</td>
</tr>
<tr>
<td>The IUD might travel to other body organs</td>
<td>72</td>
<td>26.6</td>
</tr>
<tr>
<td>IUD causes infections/spreads infection in all over the body</td>
<td>53</td>
<td>19.6</td>
</tr>
<tr>
<td>Can cause infertility</td>
<td>36</td>
<td>13.2</td>
</tr>
<tr>
<td>Causes cancer</td>
<td>27</td>
<td>9.9</td>
</tr>
<tr>
<td>Others*</td>
<td>13</td>
<td>4.7</td>
</tr>
</tbody>
</table>

*Can cause death(1), causes dizziness(1), cause fibroids(2), causes malformations of a child(1), causes ectopic pregnancies(2), leads to complications during delivery(1), Increases appetite(1), It prevents HIV/AIDS(1), Lowers libido(2), One not required to do hard work(1)
The above rumours, myths and misconceptions were mentioned by participants in the focus group discussion (FGD). They echoed them by saying:

“Inaweza choma huko ndani” (it can burn the uterus) (FGD A3,) and “ukipata mimba ukiwa nayo utapata mtoto mlemavu” (if one conceive with IUD, they get a malformed baby) (FGD B4, A6).

One of the key informants mentioned these rumours, myths and misconceptions as the main barriers to IUD uptake as she reported;

“Women come to the clinic with myths and misconceptions and when asked to cite evidence, they are unable. This has been hindering most of them from using IUD, however with counselling some have used the method” (KI, B)

The key informant also noted counselling and ability to dispel this myths and misconceptions being the main driver to the uptake of the method.
CHAPTER FIVE: DISCUSSION, CONCLUSIONS AND RECOMMENDATIONS

5.1. Introduction

This chapter addresses the discussion, conclusions and recommendations as per the objectives of the study.

5.2. Discussion

Intrauterine device has obvious benefits of being long lasting, convenient and highly effective. The uptake of the method globally and nationally has been low and this study whose aim was to determine the IUD uptake as well as its drivers and barriers, identified various factors as having significant association with uptake of the IUD.

5.2.1. Uptake of IUD

The uptake of IUD among respondents in this study was found to be 7.9% (95% CI: 2.6-13.2). This was fairly high in comparison to estimates of KDHS 2014 that reported uptake of 4.5% in Nairobi County (KNBS, 2015). Other studies in Kenya have reported a low uptake of 1.6% and 4% (Alaii et al, 2012; Oketch et al, 2011). The first study by Alaii et al was done in a peri-urban area where the uptake of FP services was generally low while the second study by Oketch et al was done in urban poor set up where the uptake of any of FP method is usually reported to be low. The uptake in this study was high compared to 2% reported in Sub Saharan Africa (UN, 2012.) but low compared to 40% reported in China (Amy et al 2006). The high uptake in China could be due to government policies that enhances uptake of long term methods. In Sub Saharan Africa, uptake of IUD is reported to be low due to limited availability of commodities and lack of supportive policies (WHO 2010). Therefore, contrary to other studies in Kenya, the uptake of IUD in this study was fairly high.
5.2.2. Drivers of IUD uptake

Age of women in this study was found to be a significant driver of IUD uptake (p=0.045). The odds of using IUD were two among women aged 30 years and above. Serawit and Alemayehu (2012), in their study had similar findings of higher odds among the older women compared to the younger women.

Parity was also found to be a significant driver of IUD uptake (p<0.001) in this study. Those women who had more than two children were more likely to use IUD than those with less than two children. This is similar to study done in Bangladesh and China (Amy et al, 2006). This may be due to the fact that such women may have improved knowledge about contraceptives as a result of either visiting the health facility during previous pregnancy (ies) or having used the method and therefore choose the IUD. In addition, many women may have shorter birth spacing earlier in their child bearing and therefore choose short term methods more than long term methods but choose the latter later. This may also be due the fact that these women may have attained the desired number of children and therefore find a long lasting method such as IUD ideal for FP.

Knowledge of IUD in this study was high (84.6%) probably due to the fact that the study was carried in an urban set up where knowledge is usually widespread. Those who had knowledge on IUD used it more than those who did not (10.9% versus 4.3%), but this didn’t reach statistical significance (p=0.088). A study carried out by Moreau et al, 2007 in France didn’t find knowledge to be significant in use of IUD though the study was carried out among young women who were not likely to have had knowledge and experience on most of FP services.

Awareness that the health facility offers IUD as an FP method was found to significantly increase the uptake (p=0.040). More than half (54%) of the respondents
had acquired information on IUD by visiting a health facility where the information was displayed both through charts or posters and through health education programs at health facilities. This differed with findings of Alaii et al (2012) who found media to be the main source of information among IUD users though the study was done among young people who are more likely to rely on radio and television as sources of information and who are known not to visit the health facilities frequently.

Discussing FP choice with partner in this study was not found to be significant in the uptake of IUD. Though 80% of women reported that they usually discuss their FP choice with their partner this didn’t influence the uptake of IUD. A study in Vietnam found out that 90% of women made decision regarding FP choice with their partners but this didn’t affect the uptake of the device (Nguyen et al, 2011). Another study done by Melissa et al (2012) reported limited partner influence regarding IUD decision though this was reported by young women, who were not married and therefore opted to take decision alone. In the current study, among those who used the IUD none was influenced by the partner, further explaining the insignificant relationship.

Convenience of use (73.3%), side effect of other methods (60%) as well as desire to avoid hormonal contraceptive (33.3%) were cited as the main reasons for using IUD among those who were currently using. Convenience of use was the chief reason for adopting the method, in a study done by Nguyen et al, 2011 where 92% of the respondent affirmed to this reason.

It’s worthwhile to note that 83% of those who were currently using IUD were satisfied and would recommend the same to others. In a study by Syed et al (2013), 85.3% reported being satisfied or very satisfied with the IUD and would recommend the method to their friends and relatives. This is important because the rate of
satisfaction is usually related to continued use of the method. In this study those who used the method would recommend the same to others, for there was a significant association between the uptake and recommendation to others even after adjustment of effect of other variables (p< 0.001).

Availability and accessibility was cited by one of the key informants as the main driver facilitating IUD uptake. Previous study done by The Acquire project (2006) advocated for availability and accessibility of the commodities necessary for IUD insertion and as a result various partners together with Tupange project have been supporting family planning services in urban areas including IUD provision. This has resulted into regular supply of commodities in addition to well trained health care providers for IUD provision. In addition this study was done in level four facilities which are usually adequately supplied with necessary commodities in accordance to health system policy (MLE, Tupange and KEMRI, 2011).

5.2.3. Barriers to IUD uptake

Factors that were assessed as barriers in this study didn’t have significant association with IUD uptake. Religion which has been shown to influence uptake of FP in other studies turned out not influential in uptake of IUD in this study (p=0.829). These findings were similar to a study done in Nairobi where religion was not significant in uptake of IUD (p=0.802) (Mwangi, 2009). Those who had never given birth were less likely to use IUD but this was not statistically significant. A study done in Ethiopia also found history of having given birth to be non influential in IUD uptake (Serawit and Alemayehu, 2012). This could possibly be due to the fact that IUD is eligible for all women whether they have given birth or not, it could also be due to the fact that only few women in both studies had not given birth. Opinion on affordability of IUD was not statistically significant (p=0.359) but cost of the device was cited as a barrier
by one of the key informant. A study done by Oketch et al (2011) among poor urban women in the region, found out that cost of family planning services is one of the important determinant in use of any family planning services. If used longer, the cost of IUD per couple years of protection usually continue to decrease relative to other methods requiring re-supply, but this information may be lacking among many women (Amy et al, 2006).

Having heard a myths, rumours or misconceptions was not a significant barrier (p=0.273) in the uptake of IUD in this study. Those who had heard them equally used IUD as those who had not heard them. Though not significant, they were found to largely persist and were cited as the major barrier to IUD uptake by one of the key informant.

Women who were not using IUD cited fear (63.2%), either fear of the procedure (6.7%) or what they had heard from “others” concerning the device and its side effects (56.5%) as the main reason for non use. What “others” said concerning the IUD was what was mentioned as rumours, myths and misconceptions.

These findings are similar to those of a study done by Rubin and Winrob, 2010, which determined that women had conceptual concerns and fears about letting a foreign body be placed inside their womb. Another study carried out in South Africa found that 40% of women had misconceptions or incorrect information about IUD and this negatively influenced their opinion and use of the method (Gutin et al, 2011). The fact that there was no significant association between these perceptions and uptake of the method may explain the likelihood of many women not believing these perceptions.

Among those who had never used IUD majority (56.6%) had never discussed the method with the provider. Lack of discussion with providers may indicate that there
are missed opportunities for client to use the method. It could also be interpreted to mean that ‘official’ providers do not approve of IUD and this could discourage women from using the method. Similar finding were reported by Asker et al (2006) where several participant felt ill informed about IUD since it was not discussed by the providers. When FGD participants were asked what information their providers give on IUD, their responses indicated little or no information. Most of them said they were not given much information since they visited the FP clinic already decided on the method to use.

Lack or little information was mentioned by 13.1% of the women as the reason for not using the device in this study. Two percent of the non user of IUD failed to use the method since their providers insisted on other methods, this is similar to findings of Espey et al (2003) who found provider advice against IUD as a barrier to uptake of the method.

This study done in two level four public facilities generated a number of variables having a significant association with uptake of IUD and the findings could form the basis for any changes in policies concerned with IUD, however the findings may not be generalized to private and rural health facilities though similar association may be reported.
5.3. Conclusions

1. The level of uptake of IUD among women seeking FP services at Mbagathi and Mama Lucy Kibaki Hospitals was 7.9%. The uptake is low in relation to obvious benefits of the method and in comparison to other methods of family planning but fairly high compared to uptakes which have been reported in previous studies done in the region.

2. Concerning the drivers to IUD uptake, parity, awareness of IUD availability and a favourable perception about the device had significant associations with IUD uptake. Partner involvement was not influential in uptake of IUD, though majority of women involved their partners in choice of FP methods.

3. Barriers or factors that hindered women from using IUD as described from qualitative data were women’s lack of awareness on IUD availability and their conceptual concerns as well as fear of the device. Myths, rumours and misconceptions including perceived side effect persist in the region and they limited the uptake of IUD. Lack of discussion on IUD during counselling sessions with FP providers was evident among FP users and this contributed to lack or little information among clients. This also indicates that there are missed opportunities that are lost for the uptake of the method.
5.4. Recommendations

1. To the Ministry of Health and the partners, there is a need for continued promotion of IUD use among all women of reproductive age so as to increase the uptake of the method in the region. This may include use of satisfied clients as champions in demand creation, campaigns and interpersonal communication to improve the image of the IUD, and promote its choice and use as this study have shown that those who are satisfied would highly recommend the method to others.

2. Family planning programmes need to focus more on the younger women and those of lower parity so as to increase the uptake of IUD. More emphasis about IUD use for birth spacing among this group need to be done. The programmes should endeavour to increase awareness of all the facilities providing the IUD in the region as well as improve perception of IUD of among all women.

3. To the family planning providers, there is need to dispel myths, rumours and misconceptions among women of reproductive age. Discussion of IUD should be included when counselling all FP clients. Health care providers need to allay fears concerning IUD with proper counselling and accurate information.

5.5. Further research

1. Similar or comparative study need to be done in rural areas to determine the uptake of IUD for ease of generalisation.

2. There is need to find out the health provider’s influence on the uptake of the IUD as well as their utilization.
REFERENCES


Mwangi Jeniffer (2009): *Determinants of intrauterine devices use and decline among family planning seekers in Nairobi County, Kenya.* (Unpublished manuscript)


World Health Organization (2010): Medical eligibility criteria for contraceptive use, 4th ed
APPENDICES

Appendix 1: Questionnaire in English

Instructions to Interviewers

1) Ensure that the respondents to this questionnaire have come to the clinic to seek family planning services by asking them.

2) For questions with alternatives fill in the number bearing the response in the brackets provided at the end of each question or tick as appropriate.

3) Don’t give suggestions to the respondent.

Study No...............................      Date of interview..........................................
Name of the interviewer...............................

Section 1: Demographic Information

1. Age of the respondent (in years).................................

2. Residence  (    )
   1. Embakasi
   2. Kasarani
   3. Lang’ata
   4. Westland
   5. Makadara
   6. Dagoretti
   7. Other (specify)..............................

3. Marital status.  (    )
   1. Single
   2. Married
   3. Divorced
   4. Widowed

4. Religion.
   1. Protestant
   2. Catholic
   3. Muslim
   4. Other(specify).........................
5. Education level ( )
   1) None
   2) Primary
   3) Secondary
   4) College/University

6. Occupation. ( )
   1. Unemployed
   2. Casual labourer
   3. Self-employed
   4. Salaried job

7. Do you have children Yes ( ) No ( ).
8. If yes in Q 7, How many?------- Female........... male. .................

9. Do you wish to have more children Yes ( ) No ( ).
10. If yes How many---------------------

11. When was your last delivery? Year-------- Month.......... Date.........

12. What is the outcome of your last delivery? 1. Alive ( ) 2. Dead ( )
    3. Miscarriage ( )

13. How soon do you plan to get pregnant again? 1. < I year 2. 1-3 years
    3. > years

14. Do you normally discuss FP choice with your partner? Yes ( ) No ( ).

Section 2: Client knowledge and awareness

15. What contraceptive method do you know? Tick all that apply
    1) Intrauterine device
    2) Pills
    3) Injectables
    4) Condoms
    5) Implant
    6) Tubal ligation

16. From where did you get information on the methods you know? Tick all that apply
    1. Media
    2. Provider
    3. Peers
    4. School
5. Hospital facility
6. Seminar
7. Socialisation process
8. Others (specify)-------------

17. What’s an IUD
   1. Device inserted in a woman uterus to prevent pregnancy
   2. I don’t know
   3. Others (specify)-------------

18. From where did you get information on IUD? Tick all that apply
   1) Media
   2) Provider
   3) Peers
   4) School.
   5) Hospital facility
   6) Seminar
   7) Socialization process
   8) Others specify-------------

19. Are you aware whether this facility offers IUD as one of the FP method?
   1) Yes    2) No

20. What do you think about getting IUD from this facility in term of cost?
   1) Affordable ( )  2) Unaffordable( ) 3) Don’t know ( )

Section 3: Contraceptive use and IUD uptake

21. Are you on any FP method? Yes ( ) No ( ) if No skip to Q23

22. If yes in Q21, what is your current FP Method?
   1. Intrauterine device
   2. Pills
   3. Injectables
   4. Condoms
   5. Implants
   6. Tubal Ligation

23. Have you ever used any other FP method(s) Yes ( ) No ( ) if No skip- Q24.

24. If yes in Q23, Which other method(s) have you ever used?
   1. Intrauterine device
   2. Pills
3. Injectables
4. Condoms
5. Implants
6. Tubal Ligation

25. Have you ever used IUD before? ( )
   1) Currently using ( ) Skip to section 4 part A
   2) Previously used ( ) Skip to section 4 part B
   3) Never used ( ) Skip to section 4 part C

Section 4: IUD use and non use

A. Currently using IUD

26. Which type of IUD are you using? ( )
   1) Copper T (TCu 380A)
   2) Mirena(LnG)
   3) Don’t know

27. What made you choose IUD? Tick all that apply
   1) Side effects of other methods
   2) Provider influence
   3) Partner influence/Advice
   4) Friends influence
   5) Family member influence
   6) Desire to avoid hormonal contraceptives
   7) Benefits of the Method
      i. Cost-friendliness
      ii. Convenience of use
      iii. Others (specify)......

28. Did the provider discuss with you on IUD the first time it was inserted?
   Yes ( ) No ( ).

29. If yes Q28, which aspects were discussed? Tick all that apply
   1) Types
   2) Benefits
   3) Side effects
   4) Cost effectiveness
   5) Its placement in the uterus
6) Others (specify) -----------------------------------------------

30. How many times have you been inserted IUD? ---------------

31. What was the longest time you stayed with the IUD? (in months)---------

32. Are you satisfied with the method? Yes ( ) No ( ).

33. If no, Why? ---------------------------------------------------

B. Previously used IUD

34. Which type of IUD did you previously use? ( )
   1) Copper T (TCu 380A)
   2) Mirena (LnG)
   3) Don’t know

35. How many times have you been inserted IUD? ---------------

36. What was the longest time you stayed with the IUD? (in months)


38. If yes which problems did you experience? Tick all that apply
   1. Heavy menses
   2. Irregular vaginal bleeding
   3. Infections
   4. Pains-- back pains, lower abdominal pains and painful sexual intercourse
   5. Expulsion
   6. IUCD dislodged (Lost string)
   7. Pelvic inflammatory disease
   8. Allergic reactions
   9. Uterine or cervical perforation
   10. Ectopic pregnancy

39. What was the reason for discontinuation? ( ).
   1) Medical related reasons (tick all that apply)
      i. Heavy menses
      ii. Irregular vaginal bleeding
      iii. Infections
      iv. Pains-- back pains, lower abdominal pains and painful sexual intercourse
      v. Others (specify)-----------------------------------------------
2) Desire to become pregnant
3) No further need
4) Desire to switch to a permanent method
5) Other reasons (specify)-----------------------------------------------

40. What method did you switch to?
   1. Intrauterine device
   2. Pills
   3. Injectables
   4. Condoms
   5. Implants
   6. Tubal Ligation
   7. None

C. Never used IUD

41. Has the Health provider ever discussed with you on IUD method?
   Yes ( ) No ( ).

42. If yes, which aspects were discussed?
   1) Types
   2) Benefits
   3) Side effects
   4) Cost effectiveness
   5) Its placement in the uterus
   6) Others -----------------------------------------------

43. Why haven’t you choosen the IUD method? ( )
   1) Medical /Health concerns
      a. Heavy menses
      b. Irregular vaginal bleeding
      c. Infections
      d. Pains-- back pains, lower abdominal pains and painful sexual intercourse
      e. Others (specify)-----------------------------------------------
   2) My partner opposed
   3) Fear of side effect
   4) Fear of what others say about IUD
5) IUD is not always available.
6) Friends have discouraged me
7) Family have discouraged me
8) I do not know where to access the IUD.
9) Little information on the method
10) Provider insisted on other methods
11) Satisfied with the current method
12) Other reasons-----------------------------------------------

General questions

44. Would you recommend IUD to other Women? Yes (   ) No (   ).
45. What have you heard other people say about IUD? **Tick all that apply**
   i. Women who haven’t had children so far, cannot use IUD
   ii. IUD act as an abortifcient (cause abortion)
   iii. The IUD might travel to other body organs
   iv. One can conceive with IUD
   v. Can cause infertility
   vi. IUD causes infections
   vii. IUD spreads infection in all over the body
   viii. During intercourse, the IUD can cause pain and discomfort
   ix. IUD is dislodged during sex
   x. Associated with cancer
   xi. Others (specify)-----------------------------------------------

Thank you
Appendix 2: Questionnaire in Kiswahili

Maagizo kwa Mhojaji

i. Hakikisha wanaojibu maswali wamekunja kliniki kutafuta huduma za kupanga uzazi kwa kuwauliza.

ii. Jaza majibu kwa nafasi ilioko baada ya kila swali ama tia alama inayofaa

iii. Usiwapatie matarajio kwa jibu lolote wale wanaojibu maswali

Nambari ya utafiti............................... Tarehe ...........................................
Jina la mhojaji.........................................................

Sehemu ya kwanza: Habari inayomhusu anayejibu maswali

1. Umri (kwa miaka).................................
2. Makazi ( )
   1. Embakasi
   2. Kasarani
   3. Lang’ata
   4. Westland
   5. Makadara
   6. Dagoretti
   7. Ingine (elezea)..............................
3. Hali ya Ndoa ( )
   1. Sijaoleka
   2. Nimeoleka/ndoa
   3. Nimetalakiwa
   4. Mjane
4. Dini ( )
   1. Utamaduni
   2. Kiprotestanti
   3. Katoliki
   4. Muslim
   5. Ingine (elezea)------------------------
5. Kiwango cha elimu
   1. Sina elimu yeyote
   2. Msingi
   3. Upili
   4. Kolegia/chuo kikuu
6. **Kazi** (  
1. Sijaajiriwa  
2. Mfanyikazi wa kawaida  
3. Nimejiagiri  
4. Nimeajiriwa  
5. Mwanafunzi  

7. Una watoto? Ndiyo (  ) La (  )  
8. Kama una watoto, Ni wangapi? ........ Kike............... Kiume. ...............  
10. Unatarajia kupata watoto wangapi zaidi? --------------------------  
11. Ulinjifungua mwisho lini? Mwaka---------- Mwezi.......... Tarehe.........  

Sehemu ya pili: Ujuzi na ufahamu  

15. Ni aina zipi za kupanga uzazi unazozijua? (  
1. IUD  
2. Tembe  
3. Sindano  
4. Mipira  
5. Vinduge kwa mkono  
6. Kukatwa mishipa  

16. Ulipata habari kuhusu aina unazozijua kutoka wapi? (  
1. Vyombo vya habari  
2. Mhudumu wa afya  
3. Marafiki  
4. Shule .  
5. Hospitalini  
6. Semina  
7. Wakati wa socialization  

17. IUD/coil ni nini? (  )
1. Kifaa kinachotiwa mfuko wa uzazi kuzuia mimba
2. Sijui
3. Mengine (elezea) 

18. Unajua aina ziki za IUD/coil? (  )
   1. Copper T 380
   2. Mirena (Iliyotiwa Homoni)
   3. Hakuna ninayojua

19. Je, wajua kama hii hospitali wana huduma za IUD/coil?
   1. Ndiyo(  )  2. La (  )

20. Maoni yako, kuhusu huduma za IUD/coil ni yapi?
   1. Nafuu (  )  2. Si nafuu (  )  3. Sijui (  )

**Sehemu ya tatu: Matumizi ya aina mbali mbali za kupanga uzazi**

21. Je unatumia aina yoyote ya kupanga uzazi? Ndiyo (  )  La (  )
   Kama
   **L.a, endelea na swali nambari 23**

22. Unatumia aina gani kwa sasa? .........................................................
   **23. Umewahi kutumia aina ingine/ zingine? Ndiyo (  )  La(  )
   Kama La,**
   **endelea na swali nambari 25**

24. Ni aina gani ingine /zingine umewahi kutumia?
   1. IUD
   2. Tembe
   3. Sindano
   4. Mipira
   5. Vinduge kwa mkono
   6. Kukatwa mishipa

25. Je umewahi kutumia IUD/coil hapo mbeleni? (  )
   1. Natumia kwa sasa (  ) **Endelea na maswali iliyo sehemu ya nne A**
   2. Nilitumia hapo mbeleni,**Endelea na maswali iliyo sehemu ya nne B***
   3. Sijawahi kutumia (  ) **Endelea na maswali iliyo sehemu ya nne C**

**Sehemu ya Nne: Sababu za kutumia na kutotumia coil/IUD**

A. Anayetumia kwa sasa

26. Unatumia aina gani ya IUD? (  )
   1. Copper T (TCu 380A)
   2. Mirena (Iliyotiwa Homoni)
   3. Sijui
27. Ni nini kilichokusababisha Kuchagua IUD/coil? (  )
   1. Madhara kwa aina zingine za kupanga uzazi
   2. Kuathiriwa na mhudumu
   3. Kuhimizwa na mpenzi wangu
   4. Kuathiriwa na marafiki
   5. Kuathiriwa na wanafamilia
   6. Ufanisi wa IUD/coil
   7. Umuhimu wa IUD/coil

28. Mhudumu alikwelezea kuhusu IUD/coil mara ya kwanza ulipowekwa?
   1. Ndiyo (  )  2. La (  )

29. Ni yapi mhudumu alikwelezea? (  )
   1. Aina mbali mbali
   2. Umuhimu
   3. Madhara
   4. Gharama nafuu
   5. Jinsi inavywotiwa
   6. Mengine (elezea) ____________________________________________

30. Umewekewa IUD mara ngapi?

31. Ni muda gani ulikaa nayo mrefu zaidi?

32. Je, umerithika na IUD?  1. Ndiyo (  )  2. La(  )

33. Kama hujarathikana IUD, ni kwa nini? Elezea ____________________________

B. Aliyetumia IUD hapo mbeleni

34. Ni aina gani ya IUD uliyoitumia? (   )

35. Mara ngapi uliwekewa IUD? ---------------

36. Ni muda gani ulikaa nayo mrefu zaidi? ---------------

37. Ulipata shida yoyote kutokana na kutumia IUD? Ndiyo (  ) La (  )

38. Ni shida gani ulizozipata? Elezea--------------------------------------

39. Ni kwa nini uliamua kuacha kuitumia IUD/coil?
   1. Sababu za matibabu/afya
   2. Nilitamani kupata mimba ingine
   3. Sikuona haja ya kutumia tena
   4. Nilitamani kutumia aina ingine ya kudumu
   5. Sababu Zingine (elezea)------------------------------------------------

40. Ulibadilisha kwa aina gani? -----------------------------------------------
C. Kwa Yule hajawahi kutumia IUD/coil
41. Je, mhudumu amewahi kukuelezea kuhusu IUD?  
   1. Ndiyo (     )  
   2. La (     )  
42. Ni yapi mhudumu aliokuelezea?  
   1. Aina mbali mbali  
   2. Umuhimu  
   3. Madhara  
   4. Gharama nafuu  
   5. Jinsi inavywoingizwa ndani ya mfuko wa uzazi  
   6. Mengine (elezea)  
43. Kwa nini hujachagua kutumia IUD/Coil? (     )  
   1. Hali ya Kiafya  
   2. Mpenzi wangu alipinga  
   3. Kuogopa madhara  
   4. Kuogopa vile wengine husema kuihusu IUD  
   5. IUD Kutopatikana  
   6. Kuonywa zidi ya IUD na marafiki  
   7. Kuonywa zidi ya IUD na wanafamilia  
   8. Sijajua IUD inapatikana wapi.  
   10. Mhudumu alinipendekeza kwa aina zingine/ingine  
   11. Nimerithika na aina ninayoitumia  
   12. Sababu zingine (elezea)  
44. Ungewahimiza wengine kutumia IUD/coil? Ndiyo (     ) La (     ).  
45. Umesikia watu wengine wakisema nini kuhusu IUD/coil?  
   44. Ungewahimiza wengine kutumia IUD/coil? Ndiyo (     ) La (     ).  
45. Umesikia watu wengine wakisema nini kuhusu IUD/coil?  
Asante sana
Appendix 3: Focus Group Discussion Guide

Questions

1. What is Intra Uterine Device (coil)?
2. What fears and concerns do women have about IUD?
3. Which myths and rumours are associated with IUD?
4. What information do FP providers give on IUD?
Appendix 4: Key informant interview guide

Questions

1. What is your opinion on IUD as a contraceptive method?
2. What factors facilitate IUD uptake in your facility?
3. What are some of the barriers to IUD uptake in this facility?
4. Do you obtain regular supplies of IUD? If not why?
5. What is your opinion on availability of supplies necessary for IUD provision?
6. Is the facility equipped with competent health provider who can provide IUD?
Appendix 5: Informed Consent form for Participant

Study Title: Intrauterine device uptake among women seeking family planning services at Mbagathi and Mama Lucy Kibaki Hospitals, Nairobi County, Kenya

Introduction: Good morning/ afternoon. I am Florence Wangari Mbuthia, a postgraduate student at the Kenyatta University, School of Public health pursuing Msc Public Reproductive Health. I wish to request for your permission, to participate in a study to determine IUD uptake at Mbagathi and Mama Lucy Kibaki Hospital. The study will involve you answering some questions from a questionnaire.

The benefits and risks of the study: There are no direct individual benefits but your participation in this study will help to determine the uptake of IUD. The results of the study shall be used to inform and guide policy makers and other stakeholders on the approaches to be used in promoting IUD uptake. No harm to you is anticipated from the study since there are no invasive procedures that will be carried out. Once the study is complete, feedback will be given to the head of the facility in form of a report.

Confidentiality: The information obtained will be recorded and analysed for research purposes only. Confidentiality will be maintained at all times. We will not use your name in any reports. We will not tell anyone about your participation. We will not tell anyone the answers you give in this interview.

Participation: This is entirely voluntary and you may refuse or withdraw your consent at any stage without any penalty. You are also free to ask any questions about my study.

In case you need more clarifications feel free to contact me (principal investigator) on 0720 304568 or flowmbuthia@gmail.com. You can also contact my supervisors Dr. Okumbe on 0715554229 or Dr. Monda on 0722616324 or the Kenyatta University
Research and ethics committee on kuerc.chairman@ku.ac.ke, or P. O. Box 43884-00100, Nairobi, 0207803312

Confirmation of your consent to participate

Do you understand all I have just told you and do you agree to participate in this study?

Yes: If you agree to participate in this study, you will need to sign this form

No ☐ STOP

Participant Agreement

Participant: I have read the study information / the study information has been read to me. I have been asked if I have any questions, and these have been answered to my satisfaction. I freely agree to participate.

_____________________________ ____________________________
Signature or Thumb Print                                Date

Interviewer: I certify that the nature and purpose, the potential benefits, and possible risks associated with participating in this research have been explained to the above individual, and the individual has consented to participate.

___________________________________________________________________________
Name                   Signature                                                          Date
Appendix 6: Assent form for participant below 18 years (Minors)
The information about the study has been explained to me. I fully understand the nature of the study and how I will participate in it. I fully understand that if I agree to participate in the study, I will be asked questions which I will be expected to answer to the best of my knowledge. I understand that participation is voluntary and I am free to withdraw from the study at any time. I am also aware that if I decide not to participate in the study, it will not affect the services I receive in this facility. By signing this form, I will be accepting to participate in the study.

I agree to take part in this study

_________________________________  _____________________________
Signature or Thumb Print                                Date

Interviewer: I certify that the nature and purpose, the potential benefits, and possible risks associated with participating in this research have been explained to the above individual, and the individual has consented to participate.

______________________________  _______________________
Name  Signature                               Date
Appendix 7: Ethical clearance

KENYATTA UNIVERSITY
ETHICS REVIEW COMMITTEE

Email: kurec.chairman@kucc.ac.ke
kurec.secretary@kucc.ac.ke
Website: www.kucc.ac.ke

P. O. Box 48844
Nairobi, 00100
Tel: 8710501/12
Fax: 8711575

Date: 11th March, 2014

Florence Wangari Mufwira,
Dept of Community Health, Kenyatta University,
P.O. Box 48844 00100-Nairobi

RE: APPLICATION NUMBER KEU/189/1 460 — “INTRAUTERINE DEVICE UPTAKE AMONG WOMEN SEEKING FAMILY PLANNING SERVICES AT MBAGATTI AND MAMA LUCY KIBAKI HOSPITALS, NAIROBI COUNTY, KENYA” — Version 2

1. IDENTIFICATION OF PROTOCOL
The application before the committee is with a research topic, “Intrauterine device uptake among women seeking family planning services at Mbagathi and Mama Lucy Kibaki hospitals, Nairobi County, Kenya”, Version 2 dated 11th March, 2014.

2. APPLICANT
Florence Wangari Mufwira, Dept. of Community Health, Kenyatta University

3. STUDY SITE
Mbagathi and Mama Lucy Kibaki hospitals, Nairobi County, Kenya

4. DECISION
The committee has considered the research protocol in accordance with the Kenyatta University Research Policy (Section 7.2.1.20) and the Kenyatta University Ethics Review Committee Guidelines AND APPROVED that the research may proceed for a period of ONE year from 11th March, 2014.

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

When replying, kindly quote the application number above.

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

PROF. NICHOLAS KICWONYO
CHAIRMAN ETHICS REVIEW COMMITTEE

I do hereby accept the advice given and the conditions therein.

Signature.......................... Dated this day of.......................... 2014.

cc. Vice-Chancellor
Director, Institute for Research Science and Technology
Appendix 8: Authority letter (NACOSTI)

**NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY AND INNOVATION**

95 Kianyasa Rd.
P.O. Box 30118-00100
NAIROBI

Tel: +254-2-3511831; 351371; 3515571; 3219420
Fax: +254-2-382345, 382349
Email: secretariat@nacostigi.co.ke
Website: www.nacostigi.co.ke
When replying please quote

Ref No. 8th April, 2014

NACOSTI/P/14/5/04/763

Florence Wangari Mbuthia
Kenyatta University
P.O. Box 43844-00100
NAIROBI.

RE: RESEARCH AUTHORIZATION

Following your application for authority to carry out research on “Irrigation Device uptake among women seeking family planning services at Mbagathi and Mama Lucy Kibaki Hospitals, Nairobi County, Kenya,” I am pleased to inform you that you have been authorized to undertake research in Nairobi County for a period ending 11th March, 2015.

You are advised to report to the Medical Superintendent, Mbagathi Hospital and Mama Lucy Kibaki Hospital, the County Commissioner, County Director of Education and County Coordinator of Health, Nairobi County before embarking on the research project.

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

Said Hussein
For Secretary/CEO

Copy to:
The Medical Superintendent
Mbagathi Hospital

Appendix 9: Authority letter (Mbagathi District Hospital)

MINISTRY OF HEALTH

Tel: 2724712, 2725791, 0721 311 808
www.mbagathihospital.org
info@mbagathi.org
mdlnairobi@yahoo.co.uk

Our Ref: MS/VOL.1/2013/14

20th March 2014

Mbootha Florence Wangari
Kenyatta University

Dear Madam,

RE: RESEARCH AUTHORIZATION

This is in reference to your application for authority to carry out a research on "Intrauterine device uptake among women seeking family planning services, at Mbagathi District Hospital, Nairobi"

I am pleased to inform you that your request to undertake the research in the hospital has been granted.

On completion of the research you are expected to submit one hard copy and one soft copy of the research report/thesis to this office.

Dr. A. J. Suleh
Medical Superintendent
Mbagathi District Hospital
Appendix 10: Authority letter (Mama Lucy Kibaki Hospital)

OUR REF: MLKH/ADM/RES/1/41(54)                       DATE: 26th March, 2014

MBUTHIA FLORENCE WANGARI
KENYATTA UNIVERSITY
P.O BOX 43844 – 00100
NAIROBI

RE: RESEARCH AUTHORIZATION

This is in reference to your application for authority to carry out a research on
“Intrauterine deviceuptalk among women seeking family planning services at
Mama Lucy Kibaki Hospital, Nairobi”.

I am pleased to inform you that your request to undertake the research in the
Hospital has been granted.

On completion of your research you are expected to submit one hard copy and one
soft copy of your thesis to this office.

DR. JULIUS OGATO
MEDICAL SUPERINTENDENT
Appendix 11: Map of the study area-Nairobi County

SOURCE: Kenya County Fact Sheet 2011