

**SCHOOL OF PUBLIC HEALTH
COLLEGE OF HEALTH SCIENCES
UNIVERSITY OF GHANA, LEGON**



**DETERMINANTS OF USE OF FAMILY PLANNING METHODS AMONG
POSTPARTUM WOMEN AT UNIVERSITY OF GHANA HOSPITAL**

BY

HANNAH AMANKWAH

10599170

**THIS DISSERTATION IS SUBMITTED TO THE UNIVERSITY OF GHANA,
LEGON IN PARTIAL FULFILLMENT OF THE REQUIREMENT FOR THE
AWARD OF MASTER OF PUBLIC HEALTH (MPH) DEGREE**

JULY, 2017

DECLARATION

I, Hannah Amankwah the author of this dissertation, do hereby declare that apart from specific references which have duly been acknowledged, this is my original work.



.....
HANNAH AMANKWAH

(STUDENT)

13/10/17

.....
DATE



.....
DR. ERNEST TEI MAYA

(SUPERVISOR)

13/10/17

.....
DATE

DEDICATION

This piece of work is dedicated to all postpartum women attending child welfare clinic at University of Ghana Hospital, Legon. My husband, children and friends for their immeasurable support and sacrifices made for me to become who I am today.



ACKNOWLEDGEMENT

This work was done with the support from some individuals and institutions.

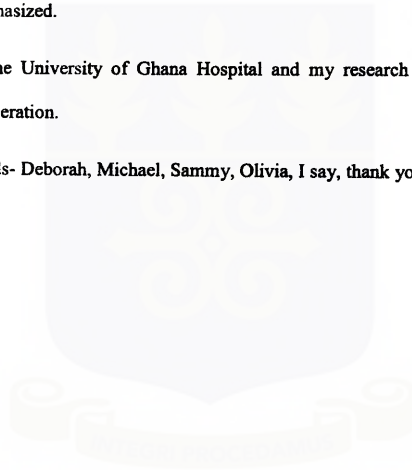
Firstly, my thanks go to the Almighty God for helping me to complete this project successfully.

I acknowledge with gratitude the guidance, contributions, suggestions and supervision of my Academic Supervisor, Dr Ernest Tei Maya.

My special thanks goes to Mr Chris Guure for the invaluable contributions and support which cannot be over emphasized.

I am thankful to the University of Ghana Hospital and my research assistance for their assistance and co-operation.

Finally, to my friends- Deborah, Michael, Sammy, Olivia, I say, thank you all and God richly bless you all.



ABSTRACT

Background: Postpartum family planning (PPFP) is the prevention of unintended or closely spaced pregnancies within first year following delivery. Family planning (FP) is essential during the course of an individual's and couple's reproductive life (WHO, 2013). Globally, two hundred and twenty-five (225) million women do not want to become pregnant but are not using any family planning method; leading to 54 million unintended pregnancies.

Objective: To assess the determinants and use of postpartum family planning methods among women attending child welfare clinic at University of Ghana Hospital. Also to identify the method used and the prevalence of contraceptive use among postpartum women.

Method: The study used purposive and convenient sampling design. The study considered only postpartum women between 18 and 49 years, who had delivered between 6 months to 12 months prior to the study and attending the child welfare clinic at University of Ghana Hospital (UG).

Bivariate analysis using chi-squared tests of association as well as logistic regression were adopted to determine the relationship between socio-demographic factors as well as health related factors and postpartum family planning use

Results: It was found that less than half (43%) of the women were currently using family planning methods. Also, the contraceptive methods currently used among the postpartum women were dominated by injectable (32.2%), pills (23.6%), intrauterine device (18.9) and condoms (12.6%); with the main reason for use being spacing (79.1%) and delaying of childbirth (19.7%).

Conclusions: The prevalence of contraceptive use (43.0%) was relatively low among postpartum mothers and thus, lasting educational measures must therefore be put in place by the Hospital authorities and other health related organizations to increase postpartum family

planning uptake due to the negative impact or effect of short inter pregnancy interval on the mother, baby and national developments.

TABLE OF CONTENTS

CONTENT	PAGE
DECLARATION.....	i
DEDICATION.....	ii
ACKNOWLEDGEMENT.....	iii
ABSTRACT.....	iv
TABLE OF CONTENTS.....	vi
LIST OF TABLES.....	ix
LIST OF FIGURES.....	x
LIST OF ABBREVIATIONS.....	xi
CHAPTER ONE.....	1
INTRODUCTION.....	1
1.1 Background.....	1
1.2 Statement of the Problem.....	3
1.3 Justification of the Study.....	4
1.4 Conceptual Framework.....	5
1.5. Objectives of the Study.....	7
1.5.1 General Objective.....	7
1.5.2 Specific Objectives.....	7
1.6 Research Questions.....	7
CHAPTER TWO.....	8
LITERATURE REVIEW.....	8
2.1 Introduction.....	8
2.1 Prevalence of Postpartum Family Planning.....	8
2.2 Postpartum Family Planning Methods.....	11
2.3 Factors Affecting the use of Family Planning Among Postpartum Women.....	14
2.3.1 Age and Family Planning Use.....	14
2.3.2 Number of Children and Family Planning Use.....	15
2.3.3 Religion and Family Planning Use.....	16
2.3.4 Spousal Communication and Support.....	16
2.3.5 Health Related Factors.....	18
2.4 Reasons for Use or Non-use of Postpartum Family Planning.....	19
2.4.1 Role of Counselling in Postpartum Family Planning Use.....	21

CHAPTER THREE	23
METHODOLOGY	23
3.1 Study Design.....	23
3.2 Study Location.....	23
3.3 Variables.....	24
3.3.1 Dependent/Outcome	24
3.3.2 Independent Variables	24
3.4 Study Population.....	26
3.4.1 Inclusion criteria	26
3.4.2 Exclusion criteria.....	26
3.5 Sampling.....	26
3.5.1 Sample size calculation Assumptions.....	27
3.6 Data Collection Tool and Techniques	28
3.7 Data Quality Control	28
3.8 Data Processing and Analysis.....	29
3.9 Ethical Considerations	29
3.10 Pretesting of the Questionnaire.....	30
CHAPTER FOUR.....	31
RESULTS	31
4.1 Introduction	31
4.2 Socio-demographic Characteristics of Respondents	31
4.2 Knowledge of Family Planning Methods.....	33
4.3 Current Contraceptive Use Among Postpartum Women Attending Child Welfare Clinic	34
4.5 Obstetrics and Contraceptive History.....	37
4.6 Antenatal and Postnatal Service Utilization During Last Pregnancy	39
4.7 Socio-demographic factors associated with the use of family planning methods among postpartum women.....	42
4.8 Factors associated with the use of family planning methods among postpartum women	44
4.9 Logistic Regression Analysis of Factors that Influence the Use and Non-use of Family Planning Methods.....	46
CHAPTER FIVE	49
5.0 DISCUSSION.....	49
5.1 Introduction	49
5.2 Level of Awareness of Postpartum Family Planning and Use.....	49

5.3 Factors Associated with the Use of Family Planning Methods Among Postpartum Women.....	51
5.4 Reasons for Non-use of Postpartum Family Planning.....	54
5.5 Limitation of the study	55
CHAPTER SIX	56
CONCLUSIONS AND RECOMMENDATION	56
6.1 Introduction	56
6.2 Conclusions	56
6.2 Recommendations	58
REFERENCES	59
APPENDICES	65
Appendix A: Informed Consent	65
Appendix B: Questionnaire.....	70

LIST OF TABLES

Table 1: Study Variables.....	25
Table 4.1: Socio-demographic characteristics of respondents.....	32
Table 4.2: Current contraceptive use among respondents	36
Table 4.3: Obstetrics and Contraceptive history among respondents	38
Table 4.4: Antenatal and postnatal service utilization during last pregnancy	41
Table 4.5: Socio-demographic factors associated with use of postpartum family planning ...	43
Table 4.6: Other factors associated with use of postpartum family planning	45
Table 4.7: Logistic regression of factors that influence the use of family planning methods .	47

LIST OF FIGURES

Figure 1: Conceptual Framework Showing Determinants and Postpartum Family Planning Use.....	6
Figure 4.2: Distribution of known family planning methods by respondents	33
Figure 4.3: Distribution of current family planning use among postpartum women.....	35
Figure 4.5: Source of information about family planning methods ever used.....	39
Figure 4.6: Family planning methods discussed during ANC and PNC visits.....	40

LIST OF ABBREVIATIONS

ANC -	Antenatal Clinic
CPR -	Contraceptive Prevalence Rate
DHS -	Demographic Health Survey
FP -	Family Planning
GDHS -	Ghana Demographic Health Survey
GHS -	Ghana Health Service
GSS -	Ghana Statistical Service
IUD -	Intrauterine Device
LAM -	Lactational Amenorrhea Method
LARC -	Long Acting Reversible Method
PNC -	Postnatal Natal Clinic
PNC-	Postnatal Care
PPFP -	Postpartum Family Planning
PPFP-	Postpartum Family Planning
UNPF -	United Nations Population Fund
USAID -	United States Agency for International Development
UGH -	University of Ghana Hospital

CHAPTER ONE

INTRODUCTION

1.1 Background

Postpartum family planning (PPFP) is the prevention of unplanned or closely spaced pregnancies within first year of delivery. Family planning (FP) is essential during the course of an individual's and couple's reproductive life (WHO, 2013). Globally, two hundred and twenty-five (225) million women do not want to become pregnant but are not protecting themselves leading to 54 million unintended pregnancies.

Postnatal period is a critical phase for mothers and their newly born babies beside its association with several challenges such as haemorrhage, anaemia, infections, depression which undermines the wellbeing of mothers and new-borns and babies. The WHO recommend inter pregnancy interval of not less than twenty four months preceding next pregnancy. Short interval pregnancies result in poor fetal outcomes such as prematurity, low birth weight and fetal death. Therefore postpartum family planning serves to postpone any unplanned and short inter pregnancy interval through the first 12 months after childbirth (WHO, 2013).

Pregnancies that occur less than one year after delivery are likely to be unplanned and may end up as unsafe abortion. Unsafe abortions occurs due to the fact that safe abortion services are not available or affordable which may expose the women to risk such as death (Cleland, Conde-Agudelo, Peterson, Ross, & Tsui, 2012).

Spacing of pregnancy more than two years apart in developing countries could reduce maternal mortality by forty percent and thirty one percent of under-five mortality. Worldwide there has been an increase in access to and use of modern family planning in the recent past years (WHO 2014). This has not been the case for most developing countries where contraceptive use have

remained persistently low. The main reasons are poor health infrastructure and transportation facilities (Cleland et al. 2006; UNFPA 2012; Yeakey *et al.* 2009).

Consequently, postpartum family planning especially in countries with high birth rate has the potential of reducing nearly 10 percent of childhood deaths and 32 percent of all maternal deaths (Cleland, 2006).

In addition, there are many myths and misconceptions about what methods are available and can be used by postpartum women. Available methods that can be used immediately after delivery includes intrauterine device, implants, female sterilization, progesterone-only injectable (Depo-provera), progesterone-only pills (POP), lactational amenorrhoea method (LAM) and female condom. On the other hand, combined oral contraceptives pills (COC) can only be used by non-lactating women from three (3) weeks whereas breastfeeding women can only start at six (6) months onwards. Studies show that methods such as intrauterine device if not done within forty eight (48) hours after delivery then the woman must wait till four (4) weeks post-delivery. Also female sterilization should be done within seven (7) days of delivery or she will have to wait till six (6) weeks after delivery (WHO, 2013).

Long acting reversible contraceptives are proven to be highly effective in preventing unwanted pregnancies, but male condom remains the commonest modern contraceptive method among mothers in the postpartum period. Many other couples rely on unpredictable traditional methods such as periodic abstinence, withdrawal and rhythm methods (Ghana Statistical Service et al., 2009). Some women rely on Lactational amenorrhoea as a form of contraception after delivery. The challenge is that women experience postpartum amenorrhoea for different lengths of time and the return of fertility also differs with some occurring even before the return of menses (Jackson & Glasier, 2011).

Although knowledge of contraception and family planning is universal in Ghana, contraceptive use remains low while unmet need in the postpartum period remains high (Ghana Statistical Service (GSS), Ghana Health Service (GHS), & ICF Macro International, 2014). Despite the fact that many postpartum women prefer to postpone their next pregnancy for at least 24 months, majority of them do not use effective postpartum family planning method. Therefore the need to research into determinants of use and non-use of postpartum family planning methods

1.2 Statement of the Problem

Short interval pregnancy continues to remain a risk globally due to its negative impact on the mother, infant and the nation as a whole (WHO, 2013). Despite the fact that 95% postpartum women want to avoid pregnancy within 24 months of delivery, 70% of them do not use any family planning method (Ross & Winfrey, 2001). Upon all the milestone made by government, the general unmet need for family planning is 30% among married women compared to 82% unmet need for postpartum family planning in Ghana (Cleland et al., 2015).

The World Health Organisation (WHO) Technical Consultation of Birth Spacing after reviewing multiple studies considering maternal, infant, and child health outcomes recommends a minimum of twenty four months intervals after a live birth in order to reduce the adverse outcomes for the mother and baby (WHO, 2006) such as prematurity, low birth weight, fetal and early neonatal death (Da Vanzo et al., 2007).

A study done on postpartum family planning used mothers six weeks to one year (Egbuonu, Ezechukwu, Chukwuka, & Ikechebelu, 2005) where majority of them were using Lactational Amenorrhoea Method (LAM) but in Ghana breastfeeding is almost universal (Ghana Statistical Service (GSS), Ghana Health Service (GHS), & ICF Macro International, 2014) where mothers breastfeed and use that as a family planning method while another survey also

used young mothers 6 to 18 months of delivery (Adofo, 2015) which by definition of postpartum family planning (the prevention of unintended or closely spaced pregnancies within first year following delivery (WHO,2013) some of the respondent technically fall beyond the period for postpartum family planning period.

Furthermore, there are not enough studies on family planning use among postpartum women in the critical period between six month and one year postpartum where LAM is no longer effective and women are expected to switch to other methods of family planning to prevent pregnancy (Borda & Winfrey, 2010).

Also, in Ayawaso sub-metro, a suburb of Accra metropolitan, there has not been any evaluation or study on postpartum family planning notwithstanding high level of education on family planning and effective birth spacing given during Antenatal, Postnatal and child welfare clinics (CWCs). Hence, the present study is to assess the determinants of postpartum family planning among postpartum women attending child welfare clinic who are between 6 to 12 months post-delivery at the University of Ghana Hospital.

1.3 Justification of the Study

The child bearing continuum comprising of the antenatal, intra partum, immediate postpartum and the extended postpartum periods offer great opportunities for family planning counselling due to frequent visits to the healthcare facility and regular interactions between pregnant women and health care providers (Warren, Mwangi, Oweya, Kamunya, & Koskei, 2010). This study will help fill the knowledge gap on postpartum family planning and inform policy makers in development of effective strategies to promote family planning use among postpartum women. In addition, the study will provide essential information regarding family planning use in ayawaso sub-metropolitan Area to inform policy makers in the district on areas to focus on, in order to enhance uptake of family planning among eligible women. Subsequently the study

will inform stakeholders in developing programme objectives and activities aimed at improving postpartum family planning prevalence in the district.

1.4 Conceptual Framework

Figure 1.1; the conceptual framework shows interrelationship between demographic variables and health related factors. A lot of determinants play a role in the use and non-use of postpartum family planning methods. The framework suggests various determinants of use and non-use of postpartum family planning methods. Studies have shown that factors such as the socio-demographic factors (age, parity, education, religion, occupation, socioeconomic status) form a web to influence the use or non-use of postpartum family planning.

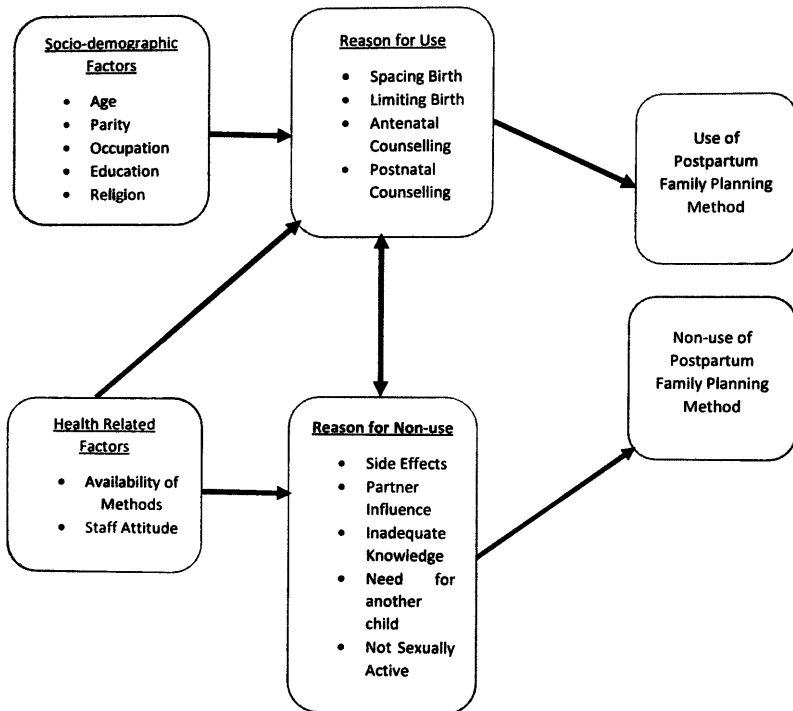


Figure 1: Conceptual Framework Showing Determinants of Postpartum Family Planning

1.5. Objectives of the Study

1.5.1 General Objective

To assess the determinants of use of postpartum family planning methods among women attending child welfare clinic at University of Ghana Hospital.

1.5.2 Specific Objectives

1. To determine the proportion of postpartum women who are using family planning methods.
2. To identify the type of family planning methods used by postpartum women.
3. To determine the factors that influences the use and non-use of family planning methods.

1.6 Research Questions

1. What is the prevalence of family planning methods use among postpartum women?
2. What are the types of family planning methods being used by postpartum women?
3. What are the factors that influence the use and non-use of family planning methods among postpartum women?

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

The literature review is primarily based on what is already known about postpartum family planning. The review highlights the Prevalence of postpartum family planning, family planning methods and factors that influence the use and non-use of postpartum family planning methods.

2.1 Prevalence of Postpartum Family Planning

Worldwide there has been an increase in access to and use of modern family planning in the recent past years (WHO 2014). However, these has not been the case for most developing countries where contraceptive use have remained persistently low. The main reasons are poor health infrastructure and transportation facilities (Cleland et al. 2006; UNFPA 2012; Yeakey *et al.* 2009).

The prevalence of postpartum contraceptive use within some countries varies depending on geography, socioeconomic and religious factors.

The United Nations in 2013 reported that, globally contraceptive prevalence is 63%. Nine out of ten women in the reproductive age who are using family planning methods rely mainly on modern contraceptive (United Nation, 2013). In addition, sub-Saharan Africa has a prevalence of 25% with the commonest method being female sterilization (26%), IUD (14%) and emergency contraceptive (the pill at (9%).

A study in the United States of America (USA) evaluating contraceptive use among over 4,000 women who have delivered in 12 states in the New York City reported postpartum contraceptive prevalence of 88.5 percent with over 67 percent using a long acting method within two to nine months after delivery (Whiteman, CutisZapata, D'Angelo, Farr, Zhang,...& Rhobbins, 2009). Factors such as ethnic background of the respondents influence the decision to use contraceptives. In this study, the Asian/Pacific Islanders had the lowest postpartum contraceptive prevalence rate and the lowest odds of using a highly effective modern method. From this study it could be concluded that geographical location as well as ethnicity and cultural sentiments are associated with postpartum contraceptive uptake and the choice of method.

Another cohort study conducted to assess the outcome of postpartum women who had insurance cover and attended prenatal clinics reported that delivery by caesarean section was positively associated with receiving postpartum tubal ligation. Those who did not receive the procedure were more likely to be illegal immigrants, have no personal insurance cover and less likely to attend antenatal clinic. The authors concluded that financial barrier still remains a challenge when it comes to provision of postpartum tubal ligation in the United States of America (Thurman & Janecek, 2010).

A study among seventeen states in Mexico with a sample of 2,238 postpartum women from low-income urban areas on prevalence of modern contraceptive use in the postpartum period from 2003-2004 reported that 47 percent of the women were using intrauterine device, condoms and female sterilization (Barber, 2007). Their study established that women who received both antenatal and postnatal counselling services were more likely to use postpartum contraception than those who did not receive such services.

A study involving 416 young postpartum mothers 6 – 18 months post-delivery within the age 15 – 24 years. The prevalence of modern contraceptives use was reported to be 47.8% among young postpartum mothers. The conclusion was that, the use of modern contraceptive among the young postpartum women was relatively high compared to current national prevalence rate of 22 percent (Adofo, 2014).

A cross sectional survey in India involving 123 postpartum mothers from a rural area in Uttar Pradesh reported that only 13.8 percent of mothers adopted a modern contraceptive method. Methods used were condoms (8.9%), lactational amenorrhoea method (LAM) (3.3%) and Intrauterine Device (IUD) (1.6%) (Mahmood, Srivastava, Shrotriya, Shaifali, & Mishra, 2012). The study concluded that lack of knowledge about postpartum contraception, breast feeding, the influence of the extended family and religious opposition to contraception are the main barriers to postpartum contraceptive use.

Another study conducted at Onitsha in South Eastern Nigeria, which focused on the time of resumption of sexual activity and modern contraceptive use among postpartum mothers. It was reported that although 93.6 percent of the respondents had resumed sexual activity by 6 months postpartum, only 46 percent used any modern contraceptive thus exposing themselves to the risk of unintended pregnancy (Egbonu, Ezechukwu, Chukwuka, & Ikechebelu, 2005). Lactational amenorrhoea remained the most common method used for birth spacing among these women during the first 6 months, despite an early return to sexual activity and a return of menstruation in 34 percent of the respondents by 6 weeks. The study recommended for promotion of contraceptive use during postnatal period. Despite the enormous benefit of contraception to the individual and the society as a whole, there is a high unmet need for family planning services in developing countries. A study

by Sedgh & Hussain (2014) which analysed DHS data from 51 surveys in Africa, Asia and Latin America and the Caribbean showed that the unmet need for modern contraception for women between the ages of 15 and 49 years still remains high in all of these regions. The gap in the use of modern contraception in Africa and Asia are 24 percent and 15 percent, respectively, with large variations across different countries in this region (Sedgh & Hussain, 2014).

Various studies have been done to ascertain why women in developing countries still have a high unmet need for modern contraception despite various interventions to improve the situation over the years. Using a systematic and comprehensive analysis of surveys from 111 countries, one study showed that the level of unmet need for contraception in the developing world has declined marginally between 1990 and 2010 (Darroch & Singh, 2013; Alkema, Kantorova, Menozzi, & Biddlecom, 2013).

2.2 Postpartum Family Planning Methods

Currently, two major categories of family planning methods are available thus modern and traditional contraceptives. The modern contraceptives are the barrier methods (both male and female condoms, diaphragm, cervical caps, contraceptives sponge and spermicides), hormonal methods (combined oral contraceptives, progestin-only pills, contraceptive patch, injectable birth control, vaginal rings, and implantable rods), emergency contraceptives, intrauterine methods (copper IUD and hormonal IUD), Lactational amenorrhoea method (LAM), and sterilization (tubal ligation, sterilization implant and vasectomy). The traditional methods are the rhythm (or fertility awareness/periodic abstinence method), withdrawal (coitus interruptus) and folk methods (other traditional method).

Extensive literature review by Campbell, Sahin-Hodoglugil, & Potts, (2006) to identify main barriers to fertility regulation showed that the reasons for non-contraceptive use among young women include limited methods available for the women to make informed choice, financial costs, medical and legal restrictions in some countries such as age of marriage, status of women, provider biases and prejudices and misinformation.

In Ghana, contraceptive prevalence among currently married women ages 15-49 years is 26.7%, of which 22.2% is from the use of modern contraceptives and 4.5% from traditional methods. Injectable (8%), implants (5.2%) and pills (4.7%) are the commonest among users of modern contraceptives while rhythm method (3.2%) is the most common traditional method used (GSS *et al.*, 2015).

A study by Kouyate *et al.* (2015) found that in order to increase the adoption of family planning during the first year post-delivery; timely transition from LAM to different modern family planning method is necessary. Eighty (80) postpartum women used for the study comprised of 40 postpartum women who switch from LAM and 40 women who did not. The authors explore the decision-making process by involving half of each group in an in-depth interviews. The study reported that LAM transition into another method at the right time can help women prevent unintended pregnancy during the first year postpartum. Recommendation made was that, increased emphasis should be placed on counselling women about misconceptions, personal fertility patterns and the risk of pregnancy, which are critical for facilitating the transition. Policy and strategies should also include interventions that will train health workers and improve social support.

Several studies have also suggested that access to family planning services is a challenge in rural areas due to the fact that most women who seek for the care are not attended to by the service providers once they have not resumed menstruation (Campbell, Sahin-Hodoglugil, & Potts, 2006a). According to Adjei *et al.* (2015), availability of reversible long acting contraceptives such as implants, emergency contraceptives and IUDs in the health facilities are low.

According to Fehring & Mu (2014) a study sought to determine the efficacy of using natural family planning (NFP) methods and ways to avoid unplanned pregnancy. The researcher designed a prospective 12 months study among 160 women (between ages 40–55 years) who used NFP to avoid pregnancy with the objective to assess its effectiveness. The women used either a hormonal fertility monitor, cervical mucus monitoring, or both to estimate the fertile phase of their menstrual cycles. Their findings suggested that natural family planning methods can be used in elderly women to avoid an unplanned pregnancy with correct use and adequate instructions.

In addition, a study found that when couples achieve their reproductive goal, they tend to use traditional methods due to perceptions that chemicals in the modern contraceptive will cause harm (Osei *et al.*, 2014). Chigbu, Onwere, Aluka, & Kamanu, (2010) studied the contraceptive choices among rural women in South Eastern Nigeria. Qualitative data were collected by in-depth interviews with the clients whose records were available as a family planning unit of a University Hospital between November 2005 and October 2007. The majority of the women preferred injectable and explained their choices is based on the fact that injectable are non coital dependent, with little or no risk of failure or forgetfulness on

the part of the users. And especially for those with no spousal consent, the women found injectable as convenient in order to avoid detection by their spouses.

2.3 Factors Affecting the use of Family Planning Among Postpartum Women

Research worldwide shows that there are several factors that influence the decision of postpartum mothers to use contraceptives. These include age, educational level, parity, cultural and religious factors, spousal influence, influence of relatives and in-laws and health service related factors

2.3.1 Age and Family Planning Use

Literature on developing countries confirmed that women aged 25-34 years are more likely to use contraceptives methods than older women (Tekelab et al., 2015; Borges, Olaolorum, Fujimori, Hoga, & Tsui, 2015).

However, in Uganda, modern contraceptives use was found to be much lower among young married women compared with older women (Asiimwe, Ndugga, Mushomi & Ntozi, 2014). They also found that age variations in perception on distance covered to access health facility, listening to radio and geographical variances influenced the use of contraceptives.

A study conducted in Western Ethiopia among women showed that, age was an independent predictor of contraceptive use. Women aged 25-34 years are more likely than other age groups to use modern contraceptives (Tekelab, Melka, & Wirtu, 2015). Also, age was found to be correlated to contraceptive use in the Democratic Republic of Congo, where increasing age was significantly associated with less contraceptive use (Izale, Govender, Fina, & Tumbo, 2014).

In Ghana, a study showed that age is significantly associated with ever use of contraceptives (Aryeetey, Kotoh, & Hindin, 2011).

Studies in Sub-Saharan Africa show that young women are less likely to use contraceptives during the postpartum period, compared to older women in the reproductive age group. They believe that modern contraceptives may jeopardize their chances of having more children. The 2014 GDHS found that contraceptives are least used among married women aged 15-19 years compared to older married women aged 45-49 years. Mahmood et al., (2012) reported a contrasting finding that postpartum contraceptive uptake was higher among women below 30 years in the middle class in a rural area in India. This difference in the results is due to the differences in the educational status of the women where the later study used well educated women who had access to varied sources of information on postpartum contraception and hence the likelihood of higher postpartum contraceptive use.

2.3.2 Number of Children and Family Planning Use

Various studies around the world found that women with high number of children are more likely to use contraception than women with fewer children. A study done in Uganda by Asiimwe & Ndugga, (2014) exploring factors associated with modern contraceptive use found that young women show a strong desire to have more children than older women leading to lower contraceptive use by women between ages 15-24 compared with older women between 25 and 34 years.

Another survey in Turkey explored the association between parity and contraceptive use among grand multiparous women found that with adequate information many women of high parity may decide to use modern contraceptives to limit child birth. Providing counselling and contraceptive services led to an increase in contraceptive use from 33.5

percent to 59.5 percent with most of the grand multiparous women choosing long-term reversible methods or sterilisation (Ertem, Ergenekon, Elmaci, & Ilcin, 2001).

A most recent survey indicated that modern contraceptive use increase with the number of living children. While 21% of married women who had no children reported contraceptive use, 30% of women with 3-4 children were using at least one modern method at the time of the survey (GSS, GHS, & ICF Macro, 2014).

In Ghana, a study conducted showed that a couple's fertility preference and parity were associated with contraceptive use in the Upper East Region. They reported that contraceptive use among women who have 1-4 children is higher compared to women with no children (Achana et al., 2015).

2.3.3 Religion and Family Planning Use

Guiahi, Sheeder & Teal (2014) sought to understand if women anticipate a difference in reproductive healthcare when attending a Catholic institution. The result shows that most participants had the expectation that their gynaecologist should provide all family planning services offered. The conclusion was that people from the Catholic hospital are more likely to expect natural family planning advice.

2.3.4 Spousal Communication and Support

Spousal communication is usually used as a focal point in community based family planning interventions. This provides a platform for couples to openly share ideas about fertility preferences and reproductive desires, enabling the providers to make valuable contributions for the couples to make informed choice.

A study conducted in rural Uttar Pradesh to assess the level of adoption of postpartum contraception among low parity women (Goel, Bhatnagar, & Khan, 2010) identified that women who communicate on postpartum family planning with their husband are more likely to use them.

In many developing countries a woman's decision on postpartum contraceptive use may need spousal affirmation because of cultural norms and male dominance in decision making. Some tribes and religious groups are hesitant to discuss family planning openly between spouses, accounting for a lower uptake of contraception within these groups. Family planning programs, the influence of male in the decision making process is usually underestimated with more attention focused on the women. This is because it is the woman's health that is most at risk.

A study by Kimuna & Adamchak, (2001) found that male approval of a method of contraception and male determination of the family size must be considered seriously in making any decision about contraceptive choice and use. This clearly shows that decision on postpartum contraceptive use must take into account the concerns of male partners.

To assess the level of influence of male partners in family planning methods decision making in Nigeria, a study was undertaken to identify individual attitude towards the empowerment of women in making an independent decision on the right to accept, choose and use contraception without their male partner. The study showed that only 34.4 percent of the respondents thought that all women irrespective of their marital status should be given the independent right to choose and use contraception without input from the male partner (Bukar, Audu, Usman, El-Nafaty, & Melah, 2013). However, a majority of both

genders supported the idea that male partner input is needed in contraceptive choice and use. This study reaffirms the dominance of male partners in contraceptive decisions in this part of the Nigerian society.

2.3.5 Health Related Factors

According to GDHS (2014), Ghanaian users of contraceptives mainly obtained it from government hospitals, polyclinics, health centres whiles minority got it from chemical stores and pharmacies (GSS et al., 2015). A study conducted showed that women who had a regular source of health care are more likely to use contraceptives compared to those who did not have (Germek, 2012).

Also, some women may not get the preferred method at their usual source which may lead to non-use. However, assuming a woman does get their preferred method, affordability also becomes a problem. For many women in the reproductive age (15-49 years) the cost of these contraceptives are not affordable (Creanga, Gillespie, Karklins, & Tsui, 2011).

Another study conducted in Tanzania reported that factors such as increased in women's waiting time for contraceptive services or requiring women to wait till next menstrual period before getting contraceptives they desire leads to increased unmet need (Speizer & Pearson, 2011).

However, quality family planning services avails a platform to provide evidenced based and field tested awareness about contraception and use of effective methods by offering client centered individualised services.

Knowledge, skills and practice patterns of the family planning providers play a major role in providing easy access to contraceptive services. Negative influences, poor providers'

communication and counselling skills, overbearing or 'pushy' attitude of providers, coercive tendencies from the side of the providers more often than not make women apprehensive and suspicious thereby affecting their decision to choose or use modern contraceptives (Yee & Simon, 2011).

Provider dependant contributory factor affects greatly the decision to use contraception, especially among women in deprived communities and women from minority groups. Negative counselling practices such as prescribing unwanted contraceptive methods without providing appropriate options may lead to non-use of the method and thus expose the woman to unwanted pregnancies. Historical injustices in multi-racial and multi-cultural societies usually raise suspicion among minorities about contraceptive 'conspiracies' to such levels that they feel contraception is being used as a means of controlling their population (Borrero, Schwarz, Creinin, & Ibrahim, 2009). Providers in such situations need to provide good client focused services to dispel wrong perceptions. Patient centred care in which the provider helps the client to understand and partake in decision making about their fertility needs and provides a key component in delivering a high quality care and dispel conspiracy 'beliefs' cannot be overemphasized.

2.4 Reasons for Use or Non-use of Postpartum Family Planning

Postpartum contraceptive use has the greatest potential of improving maternal health and reducing perinatal and infant mortalities. Antenatal and postnatal visits present a good opportunity for counselling for contraceptive services because of the unique opportunity of several interactions with pregnant women and postpartum mothers during these visits.

In 2008, 99 percent of maternal deaths globally occurred in developing countries (Ahmed, Liu, & Tsui, 2012). Without contraception the situation could have been worse but contraceptive use has the potential of averting more than 272,000 deaths per year (Stover & Ross, 2010).

Many women in the reproductive age use a variety of modern contraception for various reasons. Women use contraception in the postpartum period to space or limit births, for those who have completed their family. Postpartum contraceptive use offers the new mother the full rights and opportunity to enjoy motherhood as well as caring efficiently for the baby without thinking about unwanted pregnancy.

Analysis of 2007 DHS data from Zambia indicated that 77 percent of the mothers interviewed use postpartum contraception for spacing births and the remaining 23 percent for limiting births in situations where the desired family size has been achieved (Westoff & Koffman, 2010).

Another study in the United States of America by Frost & Linberg (2013) found out that 63 percent of the respondents reported that contraceptive use offered them opportunity to take better care of themselves and their family, 51 percent agreed that contraceptives have allowed them to complete their education. On job security, 50 percent of the respondents considered that by using modern contraception, they have been able to keep or get a job.

Efforts have been made through research to explain the reasons why many women in their reproductive age still have a high unmet need through the use of both qualitative and quantitative study methods. Recent reviews of DHS surveys from developing countries, however, indicate a high level of general knowledge about contraception in most countries,

but fear of side effects and disturbances in the menstrual cycles is increasingly becoming the main reasons for non-use of contraception (Sedgh, Hussain, Bankole, & Singh, 2007).

Beyond mere knowledge, there are attitudes and perceptions that influence use. Some perceptions gotten from a study in Malawi showed that perceptions on side effects such as prolonged bleeding, male impotence, genital sores, weight gain or loss and infertility hindered use of contraceptives (Chipeta, Chimwaza, & Kaililani-Phiri, 2010). However, a study conducted in Nigeria found that women have positive attitudes towards contraceptives. The reasons were the desire to maintain health and avoid negative effect of high fertility as well as the need to have time for personal development (Aransiola, Akinyemi, & Fatusi, 2014).

2.4.1 Role of Counselling in Postpartum Family Planning Use

The continuum of pregnancy offers providers opportune time for good contraceptive counseling for women and their partners since it gives them a chance to consider future contraceptive options prior to delivery to prevent rapid repeat of pregnancy, unsafe abortion and unwanted pregnancies especially in high risk women. It is a known fact that women who receive counseling during antenatal and after delivery are more likely to adopt a family planning method to prevent unwanted pregnancies (Goel et al., 2010).

Family planning counseling is a bilateral interaction between the counselor and the counseled with the intention to inform, motivate and educate couples by helping them to make voluntary and informed choices about contraception. Family planning counseling can be provided during different periods of a woman's reproductive life. The antenatal, immediate postpartum and the extended postpartum periods offer convenient time for

contraceptive counseling due to multiple interactions between the health care providers and women. In order to promote the postpartum contraceptive use, contraceptive counseling has been integrated into maternal health and child care services in many countries worldwide.

A study in Nigeria to determine the influence of antenatal and post-natal counselling on the postpartum contraceptive use found that women who had multiple antenatal contraceptive counselling were more likely (57 percent versus 35 percent) to use postpartum contraception by six weeks than those who received single one-on-one postnatal counselling (Adanikin, Onwudiegwu, & Loto, 2013).

The relationship between antenatal (ANC) and postnatal care clinic (PNC) attendance and postpartum contraceptive uptake has also been studied by Do & Hotchkiss, (2013) using population surveys in Kenya and Zambia (Kenya DHS 2008-2009 and Zambia DHS 2007). Using Cox proportional hazard ratio and controlling for confounders, the authors found a significant association between ANC/PNC service and postpartum contraceptive use in both countries. However, when the only PNC service intensity was analysed it was observed that there was no significant association between PNC and postpartum family planning. Postnatal care (PNC) is essential for good maternal health, as most maternal deaths occur within the first days after delivery. A study done to evaluate whether postnatal care services influence postpartum contraceptive use among new mothers found that, timely postnatal check-ups to be associated with the use of modern contraception after delivery. Postpartum contraceptive use was three times more likely among women whose PNC visit occurred within two days of delivery and six weeks postpartum (Speizer et al., 2013).

CHAPTER THREE

METHODOLOGY

3.1 Study Design

A quantitative cross sectional facility based research design was used in this study. Respondents were asked to provide information on past and present family planning use and factors that influenced its use. A structured questionnaire comprising of five sections was used to obtain this information.

3.2 Study Location

The study was carried out at the University of Ghana Hospital, Child Welfare Clinic (CWC) which is found in West Wagon Sub-metropolitan within Accra Metropolitan Area. The University of Ghana Hospital was established by University of Ghana (UG) in 1957. It is a quasi-government hospital originally established to care for the health needs of UG students, staff and their dependents. As the communities started developing, the inhabitants began to seek health care from the hospital. With time, the hospital became a District Hospital and has extensive catchments area. The hospital has a bed capacity of 130 comprising of general wards, maternity unit, emergency unit, dental unit, surgical unit and operating theatre. Services provided includes out-patient, in-patient and specialist services. The hospital has a well-known primary health care outreach programme aimed at teaching and advising pregnant women, nursing mothers and the general public about personal hygiene, good nutrition, child care, immunization against vaccine preventable diseases, family planning and school health services. The hospital receives about 200 antenatal clients monthly and conduct an average of 60 deliveries in a month. The child welfare

clinic where respondents were interviewed sees approximately 1200 postnatal mothers per month and they work from Monday to Friday 8:00am to 4:00pm. The family planning unit also provides services to about 100 clients every month.

3.3 Variables

3.3.1 Dependent/Outcome

The current use of postpartum family planning methods among women attending the child welfare clinic at the University Hospital.

3.3.2 Independent Variables

1. Socio-demographic factors includes the age of postpartum women between six months to twelve months, their level of education as well as their partners, parity, occupation, religious affiliation and marital status.
2. Choice of family planning methods like pills, injectable, IUD and condoms among others.
3. Health facility related factors such as availability of family planning methods, history of contraceptive use as well as antenatal and postnatal counselling and visits.

Table 1: Study Variables

Variables	Operational Definition	Indicator	Measurement	Type of variable
Age	Age at last birthday	Age completed in years	Questionnaire	Continuous
Level of Education	Highest level of education	None, primary, JHS, SHS, Tertiary	Questionnaire	Ordinal
Occupation	Daily job	Unemployed, Self employed, Formal employment, Student	Questionnaire	Norminal
Religion	Religious denomination of respondent	Christianity, Islamic, Traditional, Others	Questionnaire	Norminal
Parity	No of children alive	One Two Three Four Others	Questionnaire	Discrete
Reason for family planning use	Purpose for using a family planning method	As reported by respondent	Questionnaire	Norminal
Current family planning method use	The choice of method	As reported by respondent	Questionnaire	Binary
Resumption of sexual activity	Having sexual activity after delivery	Yes / no	Questionnaire	Binary
Assessment of family planning information	How respondent assess information given by healthcare provider	Useful, somewhat useful, Not useful	Questionnaire	Ordinal

3.4 Study Population

The study population was all postpartum women between 18 and 49 years, who had delivered between 6 months to 12 months prior to the study and attending the child welfare clinic at UG hospital. These people were interviewed because they had the needed characteristics to answer the research questions.

3.4.1 Inclusion criteria

The study population included all postpartum women between 18-49 years who had delivered between six to twelve months prior to the study regardless of parity, religious or educational status and attending the child welfare clinic with willingness to participate.

3.4.2 Exclusion criteria

1. Postpartum women who fell outside the group thus, below six months and above twelve months post-delivery were exempted
2. Postpartum women who had any medical history or conditions which restrict them from using postpartum family planning were excluded from the study.
3. Postpartum women with severe mental illness or mental abnormality will not be sampled

3.5 Sampling

All eligible postpartum women aged between 18 and 49 years, who delivered between six months to twelve months prior to study and attending child welfare clinic at the University of Ghana Hospital were included in the study. Women who gave written consent to participate in the study were recruited consecutively on a daily basis till the total sample size was achieved. Consecutive enrolment was chosen to meet the sample size because the period for data collection was short. On arrival at the child welfare clinic, a screening

question was asked to identify all eligible postpartum women. The eligible postpartum women were selected after their babies had received the needed care at the child welfare clinic. To ensure privacy and confidentiality of study participants, interviews were conducted at a designated area where respondents felt comfortable.

3.5.1 Sample size calculation Assumptions

A study by Adofo (2015) suggested 34.08% of young postpartum mothers used modern contraceptives from 6 months to 18 months after delivery. Hence the calculation of sample size was based on the assumption that postpartum women who use family planning post-delivery will not be above 34%.

This study used the formula put forward by Charan and Biswas (2013) in the calculation of the sample size.

$$\text{Thus } n = \frac{Z^2 p(1-p)}{d^2}$$

n = required sample size

Z = Confidence level of 95% = 1.96

p = Assumed proportion from similar studies was 34.08% expressed in decimal = 0.34

$q=1-p$ = probability of the event not occurring, in this case 1-0.34

d = Margin of error of 5% expressed in decimal = 0.05

$$n = \frac{1.96^2 \cdot 0.34(1-0.34)}{0.05^2} = n = \frac{0.862055}{0.0025} = 344.822$$

$$n \cong 345$$

Adding a 10% non-response rate; $\frac{10}{100} \times 345 = 34.5 \cong 35$

$$n = 345 + 35 = 380$$

Hence, a sample size of 371 was used for this study.

3.6 Data Collection Tool and Techniques

The data collection tool used in this study was a structured questionnaire adapted from the 2014 Ghana Demographic and Health Survey on family planning. It was modified to fit the objectives of the study. The questionnaire consisted of both closed-ended and open-ended questions and was translated by a professional translator into two local languages that the respondents were comfortable to speak. The principal investigator and three female research assistants administered the questionnaire. Data collected included age, parity, highest educational level attained by respondents, occupation, religious denomination, ethnicity, partners educational level, knowledge on risk of untimed pregnancy, type of family planning method used, antenatal and postnatal counselling on family planning, previous and current family planning use and factors that influences the use of family planning or choice of method, reason for use and non-use of postpartum family planning method.

3.7 Data Quality Control

To ensure quality data collection and control, three research assistants were engaged and trained by the principal investigator. The objectives of the study were explained to them. Research assistants were well trained in data collection techniques, how to ensure privacy and confidentiality of respondents. This training exercise was necessary to ensure

consistency and correct interpretation of the questions to respondents. The principal investigator went round after every successful day within the period of the study to check quality of work done. To minimise risk of data loss, all data collected daily were double checked to ensure its completeness and consistency.. Questions found to be incomplete were corrected on the field. Data collected were coded by the principal investigator before entering it on to a computer.

3.8 Data Processing and Analysis

The questions was coded and entered into Excel spreadsheet (Microsoft Office, 2013). The data was organized and exported into STATA version 14 (Stata Corporation, College Station, TX, USA) for analysis. Exploratory or descriptive analysis of the data was conducted. Bivariate analysis using chi-squared tests of association was adopted to determine the relationship between socio-demographic factors as well as health related factors and postpartum family planning use. Logistic regression was further used to measure the strength of association of the significant variables from the bivariate associations. Statistical significance was determined using at least 95% confidence interval and *p-value* < 0.05. The findings are presented in the form of descriptive texts, tables and figures.

3.9 Ethical Considerations

Ethical approval was sought from the Ghana Health Service Ethical Review Board with approval number GHS-ERC: 25/02/17. Permission was also sought from University of Ghana Hospital Management Team. Informed consent was sought from respondent and confidentiality assured. The objectives of the study, its risks and benefits of the study were

discussed with each respondent and written consent was given to each respondent to sign or thumbprint before the interview was conducted. Respondents were made aware that entry into the study was voluntary however whenever they decided to exit they were free to do so and that the care they received at the facility was not going to be affected. Also any questions they felt uncomfortable with needed not to be answered. This research posed no potential physical risk to respondents. However they shared some personal or confidential information which by chance created inconvenience upon answering some of the questions. There was no compensation for taking part in this research however a bottle of soft drink costing GH 3.00 was given to respondents for their time.

For confidentiality sake, names of respondents were not used on the questionnaires and all personal information given was not traceable to them. A safe, which is under lock, and key was used to store answered questionnaire and was only accessible to the principal investigator. Findings on the study was promised to be communicated to the hospital to help them identify and understand the factors that influence the use of postpartum family planning. This will aid in policy formulation and further help health professionals to improve on their skills and come up with strategies to help promote postpartum family planning use.

3.10 Pretesting of the Questionnaire

Pretesting of the structured questionnaire was done at the Achimota hospital, Accra, after which possible errors were corrected and modifications effected. Questionnaire was pretested on 38 participants which is 10% of the sample size.

CHAPTER FOUR

RESULTS

4.1 Introduction

This chapter presents the results obtained from the study. It provides information on the socio- demographic characteristics of respondents, proportion of postpartum women who are currently using family planning methods and knowledge on the methods as well as assess the determinants of use of postpartum family planning among women attending child welfare clinic at University of Ghana Hospital.

4.2 Socio-demographic Characteristics of Respondents

A total of 371 respondents were interviewed. The details on the socio-demographic characteristics of respondents are shown in Table 4.1. The mean age of respondents was 31 years (SD=2.5) with approximately half (50.1%) of the women aged above 30 years. Majority of the respondents were Christians (73.6%) whereas the others were Muslims (25.1%) and traditionalists (1.3%). About 94.6% of the women had some level of education and 5.4% had no education. Similarly, 97.6% of the women had partners with at least primary educational level. Out of the 371 women interviewed, 326 (87.9%) had between one and three children with the remaining 51 (13.7%) having more than 3 children. Majority (73.8%) of the respondents also had resumed sexual intercourse with their partners by six months postpartum.

Table 4.1: Socio-demographic characteristics of respondents (n=371)

Characteristics	Frequency	Percent (%)
Age of mother		
18-25	70	18.9
26-30	115	31
31-35	126	34
36-40	55	14.8
41-45	5	1.3
Educational level of mother		
No formal education	20	5.4
Primary/Basic	95	25.7
Secondary	116	31.4
Tertiary	139	37.5
Religion		
Christian	273	73.6
Muslim	93	25.1
Traditionalist	5	1.3
Marital status		
Married	284	76.6
Cohabiting	27	7.3
Single	56	15.1
Divorced	2	0.5
Widowed	2	0.5
Occupation		
Student	31	8.4
Farmer	3	0.8
Unemployed	28	7.6
Public Salary worker	91	24.7
Private Salary worker	68	18.4
Trader	129	35
Artisan	17	4.6
Other	2	0.5
Postpartum age of mother		
6-8 months	216	58.2
9-12months	155	41.8
Age of resumption of sex		
≤ 6 months	274	73.8
> 6 months	97	26.2
Number of children born to mothers		
One	64	17.3
Two	123	33.2
Three	133	35.8
≥Four	51	13.7

4.2 Knowledge of Family Planning Methods

Approximately, 316 (85.2%) out of the 371 women interviewed were aware of some family planning methods that they can use. Figure 1 shows that, the family planning methods mainly known were pills (92.9%), intrauterine device (89.6%), injectable (86.9%), male condoms and least was emergency contraception (17.9%).

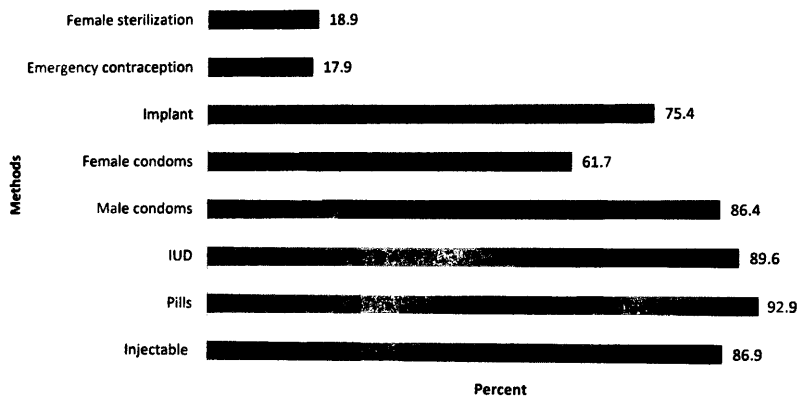


Figure 4.2: Distribution of family planning methods known by respondents

4.3 Current Contraceptive Use Among Postpartum Women Attending Child

Welfare Clinic

It was found out that 158 (43.1%) of the women were currently using family planning methods while the remaining 213 (56.9%) were not using any method. Figure 2 shows that the current methods used by postpartum women were mostly injectable (32.2%), pills (23.6%), IUD (18.9) condoms (12.6%) and the least being used was emergency contraception. The main reasons why some of the respondents were not using any method includes wanted to have another child (39.7%), fear of side effects of methods (26.8%) and husband's disapproval (10.5%). However, 55 out of the 158 women who are currently using contraceptive method experienced problems with its usage. Some of the problems were prolonged menstrual bleeding (66%), headaches (24%), abdominal pains (16%), backaches (8%), dizziness (6%) and other problems (4%).

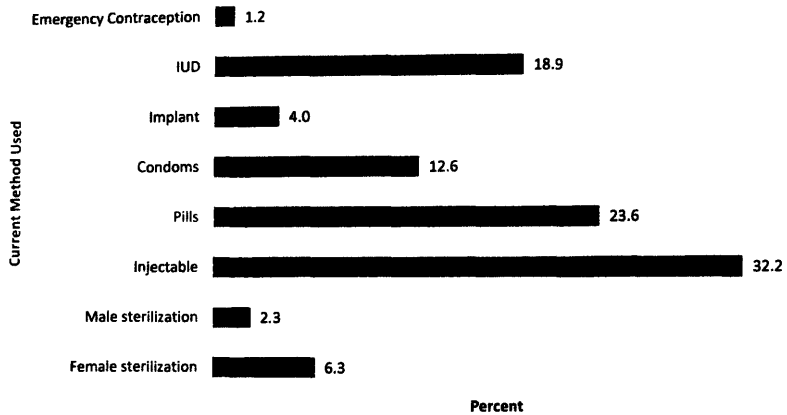


Figure 4.3: Distribution of current family planning use among postpartum women

Table 4.2: Contraceptive Behaviour among respondents

Characteristics	Frequency	Percent
Currently using family planning methods (n=371)		
Yes	158	43
No	213	57
Reasons for not using any family planning currently (n=213)		
I want to have another child	83	39.7
My husband disapproves	22	10.5
Is harmful to the health of any child	2	1.0
Could not get a method of choice	7	3.4
I am breastfeeding	11	5.3
My religion disapproves contraceptive use	18	8.6
I am afraid of side effects	56	26.8
I am afraid I will not become pregnant again	10	4.8
Experienced problems with current contraceptive (n=158)		
Yes	55	34.8
No	103	65.2
Problems faced with current contraceptive (n=55)		
Prolonged menstrual bleeding	32	58.2
Headaches	12	21.8
Weight gain	4	7.3
Abdominal pains	3	5.5
Dizziness	3	5.5
Backaches	1	1.8

4.5 Obstetrics and Contraceptive History

About 123 (33.3%) of the women had ever used family planning methods as opposed to the remaining 248 (66.8%) who had not. The methods ever used were predominantly pills (26.4%), injectable (25.7%), IUD (24.5%) and condoms (14.8%). The principal reason for using contraceptives were spacing or delaying child birth (97.6%) and limiting (2.4%). The sources of method ever used were through health workers (78.5%), televisions/radios (35.0%) and friends (15.9%). However, the 82 out of the 123 who ever used contraceptive methods faced problems with its use. Some of the problems were prolonged vaginal bleeding (65.9%), headaches (19.8%), abdominal pains (9.9%) as well as dizziness (9.9%). Nonetheless, approximately 65.8% of the women confirmed that their last pregnancy was planned. The results are presented and shown in Table 4.3 and Figure 2.

Table 4.3: Obstetrics and Contraceptive history among respondents

Characteristics	Frequency	Percent (%)
Ever used family planning before		
Yes	123	33.2
No	248	66.8
Methods ever used (n=123)		
Injectable	24	19.5
Pills	35	28.5
IUD	18	14.6
Condom	22	17.8
Implant	12	9.8
Withdrawal	12	9.8
Reasons for the method ever used (n=123)		
Spacing	93	75.6
Delaying	27	22.0
Limiting	3	2.4
Reasons for nonuse of family planning method (n=248)		
I wanted to have a child	100	40.3
Did not think I could be pregnant	40	16.1
My religion forbids	25	10.1
My partner objects to use	50	20.2
I am afraid of side effects	30	12.1
I am afraid of becoming infertile	3	1.2
Faced problems with methods ever used (n=123)		
Yes	82	31.8
No	41	69.2
Problems faced using methods ever used (n=82)		
Prolonged vaginal bleeding	60	73.2
Headache	16	19.5
Backaches	2	2.4
Abdominal pains	2	2.4
Dizziness	2	2.4
Was your last pregnancy planned (n=371)		
Yes	244	65.8
No	127	34.2

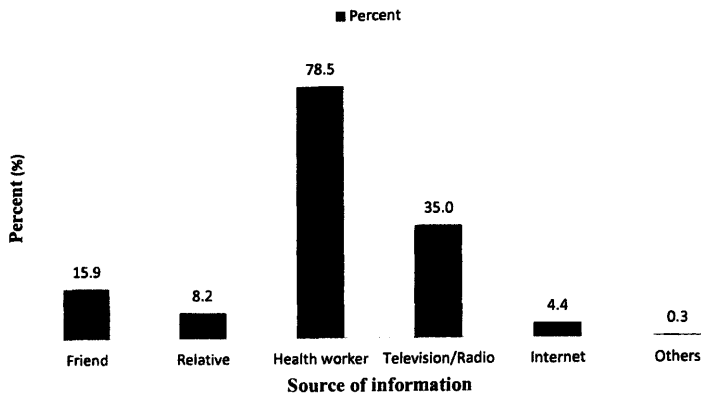


Figure 2.5: Source of information about family planning methods ever used

4.6 Antenatal and Postnatal Service Utilization During Last Pregnancy

Approximately 362 (97.6%) of the respondent attended antenatal clinic during pregnancy with approximately 355 (95.7%) delivering at the health facility or hospital. Among 362 out of 371 women who attended ANC, 86.2% visited for more than three times as compared to the few (13.8%) who made at most three antenatal visits. About 251 out of the 355 who made ANC visit received counseling on methods before discharge after delivery. Approximately 53 women chose a family planning method during ANC. The chosen methods at ANC were mainly condoms (37.7%), pills (34.2%), injectable (18%), implant (10.1%) and IUD (62%). The reasons for changing the chosen methods during ANC were generally due to husband's advice (57.9%), side effects (31.6%) and providers' advice (10.5%). On the other hand, 315 out of the 371 women received information on family planning methods during postnatal visit. The methods discussed during postnatal

counselling were predominantly injectable (88.7%), condoms (86.2%) and pills (85.5%) as well as implant (83.3%). The postpartum women were given further information during the PNC counselling essentially on healthy time and spacing (68.5%) and return to fertility (51.4%). Figure 3 shows the methods recommended during ANC and PNC visits.

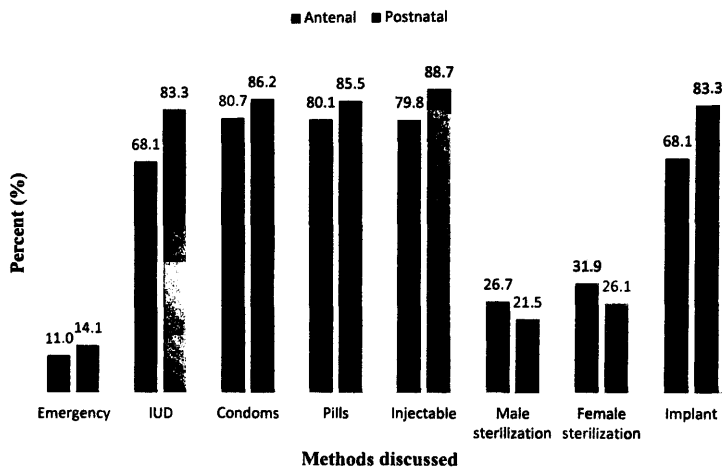


Figure 4.6: Family planning methods discussed during ANC and PNC counselling

Table 4.4: Antenatal and postnatal service utilization during last pregnancy

Characteristics	Frequency	Percent (%)
Place of child delivery		
Health facility	355	95.7
Home	16	4.3
Attended antenatal clinic during pregnancy		
Yes	362	97.6
No	9	2.8
Number of antenatal visits at the clinic (n=362)		
One	13	3.6
Two	17	4.7
Three	20	5.5
Four	127	35.1
>Four	185	51.1
Chose a planning method during ANC counseling (n=362)		
Yes	53	12.6
No	309	85.4
Currently using the chosen method from the ANC counseling (n=53)		
Yes	15	28.3
No	38	71.7
Reason for changing method from the ANC counseling (n=38)		
Providers' advice	4	10.5
My husband disapproves	22	57.9
I am afraid of side effects	12	31.6
Received counseling on methods before discharge after delivery		
Yes	251	70.7
No	104	29.3
Received any information on methods during postnatal visits		
Yes	315	84.9
No	56	15.1
Other information given by providers during PNC counseling*		
Return to fertility	168	51.4
Fertility intentions	70	21.5
Healthy timing and spacing	224	68.5
Exclusive breastfeeding	119	36.5
Lactational Amenorrhoea Method (LAM)	99	30.4
All family planning methods	60	18.5
How do you assess the information given by providers		
Useful	306	97.2
Not useful	9	2.8
Providers invited partners for counseling on method		
Yes	126	34.8
No	236	65.2
*Multiple responses		

4.7 Socio-demographic factors associated with the use of family planning methods among postpartum women

Table 4.5 shows the results of the bivariate analysis. The socio-demographic variables that had significant association with the use of family planning methods were occupation of mothers ($p<0.01$), educational level of partners ($p<0.01$), number of children born ($p<0.01$) and postpartum age of mother ($p<0.05$).

Table 4.5: Socio-demographic factors associated with use of postpartum family planning

Variable	Use of postpartum family planning method, n (%)		χ^2
	No	Yes	P-value
Age of mother			
18-25	32(71.1)	13(28.9)	0.713
26-30	60(45.1)	73(54.9)	
31-35	100(66.7)	50(33.3)	
36-40	14(41.2)	20(58.8)	
41-45	3(60.0)	2(40.0)	
Educational level			
No formal education	14(70.0)	6(30.0)	0.231
Formal education	195(56.2)	152(43.8)	
Religion			
Christian	150(55.6)	120(44.4)	0.325
Muslim	57(62.0)	35(38.0)	
Traditionalist	2(40.0)	3(60.0)	
Marital status			
Married	172(55.5)	138(44.5)	0.234
Not married	37(64.9)	20(35.1)	
Occupation of respondents			
Student	12(38.7)	19(61.3)	0.003**
Farmer	0(0.0)	3(100.0)	
Unemployed	22(81.5)	5(19.5)	
Public salary worker	45(49.5)	46(50.5)	
Private salary worker	43(63.2)	25(36.8)	
Trader	77(60.2)	51(39.8)	
Artisan	8(47.1)	9(52.9)	
Other	2(100.0)	0(0.0)	
Educational level of partner			
No formal education	8(72.7)	3(27.3)	0.007**
Formal education	201(56.5)	155(43.5)	
Postpartum age of mother (6-12months)			
6-8months	131(61.2)	83(39.8)	0.042*
9-12months	78(51.0)	75(49.0)	
Number of children born to mothers			
One	37(57.8)	27(42.2)	0.009**
Two	62(50.4)	61(49.6)	
Three	87(65.4)	46(34.6)	
Four	19(54.3)	16(45.7)	
>Four	4(33.3)	8(66.7)	

*** $p < 0.001$ ** $p < 0.01$ * $p < 0.05$

4.8 Factors associated with the use of family planning methods among postpartum women

In addition to the socio-demographic characteristics considered, bivariate analysis was also conducted to identify other factors that could also influence the use and non-use of family planning methods. The other factors that had significant effect on the use of family planning methods were history with contraceptive use ($p<0.001$), experiences with method used ($p<0.001$), antenatal visits during pregnancy ($p<0.01$), number of ANC visits ($p<0.01$), decision on the choice of method during ANC counseling ($p<0.001$) and as to whether or not one received information on method during postnatal visits ($p<0.05$).

Table 4.6: Factors associated with use of postpartum family planning

Variable	Use of postpartum family planning method n (%)		χ^2 P-value
	No	Yes	
Ever used family planning method			
Yes	118(47.2)	132(52.8)	0.000***
No	91(77.8)	26(22.2)	
Place of child delivery			
Health facility	197(55.9)	154(44.1)	0.143
At home	12(75.0)	4(25.0)	
Attended antenatal clinic during pregnancy			
Yes	197(55.8)	156(44.2)	0.003**
No	9(100.0)	0(0.0)	
Number of antenatal visits at the clinic			
None	9(69.2)	4(30.8)	0.008**
Two	4(23.5)	13(76.5)	
Three	7(35.0)	13(65.0)	
Four	74(58.3)	53(41.7)	
>Four	112(60.5)	73(39.5)	
Chose family planning methods during ANC counseling			
Yes	31(58.5)	22(41.5)	0.000***
No	175(56.6)	134(43.4)	
Received counseling on FP before being discharged			
Yes	136(54.2)	115(45.8)	0.104
No	66(63.5)	38(36.5)	
Received any information on methods during postnatal visits			
Yes	171(54.3)	144(45.7)	0.028*
No	38(73.1)	14(26.9)	
Aware of family planning methods for postpartum mothers			
Yes	175(55.9)	138(44.1)	0.075
No	34(63.0)	20(37.0)	

*** $p < 0.001$ ** $p < 0.01$ * $p < 0.05$

4.9 Logistic Regression Analysis of Factors that Influence the Use and Non-use of Family Planning Methods

The strength of the association between the significant factors and contraceptive use from the bivariate analysis were further analyzed using a simple logistic regression and multiple logistic regression, were fitted in order to compute estimates of both the crude and adjusted odd ratios respectively. Additionally, in fitting the model the forward inclusion and backward elimination methods were used to select the appropriate variables among the significant factors from the bivariate associations due to collinearity existing among the independent variables so as to make the logistic model converge or estimable. Table 4.7 presents the results of the regression analysis. The logistic model from the magnitude of the estimated odds ratios revealed that the most significant variables that influence the use of family planning methods includes; women whose partners had attained primary or basic education ($OR=12.92$, $CI=1.45-25.58$), postpartum women with three children ($AOR=0.35$, $CI=0.16-0.75$), women who had made two antenatal visits at the clinic ($OR=7.31$, $CI=8.16$) as well as those who had ever used contraceptive methods before ($AOR=5.81$, $CI=3.10-7.88$).

Logistic regression show that postpartum women who have ever used family planning method were found to be approximately 6 times more likely to use family planning as compared to women with no family planning history ($AOR=5.81$, $CI=3.10-7.88$). Moreover, postpartum women who received no information on methods during postnatal visits ($OR=0.45$, $CI=0.23-0.88$) were found to be less likely to use family planning as compared to those who received some information during clinic visits.

Postpartum women with 3 children ($AOR=0.35$, $CI=0.16-0.75$) had reduced odds of using family planning methods as compared to those with only one child. On the other hand, women with more than 4 children ($OR=10.96$, $CI=1.29-29.92$) were found to be approximately 11 times more likely to use family planning methods relative to those with only one child although it has no significant association between postpartum family planning use.

Postpartum women whose partners had attained primary or basic education were almost 13 times more likely to use family planning relative to those with no formal education.

Table 4.7: Logistic regression of factors that influence the use of family planning methods

Factors	Crude OR(95% C.I)	P-value	Adjusted OR(95% C.I)	P-value
Socio-demographic characteristics				
Educational level of partners				
No formal education (<i>i</i>)				
Formal education	12.92(1.45-25.58)	0.022*	8.28(0.81-93.06)	0.075
Number of living children				
One (<i>i</i>)				
Two	1.33(0.72-2.44)	0.364	0.67(0.33-1.42)	0.318
Three	0.71(0.39-1.32)	0.288	0.35(0.16-0.75)	0.007**
Four	1.32(0.53-2.81)	0.644	0.85(0.31-2.37)	0.762
>Four	10.96(1.29-29.92)	0.028*	5.65(0.53-7.97)	0.253
Postpartum age of mother				
6-8months (<i>i</i>)				
9-12months	1.55(1.02-2.36)	0.041*	1.54(0.93-2.54)	0.094
Contraceptive History and type of visits				
Ever used family planning methods				
No (<i>i</i>)				
Yes	4.27(2.54-6.76)	0.000***	5.81(3.10-7.88)	0.000***
Number of antenatal visits at the hospital				
None (<i>i</i>)				
Two	7.31(1.44-8.16)	0.016*	1.90(0.28-2.70)	0.508
Three	4.28(0.94-8.61)	0.071	1.14(0.20-1.65)	0.883
Four	1.55(0.45-5.31)	0.485	0.51(0.12-2.15)	0.353
>Four	1.55(0.43-4.87)	0.552	0.46(0.11-1.98)	0.300
Received any information on methods during postnatal visits				
Yes (<i>i</i>)				
No	0.45(0.23-0.88)	0.020*	0.48(0.22-1.03)	0.061
*** <i>p</i> <0.001 ** <i>p</i> <0.01 * <i>p</i> <0.05 OR =Odds ratio CI =Confidence Interval				

i=reference category

CHAPTER FIVE

5.0 DISCUSSION

5.1 Introduction

This section discusses all the key findings derived from the study. The study sought to determine the proportion of postpartum women who are using family planning methods and the factors that influence uptake and non-use among women attending child welfare clinic at University of Ghana Hospital.

5.2 Level of Awareness of Postpartum Family Planning and Use

Globally, there has been a substantial increase in the level of awareness and use of contraceptives in the past few years (Keteku, 2016). The results of this study revealed that about 85% of the respondents were aware of at least one modern family planning method that can be used among postpartum mothers to prevent pregnancy. The high level of awareness among women after delivery is a consonance with results of other studies on contraceptive use. The current contraceptive prevalence was found to be 43% at the time of the study. According to Ghana Demographic and Health Survey (2014) there is high contraceptive awareness (99%) among all women but low usage (27%). Approximately 95% of postpartum women want to avoid pregnancy within 24months of delivery yet, majority of them are not using any family planning methods (Teal, 2014). This supports the conclusion made that despite high level of knowledge on family planning methods it does not assure use (Cheng, 2011; Mekonnen, Enquselassie, Tesfaye, & Semahegn, 2014).

However, this could be attributed to the fact that total fertility rate in Ghana is 4.2 whereas the study showed that 85% of the respondents have less than four children which means they have not reached their reproductive goal or achieve preferred family size (GSS et al., 2015) which has led to relatively low contraceptive use in most developing countries compared to developed countries.

Additionally, research conducted in Egypt revealed that 95% of sexually active women were aware and knew about family planning and their usages (Qayed, 2006) which is confirmed in the study that all respondents had resumed sexual intercourse with their partners and 62% had their menstruation before 6months postpartum, yet less than half (43%) are currently using family planning methods. This finding is supported by an earlier study which found 67% of the women resumed menstruation before 6 months postpartum and more than 90% resumed sexual intercourse by 6 months exposing themselves to pregnancy that may lead to poor fetal outcome such as prematurity, low birth weight and fetal death and maternal complications like haemorrhage, anaemia and infections (WHO, 2013). Several studies achieved the same trends of high awareness and low uptake of family planning in developing countries (Sharma et al., 2012; Sunita & Desai, 2013; Sherpa, Sheilini, & Nayak, 2013).

The United Nations in 2013 reported that, global contraceptive prevalence was 63.0% with nine out of ten women in their reproductive ages using modern contraceptives. The differences in contraceptive prevalence could be attributed to other factors like poor health infrastructure, transportation facilities, geographical conditions, socioeconomic and other religious factors (UNFPA 2012; Yeakey et al. 2009). Moreover, it was reported from this

study that relatively fewer people (33%) had ever used modern contraceptives as compared to those who are currently using it (43%).

The current family planning methods used by postpartum women in this study were mostly injectable (32.2%), pills (23.6%), IUD (18.9) and condoms (12.6%). This again is comparable to the findings of GSS (2015) where injectable, oral pills and implant were the commonest methods used. This is also supported by a study conducted in South Eastern Nigeria where majority of the women preferred injectable because it is non coital dependent with little or no risk of failure associated with forgetfulness on the part of the users (Chegbu et al., 2010).

5.3 Factors Associated with the Use of Family Planning Methods Among Postpartum Women

The logistic analysis from this study revealed that the most significant variables that influence the use of family planning methods were women whose partners had attained primary or basic education, postpartum women with more than four children, women who had made two antenatal visits at the clinic as well as those who had ever used contraceptive methods before.

Educated women are more likely to appreciate the benefits of having fewer children and its potential positive impact on their own economic productivity. However, there was no association between postpartum mothers' level of education and the use of family planning methods as opposed to other studies which found contrary results (Gordon et al., 2011; Teferra & Wondifraw, 2015; Achana et al., 2015). Nevertheless, it was realized that postpartum women whose partners had attained primary or basic education were almost 13

times more likely to employ family planning relative to those with no formal education. This could be explained by the fact that educated partners are more likely to appreciate the benefits of having fewer children and the need to use contraceptive methods as compared to those whose partners had no formal education. In view of that partner's level of education can definitely be suggestive of the use of modern contraceptive among postpartum since the chance of using a modern method increases as her partner's educational level increases (Keteku, 2016).

Furthermore, postpartum women with 3 children had reduced odds of using family planning methods as compared to those with only one child visiting the child welfare clinic at University of Ghana Hospital. On the other hand, women with more than 4 were found to be approximately 6 times more likely to use family planning methods relative to those with only one child. However, the percentage of respondents with 4 or more children (13.7%) was relatively smaller than those with one child (17.3) hence the low contraceptives use. This could be attributed to the total fertility rate in Ghana (4.2) where women with 4 or more children have achieved their family size and tend to use family planning methods specifically for limiting (GSS et al., 2015).

Likewise, women who had ever used family planning methods were found to be approximately 6 times more likely to use family planning as opposed to those with no history of contraceptive use. Adofo (2014) discovered that young women who had no prior contraceptive use since they started child bearing had 8 times higher odds of FP uptake compared with those without history.

Furthermore, postnatal counseling was found to be strongly related with contraceptive use as compared to other studies which found no associations (Smith, Van der Spuy, Cheng,

Elton, & Glasier, 2002; Akman et al., 2010). In consonance with this study, Lauria et al. (2014) in their study to determine the effect of pre and postnatal counseling on contraceptive use among Italian and immigrant women at three months postpartum found significant association between antenatal counseling and family planning use. Additionally, this study discovered that women who made two antenatal visits during pregnancy were found to be approximately 7 times more likely to use family planning methods compared to those who had never made antenatal visits. The relationship between antenatal (ANC) and postnatal care clinic (PNC) attendance and postpartum contraceptive uptake has also been studied by Do & Hotchkiss, (2013) using population surveys in Kenya and Zambia (Kenya DHS 2008-2009 and Zambia DHS 2007). Using Cox proportional hazard ratio and controlling for confounders, the authors found a significant association between ANC/PNC service and postpartum contraceptive use in both countries. It is a known fact that women who receive counseling during antenatal and after delivery are more likely to adopt a family planning method to prevent unwanted pregnancies (Goel et al., 2010).

Nonetheless, other literature appear to have different opinions on the effect of antenatal or postnatal counseling and postpartum contraceptive use (Smith et al., 2002; Akman et al., 2010). The reasons for such inconsistencies could be due to inaccurate information provided to the mothers during clinic visits. Moreover, postpartum women who received no information on methods during postnatal visits were found to be less likely to use family planning as compared to those who received some information during clinic visits.

5.4 Reasons for Non-use of Postpartum Family Planning

Despite the high knowledge level of family planning among postpartum women there are barriers that prevent them from accessing it (Shelton et al., 1992). Identifying factors that promote non-use is one of the main focus of this study. Some of the reasons for non-use of contraceptives from this study are principally wants for another child (40%), fear of side effects (26.8%), husband disapproval (10.5%) and religious perspective (9.7%). Frequent side effects associated with current contraceptive use are prolonged vaginal bleeding (58%), headaches (21%) and weight gain (7.3%). These findings supports a study conducted in Malawi that concluded that perceptions of side effects such as prolonged menstrual bleeding and weight gain hinders contraceptives use (Chipeta et al., 2014). Although studies have shown that women who received family planning counselling are more likely to use (Darroch & Singh, 2013; Sedgh & Hussain, 2014) fear of side effects is a major reason for non-use (Ghana Statistical Service, 2015).

Religious restrictions also contributed for non-use of family planning methods despite high level of awareness. This is supported by a study conducted in Pakistan which concluded that religion has an important influence on the use of family planning methods (Farid-ul-Hasnain, Johansson, Gulzar, & Krankz, 2013). In a contrasting view, a study conducted in Ghana showed that religion do not affect contraceptive use (Adanu et al., 2009).

5.4 Reasons for Non-use of Postpartum Family Planning

Despite the high knowledge level of family planning among postpartum women there are barriers that prevent them from accessing it (Shelton et al., 1992). Identifying factors that promote non-use is one of the main focus of this study. Some of the reasons for non-use of contraceptives from this study are principally wants for another child (40%), fear of side effects (26.8%), husband disapproval (10.5%) and religious perspective (9.7%). Frequent side effects associated with current contraceptive use are prolonged vaginal bleeding (58%), headaches (21%) and weight gain (7.3%). These findings supports a study conducted in Malawi that concluded that perceptions of side effects such as prolonged menstrual bleeding and weight gain hinders contraceptives use (Chipeta et al., 2014). Although studies have shown that women who received family planning counselling are more likely to use (Darroch & Singh, 2013; Sedgh & Hussain, 2014) fear of side effects is a major reason for non-use (Ghana Statistical Service, 2015).

Religious restrictions also contributed for non-use of family planning methods despite high level of awareness. This is supported by a study conducted in Pakistan which concluded that religion has an important influence on the use of family planning methods (Farid-ul-Hasnain, Johansson, Gulzar, & Krankz, 2013). In a contrasting view, a study conducted in Ghana showed that religion do not affect contraceptive use (Adanu et al., 2009).

5.5 Limitation of the study

This study in identifying the determinants of postpartum family planning among women attending child welfare clinic used a cross sectional design which is subjected to seasonal bias therefore, result could be different if the study is done at a different period. Moreover, since respondent were not randomly selected, the findings cannot be generalized among all postpartum women.

CHAPTER SIX

CONCLUSIONS AND RECOMMENDATION

6.1 Introduction

This chapter provides the conclusions and recommendations drawn from the study which assessed the determinants of postpartum family planning among women attending child welfare clinic at the University of Ghana Hospital.

6.2 Conclusions

The study revealed that most women are aware of family planning methods used to prevent unintended pregnancy but it does not reflect its use or contraceptive prevalence among postpartum mothers.

Also, the family planning methods used among the postpartum women were injectable, pills, intrauterine device and condoms; with the main reasons for use being spacing and delay of childbirth. Health workers were found to be the main source of information about family planning methods among postpartum mothers.

The key determinants that influence the use of family planning methods among all other significant factors are the number of children born to mothers, ever used family planning methods, educational level of partners of postpartum mothers, information received during antenatal and postnatal visits.

Result from the study showed that knowledge on postpartum family planning was high. Nonetheless, less than half (43%) of the respondents were using family planning at the time of the study. Methods predominantly used were injectable (32%), oral pills (24%), IUD (19%) and the least method being used was emergency contraception (1%). Factors such

as educational status of partners, number of living children, ANC visits and ever used of family planning methods were found to be significantly associated with postpartum family planning use. Whereas the need for another child, fear of side effect, husbands disapproval and religious reasons are the major reasons accounting for non-use.

6.2 Recommendations

The following recommendations were made based on the results obtained for this study.

- The contraceptive prevalence (43%) was relatively low among postpartum women and thus, policies and lasting educational measures must be put in place by the hospital and other health related organizations to promote postpartum family planning uptake in order to prevent the negative impact or effect associated with short inter pregnancy interval on the mother, baby and the nation as a whole.
- Adequate antenatal and postnatal counselling on family planning methods and its importance must be given to women attending clinic by health providers. However, training programmes on various family planning methods must be organized for health workers since majority of the respondent sought information from them.
- There is the need for increased education on family planning for partners of postpartum women since they contribute tremendously to the decision making and the use of family planning methods.

REFERENCES

- Achana, F. S., Bawah, A. A., Jackson, E. F., Welaga, P., Awine, T., Asuo-mante, E., ... Phillips, J. F. (2015). Spatial and socio-demographic determinants of contraceptive use in the Upper East region of Ghana. *Reproductive Health*, 12(1), 29 .
- Adanikin, A. I., Onwudiegwu, U., & Loto, O. M. (2013). Influence of multiple antenatal counselling sessions on modern contraceptive uptake in Nigeria. *The European Journal of Contraception and Reproductive Health Care*, 18(5), 381–387.
- Adofo, E.(2014). Postpartum Contraceptive Use among Young Mothers in Kwaebibirem District, Ghana. A Dissertation Submitted to the University of Ghana in 2014 <http://hdl.handle.net/123456789/8029>
- Adjei, K. K., Laar, A. K., Narh, C. T., Abdulai, M. A., Newton, S., Owusu-Agyei, S., & Adjei, S. (2015). A comparative study on the availability of modern contraceptives in public and private health facilities in a peri-urban community in Ghana. *Reproductive Health*, 12(68), 68.
- Ahmed, S., Li, Q., Liu, L., & Tsui, A. O. (2012). Maternal deaths averted by contraceptive use: an analysis of 172 countries. *The Lancet*, 380(9837), 111–125.
- Alkema, L., Kantorova, V., Menozzi, C., & Biddlecom, A. (2013). National, regional, and global rates and trends in contraceptive prevalence and unmet need for family planning between 1990 and 2015: a systematic and comprehensive analysis. *The Lancet*, 381(9878), 1642–1652.
- Aransiola, J. O., Akinyemi, A. I., & Fatusi, A. O. (2014). Women's perceptions and reflections of male partners and couple dynamics in family planning adoption in selected urban slums in Nigeria: a qualitative exploration. *BMC Public Health*, 14(1), 869
- Aryeetey, R., Kotoh, A. M., & Hindin, M. J. (2010). Knowledge, perceptions and ever use of modern contraception among women in the Ga East District, Ghana. *African Journal of Reproductive Health*, 14(4), 26–31.
- Asiimwe, J. B., Ndugga, P., Mushomi, J., Patrick, J., & Ntozi, M. (2014). Factors associated with modern contraceptive use among young and older women in Uganda ; a comparative analysis. *BMC Public Health*, 14(1), 926.
- Barber, S. L. (2007). Family planning advice and postpartum contraceptive use among low-income women in Mexico. *International Family Planning Perspectives*, 33(1), 6–12.
- Blazer, C., & Prata, N. (2016). Postpartum family planning : current evidence on successful interventions. *Open Access Journal of Contraception*, 53–67.

- Borda, M., & Winfrey, W. (2010). Postpartum Fertility and Contraception: An Analysis of Findings from 17 Countries, *Jhpiego* , Baltimore, Maryland. USA, 20-25.
- Borges, A. L. V, OlaOlorun, F., Fujimori, E., Hoga, L. A. K., & Tsui, A. O.(2015). Contraceptive use following spontaneous and induced abortion and its association with family planning services in primary health care: results from a Brazilian longitudinal study. *Reproductive Health*, 12(1), 94.
- Borrero, S., Schwarz, E. B., Creinin, M., & Ibrahim, S. (2009). The impact of race and ethnicity on receipt of family planning services in the United States. *Journal of Women's Health*, 18(1), 91–96.
- Bukar, M., Audu, B. M., Usman, H. A., El-Nafaty, A. U., Massa, A. A., & Melah, G. S. (2013). Gender attitude to the empowerment of women: An independent right to contraceptive acceptance, choice and practice. *Journal of Obstetrics & Gynaecology*, 33(2), 180–183.
- Bulut, a, & Turan, J. M. (1995). Postpartum family planning and health needs of women of low income in Istanbul. *Stud Fam Plann*, 26(2), 88–100.
- Campbell, M., Sahin-Hodoglugil, N. N., & Potts, M. (2006). Barriers to fertility regulation: a review of the literature. *Studies in Family Planning*, 37(2), 87–98.
- Chigbu, B., Onwere, S., Aluka, C., Kamanu, C., Okoro, O., & Feyi-Waboso, P. J. C. (2010). Contraceptive choices of women in rural Southeastern Nigeria. *Nigerian Journal of Clinical Practice*, 13(2). Retrieved from <http://www.ajol.info/index.php/nicp/article/viewFile/53507/42082>. (Last Retrieved 15th October, 2016)
- Cleland, J., Bernstein, S., Ezeh, A., Faundes, A., Glasier, A., & Innis, J. (2006). Family planning: the unfinished agenda. *The Lancet*, 368(9549), 1810–1827.
- Cleland, J., Conde-Agudelo, A., Peterson, H., Ross, J., & Tsui, A. (2012). Contraception and health. *The Lancet*, 380(9837), 149–156.
- Cleland, J., Shah, I. H., & Benova, L. (2015). A fresh look at the level of unmet need for family planning in the postpartum period, its causes and program implications. *International Perspectives on Sexual and Reproductive Health*, 41(3), 155–162.
- Darroch, J. E., & Singh, S. (2013). Trends in contraceptive need and use in developing countries in 2003, 2008, and 2012: an analysis of national surveys. *The Lancet*, 381(9879), 1756–1762.
- DaVanzo, J., Hale, L., Razzaque, A., & Rahman, M. (2007). Effects of interpregnancy interval and outcome of the preceding pregnancy on pregnancy outcomes in Matlab,

- Bangladesh. *BJOG: An International Journal of Obstetrics & Gynaecology*, 114(9), 1079–1087.
- Do, M., & Hotchkiss, D. (2013). Relationships between antenatal and postnatal care and post-partum modern contraceptive use: evidence from population surveys in Kenya and Zambia. *BMC Health Services Research*, 13(1), 6. <http://doi.org/10.1186/1472-6963-13-6>
- Egbuonu, I., Ezechukwu, C. C., Chukwuka, J. O., & Ikechebelu, J. I. (2005). Breast-feeding, return of menses, sexual activity and contraceptive practices among mothers in the first six months of lactation in Onitsha, South Eastern Nigeria. *Journal of Obstetrics and Gynaecology: The Journal of the Institute of Obstetrics and Gynaecology*, 25(5), 500–503.
- Eliason, S., Baiden, F., Quansah-Asare, G., Graham-Hayfron, Y., Bonsu, D., Phillips, J., & Awusabo-Asare, K. (2013). Factors influencing the intention of women in rural Ghana to adopt postpartum family planning. *Reproductive Health*, 10(1), 34. <http://doi.org/10.1186/1742-4755-10-34>
- Ertem, M., Ergenekon, P., Elmaci, N., & Ilcin, E. (2001). Family planning in grand multiparous women in Diyarbakir, Turkey, 1998: the factors affecting contraceptive use and choice of method. *The European Journal of Contraception and Reproductive Health Care*, 6(1), 1–8.
- Fehring, R. J., & Mu, Q. (2014). Cohort Efficacy Study of Natural Family Planning among Perimenopause Age Women. *Journal of Obstetric Gynaecology and Neonatal Nursing*, 43(3), 351–358.
- Ghana Statistical Service (GSS), Ghana Health Service, & Macro International. (2009). *Ghana Maternal Health Survey 2007*. Calverton, Maryland, USA.
- Goel, S., Bhatnagar, I., & Khan, M. E. (2010). Increasing Postpartum Contraception in Rural Uttar Pradesh. *The Journal of Family Welfare*, 56, 57–64.
- GSS, GHS, & ICF Macro. (2014). *Ghana Demographic and Health Survey*, 1–530.
- GSS, GHS, & ICF Macro. (2009). *Ghana Demographic and Health Survey 2008 (Final Report)*. Accra, Ghana.
- GSS, GHS, & ICF Macro. (2015). *Ghana Demographic Health Survey 2014 (key Indicators)*. Accra, Ghana.
- Hooda, R., Mann, S., Nanda, S., Gupta, A., More, H., & Bhutani, J. (2016). Immediate Postpartum Intrauterine Contraceptive Device Insertions in Caesarean and Vaginal Deliveries: A Comparative Study of Follow-Up Outcomes. *International Journal of Reproductive Medicine*, 2016, 1–5. <http://doi.org/10.1155/2016/7695847>

- Idowu, A., Deji, S. A., Ogunlaja, O., & Olajide, S. O. (2015). Determinants of Intention to Use Post Partum Family Planning among Women Attending Immunization Clinic of a Tertiary Hospital in Nigeria. *American Journal of Public Health Research*, 3(4), 122–127.
- Izale, K., Govender, I., Fina, J. P. L., & Tumbo, J. (2014). Factors that influence contraceptive use amongst women in Vanga health district, Democratic Republic of Congo. *African journal of primary Health Care & Family Medicine*, 6(1), 1–7.
- Jackson, E., & Glasier, A. (2011). Return of Ovulation and Menses in Postpartum Nonlactating Women: A Systematic Review. *Obstetrics & Gynaecology*, 117(3), 657–662. <http://doi.org/10.1097/AOG.0b013e31820ce18c>
- Kimuna, S. R., & Adamchak, D. J. (2001). Gender relations: husband–wife fertility and family planning decisions in Kenya. *Journal of Biosocial Science*, 33(01), 13–23.
- Machiyama, K., & Cleland, J. (2013). Insight into Unmet Need for Family Planning in Ghana. *STEP UP Research Report*. London: London School of Hygiene & Tropical Medicine, 3–11.
- Mahmood, S. E., Srivastava, A., Shrotriya, V. P., Shaifali, I., & Mishra, P. (2012). Postpartum contraceptive use in rural Bareilly. *Indian Journal of Community Health*, 23(2), 56–57.
- Muhoza, D. N., Broekhuis, a, & Hooimeijer, P. (2015). Demand and unmet need to space births in Rwanda: a two-step analysis of determinants. *Journal of Population and Social Studies*, 23(1), 57–72.
- Osei, I. F., Mayhew, S. H., Biekro, L., Collumbien, M., & Team, E. (2014). Fertility Decision and Contraceptive use at Different Stages of Relationships: Windows of Risk Among Men and Women in Accra. *International Perspectives on Sexual and Reproductive Health*, 17(3), 91–104
- Practice, B., & No, P. (2015). Best practice in postpartum family planning. *International Journal of Scientific Study*, 1(5), 2–4.
- Rao, B. S., & Veerendrakumar, C. M. (2016). Awareness and determinants of contraceptive use among nursing mothers in Bellary, Karnataka. *Journal of Clinical and Diagnostic Research*, 10(1), QC15–QC19.
- Ross, J. A., & Winfrey, W. L. (2001). Contraceptive use, intention to use and unmet need during the extended postpartum period. *International Family Planning Perspectives*, 20–27.

- Sedgh, G., & Hussain, R. (2014). Reasons for contraceptive non-use among women having unmet need for contraception in developing countries. *Studies in Family Planning*, 45(2), 151–169.
- Sedgh, G., Hussain, R., Bankole, A., & Singh, S. (2007). *Women with an unmet need for contraception in developing countries and their reasons for not using a 80 method*. Alan Guttmacher Institute. Retrieved from <http://74.8.60.202/pubs/2007/07/09/or37.pdf> (last retrieved on 15th November 2016)
- Sidhu, T. K., & Coonar, P. P. S. (2015). Contraceptive usage and awareness among postpartum mothers in urban field practice area of a tertiary hospital. *Indian Journal of Community Health*, 27(1), 139-142.
- Sileo, K. M., Wanyenze, R. K., Lule, H., & Kiene, S. M. (2015). Determinants of family planning service uptake and use of contraceptives among postpartum women in rural Uganda. *International Journal of Public Health*, 60(8), 987–997. <http://doi.org/10.1007/s00038-015-0683-x>
- Spacing, P. (2013). Family Planning Needs during the First Two Years Postpartum in Ghana, 13(September 2008), 3–7.
- Speizer, I. S., Fotso, J. C., Okigbo, C., Faye, C. M., & Seck, C. (2013). Influence of integrated services on postpartum family planning use: a cross-sectional survey from urban Senegal. *BMC Public Health*, 13(1), 752.
- Stover, J., & Ross, J. (2010). How Increased Contraceptive Use has Reduced Maternal Mortality. *Maternal and Child Health Journal*, 14(5), 687–695.
- Teal, S. B. (2014). Postpartum contraception: optimizing interpregnancy intervals. *Contraception*, 89(6), 487–488. <http://doi.org/10.1016/j.contraception.2014.04.013>
- Tekelab, T., Melka, A. S., & Wirtu, D. (2015). Predictors of modern contraceptive methods use among married women of reproductive age groups in Western Ethiopia : a community based cross-sectional study. *BMC Women's Health*, 1–8.
- Thurman, A. R., & Janecek, T. (2010). One-Year Follow-up of Women with Unfulfilled Postpartum Sterilization Requests: *Obstetrics & Gynaecology*, 116(5), 1071–1077.
- U.S. Department of Health and Human Services, Office on Women's Health (2011). Birth Control Methods. *Department of Health and Human Services USA*, 1-13
- Warren, C., Mwangi, A., Oweya, E., Kamunya, R., & Koskei, N. (2010). Safeguarding maternal and new-born health: improving the quality of postnatal care in Kenya. *International Journal for Quality in Health Care*, 22(1), 24–30.

- Westoff, C. F., & Koffman, D. (2010). Birth spacing and limiting connections. Retrieved from <http://www.popline.org/node/215656> (Last retrieved 2nd October 2016)
- WHO. (2006). *Report of a WHO Technical Consultation on Birth Spacing*. Geneva, Switzerland: WHO. Retrieved from http://www.who.int/maternal_child_adolescent/documents/birth_spacing05/en/ (Last retrieved 16th November 2016)
- WHO. (2013). Statement for Collective Action for Postpartum Family Planning. WHO. Retrieved from http://www.who.int/reproductivehealth/publications/family_planning/statmt_ppfp/en/ (Last retrieved 10th October 2016)
- World Health Organization- WHO (2014). *World health statistics 2013*. Geneva, Switzerland: World Health Organization.
- Winfrey, W., & Rakesh, K. (2014). Use of family planning in the postpartum period . *DHS Comparative Reports No. 36* . Retrieved from <http://dhsprogram.com/pubs/pdf/CR36/CR36.pdf> (Last retrieved on 18th October 2016)
- Wulifan, J. K., Brenner, S., Jahn, A., & De Allegri, M. (2015). A scoping review on determinants of unmet need for family planning among women of reproductive age in low and middle income countries. *BMC Women 's Health*, 16(1), 2. <http://doi.org/10.1186/s12905-015-0281-3>
- Yee, L. M., & Simon, M. A. (2011). Perceptions of coercion, discrimination and other negative experiences in postpartum contraceptive counselling for low-income minority women. *Journal of Health Care for the Poor and Underserved*, 22(4), 1387–1400.

APPENDICES

Appendix A: Informed Consent

MASTER OF PUBLIC HEALTH

DEPARTMENT OF POPULATIONS FAMILY AND REPRODUCTIVE HEALTH

SCHOOL OF PUBLIC HEALTH, UNIVERSITY OF GHANA, LEGON

CONSENT INFORMATION

My name is, and I work with Hannah Amankwah an MPH student from the School of Public Health, College of Health Sciences, University of Ghana, Legon. I am carrying out a study on Factors that influence the use of family planning among women who have delivered between 6months to 1year.

Procedures

We are asking you to help us understand the factors that influence the use of family planning among women who have delivered. If you choose to participate, the research assistant will explain all the procedures to be followed in a language you understand. You will be given the opportunity to ask all questions you may have and further explanations will be given. You will be required to complete a questionnaire. We will ask you questions about yourself, what you know about family planning, whether you are using family planning or not and the reason for using or not using. The survey interview is expected to last 30 minutes.

Signing or Thumb printing of Questionnaire

If you agree to participate, you will be requested to sign a consent form or thumb print to indicate that you fully agree to take part. This will be done after understanding the purpose of study and agreeing to be part of study.

Administration of Questionnaire

A set of questions will be asked by the research assistant for which you will be requested to provide genuine answers as much as possible. You can however decide not to answer

questions you feel uncomfortable with. The questionnaire will take about 30 minutes to complete.

Possible Risks and Discomforts

This research poses no potential physical risk to you since you be asked to answer only questions. However you may share some personal or confidential information by chance or you may feel uncomfortable answering some of the questions. You do not need to answer certain questions you feel uncomfortable with.

Potential Benefits

There is no direct benefit to you for participation or monetary gain. However, the study will be beneficial to all postpartum women and the society at large by helping us to identify and understand the factors that influence the use of postpartum family planning. This will help health professionals to improve on their skills in relating to and come up with strategies to help promote postpartum family planning use.

Voluntary participation

Your participation in this study is entirely voluntary. Your decision not to participate will not have any negative effect on you or on your child. In the course of the study you can withdraw anytime you want to, without any consequences. You can choose not to answer any question that you do not want to answer. However, you are kindly urged to participate in the study because your answers are important to success of this project.

Anonymity and Confidentiality

You are assured that all information provided will be kept confidential. Any information about you will have a number on it instead of your name. Only the researchers will have access to it and we will lock that information with a lock and key. It will not be shared with anyone outside the team.

Compensation

There is no compensation for participating in this study. However, we will give you a bottle of soft drink costing 3gh for your time.

Participant responsibilities

As a participant, your responsibilities include

- Follow the instructions of the research assistant
- Complete your questionnaires as instructed
- Ask questions as you think of them
- Tell the research assistant if you change your mind about staying in the study

Right to refuse or withdraw from the study

You do not have to take part in this research if you do not wish to do so. You may stop participating at any time you wish. Your decision will not affect your care in the facility in any way.

Dissemination of Results

The findings of the study will be disseminated to the management of this hospital. A copy of the study will be kept in the hospital as reference.

Who to contact

If you have any questions you can ask them now or later. If you wish to ask questions later or need more clarification about the research, you can contact the Administrator of the GHS Ethical Review Committee at the following address:

Hannah Frimpong

Nana Abena Kwaa

GHS-Ethical Review Committee

Assistant GHS-ERC Administrator

Research and Development Division

Mobile: 0244712919

Ghana Health Service

Email: nanatuesdaykad@yahoo.com

P. O. Box MB 190

Accra

Office: 0302 681 109

Mobile: 024 323 5225 or 050 704 1223

Email: Hannah.Frimpong@ghsmail.org OR

In case you have any questions or complaints about this research, its procedures, risks and benefits please feel free to ask the research assistant.

If you are not satisfied with the response, please, do not hesitate to contact

Dr Ernest Tei Maya (Supervisor)

School of Public Health

University of Ghana, Legon

Tel: 0508131270

Email: emaya@ug.edu.gh

Or

Hannah Amankwah (Principal investigator)

School of Public Health

University of Ghana, Legon

Tel: 0243415741

Email: hamankwah003@st.ug.edu.gh

Before taking Consent

Do you have any questions you wish to ask about the study? Yes () No ()

(If yes, please, indicate the questions below)

.....
.....

VOLUNTARY CONSENT

I declare that the above document describing the purpose, procedures as well as risks and benefits of the research titled “**(Determinants of use of family planning methods among postpartum women)**” has been thoroughly explained to me in English/Twi/Ga language. I have been given the opportunity to have any questions about the research answered to my satisfaction. I hereby voluntarily agree to participate as a subject in this study.

Print name of participant

Signature or thumbprint of Participant

____/____/_____
Date (Day/month/year)

If participant cannot read the form themselves, a witness must sign here.

I, _____ was present while the purpose, procedures as well as risks and benefits were read to the participant. All questions were answered and the participant has voluntarily agreed to participate as a subject in this research study.

Print name of witness

Signature or thumbprint of Witness

____/____/_____
Date (Day/month/year)

Interviewer's statement:

I, _____, certify that the nature and purpose, the potential benefits and possible risks associated with participating in the study has been explained to the above individual to the best of my ability for the client to understand. The participant has freely agreed to participate in the study.

Signature of the Researcher or person taking the consent

Date (Day/month/year)

Appendix B: Questionnaire**QUESTIONNAIRE ON FACTORS THAT INFLUENCE THE USE OF FAMILY PLANNING METHODS AMONG WOMEN ATTENDING CHILD WELFARE CLINICS AT UNIVERSITY OF GHANA HOSPITAL, LEGON.****Form No**

--	--	--

Instructions to the interviewer

1. Tick the response or write in the space provided
2. Please make sure you follow the skip patterns
3. Countercheck to ensure all the relevant questions are completed

SECTION A: SOCIO DEMOGRAPHIC CHARACTERISTICS OF RESPONDENTS

	Questions	Response (tick your answer)
1.	How old were you on your last birthday?	
2.	What is your highest level of education?	a) No formal Education [] b) Basic [] c) Secondary [] d) Tertiary []
3.	What is your religion?	a) Christianity [] b) Islam [] c) Traditional [] d) Others specify.....
4.	What is your current marital status?	a) Married [] b) Not married [] c) Widowed [] d) Divorced [] e) Cohabiting []
5.	What is your current occupation?	a) Student [] b) Farmer [] c) Unemployed [] d) Salaried worker (Public) [] e) Salaried worker (Private) [] f) Trader [] g) Artisan [] h) Others specify.....

6.	What is your partner's current educational level?	a) No formal Education [] b) Basic [] c) Secondary [] d) Tertiary []
7.	Where do you live? State	

SECTION B: OBSTETRICS AND CONTRACEPTIVE HISTORY

	Questions	Response (tick your answer)
1.	How many living children do you have?	a) One [] b) Two [] c) Three [] d) Four [] e) Other (Specify).....
2.	What is the age of your last child? (in months)	
3.	After weaning this child will you like to have another child?	a) Yes [] b) No []
4.	Have you ever heard about family planning?	a) Yes [] b) No []
5.	Have you ever use any family planning method?	a) Yes [] b) No []
	If no skip to question 8	
6.	If yes, what method did you or your partner use?	a) Injectable [] b) Pills [] c) IUD [] d) Condom [] e) Implant Emergency [] f) Withdrawal [] g) Other (Specify).....
7.	Why did you use the family planning method?	a) Spacing [] b) Delaying [] c) Others []
8.	If no, why did you not use any family planning method?	a) I wanted to have a child [] b) Did not think I could be pregnant [] c) My religion forbids [] d) My partner objects to use [] e) I am afraid of side effects [] f) I am afraid of becoming infertile [] g) Other (Specify).....

9.	Did you experience any problems with that family planning methods?	a) Yes [] b) No []
10.	If yes, what problems did you face?	a) Prolonged vaginal bleeding [] b) Headaches [] c) Backaches [] d) Abdominal Pains [] e) Dizziness []

SECTION C: OBSTETRICS AND CONTRACEPTIVE HISTORY

	Questions	Response (tick your answer)
1.	Who informed you about the method?	a) Friend [] b) Relative [] c) Health worker [] d) Television / Radio [] e) Internet [] f) Other (Specify).....
2.	Was your last pregnancy planned?	a) Yes [] b) No []

SECTION D: CURRENT CONTRACEPTIVE USE

	Questions	Response (tick your answer)
1.	Have you menstruated after delivery of this child?	a) Yes [] b) No []
	IF NO SKIP TO 3	
2.	At what age was your child when you started menstruating (State in weeks or Months)	
3.	Have you resumed sexual intercourse after delivery?	a) Yes [] b) No []
4.	If yes at what age was your child when you resumed sexual intercourse?	
5.	Are you currently using any family planning method?	a) Yes [] b) No []
6.	If yes, what method are you using?	a) Female Sterilization [] b) Male sterilization [] c) Injectable [] d) Pills [] e) Condoms []

		f) Implant ☐ g) IUD ☐ h) Emergency Contraception ☐ Others (Specify).....
7.	If no, why are you not using family planning method?	a) I want to have another child ☐ b) My husband disapproves ☐ c) Is harmful to the health of my child ☐ d) Could not get a method of choice ☐ e) I am breastfeeding ☐ f) My religion disapproves contraceptive use ☐ g) I am afraid of side effects ☐ h) I am afraid I will not become pregnant again ☐ i) I intend using contraceptives later when menstruation begins ☐ j) Other (Specify).....
8.	Have you experience any problems with that family planning method?	a) Yes ☐ b) No ☐
9.	If yes what problems did you face?	a) Prolonged vaginal bleeding ☐ b) Headaches ☐ c) Weight gain ☐ d) Abdominal Pains ☐ e) Dizziness ☐ f) Other (specify).....

SECTION E: FACTORS AFFECTING POSTPARTUM FAMILY PLANNING USE

Question	Response (tick)
1. Where did you deliver your baby?	a) Health Facility ☐ b) At Home ☐
2. Did you attend antenatal clinic during pregnancy?	a) Yes ☐ b) No ☐
3. How many times did you attend antenatal clinic?	a) None ☐ b) One ☐ c) Two ☐ d) Three ☐

		e) Four [] f) Other (Specify).....
4.	Which family Planning method did your provider talked to you about during antenatal visit?	a) Female Sterilization [] b) Male sterilization [] c) Injectable [] d) Pills [] e) Condoms [] f) Implant [] g) IUD [] h) Emergency Contraception [] i) Lactational Amenorrhoea [] j) None [] k) Other (Specify).....
5.	Did you choose a family planning method during ANC counselling?	a) Yes [] b) No []
6.	If yes, are you currently using the method you chose at the ANC counselling?	a) Yes [] b) No []
7.	Have you change the method you chose at ANC counselling?	a) Yes [] b) No []
8.	If yes, why did you change the method?	a) Providers advise [] b) My husband disapproves [] c) I am afraid of side effects [] d) Other (Specify).....
9.	Did you receive counselling on family planning before being discharged after delivery?	a) Yes [] b) No []
10.	During your postnatal visit have you received any information on family planning methods which can be used to delay or prevent pregnancy?	a) Yes [] b) No []
11.	If yes what methods did the providers talk about?	i) Female Sterilization [] j) Male sterilization [] k) Injectable [] l) Pills [] m) Condoms [] n) Implant [] o) IUD []

		p) Emergency Contraception [] q) Others (Specify).....
12	What other information was given by the providers during the counselling?	a) Return to fertility [] b) Fertility intentions [] c) Healthy timing and spacing [] d) Exclusive breastfeeding [] e) Lactational Amenorrhoea Method [] f) All family planning methods [] g) Other (Specify).....
13	Did the family planning providers tell you to start a method only after resumption of menstruation?	a) Yes [] b) No []
14	Did the family planning service providers invited your partner for counselling on family planning methods?	a) Yes [] b) No []
15	Did the providers answer all your questions?	a) Yes [] b) No [] c) Did not have question []
16	How do you assess the information given by the providers to you?	a) Useful [] b) Somewhat useful [] c) Not useful []

SECTION F: KNOWLEDGE OF POSTPARTUM FAMILY PLANNING

	Question	Response (tick)
1.	Are you aware of family planning methods available at the clinic for postpartum mothers?	a) Yes [] b) No []
2.	If yes, list the types you know (multiple response permitted)	a) Injectable [] b) Pills [] c) IUD [] d) Male condom [] e) Female condom [] f) Implant [] g) Emergency contraception [] h) Female Sterilization [] i) Other (specify).....

3.	Can you become pregnant whilst breastfeeding?	a) Yes [] b) No []
4.	Can one use injectable contraception after delivery?	a) Yes [] b) No []
5.	How long does the injectable contraception protect the woman from pregnancy? (Multiple response allowed)	a) One month [] b) Two months [] c) Three months [] d) I do not know []
6.	Can a woman start contraception before the menstruation begins?	a) Yes [] b) No []
7.	Can condom be used to prevent pregnancy after delivery?	a) Yes [] b) No []
8.	Can IUD be used up to 10 years to prevent pregnancy?	a) Yes [] b) No []
9.	Injectable contraceptives may be associated with bleeding problems?	a) Yes [] b) No []
10.	What else do you know about postpartum family planning?	

GHANA HEALTH SERVICE ETHICS REVIEW COMMITTEE

*In case of reply the
number and date of this
Letter should be quoted.*



Research & Development Division
Ghana Health Service
P. O. Box MB 190
Accra
Tel: +233-302-681109
Fax: + 233-302-685424
Email: ghserc@gmail.com

MyRef. GHS/RDD/ERC/Admin/App/17/28
Your Ref. No.

Hannah Amankwah
University of Ghana
School of Public Health
Legon, Accra

The Ghana Health Service Ethics Review Committee has reviewed and given approval for the implementation of your Study Protocol.

GHS-ERC Number	GHS-ERC: 25/02/17
Project Title	Determinants and Use of Family Planning Methods among Postpartum Women at University of Ghana Hospital
Approval Date	30 th May, 2017
Expiry Date	29 th May, 2018
GHS-ERC Decision	Approved

This approval requires the following from the Principal Investigator

- Submission of yearly progress report of the study to the Ethics Review Committee (ERC)
- Renewal of ethical approval if the study lasts for more than 12 months,
- Reporting of all serious adverse events related to this study to the ERC within three days verbally and seven days in writing.
- Submission of a final report after completion of the study
- Informing ERC if study cannot be implemented or is discontinued and reasons why
- Informing the ERC and your sponsor (where applicable) before any publication of the research findings.

Please note that any modification of the study without ERC approval of the amendment is invalid.

The ERC may observe or cause to be observed procedures and records of the study during and after implementation.

Kindly quote the protocol identification number in all future correspondence in relation to this approved protocol

SIGNED.....
DR. CYNTHIA BANNERMAN
(GHS-ERC CHAIRPERSON)

Cc: The Director, Research & Development Division, Ghana Health Service, Accra

GHANA HEALTH SERVICE ETHICS REVIEW COMMITTEE

*In case of reply the
number and date of this
Letter should be quoted.*



Research & Development Division
Ghana Health Service
P. O. Box MB 190
Accra
Tel: +233-302-681109
Fax: +233-302-685424
Email: ghserc@gmail.com

MyRef. GHS/RDD/ERC/Admin/App/CH 98
Your Ref. No.

Hannah Amankwah
University of Ghana
School of Public Health
Legon, Accra

The Ghana Health Service Ethics Review Committee has reviewed and given approval for the implementation of your Study Protocol.

GHS-ERC Number	GHS-ERC: 25/02/17
Project Title	Determinants and Use of Family Planning Methods among Postpartum Women at University of Ghana Hospital
Approval Date	30 th May, 2017
Expiry Date	29 th May, 2018
GHS-ERC Decision	Approved

This approval requires the following from the Principal Investigator

- Submission of yearly progress report of the study to the Ethics Review Committee (ERC)
- Renewal of ethical approval if the study lasts for more than 12 months,
- Reporting of all serious adverse events related to this study to the ERC within three days verbally and seven days in writing.
- Submission of a final report after completion of the study
- Informing ERC if study cannot be implemented or is discontinued and reasons why
- Informing the ERC and your sponsor (where applicable) before any publication of the research findings.

Please note that any modification of the study without ERC approval of the amendment is invalid.

The ERC may observe or cause to be observed procedures and records of the study during and after implementation.

Kindly quote the protocol identification number in all future correspondence in relation to this approved protocol

SIGNED.....
DR. CYNTHIA BANNERMAN
(GHS-ERC CHAIRPERSON)

Cc: The Director, Research & Development Division, Ghana Health Service, Accra