ACCEPTABILITY AND UPTAKE OF IMMEDIATE POST ABORTION INSERTION OF INTRAUTERINE CONTRACEPTIVE DEVICES AT KENYATTA NATIONAL HOSPITAL

A dissertation submitted in partial fulfillment for the award of degree of Master of Medicine in Obstetrics and Gynaecology of the University of Nairobi.

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DECLARATION

This is to declare that this research work and dissertation is my original work and that it was done with the guidance of my supervisors. It has not been submitted to any other university for the award of a degree.

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CERTIFICATE OF AUTHENTICITY

This is to certify that this dissertation is the original work of Dr. David Momanyi Orwenyo, MMed student registration number H58/76482/09 in the Department of Obstetrics and Gynaecology, School of Medicine, College of Health Sciences, University of Nairobi, done under the guidance and supervision of Dr. Guyo Jaldesa and Dr John Kinuthia. It has not been presented in any other university for award of a degree.

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LIST OF ABBREVIATIONS

- **IUCD**  Intrauterine contraceptive device
- **LMP**  First day of the last menstrual period
- **KNH**  Kenyatta National Hospital
- **MVA**  Manual Vacuum Aspiration
- **IUD**  Intrauterine device
- **PAC**  Post Abortion Care
- **KNH**  Kenyatta National Hospital
- **MEC**  Medical Eligibility Criteria
- **WHO**  World Health Organization
OPERATIONAL DEFINITIONS

1. **Abortion** - This is the termination of a pregnancy either spontaneously or deliberately, before foetal viability is achieved i.e. before foetus attains the weight of 500gms or reaches 20 weeks gestational age from the first day of last menstrual period.

2. **Complete abortion** - there is the expulsion of all of the products of conception before the 20th completed week of gestation.

3. **Incomplete abortion** - there is expulsion of some but not all products of conception. There is dilatation of cervical canal with active bleeding.

4. **Inevitable abortion** - A clinical type of abortion where the changes have progressed to a state from where continuation of pregnancy is impossible.

5. **Acceptability** - Agrees in principal to utilize an IUCD as a method of contraception.


7. **Septic abortion** - An abortion with clinical evidence of sepsis which include foul smelling products of conception, purulent or foul smelling vaginal discharge, or fever >38 C.

8. **Missed abortion** - A nonviable intrauterine pregnancy that has been retained within the uterus without spontaneous abortion.

9. **Unsafe abortion** - This is termination of a pregnancy carried out by persons lacking the necessary skills or in an environment that does not conform to minimal medical standards or both.

10. **Unmet contraceptive need** - This is the proportion of married women, who are sexually active, at risk of pregnancy, who do not want to have a child soon or at all, and are not using any method of contraception.

11. **Gestational Age** – this is the age of an embryo, fetus, or newborn as measured from the first day of the woman's last menstrual period. This is approximately 2 weeks before conception or fertilization.
ABSTRACT

INTRODUCTION

In Kenya, over 300000 abortions occur annually, most of which are thought to have been induced (1). Providing highly effective, long acting and rapidly reversible method of contraception such as an IUCD in the period immediately following abortion has the potential to decrease future unplanned pregnancies and prevent repeat abortions (2). Majority of women scheduled for interval insertion of IUCD do not return (3). However, it is unclear if women managed for abortion in Kenya who have little or no other contact with the formal healthcare system later on would use it. In Kenya, no study has been done to evaluate the acceptability of an IUCD as a method of contraception after an abortion.

OBJECTIVE

The aim of this study was to determine acceptability and uptake of immediate insertion of an IUCD among patients managed for abortion at Kenyatta National Hospital.

METHODOLOGY

This was a hospital based descriptive cross-sectional study targeting women of reproductive age (18-49) years who were managed for abortion at Kenyatta National Hospital, the national teaching and referral hospital. Between 1st July and 15th October 2012, 159 women of reproductive age managed for abortion were enrolled. A written informed consent was obtained before data collection using a pretested structured questionnaire administered by research assistant. Data collected included socio-demographic characteristics, previous obstetric history, knowledge and willingness to use IUCD following termination of pregnancy. Women who reported willingness to use IUCDs were offered opportunity to have the IUCD inserted. Data was entered into a secure Microsoft Access Database and exported to SPSS version 20 software for analysis. Proportion of women willing to use IUCD and accept post-abortion insertion was determined. Categorical factors associated with willingness to use IUCD and acceptance of post-abortion insertion were identified using Chi-squared tests and Fisher’s exact tests for categorical variables and t-tests for continuous variables. Multivariate analysis was done to determine independent factors associated with willingness to use IUCD and with acceptability of post-
abortion insertion of IUCD using multinomial logistic regression with variables identified to be significantly different (p<0.005) on univariate analysis.

Results

Of the 159 study participants, only 35(22%) accepted to use an IUCD. Of the 35 women reporting willingness to use IUCD, only 16 (10%) had the IUCD inserted (uptake) after the MVA. The mean age of the study participants who accepted to have IUCD was 26.9±SD5.8. Majority 30(85.7%) were married. Twenty-five (71.4%) had secondary school level or above level of education. Majority, 19(54.3%) had one or more living children. Ten (28.3%) did not desire the index pregnancy. The differences in socio-demographic and reproductive characteristics between those who accepted (acceptability) and those who declined to use IUCD were not statistically significant. Among those who had the IUCD inserted (uptake) and those who declined, there was no statistically significant difference in the socio-demographic and reproductive characteristic. Subjects who did not desire the index pregnancy were more likely to have the IUCD inserted. OR 9 (1.5 – 56.5), p=0.017. The most common reason cited for declined to use IUCD was safety and adverse effects concerns.

Conclusion

The results of this study suggest that the acceptance and uptake of immediate post abortion insertion of an IUCD is low as it faces many challenges in terms of negative perception among the women of reproductive age.

Recommendations

Immediate post abortion insertion of IUCD can be used as one of the innovative ways of reducing the gap in unmet contraception need among women managed for abortion who do not desire immediate future fertility. Health care providers offering post abortion care should incorporate provision of IUCD after receiving appropriate training as this will increase overall accessibility to the method. There is need to engage the public more and provide more accurate information concerning the safety of the IUCD as a mode of contraception.
INTRODUCTION

In developing countries, abortion complications are a common medical emergency (4). It is estimated that in Kenya, about 316,560 (both spontaneous and induced) abortions occur every year (1). Of these, about 7% are hospitalized in public hospitals for abortion related complications (5). About twenty eight percent (28%) of women admitted have severe complications including shock and uterine perforation (1). Approximately 1% of the women (182 women) admitted with abortion complications die (5). Illegally induced abortions which account for 15.7% of abortions managed in district hospitals are responsible for most of the deaths. Approximately 90% of the women who have induced abortions report that the pregnancies are unwanted or mistimed (6). In Kenya, abortion is permitted only if in the opinion of a trained health professional, there is need for emergency treatment or the life or health of the pregnant woman is in danger (7). Abortion on client demand is not permitted under the law. Hence many women with unwanted pregnancies resort to procure unsafe abortions which result in maternal morbidity and mortality. Therefore, provision of quality post abortion care is of paramount importance.

One component of post abortion care is preventing repeat abortions by providing family planning counseling and contraception. After an abortion, women can get pregnant before the first menstrual bleeding (8, 9). Although all methods of contraception can be started immediately after a first or second trimester abortion, provision of long-acting reversible contraceptive methods have a higher potential to decrease future unplanned pregnancies and repeat abortions among these women (10). Reduction in unwanted pregnancies and unsafe abortions will result in reduction of maternal mortality.

While the intrauterine device (IUCD) is a highly effective long-term option, its use as a contraceptive in Kenya has been low. Only 1.7 of women in reproductive age and 2% of married women are using an IUCD as a method of contraception (11). The slow adoption of IUCD use in Kenya has been attributed to five interrelated factors; poor quality of care, fear among providers of acquiring or transmitting HIV, poor product image among clients, provider bias or preference (reluctance of the providers to provide the method) and shifting client preference (12).
BACKGROUND AND LITERATURE REVIEW

Abortion is defined as the termination of pregnancy either spontaneously or deliberately, before foetal viability is achieved i.e. before foetus attains the weight of 500gms and above, which corresponds to about 20 weeks gestational age from the first day of last menstrual period.

The true incidence of abortion is difficult to establish, as some women will associate the bleeding from spontaneous abortion to delayed period. It is estimated that nearly 42 million abortions occur annually worldwide, most of which occur in developing countries (4). In Kenya, it is estimated that about 316560 abortions (spontaneous and induced) occur annually (1). Of these, about 7% of women are hospitalized in public hospitals for abortion related complications including hemorrhage and sepsis. Twenty eight percent (28%) of women admitted had severe complications including shock and uterine perforation. Approximately 1% of the women admitted with abortion complications die (5).

In Kenya, a study done at Nakuru Provincial Hospital found that complications of abortion complications account for 25% of maternal deaths recorded (7). A study done in KNH in found that 62% of the abortions are likely to be induced (13). Illegally induced abortions accounted for 80% of all the abortion deaths, with most being due to sepsis (14). Additional consequences of unsafe abortion include loss of productivity, economic burden on public health systems, social stigma and long-term health problems such as infertility.

In Kenya according to the Kenya Demographic and Health Survey 2009, 17% of the pregnancies were unwanted, whereas 26% of the pregnancies were mistimed (11). The high levels of mistimed and unwanted pregnancies put these women at risk of unsafe abortions. Therefore, there is need to provide effective and reliable methods of contraception to these women.

In Kenya, only 46% of married women are using any mode of contraception. Modern methods of contraception are used by 39% of married women while traditional methods are used by 6% of these women. Of these, injectable contraceptives are the most widely used at 21.6 % whereas intrauterine contraceptive device use is at 1.6%. One in four married women (25%) have unmet contraceptive needs (11). Majority of the women in Kenya are not on modern contraceptives or
rely on ineffective traditional methods that put them at risk of unplanned or unintended pregnancies (1). The high levels of unplanned and unwanted pregnancies put these women at risk of unsafe abortions.

In Kenya, abortion complications are a common medical emergency accounting for up to 60% of gynaecological ward admissions (5). Post-abortion care provides an important opportunity for delivery of family planning services, as many women may have little or no other contact with the formal healthcare system later on (13). Provision of quality counseling is critical to improving acceptance of post-abortion contraception (3). Good counseling on contraceptive methods results in increased uptake and utilization of the method of contraception at one year (15). In study done in Egypt, the utilization of IUCD as a method of contraception increased from 10.2% to 42% after the quality of counseling services were improved (3). Good counseling also provides emotional support, makes women feel more secure, and satisfied hence more motivated to use family planning methods (16).

A study done in Dar el Salaam found that up to 90% of the women were willing to adopt a method of contraception after an abortion (17). However, most women use only short-term methods. A few choose long-term methods while others rely on methods, which are ineffective. Although all methods of contraception can be started immediately after a first or second trimester abortion, provision of long-acting reversible contraceptive methods such as IUCD and contraceptive implants have a higher potential to decrease future unplanned pregnancies and repeat abortions in women managed for abortion (10).

Intrauterine contraceptive devices are used by over 100 million women worldwide (18). They provide a highly effective, long acting, safe, inexpensive and rapidly reversible method of contraception which can be initiated safely after an abortion (2, 19) (21).

Insertion of an IUCD immediately after an abortion offers several advantages. First, the IUCD is inserted while the patient is still under local or general anaesthesia (3). Secondly, the cervix is dilated. This makes the insertion of an intrauterine device easier and less painful (22). Thirdly, it offers immediate contraceptive benefits, as fertility returns rapidly after abortion; some women
begin ovulating as early as the 10th day after first-trimester induced abortion (9). Ovulation has been detected in over 80% of patients in the first post-abortion cycle (8, 9). Finally, immediate insertion of an IUCD after an abortion is associated with lower risk of repeat elective abortions as it offers effective and immediate contraception (23).

Immediate postpartum provision of IUCD is another method which can be used to increase utilization of the IUCD. This can be done trans caeserian in which the IUCD is inserted during caeserian section or via post placental fundal placement. A study done in Kenya found that intensive counseling did not improve uptake of IUCD over routine counseling(24).

Whereas insertion of an IUCD after an abortion has been recommended by the WHO through the Medical Eligibility Criteria for contraceptive use of 2009 and by the Kenyan National Family Planning Guidelines 2010, its use has been limited by concerns of increased rate of expulsions, uterine perforation and infections among the clinicians(21).

Current literature available indicates that IUCD insertion after an abortion is safe. Post abortion IUCD insertion is associated with an incidence rate of perforation of one per 1000 insertions, which is comparable to rates in interval insertion (25, 26) (27). Factors associated with an increased risk of perforation include skill of the clinician and anatomic factors, such as a stenotic cervix or an immobile or a retroverted uterus and the presence of a myometrial defect (pre-existing or created during the procedure by the uterine sound or the IUCD inserter (25).

Goodman et al. reported expulsion rates of 1.6% and 7% for IUCDs placed immediately after first and second trimester abortions, respectively (23). The net discontinuation rate due to pelvic inflammatory disease is low, ranging from 0.0 to 0.8 per 100 women at one year for post abortion insertion, which is comparable to interval insertion (26).

The copper T 380 A, which is available in Kenya, provides safe and effective contraception for duration of 12 years with low expulsion rates. It can also be used by women who want or need to avoid exogenous estrogen. In addition, it represents an effective alternative to surgical sterilization, which many women can use in order to avoid the side effects and frequent attention required by most reversible methods of contraception (21). It is effective immediately after
insertion and its use is associated with lower incidence of ectopic pregnancy and repeat abortion (21) (25).

A study done in Kenya in 1990 found that IUCD discontinuation was the lowest of the three methods for a 12-month period (oral contraceptives 80%, Depo-Provera 39% and IUCD 20%) (28).

Despite these benefits, Kenya has lagged behind other countries in adopting the intrauterine contraceptive device. In 2008-2009 Kenya Demographic and Health Survey, only 1.7 percent of women in reproductive age were using intrauterine contraceptive devices (11). By comparison, intrauterine contraceptive devices were used by over 33 percent of women using contraception in China, 18% in Scandinavian countries and 13% in Asian nations (18). Slow adoption of IUCD use in Kenya has been attributed to five interrelated factors; poor quality of care, fear among providers of acquiring or transmitting HIV, poor product image among clients, provider bias or preference (reluctance of the providers to provide the method) and shifting client preference (12).

The government in its quest to promote utilization of the IUCD as a method of long term contraception has faced many challenges. First, most of the healthcare providers are biased against providing the IUCD as method of contraception as its time consuming, labour intensive and requires sterility to provide it. Decline investment in healthcare, training and supplies has resulted in declined service provision. Stock outages of gloves and disinfectants coupled with few trained skill healthcare providers has hindered provision of this service. Majority of healthcare providers are also misinformed on the contraindications, advantages and disadvantages to use of the IUCD. Many non menstruating clients are the service of IUCD insertion. Health care providers were also worried about contracting HIV from the clients or transmitting HIV from one client to another during IUCD insertion. Poor product image among the clients due to misconceptions have also lead to decline in utilization of the IUCD. Changes in client preferences has lead to many clients choosing the injectable contraceptives over the long-term methods of contraception(12).

Among Kenyan women, the IUD is most popular among those who want to stop child bearing though it can also be used for child spacing (28). For this reason, users tend to be older, higher
parity women. Its use increases with education level, and use is more common among urban women, perhaps because of their education levels or better access (28, 29). Whereas it has been demonstrated that long acting reversible contraceptives such as IUCD are more effective and less costly in the long run, many women in Kenya do not use contraceptives and some of those who use rely on ineffective traditional methods contraceptive puts them at risk of unintended or unplanned pregnancies, which lead to abortions. There is therefore need to encourage use of long acting contraceptives.
RATIONALE

In Kenya, unsafe abortion is a major problem contributing significantly to the high number of maternal deaths and morbidity. One in five maternal deaths in Kenya is due to unsafe abortions (14). In Kenya, only 32% of the women in reproductive age use effective modern methods of contraceptive (11). Majority of women use no method of contraception or rely on highly ineffective traditional methods putting them at risk of unwanted pregnancies leading to unsafe abortions. Up to 44.5% percent of the pregnancies in Kenya are unplanned (30).

While the provision of long-term reversible methods of contraception is one of the most cost effective strategies to reduce repeat abortions (10) (23) and maternal mortality, the use of long-term methods such as IUCD in Kenya is low at 1.7% (11). Insertion of an IUCD immediately after an abortion has several benefits compared with interval insertion. After an abortion, women are highly motivated to use a method of contraception (17). IUCD insertion after an abortion ensures effective contraception is in place by the time ovulation resumes. It also eliminates need for another visit for IUCD insertion. Studies have shown that up to 25-68% of women scheduled for interval insertion do not come back to have the IUCD inserted (3, 31). Adherence to contraceptive choices after an abortion is higher (32). Most of the women use short-term or ineffective methods of contraception which put them at risk of repeat abortions. However, it is unclear if women managed for abortion in Kenya who have little or no other contact with the formal healthcare system later on would use an IUCD as a method of contraception. The aim of this study was to determine the acceptability and uptake of immediate insertion an IUCD as a method of contraception to be initiated after an abortion.
NARRATIVE CONCEPTUAL FRAMEWORK

One of the ways to improve maternal health and reduce maternal mortality is to increase contraceptive use among women of the reproductive age. Provision of long term contraceptives like IUCD after an abortion are among the interventions which can be done to improve this is to increase access to contraception.

Factors determining utilization of an IUCD as a method of contraception after an abortion are diverse and yet interrelated. These include personal (patient) factors and institutional (provider) factors. Personal factors can be divided into socio-demographic factors, reproductive factors, economic factors and product perception factors.

Older women are motivated to use contraception to prevent pregnancy. Younger women tend to use contraceptives to delay child bearing or for birth spacing. Higher levels of education and knowledge/awareness are associated with higher utilization of family planning services.

Women who have achieved desired family sizes are more motivated to use contraceptives to prevent undesired pregnancies.

Cultural practices such as naming of relatives and sex preference (boy preference) are associated with lower utilization of contraceptives. Most of these communities tend to have many children with low use of contraceptives as they see children as a source of wealth.

Product image/perception is also a major determinant of its utilization. Misinformation and misconceptions about a product concerning its adverse effects can negatively impact on its utilization. Good product image is associated with higher utilization of the product.

Gender autonomy influences access and utilization of contraceptive services. Gender autonomy and improved socioeconomic status are associated with higher utilization of contraceptive services.

Religion also plays a critical role in determining and shaping women’s perception of contraceptive use.
Institutional factors also play a role in determining utilization of IUCD as a method of contraception. IUCD insertion requires a highly skilled and trained workforce to offer the service. Lack of a skilled labour can hinder provision of the service.

Poor knowledge on indications, advantages and contraindications for use of an IUCD can lead to misinformation of the client. Some clients who are eligible to use may be denied the method due to this.

Overworked and poorly motivated workforce is less likely to provide an IUCD since its provision is labour intensive and time consuming.

Inadequate or erratic supplies of commodities can also negatively impact on provision of the service.

Increased utilization of long acting reversible and effective contraceptive devices such as the intrauterine contraceptive device leads to reduction in number of unplanned and unwanted pregnancies, resulting in a decrease in number of induced abortions, better-managed family sizes and reduction in maternal mortality.
Sociodemographic factors
- Age
- Education level
- Marital status
- parity

Economic status

Obstetric factors
- Number of living children
- Desired family size

Knowledge of sex and reproductive health
- Poor knowledge on contraceptive methods
- Misinformation and misconception on contraceptive methods
- Previous contraceptive use/experience
- Poor knowledge on reproductive cycle

Religious and cultural practices
- Sex preference
- Naming of relatives
- Religious practices prohibiting contraceptive use

Social support structures
- Lack of Women autonomy
- Poor partner support
- Lack of Social support
- Domestic violence

Institutional factors
- Lack of skilled workforce
- Poor provider knowledge
- Poor commodity supply
- Poor Counseling skills and services
  - ......

Inability to access to information and poor counseling services

Failure to use contraceptives / inconsistent use of contraceptives

Unintended pregnancy
- Mistimed or unwanted

abortion

Higher utilization of post abortion IUCD insertion

- Reduction in unwanted and mistimed pregnancy
- Reduced repeat abortions
- Reduced fertility

Reduced maternal mortality
STUDY QUESTION
What are the factors influencing acceptability and uptake of post abortion intrauterine contraceptive device insertion?

BROAD OBJECTIVE
To determine factors influencing acceptability and uptake of post abortion insertion of intrauterine contraceptive device among patients managed at Kenyatta National Hospital.

SPECIFIC OBJECTIVE
1. To determine acceptability and uptake of intrauterine device insertion post abortion
2. To determine factors influencing acceptability and uptake of post abortion IUCD insertion

METHODOLOGY

Study Area
The study was conducted at Acute Gynaecology Ward (1D) in Kenyatta National Hospital (KNH), the national teaching and referral hospital. KNH has a bed capacity of 1800 beds. The hospital is situated in Nairobi, 4 kilometers west of the central business district.

KNH is main teaching hospital for the College of Health Sciences, University of Nairobi and the Kenya Medical Training Centre. The hospital caters to patients from Nairobi and its environs as well as referrals from other hospitals in the country and the greater Eastern Africa region.

The Acute Gynaecology ward has a capacity of forty-five beds. On any given day, it admits an average of ten patients of which five patients are managed for abortion related complications daily. Every month, about one hundred and twenty patients are managed for abortion related complications.
**General Patient flow**

Patients seeking treatment for abortion related complications and other acute gynaecological conditions are initially evaluated at the Accident and Emergency unit and are referred to the Acute Gynaecology ward (Ward 1D) for further management.

In the Acute Gynaecology ward, they are re-evaluated by the doctor. Post abortion care counseling is provided to the patient by a medical practitioner- Medical officer intern, clinical officer intern, registrar or nursing officer. Family planning counseling is offered on all methods of contraception offered by the hospital. After counseling uterine evacuation is done by either by manual vacuum aspiration, augmentation with oxytocin, administration of misoprostol or uterine curettage based on the diagnosis and gestation age. Misoprostol is used for cervical ripening in missed abortion in some cases before dilatation and curettage or uterine aspiration.

Patients who are clinically stable are observed for a few hours and allowed to go home. Those with complications are offered appropriate management until they recover. At discharge, patients are provided with post abortion contraception based on their choices. They are all discharged on antibiotics and analgesics and are booked for review at the Gynaecology specialty clinic and Family Planning clinic in two weeks.

**Study design**

This was a cross-sectional descriptive study targeting women of the reproductive age who were managed for abortion at the acute gynaecology ward of Kenyatta National Hospital.

**Study population**

The study population consisted of women of reproductive age (18-49 years) who were managed for abortion at Kenyatta National Hospital in the acute gynaecology ward.
Figure 1: Study flow diagram

Figure 1 above shows the patient flow and study procedures during the study period.
Recruitment
A total of 159 study participants were recruited from women of reproductive age who were managed for abortion in the Acute Gynaecology Ward (Ward 1D).

Women who meet the following inclusion criteria were recruited.

Inclusion criteria
1. Women of reproductive age (18-49 years).
2. Diagnosed with incomplete, inevitable, complete or missed abortion.
3. Willing and able to provide an informed written consent.
4. Gestation age of pregnancy less than 20 weeks based on first day of last normal menstrual period.

Exclusion criteria
1) Septic abortion-diagnosed by either of these:
   a) Foul smelling products of conception.
   b) Frank pus draining from vagina.
   c) Fever > 38 Celsius axillary temperature.
2) Women with life threatening conditions e.g. in shock
3) Women unwilling or not capable to provide an informed written consent
4) Known hypersensitivity to copper
5) Acute pelvic infection
6) Known to have Wilsons disease
7) Severe distortion of the uterine cavity- including bicornuate uterus or submucosal fibroid distorting uterine cavity diagnosed by ultrasound.
8) Women with multiple sexual partners or whose partners have multiple sexual partners
9) Women with pelvic cancer (cervical, endometrial, and ovarian cancers).
10) Pelvic tuberculosis

11) Severe trauma to genital tract
   a) Uterine perforation
   b) Chemical burns to genital tract
   c) Serious vaginal or cervical trauma

**Sample size calculation**

Data from a study conducted in Egypt reported an initial baseline uptake of IUCD of 10% among patients managed for abortion (3). Based on this assumption, a sample size of 138 was required to determine the uptake of IUCDs among women receiving care for abortion complications at KNH at the 95% confidence level within a margin of error of ±5%.

\[
  n = \frac{z^2 \cdot p \cdot (1-p)}{e^2}\\
  = 1.96^2 \times 0.1(1-0.1)/0.05^2\\
  = [3.84 \times 0.1(1-0.1)]/0.05^2\\
  =138
\]

Where:

- \( n \) is the required sample size.
- \( z \) is the value on the standard normal distribution corresponding to the 95% confidence level (1.96).
- \( p \) is the assumed prevalence of uptake of IUCDs within the population under investigation.
- \( e \) is the degree of precision for the estimate (0.05).
Counseling

All eligible women who present with abortion related complications in ward 1D received counseling on all methods of contraception available after they had been reviewed by the doctor. An explanation on the method of evacuation to be used was provided. Counseling on IUCD as a method of contraception was also offered to all clients before uterine evacuation procedure. Counseling was provided by nursing staff or medical doctor on duty in ward 1D.

Sampling procedure

Convenience sampling was used. All eligible women managed for abortion were approached. Those who met the inclusion criteria and had agreed to participate in the study by giving a written consent were recruited by the research assistant or principal investigator after they had undergone counseling on all methods of contraception.

Consenting procedure

The research assistant or principal investigator obtained a written consent after the patient was attended to by the doctor in Ward 1D and had received counseling on the methods of contraception.

The principal investigator explained the study and its associated procedures to the potential subject prior to conducting any study procedure verbally in English or Kiswahili. The explanation provided the included purpose of the study, procedures, risks and benefits of the study. Following the verbal explanation, the patient was provided with a written consent form to go through. The patient was allowed to ask questions. The patient was also educated on her rights as participants in the study.

Once the patient agreed to participate in the study, she acknowledged by signing the consent form. The principal investigator or research assistant signed as a witness. A copy of the consent was provided to the patient together with an information sheet with phone numbers to call if she had any problems or questions. A person who spoke and understood English or Kiswahili, but could not read and write, was enrolled into the study by "making their mark with their left thumbprint" on the English consent document.
Contact information for follow up was obtained i.e. phone number or email. The study subjects were asked to indicate which mode of contact was preferable and acceptable. For purposes of confidentiality, the subjects were asked how research staff would identify themselves to another party or leave a message when using their contact information.

**Costs**

The IUCD was offered at no cost to the study participant. Costs attributable to management of abortion complications were met by the patients. Costs arising from complications during insertion of the IUCD were to be catered for by the study. The patients were to cater for the costs of transport during follow up.

**Data collection procedure**

Data was collected by the principal researcher or the research assistants using a pretested structured questionnaire, administered verbally to the study subjects at admission after recruitment and before the uterine evacuation procedure in Ward 1D. The information obtained was entered into the questionnaire by the principal investigator or research assistant.

**Data collection instrument**

The questionnaire comprised of four sections:

1. **Section A : socio-demographic information**.
   
   Information collected included the patient’s age, sex, education level, employment status and religion.

2. **Section B : reproductive outcomes**
   
   Information to be collected included number of previous pregnancies, number of previous abortions, number of living children and their sex. Data on diagnosis at admission will be obtained from the patient’s medical records at admission.
3. **Section C: pregnancy dating**

   The information was obtained from the medical records. It included date of the first day of the last normal menstrual period, gestation age in weeks and diagnosis of the condition at time of contact with health provider.

4. **Section D: Pregnancy intention and previous contraceptive use.**

   The information collected included desire of the index pregnancy and contraceptive use prior to the index pregnancy (current pregnancy loss).

5. **Section E: future pregnancy intentions and contraceptive use.**

   Information collected included desired timing of the next pregnancy (future pregnancy), future contraceptive intentions and utilization of IUCD.

6. **Section F: Post IUCD Insertion section.**

   The information obtained included whether the IUCD insertion was successful, any immediate complications and patient satisfaction of the procedure.

**Data Management and analysis**

Data collected using the questionnaires was entered into a password protected Microsoft Access Database. The hard copy data forms were stored in a lockable cabinet in either the statistician’s office or the Principal Investigator’s office. Upon completion of Data entry, the data on hard copy forms was compared with the entered data to identify errors and corrections made appropriately.

Descriptive statistics were carried out where discrete variables as marital status, education level, employment, religion, method of contraception and use an intrauterine contraceptive device were summarized with frequencies and percentages. Continuous variables such as age, number of
previous pregnancies, number of previous abortions, number of living children and gestation age were summarized using measures of central tendency such as mean, median, mode and standard deviation.

Acceptability and uptake of post-abortion insertion of IUCD were estimated using simple proportions. Categorical factors associated with acceptability of post-abortion insertion of IUCD such as marital status, education level, employment, religion, previous method of contraception used and previous use of an intrauterine contraceptive device were identified using Chi-squared tests and Fisher’s exact tests for nominal variables such as age, number of previous pregnancies, number of previous abortions, number of living children and gestation age and t-tests for continuous variables. Variables identified to be significant at this point were used for multivariate analysis to determine independent factors associated with acceptability of post-abortion insertion of IUCD using multinomial logistic regression.

**Aspiration procedure**

All study subjects received peri-operative antibiotics and analgesia for the aspiration procedure as per Kenya National Hospital Standard Operation procedure for manual vacuum aspiration.

Aseptic techniques were observed during the uterine aspiration procedure as per the Kenyatta National Hospital protocols.

Completeness of the uterine evacuation was evaluated as per standard practice of care.

**IUCD INSERTION**

Final determination of eligibility for potential IUCD insertion among women who agreed to have an IUCD inserted was done after the aspiration procedure while the patient was still on the MVA procedure table.

Subjects with the following clinical issues were not eligible for immediate IUCD insertion:

- Failure to confirm completion of the aspiration procedure
- Excessive uterine hemorrhage
- Uterine perforation
- Cervical laceration requiring suture repair
- Any condition that in the opinion of the surgeon precludes safe IUCD insertion.

Subjects who met any of these criteria were counseled to take up an alternative method of contraception.

IUCD insertion was done by a medical doctor, nursing staff or clinical officer who was competent and trained in insertion of the device immediately after the uterine evacuation. Insertion was done by aseptic technique as per KNH Standard Operation Procedure for IUCD insertion. Insertion of the IUCD was done in the MVA procedure room. The procedure for insertion is contained in Appendix A.

After insertion of IUCD, the patient was observed for two hours in the recovery room for any immediate complications. The patient’s vital signs - blood pressure, pulse rates, respiratory rate, temperature, amount of vaginal bleeding, abdominal pain/tenderness and level of consciousness were monitored. She was evaluated for complications including severe hemorrhage, shock and uterine perforations.

Any complications arising during the insertion procedure were managed according to the Kenyatta National Hospital emergency protocol where the registrar and consultant on call were involved. The principal investigator was informed of any complication as the management continued. The KNH/UON-ERC was to be informed of any adverse event within 72 hours.

If no complications were noted, the subject was offered post abortion counseling. All patients including those who had spontaneous abortion were discharged on antibiotics which included amoxyillin/clavulinic acid, metronidazole and doxycycline.

**Post counseling procedure.**
The patient was counseled to return to hospital for check up if she had any of the following:

- Signs of infection: fever, worsening pelvic pain, abdominal pain, foul smelling or purulent vaginal discharge, pain during sexual intercourse
- Unusually heavy vaginal bleeding
- Suspected expulsion (strings from IUD are missing or are longer or shorter than normal)
- Suspected pregnancy (missing a menstrual period).

In the absence of problems, patients were referred and booked for a follow-up examination in four weeks at the family welfare clinic (family planning clinic).

Should she have any concerns or complications before the 4 weeks she would contact the principal investigator on the contacts provided on the consent form.

**Follow up procedure at 4 weeks**

All subjects were scheduled for an office follow up visit at the family planning clinic (Clinic 66) 4 weeks after the IUCD insertion.

During the visit, the patient were evaluated and examined for complications. Evaluations done included bleeding patterns, cramping, infection, expulsion, need for removal and patient satisfaction. A pelvic exam was performed to visualize the location of the IUCD strings, check for vaginal discharge, uterine or adnexal tenderness. Those without any complication were counseled and scheduled for a follow up visit in 12 months.

**SAFETY MONITORING PLAN**

The following were the anticipated risks of IUCD insertion:

**Infections:** IUCD insertion is associated with an absolute risk of infection of 9.7 cases per 1,000 woman years in the first 20 days (33). Infection rates in post abortion insertion are comparable to interval insertion (31).
**Uterine perforation:** post abortion IUCD insertion is associated with an incidence rate of perforation of one per 1000 insertions which is comparable to rates in interval insertion (26).

**Expulsions:** spontaneous expulsion rates for IUCD after post abortion insertion range from 2 to 12% (26).

To minimize the risks the following measures had been put in place. All study subjects recruited into the study were screened for eligibility for IUCD insertions. An IUCD insertion was performed by medical personnel with prior IUCD insertion training. Uterine sounding was done using minimum force to minimize risk of perforation. Aseptic technique was used during IUCD insertion. Prophylactic antibiotics: amoxycilin/clavulinic acid, doxycycline with metronidazole and analgesics were prescribed to all patients after IUCD insertion. Patients were monitored in the ward for two hours after insertion. Complications detected were managed with the input of the consultant on call in the ward. Patients were scheduled follow up visit at 4 weeks at the clinic to be evaluated for any complications. On discharge, patients were educated on identification of symptoms and signs of complications.

The symptoms included:

- Fever or chills that develop within 3 weeks of IUD insertion
- Missed period, mid-cycle bleeding or spotting
- Severe pain in the lower abdomen
- Heavy vaginal bleeding
- Infection exposure (such as Chlamydia), or abnormal vaginal discharge
- String missing or longer or shorter than previously noted

**Training Procedures**

Four nurses and clinical officers working in Ward 1D were trained as research assistants. They were trained on the study protocol including history taking, consenting procedure, client assessment, indications and contraindications for IUCD insertion during a 1 day training workshop at Kenyatta National Hospital. They were taught on how to administer and fill in the questionnaire. Standard definitions of terminologies were given and diagnostic criteria for some conditions were outlined. The doctors in specialist training (registrars), medical officer interns,
nurses working in ward 1D and other staff who were involved in the study were trained on the study protocol and IUCD insertion after an abortion in a one-day workshop at Kenyatta National Hospital by trainers from the family planning clinic at Kenyatta National Hospital.

**Ensuring Quality of data collection**

The research assistants were recruited from nurses and clinical officers working in the ward. The research assistants were trained on interviewing, information retrieval and filling of the questionnaire. Records of the clinical findings were entered after thorough scrutiny. In order to avoid double participant recruitment, the participant’s medical records number will be entered into a register upon recruitment for serialization.

**Ethical considerations**

Before the study began, it was reviewed and approved by the Kenyatta National Hospital/University of Nairobi Ethics and Research Committee. A written consent was obtained before participating in the study. Potential participants were informed that participation was voluntary and that standard care will be provided to all women regardless of whether they consented or declined to participate in the study. The patients’ records were coded and patients’ names were not used to maintain confidentiality. The information obtained was not to be used for any other purposes other than the study. The interviews were conducted in a private environment to ensure confidentiality.

**Study limitations**

Study validity depended a great deal on truthfulness and openness of the respondents. This may not always be the case because some information sought may have been considered personal and sensitive. Some may report that they desired the pregnancy to avoid stigma and negative perception. To minimize this, the clients were assured of their confidentiality. The interviews were conducted in a private and confidential manner in the counseling room.

Some respondents may be intimidated by the authority figure of a medical practitioner and thus may give responses that are not true so as not to annoy the service provider. The clients were
assured that standard care will be offered whether they agreed or declined to participate in the study.
RESULTS

A total of 159 women of reproductive age managed for abortion at Kenyatta national hospital were recruited during the study period of July 2012 to September 2012.

Figure 2: Acceptability and uptake of IUCD among study participants

Figure 3: Flow chart showing acceptability, uptake and follow up
Figure 2 and 3 shows the acceptability and uptake of the IUCD among the study population. Of the 159 women who participated in the study, 35 women (22%) accepted to use an IUCD as a mode of contraception, whereas only 16 (10%) women had an IUCD inserted. Nineteen patients who had initially accepted to use the IUCD did not have it inserted. Ten (10) patients changed their mind after the MVA procedure. Five were noted to have excessive hemorrhage during the MVA procedure. Four had signs indicating the abortion was septic.

IUCD insertion procedures were successful in all the 16 cases of the clients who wanted the insertion done after the evacuation. No cases of uterine perforation or severe hemorrhage were reported during the IUCD insertion procedure.

During the follow up visit at 4 weeks, 1 study participant had the IUCD removed due to infection. She had developed purulent vaginal discharge with lower abdominal pain. She was treated with antibiotics and recovered. No cases of expulsion of the IUCD were reported. The rest of the study participants continued using the method.
Table 1: Socio-demographic characteristics and acceptance of IUCD among study participants (n = 159)

<table>
<thead>
<tr>
<th>Study population characteristics</th>
<th>Acceptability</th>
<th>P values</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Declined to use IUCD (N=124)</td>
<td>Accepted to use IUCD (N = 35)</td>
</tr>
<tr>
<td></td>
<td>N (%)</td>
<td>N (%)</td>
</tr>
<tr>
<td><strong>N= 159</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Age group</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>18-20 years</td>
<td>24(15.1)</td>
<td>21(16.9)</td>
</tr>
<tr>
<td>21-24 years</td>
<td>54(34.0)</td>
<td>43(33.7)</td>
</tr>
<tr>
<td>25-30 years</td>
<td>47(29.6)</td>
<td>33(26.6)</td>
</tr>
<tr>
<td>31-34 years</td>
<td>19(11.9)</td>
<td>12(9.7)</td>
</tr>
<tr>
<td>35-40 years</td>
<td>14(8.8)</td>
<td>14(11.3)</td>
</tr>
<tr>
<td>41 and above</td>
<td>1(0.6)</td>
<td>1(0.8)</td>
</tr>
<tr>
<td><strong>Marital status</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Single</td>
<td>31(19.5)</td>
<td>26(21.0)</td>
</tr>
<tr>
<td>Married/Cohabiting</td>
<td>126(79.2)</td>
<td>96(77.4)</td>
</tr>
<tr>
<td>Separated/Divorced</td>
<td>2(1.3)</td>
<td>2(1.6)</td>
</tr>
<tr>
<td><strong>Education level</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>None</td>
<td>3(1.9)</td>
<td>3(2.4)</td>
</tr>
<tr>
<td>Completed Primary</td>
<td>50(31.4)</td>
<td>40(32.3)</td>
</tr>
<tr>
<td>Completed Secondary</td>
<td>53(33.3)</td>
<td>40(32.3)</td>
</tr>
<tr>
<td>College/University</td>
<td>53(33.3)</td>
<td>41(33.0)</td>
</tr>
<tr>
<td><strong>Employment status</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Unemployed/ housewife</td>
<td>54(34.6)</td>
<td>46(37.0)</td>
</tr>
<tr>
<td>Self employed</td>
<td>49(31.4)</td>
<td>36(29.0)</td>
</tr>
<tr>
<td>Salaried employment</td>
<td>47(30.1)</td>
<td>36(29.0)</td>
</tr>
<tr>
<td>Others*</td>
<td>6(3.8)</td>
<td>5(4.0)</td>
</tr>
<tr>
<td><strong>Religion</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Muslim</td>
<td>8(5.0)</td>
<td>7(5.7)</td>
</tr>
<tr>
<td>Protestant</td>
<td>114(71.7)</td>
<td>92(74.2)</td>
</tr>
<tr>
<td>Catholic</td>
<td>37(23.3)</td>
<td>25(20.2)</td>
</tr>
</tbody>
</table>

*students, interns

Table --1 describes the socio-demographic characteristics and acceptance of IUCD among the study population. The ages of the study participants ranged from 18 years to 41 years. The mean age of the study participants was 26.7 (SD ±5.8). The median age of the study participants was
26 years with an inter-quartile range of 8 years. Majority of the study participants 126 (79.2 %) were either married or cohabiting. Fifty three (33.3%) had college or university level of education. Fifty three (33.3%) had completed secondary school. Only 3 women (1.9%) did not attend school at all.

Majority of the women, 61.5% had their own source of income. Forty nine (31.4 %) of the study participants were self employed, 47 (30.1%) were on salaried employment. Only 54 (34.6%) were unemployed and were thus housewives. Majority 113 (71.1%) were protestants.

The mean age of the study participants who accepted to use the IUCD was 26.9+SD 5.8. Majority, 30(85.7%) were married. Twenty-five (71.4%) had education level of secondary school and above. Only 8(22.9%) were unemployed. Majority were Protestants.

As shown in table 1 above, no statistically significant relationship was found between acceptance of IUCD and any socio-demographic factor examined during the study, including age( p = 0.085), employment status (p = 0.5) and education level (p =0.76).
Table 2: Reproductive characteristics and acceptance of IUCD among the study population

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>N=159</th>
<th>Acceptability</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Declined to use IUCD n=124</td>
<td>Accepted to use IUCD n=35</td>
</tr>
<tr>
<td>Number of living children</td>
<td></td>
<td>N (%)</td>
<td>N (%)</td>
</tr>
<tr>
<td>0</td>
<td>68(42.8)</td>
<td>52(41.2)</td>
<td>16(45.7)</td>
</tr>
<tr>
<td>1</td>
<td>38(23.9)</td>
<td>32(25.8)</td>
<td>6(17.1)</td>
</tr>
<tr>
<td>2</td>
<td>32(20.1)</td>
<td>20(16.1)</td>
<td>12(34.3)</td>
</tr>
<tr>
<td>3 or more</td>
<td>21(13.1)</td>
<td>20(16.3)</td>
<td>1(2.9)</td>
</tr>
<tr>
<td>Previous abortions</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>70(44.0)</td>
<td>56(45.2)</td>
<td>14(40.0)</td>
</tr>
<tr>
<td>1</td>
<td>69(43.4)</td>
<td>53(47.3)</td>
<td>16(45.7)</td>
</tr>
<tr>
<td>2</td>
<td>12(7.6)</td>
<td>9(7.3)</td>
<td>3(8.6)</td>
</tr>
<tr>
<td>3 or more</td>
<td>8(5.0)</td>
<td>6(4.8)</td>
<td>2(5.7)</td>
</tr>
<tr>
<td>Parity</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>48(30.2)</td>
<td>34(27.4)</td>
<td>14(40.0)</td>
</tr>
<tr>
<td>1</td>
<td>42(26.4)</td>
<td>36(29.0)</td>
<td>6(17.1)</td>
</tr>
<tr>
<td>2</td>
<td>37(23.3)</td>
<td>24(19.4)</td>
<td>13(37.1)</td>
</tr>
<tr>
<td>3 or more</td>
<td>32(20.2)</td>
<td>30(24.2)</td>
<td>2(5.8)</td>
</tr>
<tr>
<td>Index pregnancy desired</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>40(25.2)</td>
<td>30(24.2)</td>
<td>10(28.6)</td>
</tr>
<tr>
<td>Yes</td>
<td>119(74.8)</td>
<td>94(75.8)</td>
<td>25(71.4)</td>
</tr>
<tr>
<td>Desires pregnancy in future</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>21(13.2)</td>
<td>17(13.7)</td>
<td>4(11.4)</td>
</tr>
<tr>
<td>Yes</td>
<td>138(86.8)</td>
<td>107(86.3)</td>
<td>31(88.6)</td>
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<tr>
<td>Timing of future pregnancy</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Within 1 year</td>
<td>61(38.4)</td>
<td>46(37.1)</td>
<td>15(42.0)</td>
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<tr>
<td>Within 1 -2 years</td>
<td>36(22.7)</td>
<td>30(24.2)</td>
<td>6(17.1)</td>
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<tr>
<td>More than 2 years</td>
<td>41(25.8)</td>
<td>31(25.0)</td>
<td>10(28.6)</td>
</tr>
<tr>
<td>Never</td>
<td>21(13.2)</td>
<td>17(13.7)</td>
<td>4(11.4)</td>
</tr>
<tr>
<td>Awareness of IUCD</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>31(19.5)</td>
<td>27(21.8)</td>
<td>4(11.4)</td>
</tr>
<tr>
<td>Yes</td>
<td>128(80.5)</td>
<td>97(78.2)</td>
<td>31(88.6)</td>
</tr>
<tr>
<td>Ever used IUCD</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>145(91.2)</td>
<td>113(91.4)</td>
<td>32(91.4)</td>
</tr>
<tr>
<td>Yes</td>
<td>14(8.8)</td>
<td>11(8.9)</td>
<td>3(8.6)</td>
</tr>
</tbody>
</table>
Table 2 shows the reproductive characteristics and acceptance of IUCD among the study population. Majority of the study participants, 91(57.2%) had one or more living children. The median number of children was 1.

Majority, 89 (56%) had a history of previous abortion prior to the index admission. Sixty nine (43.4%) had one previous abortion whereas 20(12.6%) had more than one previous pregnancy loss. Forty women (25%) reported that the index pregnancy was not desired. One hundred and thirty eight women (86.8%) desired to get more children in future. Only 61 (38.4%) women wanted to get pregnant within one year.

Among the women who accepted to use an IUCD, nineteen women (54.3%) had one or more living children. Only 10 (28.3%) of these women did not desire the index pregnancy. Thirty one women (88.6%) wanted to get more children in future. Majority of the women 58% wanted to postpone the future pregnancy by more than one year.

Among all the 159 study participants, 128(80.5%) were aware of IUCD as a mode of contraception. Among those who declined to use IUCD, 78.2% were aware of IUCD as a method of contraception. Only 14 women (8.8%) had ever used the IUCD. This did not significantly differ among those who accepted versus those who declined to use the IUCD (8.6% versus 8.9%) respectively (p value= 0.956).

As shown in table 2 above, no statistically significant relationship was found between acceptance of IUCD and any reproductive factor examined during the study, including parity ( p = 0.076), number of living children (p = 0.111), index pregnancy desire (p = 0.598) and future pregnancy desire (p = 0.725).
Table 3: Comparison of socio-demographic characteristics between those who accepted and those who declined to have IUCD inserted (uptake) (n = 159)

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Did not have IUCD inserted</th>
<th>Had IUCD inserted</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N= 143</td>
<td>N = 16</td>
<td></td>
</tr>
<tr>
<td></td>
<td>N (%)*</td>
<td>N (%)*</td>
<td></td>
</tr>
<tr>
<td>Age group</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>18-20 years</td>
<td>22(15.4)</td>
<td>2(12.5)</td>
<td>0.405</td>
</tr>
<tr>
<td>21-24 years</td>
<td>50(35.0)</td>
<td>4(25.0)</td>
<td></td>
</tr>
<tr>
<td>25-30 years</td>
<td>41(28.7)</td>
<td>6(37.5)</td>
<td></td>
</tr>
<tr>
<td>31-34 years</td>
<td>15(10.5)</td>
<td>25(40.0)</td>
<td></td>
</tr>
<tr>
<td>35-40 years</td>
<td>14(9.8)</td>
<td>0(0.0)</td>
<td></td>
</tr>
<tr>
<td>41 and above</td>
<td>1(0.7)</td>
<td>0(0.0)</td>
<td></td>
</tr>
<tr>
<td>Age Mean±SD</td>
<td>26.7±5.9</td>
<td>27.2±5.9</td>
<td>0.695</td>
</tr>
<tr>
<td>Marital status</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Single</td>
<td>27(18.8)</td>
<td>4(25.0)</td>
<td>0.763</td>
</tr>
<tr>
<td>Married/cohabiting</td>
<td>114(79.7)</td>
<td>12(75.0)</td>
<td></td>
</tr>
<tr>
<td>Separated/divorced</td>
<td>2(1.4)</td>
<td>0(0.0)</td>
<td></td>
</tr>
<tr>
<td>Education level</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>None</td>
<td>3(2.1)</td>
<td>0(0.0)</td>
<td>0.268</td>
</tr>
<tr>
<td>Completed Primary</td>
<td>48(33.6)</td>
<td>2(12.5)</td>
<td></td>
</tr>
<tr>
<td>Completed Secondary</td>
<td>47(32.9)</td>
<td>6(37.5)</td>
<td></td>
</tr>
<tr>
<td>College/University</td>
<td>45(31.5)</td>
<td>8(50.0)</td>
<td></td>
</tr>
<tr>
<td>Employment status</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Unemployed/ housewife</td>
<td>51(35.9)</td>
<td>3(21.4)</td>
<td>0.692</td>
</tr>
<tr>
<td>Self employed</td>
<td>44(31.0)</td>
<td>5(35.7)</td>
<td></td>
</tr>
<tr>
<td>Salaried employment</td>
<td>42(29.6)</td>
<td>5(35.7)</td>
<td></td>
</tr>
<tr>
<td>**Others</td>
<td>5(3.5)</td>
<td>1(7.1)</td>
<td></td>
</tr>
<tr>
<td>Religion</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Muslim</td>
<td>7(4.9)</td>
<td>1(6.3)</td>
<td>0.841</td>
</tr>
<tr>
<td>Protestant</td>
<td>104(72.7)</td>
<td>10(62.5)</td>
<td></td>
</tr>
<tr>
<td>Catholic</td>
<td>32(22.8)</td>
<td>5(31.2)</td>
<td></td>
</tr>
</tbody>
</table>

*percentages based on column totals

**students, interns

Table 3 shows the socio-demographic characteristics of those who declined and those who accepted the IUCD to be inserted (uptake). There was no significant difference in socio-
demographic factors under the study between those who accepted and those who declined insertion of IUCD.

The mean age of the participants who accepted to use the IUCD was $27.2 \pm 5.1$. A large proportion of women who accepted to have an IUCD inserted were married (75%) and had university or college level of education (50%). Majority 62.5% were Protestants.
Table 4: Comparison of reproductive factors of those who had and those who declined have IUCD inserted (n =159)

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Uptake of IUCD</th>
<th></th>
<th></th>
<th></th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Did not have IUCD inserted</td>
<td>(n=143)</td>
<td>(n=16)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>*N (%)</td>
<td>*N (%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>P value</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Parity</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>42(29.4)</td>
<td>6(37)</td>
<td></td>
<td>0.641</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>39(27.3)</td>
<td>3(18.8)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>31(21.7)</td>
<td>6(37.5)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3 or more</td>
<td>31(21.7)</td>
<td>1(6.3)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No of previous abortions</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>63(44.1)</td>
<td>7(43.8)</td>
<td></td>
<td>0.921</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>62(43.4)</td>
<td>7(43.8)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>11(7.7)</td>
<td>1(6.2)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3 or more</td>
<td>7(4.9)</td>
<td>1(6.2)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of living children</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>62(43.4)</td>
<td>6(37.5)</td>
<td></td>
<td>0.662</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>34(23.8)</td>
<td>4(25.0)</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>2</td>
<td>27(18.9)</td>
<td>5(31.3)</td>
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<tr>
<td>3 or more</td>
<td>20(13.3)</td>
<td>1(6.2)</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Desire pregnancy in future</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>18(12.6)</td>
<td>3(18.7)</td>
<td></td>
<td>0.490</td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>125(87.4)</td>
<td>13(81.3)</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Index pregnancy desired</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>31(21.7)</td>
<td>9(56.3)</td>
<td></td>
<td>0.003</td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>112(78.3)</td>
<td>7(43.7)</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Previous contraceptive use</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>67(48.9)</td>
<td>6(37.5)</td>
<td></td>
<td>0.476</td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>76(53.1)</td>
<td>10(62.5)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Timing of subsequent pregnancy</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Within 1 year</td>
<td>56(39.2)</td>
<td>5(31.3)</td>
<td></td>
<td>0.173</td>
<td></td>
</tr>
<tr>
<td>Within 1 -2 years</td>
<td>35(24.5)</td>
<td>1(6.3)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>More than 2 years</td>
<td>34(23.8)</td>
<td>7(43.7)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Never</td>
<td>18(12.6)</td>
<td>3(18.7)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Awareness of IUCD</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>29(20.3)</td>
<td>2(12.5)</td>
<td></td>
<td>0.456</td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>114(79.7)</td>
<td>14(87.5)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ever used IUCD</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>132(92.3)</td>
<td>13(81.3)</td>
<td></td>
<td>0.139</td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>11(7.7)</td>
<td>3(18.7)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Percentages based on column total

Table 4 shows the association between reproductive characteristics and uptake of IUCD. Nine women (56.3%) of those who had IUCD inserted did not desire the index pregnancy. Seven
women (42.7%) of those who had IUCD inserted desired the index pregnancy. This difference was statistically significant (p = 0.003). Study subjects who did not desire the pregnancy were more likely to have an IUCD inserted. The other reproductive factors under the study did not show significant association.

Majority (43.7 %) of the study participants who had the IUCD inserted wanted to postpone future pregnancies by more than two years. Only 23.8% of the study participants who did not have the IUCD inserted wanted to postpone child bearing by more than 2 years. Among the study participants, majority, up to 80.5% were aware of an IUCD as a method of contraception but only 8.8% (14 women) had ever used it as a mode of contraception.

**Figure 4: Reason for declining to use an IUCD (n =143)**

Figure 4 shows the reasons cited by the study participants for not willing to use an IUCD. The most common reason cited for declining to use an IUCD was concern about the safety and adverse effect profile of the method. Other reasons cited includes wanting more children sooner and the concern that the partner might feel the threads.

Some of the safety concerns about IUCD mentioned by the study participants include the following:

- “It can be pushed to the stomach during sex”
- “It can cause infertility”
- “It can scratch the penis of the husband”
- “It can rust in the womb”
- “It can cause excessive bleeding”
- “It causes excessive back pain”

**Figure 5: Alternative method of contraception intended to be used by those who declined to have an IUCD inserted (n = 143)**

Figure 5 shows the alternative method of contraception used by those who declined to use an IUCD. Injectable contraceptives and male condoms were the most popular alternative methods of contraception chosen at 32.2% and 21% respectively.

**Figure 6: Classification of type of abortion**
Figure 6 shows the diagnosis at admission of the women. Majority 79% were managed for incomplete abortion.

**Figure 7: Contraceptive use prior to index pregnancy among study participants (n = 159)**

![Pie chart showing contraceptive use patterns](chart1.png)

Figure 7 shows the contraceptive use patterns among study participants prior to the index pregnancy. Among the study participants, 75(47.2%) were not using a method of contraception prior to the index pregnancy. Among those using a method of contraception, oral contraceptives and injectable contraceptives were the most popular used by 19% and 17% respectively. Intrauterine contraceptive devices were used only by 2% of the women.

**Figure 8: Prior Contraceptive use among study participants who did not desire the index pregnancy (n = 40)**

![Pie chart showing contraceptive use patterns](chart2.png)

Figure 8 is a pie-chart showing patterns of contraceptive use among the clients who did not
desire the index pregnancy. Among the women who did not desire the index pregnancy, 18 (45%) were not using any method of contraception. For those using a method of contraception, the most popular methods of contraception were oral contraceptives and injectable contraceptives used by 11(27.5%) and 5 (12.5%) respectively.

Table 5: future contraceptive intentions among study participants who wanted to have more children after a year (n =98)

<table>
<thead>
<tr>
<th>Contraceptive choices</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>injectable contraceptives</td>
<td>32</td>
<td>32.7</td>
</tr>
<tr>
<td>male condom</td>
<td>20</td>
<td>20.4</td>
</tr>
<tr>
<td>oral contraceptives</td>
<td>11</td>
<td>11.2</td>
</tr>
<tr>
<td>IUCD</td>
<td>11</td>
<td>11.2</td>
</tr>
<tr>
<td>Implants</td>
<td>9</td>
<td>9.2</td>
</tr>
<tr>
<td>female sterilization</td>
<td>3</td>
<td>3.1</td>
</tr>
<tr>
<td>Natural methods</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>None</td>
<td>8</td>
<td>8.2</td>
</tr>
</tbody>
</table>

Table 5 shows the contraceptive methods of choice among those intended to get pregnant after one year. Up to 92.8% of the women who did not desire pregnancy within 1 year were willing to use a method of contraception. The most popular methods of contraception were injectable contraceptive (32.7%), male condom (20.4%) and IUCD (11.2%).
DISCUSSION

The acceptance rate of IUCD among women managed for abortion at Kenyatta National hospital was 22%. This rate is much lower than the levels reported by an Egyptian study by El-Tagy et al where the overall acceptance rate was found to be at 35.3%(3). In Egypt according to the Egypt Demographic and health survey 2005, up to 59% of the currently married women are on contraceptive (34). The most popular method of contraception in Egypt is IUD which is used by up to 37% of the currently married women(34). In Kenya, only 46% of the currently married women are currently using a method of contraception(11). According to the KDHS of 2009 only 2% of the currently married women are using the IUCD (11). In Egypt IUCD is a popular mode of contraception hence it’s a more acceptable among the study participants.

In our study, the actual insertion rate (uptake) of IUCD of 10% was much lower than the initial acceptance rate of 22%. This rate was less than what was found in Egypt by El-Tagy et al where the acceptance and insertion (uptake) rates were 35.8 and 31.7% respectively(3). The quality of counseling is critical in improving uptake of IUCD as a method of contraception. In Egypt by El-Tagy, retraining of the staff providing family planning counseling resulted in an increase of uptake of post abortal IUD insertion from an initial baseline uptake of 10.2% to 42% (3). The other probable explanation for the low uptake was that in our study is that fewer women had used an IUCD as a method of contraception before. Only 8.8% of the women had used an IUCD as a method of contraception before compared to the study by El-Tagy et al. where 59% of the study participants had used the IUCD before (3). Therefore the uptake is likely to be less amongst our study population of whom majority have not used the method before.

Among the postpartum women, Mohammed S.A et al found the uptake for IUCD was much higher at 23.7% than our study findings. Majority of these women, 49% had used an IUCD before(35). A study done among post partum women in Embu found that intensive counseling did not increase uptake of IUCD over routine counseling (24).These postpartum women were also more likely to be motivated to use an effective long term method of contraception for child-spacing that does not affect milk production.
In our study population majority of the women declined to use the IUCD cited safety and adverse effects concerns. A study done Kenya by Stanback et al found rumours and misconceptions to be the main barriers to utilization of IUCD(12). This is similar to findings in studies done in Ghana and El Salvador which found that women often hold negative perceptions, rumours and fears about IUCD which negatively influence their opinions on IUCD(36). Despite these concerns about safety of IUCD, the actual incidence of complications quoted in literature is very low. Perforation of uterus occur at the rate of 1 to 2 per 1000 insertions(26). Cumulative expulsion rates are at 2.4 to 6 % in the first year of use (26). The rate of pelvic inflammatory disease was 9.68 per 1000 woman years in the first 20 days of use (33).

In this study, the most popular alternative modes of contraception chosen by those who declined to use IUCD were injectable contraceptives and male condoms at 32% and 21% respectively. According the KDHS 2008/2009, the most popular method of contraception among sexually active females was injectable contraceptive at 24% followed by pills at 8.3%. Male condoms were only used by 3.4% of the sexually active women(11). Injectable contraceptive are popular as they can be used without involving the male partner knowing.

The awareness of IUCD as a mode of contraception among the study participants was at 80%. This was much higher than what was reported in the KDHS 2008/2009 which reported it at 61% among all women but lower than Egypt were up to 99.9% of the populations are aware of the IUCD as a mode of contraception(34). The higher uptake in Egypt could be due to the fact that more women are aware of IUCD as a mode of contraception. Despite the high awareness amongst our study participants, the level of misconceptions was also high. This might indicate that the quality of counseling is wanting.

Insertion of an IUCD immediately after an abortion has several benefits. After an abortion, women are highly motivated to use a method of contraception (17). IUCD insertion after an abortion ensures effective contraception is in place by the time ovulation resumes. It also eliminates need for another visit for IUCD insertion. Upto 25% to 68% of women scheduled for interval insertion do not come back to have the IUCD inserted (3, 31). As compared to most of the other methods of contraception which can be discontinued passively, IUCD use requires active discontinuation to stop the method. Being a long term method, it’s also cost effective (37). This underscores the importance of immediate post abortion insertion of IUCD.
Majority of women who accepted to use IUCD were young, married, employed or self-employed, low parity and had a higher level of education. This is similar to findings in other studies done by Sekadde-Kigondu et al in Kenya among women who had interval IUCD insertion which found IUCD users to be married with higher education levels but differ in that these women were older and had higher parity levels (28, 29). The older women with high parity chose the IUCD for stopping childbearing while the younger women in our study chose it for child spacing.

In our study we found that 25% of the women did not desire the index pregnancy. This is much lower than national levels which estimate that up to 44% of the pregnancies are unplanned. Majority were not using any methods of contraception prior to the index pregnancy. Up to 60% of them wanted to postpone childbearing by more than one year. These women were also more likely to have the IUCD inserted after the abortion as they were more motivated to use a method of contraception. Hence an IUCD was an appropriate method for them.

There were no cases of uterine perforation, severe hemorrhage or vaso-vagal attacks reported. Our findings are similar to findings by Bednarek et al which reported no cases of uterine perforation (31). In literature the incidence of uterine perforation is reported to be 1 per 1000 insertions (24). The complication rates can be minimized by using skilled and experienced health providers to perform insertion of IUCD. Gently advancing the uterine sound and stopping at slightest resistance minimized the risk of uterine perforation.

During follow up, one client (6%) had the IUCD removed due to pelvic infection. No expulsions were reported. Though this study was not powered to look at complications associated with post-abortion insertion, this rate was much higher than other studies done which in USA and Egypt which found infection rates of 1.9% and none respectively (3, 31). A study done in Kenya, in Nyeri for postpartum IUCD insertion found a pelvic infection rate of 1% (38). This infection rate was much lower than what we found in our study. In Kenya, the rate of unsafe abortion is much higher as access to safe abortion is low due to legal restrictions. The high rates of unsafe abortions in our settings are likely to contribute to the higher infection rate noted in our study.

This study had limitations. Study validity depended a great deal on truthfulness and openness of the respondents. This may not always be the case because some information sought may have
been considered personal and sensitive. To minimize this, the clients were assured of their confidentiality. The interviews were conducted in a private and confidential manner in the counseling room.

Our study results may not be generalisable to whole of Kenya as this study was done in a national teaching and referral hospital which serves predominantly the urban population. This population of urban women has a high level of education and a source of disposable income.

Though no complications were reported during the IUCD insertion procedure, the study was not powered to look at the complication rates as the number of women who had the IUCD inserted was small.

**Conclusions**

The results of this study suggest that the acceptance and uptake of immediate post abortion insertion of an IUCD is low as it faces many challenges in terms of negative perception among the women of reproductive age.

Though the uptake of immediate post abortion insertion of IUCD was low at 10.1%, it is still higher than the current national use among the women of reproductive age which currently stands at 2% (11). Women who did not desire the index pregnancy were more likely to have an IUCD inserted after the evacuation procedure.

**Recommendations.**

Immediate post abortion insertion of IUCD can be used as one of the innovative ways of reducing the gap in unmet contraception need among women managed for abortion who do not desire immediate future fertility. Health care providers offering post abortion care should incorporate provision of IUCD after appropriate training as this will increase overall accessibility to the method.

More studies need to be done to assess the sources of knowledge and negative perception to the IUCD among women of reproductive age.
More efforts need to be put to provide accurate knowledge to the public concerning IUCD and to counter the negative perception of the public to this otherwise effective long-term method of contraception.

The management of the Kenyatta National Hospital should to put in place mechanism to facilitate provision post abortion IUCD insertion to its clients as it’s a service that is not offered routinely.

**Dissemination plans**

The results of this study will be presented at the Department of Obstetrics and Gynaecology University of Nairobi. The results will also be presented at local and international conferences and offered for publication in both local and international journals.
REFERENCES


APPENDIX 1 - IUCD INSERTION TECHNIQUE

This was adopted from Kenya National Hospital IUCD Insertion Standard Operating Procedure.

IUCD insertion was done by medical doctor, nursing staff or clinical officer who is competent and trained in insertion of the device. Insertion will be done by aseptic technique.

Equipment —

Equipment for IUCD insertion consists of a speculum, single tooth tenaculum, uterine sound and a scissor for trimming the IUCD string.

An antiseptic solution (povidone iodine or chlorhexidine) and sterile gloves.

Prior to insertion, the provider will verify that the surgical procedure had no complications, no infections or significant bleeding.

Preinsertion —

After the abortion is completed and bleeding is noted to be minimal, the cervix is recleansed with povidone iodine or chlorhexidine.

A pelvic exam will be done to assess the size and position of the uterus.

A speculum will be inserted, the cervix is inspected for signs of infection. The cervix is cleaned with an antiseptic solution.

Insertion procedure —

The anterior lip of the cervix is grasped with a single tooth tenaculum.

Gentle traction on the tenaculum stabilizes the uterus, straightens the uterine axis, and helps ensure proper IUC placement at the uterine fundus.

If a local block has not been placed, either inject the cervix with local anesthetic prior to placing the tenaculum, or ask the patient to cough just as the tenaculum pierces the cervical lip. Closing the tenaculum slowly rather than quickly is usually more comfortable for the patient.
The uterus will be measured prior to IUCD insertion using a uterine sound.
For proper placement, the sound measurement should be 6 to 10 cm. The provider should never use force when passing the sound or inserting the IUC, as this increases the risk of perforation. Pain is the primary clinical manifestation of perforation. In addition, the provider may note a loss of resistance while inserting the IUC or that the uterus sounds to an unexpected depth.

If the insertion device is not long enough to reach the fundus at the time of placement, additional instruments (most commonly sponge forceps) are used to assure fundal placement of the IUD.

**Post insertion procedure.**
The patient will be observed for 2 hours after the procedure. The patients vital signs- blood pressure, pulse rates, respiratory rate, temperature, amount of vaginal bleeding and level of consciousness will be monitored. She will be evaluated for complications including severe hemorrhage, shock and uterine perforations.

Any complications arising during the insertion procedure will be managed according to the Kenyatta National Hospital emergency protocol where the registrar and consultant on call will be involved. The principal investigator will be informed of any complication as the management continues. The KNH/UON-ERC was to be informed of any adverse event within 72 hours.

If she is found to have no complication she will undergo post procedure counseling.
Antibiotics – Amoxicillin/ clavulinic acid, metronidazole and doxycycline and analgesics will be prescribed for all the patients.
APPENDIX 2 - POST PROCEDURE COUNSELING

The patient will be taught to feel the IUC string protruding from the cervix and check monthly to confirm retention of the IUCD after menses. If she cannot feel the string, she should use a back-up method of contraception until she can be examined by her clinician to confirm whether the IUC is in place.

In addition, she is counseled to return to hospital for check up if she has:

- Signs of infection (fever, worsening pelvic pain, abdominal pain, foul smelling or purulent vaginal discharge, pain during sexual intercourse)
- unusually heavy vaginal bleeding
- suspected expulsion (strings from IUD are missing or are longer or shorter than normal)
- Suspected pregnancy (missing a menstrual period).

In the absence of problems, patients will be referred and booked for a follow-up examination in four weeks at the family welfare clinic (family planning clinic).

Should she have any concerns or complications before the 4 weeks she will contact the principal investigator on the contacts provided on the consent form.
APPENDIX 3 – CHECKLIST FOR CLIENTS WHO WANT TO INITIATE USE OF THE COPPER IUCD

Checklist for Screening Clients Who Want to Initiate Use of the Copper IUCD

Research findings over the past 25 years have established that intrauterine contraceptive devices (IUCDs) are safe and effective for use by most women, including those who have not given birth, who want to space births, and those living with or at risk of HIV infection. For some women, IUCDs are not recommended because of the presence of certain medical conditions, such as genital cancer and current cervical infection. For these reasons, women who desire to use an IUCD must be screened for certain medical conditions to determine if they are appropriate candidates for the IUCD.

The Ministry of Public Health and Sanitation, Division of Reproductive Health (DRH), in collaboration with Family Health International (FHI), has developed this simple checklist (see center spread) to help health care providers screen clients who were counseled about contraceptive options and made an informed decision to use an IUCD. This checklist is a revised version of the Checklist for Screening Clients Who Want to Initiate Use of the Copper IUCD produced in 2007. Changes reflected in this version are based on the recently revised recommendations of the Medical Eligibility Criteria for Contraceptive Use, 4th edition (WHO, 2009) as advised by research over the past several years, and the National Family Planning Guidelines for Service Providers (DRH, 2010). It consists of a list of 21 questions designed to identify medical conditions and high-risk behaviors that would prevent safe IUCD use or require further evaluation. Clients who are ruled out because of their response to some of the medical eligibility questions may still be good candidates for an IUCD if the suspected condition can be excluded through appropriate evaluation.

A health care provider should complete the checklist before inserting an IUCD. In some settings the responsibility for completing the checklist may be shared — by a counselor who completes questions 1–14, and an appropriately trained health care provider who determines the answers to the remaining questions during the pelvic exam. Providers trained to perform insertions may include nurses, nurse-midwives, nurse-practitioners, midwives, physicians, and, depending on educational and professional standards in each country, physician’s assistants and associates.

This checklist is part of a series of provider checklists for reproductive health services. The other checklists include the Checklist for Screening Clients Who Want to Initiate Combined Oral Contraceptives, the Checklist for Screening Clients Who Want to Initiate DMIPA (or NET-EN), the Checklist for Screening Clients Who Want to Initiate Contraceptive Implants, and the Checklist on How to be Reasonably Sure a Client is Not Pregnant. For more information about the provider checklists, please visit Kenya Ministry of Health and Sanitation, DRH Web site at www.drh.go.ke.

Determining Current Pregnancy

Questions 1–6 are intended to help a provider determine, with reasonable certainty, whether a client is not pregnant.

8. Have you been told that you have any type of cancer in your genital organs, trophoblastic disease, or pelvic tuberculosis?

There is a concern about the intact...
Note: Questions 10–13 are intended to identify clients at high individual risk of sexually transmitted infections (STIs), because there is a possibility that they may currently have chlamydia and/or gonorrhea infection. Unless these STIs can be reliably ruled out, clients at high risk are not good candidates for IUCD insertion. IUCD insertion may increase risk of pelvic inflammatory disease (PID) in these clients. They should be counseled about other contraceptive options and provided with condoms for STI protection. However, if other contraceptive methods are not available or acceptable, and there are no signs of STI, an IUCD still can be inserted. Careful follow-up is required in such cases.

10. Within the last 3 months, have you had more than one sexual partner?
Clients who have multiple sexual partners are at high risk of contracting STIs. Unless chlamydia and/or gonorrhea infection can be reliably ruled out, these clients are not good candidates for IUCD insertion. (See note regarding questions 10–13.)

11. Within the last 3 months, do you think your partner has had another sexual partner?
Clients whose partners have more than one sexual partner are at high risk of contracting STIs. Unless chlamydia and/or gonorrhea infection can be reliably ruled out, these clients are not good candidates for IUCD insertion. In situations where polygamy is common, the provider should ask about sexual partners outside of the union. (See note regarding questions 10–13.)

12. Within the last 3 months, have you been told you have an STI?
There is a possibility that these clients currently have chlamydia and/or gonorrhea infection. Unless these STIs can be reliably ruled out, these clients are not good candidates for IUCD insertion. (See note regarding questions 10–13.)

13. Within the last 3 months, has your partner been told that he has an STI, or do you know if he has had any symptoms—for example, penile discharge?
(Note: There are two parts to this question. Answering “yes” to either part or both parts of the question restricts IUCD insertion.)
Clients whose partners have STIs may have these infections as well. Unless chlamydia and/or gonorrhea infection can be reliably ruled out, these clients are not good candidates for IUCD insertion. (See note regarding questions 10–13.)

14. Are you HIV-positive, and have you developed AIDS?
If the woman is HIV-positive but has not developed AIDS, the IUCD may generally be used. However, if the woman has developed AIDS, ask whether she is taking ARVs and make sure she is doing clinically well. If she is doing clinically well, she may be a candidate for the IUCD. If she is not, an IUCD usually is not recommended unless other more appropriate methods are not available or not acceptable. There is concern that HIV-positive clients who have developed AIDS and are not taking ARVs may be at increased risk of STIs and PID because of a suppressed immune system. IUCD use may further increase that risk.

Pelvic Examination
15. Is there any type of ulcer on the vulva, vagina, or cervix?
Genital ulcers or lesions may indicate a current STI. While an ulcerative STI is not a contraindication for IUCD insertion, it indicates that the woman is at high individual risk of STIs, in which case IUCDs are not generally recommended. Diagnosis should be established and treatment provided as needed. An IUCD can still be inserted if co-infection with gonorrhea and chlamydia are reliably ruled out.

16. Does the client feel pain in her lower abdomen when you move the cervix?
Cervical motion tenderness is a sign of PID. Clients with current PID should not use an IUCD. Treatment should be provided as appropriate. If necessary, referral should be made to a higher-level provider or specialist. Counsel the client about condom use and other contraceptives.

17. Is there adnexa tenderness?
Adnexal tenderness and/or adnexa mass is a sign of a malignancy or PID. Clients with genital cancer or PID should not use an IUCD. Diagnosis and treatment should be provided as appropriate. If necessary, referral should be made to a higher-level provider or specialist.

18. Is there purulent cervical discharge?
Purulent cervical discharge is a sign of cervicitis and possibly PID. Clients with current cervicitis or PID should not use an IUCD. Treatment should be provided as appropriate. If necessary, referral should be made to a higher-level provider or specialist. Counsel the client about condom use.

19. Does the cervix bleed easily when touched?
If the cervix bleeds easily at contact, it may indicate that the client has cervicitis or cervical cancer. Clients with current cervicitis or cervical cancer should not have an IUCD inserted. Treatment should be provided as appropriate. If necessary, referral should be made to a higher-level provider or specialist. If, through appropriate additional evaluation beyond the checklist, these conditions may be excluded, then the woman can receive the IUCD.

20. Is there an anatomical abnormality of the uterine cavity that will not allow appropriate IUCD insertion?
If there is an anatomical abnormality that distorts the uterine cavity, proper IUCD placement may not be possible. Cervical stenosis also may preclude an IUCD insertion.

21. Were you unable to determine the size and/or position of the uterus?
Determining size and position of the uterus is essential before IUCD insertion to ensure high fundal placement of the IUCD and to minimize the risk of perforation.
Checklist for Screening Clients Who Want to Initiate Use of the Copper IUCD

First, be reasonably sure that the client is not pregnant. If she is not menstruating at the time of her visit, ask the client questions 1–6. As soon as the client answers YES to any question, stop, and follow the instructions after question 6.

<table>
<thead>
<tr>
<th>YES</th>
<th>NO</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Have you had a baby in the last 4 weeks?</td>
<td></td>
</tr>
<tr>
<td>2. Did you have a baby less than 6 months ago, are you fully or nearly-fully breastfeeding, and have you had no menstrual period since then?</td>
<td></td>
</tr>
<tr>
<td>3. Have you abstained from sexual intercourse since your last menstrual period or delivery?</td>
<td></td>
</tr>
<tr>
<td>4. Did your last menstrual period start within the past 12 days?</td>
<td></td>
</tr>
<tr>
<td>5. Have you had a miscarriage or abortion in the last 12 days?</td>
<td></td>
</tr>
<tr>
<td>6. Have you been using a reliable contraceptive method consistently and correctly?</td>
<td></td>
</tr>
</tbody>
</table>

If the client answered YES to any one of questions 1–6 and she is free of signs or symptoms of pregnancy, you can be reasonably sure that she is not pregnant. Proceed to questions 7–14. However, if she answers YES to question 1, the insertion should be delayed until 4 weeks after delivery. Ask her to come back at that time.

To determine if the client is medically eligible to use an IUCD, ask questions 7–14. As soon as the client answers YES to any question, stop, and follow the instructions after question 14.

<table>
<thead>
<tr>
<th>NO</th>
<th>YES</th>
</tr>
</thead>
<tbody>
<tr>
<td>7. Do you have bleeding between menstrual periods that is unusual for you, or bleeding after intercourse (sex)?</td>
<td></td>
</tr>
<tr>
<td>8. Have you been told that you have any type of cancer in your genital organs, trophoblastic disease, or pelvic tuberculosis?</td>
<td></td>
</tr>
<tr>
<td>9. Have you ever been told that you have a rheumatic disease such as lupus?</td>
<td></td>
</tr>
<tr>
<td>10. Within the last 3 months, have you had more than one sexual partner?</td>
<td></td>
</tr>
<tr>
<td>11. Within the last 3 months, do you think your partner has had another sexual partner?</td>
<td></td>
</tr>
<tr>
<td>12. Within the last 3 months, have you been told you have an STI?</td>
<td></td>
</tr>
<tr>
<td>13. Within the last 3 months, has your partner been told that he has an STI, or do you know if he has had any symptoms — for example, penile discharge?</td>
<td></td>
</tr>
<tr>
<td>14. Are you HIV-positive, and have you developed AIDS?</td>
<td></td>
</tr>
</tbody>
</table>

If the client answered NO to all of questions 7–14, proceed with the PELVIC EXAM.

During the pelvic exam, the provider should determine the answers to questions 15–21.

<table>
<thead>
<tr>
<th>NO</th>
<th>YES</th>
</tr>
</thead>
<tbody>
<tr>
<td>15. Is there any type of ulcer on the vulva, vagina, or cervix?</td>
<td></td>
</tr>
<tr>
<td>16. Does the client feel pain in her lower abdomen when you move the cervix?</td>
<td></td>
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</tr>
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<td>18. Is there purulent cervical discharge?</td>
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<td>19. Does the cervix bleed easily when touched?</td>
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<tr>
<td>20. Is there an anatomical abnormality of the uterine cavity that will not allow appropriate IUCD insertion?</td>
<td></td>
</tr>
<tr>
<td>21. Were you unable to determine the size and/or position of the uterus?</td>
<td></td>
</tr>
</tbody>
</table>

If the answer to all of questions 15–21 is NO, you may insert the IUCD.

If the answer to any question 15–21 is YES, the IUCD cannot be inserted without further evaluation. See explanations for more instructions.
APPENDIX 4 - QUESTIONNAIRE

QUESTIONNAIRE
DATE: _____/_____/_____

SERIAL NUMBER: ______________

SECTION A: SOCIODEMOGRAPHIC DATA

1. What is your age in years?

2. What is your marital status?
   1. Single
   2. Married/cohabiting
   3. Separated/divorced
   4. Widowed

3. What is your education level
   1. None
   2. Completed Primary
   3. Completed Secondary
   4. College / University

4. What is your employment status
   1. Unemployed/housewife
   2. Self employed
   3. Salaried employment
   4. Others/ specify ____________

5. What is your religion?
   1. Muslim
   2. Protestant
   3. Catholic
   4. Traditional
   5. Others specify ____________

SECTION B: REPRODUCTIVE HISTORY

1. Number of previous pregnancies delivered after 5 months (20 weeks) including the current pregnancy.

2. Number of previous pregnancies lost before 5 months (abortions)?

3. Number of living children

4. Sex of the living children
   a) Number of boys
   b) Number of girls
SECTION C: PREGNANCY DATING

1. The date of the first day of the last menstrual period
   1. ____/______/_____
   2. Not known

2. Gestation age of the current pregnancy in weeks

TO BE OBTAINED FROM MEDICAL RECORDS

3. Diagnosis for this pregnancy loss at time of contact with healthcare provider (will be obtained from patient’s record.).
   1. ☐ incomplete abortion
   2. ☐ inevitable abortion
   3. ☐ missed abortion
   4. ☐ complete abortion

SECTION D: PREGNANCY INTENTION AND PREVIOUS CONTRACEPTIVE USE

1. Was this a desired pregnancy?
   1. ☐ yes
   2. ☐ No

   a) Were you using any method of contraception?
      1. ☐ yes
      2. ☐ NO

   b) Which METHOD of contraception were you using prior to getting pregnant?
      1. ☐ Female sterilization
      2. ☐ oral contraceptive pills
      3. ☐ intrauterine contraceptive device
      4. ☐ injectable contraceptive
      5. ☐ implants
      6. ☐ male condom
      7. ☐ female condom
      8. ☐ Lactation amenorrhea
      9. ☐ rhythm method
      10. ☐ withdrawal method
      11. ☐ Emergency contraception
      12. ☐ None
      13. ☐ others specify ______________
c) For how long had you used this method of contraception?

Duration in months [ ]

**SECTION E: FUTURE PREGNANCY INTENTIONS AND CONTRACEPTIVE USE**

1. After this pregnancy do you desire to get more children?
   - 1. [ ] Yes  
   - 2. [ ] No

2. When do you intend to get pregnant?
   - 1. [ ] within one year (1 year)
   - 2. [ ] within one to two years (1 to 2 years)
   - 3. [ ] More than two years (> 2 years)

3. Do you intend to use a method of contraception?
   - 1. [ ] Yes  
   - 2. [ ] No

4. Do you know/have you heard about an intrauterine contraceptive device/coil/loop?
   - 1. [ ] Yes  
   - 2. [ ] No

5. Have you ever used an IUCD?
   - 1. [ ] Yes  
   - 2. [ ] No

6. Would you use an intrauterine contraceptive device (coil/loop) to prevent pregnancy?
   - 1. [ ] Yes  
   - 2. [ ] No

   a) if yes, (Answer the next 2 questions)

   i) What are the reasons for accepting (motivation) to use an IUD? (Tick all that are mentioned)

   - 1. [ ] To stop child bearing (have desired family size)
   - 2. [ ] To postpone child bearing (child spacing)
   - 3. [ ] Convenient
   - 4. [ ] Safe - minimal side effects
   - 5. [ ] Cost
   - 6. [ ] No Side effects____________________
   - 7. [ ] Others specify ______________________
ii). Would you like the IUCD to be inserted immediately after (MVA / Dilatation and curettage)?

- 1. ☐ Yes
- 2. ☐ No

b) if NO, (Answer the next 2 questions)

i). What are the reasons for declining to use an IUCD? (Check all that apply)

1. ☐ - safety concerns, adverse effects
   Which one? Specify ______________

2. ☐ - partner may feel the threads

3. ☐ - desire for more children sooner

4. ☐ - not at risk of pregnancy (infrequent sex)

5. ☐ - religion

6. ☐ - lack of support/approval of partner.

7. ☐ - others specify ______________

ii). Which alternative METHOD of contraception do you intend to use?

1. ☐ Female sterilization
2. ☐ oral contraceptive pills
3. ☐ injectable contraceptive
4. ☐ Emergency contraception
5. ☐ implants
6. ☐ male condom
7. ☐ Female condom
8. ☐ Lactation amenorrhoea
9. ☐ rhythm method
10. ☐ Withdrawal method
11. ☐ None
12. ☐ others specify ______________

SECTION F: POST IUCD INSERTION

TO BE OBTAINED FROM CLINICIAN DOING THE IUCD INSERTION

1. Was the insertion of IUCD successful?

   1. ☐ yes
   2. ☐ No

2. What complications were encountered during insertion?

   1. ☐ uterine perforation
2. □ hemorrhage
3. □ pain - abdominal cramps
4. □ vaso vagal attack
5. □ none
6. □ others specify____________________

TO BE OBTAINED FROM STUDY PARTICIPANT

3. Was the IUCD insertion procedure painful?
   1. □ yes  2. □ no

4. Were you satisfied with the procedure
   1. □ yes  2. □ no

5. Would you recommend the procedure (IUCD insertion after an abortion) to another person?
   1. □ yes  2. □ no
APPENDIX 5 - STUDY PARTICIPANT CONSENT FORM

Acceptability and uptake of insertion of intrauterine contraceptive devices among women managed for abortion at Kenyatta National Hospital.

Introduction

Dr David Momanyi, a post graduate student in the Department of Obstetrics and Gynaecology, University of Nairobi, is conducting a study on acceptability and uptake of insertion of an intrauterine contraceptive device among women managed for abortion at Kenyatta National Hospital.

Investigators’ statement

You are invited to participate in the study. The purpose of this consent form is to give you the information you will need to help you decide whether to be in the study. Please read this form carefully. You may ask questions about what you will be asked to do, the risks, the benefits and your rights as a volunteer, or anything about the research or in this form that is not clear. When all your questions have been answered, you can decide if you want to be in this study or not. This process is called “informed consent”.

Purpose

The study seeks to determine acceptability, uptake, motivation to use and barriers to use of an intrauterine contraceptive device as a method of contraception among patients managed for abortion at Kenyatta National Hospital.

Procedures.

If you agree to participate in this study, you will be asked questions after consenting and receiving clinical care. You will be asked questions about yourself, your past pregnancies, your previous contraceptive use, present and future pregnancy intentions and future contraceptive use. We will also access your medical records to obtain information about you present clinical condition.

An IUCD will be offered as a mode of birth control. Those who accept to use an IUCD will have it inserted after uterine evacuation at no additional cost.
Benefits

You will gain knowledge on use of an IUCD as a method of birth control. The information obtained from the study will help in improving provision of contraception services after an abortion in Kenyatta National Hospital and in the country.

Risks, stresses or discomfort.

Some of the questions asked will be of personal nature and you may feel uncomfortable. You are free not to answer any such question if you feel so. The questions will be asked in a private environment and confidentiality will be assured at all times to ensure your comfort.

Cost

If you agree to use an IUCD as a method of birth control, it will be offered at no additional cost.

In case of complications during IUCD insertion, care will be provided at no additional cost. The patient will bear costs incurred as a result of treatment of abortion complications.

Confidentiality

Your confidentiality will be maintained at all times. The questionnaires will not have any names but will be assigned identifiers. The filled questionnaires will be stored in a lockable filling cabinet only accessible to the principle investigator. Electronic data will be stored in a password protected database accessible only through the principal investigator. In the analysis and report of the study data and no detail will be provided at any point that will identify the individual.

There shall be no mention of names or identifiers in the report or publications which may arise from the study. The information obtained will be used only for the purpose of the study.

Compensation

There will be no compensation for participation.

Voluntariness

Participation in the study is voluntary. If you choose not to participate, you will not be denied any service. You will be free to withdraw from the study at any time.
Your participation in the study will be highly appreciated.

Consent

I ____________________________ hereby voluntarily consent to participate in the study. I clearly understand that my participation is completely voluntary.

Signature ____________________________ date___________________________

Signature of principal investigator/or

Researcher Assistant_________________________ date___________________________

Contacts

If you have any questions regarding the study, you can contact Dr David Momanyi through telephone number 0724-554477

In case of any ethical concerns please contact

The Chairman

KNH/UON – ERC

P.O BOX 19676 NAIROBI (CODE 00202)

Telephone number (+254-020)2726300 ext 44355
APPENDIX 6: IUCD INSERTION CONSENT FORM

IUCD INSERTION CONSENT FORM

I, ________________________________ hereby acknowledge that I was given an opportunity to ask questions about all forms of birth control, meaning all prescription and non prescription, and natural methods. All of my questions were answered to my satisfaction and I understand all of those answers. I understand that no method of birth control, except abstinence, is 100% effective against pregnancy or contracting sexually transmitted infections, including the Human Immunodeficiency Virus (HIV) infection that leads to the Acquired Immunodeficiency Syndrome (AIDS) disease.

I acknowledge that the following benefits, risks/side effects, warning signs, alternatives, instructions and decision to discontinue use option regarding the birth control method Copper T380 A Intrauterine Device (IUD) were explained to me before I voluntarily decided to use this method of birth control.

BENEFITS:

The IUCD is 99.4 % effective in preventing pregnancy if I follow all the directions regarding its use. It is long lasting (10 years of protection against pregnancy), convenient, and protective against ectopic pregnancy. Fertility returns immediately after the IUCD is removed.

RISKS/ SIDE EFFECTS:

• **Menstrual Disturbances**: Some women have heavier menses, and irregular bleeding is common in the early months. Some women experience menstrual cramps with the increased flow.

• **Cramping or pain**: Discomfort may be felt at the time of the insertion, and may continue over the next 10 to 15 minutes.

• **Spontaneous Expulsion**: Between 2% and 10% of IUD users spontaneously expel or partially expel their IUD within the first year.
**Pregnancy Complications:** If a pregnancy occurs when using the IUD, there may be greater risk of miscarriage.

**String problems:** Missing strings or increase in length of strings may signal an unsuspected perforation or spontaneous expulsion of the device.

**Perforation:** Rarely, the IUD could perforate (make a hole in) the uterus or cervix during insertion. This occurs in 1 in 1000 IUCD insertions. Should this occur, surgery may then be required to remove the IUD.

**Upper genital tract infection:** While risks are low, there is some risk of transporting bacteria from the vaginal area to the upper genital tract during insertion. To prevent this, insertion will be done with aseptic techniques and antibiotics will be prescribed.

**WARNING SIGNS:**

I have been told that I need to come and see a doctor or come to the family planning clinic if any of the following early warning signs develop:

• Fever or chills that develop within 3 weeks of IUD insertion

• Missed period, mid-cycle bleeding or spotting

• Severe pain in the lower abdomen

• Heavy vaginal bleeding

• Infection exposure (such as Chlamydia), or abnormal vaginal discharge

• String missing or longer or shorter than previously noted

**INSTRUCTIONS:**

I understand that I must return after the first menstrual cycle and not later than 3 months after insertion for checking the IUCD.
**DECISION TO DISCONTINUE USE:**

I understand that I may have the IUCD removed at any time. I know I should not try to remove the device by myself and it should be removed only by a medical provider. If I do not desire to become pregnant after removal of an IUCD, I may choose to use another method of birth control.

| __________________________ | __________________________ | ____________ |
| Patient's Name             | Patient's Signature        | date         |
| __________________________ | __________________________ | ____________ |
| Witness Name               | Witness Signature          | date         |
APPENDIX 7: STUDY PARTICIPANT CONSENT FORM–KISWAHILI VERSION

FOMU YA IDHINI YA KUWEKEWA COIL (IUCD)

Mimi________________________________________ ninathibitisha kwamba nilipewa nafasi ya kuuliza maswali juu ya njia zote za kupanga uzazi. Maswali yangu yote yalijibiwa na niliridhika na ninaelewa majibu ya maswali yote. Ninaelewa kuwa hakuna njia ya kupanga uzazi ambayo ni salama asilimia 100 kwa kuzuia mimba au kuambukizwa magonjwa ya zinaa ukiwamo ugonjwa wa UKIMWI, zaidi ya kuacha kufanya mapenzi.

Ninathibitisha kwamba manufaa yafuatayo, madhara, dalili za kuashiria, njia mbadala, maelekezo, na uamzi wa kuacha kutumia uamzi huu wa kutumia coil (IUCD) zilielezwa kwangu kabla ya kuamua kwangu kwa hiari kabla sijaamua kutumia njia hii ya kupanga uzazi.

MANUFAA

Kifaa cha coil( IUCD) ni thabiti kwa asilimia 99.4 kwa kuzuia mimba endapo nitafuta maelekezo yote juu utumishi wake. Ni njia ya muda mrefu (miaka 10 ya kuingia kupata mimba), ni rahisi kutumia na inazua mimba kutungwa nje ya mfuko wa uzazi.

MADHARA YATOKANAYO NA COIL( IUCD)

- Mabadiliko katika hedhi.
  Baadhi ya wanawake wanaweza kutokwa na damu nyingi wakati wa hedhi au kuwa na mabadiliko ya mfumo wa hedhi katika miezi ya mwanzoni baada ya kuwekewa kitanzi (coil) (IUCD). Baadhi ya wanawake wanaweza kuhisi uchungu wakati wa hedhi na kutokwa damu kwa wingi.

- Uchungu/Maumivu
  Unaweza kuhisi uchungu kiasi wakati wa kuwekewa kitanzi (IUCD) na yanaweza kuendelea kwa muda wa kati ya dakika 10 hadi 15.

- Coil/kitanzi kutoka chenyewe:
  Coil yaweza kutoka yenye miongoni mwa kati ya asilimia 2 hadi 10 ya watumiaji katika mwaka mmoja.

- Madhara Wakati wa mimba:
Endapo utapata mimba Wakati ukitumia IUCD, kuna uwezekano mkubwa wa kupoteza mimba.

- **Matatizo ya uzi wa IUCD:** kupotea kwa uzi wa IUCD au kuongezeka kwa urefu wake inaweza kuashiria IUCD kupotea ndani ya mfuko wa uzazi au kutoka chenyewe.

- **(IUCD) kutoboa mfuko wa uzazi:** 
  Mara chache sana, IUCD inaweza kutoboa mfuko wa uzazi Wakati wa kuwekewa. Hii hutokea kwa mmoja kati ya 1000 ya waliowekewa IUCD. Endapo hii ikitokea unaweza kuhitaji kufanyiwa upasuaji ili kuondoa IUCD.
  
  - **Maambukizi ya viini katika njia ya uzazi:** 
    Ingawa madhara ni kidogo, kuna uwezekano wa kuingiza viini vya maradhi kutoka uke hadi schehu za ndani za uzazi wakati wa kuwekewa coil (IUCD). Kuzuia hili, uwekaji wa IUCD utafanyika kwa taratibu zote za bila maambukizi na utaandikiwa dawa za kuingiza maradhi.

**VIASHIRIA VYA HATARI:**

Nimeambiwa kuwa ni tahitaji kurudi na kumuona daktari au nije kwa kliniki ya kupanga uzazi endapo dalili yoyote kati ya hizi itatokea:-

- Homa au kutetemeka ikitokea ndani ya wiki tatu baada ya kuwekewa IUCD
- Endapo IUCD itapotea, kutokwa damu Wakati wa mzunguko wa hedhi, au damu kutoka ukeni kidogo kidogo.
- Maumivu makali kwenye tumbo la uzazi.
- Kutokwa na damu nyingi
- Kutokwa na uchafu mwingi ukeni
- Kupotea kwa uzi wa IUCD

**MAELEKEZO:**

- Mimi naelewa kuwa ni lazima nirudi baada ya kuona damu yangu mwezi na kwamba sitapitisha wiki sita kabla ya kurudi kwa kwangaliwa na daktari.

**UAMUZI WA KUTOENDELEA NA MATUMIZI YA IUCD**

<table>
<thead>
<tr>
<th>Jina la Mgonjwa</th>
<th>sahihi ya mgonjwa</th>
<th>Tarehe</th>
</tr>
</thead>
<tbody>
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<table>
<thead>
<tr>
<th>Jina la shahidi</th>
<th>witness signature</th>
<th>Tarehe</th>
</tr>
</thead>
<tbody>
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</tbody>
</table>
APPENDIX 8: IUCD INSERTION CONSENT FORM - KISWAHILI VERSION

KUKUBALIKA NA MATUMIZI YA KIFAA CHA COIL (IUCD) 
MIONGONI MWA WANAWAKE WALIPOTEZA MIMBA NA 
KUHUDUMIWA KATIKA HOSPITALI YA TAIFA YA KENYATTA.

MTAFITI MKUU: DAKTARI DAVID MOMANYI

UTAMBULISHO:

DK. David Momanyi, ni mwanafunzi wa shahada ya Uzamili ya Chuo Kikuu cha Nairobi Idara ya Uzazi na magonjwa ya wanawake, anafanya utafiti ili kubaini kukubalika na matumizi ya kitanzi (IUCD) miongoni mwa wanawake ambao walipoteza mimba na kuhudumiwa katika hospitali ya Taifa ya Kenyatta.

KAULI YA MTAFITI


MADHUMUNI:

Utafiti unalenga kujua kukubalika, matumizi, motisha kwa kutumia na vikwazo vya matumizi ya kitanzi (IUCD) kama njia ya kuzuia mimba miongoni mwa wanawake waliopoteza mimba na kuhudumiwa katika hospitali ya Taifa ya Kenyatta.

TARATIBU ZITAKAZOFUATWA:

Endapo utakubali kushiriki kwenye utafiti huu utaulizwa maswali baada ya kuhudumiwa na Daktari. Utaulizwa maswali kuhusu wewe mwenyewe, mimba zako za zamani, matumizi ya njia ulizotumia zamani kupanga uzazi, njia za sasa na zile za siku za mbeleni. Pia Mtafiti ataangalia rekodi yako ya matibabu ili kupata taarifa mhimu. Utapewa kitanzi (IUCD) kama njia ya kupanga uzazi. Endapo
uatkubali kutumia njia hii utawekewa kitanzi (IUCD) baada ya kuhudumiwa na Daktari bila gharama za ziada.

MANUFAA:
Utapata elimu juu ya matumizi ya kitanzi (IUCD) kama njia ya kupanga uzazi. Pia taarifa zitakazopatikana kutokana na utafiti huu zitasaidia kuboresha huduma za kupanga uzazi baada ya kupoteza mimba katika hospitali ya Taifa ya Kenyatta na Nchi kwa ujumla.

HATARI/MATATIZO:
Babadhi ya maswali utakayoulizwa yatakuwa ya kibinafsi na unaweza kuona haya. Una uhuru wa kutojibu aina ya maswali hayo. Utaulizwa maswali katika mazingira ya siri na unahakikishiwa usalama wako.

GHARAMA:
Endapo utakubali kutumia kitanzi (IUCD) kama njia ya kupanga uzazi utapewa huduma hiyo bila gharama za ziada.

SIRI:
Usiri utazingatiwa wakati wote. Dodoso halitakuwa na majina yako ila litawekewa nambari ya utambulisho.

UHIARI
Kushiriki katika utafiti huu ni hiari, na endapo utaamua kutoshiriki katika utafiti huu hautanyimwa huduma zako zote za matibabu. Unauhuru wa kujiondoa kwenye utafiti huu wakati wowote. Tutashukuru kwa Kushiri kwako katika utafiti.

KIBALI
Mimi______________________________ninakubali kwa hiari yangu kushiriki katika utafiti huu. Ninakiri kuwa nimeelezwa kwa uwazi juu ya utafiti huu na Dk/Bw/Bibi/ Bi________________________

Naelewa ya kwamba kushiriki kwangu ni hiari kabisa.

Sahihi_____________________________Tarehe________________________

Sahihi ya Mtatifu mkuu/ Mtatifu msaidizi____________________________________

Tarehe________________________
MAWASILIANO:

Endapo una maswali yoyote kuhusu utafiti huu, unaweza kuwasilina na

Dk David Momanyi kupitia nambari ya simu 0724 554477.

Kwa maswali zaidi unaweza kuwasiliana na

Mwenyekiti,

KNH/UON—ERC

P.O. BOX 19676 NAIROBI (CODE 002020)

Nambari ya simu +254 020 2726300 ext 44355
## APPENDIX 9 - TIME LINES

<table>
<thead>
<tr>
<th>Activity</th>
<th>April-June 2012</th>
<th>July-October 2012</th>
<th>October-November 2012</th>
<th>December-January 2013</th>
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<tbody>
<tr>
<td>Ethical Approval</td>
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</tr>
<tr>
<td>Data Collection</td>
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<tr>
<td>Data Analysis and report writing</td>
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<td>Data Presentation</td>
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## APPENDIX 10 - BUDGET

<table>
<thead>
<tr>
<th>EXPENSE</th>
<th>COST IN KSHS</th>
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<tbody>
<tr>
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<tr>
<td>Cost of managing complications during study</td>
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</tr>
<tr>
<td>Research assistants’ fees</td>
<td>120,000</td>
</tr>
<tr>
<td>Consent forms and questionnaires</td>
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<tr>
<td>Printing, photocopying and binding</td>
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</tr>
<tr>
<td>IUCD</td>
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<tr>
<td>IUCD insertion procedure costs</td>
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<td>Ethics and Research Committee</td>
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<tr>
<td>Consultancy – biostatistician</td>
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<tr>
<td>Stationery</td>
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<tr>
<td>10% contingencies</td>
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<tr>
<td><strong>TOTAL</strong></td>
<td><strong>396,000</strong></td>
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</tbody>
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