

**CONTRACEPTIVE UPTAKE AND ADHERENCE AMONGST POST  
ABORTION WOMEN FOLLOWING CONTRACEPTIVE COUNSELLING  
BY PHYSICIANS AND MIDWIVES IN KISUMU COUNTY, KENYA**

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**DECLARATION**

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

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## **DEDICATION**

I dedicate this work to the women who suffer the wrath of abortion, to the health professionals who care for them and to my family who kept supporting me throughout. My husband Mr. Perez W.J Odero, my daughters, Angela Odero, Jackeline Odero, Diana Odero, and Elizabeth Odero and son Samuel Oyier and to my late mother Suslia Aoko Oywer, great advisor.

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**ABBREVIATIONS AND ACRONYMS**

<b>AIDS</b>	Acquired Immune Deficiency Syndrome
<b>AOR</b>	Adjusted Odds Ratio
<b>APA</b>	American Psychological Association
<b>COC</b>	Combined Oral Contraceptive Pill
<b>COR</b>	Crude Odds Ratio
<b>CPR</b>	Contraceptive Prevalence Rate
<b>FP</b>	Family Planning
<b>GATHER</b>	Greet, Ask, Tell, Help, Explain, and Return Date
<b>HCWs</b>	Health Care Workers
<b>HIV</b>	Human Immunodeficiency Virus
<b>IUCD</b>	Intra Uterine Contraceptive Device
<b>IDI</b>	In-depth Interview
<b>IUD</b>	Intra Uterine Device
<b>JOOTRH</b>	Jaramogi Oginga Odinga Teaching and Referral Hospital
<b>KDHS</b>	Kenya Demographic and Health Survey
<b>KNBS</b>	Kenya National Bureau of Statistics
<b>KEDH</b>	Kisumu East District Hospital
<b>KCH</b>	Kisumu County Hospital
<b>KMA</b>	Kenya Medical Association
<b>LARCs</b>	Long Acting Reversible Contraceptives
<b>LMP</b>	Last Menstrual Period

<b>MCH</b>	Maternal Child Health
<b>MOH</b>	Ministry of Health
<b>MVA</b>	Manual Vacuum Aspiration
<b>NCK</b>	Nursing Council of Kenya
<b>NGO</b>	Non-Governmental Organization
<b>NHIF</b>	National Hospital Insurance Fund
<b>NNAK</b>	National Nursing Association of Kenya
<b>OR</b>	Odds Ratio
<b>PAC</b>	Post Abortion Care
<b>POP</b>	Progestin Only Pill
<b>RH</b>	Reproductive Health
<b>STI</b>	Sexually Transmitted Infections
<b>SDGs</b>	Sustainable Development Goals
<b>TFR</b>	Total Fertility Rate
<b>UBS</b>	Uganda Bureau of Statistics
<b>UDHS</b>	Uganda Demographic and Health Survey
<b>USAID</b>	United States Agency for International Development
<b>UN</b>	United Nations

## **DEFINITION OF OPERATIONAL TERMS**

**Abortion** – Termination of pregnancy by either technically qualified or unqualified person safely or unsafely; is the medical term for both spontaneous abortion (miscarriage) and induced abortion

**Adherence to Contraceptives** - Consistent use of reversible contraceptives.

**Adjusted Odds Ratio** – Is an association between exposure and an outcome. This ratio needs to be adjusted when the outcome is suspected to be affected by other factors. Used to measure how likely an outcome is to occur when exposed to contraceptive counselling.

**Apprenticeship** - Where midlevel providers learn task shifting/sharing through observing physicians and practicing.

**Contraceptive Counselling** – used interchangeably with family planning counselling.

**Contraceptive Uptake** - accepting and taking a method of contraception.

**Contraceptive Prevalence Rate** – Percentage of women of reproductive age who are using (or whose partner is using) a contraceptive method at a particular point in time.

**Family Planning** - This is a way of helping women to plan when to have children, the numbers and space between them.

**Family Planning Method** - A way of preventing pregnancy.

**Gemanschaft** – subjective feeling of an individual to belong to a group or kind of transcending collective entity.

**Gesellschaft** – a concentration of people pursuing common goals, which are of interest to the individual.

**In-depth Interview** – a qualitative research technique where intensive individual interviews are done on a small number of respondents to explore a particular idea, situation or program.

**Induced Abortion** - termination of a pregnancy through either safe or unsafe method by either a person who is well skilled or a non-skilled person in abortion procedure.

**Induced Abortion Ratio**- the number of induced abortions per 1000 live births

**Induced Abortion Rate** – the number of induced abortions per 1000 women of reproductive age that resulted in live birth, stillbirth or induced termination.

**Lactation Amenorrhea** – occurs during the period of exclusive breastfeeding after delivery when many women remain amenorrhoeic and cannot become pregnant during this period of breast feeding for up to about six months this is referred to as using breastfeeding as a method of family planning.

**Lost to Follow up** – those clients who cannot be traced or did not turn up following contraceptive counselling and services.

**Low-income Countries**- refers to countries with Gross National Income (GNI) per capita of \$ 1,045 or less in 2014. (World Bank, report 2015)

**Midlevel Provider** – are health care providers with a defined scope of practice, and are sometimes used to render services in rural and remote areas to make up for physician shortages.

**Maternal Mortality Ratio** - The maternal mortality ratio (MMR) is the annual number of female deaths per 100,000 live births from any cause related to or aggravated by pregnancy or its management.

**Maternal Death** – The death of a woman within 42 days of termination of a pregnancy.

**Miscarriage** - is a spontaneous termination of pregnancy without any interference.

**Missed Opportunity** - a situation in which a person has received some information about family planning or contraceptives but has no access or resources to the services hence unable to access or afford services.

**Modern Contraception** - these are methods used to control birth including oral hormonal pills, injectable hormonal contraceptives, intrauterine contraceptive devices (IUDs), and hormonal implants, male and female condoms.

**Mortality Rate** – A number of deaths during a particular period in a certain population or a group of people per 100,000 live births.

**Morbidity Rate** – The ratio of the number of cases of a disease to the number of people in a particular population at any one time, over a given period per 100,000 live births.

**Midwife** – a trained nurse specialized to conduct deliveries. In Kenya, midwifery training is provided within the current Kenya Registered Community Health

Nursing curriculum and the nurses qualify as registered public /community health nurse and are licensed to practice as general nurse, midwife and public/community health nurse.

**Nurse** - person trained and licensed by the Nursing Council of Kenya to provide nursing care.

**Physician** - A person trained as a medical doctor, has completed internship, licensed and registered, to practice and further trained in post abortion care or an obstetrician gynecologist working in a gynecology ward.

**Post Abortion Care** - The management of a woman with incomplete abortion requiring treatment and be counselled for contraception.

**Safe abortion** - is the termination of a pregnancy performed by a trained health worker applying professional techniques using the right equipment in the right environment to procure an abortion.

**Task Sharing** - is an action that involves medical personnel who work together in teams with an aim of delivering a task or a service not taken up before.

**Task shifting** - is a deliberate process whereby the task is defined and described, and funding moved to the new individual given the task.

**Threatening Abortion** – a vaginal bleeding that occurs in the first twenty weeks of pregnancy without any interference.

**Unsafe abortion** - is the termination of unwanted pregnancy carried out either by one lacking the necessary skills and knowledge or in an environment that does not conform to minimal medical standards, or both.

**Quality contraceptive counselling** – contraceptive counselling provided by a competent trained service provider who will allow the client to choose their preferred appropriate contraceptive method, give required information to the client, have good interpersonal relations, with continuity mechanisms and a constellation of services.

**Unmet Needs for Family Planning** – This occur when a sexually active person are not using any method of contraception despite having a desire to delay pregnancy or permanently stop conception and are unable to access contraceptive services.



## ABSTRACT

Complications of unsafe abortion and those of incomplete abortion, led to 120,000 Kenyan women receiving Post Abortion Care (PAC) in 2012, and of these women, 70% had not used contraception before pregnancy and repeat abortion is common. The aim of the research was to explore contraceptive uptake, adherence to contraceptive use, associated factors and satisfaction with care among women seeking post abortion-care (PAC) in Kisumu, Kenya and to determine the technical competence of midwives as compared to physicians in terms of contraceptive counselling. The study (included 128 women in the quantitative study and 20 in the qualitative study) nested in a larger randomized controlled trial, where women sought PAC at two public hospitals in Kisumu, in October 2015–September 2017. The 128 women randomly assigned to a midwife or a physician for PAC, including contraceptive counselling, and followed-up after 7–10 days and three months. Associated factors for contraceptive uptake analyzed with binary logistic regression, and contraceptive method choice, adherence and satisfaction level examined by descriptive statistics, using IBM SPSS Statistics for Windows, Version 22.0 while framework analysis was used to analyze qualitative data. The results showed that of the 128 randomly selected PAC-seeking women, 95.3% accepted the use of contraception. The women were between the age of 15 and 40 years. Methods chosen after contraceptive counselling were hormonal injections (39%); contraceptive pills (33.3%) condoms (22.8%), hormonal implant (4.1%) and fertility (0.8%). None chose intrauterine device (IUD) or a permanent contraceptive method. After 3-months, follow-up 79.7% retained the chosen contraceptive method while 20.3% had changed the chosen type of contraception to another method. Women (96.1%) still used contraception, and were satisfied with the chosen contraceptive method ( $\chi^2 = 1.0112$ ,  $df = 3$ ,  $p = 0.799$ ). The twenty (20) women in the qualitative study selected from the 128 who had participated in the quantitative study, to determine their experiences of contraceptive counselling that was provided during counselling and provision of contraceptive methods. Women generally had positive experiences with contraceptive counselling from service providers and it helped them in making informed choice of contraceptives and were able to discuss the contraceptives in general and more in detail on the method of choice. Follow up visits well planned and women could visit facilities anytime they had a problem following post abortion care, before planned visits women were given a call a day before to remind them of visits. The counselling they received was effective in supporting contraceptive uptake and adherence. In conclusion, the study shows that there were no statistical difference in contraceptive uptake and adherence provided by midwives (98.5%) as compared to physicians (93.5%) in providing contraceptive methods to post abortion women effectively. Women have good experiences during interaction with midwives and physicians during counselling. Since the post abortion women were satisfied with the contraceptives counselling provided and services dispensed, meaning both physicians and midwives can provide services effectively therefore recommend the midwives to counsel and provide contraceptives to post abortion women.

## CHAPTER ONE: INTRODUCTION

### 1.1 Background of the Study

Unsafe abortion is a procedure for terminating pregnancy either carried out by an individual without the necessary skills or in an environment that does not conform to minimal medical standards, or both (Darabi et al., 2008; WHO, 2015).

Globally, abortion rates have decreased significantly from 40 (1990–1994) to 35 (2010-2014) per 1000 women of reproductive age (15-44) (Sedgh et al., 2016). Unsafe abortion as a result of unplanned pregnancy remains a persistent public health challenge to women's health globally (WHO, 2009). Countries with liberal abortion laws have realized a decrease in abortion rates from 46 to 27 per 1,000 women. Approximately 56 million induced abortions occurred annually worldwide making it an increase of 6 million from 1990 to 1994 due to an increase in population and out of these 25 million (45%) are unsafe abortions, with 31% categorized as less safe and 14% as least safe abortions. 31 million (55%) were safe abortions (Bankole et al., 2016). In much of the world 20-24 year old women tend to have the highest abortion rate compared to others (Singh *et al.*, 2018) due to lack of contraceptive use (Stover & Ross 2010).

Global contraceptive use has risen slightly from 54% in 1990 to 57.4% in 2015, and Asia had the slightest rise from 60.9% to 61.8%, while in Latin America its use has remained stable at 66.7% (Kuang & Brodsky, 2016). Global maternal mortality ratio fell from 385/100000 live births in 1990 to 216/100000 live births in 2015 (Alkema et al., 2016). As of 2017, 58 million women of reproductive age in the region have had

an unmet need for use of modern contraception. They prefer using traditional methods, which are less effective.

Regionally, during the period 2010-2014, some 8.2 million induced abortions occurred each year in Africa. Abortion rate in the region was at 34/1000 women of reproductive age, that is 15years to 44 years (Sedgh & Hussain, 2014). It is estimated that in 2015 low-income countries had a maternal mortality ratio of 239/100,000 live births while high-income countries had a maternal mortality ratio of 12/100,000 live births (WHO, 2015). Developing regions, including 93 percent of the countries with the most restrictive abortion laws saw only a drop from 39 to 36 abortions per 1,000 women (Sign et al., 2018).

Locally, abortion is restricted by law in Kenya and only permitted if, in the opinion of a trained health professional there is need for emergency treatment to save a woman's life (Article 26(4) of the Constitution of Kenya 2010). Morbidity and mortality among women due to unsafe abortion contributed 35 to 80 percent of maternal deaths in Kenya (Mohamed *et al.*, 2015). A study recently indicated that 45 percent of young women aged 19 years and below had experienced severe post abortion complications (Izugbara et al., 2013). Young people represent more than half of the population and over 50 percent of the women giving birth are under the age of 20 years (Ziraba et al, 2015). Contraceptive knowledge is high but the use is poor. Modern contraceptive prevalence is estimated to be 39 percent. The most recent Kenya Demographic and Health Survey showed that about half of sexually active young people reported using contraceptives (Ziraba et al, 2015).

One of the greatest challenges will be to find creative ways to meet the increasing need for quality contraceptive use in countries with declining resources (WHO 2010). To minimize the problem of unintended pregnancies and repeat abortions there should be a constellation of services linked to emergency post abortion treatment, particularly contraceptive services within the treatment area (Bankole et al., 2016). In many countries there are few or no physicians working in rural and remote areas and this fact limits timely access to PAC (WHO 2014). The only health service providers allowed to perform the procedure are trained and certified physicians and few other providers (midwives) working under the supervision of physicians in hospital settings (Gebreselassie *et al.*, 2004). It has been shown in low-resource settings that the strategic use of mid-level providers could contribute to mitigating human resource problems in emergency obstetric and gynaecological care (Barnard *et al.*, 2015). It is therefore important to find out if midwives can effectively administer contraceptives to post abortion women on their own (Kopp Kalner *et al.*, 2015; Bankole et al., 2016).

## **1.2 Problem Statement**

In Kenya, there is limited policy focus on PAC, especially at primary care level, and no guidelines for health providers to provide legal, safe abortion (Mutua *et al.*, 2018). About 44997 abortions occurred in 2012 in Nyanza and Western Kenya due to low uptake and adherence to contraception (KNBS 2017). Abortion should not be occurring, particularly unsafe abortion among women of reproductive age especially when contraceptives are provided free of charge to any women who require them. Those who make request for contraceptives should be supplied with effective contraceptive methods with adequate contraceptive counselling saving them from

unintended pregnancies and repeat abortions. Midwives should be able to provide contraceptive counselling and services to post abortion women. Inadequate numbers of physicians and an unmet need for contraceptives that exposes them to the risk to of unwanted pregnancies that give rise to unsafe abortions as they may not in the circumstances render adequate services to the clients who seek contraceptive services including PAC (Darabi et al., 2008; Bankole et al., 2016). The midwives work closely with the physicians and able to provide contraceptive counselling and services to post abortion women but are not allowed to practice on their own in PAC and yet the post abortion women are commonly found in the rural areas where there are no physician and midwives remain the service provider they would find in the facility. The law in Kenya generally criminalizes abortion and this acts as an impediment for conducting safer abortions (Article 26(4) of the Constitution of Kenya (2010). Misconceptions and stigmatization from the community and the service providers also impedes contraceptive uptake and adherence. Many women would develop post abortion complications leading to medical interventions that are expensive, getting attended by unqualified personnel with no skills in providing the medical interventions and abortion services that are carried out in places unfit nor licensed for the activities are common (Woog *et al.*, 2015).

### **1.3 Justification of the Study**

The study was conducted in Kisumu because abortions are prevalent in the area where many unsafe and repeat abortions take place and contraceptive uptake is low. In Western Kenya abortion rate in the region is 16/1000 women of reproductive age. The number of abortions stood at 44997 in 2012 according to Kenya National Bureau of

Statistics (KNBS) of 2017. There is need to increase contraceptive use in order to reduce unintended pregnancies.

In task sharing/shifting, deliberated strategies are always accompanied by training and certification (Dawson *et al.*, 2013). Task shifting/sharing has been categorized as an important policy to improve health worker in provision of the services in resource poor settings and provide the right mix of skills required to undertake the activities needed for the service (WHO 2018) if this is possible in Kenya it will provide technical knowhow to improve PAC and provision of contraceptives.

In Kenya unsafe abortions arising from unintended pregnancies is one of the leading preventable causes of morbidity and mortality among women. Kenya has an estimated 510 maternal deaths per 100,000 live births per year and of these 13 percent is attributable to unsafe abortions (Mohamed *et al* 2015) and use of contraceptives would prevent this situation.

Improving maternal health and reproductive health is a target entrenched in the Sustainable Development Goals (SDGs), Goal 3. One of the major prerogatives is increasing accessibility to contraceptives and abortion services with an aim of improving maternal and reproductive health. In 2014 in sub-Saharan Africa over 40% of women aged 15-49 years did not want to get pregnant but only half of them could afford or access contraceptives due to shortage of skilled workers (Griggs *et al.*, 2014). Furthermore, more than 70 percent of women seeking PAC were not using a method of contraception before becoming pregnant (Izugbara *et al.*, 2013). Therefore the objective of the research is to establish the outcome of task shifting/sharing in

provision of contraceptives by midwives compared to physicians in the post abortion care (Black *et al.*, 2016).

#### **1.4 Research Questions**

1. What are the determinants of contraceptive uptake and adherence among post abortion clients?
2. What are post abortion women's satisfaction with care and services on contraceptive counselling provided by physicians and midwives on the other hand?
3. What differences exist in contraceptive uptake and adherence following contraceptive counselling by midwives compared to physicians?

#### **1.5 Null Hypothesis:**

- i. There is no difference in satisfaction, contraceptive uptake, adherence, perception after contraceptive counselling and services provided by midwives compared to physicians.
- ii. There is no difference in technical competence of midwives compared to physicians following contraceptive counselling.

#### **1.6 Main Objective**

To determine post abortion contraceptive uptake, adherence and satisfaction with care among post abortion women following counselling by midwives compared to physicians.

#### **1.7 Specific Objectives**

1. To determine the differences in uptake to contraceptives following contraceptive counselling provided by physicians and that by midwives.

2. To understand satisfaction with care on contraceptive counselling and services they received from the service providers (physicians and midwives).
3. To determine the differences in adherence to contraceptives following contraceptive counselling provided by midwives compared to physicians.

### **1.8 Significance**

Lack of training is common where most task sharing/shifting is done through apprenticeship (Dawson *et al.*, 2013). The study results can provide a road map to handling missed opportunities for contraceptive use and identify aspects that would need improvement in the training of service providers in PAC, thus contribute to the reduction of repeat unsafe abortions and unintended pregnancies. There is lack of policy on task sharing/shifting, no official documentation of the activities of task sharing/shifting that makes it difficult to justify and therefore the study seeks to provide evidence of practice that would inform policy in the country. According to Dawson *et al.*, (2013) lack of coordination and equipment hampers efficient implementation of task shifting/sharing within the facilities therefore an informed policy would guide the government to purchase equipment to enable the trained personnel to perform there shifted/shared duties. Professional bodies representing skilled health workers say task sharing/shifting will erode their powers and compromise patient safety. Task sharing/shifting is seen as cost effective since non-clinicians physicians (nurses) charge less and see more patients as compared to physician's clinicians. The study seeks to bridge the gap between the personnel and free up the physicians to perform more complex medical issues. The results from the study will help in providing quality management of post abortion women in lower

level health facilities. Furthermore, it will help in development of strategies to increase women's uptake and adherence to contraception after treatment for incomplete unsafe abortions.

If it can be proven that midwives are able to provide contraceptive counseling to post abortion women as effective as physicians then the Government can consider a policy on task shifting/sharing that would bring services closer to people where they live.

## **1.9 Study Limitation and Delimitation**

### **1.9.1 Limitations**

Since abortion is illegal in Kenya and stigmatized, this made it difficult for women to admit induced abortion. Clients are assured of anonymity and do not have their data exposed to other people.

### **1.9.2 Delimitations**

The data collectors were trained on creating a rapport with the clients coming to the clinics and encouraged clients to talk freely to the service providers. Contraceptive counselling is provided to help women and those who had accompanied them to the clinic to discuss their problems freely, ask questions and clarify their misconceptions and were reassured that they were not going to be reported to the police.

## **1.10 The Conceptual/ Theoretical Framework**

This section depicts the concept as pertaining to the study. It is broad picture of the connection between the elements of the study. A figure is usually included to capture the concept. The conceptual framework highlights the intertwined linkages amongst client, social, health system factors that influence contraceptive use, and affect

fertility (Bruce 1990: Jain *et al.*, 1992). The framework (Fig. 1) shows the contribution of social, community and client-related factors such as conflicting community knowledge on contraceptives, poor understanding of available services and value of children influencing women's reflections and perspectives towards contraception. Health care provider related factors such as perceptions of post abortion contraception and task shifting of PAC to midwives might influence access and provision of services to post abortion women. The framework recognizes the interaction between the health work force and the client whereby the quality of the interaction affected by the interpersonal relationship, service delivery point (environment), information available, availability of commodities and technologies influencing the contraceptive service provision. The outcomes include the contraceptive uptake, adherence to contraceptive use, and client satisfaction.

The studies on quality in this thesis are grounded in the Bruce and Jain theoretical framework (**See Appendix 3** (Independent variables and outcome variables mapped on to the theoretical framework: adopted from Judith Bruce and Jain framework for conceptualizing quality as "client oriented" care) of assessing quality of care in contraceptive services. The framework recognizes six elements of assessing quality of care in contraceptive service, which are choice of contraceptive methods, information given to users, technical competence of providers, interpersonal relations, continuity mechanisms and appropriate constellation of services or appropriateness and acceptability (Bruce 1990: Jain *et al.*, 1992). These elements show the aspects of services that clients experience thus influencing uptake and adherence to the chosen

method of contraception. Quality contraceptive counselling could motivate one to use contraceptives.

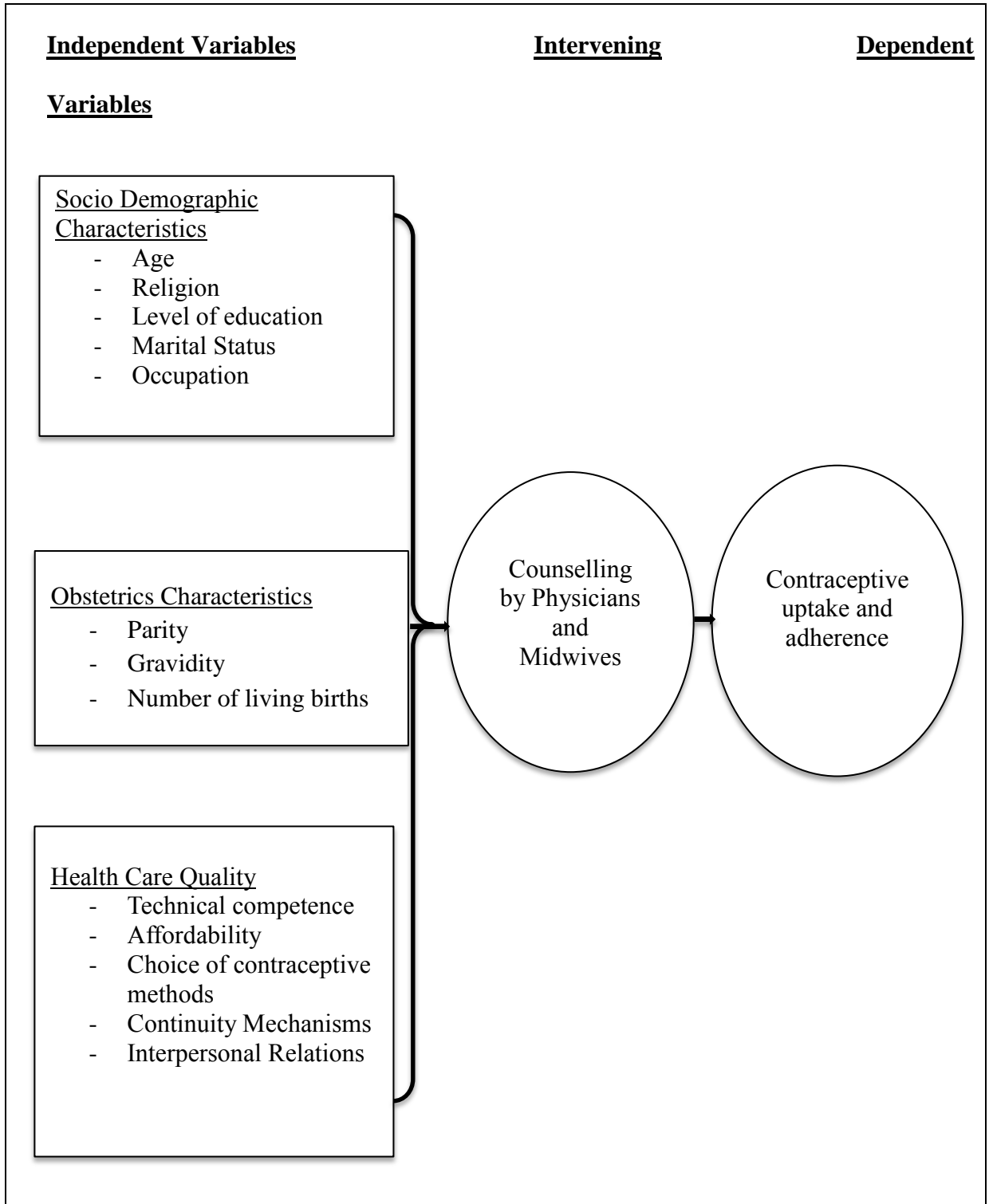


Figure 1. 1: Conceptual Framework (adopted and modified from Bruce1990: Jain et al., 1992)

## **CHAPTER TWO: LITERATURE REVIEW**

### **2.1 Background Information**

According to WHO (2016), despite advances in provision of effective contraceptives, approximately 25 million abortions continue to be performed unsafely every year. It translates to estimated 243 maternal deaths per 100,000 live births and disabilities for an additional 5 million; almost one out of four of these deaths and disabilities is preventable through sexual education, contraceptive use and provision of safely induced abortion and care for complications of abortion (Ganatra *et al.*, 2014). WHO defines abortions as pregnancy termination prior to 20 weeks gestation or a fetus born weighing less than 500g and unsafe abortion is defined as every procedure for terminating an unintended pregnancy performed either by persons lacking the necessary skills or in an environment lacking the minimal medical standards, or both (Ganatra *et al.*, 2014). Unsafe abortion is a preventable cause of maternal death.

Almost half of all unsafe abortions taking place each year are carried out in low-income countries and approximately 7 million women admitted to hospital due to unsafe abortions yearly (WHO 2015). In Uganda, abortion is the fourth commonest cause of maternal mortality where incidence of abortion is 54/1000 of women aged 15-49 years. Unsafe abortions contribute up to 40 percent of maternal deaths in Uganda. There, like many other low-income countries, experience challenges in preventing unsafe abortions including restrictive laws and procedures, stigmatization of women known to have procured abortion and increasing unmet need for family

planning (29%-41%). Other challenges are limited public awareness, fear of legal action even during PAC, late reporting to healthcare facilities and health system weakness such as inadequate number of trained personnel (Sentongo *et al.*, 2010). The most significant other challenge to post abortion care is to ensure that every woman who receives post abortion care also receives information pertaining to fertility and contraceptive options (RamaRao *et al.*, 2011).

## **2.2 Sustainable Development Goal**

Maternal morbidity and mortality resulting from the complications of pregnancy and childbirth is a huge global challenge. In the SDGs child, health and maternal reproductive health are prioritized together with HIV and AIDS (WHO 2016). In 2015 some 303,000 maternal deaths occurred, mostly from preventable causes. Goal number 3 of SDGs aims to reduce adolescent pregnancy, provide better data and to allow women and girls to have a universal access to skilled birth attendants. Child mortality forms a core part of SDGs (WHO 2016). Although there was a reduced incidence of child deaths by 58 percent (93/1000 in 1990 to 39/1000 in 2017) still the deaths of 5.6 million children is recorded. The goal aims at reducing child mortality to as low as 25 per 1000 live births.

Furthermore, achieving maternal health requires quality reproductive health services and interventions that ensure safe passage to motherhood. Failure to provide these services result in hundreds of thousands of needless deaths every year (Griggs *et al.*, 2014).

Key indicators of health in Kenya, In the Sustainable Development Goals, child health and maternal reproductive health are prioritized together with HIV and AIDS as an emerging issue (KDHS 2014). According to status report for Kenya, indicators for

monitoring maternal health are maternal mortality ratio and proportion of births attended by skilled health personnel. Indicators for achieving universal access to reproductive health include contraceptive prevalence rate (CPR), adolescent birth rate, antenatal coverage and unmet need for family planning (KNBS 2017).

Skilled health workers attended 65.7% of births worldwide. Health Care Workers in developed countries attended nearly all births while skilled health workers respectively cared for 61.9% and 35.3% in less developed countries and least developed countries. Women in Africa (46.5%) and Asia (35.3%) gave birth with professional assistance. East Africa (33.7%) had the lowest level of skilled attendant at birth, followed by followed by Western Africa (41.2%) and Southcentral Asia (46.9%). Polynesia (99.8%) had the highest (Bosomprah *et al.*, 2014). The strategy aimed at promoting safe motherhood including family planning, antenatal care, postpartum care, newborn care and post abortion care (Crow *et al.*, 2012).

Fertility in Kenya has declined in the past three decades from 8.1 in 1978 to an average of 3.9 children per woman in 2014 (Ziraba *et al.*, 2015). Fertility varies with residence, education, province, and rural and urban areas. In Kisumu, where the study was conducted, the total fertility rate (TFR) is 3.9 children per woman. And the age at first sexual intercourse is about 16 years, thus contributing to a long reproductive period (KNBS, 2017). According to the 2014 KDHS, about 18 percent of young women aged 15-19 years have begun child bearing; 15 percent are mothers and 3 percent are pregnant. In addition, uneducated women are three times more likely to have started child bearing by age 19 years compared to those educated (KNBS, 2017). Currently, 39 percent of married women use modern contraceptives and 6 percent use traditional methods. Forty-five percent of unmarried women use modern

contraceptive methods. The use of these modern contraceptives varies from urban to rural areas, where 47 percent of married women in the urban areas and 37 percent in the rural areas use modern contraceptive methods (Ziraba *et al.*, 2015). About 26 percent of women have an unmet need for contraceptives and 69 percent of women and 71 percent of men suffer from missed opportunities for contraceptives (Ziraba *et al.*, 2015).

Young women in Kenya experience higher risks of mistimed and unintended pregnancies compared to older women and contraceptive use among women remains low. A study conducted in Kenya showed that only 60 percent of sexually active young people reported using contraceptives obtained from government health facilities (KNBS, 2017). Some reasons that hinder contraceptive use among women and girls include side effects, inaccessibility to commodities, partner disapproval, awareness stigma, inadequate information on sexuality, and cultural pressure. Knowledge of contraception does not necessarily translate to improved contraceptive use (Ochako *et al.*, 2015).

### **2.3 The Problem of Unintended Pregnancy and Unsafe Abortions**

For unmarried women the consequences of unplanned pregnancy are harsh – including social stigma and exclusion, expulsion from the family, abandonment and deepening poverty. For married women, repeat pregnancies at short intervals pose considerable economic burden on poor families and increased health risk for mothers and infants (WHO, 2006).

### **2.3.1 Global and Regional Overview**

Unsafe abortion is a global problem whose severity is felt most in poor nations. The recently launched intergovernmental international development goals has two Sustainable Development Goals (Goal 3 and 5) whose achievements will depend on provision of safe abortion services (United Nations Report, 2015). Indeed access to safe legal abortion recognized as an essential intervention that should be universally accessible to individuals seeking sexual and reproductive health services (Paul *et al.*, 2014).

Women who have experienced unsafe abortions are exposed to many health risks and are more likely to have repeat abortions in the future (Benson *et al.*, 2017). This is particularly true in settings where access to safe services is limited such as in countries where abortion by law is illegal and where women may have little choice other than to go to untrained providers. Data indicates correlation between restrictive abortion laws and abortion-related deaths at 34 deaths per 100,000 childbirths in countries with restrictive abortion laws, compared to one or fewer per 100,000 childbirths in countries with less restrictive laws (WHO 2018: Haddad & Nour 2009). The WHO considers unsafe abortion to be one of the easiest preventable causes of maternal mortality and ill health (Oppong-Darko *et al.*, 2017).

### **2.3.2 Problem of Unintended Pregnancy and Unsafe Abortion in Kenya**

Young people represent more than one third of the population and more than half of women giving birth are less than 20 years old (Guttmacher *et al.*, 1998: Sedgh *et al.*, 2015). Reasons for unintended pregnancy in many low-income countries include insufficient knowledge and misinformation about preventive measures, inaccessibility

of such services or ineffective use of contraceptives (Izugbara *et al*, 2013; Rasch 2011). Against this background, unintended pregnancy is common, also in Kenya.

Morbidity and mortality among young women due to unsafe abortion, the consequence of unintended pregnancy, might be contributing to between 35 and 80 percent of maternal deaths in Kenya (Dawson *et al.*, 2013). Studies from other sub-Saharan African countries have shown that several factors influence decision making related to induced abortion. Some of these factors are fear of parents' reactions, disruption of plans, shame and stigmatization from community, and unstable /casual/negative partner relationship, especially with denial of fatherhood (Loi *et al.*, 2015). In Kenya, like in other low-income countries, complications from unsafe or incomplete abortion is a major cause of maternal mortality and adds a tremendous strain on the already overburdened public health care system resources. For instance, hospital-based studies in Nairobi have shown that at least half of all gynecological admissions and more than a third of pregnancy-related deaths are due to unsafely induced abortion (Mohamed *et al* 2015). A recent report from the Kenya Medical Association, the Kenyan chapter of the Federation of Women Lawyers (FIDA-K), the Ministry of Health and Ipas indicates that about 300,000 abortions are performed in the country each year, causing an estimated 20,000 women and girls to be hospitalized with pregnancy related complications (Cohen *et al.*, 2015; Marlow *et al.*, 2014).

There are regional variations in induced abortions rates and ratios in Kenya (Mohamed *et al* 2015). The abortion rate was highest in Rift Valley and Nyanza/Western regions (64 and 63 per 1000, respectively) due to non-use of contraceptives, and lowest in Eastern region (20 per 1000). Similarly, the abortion

ratio was highest in the same two regions at 40 and 39 per 1000 live births for Rift Valley and Western/ Nyanza respectively (KNBS 2017).

## **2.4 Global Contraceptive Use**

In all regions of the world, contraceptive use is on the rise but remains extremely low in Africa. As of 2017, 58 million women of reproductive age in the region have an unmet need for use of modern contraception. They prefer using traditional methods that are less effective. Abortion rates have decreased significantly from 40 (1990–1994) to 35 (2010-2014) per 1000 women of reproductive age (15-44) (Sedgh et al., 2016). Unsafe abortion as a result of unplanned pregnancy remains a persistent public health challenge to women’s health globally (WHO, 2009). Countries with liberal abortion laws realized a decrease in abortion rates, from 46 to 27 per 1,000 women. Approximately 56 million induced abortions occurred annually worldwide making it an increase of 6 million from 1990 -1994 mainly due to population growth. In much of the world, 20-24 year old women tend to have the higher abortion rate compared to other age groups (Singh *et al.*, 2018). Out of the 56 million induced abortions worldwide, 25 million (45%) are unsafe abortions, with 31% categorized as less safe and 14% as least safe abortions. Some 31 million (55%) were safe abortions (Bankole *et al.*, 2016). Global contraceptive use has risen slightly from 54% in 1990 to 57.4% in 2015, though in Asia there was the slightest rise from 60.9% to 61.8% while in Latin America its use has remained stable at 66.7%. Global Maternal mortality ratio fell from 385/100000 live births in 1990 to 216/100000 live births in 2015 (Alkema *et al.*, 2016). As of 2017, 58 million women of reproductive age in the region have an

unmet need for use of modern contraception (Benson *et al.*, 2017). They prefer using traditional methods but are less effective.

The world over millions of women lack access to modern contraception or do not use contraceptives for a range of reasons including health concerns, social disapproval, myths and misconceptions and partner opposition (Sedgh & Hussain, 2014). USAID recent estimates of contraceptive use suggest that just over half (55%) of 15-49 years, old married women in low-income countries use some form of contraception. About 37 percent of unmarried 15–24 year old women in sub-Saharan Africa use contraceptives (Singh & Darroch 2012). Women not using any contraception account for approximately two-thirds of unintended pregnancies in low-income countries (Bankole & Malarcher 2010). Use of contraception by males adds up to a relatively small prevalence rates, with men preferring to use condoms and sterilization (vasectomy). Global unmet need for contraceptives is high; 214 million women who want to avoid getting pregnant are not using a modern contraceptive method (Benson *et al.*, 2018). The reasons cited include limited choice of methods, limited access to contraception common among young people in poorer segments, fear of the side effects, religious and cultural opposition, poor quality of available services, users and provider bias and gender based bias. The growing population and shortage of family planning services (Benson *et al.*, 2017) fuel the inequity. In Asia, Latin America and the Caribbean, the levels of unmet need are 10.2% and 10.7%, respectively.

#### **2.4.1 Determinants of Contraceptive Uptake/Adherence**

Lifetime use of contraceptives is determined by one's level of education and occupation. Those who are educated tend to use contraceptives more than the less

educated or with no formal education. Attitudes towards contraceptive use also affects one's use of family planning (Obwoya *et al.*, 2018). Attitudes and parity of clients were strong predictors of contraceptive use in the studied population. Positive attitude to contraceptives predicted use and adherence to contraceptive use. In parity, most women would want to use contraceptive when they want to stop child bearing and probably there was a missed opportunity of using family planning. Knowledge of contraceptive does not translate to usage since women have little understanding of the wider benefit of family planning. Determinants of contraceptive use in the study area are parity, age, level of education and attitudes (Obwoya *et al.*, 2018).

## **2.5 Contraception and Unintended Pregnancy in Kenya.**

Behind every abortion is an unintended pregnancy. In the period 2008-2009 there were unmet needs of contraception for almost one out of four married women (Obwoya *et al.*, 2018) and there has been no decline in unmet need for contraception for almost the past decade.

### **2.5.1 Knowledge of Contraceptive Methods: The Kenyan Perspective**

Approximately 97 percent of women in Kenya are familiar with modern methods of contraception compared to 84 percent having knowledge of traditional contraceptive methods. The most widely known method is male condoms (96%), injectable (95%) and pills (94%) (Kitui *et al.*, 2013).

The least known method are Lactation Amenorrhea Method (LAM) (12%), male sterilization (47%), and emergency contraception (59%). Concerning traditional methods, 79 percent know of the rhythm method and 69 percent the withdrawal method (Kitui *et al.*, 2013).

According to Kitui *et al*, 2013, women aged between 15 and 49 years cited the following problems in accessing PAC; lack of money to pay for services (37%), distance to health facility (25%), inability to go to the health facility alone (11%) and inability to get permission to seek medical services (6%). Overall, 46 percent of women said at least one of these foregoing reasons would be an obstacle to seeking any medical services (KNBS 2017).

### **2.5.2 Trends in Contraceptive Use among Currently Married Women in Kenya**

According to Kenyan Demographic and Health Survey (2014) more than 97 percent, women demonstrate knowledge of at least one contraceptive method in all counties other than Muranga, Wajir, Mandera, West Pokot and Garissa, Turkana, Tana River and Marsabit. Twenty-two counties have a contraceptive prevalence rate above the national average of 58 percent.

Use of contraceptive among married women increased from 32 percent in 2003 to 39 percent in 2008-2009. Among the various methods women use, the most common reported to be injectable and implants. Currently married women use of injectable increased from 14 percent in 2003 to 26 percent in 2014. Use of implants increased from 2 percent in 2003 to 10 percent in 2014 (KDHS, 2014).

## **2.6 Types of Abortion**

There are three types of abortions: spontaneous, threatening and induced. Spontaneous abortion is a non-induced embryonic or fetal death or passage of products of conception before 20-week gestation. Diagnosis is done by clinical criteria and ultrasonography. Uterine evacuation often done when spontaneous abortion appears unavoidable or has occurred (Saccone *et al.*, 2016).

A threatening abortion is vaginal bleeding that occurs in the first 20 weeks of pregnancy. The bleeding is sometimes accompanied by abdominal cramps indicating that an inevitable abortion is possible. The exact cause of a threatening abortion usually is not known though it is common among women who have previously had an inevitable abortion. During an actual inevitable abortion, women often experience either a dull or sharp pain in the abdomen and lower back. They may also pass tissue with clot-like material from the vagina.

Women who are at risk of threatening abortion exhibit certain factors that may increase the risk of having an abortion. Such factors include bacterial or viral infection during pregnancy, trauma to the abdomen, advanced maternal age (over age 35), obesity, uncontrolled diabetes and exposure to certain medications or chemicals (Wahabi *et al.*, 2011).

Induced abortion can be safe or unsafe; unsafe abortion is removal of pregnancy through non-medical procedures using un-trained medical personnel staff and also unsterile medical equipment. Safe abortion is done through medical or surgical procedures where trained medical personnel perform the procedures using sterile equipment or medical tablets such as mifepristone and misoprostol.

## **2.7 Legalization of Abortion**

According to WHO (2016), 25 million unsafe abortions (45% of all abortions) occurred every year between 2010 and 2014. A majority (97%) of these unsafe abortions occurred in Africa, Asia and Latin America. China was the first large country to enact a liberal abortion law in 1957. Later in 1950's Soviet Union and the Central and West Asian Republics enacted similar laws. In the following 50 years,

abortion became legal on broad grounds in Cuba (1965), Vietnam (1975), Sweden (1975), Turkey (1983), Taiwan (1985), Mongolia (1989), South Africa (1996) and Cambodia (1997) (Cohen *et al* 2015).

### **2.7.1 Consequences of Legalizing Abortion**

According to WHO (2008) about 13000 women in Eastern Africa die of unsafe abortions each year accounting for almost one fifth of maternal deaths. One available national estimate of abortion in Kenya is from a study in 2002 where women treated for post abortion complications were included. The study cites that 46 abortions for every 1000 women of reproductive age occur in Kenya (KNBS 2017).

The study did not differentiate between induced abortion and inevitable abortion and true incidence of induced abortion and inevitable abortion thus remains unclear. Legalization of abortion moves abortion from unsafe to safe (Henry and Higgins, 2014). A peculiar case arises from South Africa's legalization of abortion, where number of illegal abortions are higher than legal abortions. Legal abortion clinics rarely perform abortion since the medical practitioners hold stern religious views and are unfriendly to the patients (Purell *et al.*, 2014). Illegal clinics openly advertised while legal clinics and government clinics are not openly advertised. Aborting in illegal clinics is less expensive as compared to legal clinics (Jewkes *et al.*, 2005). In a study conducted in South Africa, Guttmacher *et al.*, (1998) in relation to South African 1975 Act Legalizing abortion, abortion mortality dropped by more than 90 percent between 1994 and 2001. There was a potential rise in number of clandestine abortions from 120000 to 250000 per year happening between 1975 and 1996 in South Africa (Grossman *et al.*, 2011).

## **2.8 Task Shifting and Task Sharing in Reproductive Health Care**

Estimated shortfall of health care workers is 7.2 million (Visser *et al.*, 2014). Progress towards Sustainable Development Goal 5 (SDG 5), reduction of maternal mortality and providing universal access to reproductive health has been inhibited by a long-lasting shortage of health workers needed to provide evidence-based interventions (Buse & Hawkes, 2015). Strengthening of health workforce, particularly midwifery, has received considerable attention as a means to improve global maternal health (Hoope-Bender *et al.*, 2014)). A shortage of midwives and obstetricians means that task shifting and task sharing to other professionals has been necessary to provide maternal services, especially in emergency obstetric situations.

Task shifting/sharing has been emphasized as an important strategy to enhance health worker performance in resource poor settings and provide the right mix of skills required to undertake the activities needed for the service (Paul *et al.*, 2014)). Task shifting is defined in this article as a deliberate process whereby the task shifted is defined and described and where funding is moved to the new individual assigned to the task or task shifting is the process of allocation of tasks from an expert to low or unskilled health workers (WHO 2018). Task shifting frees up midwives, obstetricians or others to provide more complex care and may involve the delegation of specific tasks or the substitution of one type of health care worker for another. Task sharing is also a considered action involving health professionals working together in teams to deliver a task or service that they may not have carried out before (Dawson *et al.*, 2013). Unlike informal and opportunistic task, shifting/sharing of deliberate strategies accompanied by training, certification and support (WHO 2018).

Key services in maternal child health include the provision of obstetric and abortion services, the delivery of contraceptives, family planning, antenatal and post-natal care. Other services are cervical screening and treatment of sexually transmitted infections (STI). Apart from tasks associated with normal birth, emergency obstetric care (EmOC) focuses on complications during labor and birth and includes basic and comprehensive care defined by nine interventions (Dawson *et al.*, 2013). Lack of adequate human resource to carry out quality PAC services has contributed to some of the challenges faced during management of post abortion women (Oppong-Darko, *et al.*, 2017). Task shifting/sharing can provide some amelioration to the shortage of trained human resource in PAC. Midlevel providers such as midwives are more widely accessible to women in remote or underserved areas than physicians. In many settings midlevel service providers can easily possess the required clinical skills to treat incomplete abortion during the first trimester but generally are not permitted to carry out this procedure on their own. Not much evidence is available to determine if midwives in the post abortion ward can counsel women and provide contraceptives immediately after abortion as effectively as physicians in Kenya therefore the study strives to determine if midwives can comparably competently provide PAC and specifically contraceptive counselling to post abortion women.

Furthermore, there are few physicians working in the rural remote areas and this of course limits timely access to PAC (WHO 2014). It has been shown in low-resource settings that the strategic use of midlevel providers could contribute to mitigating human resource problems in providing emergency and general gynaecological care to the post abortion women (Barnard *et al.*, 2015).



### **2.8.1 Reason for Rural-Urban Migration of Doctors**

According to Kenya National Bureau of Statistics of 2017, there is slight increase in the number of physicians from 20 per 100,000 population in 2012 to 23 per 100,000 in 2016. B.Sc. Nurses were 9 per 100,000, Registered Nurses 126 per 100,000 and Enrolled Nurses 95 per 100,000 population in 2016. There is inadequate distribution of health personnel and it is likely to affect the outcome of provision of post abortion treatment and counselling (KNBS, 2017).

Limited funding and other resource constraints significantly affect the provision of health services in rural and remote areas (Hoeft et al., 2018).

Other reason for healthcare personnel migration to urban or developed destination are desire to have fair level of workload, job promotion and limited occupational risks (Lowe *et al.*, 2016). Furthering of studies is also a factor depleting developing countries of their doctors and other health personnel, consequently leading to underserving of rural areas. A study conducted among Lebanese medical students showed that a majority intended to travel abroad for further studies. Their top four destinations being the US (74.1%), France (12.1%), UK (7.6%) and Canada (4.2%), (Akl *et al.*, 2008).

## **2.9 Post Abortion Contraceptive Counselling**

Post abortion counselling has an important role in decision-making towards utilization of contraceptives after abortion. Service providers at the PAC settings carry out the counselling (Onyango et al., 2010). A recent study in Western Kenya indicated that of around 40 percent of women who received post abortion counselling only 30 percent accepted to use a contraceptive method. In 2012 an estimated

120,000 women in Kenya received PAC and out of this 70 percent did not use contraception (Makenzius *et al.*, 2017).

A study conducted in Mexico indicated that contraceptive counselling by physicians play an important role in contraceptive choices of their clients. The study focused on contraceptive perceptions and men's roles and responsibilities in reproduction. The male physicians' contraceptive counselling and preferences were studied from a gender perspective through in depth interview in public institutions. In interpretive analysis, the social process is identified as involved in shaping contraceptive preferences. The male physicians discouraged the methods, especially vasectomy (Erviti *et al.*, 2010).

A study conducted in Uganda among young women and men as well as among contraceptive service providers showed multiple obstacles to contraceptive use such as misconceptions and fears related to contraception, gender power relations, socio-cultural expectations and contradictions, short term planning and health service barriers (Nalwadda *et al.*, 2012).

In contraception, women may start hormonal implant contraception at a time of surgical abortion or as early as the time of administration of first pill of medical abortion regimen. Intra Uterine Contraceptive Device (IUCD) is inserted when it is reasonably certain that the woman is no longer pregnant. All post-abortion women were counselled on contraception and given information about other reproductive health services (WHO 2015).

For follow-up, there is no medical need for routine follow-up visit following uncomplicated surgical abortion or medical abortion using mifepristone followed by

misoprostol. However, women are advised that additional services are available to them if needed or when desired.

For incomplete abortion, if the uterine size at the time of treatment is equivalent to pregnancy of gestational age 13 weeks or less, either Manual Vacuum Aspiration (MVA) or treatment with misoprostol is recommended. Recommended regimen of misoprostol is a single dose given either sublingually (400mg) or orally (600mg) (Shochet *et al.*, 2012).

### **2.10 Summary of Literature Review**

There is inadequate number of physicians to handle the post abortion contraceptive counselling because midwives are not permitted to perform contraceptive counselling on their own. There is no evidence to show if midwives can be able to provide contraceptive counselling to post abortion women and provision of services as competently as physicians can. The women are provided with information pertaining to fertility and contraceptive methods during counselling. Misconceptions and stigmatization are some of the impediments that hinder post abortion women to effectively use contraceptives, therefore service providers should seek to quell such ideas through counselling. There is lack of policies to guide the contraceptive care and uptake provision by midwives, the policies expected to direct on participation of midwives in contraceptive counselling yet needed to guide contraceptive usage among post abortion women.

## CHAPTER THREE: MATERIALS AND METHODS

### 3.1 Research Design

This was a prospective study conducted through a mixed method approach where an open label randomized controlled trial for quantitative data was conducted on PAC clients at JOOTRH and KEDH. Women in the study were randomly allocated to either physician or midwife-led contraceptive counselling. The primary outcome of contraceptive uptake was then assessed using face to face or telephone interviews at two time points (day 7-10 and 3 months after counselling). For ethical reasons blinding of participants to allocation was not attempted, considering clients' right to know the identity of health care providers. Randomization was performed using permuted blocks of varying sizes (between 2 and 8) generated using computer random numbers. Allocation concealment was safeguarded through use of sequentially numbered, sealed opaque envelopes during enrolment and allocation of subjects to a physician or a midwife.

In addition, individual in-depth interviews were conducted with 20 women included in the randomized trial thus using a mixed methods approach as proposed by Lewin (Lewin *et al.*, 2009). These interviews were done in order to explore PAC clients' perception of the quality of contraceptive counselling and contraceptive services. The interviews were conducted in a quiet private room at the two health facilities.

### 3.2 Variables

Independent variables studied were demographic characteristics (religion, age, level of education, marital status and occupation), obstetric variables (gravidity, parity and number of live births), and healthcare quality variables (technical competence, choice

of contraceptive methods, and affordability). The dependent variables were satisfaction with care, contraceptive uptake and adherence (outcome) and these were compared for clients counselled by midwives against to those counselled by physicians.

### **3.3 Study Area**

The study was conducted at Jaramogi Oginga Odinga Teaching and Referral Hospital (JOOTRH), the former Nyanza Provincial Hospital and Kisumu East District Hospital (KEDHS) in Kisumu County, in Western Kenya (**see appendix 1**). Compared to the whole country western Kenya has the lowest mean age at first sexual intercourse (16.4 year) among the 20- 24 year olds (Izugbara *et al.*, 2013) and the highest HIV prevalence (KNBS 2017). Kisumu is the third largest town in Kenya with a population of 500,000 people. The study was carried out within the Department of Obstetrics and Gynecology that admits about 60 women with incomplete abortion per month. There were 17 midwives and 7 physicians who collected data in the study and all were provided with standardization training on post abortion contraceptive care and contraceptive counselling prior to the study for quality service provision.

### **3.4 Study Population**

The study population were the post abortion women admitted for Post Abortion Care (PAC) and service providers (midwives and physicians) who gave contraceptive counselling and services to the post abortion women. The midwives and physicians formed part of the study and got training on assessment of post abortion women, diagnosing abortion and size of pregnancy, post abortion treatment and collection of data to participate as research assistants.

### **3.5 Inclusion and Exclusion Criteria**

#### **3.5.1 Inclusion Criteria**

Women presenting with incomplete abortion and with a uterine size equivalent to first trimester (uterine size of 12 weeks and below) were included. Women who were not in shock and have consented to participate in the study were included. Misoprostol was used as treatment for incomplete abortion in the RCT. This is a simple procedure that midwives would be able to carry out without much supervision.

#### **3.5.2 Exclusion Criteria**

Post abortion women having the following characteristics disqualified from the study: suspected ectopic pregnancy, threatening abortion, unstable hemodynamic, shock, severe pelvic infection, uterine perforations, and post abortion uterine size of > 12 weeks' (first trimester) gestation. Women who did not consent to participate in the study were excluded with no consequences for nonparticipation.

### **3.6 Sampling Technique**

The researchers purposively chose Kisumu County, where JOOTRH and KCH Hospitals were identified; and the reason is that Nyanza and Western areas have one of the highest abortion rates where all abortions were 19/1000 and induced abortions at 16/1000 women of reproductive age (KNBS 2017) making it fit to be selected for the study. Number of abortions in the region was 44,997 in 2012. Sampling was carried out at the two health facilities. All women who came to clinic during study time were selected until the required sample of 128 women realized. Probability sampling method was used in which random samples were selected whereby eligible women who had consented to participate in the study were randomly allocated to either a physician or a midwife. Numbered envelopes labelled physicians or midwives

were used where allocation concealment was safeguarded through use of sequentially numbered, sealed opaque envelopes during enrolment and allocation of subjects to a physician or a midwife. In the quantitative part women were interviewed 7-10 days and 3 months after post abortion care to find out adherence to contraception.

Patients were allocated to the service providers who took history, examined the patient and made a diagnosis. Once the diagnosis was made of incomplete abortion, the service provider gave the patient misoprostol tablet and thereafter provided the initial contraceptive counselling. Some of the patients sought further contraceptive counselling after seven days.

For the qualitative part 20 women of different ages and socio-economic backgrounds were randomly selected from the 123 quantitative women who participated and had completed the three-month counseling process in the randomized study in order to get a sample as broad as possible. In this part women were interviewed until saturation point was reached, meaning that no new information was received.

### **3.6.1 Sample Size Determination in Altman's Nomogram**

Using the Altman's nomogram (Appendix 2) the number of patients required in order to have an 80% power of detecting a clinically important difference in success rates of 25% between the two groups of physicians and midwives at the 5% level of significance; assuming a success rate of 31% in the group having the least successful treatment will be

$P_1 = 0.31$  and  $P_2 = 0.56$ , so,

$$\bar{p} = \frac{0.31+0.56}{2} = 0.435$$

Therefore, the standardized difference,

$$= \frac{p_1 - p_2}{\sqrt{\bar{p}(1 - \bar{p})}}$$

$$= \frac{0.31 - 0.56}{\sqrt{0.435(1 - 0.435)}}$$

Standard difference = 0.5048

The line connecting a standardized difference of 0.5048 and a power of 80% cuts the sample size axis at 120. Hence 60 patients were required in each group.

Atman's nomogram for sample size calculation was used. A sample of 128 women was used for the randomized trial. The total sample was 120, however 128 was selected to cater for dropouts.

The 128 women were randomly selected from the women who presented themselves for treatment where they were allocated to either physician or a midwife in which 5 women dropped out. Only 123 who consented to participate in the study were recruited. Twenty post abortion women were recruited from the 123 women who completed the three month counselling process and interviewed in the qualitative arm of the study.

### **3.7 Construction of Research Instruments**

The standard questionnaires in the quantitative part included closed-ended questions. In case of any open answers questionnaire had space for addition of relevant information by the respondents. Any other information was recorded in the notebook.

The first interview questionnaire was carried out on admission, second after 7 to 10 days, and the third after 3 months to evaluate the women's contraceptive practices during the period.

In the qualitative part, the interview guide had open-ended questions and leading prompts to collect information on the women's perceptions and experiences of the contraceptive counselling and services received from service providers.

The questionnaires (**See Appendix 4**) and interview guide (**See Appendix 5**) were formulated in English by service providers and researchers and translated into Dholuo and Kiswahili languages as samples ready to be used if needed during data collection. The questionnaires were developed and discussed with the other researchers and staff in the hospitals. The instruments were reviewed and so discussed.

### **3.8 Questionnaire Pretesting**

The questionnaires were pretested at Bungoma County Hospital among 10 post-abortion women and the qualitative interview guide was pretested among three women. Results were used to refine the questions in the questionnaires (**See Appendix 4**). The researcher conducted the qualitative interviews while the research assistants conducted the quantitative interviews.

### **3.9 Validity**

For purposes of validity data, collection tools were pretested and results used to correct and modify the tools. Other researchers in Kisumu also reviewed the proposal and their comments included. The researcher conducted peer review where research results were presented at a conference in Grand Regency Hotel, Nairobi where peer feedback was given.

### **3.10 Reliability**

To make sure the data were collected without biases the research assistants (2 nurses) were screening and allocating the patients in admission ward to either a midwife or a physician. Clinical midwives (17) and physicians (7) were trained on data collection methods and how to create rapport and good interpersonal relationship with the women to be able to discuss the sensitive reproductive health issues that were under study. The researcher who did the qualitative interviews had previously participated in a course on how to conduct qualitative studies.

### **3.11 Data Collection Technique**

Data was collected using quantitative and qualitative instruments for interviews. The study participants requested to participate and if they accepted, they were allocated to either a physician or a midwife. To enable follow-up participants provided at least three contact telephone numbers for herself and relatives where staff could contact the woman. To facilitate return clients got a card with return dates and any other visit to the facility that indicated a return. To ensure standardization in data collection research assistants received contraceptive counselling and post abortion care update including how to collect data. Technical competence of providers was established through a multidisciplinary training of midwives and physicians done to update on knowledge and skills of contraceptive counselling and that demonstration and repeat demonstrations observed on equipment and patient counselling during their practical sessions. Clients responded that they were treated well and that the service providers were good to them and demonstrated counselling to them. They did return demonstrations to make sure the procedure was done well.

### **3.11.1 Quantitative Data Collection**

The quantitative data was collected by the 17 midwives and 7 physicians working as research assistants. They interviewed the clients and recorded the responses on a questionnaire form as stated by the clients. Any other extra information was stored in the research notebook. The quantitative data collected on admission for PAC, after 7 to 10 days and finally after three months. The focus during admission was to obtain information on reproductive history which included their socio-demographic background, whether the woman had used contraceptive methods within the last twelve months before the abortion, what was the reason if the woman had used contraceptives and discontinued and knowledge of contraception.

### **3.11.2 Qualitative Data Collection**

The qualitative data was collected by the researcher using a qualitative interview guide. Each question asked had some probe questions to get more in-depth information. A tape recorder was used to collect the information that was transcribed and put in themes for thematic analysis.

Both quantitative and qualitative data was collected within the post abortion care ward in a quiet private room. Nobody was allowed in the room during the counselling. After three months 20 clients chosen from the 123 who had completed the three-month counselling process were interviewed about the use of the chosen contraceptive method, side effects experienced and adherence to the method. The follow up interview was conducted over telephone if the client was unable to come to the facility. However, those who were able to come were interviewed in the facility and provided with transport reimbursement. The qualitative interviews covered the

women's experiences and perceptions regarding the contraceptive counselling they had received and the contraceptive method chosen.

### **3.12 Techniques in Qualitative Study**

The trustworthiness of our findings are discussed in accordance with Bruce and Jain theoretical framework (Graneheim *et al.*, 2004). It is reasonable to believe that post abortion care women who have strong opinions, both positive and negative, are more likely to share their experiences and participate in this kind of study.

Nevertheless, the findings indicate transferability to other similar settings involving women receiving post abortion contraceptive counselling as they are consistent with other studies in this field. We can also discuss whether this topic is very sensitive and difficult to talk about over the phone with an interviewer the respondent does not know. Gender roles may influence the degree to which individuals reveal certain kinds of information in the context of different interview formats. There is a tendency for women to show a greater discrepancy in their reporting of sensitive material in telephone interviews compared with face-to-face interviews. The respondents' experiences of participating in the study were overwhelmingly positive and some felt relief after having told their own story. In addition, a methodological comparison between face-to-face and telephone interviews revealed no significant differences in interview findings (Vogl 2013).

The adoption of research methods well established both in qualitative research study in general and in information science in particular (Ormston *et al.*, 2014) was applied. Triangulation was achieved by asking interactive questions of the study participants during the in depth interviews and more structured questions in the quantitative part. In this way, information could be counterchecked (Carter *et al.*, 2014). Presentations

of both quantitative and qualitative results were made in Laico Grand Regency Hotel in Nairobi, Kenya, for purpose of getting more insights and two sessions at Kisumu where the researcher made presentations and got feedback that become useful to the research.

To reinforce the credibility of the study interviews well tested research methods that have been used for many years were used (Kornbluh *et al.*, 2015) where the respondents were allowed, at the end of the interview to briefly summarize the benefits and drawbacks of their experiences regarding the PAC process. The study participants were asked to review the data collected enabling them to fill in the discrepancies or information gaps. They were constantly reminded to feel free to answer questions, that all answers were relevant, and that there were no wrong answers. The entire analytic process is described and the codes and themes supported with illustrative quotes to strengthen credibility. Another strength was the heterogeneity of the sample in terms of age, sex and occupation. The physicians and midwives were given update training on post abortion care that included emergency treatment to remove the product of conception and contraceptive counselling. The fact that one interviewer is a midwife could be considered a strength. To enhance conformability we used an interview guide with possible probe questions, and independent coding was performed during the interview, supervised by the clinic nurse. After this step, the researcher performed the last analysis. Discussions with the other researchers throughout the process helped to improve the consistency and accuracy of coding and interpretation. The techniques are important for maintaining trustworthiness (DeVault 2016).

### **3.13 Data Analysis**

#### **3.13.1 Quantitative Analysis**

The quantitative analysis involved descriptive statistics using IBM SPSS Statistics for Windows, Version 22.0. Chi-square test was used for comparison of outcome. P-values equal to or lower than 0.05 were considered statistically significant. Logistic regression was performed to determine the factors that predicted the use of contraceptives. The results then presented in the form of charts, graphs and frequency tables.

The quantitative analysis of the demographics of the study area and study population made it possible to find out if there were any significant differences in women's age, marital status, residence, previous induced or spontaneous abortion, and parity regarding uptake of contraceptives and adherence.

#### **3.13.2 Qualitative Analysis**

Framework analysis, a method adopted to research has specific questions, a limited period, a pre-designed sample and prior issues. During the analysis, data scrutinized, charted and sorted in accordance with key issues and themes using five steps: familiarization, identifying a thematic framework, indexing, charting, mapping and interpretation. Framework analysis provides a useful tool to assess policies and procedures from the very people that they affect (Smith 2015).

The interviews were transcribed and translated into English language. First two independent researchers read the interviews several times. Data then coded and structured in themes according to the six elements of quality of care in contraceptive service in the framework of Bruce (1990). NVivo Version 11 was used to sort the data.

### **3.14 Ethical Considerations**

Ethical considerations were ensured by seeking relevant permission from research organs, information to the health facilities through meetings, permission from the clients and literature provided from the clients for purposes of reference after a clear explanation of the research that the client will undertake. The patients were taken into a room and made comfortable to ensure their privacy, the patients given time to answer in their own language or any other language of their choice whenever possible creating a rapport with the interviewers.

When conducting studies, moral principles and values that guide the researcher ought to be considered (Sekaran and Bougie, 2010). The primary purpose of ethical considerations in research is to protect interviewees from harm and undesirable consequences that might occur during and after the data collection process.

Ethical clearance was obtained from Kenyatta University Ethical Review Committee (**See Appendix 8**). Permission was also obtained from the Ministry of Health, NACOSTI, Research Science and Technology and from Jaramogi Oginga Odinga Teaching and Referral Hospital, Kisumu.

All the participants, which includes the 17 midwives and 7 physicians, were fully informed about the research and the benefits accruing were explained to them. No danger or injury had occurred to the respondents in anyway.

Several ethical principles were carefully considered in the planning of the research as follows:

*Respect for autonomy:* All participants were asked to give a written informed consent or thumb print if unable to sign. The participants could withdraw from study at any time without any consequences.

*Beneficence:* As complications from unsafe abortion have a considerable impact on individuals and society in terms of morbidity and mortality, the participants benefited from the emergency treatment and contraceptive counselling. They were provided with free contraceptive methods but a small fee was charged for passing of an IUCD and cutting implanon during post abortion care that helped them avoid repeat abortions or future unplanned pregnancy.

The service providers introduced the clients to dual methods of family planning especially because they were susceptible to HIV and STIs, which has high prevalence at 13.9% in Kisumu County (*Ziraba et al, 2015*).

*Confidentiality:* This was undertaken through application of ethical principles in which the study participants were recruited without coercion and not provided with any benefits to entice them but encouraged to decide freely upon informed consent. Only transport refunds were made to those who travelled from home to the facility for appointments because of the project. *Non-maleficence:* The confidentiality of the participants was protected. All data were handled according to the ethical guidelines and kept under lock and key. The benefit of this is that it had no harm to any of the participants. The women gave written consent or thumb prints as a sign of informed consent after clear explanation of the research and therefore consented to participate in the study. Information about contraceptive methods that prevent both pregnancy and STI/HIV transmission (dual method) was given to all unless they declined the idea.

Confidentiality was maintained by keeping the records in locked cabinet and the principle researcher was the only one who had access and no other persons was allowed to identify respondents with the information they gave.

This was a sensitive study given that induced abortion not generally permitted in Kenya. To promote disclosure, the researchers informed the clients that the information collected would not be used against them for any legal action, but was only for future improvement of health services for women regarding PAC. During training research, assistants and staff discussed some of the sensitive issues and agreed on how best they could make clients feel free and comfortable to discuss sensitive issues.

## CHAPTER FOUR: RESULTS

### 4.1 Introduction

This Chapter presents the results of the study organized according to the objectives of the study and presented using tables and figures. A total 128 respondents participated in the study giving a response rate of 96%.

### 4.2 Socio-Demographic and Obstetric Characteristics of Respondents

#### 4.2.1 Socio-demographic Characteristics

As shown in Table 4.1 there were no significant differences in the demographic characteristics of post abortion clients receiving physician or midwife-led contraceptive counselling.

Mean age of clients counselled by physicians 25.0 ( $\pm 0.7$ ) years compared to clients' counselled by midwives 24.7 ( $\pm 0.6$ ) with (SD  $\pm 5.4$ ). There was no statistical difference in educational level between the two treatment arms ( $p = 0.504$ ). The unemployment rate in the two groups were comparable at 33(51.6%) and 29(45.3%) in the midwife and physician counseled arms respectively, with no significant difference ( $p = 0.656$ ).

Table 4. 1: Demographic Characteristics of the Participants

Variables		Midwife	Physician	Total	Df	$\chi^2$	p-value
Age in years	≤20	12(18.8)	12(18.8)	24(18.8)	3	1.0112	0.799
	21 – 30	44(68.8)	45(70.3)	89(69.5)			
	31 – 40	7(10.9)	7(10.9)	14(10.9)			
	>40	1(1.6)	0(0.0)	1(0.8)			
Marital Status	Married	45(70.3)	49(76.6)	94(73.4)	1	0.6408	0.423(*)
	Single	19(29.7)	15(23.4)	34(26.6)			
Religion	Christian	63(98.4)	64(100.0)	127(99.2)	1	1.0079	1.000(F)
	Muslim	1(1.6)	0(0.0)	1(0.8)			
Education level	No Formal Education	0(0.0)	1(1.6)	1(0.8)	3	2.3443	0.504
	Primary	16(25.0)	19(29.7)	35(27.3)			
	Secondary	36(56.3)	29(45.3)	65(50.8)			
	Tertiary	12(18.8)	15(23.4)	27(21.1)			
Occupation	Unemployed	33(51.6)	29(45.3)	62(48.4)	2	0.8426	0.656
	Formal employed	10(15.6)	9(14.1)	19(14.8)			
	Self employed	21(32.8)	26(40.6)	47(36.7)			

**KEY**\*= Pearson  $\chi^2$ , F = Fishers exact test

#### 4.2.2 Characteristics of Women in the In-Depth Interview for Qualitative Study

After the three months counselling, 20 qualitative study participants were randomly selected from the 123 quantitative participants who had completed the three months using contraceptives. The 20 interview participants were given dates to come back for interviews for qualitative study. The women interviewed were generally young; 70% of them were aged 18-24, 25% were aged 26-30 and one 5% was 37 years old. About 65% of the women had had a pregnancy before: 54% had had one pregnancy, 23% had had two pregnancies and 23% had had 3 pregnancies. Only 35% had not had any pregnancy before the current one where 10% were admitted having induced abortion.

Unplanned pregnancies were 55% while planned pregnancies 45%. On status of marriage, 50% women were married/cohabiting and 45% women were not married.

Table 4. 2: Characteristics of Women Participants

Variable		Frequency	%
Age Group	18-24	14	70
	25-30	5	25
	$\geq 30$	1	5
Previous pregnancy	Yes	13	65
	No	7	35
No. of pregnancies	1	7	54
	2	3	23
	3	3	23
Use of Family planning	Yes	19	95
	No	1	5
Marital Status	Single	9	45
	Married/cohabiting	10	50
	Divorced	1	5
Was pregnancy planned	Yes	9	45
	No	11	55
Was Abortion Induced	Yes	2	10
	No	18	90
History of Abortion	0	18	90
	1	2	10

#### 4.2.3 Parity and Gravidity

As observed in Table 4.3, distribution of the study population into the two study arms (midwife and physician) by parity characteristics and number of life births was comparable with no significant difference;  $P = 0.461$  and  $P = 0.392$  respectively. Multigravida clients were more likely to take contraceptives compared to Primigravida clients ( $P = 0.013$ ).

Primigravida clients were less likely to take contraceptives because of a misconception that contraceptives might lead to infertility.

Table 4. 3: Parity and Gravidity of Post Abortion Participants

		Midwife	Physician	Total	Significance
Gravidity	Primigravida	39(60.9)	25(39.1)	64(50.0)	$\chi^2 = 6.1250$ , df = 1, p = 0.013(*)
	Multigravida	25(39.1)	39(60.9)	64(50.0)	
Parity	Nullipara	28(43.8)	22(34.4)	50(39.1)	$\chi^2 = 1.5477$ , df = 2, p = 0.461
	Primipara	23(35.9)	24(37.5)	47(36.7)	
	Multipara	13(20.3)	18(28.1)	31(24.2)	
Number of live births	0	33(51.6)	27(42.2)	60(46.9)	$\chi^2 = 1.8857$ , df = 2, p = 0.390
	1	20(31.3)	20(31.3)	40(31.3)	
	>1	11(17.2)	17(26.6)	28(21.9)	

#### 4.2.4 Care Seeking and Obstetric information of PAC clients

There was no significant difference in gestational age at the time of abortion based on either Last Menstrual Period (9.5 versus 9.1 weeks, (p = 0.462) or uterine size estimation (5.3 versus 5.1 weeks, p > 0.000). The mean duration is the period between occurrence of abortion related problem and care seeking days. The mean duration was 2.6 days (SD  $\pm$  2.9) in the midwife counselling arm compared to a mean duration of 3.2 days ( $\pm$  3.3) in the physician led counselling group (p = 0.369).

Table 4. 4: Care Seeking and Obstetric Information of the Participants

Variables	Midwife counseled		Physician counseled		Difference (95% CI)	P-value
	Mean	Range	Mean	Range		
Mean Duration	2.6( $\pm$ 2.9)	1.0-14.0	3.2( $\pm$ 3.3)	1.0-14.0	0.5(-0.6-1.6)	0.369
Gestational age (weeks)	9.5( $\pm$ 2.4)	4.0-12.0	9.1( $\pm$ 2.2)	4.0-12.0	-0.3(-1.1-0.5)	0.462
Gestational age (uterine size)	5.3( $\pm$ 4.9)	0.0-12.0	5.1( $\pm$ 5.3)	0.0-12.0	-0.2(-2.0-1.6)	0.816

### **4.3 Post Abortion Women's Perceptions and Experiences of Quality of Contraceptive Counselling.**

#### **4.3.1 Satisfaction with Counselling**

As shown in Figure 4.1, more clients in the midwife counselled arm, 67.2% (n=42) thought that the treatment, contraceptive service received in post abortion care was very adequate. A percentage of 31.3% (n=20) said it was adequate and 1.6% (n=1) said it was insufficient as compared to 62.5% (n=37) very adequate, 35.9% (n=22) adequate and 1.6% (n=1) insufficient counselling service in the physician counseled clients. In the midwife arm, 95.3% (n=60) and in physician arm 93.8% (n=56), were willing to recommend the service received to a friend. 93.8% in midwife and 96.9% in physician arm felt safe undergoing the procedure.

Seventy-nine (64.2%) women reported that they were received well, that the healthcare provider took time to make them comfortable, and that they took time to introduce themselves. Forty-one (33.3%) women said that the welcoming was sufficient and that the Physicians and Midwives were concerned about their condition. However, three (2.5%) women said that the Physicians were too busy to attend to their needs. In terms of healthcare providers' attitude, some clients also said that one of the nurses was rude and that her responses were abusive and not supportive.

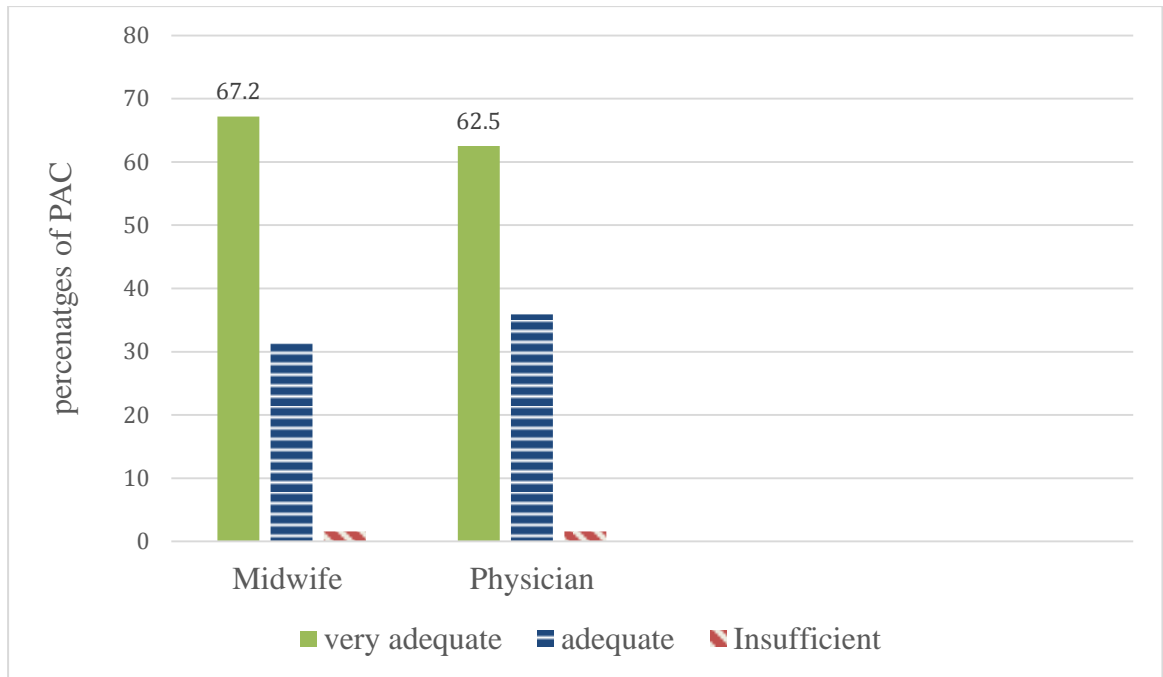


Figure 4. 1: Satisfaction with Post Abortion Counseling Service in Midwife and Physician Counseled Groups

In general, the women regarded the quality of the clinical services provided in the facility as good and that the counsellors who providing information on contraceptives were highly knowledgeable. The majority of the women were happy with the level of knowledge they received from the health care providers and some thought that it was worth sharing these positive aspects with other women in the villages as they initially had misconceptions about the healthcare providers. Women in the study said that the health care workers corrected the inaccurate information and misconceptions the women had. The message the women said was put in a simple and practical way that they clearly understood. The women said that the health-care workers answered their questions adequately and some even went further to probe for more information. The majority of the women said they had concern over the methods and side effects of contraception, especially after having abortion and miscarriage. Besides, some clients

said that the service providers had given them hope with their explanations. For instance,

*(IDI-11 JOORTH) Yes, I asked. There are questions I asked. I asked on whether to continue with family planning when my partner was not around and the doctor told me to continue regardless.*

*“He talked in the language I could understand and everything he said he made sure I understood and would be able to answer.” (IDI-10 JOORTH)*

#### **4.3.2 Continuity Mechanisms**

From the card that was prepared to allow clients to come to the review all 123 clients mentioned that they were given follow-up dates on that card and any client who felt sick and needed to see the staff at the facility could come in anytime. Approximately 98(79.7%) of the women said that besides being given return-dates they were even reminded with a phone call from the facility prior to the visit.

The women appreciated the fact that health care providers called them to check on their condition and reminded them to attend clinical appointments. Several respondents described situations where they would have missed clinical appointments if it were not for telephone reminders from the facility staff. Some women who had financial difficulty traveling to the facility were provided with transport fare to facilitate their travels to and from home. However, women felt that it was in their own interest to come back to the facility for further treatment whenever there was a problem. For instance,

*“I was looking at those dates they wrote to me, I was given an appointment which I kept on checking. I wanted to miss but they made a phone call and told me not to miss. The second one I defaulted , it was on Sunday, and they called me to come the next day...its good it reminds me even if I forget” (IDI-04, JOOTRH)*

Apart from the phone reminder, cordial interactions and expressing genuine concern in the welfare of clients prompted them to return for follow up care. One said,

*“The reason why I feel motivated to attend appointments was...because the people who are dealing with me are so patient, they are so caring, loving and they counsel people well” (IDI-14, KEDH)*

*“The visit was okay. I was worried if I came here I would get a doctor who harasses people but I am surprised the interaction was very good” (IDI-11 JOOTRH)*

### **4.3.3 Myths and Misconceptions**

Some statements from the women provided strong evidence of widespread and firmly held beliefs about negative effects of contraceptives many of which are myths. There were further suggestions that clients were likely to accept information regarding contraception passed through gossip and such misinformation were difficult to shed off despite contrary information given by the health care providers. Women mentioned that by using contraceptives they would be referred to as harlots where using contraceptives would cause bleeding that could result in death or still giving birth to children with disability (without legs and hands). The clients mentioned that they thought using contraceptives was the main cause of miscarriage. Besides these, there were women who said that they could not use the IUCDs because the removal later on would completely damage the vaginal wall thus causing infertility.

Additionally some said that contraception was only suitable for those who already had a child and that it took some women up to two years to regain fertility after stopping contraceptive use.

*“One can use that drug to stop ... what I wanted because that bleeding is in our family, even there are some who died from it...They always say ladies who do family planning before giving birth are harlots or prostitutes....When you use pills you are likely to be having continuous non-stop monthly periods and family planning can make a woman give birth to a kid with no legs or hands. If you are still single and use contraceptives society see you as a prostitute...”.... (IDI-12 JOOTRH)*

*“There are some people who use those methods, they end up losing infertility and you just have some problems in your life. What I hear from outside, they say, contraception can make someone to... like what my partner told me if use contraception or any of those methods, I would be like unfaithful to him cause I will just go around sleeping with men. And others say you can end up losing fertility and end up not getting any child in future.... (IDI-10 JOOTRH).*

#### **4.3.4 Interpersonal Relationships**

There were mixed feelings about women being free to discuss openly about family planning post abortion. Sixty-nine (56.1%) of the women said that they were a bit hesitant to discuss family planning openly because they thought they would be victimized/stigmatized following abortion. They also expressed fear of what would happen in future if they develop loss of fertility if they used contraceptives.

However, fifty-four (43.9%) of the women appeared to be more comfortable discussing family planning.

In the midwife led treatment arm around 69% (n=44) found the treatment to be easier, 23% (n=15) found it worse while 7.8% (n=5) said it was as expected. In the physician led treatment arm, 61% (n=39) found the service easier, about 30% (n=19) worse, while less than 10% (n=6) said it was as expected. There was no difference between midwives and physicians in providing treatment to post abortion women. (Figure 4.2)

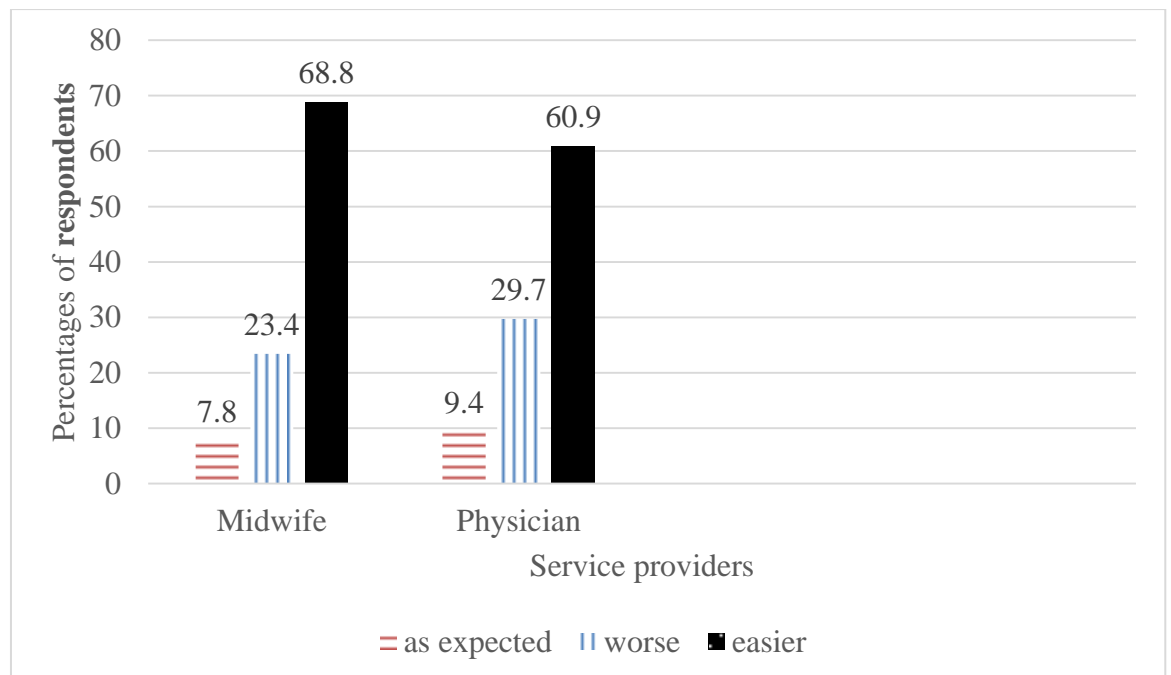


Figure 4. 2: Client perception of Post Abortion Treatment Provided in Midwife and Physician Arms

#### 4.4 Contraceptive Uptake after Contraceptive Counselling

During enrolment, half of the respondents who were enrolled to the midwife arm reported to have used contraceptives in the previous 12 months compared to 65.6 percent in the physician arm. Compared with contraceptive use during the 12 months'

period before the abortion there were over 38 percent increase in contraceptive uptake 7 days after enrolment in the midwife arm compared to 26 percent increase in the physician arm.

As shown in figure 4.3, At 3 months after post abortion contraceptive counseling, contraceptive uptake in the midwife arm slightly increased by 4.69% (from 93.75% to 98.44%) while decreasing marginally by 3.13% (96.88% to 93.75%) in the physician arm. However, despite these changes, the results show that contraceptive uptake during the periods under study did not significantly differ between the two treatment arms (fig 4.3).

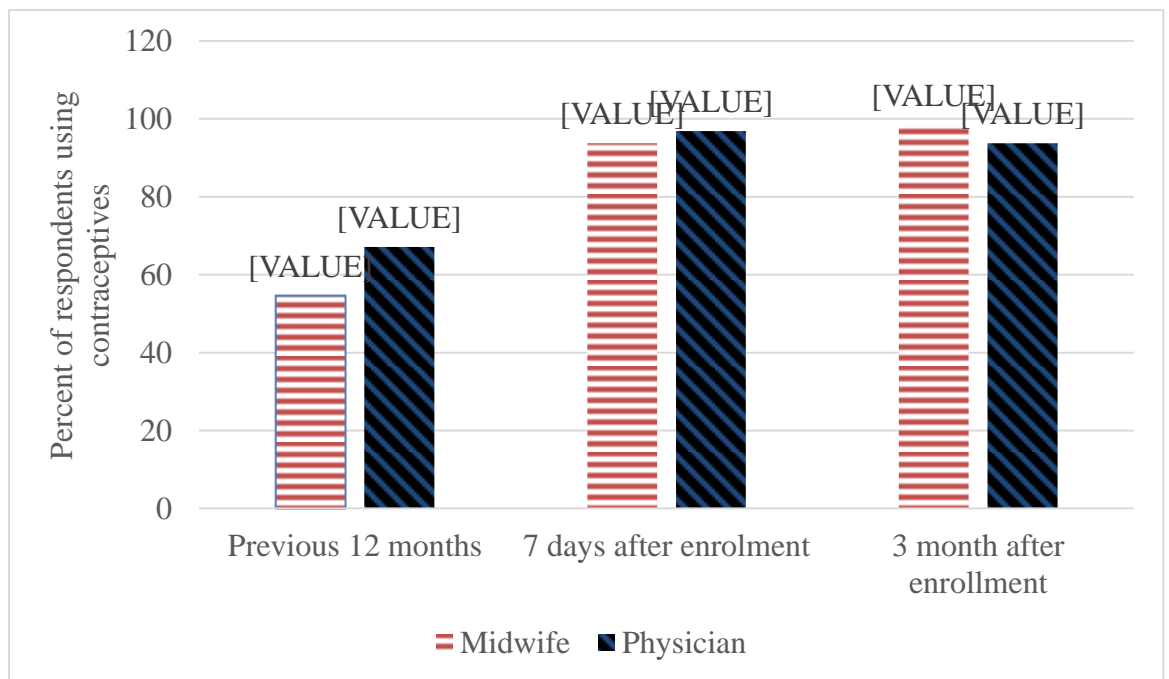


Figure 4. 3: Participants Using Contraceptives

#### 4.4.1 Choice of Contraceptive Method

In line with the recommended practice of voluntary uptake of contraceptives and individual selection of contraceptives, all the participants in this study reported that

they had selected family planning methods out of their own free will. There was no reported coercion of any form from health care providers when it came to selecting a contraceptive method. The women consistently reported that health providers made them aware of the different methods available, both within and outside the facility before asking them to select a method, (we provided a chart showing all the family planning methods that were available for the client to choose from. (See Appendix 9). Clients who selected a long acting contraceptive that were not available at the facility were given a short-term method as they waited for the chosen method to become available or to undergo procedures for long-term contraception. There were women who reported never using contraceptives but were aware of existing methods of contraception and often selected the methods that they had previously used if have used before, they indicated that health providers still provided information on different methods of contraception to them. An example,

*“She [counsellor] asked me if I had used contraceptives before and I told her I have never. Then she explained to me some methods like injection, tablets, then she asked me which I would prefer and I said injection” (IDI 18-KEDH)*

*“I already knew all of them [contraceptive methods] ...the first one I had implant after I delivered my first child. Implant was my choice” (IDI 16-JOOTRH)*

According to the women the health care providers respected their decision-making processes and were supportive in terms of the flexibility, they exhibited in incorporating clients’ partners in decision-making allowing time for decision on

contraceptive methods while providing condoms and other short-term solutions and accommodating women preferences. Clients stated,

*“They wanted to inject me immediately but I refused because I was still bleeding... I intended to stop bleeding before I return for injection ... after bleeding stopped I went for injection” (IDI 02-JOOTRH)*

*“Yes, they told me to select a family planning method for 6 months, so I chose condoms because my partner refused injections” (IDI 19- KEDH) (Partner preference)*

Nearly all clients reported that they were given a broad range of contraceptive choices to select from and that they were provided with the methods of their own choice and were happy with the outcome. A few clients, however, reported that some service providers wanted the clients to choose a particular method because of their conditions after abortion or that the method the women wanted was medically contraindicated. Women made informed choice of specific methods during first counselling session. However, sometimes the method first chosen was changed during follow up. Typical situations that resulted in a change were side effects associated with a contraceptive method or change from a short term to a long term method once the method became available:

*“ .... the new method brought problems of bleeding which made my partner uncomfortable and became troublesome, but it also brought problems not good for my body. I started slimming, bleeding started after every two weeks, numbness*

*of the hands , back pains, and I cannot work as before; therefore, decided to stop'' (IDI, 13, JOOTRH)*

In line with the recommended practice of voluntary uptake of contraceptives and individual selection of contraceptives, all the participants in this study reported that they had selected family planning methods out of their own free will but sometimes the method first chosen was changed during follow up but still adhered to contraception.

#### **4.5 Changes in Contraceptive Methods after Counselling**

As shown in Table 4.5 below hormonal injection remained the most prominent method of contraception throughout the study period while IUD and permanent contraception were the least preferred methods. A week after enrolment there was a notable shift from using condoms to using contraceptive pills. This could potentially indicate that pill users and condom users at 7 days after enrolment were in method transition. Additionally, the results show that clients' use of more effective hormonal injections increased after enrolment while reliance on traditional safe days significantly declined. The contraceptive discontinuation by women was mostly motivated by desire for pregnancy, 7 (5.7%), partner refusal, 6 (4.9%), side effects, 8 (6.5%), and supplies out of stock, 5 (4%). The contraceptive dynamics was similar in both treatment arms. There was no significant difference in contraceptive method used among the post abortion women in the two treatment arms over the 3-month periods.

As mentioned, earlier a majority (90%) of clients reported that they were given a broad range of contraceptive choices to select from and that, they were provided with the methods of their own choice and that they were happy with the outcome.

Table 4. 5: Changes in Contraceptive Methods Used 7 Days and 3 Months after Counselling in Midwife and Physician Counseled Groups

	Previous 12 months		7 days after enrolment		3 months after enrolment	
	Midwife (%)	Physicia n (%)	Midwife (%)	Physicia n (%)	Midwife (%)	Physician (%)
Hormonal injection	8 (25.0)	15 (34.9)	25 (41.7)	30(48.4)	25 (39.7)	23 (38.3)
Contraceptive pill	6 (18.8)	6 (14.0)	13 (21.7)	15 (24.2)	21 (33.3)	20 (33.3)
Hormonal implants	7 (21.9)	6 (14.0)	7 (11.7)	4(6.5)	2 (3.2)	3(5.0)
Condoms	10 (31.3)	8 (18.6)	14 (23.3)	13 (21.0)	14 (22.2)	14 (23.3)
Fertility	1 (3.1)	5 (11.6)	0(0.0)	0 (0.0)	1 (1.6)	0 (0.0)
IUD	0 (0.0)	2 (4.7)	0 (0.0)	0(0.0)	0(0.0)	0(0.0)
Permanent Contraception	0(0.0)	1 (2.3)	1 (1.7)	0 (0.0)	0 (0.0)	0 (0.0)
Chi-square	$\chi^2 = 6.625$ , df = 6, p = 0.357		$\chi^2 = 2.420$ , df = 4, p = 0.659		$\chi^2 = 1.235$ , df = 4, p = 0.872	

#### **4.5.1 Logistic Regression Analysis of Factors influencing Contraceptive Uptake**

As shown in Table 4.6 only four (4) of the analysis variables showed significant influence on contraceptives uptake. Clients who had at least one living child were more unlikely to take contraceptives  $P = 0.006$ , (OR = 0 (0-0.02)). In occupation, clients in formal employment were 3.8 times more likely to take contraceptives compared to the unemployed and self-employed,  $P = 0.021$  (OR = 3.86 (1.23-12.12)). Clients who reported that the pregnancy was unplanned were 3 times more likely to take contraceptives compared to those who had a planned pregnancy  $P = 0.000$  (OR = 3.02 (1.77-5.15)). Contraception counselling perception also had a significant influence on contraceptive uptake, clients who perceived the contraceptive counseling to be insufficient were very unlikely to take contraceptives,  $P = 0.043$  (OR = 0.08 (0.01-0.93)).



Table 4. 6: Logistic Regression Analysis Results for Factors Influencing Contraception

		Adjusted odds ratio (AOR)	p-value
Provider	Midwife	Ref	
	Physician	1.67 (0.53-5.22)	0.380
Age in years	<=20	Ref	
	21 – 30	2 (0.15-27.19)	0.601
	31 – 40	1.89 (0.06-57.09)	0.716
Gravidity	Primigravida	Ref	
	Multigravida	0.27 (0.06-1.32)	0.106
Parity	Nullipara	Ref	
	Primipara	$\infty$	-
	Multipara	$\infty$	-
Number of live births	0	Ref	
	1	0	-
	>1	0 (0-0.02)	0.006
Marital status	Married	Ref	
	Single	0.52 (0.14-1.87)	0.314
Highest education level	Primary	Ref	
	Secondary	0.89 (0.1-7.92)	0.917
	Tertiary	0.33 (0.01-8.15)	0.496
Occupation	Unemployed	Ref	
	Formal employment	3.86 (1.23-12.12)	0.021
	Self employed	3.1 (0.15-64.14)	0.464
Pregnancy was known by others	No	-	
	Yes	-	-
Accompanied by partner to PAC	Yes	Ref	
	No	0.82 (0.58-1.15)	0.247
Planned pregnancy	Yes	Ref	
	No	3.02 (1.77-5.15)	0.000
Contraception counselling perception	Very adequate	Ref	
	Adequate	0.35 (0.07-1.71)	0.193
	Insufficient	0.08 (0.01-0.93)	0.043
Treatment procedure perception	As expected	Ref	
	Worse	-	-
	Easier	1.38(0.73-2.58)	0.321

Uptake

## 4.6 Quality of Post Abortion Contraceptive Counselling and Services

### 4.6.1 Information Given to Users

The service providers had a tray of different samples of contraceptives that they used to explain the methods to the clients. Women commonly reported that the information provided during contraceptive counselling sessions included details on two aspects of contraception: How contraceptive methods work and their possible side effects. While clients reported that they were given information on the different methods, discernible difficulties noted in women's recall of information provided during counselling, especially the technical names of contraceptive methods. Although the women could describe most contraceptive methods they rarely recalled the names of methods like implants, and coils correctly and instead referred to these methods using the anatomical sites in which these methods were placed or how they are used. In addition, they indicated that health providers still provided information on different methods of contraception to them as shown in the following quotes from the in-depth interviews.

*“Yes I was shown pills, I was shown drug to be placed on the arm and also pill to take through mouth and another one to block ovaries”- (IDI 04- KEDH)*

*“They first started by advising me and asking about the method I would like to use and I chose Depo...another one is coil have forgotten some of the names but they told me there is one for the arm for about 5 years.....Condoms... they told me is another method”- (IDI-08 KEDH).*

#### **4.6.2 Affordability of Contraceptive Services**

There were concerns among the women about financial charges that were required for certain contraceptive methods (IUCD and Implants). Facilities that provided subsidies for contraceptives attracted clients with financial constraints and these clients considered these facilities as offering better quality care. It was noteworthy that financial charges levied for implants that require surgical intervention but no charges were made for oral, injectable and barrier methods of contraception.

*“Once inserted, it (IUD) must take certain number of years and no doctors will agree to remove it before that particular time. ...Not actually forcing you but at time they remove it, they always charge some money for that procedure.”* (IDI-5 KEDH)

#### **4.6.3 Partner Preference**

The majority of the women said that the partner plays a key role in their usage of contraceptives especially after having an abortion. Some women were of the opinion that their partners had many misconceptions about different methods of contraception and needed to be present during counselling so that the choice would be made as a couple. Others mentioned that in their choice of contraceptives they had to consult their partners on which method to use. Some partners were present during the counselling session and the women considered it easy to make the choice in such cases. One woman mentioned that her partner was of the opinion that she needed to use herbal medicine to wash her “stomach” rather than choosing a family planning method.

*“Me and my partner consulted each other trying to bring up positive part of condom and relating to other family planning methods... contraceptive methods”*

*(IDI-13 JOOTRH)*

*“My partner it seems he is so much reluctant .....By then he was not even working, then I went and now he told me to stop. I stopped one week, and then we used this herbal drugs, to wash my stomach” (IDI-12 JOOTRH)*

#### **4.6.4 Suggestions and Concerns**

A few women suggested that the facilities needed healthcare workers who were more mature and experienced in dealing with cases of post abortion in a professional way. The majority of the women were concerned about the use of the terms miscarriage and abortions because they felt demoralized when the healthcare worker criticized them for aborting although it was a miscarriage. Other clients were concerned by the fact that certain methods of family planning such as IUCD would take so many years in the body and that no doctors would agree to remove them before the years were over.

*“You know sometimes when somebody comes to the hospital, say like she had a miscarriage in medical terms. Then you do not say miscarriage, you just say abortion. So when you say (abortion) to the patient maybe she will feel like self-esteem lowered. As if you telling her she had an abortion ...” (IDI 10 JOOTRH)*

*“.....It was a bit long (waiting time), because there were some people to be attended to, so I had to wait.” (IDI-10 JOOTRH)*

#### 4.6.5 Interpersonal Relations

The women considered that the relationship with the provider was an important aspect when assessing the quality of contraceptive counselling. Among the provider attributes that were valued by the women were responsiveness, genuine concern in the client's situation, and clarity in communication during counselling. The majority of the women reported that they were well received and that the healthcare provider took time to make them comfortable. Some of the women reported that the healthcare provider took time to introduce himself or herself. The majority of the women said that the welcoming was sufficient and that the doctors and nurses were concerned about their condition. However, three women said that the doctors were too busy to attend to their needs. In terms of healthcare providers' attitude, some clients also said that one of the nurses was rude and that her responses was abusive and not supportive. The majority of the women reported that they were attended to immediately. In some cases where the waiting time was long, the healthcare service provider had apologized and given reason for lateness and some clients said that they understood that the workload was heavy.

*"I find two sisters, one of them was very happy with me, but one is very rude, well very rude at that time, she can just come, and abuse you. But one was very happy with me, she treat me very well and advised me more." (IDI-03 KEDH)*

All the clients reported that the counselling room was conducive for the interviews, quiet, well ventilated with good lighting and private. In fact, some clients reported that whenever there was any disturbance, counselling stopped before being allowed to continue. The clients reported that they were able to talk freely and openly and that

the sessions would allow them to raise any questions on unclear issues. In some cases, the healthcare provider had allowed the partner to attend the sessions, which women found supportive.

*“It was quite private, so everything I need to express myself since there was no one to hear me or see anything” (IDI-10- JOOTRH)*

*“.....when he came back we were there 3, people in the counselling room. Myself, my husband and the sister.” (IDI-03 KEDH)*

Women stated that the healthcare workers were empathetic and engaged in an honest and open conversation. Some women were impressed and indicated that they would refer their friends to the same doctors to seek for contraceptive advice. Some women expressed that only they had received good interaction from the doctors contrary to the negative ideas their friends had told them prior to the visit. According to the women, the doctors and nurses were generally compassionate, caring, and understanding as evidenced in the transcripts.

*“The reasons why I feel motivated is because the people who are dealing with me were so patient, they are so caring, loving and they counsel people well.” (IDI-12 JOOTRH)*

There were mixed feelings about being free to discuss openly about family planning post abortion. Most women, especially young ones, said they were a bit hesitant to discuss family planning openly because they thought they would be victimized but also afraid of what would happen in future such as loss of fertility. However, the older ones, especially those who had children, appeared to be more comfortable discussing

family planning. Some also reported that the level of assurance that they had received from the healthcare service provider allowed them to be free to discuss their thoughts.

*“But I was not totally free, because am still a student. I don’t know what will happen.”- (IDI 11- JOOTRH).*

*“Yah, she told me to be free, and she told me to see her like a mother, and what happened to me that abortion is a normal thing. And she told me not to be worried and feel free.” – (IDI 12 JOOTRH).*

#### **4.7 Contraceptive Adherence after Contraceptive Counselling**

Three months after PAC 96.1% (n=123) women were traced. In this study, a woman is considered to adhere to contraception if she was using contraception 7 days after enrolment and was found to be using contraceptive also 3 months after enrolment. Out of the 123 who were using contraceptives at day 7, only 79.7% (n=98) maintained their initially chosen contraceptives at 3 months after enrolment. Therefore, the overall rate of adherence to post abortion contraceptive methods did not change significantly after three months.

There was no significant difference in contraceptive adherence at 3 months after enrolment between the clients counseled by a physician or a midwife, with adherence rates of 76.4 percent and 83.6 percent, respectively ( $P = 0.527$ ) (fig 4.4).

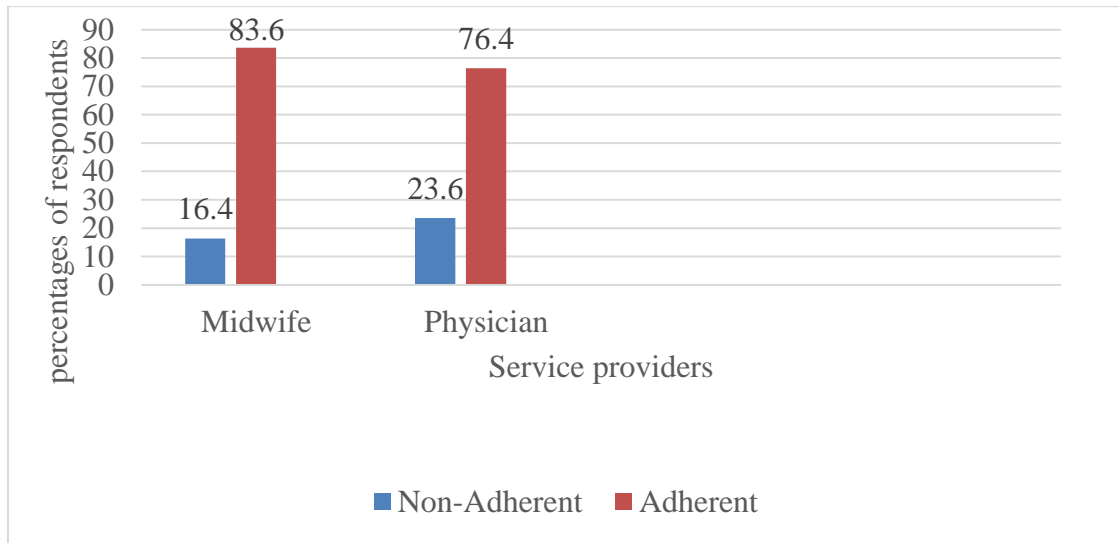


Figure 4. 4: Adherence to Contraceptives Methods at 3 Months Post Abortion Counseling in Midwife and Physician Counseled Clients.

The clients in the two groups generally reported similar levels of satisfaction with the chosen contraceptive method at 3 months. However, only 56 percent were highly satisfied with the chosen contraceptives in both study arms.

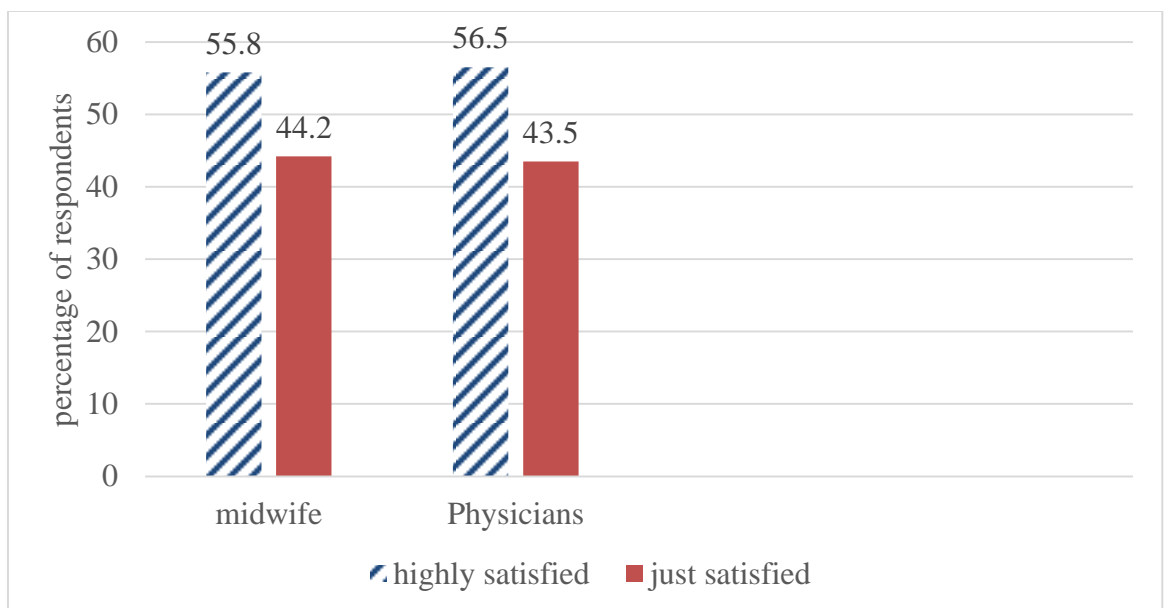


Figure 4. 5: Satisfaction with Contraceptives Chosen 3 Months Post Abortion Counseling in Midwife and Physician Counseled Clients.

#### **4.8 Factors Affecting Adherence to Contraception among Post-Abortion Women**

As shown in table 4.7, only occupation and parity had significant influence on contraceptives adherence. Clients who were in formal employment and self-employment were more likely to adhere to contraceptive use,  $P = 0.000$ , (OR= 2.86 (1.6-5.13)) and  $P = 0.001$ , (OR = 2.33(1.41-3.83)) respectively. For parity, clients who were Primipara were significantly more unlikely to adhere to contraceptive use;  $P = 0.000$ , (AOR = 0.64(0.53-0.77)) as compared to primi-parous and multi-parous clients. Other demographic characteristics such as respondent's age, education level, marital status and gravidity were not significantly associated with adherence to contraceptives. Similarly, whether a pregnancy planned, partner awareness of pregnancy and perception of treatment services were not associated with contraceptive adherence.

Table 4. 7: Logistic regression analysis results for factors influencing Adherence to

		Adjusted odds ratio (AOR)	
		AOR(95% CI)	p-value
Provider	Midwife	0.64(0.16-2.57)	0.527
	Physician	(Ref)	
Age in years	<=20	(Ref)	
	21 – 30	1.05(0.42-2.64)	0.916
	31 – 40	0.50(0.08-3.13)	0.463
Marital status	Married	(Ref)	
	Single	1.27(0.43-3.78)	0.669
Highest education level	Primary	(Ref)	
	Secondary	1.17(0.37-3.68)	0.784
	Tertiary	0.66(0.08-5.5)	0.699
Occupation	Unemployed	(Ref)	
	Formal employed	2.86(1.6-5.13)	0.000
	Self employed	2.33(1.41-3.83)	0.001
Gravidity	Primigravida	(Ref)	
	Multigravida	0.91(0.46-1.8)	0.787
Parity	Nullipara	(Ref)	
	Primipara	0.64(0.53-0.77)	0.000
	Multipara	1.08(0.25-4.71)	0.915
Number of live births	0	(Ref)	
	1	1.12(0.85-1.48)	0.436
	>1	0.78(0.2-3.09)	0.727
Anybody knows about the pregnancy	No	(Ref)	
	Yes	1.27(0.06-25.53)	0.877
Accompanied by partner to PAC	Yes	(Ref)	
	No	1.87(0.47-7.51)	0.376
Planned pregnancy	Yes	(Ref)	
	No	1.57(0.41-5.94)	0.508
Treatment procedure perception	As expected	(Ref)	
	Easier	0.87(0.14-5.46)	0.878
	Worse	0.38(0.07-2.05)	

Contraception

## **CHAPTER FIVE: DISCUSSION, CONCLUSIONS AND RECOMMENDATIONS**

### **5.1 Discussion**

The study highlights women's perceptions of post abortion contraceptive counselling rendered by service providers. PAC enhances contraceptive usage among post abortion women and is important in improving the quality of care and influence change of behavior positively as a way of promoting good healthcare. Contraceptive counselling may sometimes result in complex decision-making processes by the clients and requires the healthcare workers to be supportive and flexible including if necessary in terms of incorporating client partners in decision-making and allowing time for decision on contraceptive methods. One of the findings is that in most cases there was freedom of choice in family planning contraceptive methods without any coercion from health care providers. The health care providers played a key role in reassuring the clients and giving them the freedom to make their own informed choice on the method of family planning unless it was medically contraindicated for the condition of the woman. The freedom of choice influenced by the way the healthcare providers counselled the women about different methods that were available both within and outside the facility before asking them to select a method. Clients in both treatment arms were satisfied with the PAC services and this shows that midlevel service providers can provide adequate contraceptive counselling services like the physicians. Among the five clients who did not use contraceptive, 2 of them wanted to have a baby, one said that the spouse refused her to use any type of contraceptives while the other two did not give any reason for not accepting use of contraceptives; after the counselling services the number increased to 123/128 clients accepting to use

contraceptives. One of those who was a dropout returned and continued. The continued counseling gave the women sufficient information about contraceptives from technical competence of service providers, follow up dates, support of spouse and discussions motivated continued use of contraceptives removing the doubts that arose from myths and misconceptions similar to Uganda study (Nalwadda *et al.*, 2012).

### **5.1.1 Clients Perception on Post Abortion Care Services**

Women accepted to use contraceptives after PAC; the myths and misconceptions that were generated by misinformation was discussed and addressed by the service providers.

#### **Post abortion women's perception of contraceptive counselling services**

Women in the study had positive experiences with the service providers and stated that they would recommend the services to other women.

In the study, 69 women were afraid of discussing family planning since they felt they would be victimized or stigmatized. They expressed fear of losing their fertility and being called harlots. Knowledge of contraception was high among the PAC women but the usage was low before the study; women seemed to be well informed about the types of contraceptives but societal perceptions, myths and misconceptions and lack of well-trained service providers barred usage of contraceptives. Before the study, adherence to contraceptives was a factor affected by the clients' perceptions and inadequate services and personnel.

This study is similar to a study conducted in Uganda where more than half of women who participated in the study said they wanted or were happy to address contraception and abortion. The study showed even though women knew contraceptive uptake is not

a bad thing at all, they felt pressured to use contraceptives because using contraceptives is normally considered a culmination to prostitution (Andi, *et al.*, 2014).

There is a tendency that clients who are seeking post abortion services are young, with average of 23 years (Uwera 2014). Moreover, many clients who seek post abortion care are likely to have a similar prior experience of being judged as immoral and societal perceptions putting an immense pressure on clients not to use contraceptives. This study further illustrates those attitudes of women towards the various family planning methods as an important factor influencing contraceptive actions of abortion clients. Health care workers remain the most trustworthy source of contraceptive information among post abortion clients followed by friends and young relatives (Singh & Darroch 2012).

A significant percentage of women who use contraceptives believe that it leads to infertility. Some women feared and attributed post abortion contraception to weight (Uwera 2014). The knowledge, attitude and past experiences of women concerning contraception are major factors for the acceptance and correct continued use of any family planning method (Khanal *et al.*, 2011).

The knowledge of contraception is directly proportional to education levels of the clients and literary standards. The knowledge of contraception normally not reflected in practice, evidenced by clients avoiding what they otherwise have knowledge about, which usually leads to premature termination, or not using of the contraception where 21 percent of respondents who knew about contraceptives had never used it, 71 percent of these had discontinued the use prematurely (Khanal *et al.*, 2011).

### **5.1.2 Post Abortion Women's Perceptions on Quality of Post Abortion Care**

The qualitative analysis of post abortion clients' perception of quality PAC confirms that all the six elements of quality contained in the Bruce-Jain framework significantly ((Bruce, 1990; Jain *et al.*, n.d.) shape post abortion clients' perception of quality PAC in the Kenyan setting (Bruce, 1990; Jain *et al.*, n.d.). However, it appears that clients attach greater significance to certain elements including interpersonal relations, choice and information received while they did not show overt concern about other elements e.g. technical competence of providers. Apart from confirming Bruce and Jains' client-centered approach to assessing quality of care, this study confirms results from earlier studies that have adopted the thematic approach for analysis of quality of care (Bruce, 1990; Jain *et al.*, n.d.). The current study identified elements such as interpersonal relations, choice of contraceptives and information received as specific issues that influenced the perspective of Kenyan clients on what constitutes quality PAC. It was also evident that cost of services is an important additional consideration for clients who initiate contraceptive use in the post abortion period.

This study is dissimilar to one study done in Turkey where women were not involved in decision making and not given alternatives to care where as in ours women were allowed to make their own choice of contraceptives (MacFarlane *et al.*, 2017). Despite the bleak view of choice, evidence shows that women make choices depending on where they seek post abortion contraceptive services and probably frequent facilities where they are likely to be respected and feel comfortable (Berer 2017). Information given to users provides an opportunity for providers to dispel

myths and misinformation, ensures understanding of counselling services, follow – up and builds rapport for future interactions, which is similar to our study. Use of contraceptives in this study indicated that women felt pressured since society sees them as harlots; service providers in other similar studies were considered as gatekeepers of information: they selectively may avoid subjects that are deemed potentially embarrassing or likely to cause discomfort for himself or herself or the client (WHO 2011). Sexuality is difficult to talk about especially when clients consider it as socially inappropriate (WHO 2011). For example in Uganda, clients did not to use condoms despite knowing, that condom use was on the rise (Wagner *et al.*, 2010). Women who sought service from the public sector lack the power to demand quality services since they reported experiencing mistreatment, disrespect and even physical abuse (Abuya *et al.*, 2015; Bohren *et al.*, 2017). In another Study in Uganda where contraceptives services are paid for, providers would not bother referring a client who cannot afford the services for contraceptives (Wanyenze *et al.*, 2013). In Turkey the cost of contraceptives was a barrier to use of oral contraceptives while in separate study some resort to withdrawal method (most unreliable family planning method) (Aksu *et al.*, 2010) while in our study contraceptives were free but were only minimally charged for inserting an IUCD and implants.

### **5.1.3 Contraceptive Uptake**

I suggest the following text changes. Also put the text in one paragraph as shown here: “An estimated 465,000 induced abortions, mostly through unsafe procedures, were performed in Kenya in 2012. The same year nearly 120,000 Kenyan women received post abortion care (PAC) in health care facilities for complications resulting

from unsafe abortions. Of these women, 70 percent were not using a contraceptive method before becoming pregnant (Singh *et al.*, 2018). Efforts to assist with contraceptive method selection and to improve the content of contraceptive counselling by providers have the potential to increase contraceptive use in Kenya.

Although use of Long Acting Reversible Contraceptives (LARC) methods increased slightly from ten percent in 1998 to 14 percent in 2008–2009, only 12–17 percent of Kenya’s poorest and uneducated married women have ever used LARC compared to 48–52 percent of the wealthiest and most educated married women (Singh *et al.*, 2018) while in our study LARC use was not that common with most clients changing to another method. An estimated 465,000 induced abortions, mostly using unsafe procedures, were performed in Kenya in 2012, a rate of 48 per 1,000 women of reproductive age (Ziraba *et al.*, 2015).

Nearly 120,000 Kenyan women received post abortion care (PAC) in health care facilities for complications resulting from unsafe abortions in 2012. Of these women, 70 percent were not using a contraceptive method before becoming pregnant (Singh *et al.*, 2018). Efforts to assist with contraceptive method selection and to improve the content of contraceptive counselling by providers have the potential to increase contraceptive use in Kenya.

#### **5.1.4 Quality of Counselling Given by Physicians and Midwives**

The study showed that the women viewed the technical competence and knowledge of the healthcare providers in providing contraceptive counselling with high regard. The clients valued the knowledge because the providers were able to correct

misconceptions and myths about contraceptives. One of the findings is that in most cases there was freedom of choice in family planning contraceptive methods without any coercion from healthcare providers. The healthcare providers played a key role in reassuring the clients and giving them the freedom to make their own informed choice on the method of family planning. The freedom of choice was influenced by the way the healthcare providers counselled the women about different methods that were available both within and outside the facility before asking them to select a method. Performance outcomes for midwives and physician were comparable on two critical indicators of quality post abortion care on contraceptive uptake and adherence.

In this study, both physician- and midwife-led counselling showed relatively high (88%) post abortion contraceptive uptake and adherence in the initial three-month period. The post abortion contraceptive uptake reported is in the upper range of the rates reported in recent large national and international studies in Africa and Asia that report between 42 and 86 percent uptake (Banerjee *et al.*, 2015; Benson *et al.*, 2018; Maxwell *et al.*, 2015). The differences in uptake between the current study and the previous evaluations could be explained by the design employed in the current analysis and the comparatively small size of the study.

Post abortion contraceptive uptake in the current trial reflects the effectiveness of PAC provided within the ideal conditions of a randomized trial as opposed to the actual uptake in routine care settings (PAC program efficacy) reported in the larger studies using data from several healthcare facilities, across different countries and over considerably longer time periods (Benson *et al.*, 2018).

For the primary comparison in this study, there were no significant differences in uptake rates between post abortion clients counselled by physicians compared to midwives (93.5% versus 98.5%, respectively). The primary finding is in agreement with that of a larger randomized trial conducted in the same setting that showed that midwives were as effective as physicians in treating incomplete abortion using misoprostol (Makenzius *et al.*, 2017). However, there are mixed findings on the influence of type of post abortion care provider on contraceptive uptake particularly within studies conducted in sub-Saharan Africa (Maxwell *et al.*, 2015). The finding of comparable effectiveness in promoting contraceptive uptake reported in the current study is at variance with that of a cohort study in Ghana showing that type of abortion provider influenced post abortion contraceptive uptake, with women seen by midwives being more likely to receive contraceptives compared to those attended by house officers or physicians (Maxwell *et al.*, 2015). There are several plausible explanations for these inconsistent findings. Of greater credibility is the argument that performance reported in the current trial based on effectiveness of a program for training both physician and midwives on a PAC package. The study reporting better midwives' performance in Ghana reflects routine practice within which midwives might be better prepared to provide maternal and reproductive health care compared to physicians and non-physician clinicians.

The use of LARCs was low in both arms of the trial. This finding also concurs with the Ghanaian study and with a Kenyan study on treatment of incomplete abortion where less than one percent of the women selected IUD and eight percent opted for hormonal implants (Makenzius *et al.*, 2017). There is evidence showing that a similar

method mix is seen among contraceptive acceptors in post abortion studies conducted in routine reproductive health care settings (Benson *et al.*, 2018).

The predominance of short acting contraception choices could possibly reflect client's short-term desire for pregnancy or lack of familiarity with the range of available methods. It is also important to note that the International Federation of Gynecology and Obstetrics among other organizations recommend long acting reversible contraceptive as an integral part of PAC (Gemzell-Danielsson *et al.*, 2007a, 2007b).

#### **5.1.5 Factors Associated with Contraceptive Uptake and Adherence**

Only four of the analyzed variables showed significant influence on contraceptive uptake and adherence. Clients who had at least one living child were likely to take contraceptives. Formally, employed clients were 3.8 times more likely to take contraceptives as compared to those unemployed and self-employed. In the adjusted analysis two factors showed significant association with post abortion contraceptive uptake: unplanned pregnancies three times more likely to take contraception as compared to planned pregnancies, and clients who perceived contraceptive counselling to be insufficient were unlikely to take contraceptives. The latter expected finding consistently showed that equipping PAC providers with knowledge and skills to deliver care results in higher uptake of contraceptives. Although a strong effect of age on post abortion, contraceptive uptake reported in another Kenyan study (Tavrow *et al.*, 2012) this was not the case in the current analysis.

Levels of education significantly affect lifetime use of contraceptives according to a study done in Juba City in South Sudan. The same study also found that parity correlates also with contraceptive use while also attitudes our study participants

towards contraceptive uptake affected the use of contraceptives. It showed comparison with our study especially in parity as mentioned. The result that the level of education of the study participants was positively associated with contraceptive use in the last three months supports existing evidence, which indicates direct relationship between education level and use of family planning methods. In addition, the results provided a clear picture of the study area- urban settings with two-thirds of the participants having formal education, which is similar to our findings (Obwoya *et al.*, 2018).

#### **5.1.6 Factors Affecting Contraceptive Adherence Counselling**

Counselling affected contraceptive adherence by demystifying some of the myths and misconceptions that clients had. The counselling provided correct information to clients, which encouraged clients to use contraceptives.

The role of counselling in family planning in Kenya is to guide the client in reaching a decision that ensures high quality post abortion care (Khanal *et al.*, 2011). Existing studies show that clinic based counselling increases postpartum use of modern contraceptive methods including pills, intrauterine devices and injections (Lopez *et al.*, 2014). Counselling may sometimes result in complex decision-making processes by the clients and requires the healthcare workers to be supportive and flexible in terms of incorporating client partners in decision-making and allowing time for decision on contraceptive methods. Post abortion clients' perspectives regarding counselling in the current analysis reinforce previous reports indicating that comprehensive counselling of clients in need of contraceptive-decision support is a key determinant of clients' perception of quality in sub-Saharan Africa countries

(Keesara *et al.*, 2015). Such supportive counselling is particularly valued by clients if it is provided routinely, contains adequate information that is delivered in a tailored and responsive approach and covers different areas of contraceptive technology including side effects, counselling and management of possible side effects (WHO 2015).

### **Choice of contraceptive method**

The finding from the current study shows that there was no coercion from healthcare providers. This promoted freedom of choice among clients while limiting the provider's role to that of reassuring the clients and giving them the freedom to make their own informed choice on the method of family planning as pointed out by Erviti *et al.*, (2010) in a study from Mexico. The freedom of choice influenced by the way the healthcare providers counselled the women about different methods that were available both within and outside the facility before asking them to select a method. The results are also similar to results from a study done in Nigeria that showed that the women were provided with PAC and given an opportunity to have a family planning method of their own choice (Bankole *et al.*, 2016). However, the results are dissimilar to studies done in Malawi and Dominican Republic, which showed that the healthcare workers despite yearning for the information (Girvin, 2004) did not counsel youths. Therefore, it is evident that healthcare workers play a key role in providing contraceptive counselling after abortion. This are motivated by the fact that health care workers are well trained to provide the services and that they are empathetic towards the provision of good quality services. In addition, provision of

accurate information and the interaction between client and healthcare worker determine the quality of care and the outcome of care provided.

The younger women said they were a bit hesitant to discuss openly issues of contraception. This was attributed to the fact that some felt that they could be victimized. Therefore, there is need for the health care workers to provide reassurance to the younger youths and provide them with a conducive/non-threatening environment to allow free expression. It is also very important to give accurate information to all women since some have misconceptions that contraception can lead to infertility.

On the other hand it was revealed that the older women especially those who already had children appeared to be more comfortable discussing family planning due to the fact that they had possibly tried several family planning methods before and were free and able to express themselves.

The findings show that the women were knowledgeable on contraceptive methods and the associated side effects despite some women referring to the methods using the anatomical sites in which these methods were placed or administered. The level of knowledge exhibited in this study is similar to other studies conducted in Uganda (Paul *et al.*, 2014), in Nairobi (Evens *et al.*, 2014), and Western Nigeria (Akani *et al.*, 2008) in which the women exhibited high level of knowledge of contraceptive methods. Despite the high level of knowledge, it is still important for the healthcare worker to continue educating the clients on different methods of family planning during post abortion contraceptive counselling, especially since it is common that women have misconceptions about some contraceptive methods. Some of the reasons that have been put across as imperative in allowing the women to learn the methods

are the good relationship with the provider, which is an important aspect when assessing the quality of post abortion care and contraceptive counselling.

Additionally, attributes such as responsiveness of the healthcare workers, genuine concern in the client's situation, and clarity in communication during counselling are essential because they are useful in determining the quality and outcome of care provided.

### **Continuity Mechanisms**

The study found that the women were well followed-up after PAC in order to find out how they were doing. Besides, the women were reminded of their return dates, which enhanced the number of women who returned for counselling and services. The study result is similar to a study done in United Kingdom which showed that follow-up was essential in improving the post abortion contraceptive counselling because it gave the clients the reassurance and hope that it was still possible to have another child (Lee *et al.*, 2013). In a study conducted in Turkey, 75 percent of the clients who were followed-up continued the use of contraceptive methods ( Kursun *et al.*, 2014). Additionally, the current study adds to the literature that telephone reminders is a unique way of promoting continuity and follow up of contraceptive use after abortions and facilities need to invest in it.

The study also adds to the literature that provision of transport for the women who are not able to access the facilities is an essential tool of encouraging the women to go for follow up on post abortion contraceptive counselling, especially when they face economic challenge. The finding is similar to a study conducted in Myanmar that showed that some women delaying seeking PAC because of lack of transport (Htay *et*

*al.*, 2003). In addition, the study revealed widespread and firmly held beliefs about negative effects of contraceptives most of which are mythical. Studies have shown that myths are some of the challenges that countries face towards increasing contraceptive use. For instance, studies from Uganda among young women and men as well as among contraceptive service providers show multiple obstacles to contraceptive use such as misconceptions and fears related to contraception, gender power relations, socio-cultural expectations and contradictions, short term planning and health service barriers (Nalwadda *et al.*, 2012). Therefore, it is essential for the service providers to render contraceptive knowledge during counselling that would help reduce the misconceptions and myths, prevent repeat abortions, and further support contraceptive use. The importance of discussing gender power relations of how the paternal based society view contraceptive uptake and adherence, socio-cultural expectations with an eye on the women who bear fewer children as opposed to the traditions of more children more wealth and short term planning as well as improving service providers with an intention of changing the mindset of the clients.

### **Technical Competence**

The study showed that the women viewed the technical competence and knowledge of the healthcare providers in providing contraceptive counselling as very good. The clients valued the knowledge because the providers were able to correct misconceptions and myths about contraceptives. The study also shows that partners play a key role in the usage of contraceptives, especially after an abortion. The presence of the partner was also considered essential in helping to reduce some misconceptions about contraceptives.

Post abortion women's perception of quality of the contraceptive counselling received may affect clients' willingness for re-examination and further treatment and thus support their health outcomes.

Furthermore, clients' positive view of the counselling service made them share their experiences with friends and family, thereby creating a positive reputation for services in the community. In another study done at a Regional Level Hospital in Ghana participants noted that the challenges they experienced with PAC services, their satisfaction with services and attitudes of the providers are some of the factors that influenced their decision to seek care at the facility. Timely attendance to participants increased satisfaction of services offered, some of the service providers even went ahead to process the documents of the patients they were attending to. Attitudes towards the patients forms an integral part of post abortion care, which is quite similar to our findings. This study showed that the participants were very happy about the attitudes of health professionals at the hospital same as post abortion women in our study while also we find that some clients complained of health professional who exhibited negative attitudes. Most of the clients in the study done in Ghana expressed satisfaction with post abortion care services at the facility mainly because of the technical competence of the service providers (Adde *et al.*, 2018).

### **Interpersonal Relationships**

The post abortion clients felt comfortable in the presence of the service providers who were patient with them discussing the various contraceptive methods and finally selecting a method of their own choice. Previous studies conducted in Western Kenya, the setting of the present study, have demonstrated that health facility providers'

attitudes and interpersonal factors dominate the barriers adolescent females living with HIV face in accessing contraception (Cohen *et al.*, 2015).

### **5.1.7 Summary of Discussion**

In this study, midwives provided contraceptive counselling to Post abortion women of uterine size of 12 weeks and below as competently as to the physicians. Post abortion women provided with contraceptives immediately after abortion were protected from pregnancy. The post abortion women felt happy with the service providers who were friendly and concerned about their health and many suggested in the interview that they would recommend the services to others. The service providers clarified the myths and misconceptions that made women, accept to use contraceptives. The rapport created during contraceptive counselling between the service providers and the post abortion women had an impact on contraceptive uptake and adherence since it allowed women to interact freely with the service providers. Women have a stigma on abortion tagging it to death of children in which they are labelled as murderers; they find it difficult to accept that they have aborted therefore they become secretive about it.

## **5.2 Conclusion(s)**

1. Women felt that the Post abortion care including contraceptive counselling service was good in both treatment arms, and that they would recommend the service to other people. There was no significant difference in contraceptive uptake following contraceptive counselling provided by midwives (98.5%) and that by physicians (93.5%).
2. Post abortion women said they that they were satisfied with contraceptive counselling services provided by midwives and physicians. Uptake of

contraceptives following contraceptive counselling provided by physicians and that by midwives showed no significant difference. The contraceptive counselling given by both midwives and physicians was generally similar and 123/128 (95.3%) clients were satisfied with it and accepted the contraceptive method.

3. Factors that affected adherence to contraception among post abortion women in Kisumu County were counselling, technical competence provided for choice of contraceptive method used, communication, and interpersonal relationship. These factors enabled the post abortion women to embrace contraceptive use as a method of preventing pregnancy, and preventing repeat abortions. Seventy- nine percent (79.7%) maintained their initially chosen contraceptive method and all the clients in both treatment arms adhered to contraceptive use.

### **5.3 Recommendations**

#### **5.3.1 Recommendations from the Study**

1. The midwives should be permitted to provide contraceptive counselling since this study provides evidence that midwives are as competent as physicians in providing post abortion contraceptive counselling resulting in high level of contraceptive uptake. This finding offers an opportunity to consider task shifting and task sharing, particularly in low- and middle-income countries where facilities are understaffed and workload is high though the rather specialized aspects of post abortion care maybe reserved for physicians.
2. Counselling should be done with a view of exploring misconceptions that affects contraceptive uptakes and adherence. The usual counselling process done Greet, Ask, Tell, Help, Explain, and Return (GATHER), does not necessarily address the

misconceptions hence the care givers should ask women what views they have about contraceptives so that issues arising can be clarified so the clients leaves the facilities with correct information about contraception.

3. The return dates given to clients gives the client a chance to discuss issues arising from the contraceptives chosen. It motivates the clients to continue using the contraceptives or if inappropriate to change to an appropriate contraceptive method.

### **5.3.2 Recommendations for Further Study**

An area of further study is adolescent contraceptive uptake and adherence. Separately, there is need for further studies that will explore the experience of post abortion women and men's view on PAC with particular reference to the aspects of care that emerged as important to post abortion women in Kenyan in this study.

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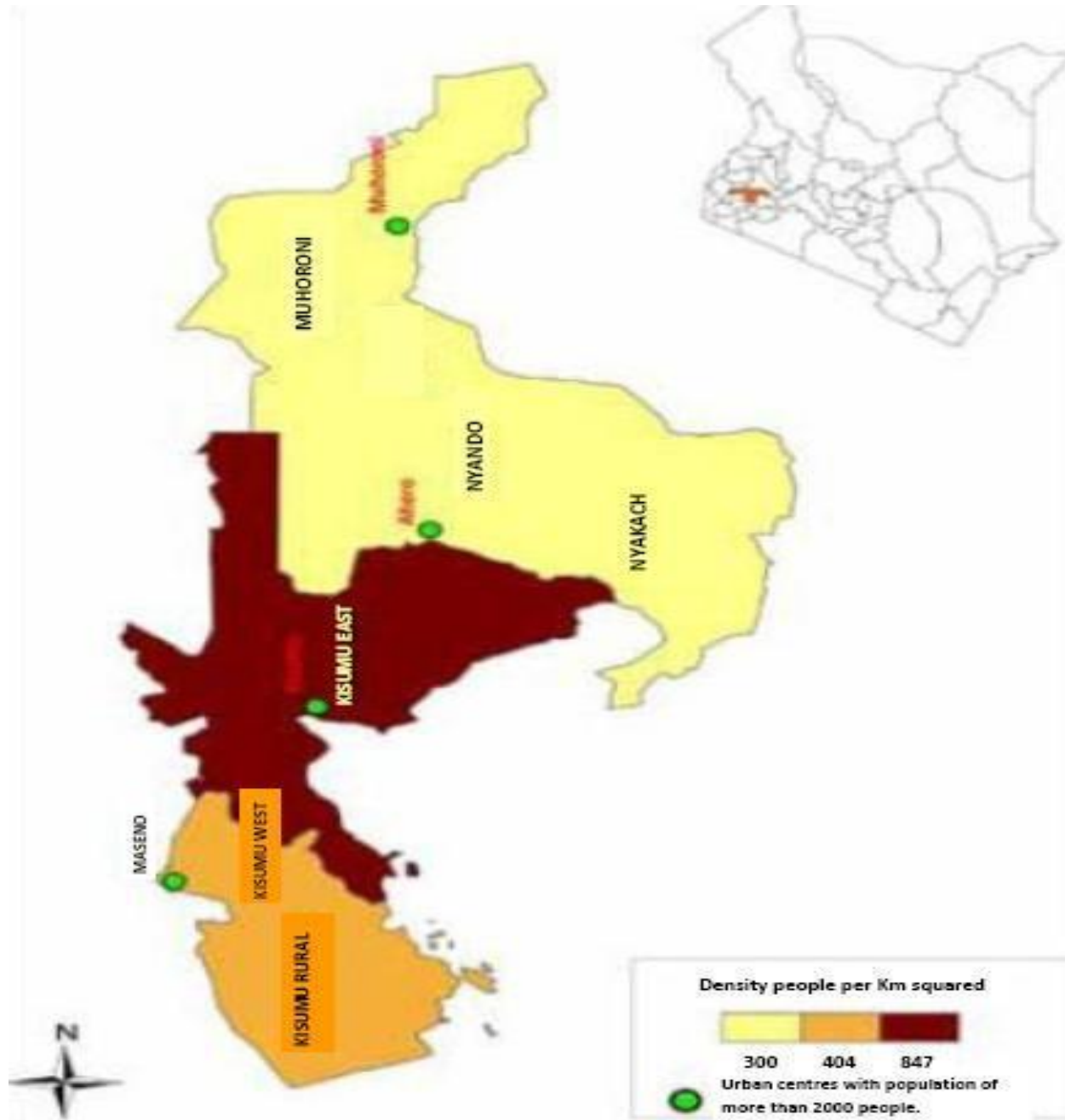
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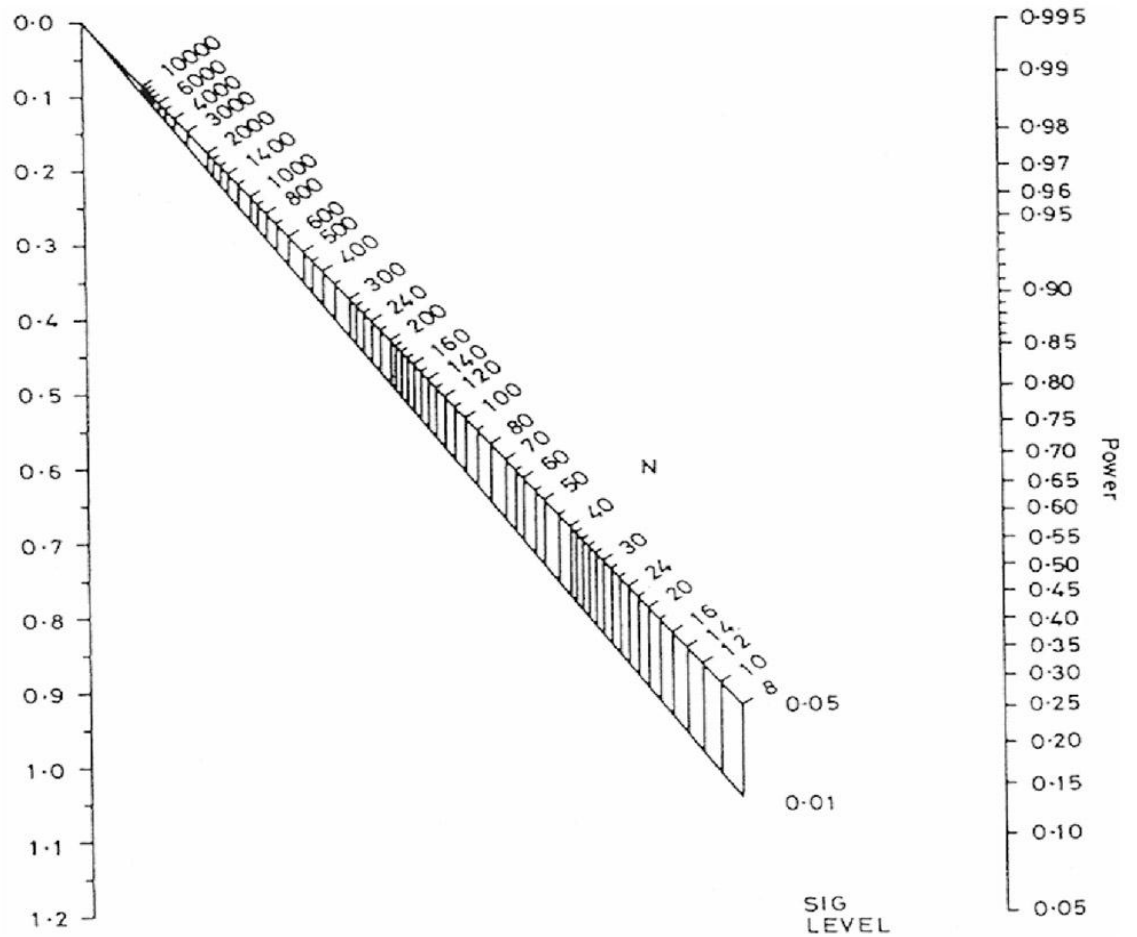
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APPENDICES

APPENDIX 1: MAP OF KISUMU COUNTY



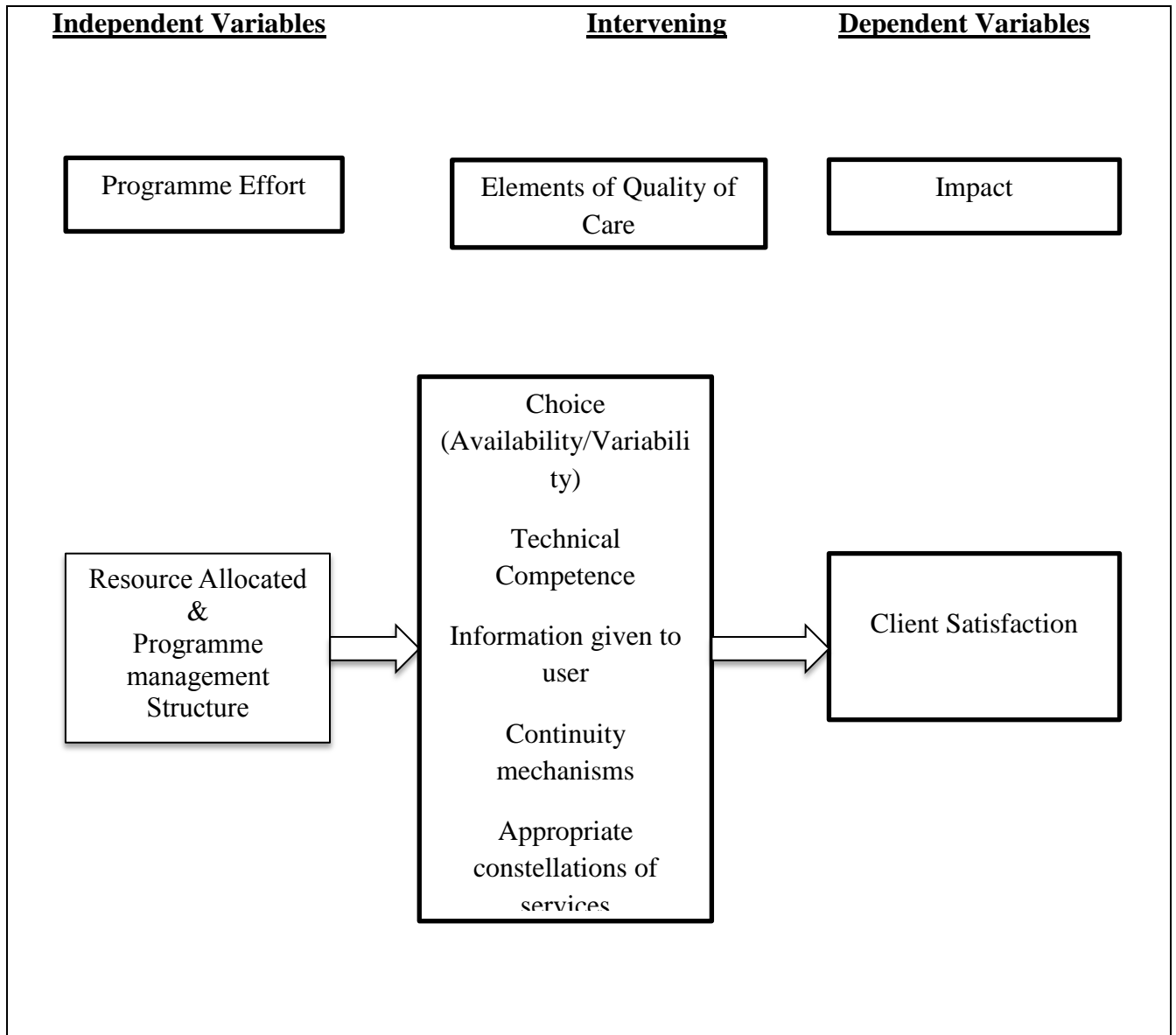
**APPENDIX 2: ALTMAN NOMOGRAM FOR SAMPLE SIZE CALCULATION**



*Critical Care*

Extracted from: Altman, D.G (1982) How large a sample? In: statistics in Practice (eds S.M. Gore & D.G Altman). BMA, London. Copyright BMJ publishing group with permission.

**APPENDIX 3: THEORETICAL FRAMEWORK**



## CONCEPTUAL AND THEORETICAL FRAMEWORKS

The studies in the thesis address a central question why a large fraction of young Ugandans expresses a desire to avoid pregnancy but do not use contraceptives. The results are described and discussed in relation to the conceptual framework and Bruce-Jain theoretical framework described below.

### **Conceptual framework**

The conceptual framework (Fig. 1) describes and connects aspects of inquiry. The framework highlights intertwined linkages between societal, client and health system factors that influence contraceptive use, which ultimately affect fertility (Bruce 1990). The framework recognizes that societal, community and client related factors, such as conflicting community knowledge on contraceptives, poor understanding of available services and value of children influence young people's reflections and perspectives towards contraceptives and demand for services.

The health system is an important link into the inquiry about why contraceptives are not used. Health care system features, such as service delivery, structural and health care provider related factors impact access to and provision of contraceptive service for young people. The framework recognizes that the interactions between service delivery, health workforce (provider knowledge, fears, and beliefs), information, availability of commodities and technologies, funding, and stewardship influence contraceptive service.

The service outcomes, including quality of services and client satisfaction are linked to service utilization, and ultimately contraceptive use. The conceptual framework implies that improved maternal health, satisfaction of clients' reproductive intentions as well as fertility are consequences of demand for and provision of contraceptive services.

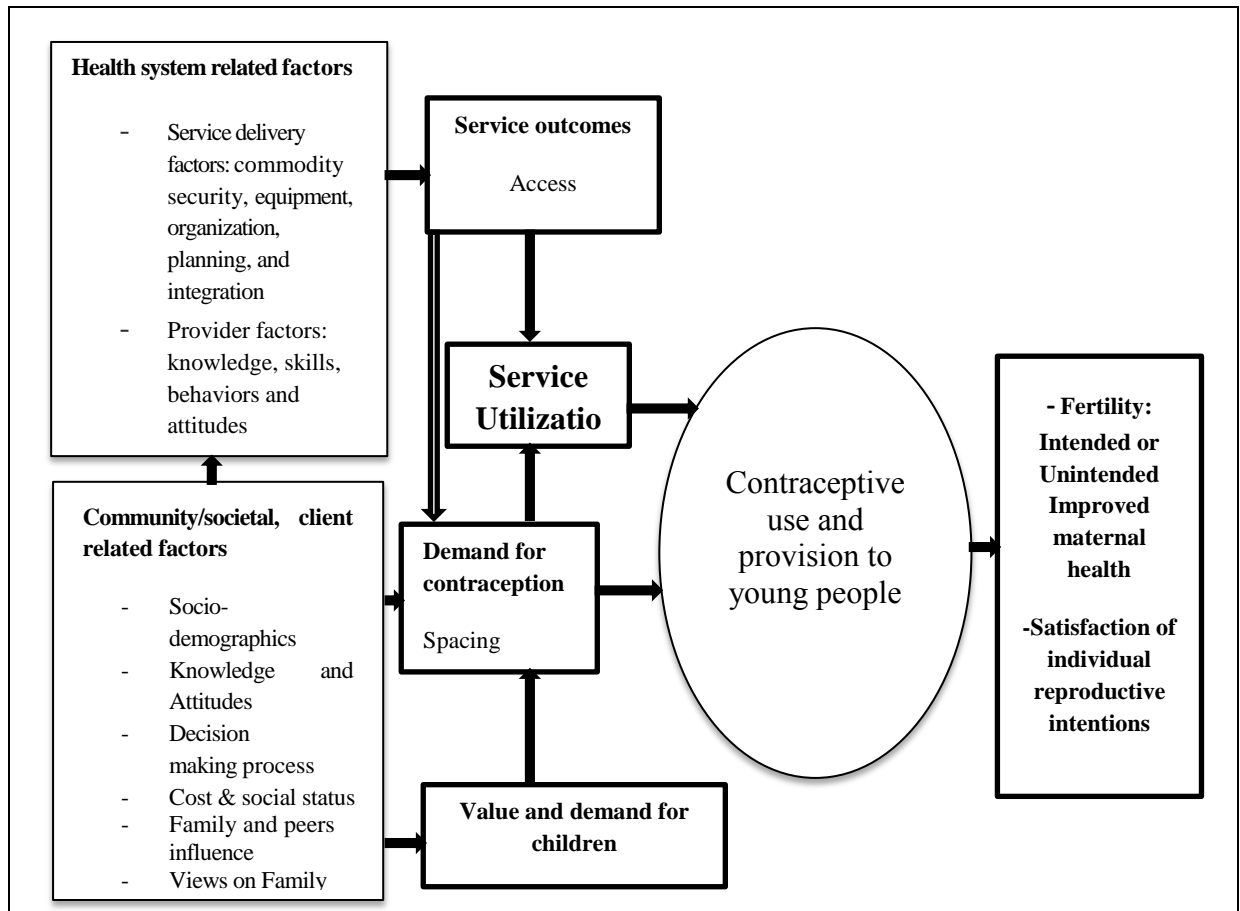


Figure 1: Conceptual framework illustrating factors influencing contraceptive use and provision to young people

### Bruce and Jain theoretical framework

The studies on quality in this thesis were grounded in the Bruce and Jain theoretical framework of assessing quality of care in contraceptives services. The framework recognizes six elements of assessing quality, which include choice of contraceptive methods provided, information given to users, technical competence of providers, interpersonal relations, continuity mechanisms, and appropriate constellation of services or appropriateness and acceptability. The six elements reflect aspects of the services clients experience as critical for contraceptive adoption and continued utilization. Studies that have used the framework have shown that quality of care can impinge on individuals' decisions to use or not use modern methods or the choice of methods. However, it is not clear if all the elements of quality are relevant constituents of service quality in Africa, or to young people. We assessed all the six



Other (specify) 3 ( )

1.4 Education level:

None 1 ( )

Primary, 1-4 2 ( )

Primary 5-8 3 ( )

Secondary 4 ( )

Tertiary 5 ( )

1.5 Occupation:

Unemployed 1 ( )

Formal employment 2 ( )

Self-employed 3 ( )

Other(s) state..... 4 ( )

**Section 2: Health care seeking**

2.1 How many days ago did this problem occur?..... (... Days)

2.2 For this problem, have you sought health care anywhere else before coming to this facility??

Yes ( ) 1 (go to 2.3)

No ( ) 2 (go to 2.4)

2.3 If yes, from which facility level did you seek care? .....

Private clinic ( ) 1

Dispensary ( ) 2

Health Centre ( ) 3

District Hospital ( ) 4

- Provincial hospital  5
- Private Hospital  6
- Herbalist.....  7

**Section 3: Reproductive history**

- 3.1 Number of pregnancies:.....
- 3.2 Number of deliveries.....
- 3.3 Number of live birth:.....
- 3.4 Number of still births: .....
- 3.5 Number of miscarriages:.....
- 3.6 Number of induced abortions:.....

**3.7 Does anybody know about this pregnancy?**

Yes  1

No  2

**3.8 If yes, who knows about it?**

Partner  1

Parent(s)  2

Other relatives  3

Friend(s)  4

Other (s) specify.....  5

**3.9 Did your partner accompany you to the PAC clinic?**

Yes  1

No  2

**3.10 Was this pregnancy planned?**

Yes  1

No  2

**3.11 What contraceptive methods have you used in the past 12 month**

None  1

Safe days (fertility awareness method)  2

Condoms  3

Contraceptive pills  4

Hormonal injections  5

Hormonal implants  6

IUD  7

Permanent contraceptive  8

Other(s), please specify  9

**3.12 With whom did you discuss this contraceptive method you have used?**

Family (specify)  2

Traditional healer  3

Physician  4

Clinical officer  5

Nurse/midwife  6

Pharmacist  7

**Section 4: Clinical findings**

4.1 Gestational age based on last normal menstrual period (LMP) in weeks.

4.2 Gestational age according to size of uterus (in weeks)...

4.7 Contraceptive counselling with all available methods displayed in a tray

Yes  1

No  2

Did you take a contraceptive method?

Yes  1

No  2

4.7 Did you try to end this pregnancy?

Yes  1

No  2 (go to 3.1)

4.8 If yes, which method(s) was/were used to end the pregnancy?

MVA  1

Dilatation & Curettage  1

Catheter  2

Tablets/misoprostol  3

Sticks  4

Herbs, vaginal  5

Herbs, oral  6

Chloroquine Tablets  7

Other (s) Specify.....

4.9 Who induced the termination?

Patient  1

Family (specify)  2

Traditional healer  3

Physician  4

Clinical officer  5

Nurse/midwife  6

Pharmacist  7

Self ( ) 8

Other(s) Specify..... ( ) 6

4.10 Where did you try to end the pregnancy?

Public facility ( ) 1

Private facility ( ) 2

Health centre ( ) 3

District Hospital ( ) 4

Private Hospital ( ) 5

Other(s) specify..... ( ) 6

**Section 5 Post abortion contraceptive counselling**

5.1 Received information about contraceptives before discharge

Yes ( ) 1

No ( ) 2

5.2 Contraception accepted

Yes ( ) 1

No ( ) 2

**PROTOCOL 2**

5.3 Contraceptive method chosen

Condoms ( ) 1

Contraceptive pills ( ) 2

Hormonal injections ( ) 3

Hormonal implants ( ) 4

IUD ( ) 5

Permanent contraceptive ( ) 6

Other:.....( ) 7

5.4 Were you told when to come back to hospital and for review?

Yes ( ) 1

No ( ) 2

**6. Discharge time...**

**Section 7: Follow up after 7 – 10 days, clinical findings and symptoms evaluated by physician or nurse midwife**

Name of provider:.....Physician or midwife

Date:.....

Time.....

7.1 Pulse.....

7.2 Blood pressure:.....

7.3 Temperature in degrees:.....

7.4 Reported symptoms after PAC

Chill ..... ( ) 1

Foul-smelling vaginal or cervical discharge ( ) 2

Lower Abdominal pain ( ) 3

Nausea ( ) 4

Vomiting ( ) 5

Diarrhoea ( ) 6

None ( ) 7

Other(s) please specify:..... ( ) 8

7.5 Bleeding since the treatment

Much less than normal menstrual bleeding ( ) 1

- Less than normal menstrual bleeding             2
- Same as normal menstrual bleeding             3
- Heavier than normal menstrual bleeding        4
- Much heavier than normal menstrual bleeding  5

7.6 Number of days bleeding after treatment .....

7.7 Pelvic infection at follow up

- Yes     1
- No      2

7.8 Retained products

- Yes     1
- No      2

7.9 If retained products

- Counselling and reassurance             1
- MVA      2
- Misoprostol                                          3

7.10 Complete abortion

- Yes     1
- No      2

7.11 Comments

.....

.....

.....

.....

7.12 Pain assessment

Ask the women to grade the severity of pain experienced following PAC

None ( ) 1

Mild ( ) 2

Moderate ( ) 3

Severe ( ) 4

7.13 Did you use any other pain relief after treatment?

Yes ( ) 1

No ( ) 2

7.14 Did you have any unscheduled visits at health care clinic/hospital since treatment?

Yes ( ) 1

No ( ) 2

7.15 If Yes:

Reason for the unscheduled visit.....

Date of the unscheduled visit\_\_\_\_\_

**Section 8 Women’s experiences of treatment**

8.1 Did you receive information/counselling concerning the contraception and treatment?

Yes ( ) 1

No ( ) 2

8.2 If yes, how was the information/counselling on contraception?

Very adequate ( ) 1

Adequate ( ) 2

Insufficient  3

Very insufficient  4

8.3 Did you feel relaxed and safe after the treatment?

Yes  1

No  2

8.4 How did you perceive the treatment procedure?

As expected/ anticipated  1

Worse than expected/ anticipated  2

Easier than expected  3

8.5 Would you recommend the treatment to a friend or relative?

Yes  1

No  2

8.6 if no please explain why?.....

Did the client talk about contraception?

**Section 9 Post abortion contraceptive at follow up**

9.1 Did you receive information/counselling about contraceptives before discharge after your treatment?

Yes  1

No  2

9.2 Did you accept any contraceptive method?

Yes  1

No  2

9.3 What contraceptive method did you choose?

Condoms  1

- Contraceptive pills ( ) 2
- Hormonal injections ( ) 3
- Hormonal implants ( ) 4
- IUD ( ) 5
- Permanent contraceptive ( ) 6
- Other (specify)..... ( ) 7
- Condom ( ) 8

9.4 Have you started using the chosen contraceptive method?

- Yes ( ) 1
- No ( ) 2

9.5 If yes, how has it worked for you?

.....

.....

.....

9.6 If no explain the reason?

.....

.....

.....

9.7 Which topics do you think you still need counselling on?

.....

.....

.....

.....

.....

9.8 Extra contraceptive counselling given

Yes ( ) 1

No ( ) 2

**PROTOCOL 3**

**Section 11. Post abortion contraceptive at 3 month.**

10.1 Are you still using the chosen contraceptive method?

Yes (go to 11.13) ( ) 1

No ( ) 2

10.2 What is the level of your satisfaction with the contraceptive method chosen?

(go to 10.8).

Highly satisfied ( ) 1

Just satisfied ( ) 2

Not satisfied ( ) 3

Would like to stop method ( ) 4

10.3 Why did you discontinue the chosen contraceptive method?

Wanted pregnancy ( ) 1

No resupplies ( ) 2

Partner refused ( ) 3

Side effects ( ) 4

Other (specify)..... ( ) 5

10.4. If side effects, what were the side effects?

.....  
.....  
.....  
10.5 Have you received counselling on the new method?

Yes ( ) 1

No ( ) 2

10.6 Which method do you use now instead?

Nothing ( ) 1

Condoms ( ) 2

Contraceptive pills ( ) 3

Hormonal injections ( ) 4

Hormonal implants ( ) 5

IUD ( ) 6

Permanent contraceptive ( ) 7

Other ( ) 8

10.7 Are you comfortable with that new method?

Yes ( ) 1

No ( ) 2

10.8 Pregnancy test taken

## **APPENDIX 5: INTERVIEW GUIDE**

### Introduction

I am kindly requesting you to spend a little time with me to answer some pertinent questions about the services you received from this health facility. This will help us to serve you better in future.

### Introduction

I will ask some questions about the times you have been here receiving counselling on contraception.

1. Please tell me your experiences on visits at the facility Probe:

How were you greeted?

How did the provider receive you?

How did you perceive the waiting time in the facility for the services to be provided?

How was the environment during counselling at the facility (many people or noisy)?

How was the interaction with the service provider during counselling?  
(Privacy/relaxed/confidentiality)

If your partner joined how was he treated?

2. Please tell me about the visit when you received counselling on contraception.

### Probe

How free did you feel to talk about your needs with regard to contraception?

Which methods were you introduced to?

Were you provided with your method of choice?

When did you start and how are you finding it ... if no, why?

Side effects?

Benefits?

How are they used?

How long can you use that method?

3. Tell me your views about the contraceptive information you received.

Probe

How informative were they?

Did you understand what were you counseled on?

Did you ask any questions – please explain?

What were your concerns – Were they addressed? Please explain. How did you perceive the answers?

4. Tell me your view on follow-up visits?

Probe

How were you informed of the returning to the facility/received return date?

Why is it necessary to return on that day?

Do you wish to add comments or questions? Please feel free to comment.

Who provided counselling services during your current visit?

Have you ever received counselling from a health worker of a different cadre?

If applicable, compare the care provided by this health worker to care provided by the health workers of a different cadre.



**APPENDIX 6: PATIENT STUDY INFORMATION LETTER**

(PART 1. This information is to be given to the client to take home)

You are hereby invited to take part in a study titled:

Post abortion care and contraceptive counselling by midwives or physicians –facility based studies in Kisumu, Western Kenya

The aim of this study is to investigate if medical treatment with misoprostol of complications from incomplete abortion provided to women by physicians or midwives is equally safe and effective. Also to follow up contraceptive counselling provided by midwives after the treatment, to describe post-abortion contraceptive uptake and use, and women's view about the quality of care received.

The method. A midwife or a doctor will randomly allocate you for medical treatment. You will be given a single dose of three tablets (600mg) oral misoprostol. All providers trained properly in the method to be used, which is both safe and widely used within health care services in Kenya and elsewhere. There will be three follow up visits, at 7-10 days, and 3-6 months. During these visits, you will be interviewed. You can also contract the clinic in between if you so wish.

Confidentiality: No information that identifies you will be included in the interviews. All data will be unidentified, which means that your responses cannot be traced back to you. Data will be stored safely in locked cupboards. The research team will ensure that all research data, regardless of format (hardcopy or softcopy), is stored securely

and backed up or copied regularly. All data will be handled according to what they would have been in routine clinical practice.

Your participation in the study is voluntary. You may at any time end your participation without stating your reasons. All procedures performed in the study are evidence based and safe. We do not foresee any risks for you to be included in the study. The confidentiality of your identity is protected as only researchers involved in the studies have access to the collected data. All data will be handled according to national law and guidelines.

You will be reimbursed in cash (KES) for your travel expenses to and from the hospital when attending the follow up visits at 7-10 days and for sub-study II the follow up visits are after 3 months.

Persons to contact in case of any queries are:

Monica Oguttu, KMET Kisumu, Mobile Number 0772642841

Caroline Nyandat, KMET, mobile number: 0721825267

Ulrika Rehnstrom, Karolinska Institute, mobile number: 0787602550

Theresa Mary Odero, University of Nairobi, mobile number: 0722859947

**APPENDIX 7: CONSENT FORM****COMPREHENSIVE CONSENT TO PARTICIPATE IN THE STUDY****Introduction**

My name is Theresa Mary Awuor Odero I am a PhD student at Kenyatta University and is conducting a study on contraceptive uptake and adherence among post abortion women in Kisumu County, Kenya.

Procedure to be followed:

The participation in the study will requires that you be examined and asked some questions regarding your reproductive health to identify retained products of conception that require to be expelled or removed to return to good health. The participants will be expected to take misoprostol to expel the products of conception and counselling and family methods were given for purposes of contraception. Some of these questions are sensitive. You have the right to refuse to participate in this research at any time without any sanctions. And will not affect your due treatment in anyway.

Please remember that your participation in the study is voluntary and that your decision s will be respected. You are free to ask any question or concerns related to study at any time.

You are free to refuse to answer any question and may stop an interview at any time or may stop being in the study at any time without any consequences to the services you receive in post abortion care or any other organization in future.



**The Benefits**

If you participate in this study, you will help us to make better decisions on post abortion contraceptive care and provision of contraceptives to post abortion women and women in general as you will provide some degree of benefits to women in future.

As participant in the study, you will be closely observed and provided with the treatment and family planning method of your choice and monitored how you are progressing from the administration to 3 month.

You will also be connected to other care services from the health facility if required during the research period

You will also receive more knowledge on post abortion care and contraception.

**Reward**

Participants in this study will receive quick treatment at the facilities in the research project.

The participants will reimbursed for transport expenses for follow up visits.

**Confidentiality**

The interviews and examination and counselling will be conducted in a private room or place within the facility. Your name will not be recorded in the questionnaire. The questionnaires will be kept on a locked cabinet for safe keeping both at the facility and at the office storage room with lockable cupboards. Everything will be kept private.

**Contact information**

If you have any questions you may contact

Prof E. Kabiru

Tel. +254 0721998 558//+254 733805863

Kenyatta University,

Prof. Elisabeth Faxelid

Tel. +4673932733

KaroliskaInstitutet

Dr. Osero

Tel. + 254 724 869 330

Kenyatta University supervisors

Kenyatta University Ethics Review committee secretariat

[chairman.kuerc@ku.ac.ke](mailto:chairman.kuerc@ku.ac.ke),

[secretary.kuerc@ku.ac.ke](mailto:secretary.kuerc@ku.ac.ke)

[ercku2008@gmail.com](mailto:ercku2008@gmail.com)

Participant's statement

I wish to state that I understand the above information regarding my participation in the study. I have been given a chance to ask questions and my questions have been answered to my satisfaction. My participation is purely voluntary without any coercion. I understand that my records will be kept private and that I can leave the study at any time and that despite this I will still be treated and get the

same care whether I decline to continue with the study or not. Discontinuation will have no effect on me whatsoever

Name of participants

.....  
.....

Signature of Thumb print..... Date .....

Investigators Signature statement

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

Name of Interviewer .....

Date.....

**APPENDIX 8: ETHICAL CLEARANCE**



**MINISTRY OF HEALTH**

Telegrams: "MEDICAL", Kisumu  
Telephone: 057-2020801/2020803/2020321  
Fax: 057-2024337  
E-mail: [ercjootrh@gmail.com](mailto:ercjootrh@gmail.com)  
*When replying please quote*

JARAMOGI OGINGA ODINGA TEACHING &  
REFERRAL HOSPITAL  
P.O. BOX 849  
KISUMU

11<sup>th</sup> June, 2015

ERC.1B/VOL.I/192

Date .....

Ref: .....

Theresa Mary Awuor Odero,  
KENYATTA UNIVERSITY.

Dear Theresa,

**RE: FORMAL APPROVAL TO CONDUCT RESEARCH ENTITLED:  
"CONTRACEPTIVE UPTKE AND ADHERENCE AMONGST POST ABORTION  
WOMEN IN KISUMU COUNTY"**

The JOOTRH ERC (ACCREDITATION NO. 01713) has reviewed your protocol and found it ethically satisfactory. You are therefore, permitted to commence your study immediately. Note that this approval is granted for a period of one year (11<sup>th</sup> June, 2015 to 12<sup>th</sup> June, 2016). If it is necessary to proceed with this research beyond the approved period, you will be required to apply for further extension to the committee.

Upon approval of your study (for study sites in JOOTRH), you **MUST** consult with the Chief Administrator's office before commencement of data collection.

Also note that you will be required to notify the committee of any protocol amendment(s), serious or unexpected outcomes related to the conduct of the study or termination for any reason.

Finally, note that you will also be required to share the findings of the study in both hard and soft copies upon completion.

The JOOTRH ERC takes this opportunity to thank you for choosing the institution and wishes you the best in your endeavours.

Yours sincerely,

**FRED OUMA AKWATTA,  
SECRETARY - ERC,  
JOOTRH - KISUMU.**



7/7/15 Approved [Signature]



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

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2241349, 3310571, 2219420  
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Website: www.nacosti.go.ke  
When replying please quote

NACOSTI, Upper Kabete  
Off Waiyaki Way  
P.O. Box 30673-00100  
NAIROBI-KENYA

Ref No. **NACOSTI/P/18/12719/26081**

Date: **18<sup>th</sup> October, 2018**

Theresa Awuor Odero  
University of Nairobi  
P. O. Box 30197-00100  
NAIROBI.

**RE: RESEARCH AUTHORIZATION**

Following your application for authority to carry out research on *“Contraceptive uptake and adherence among post abortion women in Kisumu County”* I am pleased to inform you that you have been authorized to undertake research in **Kisumu County** for the period ending **17<sup>th</sup> October, 2019**.

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

Kindly note that, as an applicant who has been licensed under the Science, Technology and Innovation Act, 2013 to conduct research in Kenya, you shall deposit a **copy** of the final research report to the Commission within **one year** of completion. The soft copy of the same should be submitted through the Online Research Information System.

  
**GODFREY P. KALERWA MSc., MBA, MKIM**  
**FOR: DIRECTOR-GENERAL/CEO**

Copy to:

The County Commissioner  
Kisumu County.

The County Director of Education  
Kisumu County.



KENYATTA UNIVERSITY  
GRADUATE SCHOOL

E-mail: [kubps@yahoo.com](mailto:kubps@yahoo.com)  
[dean-graduate@ku.ac.ke](mailto:dean-graduate@ku.ac.ke)  
Website: [www.ku.ac.ke](http://www.ku.ac.ke)

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

---

Our Ref: P97/21137/10

Date: 10<sup>th</sup> March, 2015

The Principal Secretary,  
Higher Education, Science & Technology,  
P.O. Box 30040,  
**NAIROBI**

Dear Sir/Madam,

---

RE: RESEARCH AUTHORIZATION FOR MS. THERESA M. A. ODERO - REG. NO. P97/21137/10

---

I write to introduce Ms. Odero who is a Postgraduate Student of this University. She is registered for a Ph.D. degree programme in the Department Community Health in the School of Public Health.

Ms. Odero intends to conduct research for a thesis Proposal entitled, "Contraceptive Uptake and Adherence amongst Post Abortion Women in Kisumu County".

Any assistance given will be highly appreciated.

Yours faithfully,

A circular official stamp of the Kenyatta University Graduate School is visible behind the signature. The stamp contains the text "KENYATTA UNIVERSITY GRADUATE SCHOOL" around the perimeter. Below the signature, the text "MRS. LUCY N. MBAABU" and "FOR: DEAN, GRADUATE SCHOOL" is printed.

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

JMO/cao



KENYATTA UNIVERSITY  
ETHICS REVIEW COMMITTEE

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Our Ref: KU/R/COMM/51/558

Date: 16<sup>th</sup> October, 2015

Theresa Mary Awuor Odera,  
 Kenyatta University,  
 P.O Box 43844, Nairobi.

Dear Theresa

RE APPLICATION NUMBER PKU/335/I 310- "CONTRACEPTIVE UPTAKE AND ADHERENCE AMONG POST-ABORTION WOMEN KISUMU COUNTY, KENYA".- VERSION 2

1. IDENTIFICATION OF PROTOCOL

The application before the committee is with a research topic, "Contraceptive uptake and adherence among post-abortion women Kisumu County, Kenya" – Version 2 dated 2<sup>nd</sup> October, 2015.

2. APPLICANT

Theresa Mary Awuor Odera,

3. STUDY SITE

Jaramogi Oginga Odinga Teaching and Referral Hospital, Kenya

4. DECISION

The committee has considered the research protocol in accordance with the Kenyatta University Research Policy (section 7.2.1.3) and the Kenyatta University Ethics Review Committee Guidelines AND APPROVED that the research may proceed for a period of ONE year from 16<sup>th</sup> October, 2015.

5. ADVICE/CONDITIONS

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

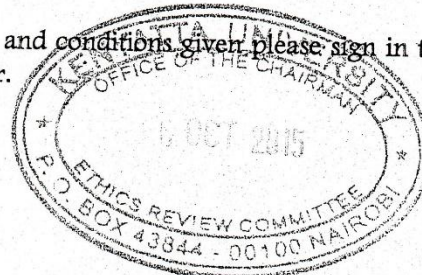
If you accept the decision reached and advice and conditions given please sign in the space provided below and return to KU-ERC a copy of the letter.

PROF. NICHOLAS K. GIKONYO  
 CHAIRMAN ETHICS REVIEW COMMITTEE

I, Theresa M. A. Odera accept the advice given and will fulfill the conditions therein.

Signature.....  
 cc. Vice-Chancellor

Dated this day of 16<sup>th</sup> October 2015 2015.



**THIS IS TO CERTIFY THAT:  
MS. THERESA AWUOR ODERO  
of UNIVERSITY OF NAIROBI, 0-100  
Nairobi, has been permitted to conduct  
research in Kisumu County**

**Permit No : NACOSTI/P/18/12719/26081  
Date Of Issue : 18th October, 2018  
Fee Received :Ksh 2000**

**on the topic: CONTRACEPTIVE UPTAKE  
AND ADHERENCE AMONG POST  
ABORTION WOMEN IN KISUMU COUNTY**

**for the period ending:  
17th October, 2019**



*[Handwritten Signature]*

**Applicant's  
Signature**

*[Handwritten Signature]*  
**Director General  
National Commission for Science,  
Technology & Innovation**

**THE SCIENCE, TECHNOLOGY AND  
INNOVATION ACT, 2013**

**The Grant of Research Licenses is guided by the Science,  
Technology and Innovation (Research Licensing) Regulations, 2014.**

**CONDITIONS**

- 1. The License is valid for the proposed research, location and specified period.**
- 2. The License and any rights thereunder are non-transferable.**
- 3. The Licensee shall inform the County Governor before commencement of the research.**
- 4. Excavation, filming and collection of specimens are subject to further necessary clearance from relevant Government Agencies.**
- 5. The License does not give authority to transfer research materials.**
- 6. NACOSTI may monitor and evaluate the licensed research project.**
- 7. The Licensee shall submit one hard copy and upload a soft copy of their final report within one year of completion of the research.**
- 8. NACOSTI reserves the right to modify the conditions of the License including cancellation without prior notice.**

**National Commission for Science, Technology and Innovation**  
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**REPUBLIC OF KENYA**  
**National Commission for Science,  
Technology and Innovation**  
**RESEARCH LICENSE**

**Serial No.A 21360**

**CONDITIONS: see back page**

**APPENDIX 9: SAMPLE OF CONTRACEPTIVE METHODS FOR CONTRACEPTIVE COUNSELLING**

