

**PREVALENCE AND FACTORS ASSOCIATED WITH
IMMEDIATE FAMILY PLANNING USE BY POSTPARTUM
WOMEN IN BUNGOMA EAST SUB COUNTY**

By

Kizito Masinde Brian

**A thesis submitted in partial fulfillment of the requirements for the
award of the degree of Master of Public Health of Moi University**

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DECLARATION

This thesis is my original work and part or whole of it has never been submitted to any other institution for purposes of examination. No part of this thesis should be reproduced without written permission of the author and/or Moi University.

Kizito Masinde Brian
SPH/PGH/16/13

Date

This thesis has been submitted to Moi University for examination with our approval as university supervisors

Prof. Peter M. Gatongi, PhD

Moi Univeristy, School of Public health

Department of Epidemiology and Biostatistics

Signature _____

Date _____

Prof. Astrid Christoffersen-Deb, MDCM, DPhil

Obstetrician and Gynaecologist University of Toronto

Visiting Lecturer Moi University, School of Medicine

Field Director AMPATH Reproductive Health

Signature _____

Date _____

DEDICATION

To all women of reproductive age in Bungoma East sub-county, Bungoma County of
Kenya

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ABSTRACT

Background: Return to fertility after a pregnancy is unpredictable and may occur before the onset of regular menstrual cycles, even in breastfeeding women. In Kenya, the overall unmet need for family planning (FP) in women less than 6 months postpartum is 76%. This has led to interpregnancy intervals of less than the World Health Organization (WHO) recommended 24 months. Such pregnancies are at highest risk of adverse health outcomes to the mother and child. Therefore, the use of family planning should begin before sexual activity is resumed. Little is known about how women perceive the use of contraception in the early postpartum period.

Objectives: Broadly, the study will assess the perception of postpartum women on family planning use before menses return. Specifically, this study will estimate prevalence of family planning uptake in women less than 6 months postpartum, assess postpartum women factors and family provider factors affecting immediate postpartum family planning uptake, and finally, establish the attitudes of postpartum women on family planning use before return to menses. The research inquiry will be guided by the Anderson behavioral model (ABM) of health service use, a multilevel model developed to explain and predict health service use.

Methods: This was a cross-sectional study carried out in 12 community health units and 15 public health facilities in Bungoma East Sub-county. A total of 280 women responded to structured questionnaire. Fifteen in-depth interviews with family planning providers were conducted and one focus group discussion with mothers. Quantitative data was analyzed by both descriptive and inferential statistical methods. For purposes of inference, logistic regression was on possible factors as outlined in the ABM. Associations between categorical variables (use and non-use of FP before menses return, prior use or non-use of FP, etc) were examined using chi-square test for independence. All P-values were within a 95% confidence interval. Qualitative data will be analyzed thematically.

Results: Overall, the prevalence of use of postpartum family planning (PPFP) before return of menses was at 35.6%. Nearly three quarters (69.1%) of the postpartum women had a positive attitude towards PPFP and perceived PPFP as acceptable and beneficial. Multiparous mothers were likely to be comfortable and have a more accommodating attitude compared to first time mothers. There was a significant association between use of immediate PPFP and the mother's attitude ($\chi^2 = 8.047$; $df = 1$; $P = 0.005$). The odds of a mother taking an immediate family planning method before her menses returned was 3.07 times significantly ($p = 0.008$) higher if a mother had positive attitude towards family planning. Facilities' readiness to provide immediate post-partum family planning is not yet satisfactory.

Conclusion: Most mothers, especially multiparous mothers are comfortable taking up an immediate family planning method postpartum and find it beneficial. Despite the perceived need for family planning post partum, uptake of a method is low. Attitude of a mother is a key determinant for uptake. Barriers to improved uptake especially in the health care set-up like gaps in provider counselling, skills gaps and unavailable equipment are paralyzing provision of post-partum family planning services.

Key words: unmet need for family planning, postpartum family planning, community health units, amenorrhea period

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ABBREVIATIONS AND ACRONYMS

ABM	–	Anderson Behavioural Model
ANC	–	Antenatal care
AIDS	–	Acquired immunodeficiency syndrome
COC	–	Combined oral contraceptive
DHIS	–	District Health Information System
DHS	–	District health survey
DRH	–	Division of reproductive health
FP	–	Family planning
FANC	–	Focused antenatal care
FDG	–	Focus discussion group
GIS	–	Geographic Information System
HIV	–	Human immunodeficiency virus
HTSP	–	Healthy Timing and Spacing of Pregnancy
IREC	–	Institutional Research and Ethical committee
IPI	–	Inter-pregnancy Interval
IUCD	–	Intrauterine Contraceptive Device
KDHS	–	Kenya demographic and health survey
KNBS	–	Kenya National Bureau of Statistics
LAM	–	Lactational Amenorrhea Method
MCH	–	Maternal and Child Health
MDGs	–	Millennium development goals
MOH	–	Ministry of Health
PPFP	–	Postpartum Family Planning
PROGRESS	-	Program Research for Strengthening Services Project
SPSS	–	Statistical package for social sciences
UNICEF	–	United Nations Childrens Fund
UNFPA	-	United Nations Population Fund
WHO	–	World Health Organization

DEFINITION OF TERMS

Attitude: This is the tendency to respond positively or negatively towards a certain idea, object, person or situation. Attitude influences an individual's choice of actions, responses to challenges, incentives and rewards.

Contraceptive methods include clinic and supply (modern) methods and non-supply (traditional) methods. Clinic and supply methods include female and male sterilization, intrauterine devices (IUDs), hormonal methods (oral contraceptive pills, injectables, hormone-releasing implants, skin patches and vaginal rings), condoms and cervico-vaginal barrier methods (diaphragm, cervical cap and spermicidal foams, jellies, creams and sponges). Traditional methods include withdrawal, abstinence and lactational amenorrhea.

Contraceptive prevalence rate is the proportion of women of reproductive age who are using (or whose partners are using) a contraceptive method at a given point in time.

Inter-pregnancy interval (IPI): This is the period between two births by the same mother.

Perception: This is thought, belief or opinion often held by a person and based on appearances.

Postpartum Family Planning is the initiation and use of family planning methods after pregnancy.

Return to menses: Resumption of the routine shedding of the uterine lining after childbirth or abortion.

Sub-county: Decentralized units through which county governments, under the devolution process in Kenya, provide functions and services.

The postpartum period is the year after childbirth. It is a time of transition, adjustment, and adaptation along with significant biological, social, and psychological changes. In terms of changes in the woman's body, the postpartum period starts from the first minutes after delivery of a baby and placenta, and lasts as follows:

- **Post-placental period:** The first 10 minutes after placental delivery
- **Immediate postpartum:** Up to 48 hours after giving birth
- **Early postpartum:** 48 hours to 6 weeks after giving birth
- **Extended postpartum:** 6 weeks to 1 year after giving birth.

Unmet need: Percentage of fecund and sexually active women who report not wanting any more children or wanting to delay the birth of their next child for two years but are not using any method of contraception.

CHAPTER ONE: INTRODUCTION

1.0 Introduction

1.1 Background of the present study

Family planning in the postpartum period is essential. An estimated 222 million women in the developing world have an unmet need for family planning, meaning that they want to avoid pregnancy but, as Singh and Darroch (2012) report, most of these women use either a low-efficacy family planning method or no method at all. Becker and Ahmed (2001) have demonstrated that many women around the world use the return of their menstrual period as a signal to begin using contraception, yet the return of menses may indicate that fertility returned several weeks before, thus leaving up to 10 percent of women at risk of becoming pregnant before their menses resume. It is important to note that, despite using menses as a trigger for initiation and use of contraceptives, the length of the amenorrhea period is highly varied among individuals and depends on many different factors.

An inter-pregnancy interval of less than 24 months places women and their children at highest risk for adverse health outcomes (Cleland et al., 2012). In support of this, studies have shown that spacing all pregnancies at least 2 years apart could avert an estimated 10% of infant deaths and 21% of deaths in children ages 1 to 4 globally (Cleland et al., 2012). Despite such findings, studies continue to show the high unmet need for family planning, especially in postpartum women. Analyses of 27 low- and middle-income countries estimated that 65% of postpartum women have unmet need (Ross JA, and Winfrey WL, 2001). A more recent analysis of data from 17 low- and middle-income countries found even higher estimates of unmet need when women were asked about prospective needs, instead of at the time of their previous pregnancy (Borda M, and Winfrey W., 2010). Their findings suggest that the overall unmet need for Kenyan women less than 6 months postpartum is 76%.

Examining factors that affect uptake of family planning in postpartum women, facility and provider aspects, just like in other health services, are critical (ABM, Andersen, 1968). A Study by O'Meara et al. (2014) in, four sub-counties in Western Kenya found out that the level and type of services in the health facilities available nearest to households rather than their distance influences treatment-seeking behavior.

Thus availing the most effective family planning methods (IUCDs and Implants) to mothers at the earliest opportunity is key in improving uptake.

1.2 Statement of the problem

Women in Kenya have a significant unmet need for family planning during the first year after a birth (Borda and Winfrey, 2010). This unmet need is for both birth spacing and limiting family size, a consideration that supports the need to ensure access to a wide range of reversible and permanent family planning methods. In addition, 50% of all non-first births in Kenya are spaced less than 24 months apart. Studies suggest that such pregnancies increase the risks for adverse neonatal outcomes including preterm birth, low birth weight and small size for gestational age. According to DaVanzo et al. (2001), when socioeconomic and demographic covariates are controlled, an inter pregnancy interval (IPI) of less than 6 months is associated with a 7.5-fold increase in the odds of an induced abortion (95% CI 6.0–9.4), a 3.3-fold increase in the odds of a miscarriage (95% CI 2.8–3.9), and a 1.6-fold increase in the odds of a stillbirth (95% CI 1.2–2.1), compared with 27- to 50-month IPIs. Short inter-pregnancy intervals also result in increased risk to the health of the mother. Compared with those conceiving 18 to 23 months after a previous birth, women with inter-pregnancy intervals of 5 months or less had higher risks of maternal death (OR 2.54; CI 1.22–5.38), third trimester bleeding (OR 1.73; CI 1.42–2.24), preterm premature rupture of membranes (OR 1.72; CI 1.53–1.93), postpartum endometritis (OR 1.33; CI 1.22–1.45) and anemia (OR 1.30; CI 1.18–1.45).

In relation to determinants of uptake of family planning in postpartum women, findings by the PROGRESS (Program Research for Strengthening Services Project in Ghana, India, Rwanda and Zambia funded by U.S. Agency for international development) showed that menses return was a trigger for family planning use by both women and providers. The findings further showed that in Rwanda, Zambia and Ghana, between 24% and 48% of women did not know that a woman could get pregnant before her menses returned during the postpartum period. Even those women who did understand their pregnancy risk did not necessarily act on this knowledge by initiating use of family planning before menses returned. However, women in the postpartum period have not received the attention and family planning services necessary to ensure access to lifesaving contraception during this vulnerable postpartum period. Even

worse are the very low rates of family planning uptake in the immediate and early postpartum period. Specific to the area of study, Bungoma County has the highest Total Fertility Rate of 3.9 amongst western Kenya counties, higher than the national TFR of 4 (KDHS 2014). There are no known estimates of contraceptive prevalence rate in the postpartum period and it is unclear what factors drive the uptake of postpartum family planning in the County.

1.3 Justification

Despite evidence of low early uptake of postpartum family planning and the demonstrated benefits of observing an interpregnancy interval of at least two years, many questions about key provider, patient, partner and facility determinants of uptake of postpartum family planning remain unclear. This research provided a platform for extensive review of existing models of family planning, evaluation of the provision of most effective family planning services to postpartum women and will give an insight into how mothers feel about use of postpartum family planning in the amenorrheic period. Findings from this study will provide health care workers in family planning and related program areas with knowledge into what we can improve on in order to reduce the unmet need for postpartum family planning.

1.4 Research questions

1. What is the prevalence of family planning uptake by postpartum women?
2. What are the factors that influence immediate initiation and use of family planning after child birth?
3. How well equipped are health facilities equipped to provide effective family planning services to postpartum women?

1.5 Study Objectives

1.5.1 Broad objectives

To assess the perception and attitude of postpartum women on family planning use before their menses return.

1.5.2 Specific Objectives

1. To estimate the prevalence of family planning use among postpartum women before their menses return.

2. To assess factors affecting immediate uptake of contraceptive methods among postpartum women.
3. Readiness of health facilities to provide postpartum family planning and role of providers

1.6 Scope of the study

The study assessed the perceptions of postpartum women on the use of family planning before menses return. The study evaluated factors affecting the use of immediate postpartum contraception. The study was carried out in selected community health units and facilities in Bungoma East Sub-county of Bungoma County, Western Kenya. Focus was on postpartum women and health care providers of contraceptive methods. Data were collected through questionnaires, focus-group discussions, and key informant interviews.

1.7 Study assumption

The study assumed that no changes in the variables of the study took place during the course of the study to significantly alter the problem question.

CHAPTER TWO: REVIEW OF LITERATURE

2.0 Introduction

In Kenya, contraception and other reproductive health services are core preventive services that should be available to all women as part of health care reform. Studies continue to underscore the importance of contraception and how it leads to improved maternal, child health, and socioeconomic outcomes. This chapter introduces the postpartum period, return to fertility, pregnancy spacing, and how these issues tie into the research problem. It also gives an overview of the various contraceptive choices that are available to mothers and the best timing for their use.

2.1 The Postpartum Period

The postpartum period has been termed the “fourth stage of labor,” and has three distinct but continuous phases. The initial, or acute period, involves the first 6 to 12 hours postpartum. This is a time of rapid change with a potential for immediate crises such as postpartum hemorrhage, uterine inversion, amniotic fluid embolism, and eclampsia. The second phase is the subacute period, which lasts 2 to 6 weeks. During this phase, the body is undergoing major changes in terms of hemodynamics, genitourinary recovery, metabolism, and emotional status. Nonetheless, the changes are less rapid than in the acute postpartum phase and the mother is generally capable of self-identifying problems. The third phase is the delayed postpartum period, which can last up to 6 months (Brown JS et al. 1999). Changes during this phase are gradual and pathology is rare. This is the time of restoration of muscle tone and connective tissue to the pre-pregnant state. Although change is subtle during this phase, caregivers should remember that a woman’s body is not fully restored to pre-pregnant physiology until about 6 months post-delivery.

2.2 Pregnancy spacing

The WHO Technical Consultation on Birth Spacing (WHO, 2005) recommended that to reduce the risks of adverse maternal, perinatal and infant outcomes, couples should wait at least two years after the previous pregnancy before they try to conceive again (Mwangi, 2008). Despite this, 18% of all non-first time pregnancies in Kenya occur within inter-pregnancy intervals of less than 24 months (KDHS, 2014). From previous surveys, an estimated 15% of these pregnancies occur

within very short intervals of less than 12 months, and another 35% occur within intervals of 12 to 23 months (see Figure 1).

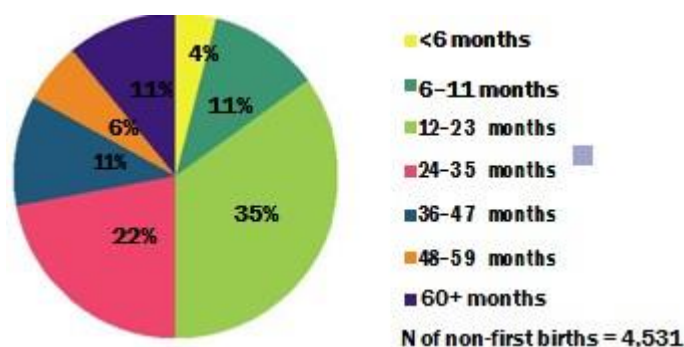


Figure 1: Birth-to-pregnancy spacing among all women aged 15–49, all non-first births in the last five years (KDHS 2008-09)

It is noteworthy that the 2014 Kenya DHS data demonstrate a sharp decrease in infant and childhood mortality rates as the length of the birth-to-pregnancy interval increases. Infant mortality decreases by more than half, from 91/1,000 for infants born at IPIs of less than 15 months to 31/1,000 for infants born at IPIs between 27 and 38 months. Similarly, there are higher rates of under-five mortality for children born at IPIs of less than 15 months (130/1,000) compared with children born at IPIs between 27 and 38 months (53/1,000).

2.3 Return to fertility and risk of pregnancy

The timing of a woman’s return to fertility after childbirth is difficult to predict and depends on individual physiology, health status, and breastfeeding habits. It is important for postpartum women to initiate the use of a family planning method before their fertility returns in order to avoid an unintended or mistimed pregnancy. Becker and Ahmed (2001) found out that throughout the world many women use the return of their menstrual period as a signal to begin using contraception. Yet we know that the return of menses may indicate that fertility returned several weeks before, thus leaving up to 10 percent of women at risk of becoming pregnant before their menses resume.

Factors related to return of fertility and risk of pregnancy include breast-feeding habits of the mother, return of menses and sexual activity, among other factors. Concerning breastfeeding, the amenorrhea period that occurs with regular breastfeeding (lactational amenorrhea) plays a critical role in a mother’s return to fertility. This period of lactational amenorrhea has been used as a method of contraception (the Lactational Amenorrhea Method known as LAM) and when practiced correctly with specific criteria met, it can be more than 98 percent effective. These criteria are: they must breastfeed exclusively (breastfeed on demand, 8 to 10 times a day, without giving any other liquids or foods to the baby), have no menses, and have an infant less than 6 months of age (Speroff et al, 2008). Once one of these 3 criteria is no longer present, for example in women who are partially breastfeeding, the woman is no longer protected from pregnancy. On average, women who do not breastfeed ovulate (and thus become fertile) by the 45th day after childbirth, and possibly as soon as the 28th day. This can be even less for women whose pregnancy ended earlier (such as in an ectopic pregnancy or abortion). This return to fertility begins prior to the return of menses in 2 out of 3 women. In terms of resumption of sexual activity, the 2014 KDHS showed that 45.5% of women are sexually active during the first six months postpartum and more than 21% of the women have experience menses return during the same period. Other data shows that women are sexually active again within 4 weeks. An illustration of the key factors related to return to fertility and the risk of pregnancy among women during the first two years postpartum in Kenya is given below in Figure 2.

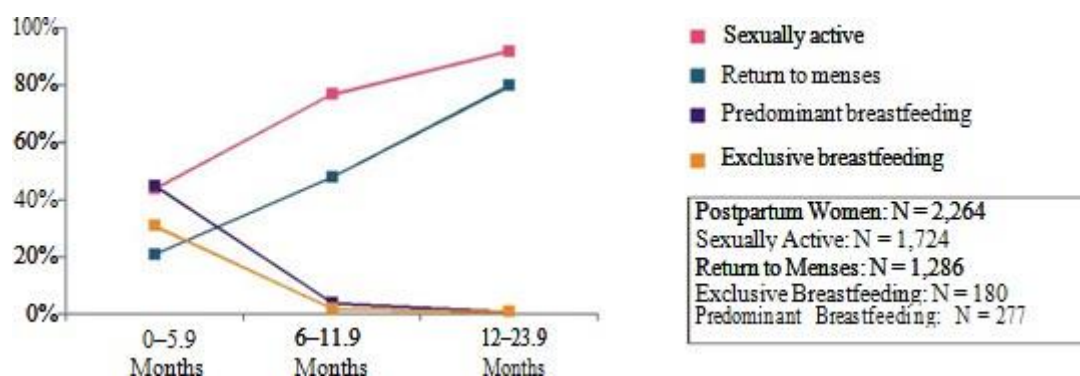


Figure 2: Factors related to return to fertility and risk of pregnancy in the first 24 months after birth (KDHS 2014)

2.4 Postpartum Family Planning

Postpartum family planning is generally defined as the initiation and use of family planning methods following childbirth. One of Kenya's key healthcare targets as outlined in the Second National Health Sector Strategic Plan (NHSSP) is to reduce the level of unmet need by increasing the contraceptive prevalence rate from 45% in 2007 to 60% by 2017. However, there are no specific targets for increasing FP use among postpartum women within 12 months after giving birth. Currently in Kenya, 90.7% of women 12 to 24 months postpartum are sexually active and 88.8% have menses return, yet only 56% are using FP (KDHS2014).

2.4.1 Family planning methods and options in Kenya

To address the need for equitable access to reproductive health services, including family planning, the Kenya Ministry of Health released the National Family Planning Guidelines for service providers (4th edition). The guidelines outline various methods that are available in the country and corresponding aspects of medical eligibility. The following methods are used in Kenya:

Voluntary surgical methods

Sterilization is a permanent form of birth control only performed by a trained health care provider. The procedure of tubal ligation causes a blockage of the tubes between the ovaries and the uterus. This way, the sperm cannot reach the egg to fertilize it, and the egg cannot reach the uterus. Vasectomy, on the other hand, is a surgical procedure that cuts, closes, or blocks the vas deferens, the path between the testes and the urethra. It can take as long as 3 months for the procedure to be fully effective, so a back-up method of contraception is used until tests confirm that there is no sperm in the semen.

Intrauterine contraceptive devices (IUCDs)

The IUCD is a flexible device that is inserted into the uterine cavity by a trained provider. It is a safe and highly effective, long-acting, reversible contraceptive method. After the recommended length of time (5 years for the hormone-releasing IUCD or 10-12 years, for the copper IUCD), or when the woman no longer needs or desires contraception, a health care provider removes or replaces the device. The common type of IUCD in Kenya is the copper IUD. A copper IUD releases a small amount of copper

into the uterine cavity, causing an inflammatory reaction that prevents sperm from reaching and fertilizing the egg. If fertilization of the egg does occur, the physical presence of the device prevents the fertilized egg from implanting into the lining of the uterus. In Kenya, the most widely used copper-bearing IUCD is Copper T380A, which is made of plastic with copper sleeves on the arms and copper wire wound around the stem

Strong data support the safety and efficacy of the IUCD when inserted during the immediate and later postpartum periods (Grimes et al. 2010.). Advantages of immediate postpartum insertion of the IUD include client motivation, safety (Kapp, N et al. 2009), convenience, assurance of no pregnancy (Grimes et al. 2010.) and cost-effectiveness (Foreit KG et al. 1993).

Hormonal methods

In Kenya, nearly 89.7% of women using modern contraceptives choose hormonal methods, with 16.8% and 55.3% choosing the oral contraceptive pills and injectable contraceptives, respectively (KDHS 2014). Hormonal contraceptives are highly effective if used correctly, safe, and convenient. They can be taken in the form of oral pills, injectables, implants, skin patches, or hormone-releasing intrauterine systems. Combined oral contraceptives (COCs), Progestin-only contraceptive pills (POPs), Progestin-only injectable contraceptives (DMPA, NET-EN), Progestin-only contraceptive implants (Jadelle, Implanon, and Zarin), Hormone-releasing intrauterine systems (LNG20-IUS) and dedicated products for emergency contraception are the most common hormonal methods available in Kenya. Depending on the types of hormones that are used, these methods work by preventing ovulation, thickening cervical mucus, which blocks sperm from reaching the egg, or thinning the lining of the uterus. Health care providers prescribe, monitor, and administer hormonal contraceptives.

Barrier methods of contraception

Barrier methods prevent the sperm from gaining access to the upper reproductive tract and making contact with the egg. These methods include male and female condoms, spermicides, diaphragms, and cervical caps. Currently in Kenya and around the world, the use of diaphragms, cervical caps, and spermicides is negligible.

Another advantage of barrier methods is that, with the exception of the male condom, women control all the barrier methods, and almost every woman can use them. Barrier methods can be used without restriction but are the least effective methods

Lactational amenorrhoea method (LAM)

The lactational amenorrhea method is a temporary method of family planning based on the lack of ovulation that results from exclusive breastfeeding. LAM works primarily by preventing ovulation but for this to occur, exclusive breastfeeding is mandatory. Therefore, effectiveness depends on the user. With perfect use, the pregnancy rate is less than one per 100 women. For this method to be effective, all three of the following criteria must be met: The woman's menstrual periods have not resumed, the baby is exclusively breastfed and the baby is less than six months old. When any of these three criteria is no longer met, another FP method must be introduced to ensure healthy birth spacing.

During the course of explaining and providing these contraceptive methods, healthcare workers are supposed to be guided by the Medical Eligibility Criteria (MEC). The WHO's Expert Working Groups periodically review the latest scientific information on the safety of contraceptive methods and make recommendations on criteria for their use in different situations. In 2009, The World Health Organization published a new set of recommendations, which are used by Kenyan healthcare workers. These are important and expected to guide the providers, including when they are handling postpartum women. Considering family planning services in Kenya are provided in diverse settings that differ in resource availability and levels of provider training and skills, it is recommended that the medical eligibility criteria be adapted to the local situation for clinical decision-making support. In Kenya, the four MEC categories are interpreted as follows:

Category 1-Conditions for which there is no restriction on the use of the contraceptive method. It is recommended that one uses the method.

Category 2- Conditions for which the advantages of using the method generally outweigh the theoretical or proven risks. It is recommended that where clinical judgement is adequate, use the method with care and close follow-up might be required

in some cases. However, where clinical judgement is NOT adequate, initiate the method and refer the client for evaluation as soon as possible.

Category 3- Conditions for which the theoretical or proven risks usually outweigh the advantages of using the method. Use of method is not usually recommended unless other, more appropriate, alternative methods are not available or not acceptable. Where clinical judgement is adequate, help the client choose an alternative method or use the method with extreme care. Where clinical judgment is NOT adequate, do not use the method. Refer the client or help her choose an alternative method.

Category 4- Conditions that present an unacceptable health risk if the contraceptive method is used. It is recommended that you do not use the method.

2.4.2 Timing: When Postpartum Women Can Start Family Planning Methods

When a woman should and can start family planning methods after childbirth depends on her breastfeeding status, method of choice and reproductive goals. As shown in Table 1 below, family planning options are available to mothers as early as immediately after a delivery. Immediate postpartum mothers, if well-counselled on the available options and are willing to make an informed choice can use, implants, IUCDs , LAM as a method, female condoms, female sterilization for limiting pregnancies.

Table 1: Earliest Times a Client May Start Family Planning after Childbirth

Family Planning Method	Exclusively Breastfeeding	Partially Breastfeeding or Not Breastfeeding
Lactational Amenorrhea	Immediately	Not applicable
Vasectomy	Immediately or during partner's pregnancy	
Male or female condoms	Immediately	
Copper-bearing IUCD	Within 48 hours	
Implants	Immediately (MEC Category 2)	
Female sterilization	Within 7 days, otherwise wait 6 weeks	
Progestin-only pills (POPs)	Immediately (Check MEC annexure 7)	Immediately if not breastfeeding. 4 weeks after childbirth if partially breastfeeding
Combined oral contraceptives (COCs)	6 months after childbirth	21 days after childbirth if not breastfeeding otherwise 6 months after childbirth if partially breastfeeding

Source: WHO/CDC June 2012

2.4.3 Unmet Need for Postpartum Family Planning

Women in their first year postpartum and their families are a priority group to reach with family planning information and services. Using data from 27 countries, Ross and Winfrey (2001) demonstrated that as many as two-thirds of women who gave birth in the year preceding their survey had unmet need for contraception, yet as few as 3%-8% wanted another child within the following 2 years. Nearly 65% of women in the first year postpartum intend to use a family planning method but are not yet doing so. They have an unmet need for family planning.

Earlier surveys have shown that unmet need for both birth-spacing and limiting births decreases steadily as the number of month's post-delivery increases. This implies

that a large number of immediate postpartum women in Kenya have a higher unmet need for family planning. Overall un-met need is 76% for women less than 6 months postpartum, By the end of one year postpartum, overall unmet need has decreased to 59%, and then to 48% by the end of the second year. The levels of unmet need for limiting and spacing are very similar throughout the period. A similar proportion of women have an unmet need for FP which allows for birth spacing or FP which allows for limiting family size: 36% compared to 40% in the first 6 months and 25% compared to 22% from 12 to 24 months (see Figure 3).

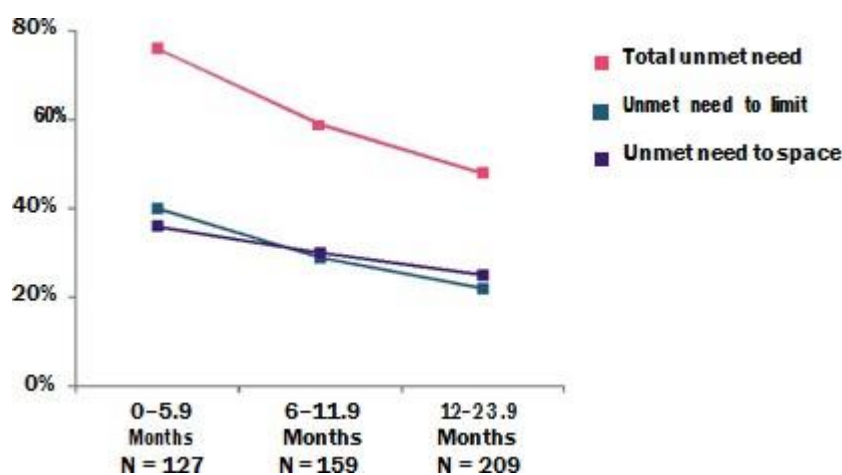


Figure 3: Prospective un-met need across postpartum periods (KDHS 2008-09)

2.5 Andersen’s Behavioral Model of Health Services Use

As previously established, postpartum family planning is critical. Ensuring that women have a choice about the size of their families and the timing of their pregnancies, especially after a previous pregnancy, requires understanding the factors behind the uptake of postpartum family planning. This study made an inquiry into provider, patient, partner and facility aspects around immediate postpartum family planning, particularly IUCDs and implants. To drive the process, this study employed the Andersen’s Behavioral Model of Health Service Use (ABM, Andersen, 1968). This is a multilevel model developed to explain and predict health service use, as depicted in Figure 4. The ABM was originally developed to explain health service use among families and has since undergone multiple revisions, changing the unit of analysis from families to individuals, and expanding the model to include both individual-level and

broader contextual factors in the external environment and health care system (Andersen, 1995; Andersen & Davis, 2001; Andersen & Newman, 1973). Through this model, personal characteristics (predisposing, enabling, and relationship factors) and the environment (health care system and external environment) that drive uptake of immediate postpartum family planning before the return of menses were examined. Application of the model in this study focused on the following factors as illustrated in Figure 5.

2.5.1 Environmental factors

Health system factors- Key assessments of the facility was performed to establish their capacity to offer the most effective postpartum family planning services. Review of the provider's requirements for initiation of postpartum family planning before menses return was also done. The households were mapped to the health facilities for purposes of establishing how distance from the health facility may affect access to family planning services.

2.5.2 Personal factors

Predisposing factors- Parity, age of the mother, and knowledge of contraceptives was investigated. Most importantly, the attitudes of the mothers about the use of family planning before menses return drove this area of inquiry.

Enabling factors- Prior use of contraceptives and having delivered in a health facility was investigated as it may relate to postpartum contraceptive uptake.

Relationship factors- The woman's relationships who holds family planning decision-making control, along with her partner's attitude towards contraception and his perception about the importance of family planning was examined to establish the role these factors have in uptake of postpartum family planning before menses return. Concerning contraception sabotage, a history of intimate partner violence (both emotional and physical), and the perceived differences a woman and her partner's fertility desires will be examined.

In summary, applying Andersen's Behavioral Model of Health Services Use helped highlight areas in need of further exploration in understanding predictors of postpartum contraceptive use before menses return. Given Kenya's significant unmet

need for postpartum family planning services, especially less than 6 months postpartum (currently at 76%), and the individual and population-level consequences of this unmet need, more research was needed on predictors of postpartum family planning service uptake and contraceptive use and how this is shaped by the previously mentioned factors. Given the previously identified gaps in the literature on the many factors which play a role in the uptake of postpartum family planning, this model helped suggest further areas that needed to be explored.

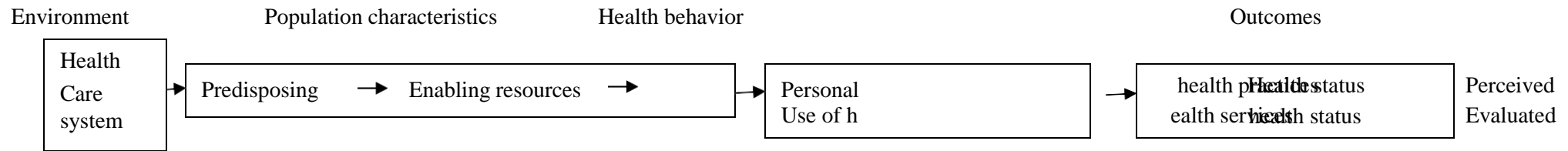


Figure 4. Andersen's Behavioral Model of Health Services Use

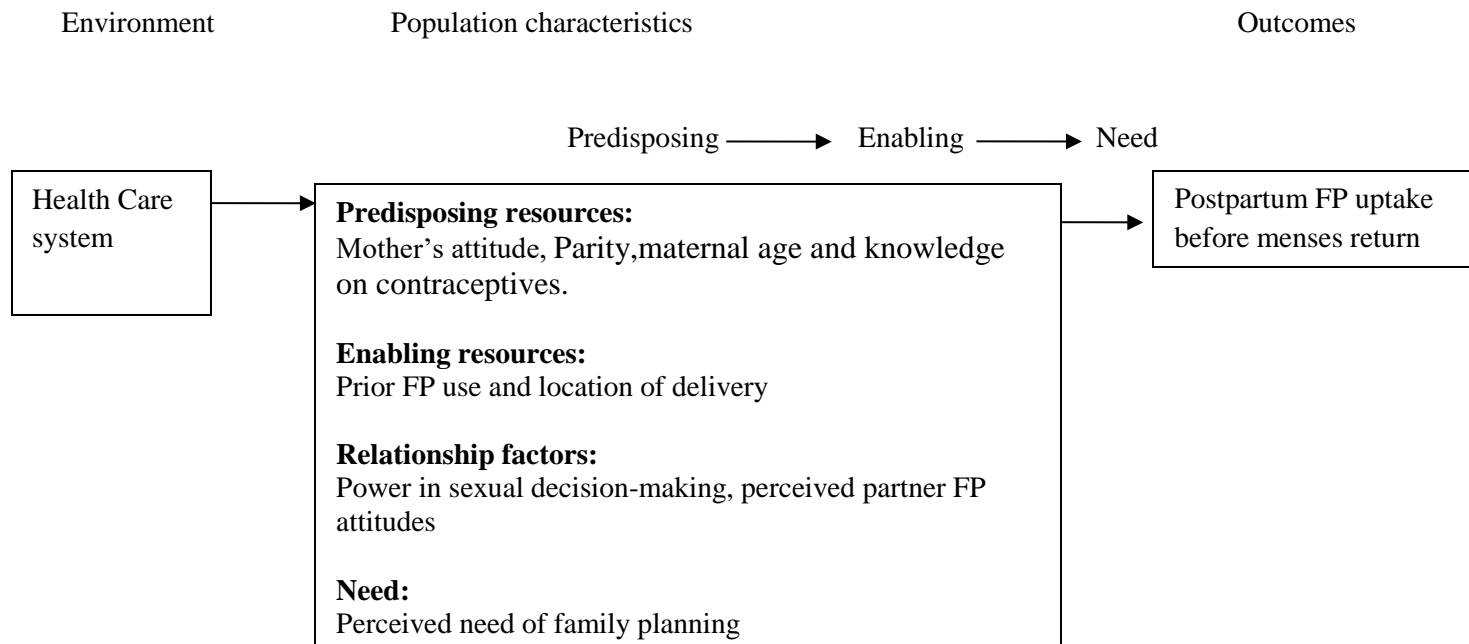


Figure 5: Independent variables and outcome variables mapped on to the theoretical framework of Andersen's Behavioral Model of Health Services Use.

CHAPTER THREE: METHODOLOGY

3.1 Introduction

This chapter outlines the planned methodology. Areas highlighted include a clear description of the study areas, research design, data collection procedures, and data analysis methods.

3.2 Study area

The research was conducted in Bungoma East sub-county, one of the five sub-counties that form the larger Bungoma County. It is the third most populous in Bungoma county, with an area of 404.3Km² (5% of the total area of the county). According to the Kenya Demographic and Health Survey (KDHS) of 2014, Bungoma County has the highest Total Fertility Rate (TFR) of 5, the highest in Western Kenya counties. Bungoma's TFR is higher than Kenya's Total Fertility Rate (TFR) of 3.9. Bungoma East Sub-county has one sub-county hospital (Webuye hospital), one faith-based hospital (Lugulu Mission Hospital), three health centers (Milo, Webuye and Bokoli), eight dispensaries, and eight private clinics. In terms of the socioeconomic status of residents of Bungoma-East, the main means of income is agriculture, with maize and sugarcane being the predominant crops. The population is estimated to be 230,253 persons, with 45, 186 households. The female population is estimated to be 117,876 persons. About 54-64% of the population in the sub-county live below the Kenyan national poverty line.

In terms of community health units, Bungoma East has 23 operational community health units with a network of community health volunteers and Community Health Extension workers linked to facilities. Table 2 summarizes these details.

Table 2: Bungoma east sub-county Community health units and their link facilities

Community Unit Code	Community Unit Name	Location	Link Health Facility	Number of Households
600545	Bokoli	Bokoli	Bokoli Hospital	1,733
602813	Khalala	Sitikho	Khalala Dispensary	1,047
600547	Kitumi	Kitumi	Mukhe Dispensary	2,066
602818	Mayila	Sidhgo	Milo Health Centre	964
600555	Miendo	Miendo	Miendo Dispensary	1,990
602816	Mujiy	Maraga	Lurare Dispensary	1,892
602224	Sitikho	Sitikho	Milo Health Centre	2,393
600546	Khalumuli	Khalumuli	Khalumuli Dispensary	1,999
600548	Lurare	Lurare Maraka	Lurare Dispensary	6,050
600549	Lutacho	Lukusi	Lukusi Dispensary	1,658
600550	Magemo	Magemo	Sinoko Dispensary	967
600551	Mahanga	Bokoli	Mahanga Dispensary	1,415
600552	Makuselwa	Makuselwa	Khaoya Dispensary	1,022
600553	Marinda	Marinda	Khaoya Dispensary	2,006
600554	Matulo	Matulo	Matulo Dispensary	2,814
600556	Mihuu	Mihuu	Mihuu Dispensary	3,299
600557	Milo	Milo	Milo Health Centre	2,003
600558	Misemwa	Misemwa	Khaoya Dispensary	933
600560	Mitukuyu	Mitukuyu	Mihuu Dispensary	1,700
600561	Sinoko	Sinoko	Sinoko Dispensary	3,166
600562	Sitabicha	Sitabicha	Sinoko Dispensary	2,199
600564	Wabukhonyi	Wabukhonyi	Khaoya Dispensary	650
600565	Webuye	Webuye	Webuye Health Centre	1,220

3.3 Study design

This study employed a mixed methods approach where both quantitative data using questionnaires and qualitative data using focus group discussions and key informant interviews were collected. Mixed methods approach was comprehensive enough to tackle the research questions from more than one perspective. With this approach, different aspects of postpartum family planning were investigated and understood in depth by a critical look at both quantitative and qualitative data. Use of qualitative data was particularly useful in complementing and filling in identified gaps in quantitative data.

3.4 Sample size determination

Sample size (n) for the study was determined by Fischer's formula:

$$n = \frac{Z^2 p(1-p)}{d^2} = ((1.96*1.96*0.24*0.76)/(0.05*0.05)) = 280$$

where n was desired sample size (when population is more than 10,000) and Z is 1.96 for a 95% confidence interval and d=5%, the margin of error.

p=76% (the estimated unmet need for Kenyan women less than 6 months postpartum according to Borda and Winfrey, 2010. There is no study to date in Bungoma County estimating the unmet need for family planning and hence the use of the national estimate).

On substitution, this gave a sample size of 280 mothers.

The number of healthcare workers participating in the interviews could only be determined after selection of community health units and identifying health facilities in these community units. After simple random sampling of the facilities, Bokoli Hospital, Khalala dispensary, Khalumuli dispensary, Khaoya dispensary, Lukusi dispensary, Lurare dispensary, Mahanga dispensary, Matulo dispensary, Miendo dispensary, Mihuu dispensary, Milo dispensary, Mukhe dispensary, Sinoko dispensary, Webuye health centre and Webuye sub-county hospital were selected. Thus 15 interviewees with health care workers from these facilities were carried out.

3.5 Sampling procedure

Simple random sampling technique was used to select 12 out of the 23 community health units. Given that the number of households varied from one community unit to another, the number of mothers to be drawn from each community unit was determined on a pro rata basis. Samples from three divisions were then drawn proportionately as outlined below:

$$(N_i/N) * 280 = X_i \text{ where:-}$$

N_i - is approximate number of households in the i th community unit

N – Is the approximate total number of households in all the 12 community units that will be selected

X_i - Is the the final number of household that will be selected in the i th community unit

280 = the total sample size to be used in the study(Number of eligible mothers)

I – represents any of the 12 community units

Upon substitution,

Table 3: Community units selected and number of huseholds selected per community units

Community units	Households to be interviewed
Bokoli	24
Kitumi	29
Sitikho	34
Lukusi	23
Bokoli	20
Makuselwa	14
Milo	28
Misemwa	13
Mitukuyu	24
Sinoko	44
Wabukhonyi	10
Webuye	17
Total	280

The immediate postpartum period is a difficult time for recruitment due to mother's exhaustion from delivery and congestion within the post-natal or delivery rooms. About 75% of these mothers are discharged from maternity in less than 48 hours and finding them for the study would be difficult.

In the early postpartum period most mothers make contact with the facility at 6, 10, 14 weeks and 6 months after delivery when they come for immunizations for the baby. Shifting focus from facility to the community gave an opportunity to reach women who had a pregnancy but did not come to the facility for immunization because their children died or for any other reason which prevented them from coming for immunization visits.

In addition, many women in rural communities do not access care in health facilities due to a number of barriers. A facility-based study would have failed to include the women who do not reach health facilities. By not including this subset of women, our study would be biased toward a sampling of women with greater access to care, whether by higher income, education, or a better support system. A household sampling technique improved our inclusion of women with poorer access to care, lower income and education, and poorer support systems.

3.5.1 Inclusion criteria for women

- Women between ages 15 and 49 who had gone through a pregnancy and had delivered within the last 1 year from the time of data collection, and could communicate, and with the mental and physical capacity to give informed assent or consent and respond to the interview.

3.5.2 Exclusion criteria for women

- Mothers who declared that they were infertile, had tubal ligation, or had gone through a hysterectomy or had reached menopause.

3.5.3 Inclusion criteria for Health care workers

- Health care workers in the family planning units (postnatal wards, family planning clinic, cervical cancer screening program clinic or child welfare clinic) depending on the facility.

3.5.4 Exclusion criteria for health workers

Due to Ministry of Health staff rotations, this study excluded healthcare workers who had been into the facility for less than 6 months and those who had been in that family planning unit of the facility for less than 6 weeks.

3.6 Data collection

Both quantitative and qualitative data were collected. Quantitative data was collected through objectively-designed questionnaires and collection of qualitative data was through in-depth interviews and focus-group discussions.

3.6.1 Data Collection Tools

Questionnaires

A copy of the questionnaire is attached in Annexure 2 (part b) for women and Annexure 4 for the health care providers. Data collected through the questionnaire majorly helped in the estimation of prevalence of postpartum family planning use in the mothers and assessment of factors that affect the uptake of immediate postpartum family planning.

Focus group discussions

Focus-group discussion (FGD) is a rapid assessment, semi-structured data gathering method in which a purposively selected set of participants gather to discuss issues and concerns based on a list of key themes drawn by the facilitator (Kumar, 1997). Because of a limited budget, a single focus group comprising of 12 mothers drawn from the community units was held. One mother who met the inclusion criteria from each of the 12 community health units was selected to participate in the discussions. This blend brought about heterogeneity in the group thus making the select group as representative. The mothers were selected on the basis of parity. At the end, the group comprised of mothers with fewer than two children and a mother with more than two children were selected.

An experienced moderator used the discussion guide (See annexure 2) for keeping the discussion on track. The assistant moderator took detailed notes of the discussion. A tape recorder was used during the discussions, which took a maximum of 2 hours with health breaks in-between. The strength of the focus group relied upon the

ability of participants to respond and comment on others' contributions. Data from the focus group discussions gave indepth insights on how others felt and how they perceived use of immediate post-partum family planning methods.

Interviews

Interviews enabled the researcher to probe the interviewee further, thereby obtaining explanation and illustrations responses. Interviews targeted the health care providers in the facilities. An objectively constructed interview guide was used during questioning of the respondent. A copy of the guide is attached in Annexure 3. Data from the interviews helped understand provider factors that affect the uptake of immediate postpartum family planning.

3.6.2 Data collection procedure

The researcher enlisted the help of community health workers who are in-charge of the selected community units. They facilitated community entry and selection of households using systematic random sampling and identifying women in these households meeting the inclusion criteria. The Community Health Volunteers (CHVs) under the supervision of the Community Health Extension Workers (CHEWs) collected all household data. Only female Community Health Volunteers (CHVs) from selected community units in Bungoma East collected the data. This was because of the sensitive nature of information obtained in the study and the costs implications of hiring a chaperone incase of a male CHV interviewer. Records from USAID/AMPATHplus (A partner who facilitated training of the CHVs in Bungoma County) show that 92% of the CHVs in Bungoma East are female, therefore recruitment of female-only CHVs was not difficult.

Community Health Volunteers were key to the study because they lived in these communities and interacted with the women frequently and were assigned to these households for delivery of health education. Given their interaction and familiarity with these communities and the sensitivity of the research questions, they were the best-placed people to obtain the information because the women were more likely to trust them. A key advantage of using the community health volunteers was that valid information was obtained because of their familiarity with these households and they trust they have from the households.

The Community Health Volunteers (CHVs) in Bungoma East Sub-county, like other volunteers in the Country had undergone a 10 day training through the Ministry of Health Curriculum (Titled ‘Linking communities with the health system: The Kenya essential package for health at Level 1’). A key part of this training emphasizes the importance of confidentiality and how harmful breaches of confidentiality would be to not only their own jobs but to the women they work with. During their day-to-day interactions with the communities, the CHVs collect intimate information about the households. To facilitate the inquiry, these indicators are found in the Ministry of Health data collection registers; MOH 513- Household Register, MOH 514- CHV Service Delivery Logbook, MOH 515-Community Health Extension Worker Summary Sheet and MOH 516- Community Chalkboard. Training sessions were conducted to familiarize the community health workers with the study tools and refresh them with regard to the constructs of conducting ethical research, with emphasis on how to collect this information sensitively and confidentially. The training was also important to ensure elimination of variations between any two Community Health Workers with regard to the variables in the tools. The researcher personally conducted all interviews with the health care workers, facility data collection and was the assistant moderator and note taker during the focus group discussion. The inductive training also included how to best to deal with a potential study participant whose husband does not agree with her enrollment or does not want to allow her space to discuss these questions confidentially. It was made clear during the training that if such a situation occurred, the CHV was not to pursue enrollment and was not to put pressure the woman to enroll in the study.

3.7 Validity and reliability of data

To ensure that data gathered in the research study is handled in a manner that will not change the interpretation, validity and reliability was taken into consideration before the actual study. To avoid collection of biased data, simple language of instruction was used. The inclusion criteria were strictly observed. Working closely with the university supervisors, content validity was checked to ensure that all the data tools carry relevant questions in-line with the research questions driving the study. A pilot study to test the tools was carried out. As Somekh and Lewin (2005) suggested, piloting was crucial in highlighting ambiguities and other potential pitfalls. The pilot

study was carried out on a sample of 15 women from Bukembe community unit that was not picked after sampling. In order to ascertain how closely the set of items in the data collection tools are related, Cronbach's alpha was employed. An alpha of 0.8, which was within the acceptable range, was obtained. Feedback from the pilot study enabled the researcher to make alternations to the tools and the planned process of data collection.

3.8 Ethical consideration

The study considered the following fundamental ethical aspects before and during the actual survey processes.

3.8.1 Informed consent

All the participants of the study were given an information sheet detailing the key components of the study. The information sheet introduced each identified participant to the researcher and the supervisors. The participants then read or listened to information on what they were to be asked to do, what might happen to them if they did not participate, what they stood to benefit if they participated, how their identity will be protected and what happens if they wished to leave the study. After all these processes, the participants were left to make a decision on whether or not to take part in the study. Annexure 2 gives a copy of the information sheet and the consent form.

3.8.2 Confidentiality

For the household data collection processes, it was made clear that information of the participants was not to be linked to the questionnaires. For the interviews and focus group discussions, data were de-identified. All participants were asked not to discuss anything shared in the discussions with others. Data collected is still stored on password-protected USB keys. Only the researcher and the supervisors are able to see any written information. Audio-recordings from the tapes were deleted.

3.8.3 Ethical clearance and approval

Ethical approval for this study was sought from the Institutional Research and Ethics Committee (IREC), the regulatory entity for research at Moi Teaching and Referral Hospital and the Moi University College of Health Sciences. Administrative approval was also sought from the Bungoma East Sub-County Medical Officer of Health (Annexure 5).

3.9 Data Analysis

3.9.1 Quantitative data analysis

A key output from this study was to estimate of the prevalence of immediate post-partum family planning use before return of menses. An assessment of health care facilities and their capacity to provide post-partum family planning was also done. Data from questionnaires was managed through SPSS and spreadsheets. SPSS was majorly used for all descriptive and inferential analysis as detailed below whereas spreadsheets were used for generation of tables with the output from SPSS. Only completed data sets were to be included in the analyses.

All continuous variables from the questionnaires were summarised using the following descriptive statistics (non-missing data variables): mean, standard deviation, median, maximum and minimum. The frequency and percentages (based on the non-missing data variables) of observed levels were reported for all categorical measures.

The mean, standard deviation, and any other statistics are reported to one decimal place greater than the original data. All summary tables were structured with a column for the family planning use status of the mother (used or did not use FP before menses) and are annotated with the total sample size relevant to that table, including any missing observations. When estimating the prevalence of postpartum family planning use before menses return, each mother was counted once and any repetition of adverse events was ignored; the denominator was the total number of women interviewed.

For purposes of inference, logistic regression was performed on the categorical variables (use and non-use of FP before menses return, prior use or non-use of FP, etc). P-values ≥ 0.05 are reported to 2 decimal places; p-values < 0.05 are reported as “ < 0.05 .” In the logistic regression output, all P-values are accompanied by a 95% confidence

interval around the calculated odds ratio. All assumptions for regression models were assessed by viewing plots of the residual values. Quantitatively, question 27- How do you feel about using a family planning method after delivery before your periods/Menses return? (Annexure 1) was coded to provide data used in computing proportion of women who had a positive attitude towards postpartum family planning use before return of menses. All the responses were critically analyzed and categorized into different categories. Those who responded with '*I am comfortable using it and I find it beneficial and important*' were considered to have a positive attitude.

During these analyses the following guiding questions were used:

- What type of facilities are the mothers linked to? (Facility has some maternity services but not delivery services and those that have both maternity services and delivery services. What is the relationship between type of facility and postpartum family planning use)
- With the help of facility GIS coordinates and household coordinates, how far must the woman travel to access the facility with family planning services?
- How best are health facilities providing IUCDs and Implants to Postpartum women
- Do health facilities have the technical expertise to administer IUCDs and implants?
- What proportion of women know that they could get pregnant before their menses return?
- Amongst women who understand the risk, how many acted on the knowledge and initiated a family planning method before their menses returned?
- Among women 9-12 months postpartum (when pregnancy risk is higher than the earlier postpartum period), is there an association between knowledge of pregnancy risk and family planning use among sexually active, amenorrheic women?
- For women enrolled in the study who have just delivered and are aware of pregnancy risk, what proportion are waiting for return of menses before they initiate a family planning method.

3.9.2 Qualitative data analysis

Unique identity numbers (IDNOs) were determined in advance and used to link all data collected about the specific interviews and the focus group. This was done by using numbers or letters to identify the type of data collection, the location of facility, the type of respondent(s) and a unique identifying number. Table 4 below gives a summary of the various stages that the qualitative data from interviews and FGDs were taken through during analysis

Table 4: Stages of qualitative data analysis

Stage of qualitative data analysis	
1. Transcription of data from tapes	Transcripts for each interview and the FGD were typed into a new Word file directly from the tapes in the original language used during the interview and discussions. The transcript document was then labeled with the ID number of the individual interviewed.
2. Immersion	Intensive reading of notes and listening to the material from interviews and the FGD, assimilating as much of the explicit and implicit meaning as possible.
3. Categorization and coding	Systematically working through the data, assigning coding categories while identifying meanings within the various segments or units in the text, the aim here was to find out which meanings are most valid, accurate or important.
4. Phenomenological reduction	Here the researcher interrogated the meanings or categories that have been developed and explored different ways of examining the data.
5. Triangulation	Core themes were identified by sorting through the categories, deciding which ones were recurring and central and which ones were less significant, invalid or mistaken.
6. Interpretation	The researcher was able to make sense of data from a wider perspective and related to these findings to the Anderson Behavioral Model.

It is important to note that perceptions of the women were deduced qualitatively from the focus group discussion guide (Annexure 2). Questions 3: *Immediately after delivery of your baby, how comfortable will you be to use a family planning method before your period/menses return? Which family planning methods will you be comfortable with during this time? Will you be comfortable to have these methods immediately? What do*

you think other women in your community feel about using family planning method immediately after delivery before return of menses? In addition, Question 4: Do you feel it is important to use family planning? Do you think most of your friends/fellow women feel the same? If so (yes, it is important to use family planning), what are some of the benefits you have drawn from using family planning in the past/or can be drawn from using family planning? Were used to determine what perceptions the women held on postpartum family planning use before menses returned.

CHAPTER FOUR: RESULTS

This chapter presents results from the data analysis. Two-hundred-forty-four postpartum women participated in this study. One focus group discussion with family planning providers was and five key informant interviews with mothers. Almost half of the mothers who were interviewed were between age 20 and 29. About 85% of them were married. Almost all the mothers felt that the ideal pregnancy spacing must be more than 2 years. Other key demographic characteristic are summarized in Table 5. The age range of the respondents was 17 to 44 years with a mean of 28 years. The parity of the women ranged from one to eleven with 29.3% having four or more children. More than half of the mothers (60.5%) wanted to have another child. Amongst those who wanted another child, 31.9% wanted a child within the next 2 years from the time data was collected while 68.1% of them wanted their child after 2 years from time of data collection. There was no significant association between marital status and immediate PPFp uptake ($\chi^2 = 0.426$; $df = 2$; $P = 0.808$), Socio-economic status and immediate PPFp uptake ($\chi^2 = 1.547$; $df = 3$; $P = 0.671$)

Table 5: Demographic characteristics of postpartum women participating in this study

Characteristic	% (Number)
Maternal age	
15-19	11.1 (27)
20-24	29.5 (72)
25-29	20.5 (50)
30-34	18.4 (45)
35-39	16.0 (39)
40-44	4.5 (11)
Education	
None	3.7 (9)
Completed only primary education	48.4 (119)
Completed primary and secondary education	36.6 (90)
Post-secondary education	11.3 (28)
Socioeconomic status	
Less than Kes 5,000	59.4 (139)
Kes 5,000-10,000	29.1 (68)
Above Kes 10,000	11.5 (27)
Relationship status	
Married	85.1 (206)
Single	12.8 (31)
Divorced/separated	2.1 (5)
Gravidity	
1-2	52.8 (130)
3-4	29.3 (72)
5-6	8.1 (20)
More than 6 times	9.8 (24)
Postpartum period of the mother	
0- 4 months	40.7 (100)
4- 6 months	19.9 (49)
6 -9months	11.4 (28)
9-12 months	28.0 (69)

4.1 Prevalence of family planning use among postpartum women before their menses return

Averagely across all women interviewed, the prevalence of postpartum family planning use before menses returned was 35.6% despite 84.7% of mothers self-reporting that they know a mother could get pregnant before menses returned. Amongst those women, the family planning methods used by the mothers were Depo-Provera (63.2%), contraceptive implants (31.6%), bilateral tubal ligation (3.5%) and progesterone only pills (1.8%). As expected, the prevalence varied across women of different maternal ages, their income, education, marital status and number of children the mother had.

Table 6: Prevalence of postpartum family planning use before menses return in different characteristic groups

Characteristic	Prevalence
Pregnancy history	
First time mothers	20.3%
None first time mothers	79.7%
Maternal age	
15-19	33.3%
20-24	31.8%
25-29	48.6%
30-34	36.4%
35-39	32.1%
40-44	12.5%
Household income	
Less than Kes 5,000	37.0%
Kes 5,000-10,000	29.5%
Kes 10,000-50,000	40.0%
Above Kes 50,000	
Mothers education	
Never attended school	50.0%
Primary School	39.5%
Secondary School	25.9%
Tertiary	46.2%
University	50.0%
Marital status	
Single	33.3%
Married	34.3%
Divorced/separated	50.0%
Number of children	
1 to 3 children	35.2%
4 to 5 children	28.1%
More than 5 children	50.0%

4.2 Factors that influence immediate initiation of family planning after child birth

4.2.1 Predisposing resources

Based on epidemiological studies the mothers' attitude, parity, postpartum period that a mother is in and the maternal age were factors studied to find out how they influence the uptake of immediate PFP. Amongst the mothers with a positive attitude, 35.4% of them had taken a PFP before their menses returned whereas only 16% of the other mothers who were not comfortable had taken a PFP before their menses returned. There was a significant association between use of immediate PFP and the mother's attitude ($\chi^2 = 8.047$; $df = 1$; $P = 0.005$). There was no significant association between use of immediate PFP and age of the mother ($\chi^2 = 3.364$; $df = 5$; $P = 0.163$). Similarly, there was no significant association between use of immediate PFP and parity ($\chi^2 = 1.826$; $df = 2$; $P = 0.401$) and the post-partum period and immediate PFP uptake ($\chi^2 = 1.118$; $df = 3$; $P = 0.773$)

Nearly three quarters (69.1%) of the postpartum women had a positive attitude towards PFP and perceived PFP as acceptable and beneficial. These women responded to the questionnaire and that they were very comfortable and were happy about family planning. Given an opportunity, they would be counselled and pick out a contraceptive option that best suits them. Whether a mother had had a pregnancy before or not was significantly associated with the attitude the mother would have towards immediate postpartum family planning. This was a common theme from the key interviews especially in mothers who were having their first child. Only 22.9% of first time mothers compared to 70.7% women who had had a previous pregnancy were comfortable taking a contraceptive method before return of menses ($\chi^2 = 0.396$; $df = 1$; $P = 0.000$)

From the discussions, it was highly likely that mothers who had carried a previous pregnancy were likely to be comfortable and have a more accommodating attitude compared to mothers who had just delivered their first child. It was very clear from the interviews that labor and delivery was a confusing time for any mother and non-first time mothers had so much to handle at that time and thus felt family planning was not very important. Here is an illustrative quote: *"I and most women might not be comfortable*

taking a method after delivery. However, you never know, I might be in pain and traumatized especially if it is my first baby (First time mother, Khalumuli CU, FGD)

This trend reflected in what the mothers preferred as an ideal time to take a postpartum family planning method as summarized in Table 7

Table 7: Earliest time mothers prefer taking a family planning method postpartum

Ideal time for me to get a postpartum method	First time mother	Non-first time mother
Immediately after birth	22.2 (12)	77.8 (42)
Not immediately after delivery but before I leave the hospital	28.6 (4)	71.4 (10)

4.2.2 Enabling resources

The study also examined prior experience and use of family planning and the location at which the mother delivered her last baby as possible factors that could make mothers change their behavior and attitude and create an environment that allowed uptake of PFP.

Nearly three quarters of the mothers (72.3%) had used a family planning method in the past. Amongst all women who had prior use of family planning, 30.2% had taken an immediate family planning method before their menses had returned. Amongst those who had never used a family planning method before, 16.4% of them had taken an immediate family planning method before their menses returned. However, there was no significant association between prior use of family planning and immediate uptake of PFP ($\chi^2 = 4.416$; $df = 1$; $P = 0.036$).

With regard to location at which the mother delivered her last baby, 88.2% of the mothers had their delivery at a health facility. Slightly above a quarter of mothers who delivered in a health facility (26.9%) took an immediate family planning method before their menses returned. Similarly, 27.8% of the mothers who delivered at home took an immediate family planning method before their menses returned. In summary, there was no significant association between the location of delivery and immediate uptake of PFP ($\chi^2 = 0.006$; $df = 1$; $P = 0.940$).

4.2.3 Relationship factors

The decision to become sexual is ideally supposed to be very personal but as this study shows the power to make a sexual related decision varies from household to household. The study found out that in some families the power to make a decision rested with the woman and in other households, the decision solely rested with the partner. From the key informant interviews, several participants stated that, although they were interested in starting family planning after delivery before their menses returned, they would need their husbands' permission before doing so. One illustrative case: *"I will need time to think about family planning and what is important to me at that point [after delivery]. But the final decision to either take or not will depend on what my husband will say"* (A mother, Matulo CU, FGD)

With this power play, the mothers reported issues related to their family planning preferences. Nearly a quarter (28.2%) of the mothers had hidden a family planning from their partners and 34.9% of them wanted a family planning method that their partner could not see. There was a positive correlation between the power to make own sexual decision and ultimate uptake of immediate FP method before menses return, $r = 0.058$, $p = 0.379$. Despite this, there was no significant association between the power in decision-making and immediate uptake of PFP ($\chi^2 = 0.781$; $df = 1$; $P = 0.377$).

With regard to the perceived family planning attitude of the partner, most of the partners were supporting family planning within their households. However, 14.7% of the mothers reported that their spouse had threatened to leave if they took a family planning method. In summary, there was a positive correlation between perceived attitude of the partner on family and uptake of immediate FP method before menses return, $r = 0.119$, $p = 0.075$. There was no significant association between the power in decision-making and immediate uptake of PFP ($\chi^2 = 3.174$; $df = 1$; $P = 0.075$).

4.2.4 Perceived need

From the data analysis, 84.7% of the mothers knew that they could get pregnant before their menses returned during the postpartum period. Nevertheless, even those women who understood their pregnancy risk did not necessarily act on this knowledge. Only 29.3% of them had taken a family planning method before return of their menses. Among women 9-12 months postpartum when pregnancy risk is higher than in earlier postpartum months, only 31% of the mothers who knew the risk reported to have taken

a family planning method before their menses returned. There was no significant relationship between the perceived need for an immediate family planning method and uptake of an immediate family planning method ($\chi^2 = 2.204$; $df = 1$; $P = 0.138$).

4.3 Readiness of health facilities to provide postpartum family planning and role of providers

Analysis of data collected from the facilities showed that smaller health facilities were more equipped, they had trained staff and were ready to offer family planning services compared to larger facilities. From all the facilities visited, no provider was tracking post-partum contraceptive uptake. In terms of available immediate post-partum family planning method, 56% of the health facilities visited had contraceptive implants and IUCDs available. In-terms of job aids, only a single health facility had the MNH policy and guidelines document available, none of the health facilities had the national guidelines for quality obstetric and perinatal care, post-natal care and family planning job aids. All the facilities had the family planning t-chart charts. Only 7 facilities had the 2016 medical eligibility criteria wheel.

With this environment, health care workers continued to offer counseling and family planning services to their clients. A common theme from the focus group discussion was that health providers from these facilities do not rely on return of menses to initiate a family planning method. Once illustrative case: *"We don't peg initiation of a family planning method on return of menses. We first rule out pregnancy and then counsel the mother. If she makes a choice, we initiate it"* (mid-wife, Webuye sub-county hospital, Interviewee 2)

The health providers were willing to offer these methods, however, there was a skill gap in IUCD insertion after delivery and only 36% of the family planning providers were comfortable with the procedure. As a result, none of all the facilities visited offered these methods in the labor or post-natal wards. Mothers who were counseled and wanted a method had to get the service at the family planning clinic and mostly after 6 weeks when they come back for immunization.

Counseling of family planning after delivery is taking place in 81% of all the facilities that conduct deliveries.

Most of the health providers were also unable to fully carry out the procedure because the facilities were missing complete sets of equipment's as highlighted by this clinical officer: *We have challenges of commodities and equipment. For example, our maternity does not have a complete IUCD set for the procedure despite the demand for the service. We also*

don't have the revised MEC wheel but we [those trained and practising] are planning for CMEs [continuous medical education] and OJT's [on-the-job training] to sensitize and equip our colleagues' (Clinical officer, Bokoli Hospital, Interviewee 12)

The study found out that the family planning providers play a key role in passing information and provision of options for family planning. The women interviewed reported that their health care providers played a key role in their uptake of family planning during their last pregnancy. It is worth noting that most mothers were asked to come for a method at 6 weeks as they come for immunization for their babies. One illustrative case: *“How I am advised at the health facility after delivery will determine what I will do. I also want to point out that culture plays a key role. I know some of my friends who cannot be with their husbands until a certain point, which is form of protection. For me, I will follow what I am told at the health facility. I feel that the decision to take a family planning method should be ignited by the health care worker that I have been seeing during clinics and after delivery of the baby”*(A mother, Webuye CU,FGD)

Discussions on family planning should be introduced during ANC visits. A common theme across all the women interviewed showed that despite the mothers being comfortable taking a method immediately after delivery, they spend that time thinking about the baby and at that moment family planning is secondary. One case is illustrative: *“I and most women might not be comfortable taking a method after delivery. However you never know, I might be in pain and traumatized especially if it is my fist baby. I will need time to think about family planning and what is important to me at that point”* (A mother, Khalumuli CU,FGD)

The study examined how counselling by a skilled provider during ANC visits and immediately after delivery influenced the uptake of immediate PFP. Antenatally, 73.3% of the mothers were counselled by a provider and reported receiving information on family planning. A trend was observed in these data with only 65.3% of mothers who attended antenatal clinic fewer times (< than recommended 4 visits) receiving counselling and information on family planning compared to 79.6% of mothers who attended at least 4 times. There was a negative correlation between counselling received during ANC despite the frequency of the ANC visit and ultimate uptake of immediate FP method before menses return, $r = -0.164$, $p = 0.039$. In summary, Table 8 presents the proportion of mothers who took a family planning method after delivery

and before their menses returned with respect to counselling history during their pregnancy and ANC attendance.

Table 8: ANC counselling and immediate uptake of PPFp before menses return

Characteristics	% (Number)
Mothers with few than 4 ANC visits	
Amongst those counselled	
Took an immediate PPFp before menses returned	25 (11)
Did not take an immediate PPFp before menses returned	75 (33)
Amongst those not counselled	
Took an immediate PPFp before menses returned	60 (9)
Did not take an immediate PPFp before menses returned	40 (6)
Mothers attending at least 4 ANC visits	
Amongst those counselled	
Took an immediate PPFp before menses returned	35.3 (30)
Did not take an immediate PPFp before menses returned	64.7 (55)
Amongst those not counselled	
Took an immediate PPFp before menses returned	77.8 (66)
Did not take an immediate PPFp before menses returned	22.2 (50)

Despite these results, there was no significant association between counselling at ANC and immediate uptake PPFp ($\chi^2 = 4.286$; $df = 1$; $P = 0.038$).

During labor and delivery, 63.3% of the mothers were counselled by a provider and reported receiving information on family planning. Half of these mothers were given a family planning option to take.

Table 9: Counselling after delivery and immediate uptake of PPFp before menses return

Characteristics	% (Number)
Mothers who were provided with FP information after delivery	
Took an immediate PPFp before menses returned	33.3 (37)
Did not take an immediate PPFp before menses returned	66.7 (74)
Mothers who were provided with a FP option after delivery	
Took an immediate PPFp before menses returned	34.8 (31)
Did not take an immediate PPFp before menses returned	63.2 (58)

Similarly, there was no significant association between counselling after delivery and availing a family planning option to the mother before she goes home and immediate uptake of immediate PFP ($\chi^2 = 0.083$; $df = 1$; $P = 0.773$).

4.4 Summary of factors that influence immediate initiation of family planning after childbirth

Logistic regression analysis was used to examine how predisposing resources, enabling resources, relationship factors and perceived need variables predict the outcome variables. Table 8 gives a summary

Independent variable	b	se	Z ratio	Prob.	OR	OR 95% CI
Mothers attitude	1.13	0.43	2.65	0.008	3.07	1.34, 7.10
Parity	0.15	0.27	0.55	0.579	1.16	0.69, 1.97
Postpartum period	0.13	0.13	0.95	0.340	1.14	0.87, 1.48
Mother age	-0.16	0.27	-0.59	0.555	0.85	0.50, 1.44
Prior FP use	0.44	0.45	0.99	0.323	1.56	0.65, 3.75
Location of delivery	-0.47	0.52	-0.89	0.373	0.63	0.23, 1.75
Power relations	0.21	0.36	0.60	0.551	1.24	0.61, 2.51
Partner FP attitude	-0.12	0.24	-0.51	0.613	0.89	0.56, 1.41
Need for family planning	0.51	0.58	0.87	0.386	1.65	0.53, 5.13
constant	-2.33	0.97	-2.41	0.016	0.10	0.01, 0.65
Model X² =	12.5	P = 0.184				
Pseudo R² =	0.061					
N =	220					

The odds of a mother taking an immediate family planning method before her menses returned was 3.07 times significantly ($p = 0.008$) higher if a mother had positive attitude towards family planning. Even though not statistically significant ($P > 0.005$), there was an observed trend for higher odds of women taking immediate family

planning methods among those with higher parity (OR=1.16, 95%CI=0.69-1.97), among those currently in their late postpartum where pregnancy risk is highest (OR=1.14, 95%CI=0.87-1.48), among those with prior family planning experience (OR=1.56, 95%CI=0.65-3.75), among women who had power to make sexual related decisions (OR=1.24, 95%CI=0.61-2.51) and among those who knew the possibility of getting pregnant before menses returned (OR=1.65, 95%CI=0.53-5.13). Even though not statistically significant ($P>0.005$), there were decreased odds of women taking an immediate family planning method if they were older (OR=0.85, 95%CI=0.50-1.44), among those who had a hospital delivery (OR=0.63, 95%CI=0.23-1.75) and among those whose partner supported family planning OR 0.89 (OR=0.89, 95%CI=0.56-1.41).

CHAPTER FIVE: DISCUSSION

5.0 Introduction

As highlighted in the foregoing chapters, maternal health remains a major global concern since pregnancy and childbirth are the leading causes of death, disease, and disability among women 15-49 years of age. This concern has been re-emphasized in the maternal health target for sustainable development goal 3 (SDG 3) that aims to reduce global maternal mortality ratio to less than 70 per 100,000 live births. There is growing evidence that investing in women, children and adolescents has high returns to society and the economy by saving lives, reducing morbidity and mortality, and improving wellbeing (Bhutta et al, 2013. NCPD and PRB 2012). Although Kenya has made good progress over recent decades in reducing adverse outcomes from unplanned pregnancies, they continue to occur despite the availability and access to family planning. Using impact modelling, the Kenya National Council for Population and Development (NCPD) in 2015 estimated that with increased use of family planning services to reach a contraceptive prevalence rate (CPR) of 64.7 percent by 2020, Kenya would be able to save the lives of more than 20,000 mothers and 144,000 children, and avert more than 7.7 million unintended pregnancies and 1.4 million unsafe abortions. With an overall unmet need of family planning of 76% of women less than 6 months postpartum, most unintended pregnancies occur during this period. Other programs have shown huge returns from investing in family planning programs (Frost et al, 2014). Undoubtedly, family planning has both social- economic and health benefits.

There is a significant unmet need for family planning especially in the postpartum period. Postpartum family planning has been identified as a feasible, cost effective and evidence based solution that could be scaled up to help avert unplanned pregnancies and ensure that families can plan and make a decision on the number, timing and spacing of their pregnancies. The 2016 to 2018 Kenya reproductive maternal, new born, child, adolescent health (RMNCAH) investment framework has included postpartum family planning as a high impact low cost intervention. The framework recognizes immediate postpartum family planning as a key preventive and promotive strategy that could ultimately lower health care costs by women and children. Unexpected and catastrophic expenses incurred while seeking reproductive health care, especially for the poor, would also be lower. Given the heterogeneity in health seeking

behaviour and access and provision of health services, this study sought to, understand how women felt about immediate postpartum family planning and evaluate key women and provider factors driving uptake of immediate postpartum family planning.

5.2 Prevalence of post-partum family planning uptake before return of menses

Overall, the findings of this study showed a low prevalence of use of post-partum family planning before return of menses at 35.6%. The low prevalence of immediate post-partum contraceptive use agrees with previous studies conducted elsewhere in Kenya. For instance, The Nairobi Urban Health and Demographic Surveillance System (NUHDSS) indicated that while resumption of sex occurs quite early (50% by the third month) relatively few women initiate contraceptive use during the first six post-partum months (Ndugwa et al, 2010). Although not directly linked to immediate post-partum family planning use before menses return, other global findings have also shown that in sub-Saharan Africa, the proportion of post-partum women who take up a contraceptive method early is nearly one third (Omran et al., 2015). For this study, the prevalence varied with different socio demographic characteristics as follows:

Pregnancy history: The study showed that prevalence of immediate family planning use increases with parity. Nearly 8 in 10 mothers (80%) who have had a child before had taken an immediate postpartum family planning method compared to mothers who were having their first child. Just about 20% of mothers who are having their first baby will accept and have an immediate postpartum family planning method. These results imply that when a mother gets their first child, chances are that, most of them will leave the health facility without a method. They also point at the level and nature of counseling that all mothers receive during their antenatal clinic visits. Besides they suggest that immediate family planning is mostly considered by mothers of parity greater than one.

Maternal age: Greater variations in prevalence across the maternal ages existed. Nearly half (48.6%) of all mother's between the age of 25 and 29 years had taken an immediate postpartum family planning method. Mothers aged between 40 to 44 years used immediate postpartum family planning the least. In summary, these results showed that mothers aged between 25 and 34 were highly likely to use an

immediate postpartum family planning method compared to mothers younger than 25 years and older than 34 years. Nonetheless, there was no significant association between maternal age and use of immediate family planning before return of menses.

Household income: There was a secular trend on income and use of an immediate family planning method. Although not significant, the study results showed a relatively higher prevalence of uptake of immediate postpartum family planning in women from low income families compared to women from families with a higher income. Mothers coming from households that have an average monthly income of between Kes 10,000 and Kes 50,000 were most likely to have taken an immediate postpartum family planning method. None of the mothers from households with higher than 50,000 had taken an immediate postpartum family planning method.

Mother's education: Mothers who had no formal education and those who had acquired a university degree were highly likely to have taken an immediate postpartum family planning method compared to mothers who had completed various levels of education. These results contradict most studies which have found a consistent pattern between educational attainment and use of a family planning method. Although not directly linked to immediate uptake of family planning method, Beekle et al. 2006, Magadi et al. 2000, Addai et al. 1998 and Bhatia et al. 1995 demonstrate results that a lack of formal education affects the uptake of family planning. The results from this study comes as much of a surprise as higher education attainment increases female decision making power and awareness of the benefits of good family planning practices (Stephenson et al. 2004). This study found that, the prevalence of postpartum family planning amongst mothers who had an infant in Bun Goma East sub-county did not vary as education attainment varied.

Marital status: The prevalence of postpartum family planning use before menses return was higher in mothers who were either divorced or separated. Half of all the women who had divorced or separated had taken an immediate postpartum family planning method. These results are surprising as you would expect women who are in a union to be more sexually active and thus at a higher risk of pregnancy compared to women who are divorced or separated.

These results contradict results from a study by Okech et al., 2011, which showed that more married women, used contraceptive methods than unmarried ones due to frequent episodes of sexual activities among the married women. Therefore, more married women used contraceptives to plan their pregnancies and births that was not the case with their single counterparts. The low prevalence of the immediate use of postpartum family planning before return of menses in married women and women in a union imply that a risk for unplanned pregnancies and unwanted child bearing due to their less utilization of family planning services.

Despite the variation in prevalence with the different socio-demographic characteristics, this study found uniformity in the family planning method choice. Most used family planning methods were Depo-Provera (63.2%), contraceptive implants (31.6%), and bilateral tubal ligation (3.5%) and progesterone only pills (1.8%). None of the mothers used barrier methods and IUCDs. If mothers are well counselled and are willing to make an informed choice on the available family planning options, IUCD is a viable option and can be inserted within 48 hours post-delivery. Having no mother in the study taking this option is a bit worrying. Lactational amenorrhea (LAM), which is highly acceptable by some religious authorities, was also missing as a method of choice. The method choice is a reminder to the health care providers, the ministry of health administration and policy makers that emphasis has to be put on counselling on a broad range of contraceptive methods.

5.3 Personal factors affecting uptake of immediate contraceptive methods among post-partum women

5.3.1 Predisposing resources

Predisposing factors have been defined as factors; genetics, attitudinal, personality and environmental factors associated with health, or lack of it, in a person. This study examined how a mother's attitude towards immediate post-partum family planning, maternal age and parity shape the uptake of immediate post-partum family planning.

Mother's attitude: In general, women expressed positive attitudes towards immediate post-partum family planning. In this study, a mother with a positive attitude and perception towards immediate post-partum family planning was 3 times likely to

take up a method compared to a mother who did not find family planning immediately postpartum acceptable and beneficial. These results echo results from a study in Nigeria which examined attitudes towards family planning and what effect it has on use by Odimegwu,(1999) which showed that respondents who approved and held a positive attitude towards family planning were two times as likely to be using contraceptives as those who disapproved. These results challenge the healthcare workers and policy makers to create environments that facilitate knowledge and information sharing on contraceptives ultimately dispelling any myths and misconceptions that may lead to negative attitudes towards immediate post-partum family planning.

This study showed that more women are comfortable and willing to take up an immediate family planning method post-partum if she receives information early and are given an opportunity to choose. These results agree with a study in Uganda's Mayuge district by Namazzi (2013) which, although not directly linked to postpartum family planning use before menses return, showed that generally, negative attitudes towards contraceptives and those who use contraceptives have been decreasing, and that there is a movement in the direction of contraceptives being accepted as a method for family planning. Women receiving information of family planning early has also been linked to use of family planning methods in studies by Mbonye (2003) and Agyei (1995).

These women perceive post-partum family planning before return of menses acceptable and beneficial. This result is desirable and implies that health care providers have an opportunity to facilitate counseling of all methods and strengthen informed choice. Health care workers also need to ensure that they nurture the attitudes and perception of women by always providing information when needed to dispel any myths and misconceptions on immediate postpartum family planning.

The significant association between pregnancy history and attitude of mothers on immediate post-partum family planning methods shows that mothers who have had a previous pregnancy are highly likely to take up an immediate family planning method if counseled appropriately and left to make informed choice of a method. A study using demographic and health survey data for Burundi, Kenya, Rwanda, Tanzania and Uganda by Bakibinga et al. (2016) showed that women who had experienced a

mistimed pregnancy were more likely to use a modern contraceptive method during their most recent sexual encounter. The concept of postpartum family planning seems to be established among mothers who have had a pregnancy before. These results imply that there is an urgent need for health care workers to have an approach that delivers to mothers, especially mothers who are carrying their first child the benefits of immediate post-partum family planning. Amongst other things, this approach must ensure nurturing positive attitudes and perception towards family planning, counselling during antenatal care, delivery and post-natal care and eliminating barriers to access and utilization of immediate post-partum family planning.

Parity: There was a trend for higher odds of women taking immediate family planning methods among those with higher parity (OR=1.16, 95% CI=0.69-1.97) implying that, mother's with higher parity were more likely to take up an immediate post-partum family planning method. Although these results were not significant, they are not surprising given the expectation among some researchers that high parity births would be more likely to be followed by immediate post-partum contraceptive. Parity is expected to be positively related to family planning use in general. At higher levels of parity, women are closer to their ideal family size and therefore perhaps more likely to use family planning. Presumably, this motive will operate for postpartum family planning specifically, as well as for family planning in general. Other scholars hold a contradicting view that it is possible that high parity might be an indication that a woman is, in fact, not likely to use family planning as she has not controlled her fertility before and therefore will continue that pattern. A study by Winfrey et al., 2014 which examined DHS data for Columbia, Honduras, Lesotho and, Namibia found out that in contrast, there are many cases where family planning use among middle parity women is more prevalent than among women with either fewer or more births. This view might be decided by the various parity bands. It is also possible that couples who have unplanned pregnancies continue to have unplanned pregnancies throughout the reproductive health lifecycle or that, once married, women are under pressure to have many children. Alternatively, maybe parity and birth spacing are not among the best predictors or determinants of modern postpartum contraception use in family planning. Regardless, given the low immediate postpartum contraceptive use, there is increased vulnerability to unplanned pregnancy. A more urgent concern while examining these

results is to understand the quality of birth outcomes with higher parity. Health care workers are also challenged to think on how to ensure that opportunities for counselling and uptake of long term family planning methods are available when needed.

Postpartum period of the mother: This study showed that the postpartum period of the mother may determine whether she will take up a method or not. The longer the period of time from child birth especially when pregnancy risk was highest, the higher the chances of a mother taking contraceptives. There were higher odds (1.1) for women in the late postpartum period when risk was highest. This result echoes a study by Speizer et al. (2013) in Senegal which found out that use of postpartum family planning was highest (36%) among the women who are in the 18 to 23 months postpartum window compared to use among women in the 0 to 18 months postpartum period who had a higher unmet need.

Maternal age: There was no significant association between the maternal age and use of an immediate post-partum contraceptive method. Other studies have observed patterns where younger women are most likely to take up an immediate postpartum contraception compared to older women. In investigating factors that influence the uptake of contraceptive implants immediately after delivery in Kenyan sub-county hospitals, Shabiby et al. 2015, found out that those of younger maternal age at first pregnancy (19.5 years) were also more likely to accept postpartum implants compared to those of older age at first pregnancy (20.6 years) (P value = 0.01). Results from this study imply that health care workers must put efforts in sharing post-partum family planning, improving access to post-partum family planning and improve quality of services regardless of their maternal age in equal measure.

5.3.2 Enabling factors

The study investigated factors that could possibly contribute to making the decision by a mother to take an immediate postpartum contraceptive method easier. Past interaction with family planning and the site the mother delivered her baby were factors that were examined critically.

Past use of modern family planning: Women who had used family planning in the past had higher odds (1.56) of taking an immediate postpartum family planning method before their menses returned. Results from this study are in concurrence with a

Ghanaian study by Eliason et al (2013) which showed that intentions to adopt postpartum family planning and the selection of a method, in their case family planning injections, were both significantly influenced by past use of the method. In Uganda, Sileo et al. 2005 also found out that prior use of contraceptives was a significant predictor of uptake of family planning after delivery (AOR = 10.79, 95 % CI 1.40–83.06). Although no statistical significant association, this result indicates that family planning access and use by any woman of reproductive age may influence the decisions they make in the course of their lives. It also calls for quality provision of family planning that will help shape the mother's attitude ultimately shaping the decisions they make. This finding supports the need for postpartum women, particularly in early postpartum to be targeted in the promotion of family planning.

Location of delivery: Slightly more mothers who had delivered at home (27.8%) had taken an immediate postpartum contraception compared to mothers who had delivered in a health facility. These imply that health facilities are inhibitors to the uptake of family planning methods (OR= 0.63). These results contradict results from a study in Mexico by Barber (2007) which found out that institutional delivery was an important predictor. Women delivering in government or private facilities were more likely to use a contraceptive postpartum than women who delivered at home (odds ratios, 1.9–3.1). Hounton et al, 2015 also found out that the odds of using modern postpartum family planning after delivering at a health facility were, on average, twice as high compared to women who did not deliver at a health facility in Ethiopia, 1.3 times higher in Malawi, and 1.2 times higher in Nigeria.

Results from this study may suggest that health care workers are likely take advantage of the first opportunity a mother who delivered at home makes with the health facility to counsel and provide a method. This reactive approach challenges health facilities and policy makers to avoid any missed opportunities for counselling, provision of information on family planning and improve access to family planning postpartum.

5.3.3 Relationship factors/power of women to make sexual decisions

It is expected that personal conviction is a key contributor in driving the intention and ultimate use of family planning in postpartum women. Findings from this study make a case for critical examination of power relationships in families and how they shape adoption of postpartum family planning. It was clear from the study that a

mother's personal conviction is insufficient to ensure actual uptake of an immediate postpartum family planning method. This is because, by even greater measure, the women in this study made the point about their need for partner approval before they could adopt a contraceptive method. Studies by Crissman et al. 2012, Gebreselassie et al. 2011 and Bawah et al. 2002 in Sub-saharan Africa have pointed to the critical role played by male partners in the FP decision-making processes of women. In sub-county hospitals in Kenya, Shabiby et al, 2015 showed that mothers who had spouse approval to use family planning were twice as likely to accept postpartum contraceptive implants than those without spouse approval (OR 2.0 , 95 % CI:1.1-2.4, P = 0.02). Studies on willingness of a family to use contraception by Sharma et al, 2015, revealed that women having prior discussions and concurrence with their husbands was the most important determinant on whether the couple would use a contraception method. This and many more studies confirm how deep-seated the influence of male partners is on the decision of postpartum women to adopt a family planning method.

5.3.4 Perceived need

Despite 84.7% of all mothers reporting being aware of the risk of becoming pregnant early before their menses return, only 29.3% acted on that knowledge. These findings echo findings from a study in Uganda by Sielo, 2014. This study showed that despite a high-perceived need for contraception and generally positive attitudes towards family planning among post-partum Ugandan women, the proportion of women who had sought family planning services (31%) and used effective contraceptives (25%) approximately 3 months post-partum was low. This finding is consistent with evidence of the large disparity between demand for and use of contraceptives throughout Kenya (KNBS & IFC International Inc., 2014). On the other hand, the high awareness of family planning services coupled with low usage of the service compares favourably with Hamid and Stephenson (2006) study in Pakistan which observed that despite the high awareness of family planning services in the community, very few people used the service

5.4 Environmental factors affecting uptake of immediate contraceptive methods among post-partum women

5.4.1 Counseling and provision of family planning services post-partum by health providers

The 2016 National Family Planning Guidelines for Service Providers in Kenya emphasizes on provision of information to possible clients and allowing them to make informed choice as one of the overarching principles of quality family planning services. Counseling on family planning plays this crucial role. Effective counseling is one of the cornerstones for increasing acceptance and use of family planning and addressing the unmet need. The best decisions about family planning are those that people make for themselves, based on accurate information and a range of contraceptive options. Effective counseling empowers people to seek what is best for them and to exercise their right to good quality family planning care.

There are several occasions at the health facility when family planning education and counseling is provided. The most popular is during ANC and as mothers are discharged after delivery. The results from this study showed no significant association between counseling during ANC ($\chi^2 = 4.286$; $df = 1$; $P = 0.038$) and counseling after labor and delivery ($\chi^2 = 0.083$; $df = 1$; $P = 0.773$) and immediate uptake of post-partum family planning. Results showed that relatively more mothers who had not been counseled for family planning took up an immediate family planning method. This implied deficiencies in post-partum counseling. Results from similar studies contradict these findings. In Malawi for example, Bwazi et al, 2014 found out that there was a significant association between utilization of a postpartum family planning services and counseling on fertility intentions ($\chi^2 = 4.967$; $df = 1$; $P = 0.026$). The gaps in counselling identified from our study may explain the delays in starting the post-partum contraceptive methods that were observed in this study since the mothers did not understand the importance of early initiation of the methods. Most women receive these messages only once because of the high volume of patients seen by health care providers, which mean they do not have the time to reinforce messaging. Some women receive the messages more than once, both during ANC visits and in post-delivery discharge counseling. Furthermore, since counseling frequency aligns with the frequency of visits to a health facility, the results showed that the clarity of the

information received was significantly related to the ultimate uptake of an immediate family planning method. This finding raises the issue of the content of information transmitted to women on family planning, contraception and contraceptive usage, stressing perhaps the need to adapt the message to be passed, may be by delivering it in appropriate words and in the women's mother tongues.

This is a crucial finding as it informs the programme managers and providers of maternal and neonatal care (MNH) services to strengthen family planning counseling. There is an urgent need to reorient and refocus the family planning counselling to offer a tailored approach to meet individual needs of clients.

5.4.2 Readiness of health facilities to provide post-partum family planning and role of providers

Descriptive data indicates that facilities' readiness to provide immediate postpartum family planning is not yet satisfactory. Smaller and lower level facilities were found to be in a better state to offer immediate family planning services compared to the larger facilities. Many facilities lacked essential instruments and guidelines for performance. Nearly all facilities had oral contraceptives, injectable, and condoms, but implants and IUDs were readily available in only hospitals and a few dispensaries and health centers. These findings are not surprising given the limited number of facilities with capacity to carry out some of the procedures and inadequate equipment to carry out these procedures, especially IUCD sets. According to a WHO 2013 report on Strategies for postpartum family planning, countries like El Salvador have interventions to increase access to immediate postpartum family planning by increasing the number of providers and facilities that perform post-obstetric IUCD insertions through capacity building and providing necessary equipment support which significantly increased uptake of postpartum IUCDs. Insertions increased from 747 in 2009 to 993 in 2010 and 1044 in 2011. These results are a reflection of the results from a 2008 study conducted by Population Council, FRONTIERS Program to investigate postnatal services including postpartum family planning in Kenya (Annie et al., 2008). Baseline assessments before any interventions showed that higher level facilities like county and sub-county referral hospitals (the study refers to these facilities as provincial general hospitals) compared to lower level facilities were more likely to have all family

commodities including injectables, COC,POP,IUD, male/female condoms, implants, female and male sterilization equipment to support this procedure.

Although results are not shown, it was also evident that a substantial proportion of providers did not inform clients about other methods. The implication here is that the majority of facilities still lack a variety of methods. In order to provide complete services, clinics, health centers, and dispensaries need to be upgraded to provide a variety of methods. The other intriguing fact is the lack of training of family planning providers in several facilities.

Other key results from this study showed that in Bun Goma East sub-county, there is no health management information support for postpartum family planning tracking yet the existing ministry of health documents can still be adopted for tracking. This finding implied that creation and advocacy for postpartum family planning data demand and use is an existing opportunity to improve tracking and quality of data on postpartum family planning. The study also identified key gaps that need to be urgently addressed. Continuity-of-care tracking to inform health-care providers on best approaches to support mothers over the continuum of care from ANC to the extended postpartum period.

CHAPTER SIX : CONCLUSSION AND RECCOMENDATIONS

6.1 Conclusion

There was a low prevalence of immediate post-partum family planning before menses return. About 64.4% of the mothers were not using post-partum family planning between the period immediately after birth and six months indicating high risk for poorly spaced pregnancy.

Generally, most mothers had a positive attitude towards use of an immediate family planning method post-partum before their menses return. These mothers felt that immediate use of family planning post-partum was important and beneficial. Despite holding this position and understanding the risk of pregnancy, most of them did not act on this knowledge.

Predisposing, enabling, relationship, and perceived need factors were identified as key determinants of post-partum women's uptake of family planning services and contraceptive use. Attitude (a predisposing factor) of the mother was the most significant of factors that predicted whether a mother would take up an immediate family planning method.

Most facilities were not yet ready to offer immediate post-partum family planning because of systemic issues that need a proper plan of action.

6.2 Recommendations

There is a need to remove the barriers that hinder uptake of immediate post-partum family planning services. Based on the findings in this study, the recommendations below would improve prevalence of immediate uptake of family planning post-partum in Bun Goma East sub-county:

- Improving antenatal care and postnatal care and using these opportunities to ensure that all key messages were always included during these sessions and focus on improving family planning counseling
- Strengthen post-partum family planning counseling
- Reinforce the importance of post-partum family planning for spacing in first-time mothers
- Equip facilities with skills especially on long acting methods , equipment and supplies

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Annexure 1: Women's Questionnaire

INTRODUCTION AND CONSENT

Hello my name is Kizito Brian, I am a student from Moi University, School of Public Health. I am carrying out a study on family planning after delivery. Your household has been identified randomly among many households in your community.

You have been identified as a key resource person for this study. If you agree to take part in this study, you will be asked questions about yourself, your last pregnancy, family planning use after delivery, your menstrual periods and your partner's beliefs about family planning. The set of questions will only be asked once. Please note that you will not be paid any money for taking part in this study. Your participation in this study is not expected to cause any harm but if you feel uncomfortable with some of the questions, you may choose not to answer. You can also decide whether to continue with the interview or stop and this will not lead to any adverse repercussions on your part. Your name and identity WILL NOT be recorded anywhere. We understand that Whatever is discussed here is very private will be de-identified and will not be linked to this household. Your participation is entirely voluntary. I will also use this mobile phone to collect simple information on whether you are on family planning, the location of your house for purposes of linking this household to your nearest health facility.

The findings of this study will be made available to you. If you have any questions before, during, or after the study please feel free to contact me by telephone at (+254) 714 127 333 or IREC at (+254) 787 723 677.

For Participant:

I hereby confirm that, after receiving the above information, both verbally and in writing, I agree to participate in this survey. My information will only be used only for research purposes by Kizito Brian (researcher). I am informed that participation is voluntary, and that I can withdraw my participation at any time without any penalties..

Signature or mark of the participant: _____

Date:

For Researcher:

I declare that both oral and written consent has been given to this participant.

Date: _____

Signature: _____

Date of interview:

Interviewee number:

PART I: SOCIO-DEMOGRAPHIC DATA

1. What is the age of your infant in months?	
2. What is your age in years?	
3. How many living children do you have?	
4. How many pregnancies have you ever had?	[1] 1-2 [2] 3-4 [3] 5-6 [4] More than 6 times
5. During your last pregnancy, did you go to the health facility for antenatal care?	[1] Yes (Number of times I went_____) [2] No
6. What is your highest level of education? (tick one)	[1] Never attended [2] Primary school [3] Secondary [4] Tertiary [5] University
7. What is your primary occupation?	[1] Unemployed [2] Formal employment [3] Informal employment
8. What is your Marital Status?	[1] Married [2] Single [3] Divorced/separated
9. Do you live with your spouse at least most of the time?	[1] Yes [2] No
10. How much is your household income per month? (tick one)	[1] Less than Ksh 5,000 [2] Ksh 5,000-10,000 [3] Ksh 10,000-50,000 [4] AboveKsh 50,000
11. Have you ever used any family planning method in the past?	[1] Yes [2] No

PART II: PREGNANCY

12. How many children would you like to have or suggest mothers should have?	
13. Do you want another baby?	[1] Yes [2] No
If yes in question 13, when do you want to have this baby?	[1] Anytime from now [2] In 6 months [3] In a year [4] In 2 years time [5] In more than 2 years time
14. In your opinion, what is the ideal age space between children?	[1] 1 year [2] Two years [3] Three to five years [4] Five years or more
15. When did your monthly period return after your last pregnancy?	[1] between 4 – 8 weeks [2] between 3 – 6 months [3] between 6 – 12 months

PART III: FAMILY PLANNING

16. Did you use any family planning method after you delivered your last baby?	[1] Yes [2] No
If yes, after how long did you start using family planning?	[1] Before my period/menses returned [2] After my period/menses returned
If yes, what family planning method did you use?	[1] IUCD [2] Implant [3] Depo-Provera (injection) [4] Progesterone only pill (POP) [5] Combined Oral Contraceptives (COC) [6] Female condoms [7] Male condoms [8] Bilateral tubaligation (BTL)
17. Do you think that a mother can get pregnant after delivery but before her menses return?	[1] Yes [2] No
18. Are you currently using any family planning method?	[1] Yes [2] No
If yes, what family planning method are you using?	[1] IUCD [2] Implants [3] Depo-Provera [4] Progesterone only pill (POP) [5] Combined Oral Contraceptives (COC) [6] Female condoms

<p>19.If family planning was to be provided to you after delivery, when would be the most ideal time for you?</p>	<p>[1] I will have to consult my partner first</p> <p>[2] Immediately after birth</p> <p>[3] Before I leave the hospital after birth</p> <p>[4] At 6 weeks during my baby's immunization clinic visit</p> <p>[5] At 6 weeks during my postpartum visit</p> <p>[6] At 10 to 14 weeks during my baby's immunization clinic visit</p> <p>[7] At 6 months during my baby's immunization clinic visit</p> <p>[8] At my own time when I go to the clinic for whatever reason</p> <p>[9] Immediately after my menses return</p> <p>[10] Other (please specify)</p>
<p>20. If you visited ANC in a health facility during your last pregnancy, did you receive information on family planning?</p>	<p>[1] Yes [2] No</p>
<p>21. If you delivered your baby in a facility, did you receive information on family planning before you went home?</p>	<p>[1] Yes [2] No</p>
<p>22.If you delivered your baby in a facility, were you given the option to start family planning before you went home?</p>	<p>[1] Yes [2] No</p>
<p>23. If yes, which options were you given?</p>	<p>[1] IUCD [2] Implants [3] Depo-Provera [4] Progesterone only pill (POP) [5] Combined Oral Contraceptives (COC) [6]Female condoms</p>

24. After how long were you ready for sexual intercourse after delivering your last baby?	
When did your husband/partner want sexual intercourse?	

25. How did you decide/how do your peers decide to use family planning after delivery?

26. What are some of the myths/cultural stories from this community on using family planning after delivery, especially before menses return?

27. How do you feel about using a family planning method after delivery before your periods/Menses return?

PART IV: OTHER CONTRACEPTIVE ISSUES (Applicable only for mothers who are living with their partners or are in constant touch with their partners)

IMPORTANT: Kindly ask the partner to allow you to ask the last 5 questions in private)

28. Has your partner ever told you that he will leave you if you take a family planning method?	[1] Yes [2] No
29. Have you ever hidden your family planning method from your partner?	[1] Yes [2] No
30. Do you want to use a family planning method that your partner can see?	[1] Yes [2] No
31. Do you want to use a family planning method that your partner can not see?	[1] Yes [2] No
32. Do you want to use a method that minimizes the clinic visits?	[1] Yes [2] No

Annexure 2: Mothers Focus Group Discussion Guide

Information sheet for: Assessment of the perception of postpartum women on family planning use before return of menses

Research Team:

Student: Kizito Brian
MPH (Epidemiology and disease control) candidate
Moi University School of Public health
Brian.Kizitom@gmail.com

Supervisors: Prof. Peter M. Gatongi , PhD
Moi Univeristy, School of Public health
Department of Epidemiology and Biostatistics
gatongipm@yahoo.com

Prof. Astrid Christoffersen-Deb, MDCM, DPhil
Obstetrician and Gynaecologist University of Toronto
Visiting Lecturer Moi University, School of Medicine
Team leader AMPATH Reproductive health
astrid.cdeb@utoronto.ca

As a mother, talking to us about your experiences after delivery, especially in relation to family planning use, is very important to me, and to the health care system as a whole. From this information, I hope to make a final report that will help Bungoma County and Kenya as a country understand what you feel is important for the successful uptake of family planning after delivery.

What will you be asked to do?

We will talk together with 10 to 12 women from your community for about 1.5 to 2 hours. If you agree, we will audio-record the discussion to make sure that we capture everything that is said. We will ask several questions about your experiences immediately after delivery of your last baby. We will also ask questions on family planning use and experiences.

What will happen to you if you don't participate?

We do not think that this study is harmful to you. Anything you say here will be confidential and will be joined together with the views of the other women to make a final report. You can skip questions if you don't want to answer them and you can leave the study at anytime, even after the discussion has started.

How will you benefit?

The research may not benefit you directly, but the study may help us in making recommendations to the Kenyan government and our partners in reproductive

health to implement strategies to improve the use of family planning after delivery.

What will be done to protect your identity?

The names of people mentioned in this discussion will be changed. We also ask that you do not discuss anything you have heard in the discussion with others after the group is over. Once the study is finished, the information that you give will be stored in a password-protected USB keys. Only the members of the research team listed at the beginning of this letter will see the written information and only Kizito and the translator will listen to the tape. When we are finished writing up the audio-recordings, the tapes will be deleted.

What happens if you want to leave the study?

Your participation in the study is voluntary. You can leave at any time, even after signing consent or after the discussion has started. If you decide to leave the study part-way through the discussion, we will have to keep anything you have said to that point because it is difficult to separate voices of people in the discussion. If a question makes you uncomfortable and you do not want to answer it during the discussion, you may choose not to and still be part of the study.

What if you have more questions about the study?

If you have questions or need more information about the study, please contact me (Kizito Brian) at (+254) 714 127 333 or IREC at (+254) 787 723 677. Thank you for your interest in participating in this study.

WOMEN’S CONSENT FORM

Please circle the following

1. I have read or I have had read to me, information about the study provided by the research team	[1] Yes [2] No
2. I have been able to ask questions about the study, and got answers that satisfy me	[1] Yes [2] No
3. I understand how I am going to benefit from participating in this study	[1] Yes [2] No
4. I understand that to protect the privacy of myself and others, I have been asked to not discuss what I have heard here, outside the room	[1] Yes [2] No
5. I know that I can leave part-way through the study or at the end of the study, and I do not have to answer all questions	[1] Yes [2] No
6. I know that this study will be audio-recorded	[1] Yes [2] No

7. I know that my name will not be used in this study and the comments I make will be combined when the final report is written	[1] Yes [2] No
8. I agree to participate in this study	[1] Yes [2] No

If all above all are agreed upon, please sign below:

Signature or thumb print: _____

Date: _____

Discussion guide – Annexure 2 part b

Introductory Questions

What does having children mean in your life?

1.

Imagine that you have delivered, and after 'awhile' you become sexually active, after how long do you think you will be at risk of becoming pregnant? Will you go ahead and use a family planning method during this time?

2.

Let us think about your last delivery, were you offered a family planning method immediately after you delivered? If yes, did you take the family planning method? What family planning options were provided to you?

3.

Immediately after delivery of your baby, how comfortable will you be to use a family planning method before your period/menses return? Which family planning methods will you be comfortable with during these time? Will you be comfortable to have these methods immediately? What do you think other women in your community feel about using family planning method immediately after delivery before return of menses?

4.

Do you feel it is important to use family planning? Do you think most of your friends/fellow women feel the same? If so (yes, its important to use family planning), what are some of the benefits you have drawn from using family planning in the past/or can be drawn from using family planning?

5.

Would you take up a family planning method immediately after delivery? If yes, which family planning method will you take? If no, why will you not take the

method? (probe adequately in order to: [1] get reasons why they feel they will take a family planning method and [2] where applicable find possible factors that determine use and choice of a method)

6.

If mothers were to be given a family planning method immediately after they deliver, what do you feel will be an appropriate time for them to take up the method? What possible side effects from the methods do you think they will get?

7.

Did your spouse/partner support use of family planning after you delivered your last child? If not, why?

8.

Is there someone else who influenced your decision to use family planning immediately after you delivered?

9.

Ending Questions

As a mother do you feel it's completely necessary to have a family planning method immediately after you deliver? If so (yes it's important) why do you feel that way? Do you think most of the women in your community have the same feeling?

Do you have any other issue you would like to add at this point?

Ahsante Sana

Annexure 3: Health Care Workers Interview Guide

Interview questions for health care providers

1. Does the facility you work in track postpartum contraceptive use?
2. What is your assessment of the success of the provision of postpartum family planning in this facility?
3. How do you perceive the use of implants and IUCD before menses return? Why?

If you have a postpartum woman in the facility who wants a family planning method, how do you decide if the woman can get an implant? How do you decide if the woman can get an IUCD? Do you provide implants and IUCDs to postpartum women?

4. When counselling and/or offering IUCDs and Implants to postpartum women (who may be younger than you and/or from the community) are you likely
 - a) to give non-consented care?
 - b) to give non- confidential care?
 - c) To abandon a postpartum woman?

Do you think your colleagues are likely to give the above treatment to postpartum women?

5. What kind of challenges do you face in relation to counselling and offering Implants and IUCDs to postpartum women?
6. Please mention some improvements that you think need to be made in your facilities in order to improve postpartum uptake of IUCDs and implants in this facility

Thank you for answering these questions

Annexure 4: Health facility assessment tool

Name of health facility:

Date of interview:

1. What is the total number of women who delivered in the facility from October to December 2014? (Use the maternity register to count all women who delivered at the facility.)
2. What is the total number of staff (Nurses, Clinical officers, doctors and consultants only) currently working in the facility?
3. Is this facility tracking postpartum contraceptive uptake? [1] Yes [2] No

If yes, how many postpartum women between January –March 2015 were counselled on a method? How many received a method (Give per method: Implants, IUCDs, Progesterin only pill and Injection)?

4.

	Labour ward	Post-natal ward	Cervical Cancer screening room	Sick child clinic/ Child welfare clinic
Does the facility have the following units?	[1] Yes [2] No	[1] Yes [2] No	[1] Yes [2] No	[1] Yes [2] No
Are Implants available and can be offered in these units?	[1] Yes [2] No	[1] Yes [2] No	[1] Yes [2] No	[1] Yes [2] No
Are IUCDs available and can be offered in these units?	[1] Yes [2] No	[1] Yes [2] No	[1] Yes [2] No	[1] Yes [2] No

5.

Instructions: Select the appropriate option by indicating either by circling or checking the option

Are the following FP methods available in this facility? (ask to see the commodities or tools used for these methods)		Indicate the number of staff currently working in the facility who have undergone training on these/this method(s)	Indicate the type of training they have undergone on these/this method(s)
Barrier methods (Condoms, spermicides and diaphragm/cap)	[1] Available [2] Not available		[1] OJT [2] Mentorship [3] Orientation [4] workshop/Seminar [5] Facility CMEs
Progestin-only pills (POP)	[1] Available [2] Not available		[1] OJT [2] Mentorship [3] Orientation [4] workshop/Seminar [5] Facility CMEs
Combined oral Contraceptives (COC)	[1] Available [2] Not available		[1] OJT [2] Mentorship [3] Orientation [4] workshop/Seminar [5] Facility CMEs
Implants- Implanon/Jadelle	[1] Available [2] Not available		[1] OJT [2] Mentorship [3] Orientation [4] workshop/Seminar [5] Facility CMEs
IUCDs	[1] Available [2] Not available		[1] OJT [2] Mentorship [3] Orientation [4] workshop/Seminar [5] Facility CMEs

Sterilization		[1] OJT [2] Mentorship [3] Orientation [4] workshop/Seminar [5] Facility CMEs
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6. The following policy guidelines and job aids are available in the facility (they must be visible)

MNH policy and guidelines document and Job Aids [2] Not available	[1] Available
National guidelines for quality obstetric and perinatal care [2] Not available	[1] Available
Post natal care and family planning job aid [2] Not available	[1] Available
Family planning charts [2] Not available	[1] Available
Medical eligibility criteria wheel [2] Not available	[1] Available

Annexure 5: Administrative approval

Kizito Masinde Brian
P.O BOX 4606
Eldoret, Kenya
30100
+254 (0) 714 127 333
brian.kizitom@gmail.com

December 2nd, 2015

Sub-county Medical Officer of Health
Bungoma East Sub-County
P.O. BOX 95
Bungoma

Re: Request for permission to conduct research in Bungoma East Sub-County

I am writing to request permission to conduct a research study in Bungoma East Sub-County. I am a student at Moi University School of Public Health pursuing a Masters Degree in Public Health (Epidemiology and disease control). As part of the course, I am required to undertake field research studies. Following my experience working with Bungoma East Sub-county, I have identified family planning as an important area to further pursue. Of particular interest to me is postpartum family planning, which research has shown is a vital way to help space and plan for future pregnancies, thus leading to improved maternal and child outcomes.

The title of my research is “*Assessment of the perception of postpartum women on family planning use before return of menses*”.

The participants of this study are to be drawn from 12 out of the 23 community health units in the sub-county. The study will target postpartum women in the households in these community units. Bokoli Hospital, Khalala Dispensary, Khalumuli Dispensary, Khaoya Dispensary, Lukusi Dispensary, Lurare Dispensary, Mahanga Dispensary, Matulo Dispensary, Miendo, Mihuu, Milo, Mukhe, Sinoko, Webuye Health Centre and Webuye Sub-county Hospital will also be studied.

Please find the attached copy of the research proposal for your reference. I can be reached at 0714127333 or via email at brian.kizitom@gmail.com to answer any questions and offer any clarification.

Your consideration is highly appreciated.

Sincerely,



Kizito Brian



MOI TEACHING AND REFERRAL HOSPITAL
P.O. BOX 3
ELDORET
Tel: 3347112/3



MOI UNIVERSITY
SCHOOL OF MEDICINE
P.O. BOX 4806
ELDORET

INSTITUTIONAL RESEARCH AND ETHICS COMMITTEE (IREC)

Reference: IREC/2015/149
Approval Number: 0001526

30th October, 2015

Kizito Masinde,
Moi University
School of Public Health,
P.O. Box 4606,
ELDORET- KENYA.



Dear Mr. Masinde,

RE: FORMAL APPROVAL

The Institutional Research and Ethics Committee has reviewed your research proposal titled:-

"Perception and Attitudes of Postpartum Women on Family Planning Use Before Return of Menses. A case Study of Women in Bungoma-East Sub-County"

Your proposal has been granted a Formal Approval Number: **FAN: IREC 1526** on 30th October, 2015. You are therefore permitted to begin your investigations.

Note that this approval is for 1 year; it will thus expire on 29th October, 2016. If it is necessary to continue with this research beyond the expiry date, a request for continuation should be made in writing to IREC Secretariat two months prior to the expiry date.

You are required to submit progress report(s) regularly as dictated by your proposal. Furthermore, you must notify the Committee of any proposal change (s) or amendment (s), serious or unexpected outcomes related to the conduct of the study, or study termination for any reason. The Committee expects to receive a final report at the end of the study.

Sincerely,

PROF. E. WERE
CHAIRMAN
INSTITUTIONAL RESEARCH AND ETHICS COMMITTEE

cc Director - MTRH Dean - SOP Dean - SOM
Principal - CHS Dean - SON Dean - SOD



Summary Chart of U.S. Medical Eligibility Criteria for Contraceptive Use



Key:		
1	No restriction (method can be used)	
2	Advantages generally outweigh theoretical or proven risks	
3	Theoretical or proven risks usually outweigh the advantages	
4	Unacceptable health risk (method not to be used)	

Updated June 2012. This summary sheet only contains a subset of the recommendations from the US MEC. For complete guidance, see: <http://www.cdc.gov/reproductivehealth/unintendedpregnancy/USMEC.htm>

Most contraceptive methods do not protect against sexually transmitted infections (STIs). Consistent and correct use of the male latex condom reduces the risk of STIs and HIV.

Condition	Sub-condition	Combined pill, patch, ring		Progestin-only pill		Injection		Implant		LNG-IUD		Copper-IUD	
		I	C	I	C	I	C	I	C	I	C	I	C
Breastfeeding (see also Postpartum)	a) < 1 month postpartum	3*		2*		2*		2*					
	b) 1 month or more postpartum	2*		1*		1*		1*					
	Clinically well on therapy	If on treatment, see Drug Interactions								2	2	2	2
Postabortion	a) First trimester	1*		1*		1*		1*		1*		1*	
	b) Second trimester	1*		1*		1*		1*		2		2	
	c) Immediately post-septic abortion	1*		1*		1*		1*		4		4	
Postpartum (see also Breastfeeding)	a) < 21 days	4		1		1		1					
	b) 21 days to 42 days												
	(i) with other risk factors for VTE	3*		1		1		1					
	(ii) without other risk factors for VTE	2		1		1		1					
	c) > 42 days	1		1		1		1					
Postpartum (in breastfeeding or non-breastfeeding women, including post-caesarean section)	a) < 10 minutes after delivery of the placenta									2		1	
	b) 10 minutes after delivery of the placenta to < 4 weeks									2		2	
	c) > 4 weeks	76								1		1	
	d) Puerperal sepsis									4		4	
Pregnancy			NA*		NA*		NA*		NA*		4*		4*

I = initiation of contraceptive method; C = continuation of contraceptive method; NA = Not applicable

*** Please see the complete guidance for a clarification to this classification: www.cdc.gov/reproductivehealth/unintendedpregnancy/USMEC.htm**

‡ Condition that exposes a woman to increased risk as a result of unintended pregnancy.

Annexure 6: Study budget

Presented below is a breakdown of the budget showing expenses to be incurred during implementation of the study. The source of funds for this study will be from the researcher.

ITEM	Costs
Personnel	
Hiring 9 Community health workers at 1,500 each	13,500.00
Hiring 1 community health extension worker (for supervision and coordination of community health volunteers during and after training)	3,000.00
Supplies	
1 day training for 10 participants on data collection (Will be done on-site. Includes meals and other incidentals)	20,000.00
Dissemination of findings to Bungoma East Sub-county (Costs includes meals and transport for relevant stakeholders)	50,000.00
Equipment	
Airtime/Data time	5,000.00
Toner	12,000.00
Stationery (catridges, 5 rims of printing papers, pens and notebooks)	10,000.00
Software (SPSS licence fee, Word, Office)	5,000.00
Travel during data collections	
Fuel costs for local running for the principal investigator (During planning and actual data collection)	10,000.00
Transport costs during data collection for community health volunteers and the community health worker at 1,000 each	10,000.00
Other supplies	
Transcription of FGD field notes	10,000.00
Focus group discussion (Includes transport and snacks during the discussion)	10,000.00
Grand- total	158,500.00

Annexure 7: Time frame

ACTIVITY	November 2014 – August, 2015	September 2015 – October 2015	November 2015- December 2015	January 2016- December 2016	May 2017
Proposal writing					
Seeking approvals and pilot study					
Data collection					
Data analysis and thesis writing					
Thesis presentation and examination					