UNIVERSITY FOR DEVELOPMENT STUDIES

FAMILY PLANNING UPTAKE AND PERCIEVED DELIVERY OUTCOMES AMONG POSTPARTUM WOMEN IN THE TAMALE METROPOLIS

BY

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DECLARATION

I, Dorithy Talata Angakumpo hereby declare that this submission is my own work towards the award of Master of Public Health degree and that, to the best my knowledge it contains materials neither published previously by another person nor materials which have been presented for the award of any degree of the university or elsewhere, except where due acknowledgement has been made in the text.

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(Student) **Signature** **Date**

Supervisor

I hereby declare that the preparation and presentation of the thesis was supervised in accordance with the guidelines on supervision of thesis laid down by the University for Development Studies.

Williams Walana (Ph.D.) 30-11-2020

(Supervisor) **Signature** **Date**

DEDICATION

I dedicate this piece of work to the Almighty God and my family for their love and unwavering support and for inspiring me to achieve greater heights in life. I am extremely grateful.

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ABSTRACT

Background: Unintended pregnancies are of significant public health concern globally. About three-quarters of all pregnancies that occur throughout the world each year are unintended. Worryingly, approximately one-fifth of these pregnancies end in abortion, many of which are performed by individuals who lack the requisite skills and techniques to carry out the procedure. Family planning (FP) has been recognized globally as an important intervention aimed at improving maternal and child health as it has been scientifically demonstrated to reduce the burden of maternal and child mortality. However, few studies in Ghana have examined the readiness and current uptake prevalence, the determinants and barriers to postpartum FP uptake. The purpose of this study was therefore to assess the readiness and current uptake prevalence, determinants and barriers to FP, and the perceived association between FP uptake and delivery outcomes among postpartum women in the Tamale Metropolis of Ghana.

Method: A facility based cross-sectional study was carried out among 505randomly sampled postpartum women receiving care at the child welfare clinics (CWC) of selected facilities. Quantitative data was collected using structured questionnaires and data was analyzed with SPSS version 23.0. Descriptive statistics was used for the socio-demographic characteristics. Chi-square and multivariate logistic regression analysis technique was used to establish the association between the variables of study.

Results: Awareness of FP among postpartum women was 96.0%. Despite this, contraceptive prevalence or use among the study respondents was 38%, suggesting the remaining61.8% (118/191) of the postpartum women risk having unplanned or unwanted pregnancies. They ever-used contraceptive prevalence was 59.2% (299/505), while 40.8% had never used any form of modern contraceptive. Age, educational level, partner's agreement on number of children to

have, religion, occupation and perceived effectiveness of contraceptives were significantly associated with family method uptake. Fear of side effects, cultural beliefs and effects on future fertility were also found to discourage FP uptake.

Conclusion: High levels of awareness of FP methods did not necessarily translate into uptake in this study. It is therefore recommended that the Tamale Metropolitan Health Management Team develops and implements educational interventions for postpartum women to enable them understand the importance of using FP methods. Partners' involvement in FP should be encouraged in order to enhance uptake among women.

TABLE OF CONTENTS

LIST OF ABBREVIATIONS

ABBREVIATION	MEANING
ANC	Antenatal Clinic
CWC	Child Welfare Clinic
FP	Family Planning
IUD	Intrauterine Device
LAM	Lactational Amenorrhea
MICS	Multiple Indicator Cluster Survey
PNC	Postnatal Clinic
PPFP	Postpartum Family Planning
CPR	Contraceptive Prevalence Rate
GDHS	Ghana Demographic Health Survey
GSS	Ghana Statistical Service
WHO	World Health Organization

OPERATIONAL DEFINITIONS

Family planning: Voluntary decision and action taken by individuals and couples to anticipate and attain their desired number of children and the spacing and timing of their births.

Postpartum Period: This refers to the period after the delivery of the placenta up to 6 weeks post-delivery.

Extended postpartum period: Refers to the period after delivery up to 1 year.

Postpartum contraception: Defined as the initiation and use of a contraceptive method to prevent unintended or closely spaced pregnancies in the first 12 months postpartum or before fertility return.

Postpartum family planning: Defined as initiation and use of a family planning method within the first year of delivery to prevent closely spaced and unintended pregnancy.

Postpartum amenorrhea: Refers to the interval between childbirth and the return of menstruation.

Unmet need for family planning: This refers to the percentage of women of reproductive age, either married or in a union, who intend to space their next child birth or stop child bearing but are not using any method of contraception.

Postpartum abstinence: This refers to the period of voluntary sexual inactivity after birth.

Contraceptive prevalence rate: Percentage of women in the reproductive age who are using or whose partners are currently utilizing at least a contraceptive (WHO, 2015).

Modern Contraceptive: Is any device, drug, chemical or method that is used with the intention of preventing conception (USAID, 2010)

Lactation: the secretion of milk from the mammary glands and the initiation of breastfeeding.

CHAPTER ONE

1.0 INTRODUCTION

The chapter contains the background of study, problem statement, research questions, research objectives, justification of the study, conceptual framework of the study, operational definitions of key terms and organization of the thesis.

1.1BACKGROUND

The period after delivery is the most critical period in maternal and child health as both the mother and the newborn require critical support and care. Even though existing pieces of evidence indicate that most cases of maternal and neonatal associated deaths happen during this period, it has been reported as the most neglected period for the provision of quality care, particularly in developing countries (WHO, 2013). It is in this regard that the World Health Organization (WHO) placed a lot of attention on postnatal and postpartum care globally, particularly among mothers and neonates from regions with limited resources (WHO, 2013). The postnatal period is defined as the time of delivery of a baby till six weeks post-delivery (WHO, 2013). The entire span of the postpartum period can be divided into three, namely; immediate, early and late. The first 24 hours post-delivery is categorized as the immediate postpartum period, while the early postnatal period commences on the second day till the seventh day after delivery. The late postpartum period starts from the second week through to the sixth after delivery (WHO, 2013).

Unintended pregnancies remain a huge public health burden globally. Annually, about 210 million pregnancies occur across the globe of which, an estimated 38% are not planned for. Worryingly, approximately 22% of these pregnancies end in abortion, many of which are performed by individuals who lack the requisite skills and techniques to carry out the procedure.

The consequences of this act could result in adverse health conditions such as hemorrhage, uterine perforation and even death of the mother(Habib et al., 2017).Another disturbing outcome is that an estimated 18% of unintended pregnancies end in unplanned births, placing huge economic, health, and socio-cultural burdens on the motheras well as her newborn, and more significantly on her other children where applicable (Habib et al, 2017). The burden aggravates when these unintended pregnancies occur less than six months postpartum where the mother is stillnursing an equally young infant. This puts a lot of stress on the mother's income, nutrition and the health systems at large. Unfortunately, the majority of these unintended pregnancies abound in developing countries where education levels are still relatively low; limited knowledge, scarcity of access to contraceptive methods and wrong perceptions about contraceptives, further worsening existing adverse social and economic conditions, hence increasing the risks of maternal, neonatal, infant and child mortality(Habib et al., 2017).

Family planning (FP) has been recognized globally as an important intervention aimed at improving maternal and child health as it has been scientifically demonstrated to reduce the burden of maternal and child mortality (Eliason et al., 2013). In the 21th century, safe and less expensive FP methods are key interventions which hold the potential to improve maternal and child health around the world. This intervention does not only allow one to plan and decide when to become pregnant but also reduces the occurrence of unintended pregnancies and childbirth load per woman. Despite this, there is still much to achieve in terms of minimizing the average number of births per woman, specifically in regions where poverty remains high (NRC, 2012 &Sedgh et al., 2015).

For examples, there are reports that FP acceptance and uptake in Sub-Saharan Africa still remain a huge challenge, which has been attributed to a number of factors including;(1) fear of side

effects, (2) existing health conditions, (3) entrenched cultural and religious believes, (4) lack or limited knowledge and (5) rejection by spouse (Mills et al., 2010). These factors are anchored on education, culture, and religion, and will require a holistic educational approach to break the myths hampering FP uptake. Strategies aimed at women and their spouses having adequate knowledge on pregnancy complications, modification of socio-cultural beliefs, enhancing spousal communication and improving access to health facilities have been reported to be very critical in FP adoption (Eliason *et al*, 2014; Cohen, 2000; Ahmed, 2012).

Contraceptives are generally classified in to two major categories: Traditional Contraceptives and Modern Contraceptives (UNDP, 2010). Traditional methods comprise of the age-old rhythmic method (periodic abstinence) and withdrawal or coitus interruptus technique (WHO, 2013). Modern contraceptives are a grouped as barrier methods, hormonal (the pills, injectables, intrauterine devices) and sterilization. Usually, clients decide on any of the methods depending of their general health, lifestyle and type of relationships (Frini&Wom, 2013).

The barrier method as the name implies create a barrier that prevents the passage of sperms from reaching the ovum. It also prevents the transmission of disease-causing infectious agents such as the HIV virus. Condoms come in two types, we have the male condom which is worn over the penis and the female condom which is inserted into the vaginal up to the cervix before sexual intercourse. These methods can be use by all categories of people as well as women in the postpartum period. Condoms in particular are suitable for individuals who are at high risk of sexually transmitted infections. The disadvantages of the barrier method include, irritations on the vagina and penis, discomfort during sex, may get torn or there may be a leakage(Jackson, 2011).

The hormonal methods such as the injectables comes in two types, we have the Norigynon (estrogen& progesterone) which is administered monthly, and the Depo provera (progesterone only) which provides protection up to three months. The injectables offer a lot of advantages as a long-acting reversible method of contraception. The procedure for administering the method is very quick and painless, it provides up to 12 weeks of effective contraception and may also be useful for those with heavy periods. However, there have been instances where some clients suffer spotting or bleeding for the first few weeks of using the method. Others may have irregular menstrual period, delay in return to fertility, and unable to discontinue the method immediately when one start experiencing signs and symptoms (Daniels et al., 2018)

The pill is a short-acting contraceptive method. There are two types, the progesterone-only pills and the combine oral contraceptives. They are hormone-based as those produced naturally by the body. The pills are usually taken at the same time every day to effectively prevent pregnancy. It may require between 5to 7 days for the pill to start working when taken. There is the need to use a condom or abstain during that period. The progesterone only pills is suitable for women who are breast feeding, those over 35 years or those who cannot use estrogen for health reasons (Jackson, 2011). The combined oral contraceptive pills delay ovulation, thickens cervical mucus and makes it harder for the sperm to reach the ovum. It is used to treat period-related pain, heavy period, premenstrual syndrome, acne and others conditions. However, it is not suitable for women with rising blood pressure and migraines. Side effects include mood swings, breast tenderness, and headaches.

Implants are long acting highly effective reversible form of contraception. It consists of either one or two small plastic rods that are placed in the upper arm. Depending on the type use, it can prevent pregnancy for 3 to 5years. The intrauterine device (IUD) on the other hand, is suitable

for most groups of women and postpartum women who have resume sexual intercourse. This method is highly effective (99%), and also long-acting and reversible method of contraception. It is a small T- shaped device that is made from plastic and copper. It works by stopping fertilization and implantation. It does not interfere with sexual intercourse and can be discontinued at any time. However, there exist the risk of menstrual irregularities and spotting in-between menses (Jackson, 2011).

The sterilization methods such as the tubal ligation and vasectomy are irreversible methods for both men and women respectively. It is suitable for women and men who are sure they do not want to have children any more. It involves a short surgical procedure performed by highly trained doctors. One major disadvantage is that, ones it is done, it cannot be reversed (Daniels et al., 2018).

Aside these modern contraceptives types, we also have the traditional methods known as the natural FP methods or fertility awareness methods namely; the withdrawal method, calendar method, basal body temperature, circle beads, lactational amenorrhea and abstinence methods. All these methods can be used by all sexually active females regardless of their age or weight. Especially the lactational amenorrhea method is suitable for women who are within six months postpartum, whose menstrual circle has not returned and are practicing exclusive breastfeeding. These methods do not require the introduction of any hormone or device into the body. However, these methods do not provide protection against STI's (Daniels et al., 2018).

The sustainable development goal three (SDG3) aims at improving maternal and child health through global access to sexual and reproductive healthcare services, and this includes availability, accessibility, and uptake patronage of FP methods based on informed decision-making (WHO, 2019).It has been reported that women in the postpartum period often do not pay

much attention to FP services necessary to ensure the health of the mother and child during this crucial time (Cooper et al, 2015& MCHIP, 2018). Postpartum FP (PPFP) is the adoption of an FP method within the first twelve months post-delivery (WHO, 2013).The provision of quality FP services in the postpartum period has the potential to reduce the voluntary termination of unwanted pregnancies and reduce maternal and child morbidity and mortality arising from unsafe abortions and inadequate spacing of births respectively (Cleland et al., 2012b). It has been estimated that postpartum FP practices can prevent about 10% and 30% of child and maternal mortalities respectively (Prata et al., 2011).

Since pregnancy and the postnatal periods are expected to provide the avenue for frequent client and health-care-provider contact, it presents the missed opportunity to counsel mothers and their partners to adopt a modern FP method to help curb unwanted pregnancies and improve birth spacing (Warren et al, 2010), which by extension allows couples to plan their families well.

1.2PROBLEM STATEMENT

It was anticipated in the year 2004 that Ghana will accomplish a modern contraception predominance rate of 28% by 2010 and 50% by 2020. However, Adongo et al. (2014)discovered that modern contraceptive acceptance rate in Ghana was about 23%. That is five percentage points below the anticipated projection for 2010. The Ghana Statistical Service (GSS) reported in 2011 that only 17% of married women or women in union aged 15-19 years use modern FP methods. They further reported that 38% of women aged between 25 to 39 years also use some form of FP method (GSS, 2011). The last demographic and health survey conducted in 2014 reported that FP prevalence rate was 27% among married women. However, a further lower rate of 23% was reported among all Ghanaian women (GSS, GHS, & ICF International, 2014).

Furthermore, in 2017 alone, an estimated 295000 women suffered pregnancy and childbirth related deaths globally, suggesting approximately 810 deaths per day (WHO. 2019). Out of this number, 94% (277300) emanated from poor countries, with Sub-Saharan Africa and Southern Asia contributing about 86% (254 000). A further breakdown showed that maternal death in Sub-Saharan Africa alone constituted 66.4% (196000/295000) of the global figure, while Southern Asia contributed approximately a fifth, 19.7% (58000/295000) (WHO, 2019). Interestingly, almost all the recorded maternal deaths are preventable.

The causes of preventable maternal and neonatal deaths in low income countries are enormous, and these are fueled by conditions such as poverty, poor nutrition, lack of access to health care, home birth and others (Gupta et al., 2018). Placenta praevia, preeclampsia and eclampsia, hemorrhage, multiple gestation, neonatal sepsis, and preterm delivery have been indicated as causes of maternal and neonatal deaths. Multiple gestation coupled with inadequate birth spacing do not allow the mothers reproductive organs to recover fully from previous pregnancy and delivery before the onset of another pregnancy thereby predisposing mothers to pregnancy and childbirth related complication(Gupta et al., 2018).

Uptake of advanced contraceptive methods remains a huge challenge in sub-Saharan Africa as this is aversion is significantly related with high rate of unwanted pregnancies, unsafe abortions, unplanned deliveries and maternal mortalities (Crossette, 2005).In Ghana, it has been estimated that more than 58% of all births to Ghanaian women aged 15-19 years and one – third of births to those aged 20–24years are unintended (GDHS, 2014).As a result of this observation and in line with WHO recommendations, the Ghana Health Services (GHS) and the Ministry of Health (MoH) of Ghana have placed special emphasis on the utilization of modern FP methods throughout the country, focusing on distribution, availability, quality and affordability. Despite

these interventions, the Northern Region is still having challenges with the uptake of contraceptives and FP services. This was revealed in the 2014 GDHS which reported that the Northern Region has the lowest uptake of contraceptives with only 11.0% while the Volta Region has the highest with 32.0%. The low uptake of FP methods in the region predisposes it to the consequences of unplanned, unintended, and unwanted pregnancies, and the associated health complications.

There are a lot of safe and effective contraceptive methods that women can begin at various stages of their sexual life and in the postpartum period, including those used within the immediate postpartum period, to optimize birth spacing (WHO, 2014). The provision of quality FP services in the postpartum period has the potential to reduce the voluntary termination of unwanted pregnancies and reduce maternal and child morbidity and mortality arising from unsafe abortions and inadequate spacing of births (Cleland J.et al, 2006).

A significant number of studies related to FP uptake in the northern region focused on the extended postpartum period, but fertility may return as early as 28 days post-delivery(Okunade, 2018). Even though breastfeeding exclusively for the first six months postpartum plays a crucial role in delaying return to fertility, mainly due to the high prolactin release which leads to a suppression of the hormone estrogen produce by the ovaries which has a major influence on ovulation, breastfeeding women may release an egg (ovum) prior to the first menses, limiting their ability to accurately predict a return to fertility (WHO, 2012). In view of this, there is the need for postpartum mothers who wish to prevent or delay a subsequent pregnancy after delivery to adopt a contraceptive method as early as possible after delivery and before resumption of sexual activity to prevent unwanted pregnancies and to give them ample space to recover from pregnancy and delivery stress and to better care for their children (Borda&Winfrey, 2010).

The skewed nature of previous studies on FP uptake toward the extended postpartum phase presents a gap in the time of FP adoption in relation to the time of delivery. Consequently, unplanned and unwanted pregnancies resulting from delayed uptake of a FP "postpartumly" remains unclear. Additionally, it is yet to be known the association between previous uptake of a FP method and perceived subsequent delivery outcomes among women in the Tamale Metropolis. This study therefore not only identified the readiness to sign onto modern FP method, prevalence of FP uptake, and barriers to FP uptake, but also explore the time of FP uptake in relation to delivery, and also assess mother's perception on outcome of delivery and previous uptake of a FP in the Tamale metropolis.

1.3RESEARCH QUESTIONS

General Question

What is the readiness prevalence and barriers to family planning uptake in the Tamale Metropolis? What are the perceptions surrounding family planning uptake and delivery outcomes among postpartum women in the Tamale Metropolis?

Specific Questions

1. What is the level of knowledge and current uptake prevalence of family planning services among postnatal women in the Tamale Metropolis?
2. What are the determinants of family planning methods uptake among postpartum women in the Tamale metropolis?
3. What are the barriers to the use of modern contraceptives among postpartum women in the Tamale Metropolis?

4. What is the perception on the effect of family planning uptake and delivery outcomes among postpartum women in the Tamale Metropolis?

1.4OBJECTIVES

General objective

The general objective of the study was to assess the readiness prevalence, determinants and barriers to family planning, and the perceived association between family planning uptake and delivery outcomes among postnatal women in the Tamale Metropolis.

Specific objectives

Specifically, this study sought to:

1. Assess the level of knowledge and current uptake prevalence of family planning methods among postpartum women in the Tamale Metropolis.
2. Examine the determinants of family planning uptake among postpartum women in the Tamale metropolis.
3. Identify the barriers to the usage of contraceptives among postpartum women in the Tamale Metropolis.
4. Establish the perception of women on family planning uptake and perceived delivery outcomes among postpartum women in the Tamale Metropolis.

1.5CONCEPTUAL FRAME WORK

Andersen's Behavioral Model (ABM) of Health Services (Anderson, 1995) was adopted to guide the selection of independent variables in the study. The ABM is a multilevel model that has been used extensively to explain and predict utilization of health services (Babitsch et al. 2012). In

summary, the model consists of environmental factors, a person's characteristics, factors that enable or impede the use of health service, a person's perception of need for care and the outcomes (i.e., perceived and evaluated health status).

The uptake of modern contraceptives among postpartum women and women of reproductive age (15-49 years) is said to be influenced by a complex interaction of factors including demographic, socio-cultural, socioeconomic, individual factors, health service delivery factors as well as the perceived outcome of the services rendered. The demographic features such as age, marital status, level of education, age of last child, family size, occupation, parity, religion and ethnicity influence uptake of modern contraceptives. Socio-culturally; cultural norms and beliefs, partner/family support and the demand for bigger families could be barriers that influence the individual's conception choices and contraceptive uptake. Knowledge on FP, attitude towards FP and partner's approval are individual related factors which may influence FP uptake. Socioeconomic factors such as education, wealth/employment status and place of residence also influence contraceptive uptake. Spousal religious affiliation influences resumption of sexual activities with partner and reason for usage of FP. Also, recommendation of FP by colleagues can determine FP uptake. Reproductive health service delivery factors such as attitudes and skills of the providers and perceived delivery outcomes also influence contraceptive uptake.

In conclusion, findings from several studies by researchers have shown results on factors that influence the uptake of FP methods among postpartum women. Inspired by this conceptual model, this study seeks to assess the FP uptake and the perceived delivery outcomes among postpartum women in the Tamale Metropolis. The factors identified in the model, in addition to other factors in literature, shaped the development of the questionnaire to elicit information to satisfy the questions this study seeks to answer.

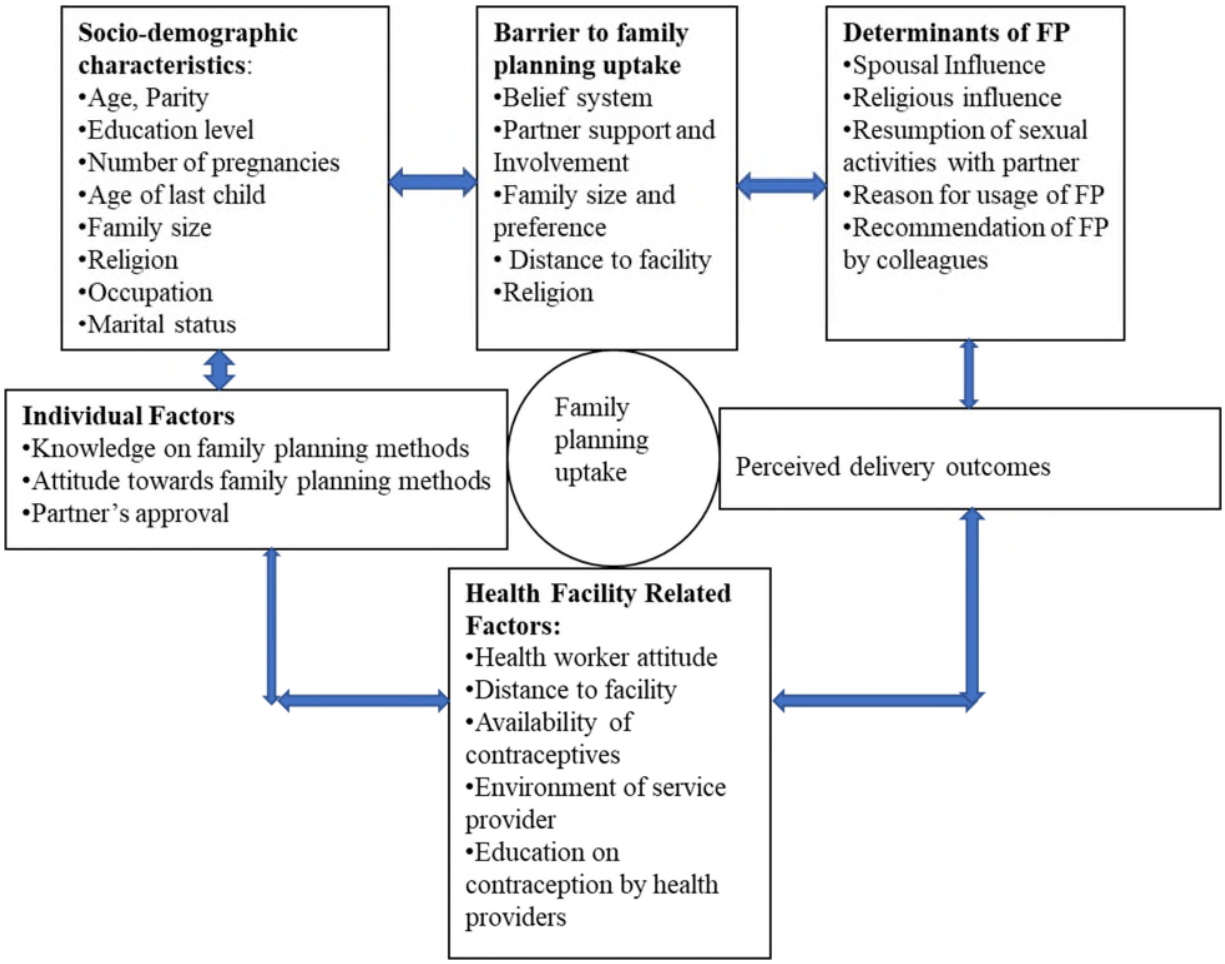

Figure 1: Conceptual framework adapted from Andersen (1995) based on the Health Care Utilization Model.

1.6JUSTIFICATION OF THE STUDY

The importance of a good FP intervention cannot be over-emphasized. However, there exist some misconceptions about the uptake of FP methods among various populations. Fundamentally, this survey intends to first identify the awareness and uptake level of a FP

methods among the study population. Even though the GHDS indicates the northern region has the lowest uptake of FP methods, the reason for this observation remains uncertain and speculative. However, the challenges associated with unplanned, unwanted and unintended pregnancies remain socio-economically significant in most part of the developing world, and the consequences do not only adversely affect the wellbeing of only the women victims, but their children, yet to be born baby, their families and the society as a whole. Among other equally important health related interventions, FP remains a key means of improving maternal and child health as it permits families to plan their births, offer ample time for the maternal physiology to heal from the impact of previous pregnancy and delivery and gives mothers time to nurture their babies properly in terms of nutrition and care. Additionally, a society well informed about FP and responsible patronage of FP method enhances our global aim of achieving the sustainable development goal 3 (SDG3), which targets good health and wellbeing, emphasizing sexual and reproductive health. Against this background, it is essential that, the barriers to the relatively low FP methods uptake are identified. This will be critical to informing strategies and policy directions aimed at improving FP uptake among postpartum women in the metropolis.

1.7THESIS ORGANIZATION

This work was organized into six chapters. Chapter one contains the background to the study, statement of the problem, objective of the study, research questions, conceptual framework and justification of the study. Chapter two which is the literature review is made up of the knowledge and current uptake, determinants, barriers, perceived effect and delivery outcomes of FP uptake in the postpartum period.

Chapter three is methodology and it is made of data collection techniques and tools, study population, sampling, pre-testing, coding, data analyses and assumptions. Chapter four is the discussion of results. It includes the knowledge and current uptake, determinants, barriers, perceived effects and delivery outcomes of FP uptake in the postpartum period. Chapter five is the last chapter of the thesis work, it is made up of summary, conclusion and recommendation with an appendix and bibliography attach to it.

CHAPTER TWO

LITERATURE REVIEW

2.0 INTRODUCTION

This chapter reviewed literature on what has been done in the area of postpartum family planning uptake. The review critically assessed both qualitative and quantitative research done globally and in Africa with specific focus on the concept of family planning, the demographic characteristics of the postpartum women, knowledge and current uptake prevalence, determinants, barriers and the perception of women on family planning uptake and perceived delivery outcomes among postpartum women.

2.1 OVER VIEW OF FAMILY PLANNING

Family planning (FP) remains one of the most cost-effective public health measures accessible in low and middle-income countries (WHO, 2012; Hausmann et al, 2013). Family planning and contraception has been given a number of definitions (Woldemicael&Beaujot,2011; Nuruzzaman, 2010; Madhukumar& Pavithra, 2015). Be that it may, all the definitions have the same central message of limiting, spacing births and prevention of unintended pregnancies which buttress the motto of the first birth control clinic that was set up in the 1920s which said that "children by choice, not chance" (UNPFA, 2010; Hausmann et al,2013). Pregnancy by choice and not by chance is a necessity for women's health (UNPFA, 2010). Some of definitions of FP are:

According to the World Health Organization (WHO), FP is the ability of a person or couples to effectively strategize to have the preferred number of children and appropriately spacing and timing of births (WHO, 2014). This can be attained by using natural periodic abstinence which is highly unreliable or by using a modern contraceptive which is reliable. The major reasons for FP:

(1) It helps couples to plan when to get pregnant and avoid unintended pregnancies.

(2) The method chosen could help prevent or reduces the transmission of sexually transmitted diseases (STDs), and subsequently help reduce infertility (WHO, 2014).

Family planning is also considered as any deliberate practice or technique undertaken by couples to minimize the risk of conception. Similarly, FP is also referred to as the deliberate employment of a technique or a device to prevent conception or pregnancy (Renjhen, 2013&Olakojo, 2012). Key among considerations for which an FP method may be adopted is the number of children wanted by a couple and the age at which they may need the children. The environment where couples find themselves, the socio-economic and health status of couples; such as marriage, career, finance, and disabilities influence the decision to make babies (Amoo & Mervyn, 2018)Family planning can also be viewed as the provision of education, comprehensive healthcare and a social intervention which gives couples, individuals and minors the opportunity to decide on the number and spacing of their children, and in addition have a choice on how to have their children(Ahmed, Creanga, Gillespie, & Tsui, 2010)

The issue of contraceptive as a means of controlling birth dates back to 3000 years ago when the Egyptians used a combination of Honey and crocodile dung as spermicides and linen sheaths as male condoms to protect against disease. Approximately 1700 condoms were made by the Ancients from animal intestines (Wulifan & Bagah, 2015)

Contraception in modern times is the purposeful avoidance of pregnancy by using sexual practices, chemical agents in the form of drugs, devices or other means(Darroch, Sedgh, & Ball, 2011)The effective application of a contraceptive method gives way for partners to engage in unprotected sexual intercourse without thinking about getting pregnant. This gives couples maximum comfort and privacy as well as minimizing cost and side effects. Barrier methods, like

male and female condoms, also provide dual protection against sexually transmitted diseases(STDs)and pregnancy (Rakhi & Sumathi, 2011).

According to Kamal (2012), the risk of maternal death in most developing countries is estimated to be 1 in every 75, or about 100 in 7,300. The WHO (2015) reported that over 500,000 women lose their lives every year due to pregnancy-related problems and that the use of FP methods reduces maternal mortality, reduces the risk of unwanted pregnancies, prevents the need for safe and unsafe abortions as well as provides protection against sexually transmitted infections (Gupta, Mohapatra & Kumar, 2016).

An evaluated 120 million couples in the world do not utilize FP services and 300 million are not fulfilled with the FP methods used (Gupta, Mohapatra & Kumar, 2016; Gizaw&Regassa, 2011). Again, the African Population and Health Research Center (2011) reported that, globally, about 600,000 women lose their lives because of pregnancy-related complications, and 75,000 others die due to unsafe abortions (Chapagain, 2013; Karra, Stark & Wolf, 2013). The African Population and Health Research Center (2011) further reported that women who have unplanned births are more likely to suffer psychotic or postpartum depression. Additionally, they feel unwell and powerless, decreased time-dependent pressure, and compromised general physical and mental health. According to Gizaw&Regassa (2011) and Karra, Stark &Wolf (2013), women who suffer unintended births tend to have poor mother-to-child bonding, abuse their children physically, and hardly spends quality time their children. Governments of various countries especially developing countries are struggling to reduce fertility rates due to the pressure it poses on every sector of national development (Gille, 2015).

Contraceptives uptake is improving globally. However, in sub-Saharan Africa, about 17% of women in the fertility age group use a modern contraceptive. This low level of uptake in sub-

Saharan Africa does not necessarily mean lack of interest in family and contraception among the women and their partners. Whiles large family sizes are synonymous to Africa, so too is the need to space or limit the number of births per woman(Rominski, SKMorhe, Maya, Manu, & Dalton, 2017).

2.2 STATE OF FAMILY PLANNING IN GHANA

Family planning activities in Ghana dated back in year 1961 when the Committee on Christian Marriage and Family Life of the Christian Council of Ghana started the first family advice center in Accra with the sole aim of advising married couples on FP and responsible parenthood (Aryeetey&Hindin ,2010). This initiative was accompanied by the activities of the Planned Parenthood Association of Ghana (PPAG) and later the establishment of the Ghana NationalFamily Planning Program in 1970 after the adoption of the Ghana Population Policy in March1969 (Aryeetey &Hindin, 2010). Since then, FP services have become an important component of health care delivery system as well as a tool for the promotion of responsible parenthood in the Ghana (Aryeetey &Hindin, 2010).

Despite these advances, the prevalence of contraceptive use is still not encouraging among currently married young women between (15-19 years) and older (45-49 years) age groups, representing 19% and 18% respectively. Also, the proportion of contraceptive use between urban and rural married women is 26% and 27% respectively. By regional stratification, the contraceptive prevalence rate (CPR) among married women is highest in Volta (32 %) and lowest in the Northern region (11%).CPR in the Northern Region is 5.9% (USAID deliver project, 2011).The WHO further says that FP plays a vital role in reducing maternal deaths,

which is currently at 380 per every 100,000 live births in Ghana, and newborn morbidity and mortality, which also stands at 78 per every 1,000 live births (WHO, 2011).

According to Bawah, Simmons &Phillips (2013), without sufficient support for FP, the quality of the population will be compromised. Again, they state that without the support for FP, the gains made in the Total Fertility Rate (TFR) of Ghana will be lost as a prove in the low uptake of FP services which has led to a low CPR. The most recent Ghana Demographic and Health Survey (GDHS, 2014) revealed a CPR of 26.7%. Although the National Population Policy has a duty "to ensure accessibility to, and affordability of, FP services, FP acceptor rate by region is 22.2% in the northern (GHS, 2016)which is the lowest in the country since 2016.

The three main FP methods used in Ghana are the short-term methods, which are the pills, condoms, injectables and spermicide; long term which are the Intrauterine Device (IUD), implants and intrauterine system (IUS); and the permanent methods which include vasectomy and female sterilization (GHS and GSS, 2014).

2.3 LEVEL OF KNOWLEDGE AND CURRENT UPTAKE PREVALENCE OF FAMILY PLANNING METHODS

Contraception is a vital component of reproductive health which deals with women, their partners, and their health care(Fuseini, Yaro, & Yiran, 2017). Contraceptive prevalence is referred to as the proportion of women in reproductive age (15-49years) who are either on a modern FP method or whose partners use any form of a modern FP method at a given time (WHO, 2013). It also applies to all married women of reproductive age who were capable of becoming pregnant.

In 2013, using modern-day contraceptive methods in developing nations was predicted around 38% amongst girls of reproductive age who are married or in relationship. Interestingly, 23% of such women wants to prevent pregnancy, but are not using FP (World Development Indicators, 2013). Uptake of contraceptives in the developed world is estimated above 50% (WHO, 2015; UNPFA, 2010). Whiles there is a remarkable improvement in the levels of contraceptives uptake in the more developed countries, the developing countries continue to record low figures (WHO, 2015; UNPFA, 2010). Having knowledge about FP services is seen as the first and most important step in deciding to adopt a method. Assessment of knowledge about FP service in addition to determining the extent of awareness and sensitization, also allows one to evaluate the service use (Woldemicael&Beaujot, 2011). Knowledge of people concerning FP has the potential to influence the choice to utilize or not to utilize a particular FP procedure (Schoenmarkers, 2013; Kanitkar& Kulkarni, 2012). In a cross-sectional study conducted in Kenya by Obare, Keesbury&Liambila (2010) it was revealed that all the respondents who participated had ever heard of FP. Najafi, Rahman&Juni (2011) reported similar findings where women had a very good knowledge concerning FP methods but felt reluctant to use it during sexual intercourse in Malaysia.

In Ghana, Parr (2013) findings revealed that women had high knowledge on FP with their sources of information as the media, friends and relatives. A study done by Chacko&Kabagambe (2013) among women in their reproductive age in Uganda revealed that majority of the uneducated do not have adequate information on the uptake of FP services and have aversion for its use. The awareness level of the participants on FP was low largely due to lack of education and their level of exposure on FP information and service. It was also due to their lack of access to information, limited availability and access to modern FP services, poor FP services,

inadequate numbers of skilled service providers, poor interpersonal relationship on the part of service providers and unavailability of essential commodities on FP services. The inadequate knowledge on FP may have resulted to the negative attitude towards the utilization of FP methods. Also, myths and rumors on FP methods, misconception, doubt or wrong mindsets negatively affect FP adoption(Chacko &Kabagambe,2013). In Nigeria, Olakojo(2012) revealed that women said they were not going to practice FP because it was not effective. They stated that those who had practiced FP before complained of it not being effective. However, in a similar study conducted in Lagos, Nigeria, by Odimegwu(2013), it was shown that women said they were practicing FP because it was effective against unwanted pregnancies. In an evaluative study done by Muia, Blanchard &Lukhando, (2012) in Kenya among women, it was revealed that most of the respondents had high level of knowledge about FP but this did not translate into the use of modern methods of FP.

The WHO (2012) report revealed that women have high knowledge concerning FP in the world. Similarly, in a cross-sectional descriptive survey conducted by Tajure&Pharm, (2010) among female students of Jimma University, Southwest Ethiopia, revealed a high knowledge concerning FP. However, a study by Rutenberg (2013) showed that women in a rural village in Uganda had no knowledge on FP. Past studies showed radio as the most common source of information on FP, then followed by friends and television (DeClerque, Tsui& Barcelona, 2014).

Similarly, a study undertaken in Basrah city, South of Iraq, revealed that health personnel (54%), relatives (41.2%) and friends (4.8%) were the main sources of information of study participants' knowledge of FP (Ebrahim & Muhammed, 2011). In contrast, a survey done in Delhi, India, found that mass media (35%), health personnel (31.3%), magazines (20.0%) and personal

relations i.e. spouse, friends and relatives (13.8%) as the main sources of information (Jaya &Hindin, 2012).

In a study conducted by John (2010) among women revealed that there was an association between women age and knowledge concerning FP information and service. The analysis of the results was found to be significant. But contrary to those results, studies done in South Indian by Karra, Starkand& Wolf (2013) revealed a no significant association between women age and knowledge on FP service. On the other hand, according to Qatar, Varanasi &Maudlin (2015), there was an association between women educational level and knowledge of FPservice. However, a study by Ebrahim &Muhammed (2011) among educated women revealed that out of 566 study participants, 85.7% were not currently using any FP method. According to a study done by Mengistu (2010) in Oromia Regional state, Arsi Zone, Asella town, South-East Ethiopia among women concerning FP usage, revealed that71.5% were current users. In sub-Saharan Africa, it has been estimated that 23% of married women are practicing FP, 18 % are using a modern method of contraception whiles 5% are using traditional methods. About 25 % are having unmet needs of contraception, which implies that, they want to prevent or delay pregnancy but are not using any method of FP(Fuseini et al., 2017).

In a survey by (Okunade, 2018).It was uncovered that women who had knowledge on postpartum FP were much more likely to patronize modern FP method compared to their counterparts who do have any knowledge on postpartum FP. In the same study, it was reported that, the lack of knowledge on FP leads to the circulation of myths and misconceptions among women such as misconception of side effects, which period after delivery is a woman allow to take a method and even its effects on breastfeeding (Okunade, 2018).

There has been a significant improvement in the use of contraceptives worldwide in the past few years. For instance, contraceptive prevalence increased from 54% in 1990 to 57% in 2014 (WHO, 2015). However, over 10% of all women do not still have access to or are not using an effective method of contraception (WHO, 2015). The figure is even worse for Africa. In Africa, contraceptive use among sexually active women aged 15-49 has only seen a marginal increase from 23% to 27% within this same time period (WHO, 2015). Contraceptive uptake is even lower in sub-Sahara Africa, which only moved marginally from 23% in 1990 to 24% in 2014 (WHO, 2015).

Here in Ghana, although knowledge of all types of contraceptives is relatively high among women who are sexually active between the ages of 15 to 49, only a few of them actually make use of them (GSS, 2014). For example, in the 2014 Ghana Demographic and Health Survey, 73% of the 5,321 women sampled reported not using any form of contraceptives (GSS, 2014). The low level of modern contraceptives use in the country has kept the level of mistimed and unwanted births high (GDHS, 2014). Twenty-four percent (24%) of all births during the last five years before the GDHS were mistimed, and 7% were unwanted. (GDHS, 2014). Family planning uptake is low in most remote communities in Ghana. Urban and rural fertility ranges between 2-3 respectively. The poorest rural wealth quintiles have cutting-edge contraceptive stages extending from less than 5% to approximately 15 % of qualified women(Atuahene et al, 2016).

Records from the Ghana demographic and health survey report shows that, 99% and 98% of men and women respectively are aware of family planning in Ghana. But this trend seems to differ in the Northern region of Ghana (GSS, 2010). This high level of awareness has however not been adequately translated into practice. It is for this and other reasons that Northern Region still has the lowest CPR and acceptor rate, 5.9% &22.2% respectively (USAID, 2011 &GHS, 2016).

A study on postpartum contraceptive use identified educational level of the woman, her husband, religion, socioeconomic status, resumption of menses, ever-used contraceptives, resumption of sexual activity, having discussions on contraceptive with partner, partners' consent to start a contraceptive method, and education and counseling during pregnancy and at the postpartum period as factors that could influence contraceptive uptake (Hounkponou et al., 2019).

DETERMINANTS OF CONTRACEPTIVE UPTAKE

As stated earlier, contraceptive uptake has improved across the globe, specifically in Asia and Latin America, but continues to remain low in sub-Saharan Africa, and among specific groups (WHO, 2012). The uptake of contraceptives is relatively low among postpartum women. Each year, several millions of women decide whether to use contraceptives or other means of birth control as a way of planning their family sizes and spacing childbirth. Among the women who are faced with this important decision-making process are postpartum mothers who need to make informed contraceptive choices after having a baby. Such decisions may include which type of birth control and the time to commence (Trutt et al, 2009).

A study in East and Central Africa, identify that 20% postpartum women choose IUD and had it inserted immediately after birth (Tsigue et al., 2016). A Similar study by Winfrey & Rakesh, (2014) revealed that postpartum women were more likely to use injectables as their method of contraception than currently married women. A similar study in Senegal indicated that, 63% of women within postpartum period of 2 years were willing to wait till their babies are at least 2 years before having another child but only 36% of those within 18 to 23 months of postpartum period were on contraceptives (Speizer et al., 2013). Mahmood et al (2012) in Rural Bareilly in India found that of the 123 women who had delivered within the previous year, only 17(13.8%)

used postpartum contraception. In a population-based survey in Uganda by Rutaremwa et al (2015), it was reported that 28% of women used modern contraceptives in the post-partum period.

Several studies conducted in the Asian and African regions identified age, level of education, marital status, parity, sex of living children, cultural and religious factors, partner's approval, socioeconomic status, health system factors, and community factors, as major determinants of the choice of modern contraceptive methods among postpartum women (Truitt, Fraser, Grimes, Gallo, & Schulz, 2015). However, these determinants vary from one geographical location to the other.

2.4 AGE AND CONTRACEPTIVES UPTAKE

There are reports that within the Sub-Saharan Africa region, younger women hardly use modern contraceptive even in the period after delivery (postpartum period) compared to older women in the reproductive age group. They believe that modern contraceptives may curtail their chances of having more children. In Ghana, only 20% of women between the ages of 15 to 24 years use advanced FP compared to 34% and 15% among women between 35 and 45 years respectively. This was uncovered in the 2008 GDHS report. Even when young women take the decision to utilize a FP method, they will often opt for methods that obstruct or prevents the passage of sperms like condoms and short acting contraceptives such as the pill, emergency contraception and injectables compared to elderly women who opt for long acting reversible and irreversible methods of contraception.

Contraceptive uptake is lowest among recently married women aged of 15-19 years compared to women aged of 45-49 years. This was revealed in the 2014 demographic and Health Survey

report (GDHS). Mahmood et al., (2012) found contraceptive uptake after delivery to be high among women less than 30 years in the middle socio-economic group in rural communities in India. The variations observed may result from differences in education of the women in the former were relatively high educational levels who had access to sources of information hence the possibility of higher postpartum contraceptive uptake.

EDUCATION, INCOME AND CONTRACEPTIVE UPTAKE

In Ghana, higher educational level and wealth were found to influence acceptance and uptake of contraceptive methods (GSS, 2014). The 2011 Ghana Multiple Indicator Cluster Survey (MICS) reported that women's educational level was strongly associated with contraceptive use: a higher percentage of women who adopted a contraceptive method were well educated compared to those who were not using any method of contraception (GSS, 2011). In a study by Awoonor et al., (2014) in the Nkwanta district of the Volta region, education was one of the variables identified to have a positive association with contraceptive use. Educational level of the respondents was revealed to have an influence on the uptake of contraceptives according to one study in Ethiopia (Gordon, 2011). Use of postpartum contraceptive is higher in urban locations, is associated with wealth, dependent on education level, family size, and current fertility desires. The highly educated and the wealthier likely use contraception compared to the uneducated and the poor (Asiimwe, Ndugga&Mushomi, 2013). A comparative study in Bangladesh observed that gainfully employed youthful mothers use modern FP (65.5%) than the unemployed (58.2%)(Laskar, Mahbub, Yokoyama, Inoue, & Harada, 2006).

2.5 PARITY AND CONTRACPTIVE UPTAKE

Different studies across the globe have shown that there is high probability of contraceptive uptake among women with many children compared to women with lesser number of children. A study conducted in Uganda which investigated factors influencing the uptake of modern contraceptives, observed that young women have desire to have more children and less practiced modern FP than older women (Asiimwe &Ndugga, 2014).

Findings from the Ghana Demographic and health survey (GDHS, 2014) indicate that, advanced contraceptive uptake correlates positively with increasing number of living children (GDHS, 2014). Nulliparous women on modern contraceptive constituted 21% while multigravida women practicing a modern FP method were 30%. Another study done in Turkey to explored the relationship between number of births (parity) and the use of contraceptive among grand multiparous women and revealed that, insufficient information and education could cause many women of high parity to adopt a modern contraceptive in other to minimize child birth.

2.6 HEALTH SYSTEM FACTORS AND CONTRACEPTIVES UPTAKE

The health system contributes significantly to the intention and actual uptake of contraceptives in the postpartum period. The health system offers a great opportunity for contacts with postpartum women to ensure continuity of antenatal, intrapartum and postpartum care as well as immunization and clinic sessions (WHO, 2013).

A study in Uganda to evaluate the effect of antenatal counseling on postpartum contraceptive use identified the antenatal period as the appropriate period that increases provider-client interaction and offers a wider opportunity for discussion and education on contraceptives (Ayiasi et al., 2015). The same study also reported that women who attend antenatal clinic (ANC) are likely to

start contraceptive use than those who do not. This is indicative that women's access to information about contraception and birth spacing during pregnancy is beneficial to improving on intention and actual use of contraceptives (Speizer et al. 2013b).

In Senegal, it was found that half of postpartum women who were not on contraceptives indicated that they would have taken it if they were offered information and counseling by the service provider. Again, in the same study, 84.9% of respondents would have preferred to access contraceptive services as an integrated service during immunization sessions.

Availability of a range of commodities in the health facilities could increase women's trust in the health system that leads to an overall satisfaction of the services (WHO, 2015a). Commodity insecurity has been found to be associated with high unmet need for contraceptives in a survey in South and Central Ethiopia (Mekonnen&Worku, 2011). Short distance to health facilities and favorable opening hours has also been significantly associated with contraceptive uptake (Eliason et al., 2014).

2.7 FAMILY AND COMMUNITY LEVEL FACTORS

Decision making in families in sub-Saharan Africa are influenced largely by community values and norms in communities in which individuals and families operate. Socio-cultural beliefs influence myths and misconceptions surrounding the use of contraceptives. Eliason et al., (2013) uncovered that use of contraceptives was low in women who believed that the use of modern contraceptives encourages promiscuity contrast to women who did not have that belief. Similarly, Ankomah et al., (2011) also reported that myths and misinformation about FP influenced contraceptive use negatively.

Certain factors can influence a woman's choice to utilize or not to utilize or discontinue a contraceptive method. Some of these factors include, concerns about side effects, perceived risk

on pregnancy and the effect of particular methods on their relationships with partners or other family members (Sileo et al., 2015). A study in Ethiopia and Kenya, showed that partner opposition and spousal communication had very significant influence on the use of contraceptives (Dynes et al., 2012). Yilmazel&Balci, (2013) did a study in Turkey and observed that husbands' attitude towards contraception impacts on the choice and use of contraceptives among postpartum women. This is because women had no full control over their reproductive and sexual lives.

Ease and frequency of communication among partners has been identified as strongly associated with contraceptive use as shown in a case-control study in Malawi (Shattuck et al., 2011). In another similar study in the Sunyani municipality of Ghana, about 16% of postnatal mothers identified non-approval by spouses as a reason of their inability to use modern contraceptive methods (Wuni, 2015) This belief was confirmed in a case-control study on contraceptive use where spousal disapproval was identified as a main barrier to modern contraceptive use in the district (Eliason et al., 2013).Another case control study in Nkwanta District of the Volta Region by Awoonoret al., (2014) also identified partners' communication as having great influence on contraceptive uptake.

2.8 BARRIERS TO FAMILY PLANNING UPTAKE

Provision of FP in the immediate postnatal period helps to address the unmet need of contraception 12 months after childbirth. Postpartum contraceptive services provide an affordable and reliable means of preventing unintended pregnancies and unsafe abortion, resulting in improvement of the health of both mother and child. Be that as it may, provision of postpartum contraception is met with a lot of barriers in many parts of the world. The situation is

even worse in the least developed countries. These barriers include inaccessibility to service, low quality of service, unavailability of preferred method and the amount an individual has to pay for the method as well as bad provider attitude. All these could negatively impact the individuals' decision and utilization of contraceptives during the period after delivery. The cost of contraceptives is a huge challenge in the providing long-term methods for teenage mothers since they have to share the cost incurred from patronizing the FP services with insurance providers. Ensuring comprehensive access coverage without resorting to out of pocket payment could lead to an improvement in the use of long acting reversible contraceptives and FP methods in general (Eisenberg et al., 2013).

A qualitative study in Tanzania on the perspectives of respondents on side effects of hormonal contraceptives revealed that, women and their partners either do not use contraceptives, discontinue the methods, switch methods or use methods irregularly due to side effects (Chebet et al., 2015). Some of the side effects reported in the study included excessive menstrual bleeding, missed menses, weight gain and fatigue. In Ghana, it has been reported that 21.6% discontinuation of methods is due to side effects (GSS, 2014). In a cross-sectional study conducted in Sunyani, nearly three out of 10 (28.6%) postpartum mothers reported side effects as their reason for not using contraception (Haruna, 2014).

The cost of contraceptives could also have a negative influence on the uptake of contraceptives especially among women in the lowest wealth percentile. A study in Malawi to measure the differential effect of wealth quintile on modern contraceptive use and fertility reported that contraceptive use was higher (58.5%) among women who were richer than those who were poor (Adebowale et al., 2014).

The attitude of service providers as well as the knowledge and skills that are require to provide the services to clients play a major role in contraceptives uptake. Negative attitude such as ineffective providers 'communication and counseling skills, oppressive behavior of providers, coercive tendencies more than necessary from the part of providers often make's women anxious and unsteady thereby negatively influence their decision to select or use advanced contraceptives (Yee & Simon, 2011).

2.9 PERCEPTION OF WOMEN ONFAMILY PLANNING UPTAKE AND PERCEIVED DELIVERY OUTCOMES

Contraceptive uptake after delivery has the greatest potential of improving the wellbeing of both the mother and the child and minimizing infant deaths. A study conducted in Ga east of Accra, Ghana among women of reproductive age revealed that, about 50% of the participants recognizes that FP is ineffective in providing protection against unwanted pregnancy, one third of the respondents considered modern contraception as risky, with 65% reporting at least one adverse reaction from contraceptive use (Aryeetey, Kotoh&Hindin, 2010).There are usually mild effects experienced with the use of contraceptives but these are not severe and are usually short lived, but these have been so grossly exaggerated to such an extent that, a lot of women are skeptical in using modern FP methods (Gelaye&Mekonen, 2014).

A study conducted in rural Ghana by Abubakar et al, (2015) further identified that, about 70.0% of the participants perceived contraceptives to be associated with fibroid and infertility as well as side effects like menstrual disorders. Again, a similar result was discovered by Chernick et al., (2015). In their survey, perceived health risks including effects on menstruation, weight and future fertility were shown to be the primary barriers to contraceptive use. The revelation above

could explain why some women, in spite of exhibiting high awareness about contraceptives, do not utilize them.

CHAPTER THREE

METHODOLOGY

3.0 INTRODUCTION

This chapter presents the methods and procedures which were employed in this study. It includes the study design and study location, study population, sample size, sampling techniques, data collection techniques and tools, data processing and analysis and ethical consideration.

3.1 STUDY AREA

The study was conducted in the Tamale Metropolitan area. All the child welfare clinics (CWCs) in the four sub-districts of the Metropolis, namely; Tamale central, Vitting, Bilpela andNyohini were included in the study. The only tertiary hospital in northern Ghana (Tamale Teaching Hospital) which is located in the Metropolis was also included in the study. The Northern Region is one of the sixteen regions in Ghana located in the northern part of the country, with Tamale as its capital. The Northern Region is divided into 14 districts. The region's capital is Tamale. The Tamale Metropolis is one of the fastest growing cities in West Africa and the third city in Ghana after Kumasi and Accra (Danso-Abbeam, Armed, & Baidoo, 2014)The region used to be the largest region in Ghana until December 2018 when the Savannah Region and North East Region

were carved from it. This makes it the second largest region in Ghana in terms of land-size *(Ghana Districts.com.* Retrieved 2019-11-20), covering an area of 70,384 square kilometers or 31 percent of Ghana's area.

The metropolis is one of the six Metropolitan Assemblies in the country and the only Metropolis in the Northern Region. It lies between latitude 9.16 and 9.34 north and longitudes 00.36 and 00.57 south. The Tamale Metropolis is located approximately 180 meters above sea level. It is located in the central part of the northern region and shares boundaries with five other districts, namely the Savelugu Municipality to the north, Mion to the East, Tolon-Kumbugu to the west, Central Gonja to the southwest and East-Gonja to the south. The metropolis has three sub metros; Tamale central, Tamale south and Tamale north. The population of Tamale, according to 2010 population and housing census is1,544,946 with males constituting 49.7% and females representing 50.3%.The population of Tamale is projected to reach 1,948,900 by 26 September 2020(GSS, 2014).

The proportion of the population living in urban localities (80.8%) is higher than those living in rural localities (19.12%) of the metropolis (GSS, 2014). The Metropolis is a cosmopolitan area with Dagombas as the Majority. The other minority ethnic groupings are, the Gonjas, Mampurisi, Akan, Dagaabas, Bulisa's,Frafra and others. Aside the Tamale Metropolis where there is ethnic diversity, almost all the inhabitants in the surrounding villages are Dagombas. Even in the Metropolis, the Dagombas constitute about 80% of the total population. In terms of religion, the people in the metropolis are mostly Muslims; about 90% of ethnic Dagombas are Muslims. Christianity on the other hand, is mostly practice by non–Dagomba ethnic groups (Occansey, 2014).

According to the 2010 population census, the Tamale Metropolis occupies approximately 922 square kilometers of land that is almost 13% of the total land area of the Northern Region. Although the capital has attained a metropolitan status, the geographical setting still has a blend of typical rural communities embedded within the urban areas (Fuseini et al., 2017).The major economic activity of women in the Tamale Metropolis is trading. Poverty levels are high due to a number of factors. These include discriminatory inheritance of property and land, extensive subsistence farming, high domestic responsibility, low capital level, high delivery rates, and high illiteracy level in the urban and peri-urbanareas. TuoZaafi (TZ) is usually the meal taken at supper, whilst a maize based porridge or tea is taken at breakfast. In these areas, lunch is not usually prepared at home hence the people choose from a wide variety of foods available. In the rural areas, TZ is usually the lunch and supper meal with a maize or guinea corn-based porridge at breakfast (Fuseini et al., 2017).

The metropolis has a population density of 318.6 persons per square kilometer, which is about 12 times higher than the regional average density of 25.9 persons per square kilometer. There exists a vast difference between the densities of the urban and rural areas in Tamale. This is an indication of movement into urban Tamale, giving credence to the assertion that facilities and opportunities for modern employment are concentrated in few localities (TaMA, 2013).The metropolis is divided in to four sub-district, namely; Tamale Central, Belipela, Nyohini, and Vittin Sub-districts. The study was conducted in a randomly selected health facility from each of the four sub-districts and the Tamale Teaching Hospital.

3.2 STUDY TYPE AND STUDY DESIGN

This study employed a facility-based cross-sectional prospective design. One –on-one interview based on the administration of structured closed and opened-ended questionnaires adapted from

Ghana Demographic and Health Survey, (2015), was used to determine the uptake of FP methods among postpartum women in the Tamale Metropolis between May and July 2020.

3.3 STUDY POPULATION

The study population includes all postpartum women who were within the fertility age of 15-49years who were available at the time of the study. This group of mothers attends the postnatal clinic for immunization, growth monitoring, vitamin 'A' supplementation, FP services and counseling services. The reported number of deliveries for 2019 in the Tamale metropolis is 20,985 (DIMS, 2019). Therefore 20,985 deliveries were used as the study population, out of which a sample size was obtained.

3.4 STUDY UNITS

The study unit included all postpartum women who were between the ages of 15-49 years. A postpartum woman is the name given to a woman after child birth up to a period of about six to eight weeks where there is gradual return of her reproductive organs in to their pre-gravid state.

3.5 INCLUSION CRITERIA

This included:

- Randomly selected health facilities from the four sub- district and the only teaching hospital within the Tamale metropolis. The proportions of respondents were interviewed in each facility base on the post attendance of the facility.
- All mothers who were within the fertility age of 15-49years who delivered between 6 weeks to 12 months prior to the survey and consented to partake in the study were eligible for inclusion in the study

3.6 EXCLUSION CRITERIA

- Postpartum women with medical conditions that prevented the use of family planning method were excluded from the study.
- Postpartum women with severe mental illness were also ineligible for inclusion in the study.
- Postpartum women who did hysterectomy prior to the study were excluded.
- Postpartum women who attended CWC, but were not within the period of between 6weeks-12 months were excluded.

3.7 DETERMINATION OFTHE SAMPLE SIZE

The reported number of deliveries in the Tamale Metropolis for 2019 was 20,985 (DIMS, 2019). Thus, the sample size for the study was calculated at 95% confidence interval using Yamane (1976) sample size estimation Formula.

n = N/1+N $(e)^2$

Where:

n = sample size, N = total population, e = margin of error, 1 = constant,95% confidence level. Then margin of error=5%

n =?

N = 20,985

e = 0.05 @ 95% confidence level.

n=20985/1+20,985$(0.05)^2$

n=399.9 = 400

5% non-respondent rate

5/100x 400 = 20. Therefore 400+20 = 420.

3.8SAMPLING TECHNIQUE

The study employs a multistage sampling technique, i.e. cluster sampling, simple random sampling and consecutive sampling methods. Cluster sampling was done based on the already existing sub- districts that make up the Tamale Metropolis. A facility was selected from each sub-district using a simple random technique in addition to the only teaching hospital in the region. Consecutive sampling method was used to select participants for the study. To do this, eligible participants were identified based on the inclusion and exclusion criteria. Then, those who consented to take part in the study were enrolled. Each participant was engaged to answer the questionnaire.

3.9VARIABLES OF STUDY

The variables of study were grouped into two, thus dependent and independent variables.

Dependent variables

The dependent variables of the study include;

- knowledge about family planning
- current uptake of family planning
- determinants of family planning
- barriers to the use of family planning
- perceived delivery outcome

Independent variables

The study considered several independent variables. These included socio-demographic characteristics of the respondent such as age, educational level, marital status, religion, parity, desire for more children, and head of household and educational level of head of household. It

also included health facility factors such as availability of preferred contraceptives, counseling and education on contraceptives. Additionally, individual level and community level factors such as awareness of contraceptives, perceptions on contraceptives, cultural beliefs and partner communication and approval for the use of contraceptives were considered as independent variables.

3.9.0DATA COLLECTION TOOLS AND TECHNIQUE

A structured questionnaire which was adapted from the 2015 Ghana Demographic and Health Survey (Ghana Demographic Health Survey, 2015) on FP was used to elicit information from study participants. Closed and open-ended questionnaire were used to collect data from the respondents. The questionnaire had five sections. The first section of the questionnaire focused on the demographic characteristics of the respondents, while the second section provided information on contraceptive knowledge and uptake. The third section elicited information on the determinants of FP. The fourth and fifth sections provided information on barriers and perceived delivery outcomes respectively.

The questionnaires were administered to selected postpartum mothers during postnatal visits to the Child Welfare Clinics (CWCs). Each mother responded to questions individually at locations within the CWC setting where privacy was maintained. Two research assistants were recruited and trained for two days to assist in the administration of the questionnaire. Translation was done for respondents who didn't understand English.

Mothers were interviewed using one-on- one technique. This technique afforded the data collectors the opportunity to clarify issues for the respondents to provide appropriate responses

to the questions. The one-on-one approach was also appropriate for the postpartum women because they did not have the time to complete a self-administered questionnaire.

3.9.1DATA PROCESSING AND ANALYSES

Descriptive statistics were used for frequencies. Percentages were reported for categorical variables. Means and standard deviations were determined for continuous variables. Percentages were used to report on the rate of FP uptake among postpartum women as well as their perceived delivery outcomes. The data collected was clean-up in Microsoft Excel. Coding and analysis were performed with Statistical Package for Social Sciences (SPSS version 23.0). Chi-square test was done to establish the association between the socio-demographic characteristics of the respondents, knowledge and awareness, current uptake, obstetrics and gynecological history, determinants, barriers and perceived delivery outcome of postpartum FP uptake. The initial analysis included frequencies and percentages which were presented as tables on all variables in the following sections: socio-demographic characteristics of the respondents, knowledge on contraceptives, contraceptive uptake, determinants and barriers. A univariate logistic regression was run to test the strength of the associations of the variables. The significant variables after the univariate logistic regression were then analyzed in a multivariate logistic regression and the odds ratio reported. Statistical significance was considered at 95% confidence interval and p-values less than 0.05.

3.9.2QUALITY CONTROL AND DATA MANAGEMENT

To ensure data quality, pretesting of the questionnaire was done at a facility which has similar characteristics with the study area. This was done to ensure reliability of the questionnaire and to ensure relevance and completeness of the study questions. It also allowed for corrections to be made on the questionnaire to reflect the study interest. In addition, to ensure data quality, the

research assistants were trained a week prior to the data collection to ensure they are conversant with the data collection tool. During the data collection sessions, research assistants were regularly monitored, the principal researcher (PI) ensured that the research assistants adhered to guidelines. Field supervision was carried out to provide support to data collectors.

Data collected on each respondent was cross-checked after each day's field work by the PI to ensure that the questionnaires were complete and appropriately filled, and all information accurately collected. Incomplete questionnaires were sorted and research assistants allowed to interview different respondents to replace the incomplete ones.

3.9.3ETHICAL CONSIDERATIONS

Ethical clearance was obtained from the ethical review board of Kwame Nkrumah University of science and technology with reference number (CHRPE/AP/340/20). Also, permission was obtained from the Metropolitan Health Director of the Ghana Health Service, Tamale, and authorities of the selected health facilities. A written informed consent was obtained from all study participants before the commencement of any interviews or study activity. Study participants were informed of their right to withdraw from the study at any time without any penalty. Respect was accorded respondents whether they had consented or declined to participate in the study. Information collected from the study participants was treated with utmost confidentiality and was not passed on to a third party. The data collected for this study was used for the purposes of the study only. Names were not included in the questionnaires; instead codes were used for identification.

3.9.4 LIMITATIONS OF THE STUDY

A major limitation is this cross-sectional survey design that it did not offer opportunities for probing into reasons that could help understand some of the concepts. Future research could therefore explore the use of qualitative study design to gain a better understanding.

CHAPTER FOUR

RESULTS

4.0 INTRODUCTION

This chapter presents the results of the study. Descriptive statistics was used to summarize the demographic and background information of the study participants. Afterwards, inferential statistics was used to establish associations and strength of association between the outcome variable and independent variables.

4.1 SOCIO-DEMOGRAPHIC CHARACTERISTICS OF RESPONDENTS

First and foremost, a descriptive statistic was applied to establish the socio-demographic characteristics of the postpartum women interviewed in this study. The mean age of the women was 30years with a standard deviation (SD) of 6.26. Education-wise, 31.3% (158/505) had attained tertiary level education while the majority had varied levels of education ranging from primary level to Senior High School level. However, 21.8% (110/505) had no formal education. Over 50% of the women were in monogamous marriage (66.5%, 336/505) and28.7% (145/505) were in polygamous marriage. Majority of the women in the study were self-employed (47.1%) while 27.5%and 25.4% were employed and unemployed respectively. In terms of the respondents' religious affiliation, 76% were Muslims, and the remaining were Christians (Table 1).

Table 1. Socio-Demographic Characteristics of the Respondents

Variables	N=505	%
Age (Years)		
≤25	126	25.0
26-29	131	25.9
30-34	123	24.4
≥35	125	24.8
Mean (SD): 30.01(6.26)		
Educational level		
No formal education	110	21.8
Primary	42	8.3
JHS	82	16.2
SHS	113	22.4
Tertiary	158	31.3
Occupation		
Self-employed	238	47.1
Employed	139	27.5
Unemployed	128	25.4
Marital status & type		
Married(monogamous)	336	66.5
Married(polygamous)	145	28.7
Single	24	4.8
Religion		
Christianity	121	24.0
Islam	384	76.0

SD: Standard deviation

4.2 PREVALENCE OF CONTRACEPTIVE USE AND UPTAKE READINESS AMONG THE STUDY PARTICIPANTS

To estimate the degree of patronage and acceptance of contraceptives among the postpartum women, the prevalence of contraceptive use and readiness to accept a contraceptive was assessed. They ever-used contraceptive prevalence was 59.2% (299/505), while 40.8% had never used any form of modern contraceptive. Those who were on contraceptive prior to their last pregnancy constituted 56.4% (171/303) while 43.6% (132/303) were not. Among the postpartum

women interviewed, 38.0% (192/505) had resumed sexual activity with their partners while 62% were yet to. Among the 38.0%, most of the respondents 42.7% (82/192) resumed sex between 1-4months, 26.6% resumed sex in 5-8 months, and 28.6% resumed sex in 9-12months postpartum. Only 2.1% of the respondents claimed they resumed sexual activity in less than a month. Among respondents who had resumed sexual activity, 38.2% (73/191) of them were on a contraceptive, suggesting the remaining61.8% (118/191) of the postpartum women risk having unplanned or unwanted pregnancies. Interestingly, 50% (59/118) of the women who had resumed sexual activity but were not on any contraceptive were ready to adopt a contraceptive method (Table 2).

Table 2. Prevalence of contraceptive use and uptake readiness

Contraceptive use and uptake readiness	N	Yes n(%)	No n (%)
Ever used contraceptive?	505	299 (59.2)	206(40.8)
Used contraceptive prior to last pregnancy?	303	171(56.4)	132(43.6)
Resumed sexual activity?	505	192(38.0)	313(62.0)
If yes, currently on a contraceptive?	191	73(38.2)	118(61.8)
If no, ready to take one now?	118	59(50.0)	59(50.0)

4.3 RELATIONSHIP BETWEEN SOCIO-DEMOGRAPHIC CHARACTERISTICS AND FAMILY PLANNING UPTAKE

To assess the relationship between variables, the socio-demographic characteristics investigated were compared to family planning uptake (Table 3). The results showed that age of respondent **(p<0.001)**, religion**(p<0.001)**, education**(p<0.001)** and occupation**(p<0.001)** were significantly associated with the uptake of family planning. On the contrary, marital status (**p=0.345**) was not statistically associated with family planning uptake.

Table 3. Relationship between Socio-demographic characteristics and uptake of family planning

Variables	Uptake of family planning (%)		Chi-square (p-value)
	Yes (299)	***No (206)***	
Age			**27.55(<0.001)**
<25	53(17.73)	73(35.44)	
26-29	86(28.76)	45(21.84)	
30-34	86(28.76)	37(17.96)	
>35	74(24.75)	51(24.76)	
Religion			**27.63(<0.001)**
Christianity	96(32.11)	25(12.14)	
Islam	203(67.56)	181(87.86)	
Marital status			2.13(0.345)
Married(monogamous)	206(68.90)	130(63.11)	
Married(polygamous)	81(27.09)	64(31.07)	
Single	12(4.01)	12(5.83)	
Education			**30.57(<0.001)**
No Education	49(16.39)	61(29.61)	
Primary	22(7.36)	20(9.71)	
JHS	39(13.04)	43(20.87)	
SHS	72(24.08)	41(19.90)	
Tertiary	117(39.13)	41(19.90)	
Occupation			**28.64(<0.001)**
Self-Employed	136(45.48)	102(49.51)	
Employed	106(35.45)	33(16.02)	
Unemployed	57(19.06)	71(34.46)	

4.4 Obstetric history of the respondents and uptake of family planning

The study also explored the obstetric history of the respondents. As detailed in Table 4, out of 505 postpartum women interviewed in this study, 20.4% (103) had their first pregnancy in their teens (15-19 years), and approximately half of the respondents(49.5%) had their first pregnancy within the age range 20-24years.In terms of the number of pregnancies, about 27.3% (138/505) of the women have had a maximum of 2 pregnancies, and nearly 25.4% (128/505) of the women have had just one pregnancy. Also, 18.6% (94/505) had 3pregnancies and about14.1% and 14.6%have had 4 and 5 ormore pregnancies respectively. It was also observed that most of the participants have had either 1 or 2 births. Stratifying the delivery into mode of current delivery, 79.2% had spontaneous vaginal delivery (SVD) and the rest were delivered by caesarean section. About a quarter of the respondents (25.7%) had ever experienced pregnancy losses. Examining the relationship between family planning uptake and obstetric history, it was observed that age at 1stpregnancy **(p=0.004)**, number of pregnancies **(p=0.008)**, number of births **(p<0.001)** and ever experienced pregnancies loss (**p=0.038)** all showed significant association with family planning uptake. However, there was no significant relationship between mode of delivery (**p=**0.489) and family planning uptake.

Table 4.Obstetric history of respondents and its association with uptake

Characteristics	(N=505)	%	Yes (299)	No (206)	Chi-squared (p-value)
Age at 1st Pregnancy					**15.27(0.004)**
15-19	103	20.4	46(15.38)	57(27.67)	
20-24	250	49.5	155(51.84)	95(46.12)	
25-29	124	24.6	76(25.42)	48(23.30)	
30-34	23	4.6	19(6.35)	4(1.94)	
35 and above	5	0.10	3(1.00)	2(0.97)	
Mean (SD)	22.7(3.93)				
Numberof pregnancies(gravida)					**13.82(0.008)**
1	128	25.4	62(20.74)	66(32.04)	
2	138	27.3	88(29.43)	50(24.27)	
3	94	18.6	67(22.41)	27(13.11)	
4	71	14.1	42(14.05)	29(14.08)	
5 or more	74	14.6	40(13.38)	34(16.50)	
Mean (SD)	2.7(1.55)				
Number of births(parity)					**21.08(<0.001)**
1	138	27.3	68(22.74)	70(33.98)	
2	140	27.7	86(28.76)	54(26.21)	
3	105	20.8	80(26.76)	25(12.14)	
4	61	12.1	35(11.71)	26(12.26)	
5 or more	61	12.1	30(10.03)	31(15.05)	
Mean (SD)	2.6(1.47)				
Delivery mode					1.43(0.489)
CS	105	20.8	19(12.26)	0(0.00)	
SVD	400	79.2	117(75.48)	2(66.67)	
Everexperienced Pregnancy loss?					**4.312(0.038)**
Yes	130	25.7	87(29.10)	43(20.87)	
No	375	74.3	212(70.90)	163(79.13)	

4.5GYNECOLOGICAL CONDITIONS AND THE UPTAKE OF FAMILY PLANNING

Intra-pregnancy complications such as high blood pressure, vaginal bleeding, anaemia, Glucose-6-phosphate dehydrogenase (G6PD) deficiency, and infections including hepatitis B virus (HBV), and syphilis were assessed from the ANC records (Table 5). The most common complication identified was anaemia (22.0%), followed by high blood pressure (13.1%) and

vaginal bleeding (6.9).G6PD defect was present in 1.8% of the respondents, while HBV and syphilis were seen in 1.2% and 2.6%of the respondents respectively.

The study also compared the relationship between the gynecological conditions and the uptake of family planning in (Table 5). Two of the conditions in the study were identified to have an association with family planning uptake. They were; vaginal bleeding **(p=0.009)** and HBV **(p=0.041)**. However, there was no significant relationship between high blood pressure (**p**=0.983), low blood pressure (**p**=0.638), G6PDdefect (**p**=0.253) and syphilis (**p**=0.456).

Table 5. Gynecological history and family planning uptake.

Characteristic	**Frequency**		**Uptake of family planning (%)**		**Chi-squared (p-value)**
			Yes (299)	***No (206)***	
High Blood Pressure	**N**	**%**			0.0004(0.983)
Present	66	13.1	39(13.04)	27(13.11)	
Absent	439	86.9	260(86.96)	179(86.89)	
Low Blood Pressure					0.22(0.638)
Present	15	3.0	8(2.68)	7(3.40)	
Absent	490	97.0	291(97.32)	199(96.60)	
Vaginal Bleeding					**6.73(0.009)**
Present	35	6.9	28(9.36)	7(3.40)	
Absent	470	93.1	271(90.64)	199(96.60)	
Anaemia					6.57(0.10)
Present	111	22.0	54(18.06)	57(27.67)	
Absent	394	78.0	245(81.94)	149(72.33)	
Glucose 6 Phosphate					1.31(0.253)
Present	9	1.8	7(2.34)	2(0.97)	
Absent	496	98.2	292(97.66)	204(99.03)	
Hepatitis B					**4.18(0.041)**
Present	6	1.2	6(2.01)	0(0.0)	
Absent	499	98.8	293(97.99)	206(100.00)	
Syphilis					0.55(0.456)
Present	13	2.6	9(3.01)	4(1.94)	
Absent	492	97.4	290(96.99)	202(98.06)	

4.6FAMILY CHARACTERISTICS AND CHILD BEARING PREFERENCE COMPARED WITH FAMILY PLANNING UPTAKE

Table 6 indicates the family characteristics and child bearing preference of the respondents. Out of 505 respondents, 24.2%, 66.3% and 9.5% preferred having 1-3, 4-6, and 7 or more children respectively. About 64.8% indicated they had agreed with their spouses on the number of children wanted. However, 72.1% of the women preferred both male and female children, while25.7% had no preference. Majority of their current babies (66.4%) were between the ages of 1-4months old. By comparing the family characteristics and child bearing preference with the uptake of family planning, spousal agreement on the number of children they want **(p<0.001)** and number of children wanted **(p<0.001)** were significantly associated with family planning uptake. On the other hand, sex preference of children (**p=0.249**), staying together with husband(**p=0.295**), and age of baby (**p=0.578**) were not significantly associated with uptake of postpartum family planning uptake.

Table 6. Family characteristics and child bearing preference versus family planning uptake

Characteristic	N	%	Uptake of family planning N (%) Yes (299)	No (206)	Chi-squared (p-value)
Number of children wanted					**16.99(<0.001)**
1-3	122	24.2	87(29.10)	35(16.99)	
4-6	333	66.3	194(64.88)	141(68.45)	
7+	48	9.5	18(6.02)	30(14.56)	
Mean (SD)	4.71(1.5)				
Spousal agreement on number of children					**13.50(<0.001)**
Yes	327	64.8	213(71.24)	114(55.34)	
No	178	35.2	86(28.76)	92(44.66)	
Sex preference of children					4.12(0.249)
No preference	130	25.7	70(23.41)	60(29.13)	
Female only	6	1.2	5(1.67)	1(0.49)	
Male Only	5	1.0	4(1.34)	1(0.49)	

Mixed sex	365	72.1	220(73.58)	144(69.90)	
Staying with husband					1.10(0.295)
Yes	420	83.2	253(84.62)	167(81.07)	
No	85	16.8	46(15.38)	39(18.93)	
***Age of baby* (months)**					1.97(0.578)
<1	10	2.0	6(2.01)	4(1.94)	
1-4	335	66.4	194(64.88)	141(68.45)	
5-8	80	15.8	46(15.38)	34(16.50)	
9-12	80	15.8	53(17.73)	27(13.11)	

4.7RESPONDENT'S AWARENESS AND KNOWLEDGE ON CONTRACEPTIVES AND ASSOCIATION WITH UPTAKE

Respondents' knowledge on contraceptives were assessed (Table 7), and it was observed that majority (96.0%) had heard about contraception, only 4.0% were unaware of contraception. The main source of information on contraceptives was from health-workers (75.21%), followed by friends (29.66%). Interesting, 74.2% knew about at least a contraceptive method. Out 360 (74.2%) respondents who knew about contraception methods, majority (53.1%) knew about the injectables, and 48.9% knew about the pills. Only 2.8% mentioned periodic abstinence, suggesting less trust in it. With regards to the effectiveness of contraceptives, 74.8% said contraceptives are very effective in preventing pregnancy.

As indicated in (Table 7), a comparison was done between respondents' knowledge and family planning uptake. The results revealed that knowledge on contraceptive ($p<$**0.001**), knowledge on contraceptive method ($p<$**0.001**), source of knowledge; health worker ($p<$**0.001**), TV ($p<$**0.001**), radio (**p=0.006**), and perception on effectiveness contraceptives (**p<0.001**) were all significantly associated with family planning uptake. Among the contraceptives the respondent knew, oral contraceptive pills ($p<$**0.001**), injectables **(p=0.014)** and periodic abstinence **(p<0.001)** were associated with family planning uptake.

Table 7. Respondents' awareness and knowledge on contraceptives

characteristics			Uptake of family planning N (%)		
	N	%	Yes (299)	No (206)	Chi-squared (P- value)
Knowledge of contraceptive					**30.23(<0.001)**
Yes	485	96.0	299(100)	186(90.29)	
No	20	4.0	0(0.00)	20(9.71)	
Source of Knowledge (N=484)					
Health Worker	364	75.2	240(80.27)	124(67.23)	**10.75(0.001)**
TV	75	15.5	59(19.73)	16(8.65)	**10.72(0.001)**
Radio	53	11.0	42(14.05)	11(5.95)	**7.69(0.006)**
Dailies	18	3.8	14(4.62)	4(2.16)	2.03(0.155)
School / Books	80	16.5	54(18.06)	26(14.05)	1.33(0.249)
Friends	145	29.7	81(27.09)	64(34.59)	3.07(0.080)
Others	2	0.4	2(0.67)	0(0.0)	1.24(0.235)
Have knowledge of Contraceptive methods?					**236.72(<0.001)**
Yes	360	74.2	294(98.33)	66(64.52)	
No	125	25.8	5(1.67)	120(35.48)	
Contraceptives methods you know (N=360)					
Pills	176	48.9	127(43.20)	49(74.24)	**20.79(<0.001)**
IUDs	70	19.4	58(19.73)	12(18.18)	0.08(0.774)
Injectables	191	53.1	147(50.00)	44(66.67)	**6.01(0.014)**
Condom	63	17.5	50(17.01)	13(19.70)	0.27(0.603)
Diaphragm	13	3.6	11(3.74)	2(3.03)	0.08(0.780)
Sterilization	13	3.6	11(3.74)	2(3.03)	0.08(0.780)
Implant	90	25.0	73(24.83)	17(25.76)	0.025(0.875)
Withdrawal	14	3.9	11(3.74)	3(4.55)	0.093(0.760)
Periodic Abstinence	10	2.8	4(1.36)	6(9.04)	**11.92(0.001)**
Are Contraceptives 100%effective?					**57.06(<0.001)**
Yes	378	74.9	260(86.96)	118(57.28)	
No	127	25.2	39(13.04)	88(42.78)	

4.8BARRIERS TO FAMILY PLANNING UPTAKE

Table 8 represents the barriers to family planning uptake. Almost all the women (99.2%) attended ANC when they were pregnant with their last child. Out of the 500 respondents who attended ANC, 70.4% claimed they received counseling on contraceptives, and 72.5% said the information received was adequate. Also, out of the total 505 respondents, 179 (35.4%) received counseling on contraception prior to their delivery. These women indicated that the health-workers attitudes were predominantly very good. Majority of the respondents walked to access family planning services. In terms of cost, 303 out of 503 women (60.2%) said contraceptives were affordable. Association between the barriers and family planning uptake revealed that access to health facility offering family planning services (p<**0.001**), counseling on family planning at ANC(p<**0.001**), adequacyof information received at ANC(**p=0.028**), counseling prior to delivery(**p<0.001**),cultural beliefs preventing contraceptives use (**p<0.001**), means of accessing family planning(**p<0.001**) and perception on affordability of family planning services (**p<0.001**) had significant association with the uptake of family planning. Conversely, attendance to ANC when pregnant (**p=0.703**) and attitude of midwife during counseling (**p**=0.144) was not significantly associated with the uptake of family planning.

Table 8. Barriers to family planning uptake

Characteristics	N	%	Uptake of family planning N (%) Yes (299)	No (206)	Chi-squared (p-value)
Attendance to ANC when pregnant(N=504)					0.15(0.703)
Yes	500	99.2	297(99.33)	203(99.02)	
No	4	0.8	2(0.67)	2(0.98)	
Received counsel on family planning at ANC(N=500)					**69.91(<0.001)**
Yes	352	70.4		101(49.75)	
No	148	29.6	46(15.49)	102(50.25)	
Adequacy of information received at ANC (N=367)					**4.84(0.028)**
Yes	266	72.5	197(75.77)	69(64.49)	
No	101	27.5	63(24.23)	38(35.51	
Received counseling on family planning prior to delivery (N=505)					**46.48(<0.001)**
Yes	179	35.4	142(47.49)	37(17.96)	
No	326	64.6	157(52.51)	169(82.04)	
Attitude of Midwife during counseling(N=179)					5.41(0.144)
Excellent	22	12.3	21(14.79)	1(2.70)	
Good	63	35.2	46(32.39)	17(45.95)	
Satisfactory	11	6.1	8(5.63)	3(8.11)	
Very good	83	46.4	67(47.18)	16(43.24)	
Access to health facility offering family planning services (N=504)					**12.25(<0.001)**
Yes	338	67.1	218(73.15)	120(58.25)	
No	166	32.9	80(26.85)	86(41.75)	
Means of accessing family planning services					**21.48(<0.001)**
Private car	33	6.5	29(9.70)	4(1.94)	
Taxi/ Tricycles	132	26.2	66(22.07)	66(22.07)	
Walking	199	39.5	109(36.45)	90(43.69)	
Motor bike	140	27.8	3(1.00)	1(0.49)	
Perception on affordability of family planning services (N=503)					
Affordable	303	60.2	269(89.97)	34(16.67)	**285.23(<0.001)**
Not affordable	10	2.0	7(2.34)	3(1.47)	
No idea	190	37.8	23(7.69)	167(81.86)	
Cultural beliefs preventing Contraceptive use					**13.43(0.001)**
Yes	56	11.1	36(12.04)	20(9.71)	
No	325	64.4	207(69.23)	118(57.28)	

4.9RESPONDENTS' PERCEPTION ON FAMILY PLANNING UPTAKE

The respondents' perception on contraceptives uptake was also assessed (Table 9). Out of 505 participants, 11.1% claimed that cultural beliefs do prevent the use of contraceptives. A few others believe that society perceive those on postpartum contraceptives as people who like sex (8.9%), who want to control their partner (6.5%) or are promiscuous (1.0%). Also, 54.6% (276/505) indicated that family planning does not have effect on future pregnancies, while13.9% think otherwise. Additionally, respondents' perception on the barriers to uptake was assessed. Whiles 33.1%(167/505) do not use family planning for fear of its side effects, 30.1% (152/505) had fears of not being able to conceive again, and the rest had varied opinions. The respondents' perception on the barriers were compared with family planning uptake, and it was noted the community or society encourages the use ($p<$**0.001**) or remain silent ($p<$**0.001**) had an influence on family planning uptake. In addition to cultural beliefs ($p<$**0.001**), effects on future fertility (**p<0.001**) are the main reason they do not use FP postpartum (**p<0.001**) were significantly associated with the uptake of family planning "postpartumly".

Table 9. Respondents' perception on the barriers to family planning uptake

			Uptake of family planning N(%)		
Characteristics	**N**	**%**	**Yes (299)**	**No (206)**	**Chi-squared (p-value)**
Are there cultural beliefs preventing Contraceptive use (N=505)					**13.43(0.001)**
Yes	56	11.0	36(12.04)	20(9.71)	
No	325	64.4	207(69.23)	118(57.28)	
No idea	124	24.6	56(18.73)	68(33.01)	
How do community members perceive women who are on contraceptives?					
Like sex	45	8.9	28(9.36)	17(8.25)	0.156(0.666)
Don't want more children	155	30.7	89(29.77)	66(32.04)	0.30(0.586)
Control partners	33	6.5	23(7.69)	10(4.85)	1.61(0.205)

They are promiscuous	5	1.0	4(1.34)	1(0.49)	0.90(0.345)
They encourage its use	113	22.4	96(32.76)	17(8.46)	**40.24(<0.001)**
They say nothing	173	34.3	70(25.93)	10.(54.21)	**38.02(<0.001)**
Do contraceptives adversely affect future fertility?					**145.63(<0.001)**
Yes	70	13.9	38(12.71)	32(15.53)	
No	276	54.6	225(75.25)	51(24.76)	
No idea	159	31.5	36(12.04)	123(59.71)	
The main reason women do not use FP postpartum.					**39.96(<0.001)**
Fear of side effects	167	33.1	119(39.80)	48(23.30)	
Fear of not being able to conceive	152	30.1	69(23.08)	83(40.29)	
Opposition of partner or family members	80	15.8	36(12.04)	44(21.36)	
Lack of knowledge	53	10.5	39(13.04)	14(6.80)	
Religious beliefs	21	4.2	14(4.68)	7(3.40)	
Inaccessibility preferred method	20	4.0	15(5.02)	5(2.43)	
Distance to acquisition source	4	0.8	3(1.00)	1(0.49)	
Infrequent sex	3	0.6	2(0.67)	1(0.49)	
Cultural or traditional beliefs	2	0.4	1(0.33)	1(0.49)	
Counseling received	1	0.2	0(0.00)	1(0.49)	
Attitude of service providers	1	0.2	0(0.00)	1(0.49)	
High cost	1	0.2	1(0.33)	0(0.00)	

4.9.1RESPONDENTS' PERCEIVED DELIVERY OUTCOMES AND UPTAKE OF FAMILY PLANNING

The study also investigated the perception of the respondents' family planning uptake and the consequential effects on delivery outcomes. Interestingly, 12.26% each believes that contraceptive use is associated with caesarean section or prolonged labour, and 27.74% others attribute adverse delivery outcomes to contraceptive use. However, only 3.23% blamed adverse child outcome to the use of contraceptive. Generally, outcome of delivery (**p**=0.489), attribute delivery outcomes to uptake of family (**p**=0.285) and child outcome after delivery(**p**=0.170) were seen not to be significantly associated with contraceptives **(Table 10)**.

Table 10. Perceived Delivery Outcomes and family planning uptake

Characteristic	Uptake of family planning (%)		Chi-squared(p-value)
	Yes (299)	***No (206)***	
Outcome of delivery			1.43(0.489)
Cs	19(12.26)	0(0.00)	
Normal delivery	117(75.48)	2(66.67)	
Prolonged labour	19(12.26)	1(33.33)	
Attribute adverse delivery outcome to uptake			1.14(0.285)
Yes	43(27.74)	0(0.00)	
No	112(72.26)	3(100.00)	
Child outcome after delivery			6.416(0.170)
Bad	5(3.23)	0(0.00)	
Excellent	8(5.16)	0(0.00)	
Good	44(28.39)	0(0.00)	
Very good	48(30.97)	3(100.00)	
Satisfactory	50(32.26)	0(0.00)	

4.9.2LOGISTIC REGRESSION OF FACTORS INFLUENCING CONTRACEPTIVE USE

A univariate logistic regression analysis was done in order to determine the association between key variables of interest. Variables identified to have a significant relationship from the preliminary univariate regression at $p<0.05$ were subsequently fitted in a multivariate logistic regression and the results presented in **Table 11**.

Of the 12 variables identified in the univariate logistic regression, 3 of them were significant at $p< 0.05$ in the multivariate logistic regression. Results from the regression analysis showed that respondents who were members of the Islam religion had lower odds of using contraceptives. Their odds of using contraceptives were 0.3 times less than respondents who were members of the Christian religion. The result also showed that the adjusted odds ratio for respondents who agreed with their spouses on the number of children to have had a higher chance of using

contraceptives than those who did not. The odds of those individuals who agreed with their spouses were 2.2 times more than those who did not.

Finally, the multivariate logistic regression showed that respondents' perception on the effectiveness of contraceptive greatly influenced the likelihood of them using contraceptives or not. The results showed that, respondents who perceived contraceptive methods to be efficient had 4.6 odds of contraceptive use than those who did not have the same perception, holding all other variables constant.

Table 11. Logistic regression of factors influencing contraceptive use

Variable	AOR Multivariate logit	P-value	COR Univariate logit	P-value
Age				
≤25	-		-	-
26-29	1.939	0.147	2.632	**<0.001**
30-34	1.772	0.252	3.201	**<0.001**
≥35	2.481	0.139	1.999	**<0.001**
Religion				
Christianity	-	-	-	-
Islam	0.300	**0.005**	0.292	**<0.001**
Education				
JHS	-	-	-	-
No Education	0.651	0.341	0.886	0.678
Primary	0.748	0.642	1.213	0.612
SHS	0.894	0.797	1.936	**0.025**
Tertiary	0.657	0.486	3.146	**<0.001**
Occupation				
Housewife	-	-	-	-
Self-Employed	1.158	0.739	1.580	0.117
Unemployed	1.071	0.902	0.961	0.912
Civil/Public servant	2.693	0.146	3.807	**<0.001**
Number of pregnancies (Gravida)				
1	-	-	-	-
2	2.594	0.499	1.873	**0.012**
3	0.210	0.321	2.642	**0.001**
4	0.137	0.258	1.542	0.148
5 or more	0.249	0.483	1.252	0.442
Number of births (parity)				
1	-	-	-	-

2	0.760	0.846	1.639	**0.042**
3	11.036	0.136	3.294	**<0.001**
4	6.495	0.302	1.386	0.292
5 or more	4.841	0.430	0.996	0.990
Did you receive adequate information	1.779	0.090	1.692	**0.046**
Access to health facility	1.683	0.111	1.929	**0.001**
Ever lost a pregnancy	2.259	0.052	1.556	**0.039**
Spousal agreement on number of children to have.	2.257	**0.004**	1.999	**<0.001**
Perceived effectiveness of contraceptives	4.680	**<0.001**	4.972	**<0.001**

CHAPTER FIVE

DISCUSSION

5.0 INTRODUCTION

This study sought to find out the uptake of FPand perceived delivery outcomes among postpartum women in the Tamale Metropolis of the Northern Region of Ghana. Having established the results in the previous chapter, this chapter discusses the results in relation to the key objectives and variables of interest. In so doing, key finding will be compared with previous investigations, and noting whether such findings are in consonance with or at variance with the observations made in this study. In addition, some inferential statements may be made based on either peculiar finding in this study or in conjunction with established literature. The discussion is divided into subsection including; uptake prevalence of postpartum family, knowledge of modern FPamong postpartum women, determinants of postpartum FPuptake, barriers to FPuptake, and perception of women on FPuptake and perceived delivery outcomes.

5.1 UPTAKE PREVALENCE OF POSTPARTUM MODERN CONTRACEPTIVE USE

In the current study, it was observed that 'ever used' modern FP among the postpartum women was59.2%, and 56.4% were on modern FP prior to their last pregnancy. Aside that,50% of the respondents indicated their readiness to use contraceptives. These observations suggest that more than half of women in their reproductive age use modern FP. However, the 'currently on a contraceptive' prevalence rate among the postpartum women was 38.2%. This prevalence is higher than the 21% reported by Benson and his colleagues in Ghana(Beson, Appiah, & Adomah-Afari, 2018).The GDHS also reported a prevalence rate of 22%, and the GHS national FP target rate archived an FP uptake rate of 23.3%(Apanga & Adam, 2015). A study in south-east Nigeria reported 16.3% modern FP prevalence rate(Egede et al., 2015). Specifically, the GDHS report indicated that the prevalence of contraceptive use among married women is 27% (GDHS, 2014), which is lower than the 56.4% and 38.2% recorded in the present study. In a similar fashion, the 'currently on a contraceptive' prevalence was higher than that of a study conducted among lactating mothers in Port Harcourt, which found that 25.7% of the respondents were on at least a modern contraceptive(DO & TK, 2011).The prevalence noted for 'ever used' (59.2%) and 'on modern FP prior to last pregnancy' (56.4%) was however in consonance with 55.4% to 81.5% prevalence recorded by studies in Iran (Sadat-Hashemi. et al, 2007: Motlaq. et al, 2013).

5.2 KNOWLEDGE OF MODERN FAMILY PLANNING AMONG POSTPARTUM WOMEN

Despite the relatively low contraceptive uptake prevalence rate among the postpartum women in the Tamale metropolis, there is almost a universal awareness of 96%. This is not surprising as majority of the respondents attended ANC clinic during pregnancy, and FP is a mandatory topic taught all women who patronize ANC clinic in Ghana. Several studies have reported a similar trend of high knowledge and low uptake of modern FP in developing countries (Sharma et al, 2012; Sunita et al, 2013). Similarly, a report by the WHO (2012) revealed that women have high level of knowledge on FPin the world. Its report is consistent with the findings from several studies where majority of the respondents had knowledge or were aware of modern contraceptive (Bwazi et al, 2014; Haruna, 2014; Wuni, 2015; Nam et al, 2016), possibly exposing the less involvement of men in reproductive health and FP across the globe. On the contrary, these studies disagree with an observation made in rural villages in Uganda where women had poor knowledge on modern FP (Rutenberg, 2013). Obviously, this disparity could be attributed to the urban setting of the current study. Collectively, these observations suggest that, there is a clear disparity between awareness and adoption of a modern FP method, and this requires fur investigation.

Interestingly, most of the respondents (75.2%) in this study reported receiving information regarding contraceptives from health workers, presumably during ANC visits. Adjei and his colleagues reported a similar observation in a study which examined the psychosocial factors affecting contraceptive usage in Ghana (Adjei et al., 2014). The gap here is that women may not have the requisite knowledge to avoid pregnancy until they experience their first pregnancy. Possibly, an impactful approach will be to educate young adolescence on pregnancy and

sexually-related infection prevention, in order to reduce the incidence of unplanned pregnancy and unsafe sexual intercourse.

Assessing respondents on the types of contraceptives they know, it was observed that most of the postpartum women knew at least one method of contraception. The most dominant contraception method indicated by the respondents was the injectables (53.1%), followed by oral pills (48.9%), implant (25%), IUD (19.4%) and condoms (17.5%). This is consistent with the 2014 GDHS which reported an awareness of at least a contraceptive method among married women of 99% and 100% in Ghana and the Volta Region respectively (GSS et al., 2014).The results of this study also concurs with that of Tajure and Pharm (2010), where female students of Jimma University, Southwest Ethiopia had high knowledge concerning FP. Consistent with our finding, the injectables were found to be the commonest known contraceptive method in the Volta region of Ghana specifically in Nkwanta district (Eliason et al., 2014).

However, knowledge on other methods like spermicides, diaphragm, withdrawal, abstinence and sterilization were almost nonexistent. Possibly, these methods are less mentioned during ANC education on contraceptives. Specifically, because the respondents were postpartum women and majority of them were married, the need for abstinence or withdrawal during sexual intercourse with their partners were seen unnecessary. Sterilization, spermicides and diaphragm were among the least mentioned. Probably most couples find these methods unacceptable especially in the marital setting. Also, in areas where child survival was uncertain, and the people pride in many children coupled with relatively high rates of polygamy, there will be a natural aversion for any irreversible contraceptive method.

Concerning the effectiveness of contraceptives, about 87% of the mothers indicated contraceptives are 100% effective. The results agree with the findings presented by Odimegwu

(2013) where women in Nigeria said FP was effective and they were encouraging others to go in for it to prevent unwanted pregnancy. Even though a significant number of the mothers agreed contraceptives are effective, this did not reflect the 'readiness uptake' prevalence as 50% were not ready to take postpartum contraceptive. Possible, there are some intrinsic and extrinsic factors which influence the decision to adopt a modern FP method. In most traditional home, there exist a huge disparity in decision making, and men who are less knowledgeable or have misconception about contraceptives may decline approval for their wives (Thummalachetty et al., 2017: Hyttel. et al, 2012: Nalwadda. et al, 2010: Yue, O'Donnell, & Sparks, 2010). Admittedly, this study did not cover the perception of men on FP, except that women who discussed FP with their partners were more likely to adopt a contraceptive method. However, this finding contradicts that of Olakojo (2012) which noted that some women in Nigeria doubted the effectiveness of a modern FP.

5.3 DETERMINANTS OF POSTPARTUM FAMILY PLANNING UPTAKE

The study also investigated the determinants of modern FP adoption among the respondents. Generally, age, education, religion, occupation, number of children preferred and partners approval were seen to be significantly linked to modern FP adoption. On the other hand, marital statuses, sex preference of children, staying with husband, age of child and delivery mode were not significantly associated with modern FP uptake.

The mean age of respondents was 30years with about half of the women between 18-29 years age group. This corresponds with the peak reproductive age group in which most pregnancies occur. Similar studies have reported the peak reproductive age group to be between 20-29 years (Rao &Veerendrakumar 2016;Eliason et al., 2014;&Musa et al.,2016).It also corresponds with

the population and housing census regional analytical report of the northern region, which indicated the northern region has the highest mean age (30.6years) of childbearing in Ghana(GSS, 2013).Additionally, there was a statistically significant relationship between respondents' age and usage of modern FP methods ($P < 0.001$). In South East Ethiopia, women who were aged 30 years and above were two times more likely to make the choice to use FP methods as compared to those who were less than 30 years (Mengistu, 2010). However, Muia et al., (2012) found no statistically significant relationship between age and adoption of modern FP method among women in Kenya.

Education was found to be significantly associated with uptake of modern FP among the postpartum women. Postpartum women who had tertiary education have 3.1 increase odds of using FP method than those with no formal education. This correspond with a study conducted in Nigeria to find the determinants of modern contraceptive use, which showed that women with formal education were 3.2 times more likely to use contraception than those with no formal education(Okezie et al.,2010).Similarly, across-sectional study conducted among women attending child welfare clinics in urban Ghana reported that educational level correlates with FP method use among postpartum mothers (Wuni et al., 2017).Women with higher education may appreciate more the advantages of having fewer and well-educated children than those without formal education. Moreover, these women are also likely to regulate the intervals between pregnancies to allow their reproductive system to fully recover from the stress of the previous pregnancy whiles enjoying a positive sexual life with their partners.

Also, the results from the study revealed that occupation of the respondent had an influence on the uptake of modern FP method. From the study, majority of the respondent (47.1%) were self-employed. Only a few 25.4% were not engaged in any form of employment. Interestingly, being

a civil or public sector worker was strongly associated with the uptake of modern FP method. Possibly respondents who are gainfully employed will be able to afford the cost of adopting an FP since they earn an income. Comparatively, this observation does not support studies by Sonenstein (2011) and Postlethwaite (2013) where occupation was found not to influence women usage of modern FP methods.

Even though religion was found to be significantly associated with the uptake of postpartum FP, greater proportions of the respondents were Muslims (76%).This was not surprising since the Northern Region and as such the Tamale Metropolis is predominantly a Muslim community and may be Suggestive of an increasing scientific, social and health benefits of planned pregnancies.

Among the demographic characteristics investigated, marital status of the postpartum women was not found to have a significant association with modern FP uptake. This outcome supports the findings made by Giusti and Vignoli (2012) where there was no significant association between marital status of women and usage of contraceptives methods in Egypt.

Partners' approval on the number of children to have was seen as a strong indicator of modern FP uptake. Interesting,38. 2% of the women, who were currently on modern FP, had discussed it with their partners while as much as 61.8% of those who had not discussed contraception with their partner were currently not on any form of contraception. This is in line with a study conducted in Ghana to determine factors influencing the use of contraceptives. In that study however, only 7% of those who did not discuss FP with their partners used FP whiles 30% of those who involved their partners in decision making process used FP (Tawiah, 1997).

5.4 BARRIERS TO FAMILY PLANNING UPTAKE

In the current study, 67.1% respondents had access to facilities offering FP services, which is in agreement with report by (Karra et al.,2013), where women in India mentioned that it was easy to get access to FP Services. Contrarily, Asamoah et al., (2013) established that women in Ghana stated it was not easy to access FP services.

Attitude-wise, 46.4% respondents indicated the midwives had very good attitude during counseling on FP service. Bawah et al., (2010) established that women in northern Ghana think the attitude of the service providers at the hospital was not up to their expectation.

Also, 33% respondents mentioned the side effects of FP method as a hindrance to the adoption of a method whiles the remaining had varied opinions. Similarly, women in Northern Ghana (Bawah et al, 2010) and mothers in Nepal (Chapagain, 2013) cited side effects of FP as a major barrier to FPuptake.

Payment for modern FP services had a significant influence on the use of FP in the postpartum period. About 60.2% of respondents in the study stated that contraceptives were affordable whiles 37.8% did not actually know about the cost involve in obtaining a contraceptive method. Only a few (2.0%) said contraceptives were not affordable. The study also uncovered that, 11.1% of respondents see socio-cultural factors as obstacle to contraceptive uptake as previously reported by DeClerque et al., (2014) where women in Egypt cited similar reasons. Understanding these social and cultural beliefs and practices would help remove the bottlenecks hence increasing women health seeking behavior positively which would lead to low maternal and infant morbidity.

In the univariate analysis, it was revealed that, access to health facilities offering FP services were significantly associated with uptake (0.001). However, this association could not be

sustained in the multivariate analysis. This finding supports a study done by Karra, Stark, & Wolf (2013) where women in India mentioned that it was easy to get access to FP services. In contrast, the finding disagrees with that made by Asamoah, Agardh& Per-Olof (2013) where women in Ghana stated that it was not easy to access FP services.

5.5 FAMILY PLANNING UPTAKE AND PERCEIVED DELIVERY OUTCOME

The study also tried to find out if the outcome of delivery is influenced by the uptake of contraceptives among respondents who have ever use contraceptives. Surprisingly, the results revealed that perceptions on both outcome of delivery and attributing adverse delivery outcome to FP uptake, and child outcome after delivery did not have significant association with uptake of FP.

A study conducted in rural Ghana by Abubakar et al., (2015) found that 70.0% of the participants perceived contraceptives to be associated with fibroid and infertility. Again, a similar result was discovered by Chernick et al., (2015). This revelation seems to clarify why some women, despite exhibiting high knowledge about contraceptives, do not utilize them.

CHAPTER SIX

CONCLUSION AND RECOMMENDATION

6.0 CONCLUSION

The main objective of this study was to assess the readiness prevalence, determinants and barriers to family planning, and the perceived association between family planning uptake and delivery outcomes among postpartum women in the Tamale Metropolis. The following findings were observed:

Although **c**ontraceptive awareness among respondents was almost universal, contraceptive use was relatively low, suggesting that high levels of awareness of contraceptive methods is necessary but not sufficient to result in actual use.

The prevalence of postpartum contraceptive use was 38.2%, despite the almost universal awareness of 96%.

The injectables were the commonly known contraceptive method, followed by the pills.

Age, educational level, occupation, religion and partner's agreement on the use of contraceptives were recognized as essential factors that promote postpartum contraceptive use.

Fear of side effects, cultural beliefs and adverse effects on future pregnancies were the main obstacles which does not allow women use contraceptives in the immediate and the late postpartum period.

Facility related factors such as counseling received during ANC, adequacy of the information received, midwives' attitude during counseling, access to a health facility offering family planning services, means of accessing the service and perception on affordability also have influence on postpartum contraceptive use.

6.1 RECOMMENDATION

The importance of postpartum contraceptive uptake and its influence on maternal and infant health cannot be underestimated. Based on the findings of this study, the following recommendations were made:

1) Adequate counseling on adverse effects of each method to allay the fears of clients. For example, myths and misconceptions about various methods should be address during education on family planning or contraception at the antenatal clinic (ANC) and postnatal clinic (PNC). Service providers should be skillful enough to effectively manage side effects and appropriate referrals given where necessary.

2) Since most of the women acquired knowledge on contraception during pregnancy, it will be appropriate to incorporate reproductive health lessons in the junior high and senior high schools to avoid the situation where women learn about pregnancy prevention and reproductive health during their first pregnancy.

3) Husband/partners should be involved in every aspect of health education regarding family planning and contraception. With special emphasis on socio-cultural factors.

4) Since contraceptive use is positively correlated with educational level, there is the need to intensify campaign on girl child education in the Metropolis.

5) Service providers should identify opportunities to promote male involvement to deal with the negative influence they exert over their partners on the decision to use contraceptives. This is important because the study identified that women who discussed family planning with their partners were more likely to use contraceptive.

6) Finally, further research in the study area should use both quantitative and qualitative approach to help generate more evidence on contraceptive use patterns and behaviors among postpartum women and the reasons underlying such patterns and behaviors.

6.3 IMPLICATION FOR POLICY INTERVENTION

This study took a look at family planning uptake and perceived delivery outcomes among postpartum women in the Tamale Metropolis. The study would be very relevant to major stakeholders especially in the Tamale Metropolis, as it will help to develop ways of enhancing contraceptive uptake among women in the reproductive age. The findings of the study reflected adequate awareness of family planning but low usage of family planning services. It is evident from this study that the high knowledge on family planning services is not matched with high family planning services use. This could be due to the barriers identified in the study. Thus, major stakeholders such as, the Tamale Metropolitan Health Directorate, hospitals and others health centers can use the information to design evidence-based interventions for this category of respondents to tackle the barriers to the uptake of family planning methods in their service areas.

Among reasons for not using family planning services, some respondents stated side effects of family planning methods. It was also revealed that husbands or partner had a role to play as whether to use or not to use family planning services among the respondents. The choice to use or not is primarily influenced by others from within the social network, whose views and perceptions are often more important than an individual's own. Therefore, this study could serve as a guide to enable policy makers design family planning campaigns to look beyond the individual woman to include others influential in decision making.

The results from this survey show a significant relationship between age, religion, education level and occupation and family planning uptake. This revelation could assist major stakeholders

in reproductive health to design policies to address the socio-demographic factors affecting the uptake of contraceptives.

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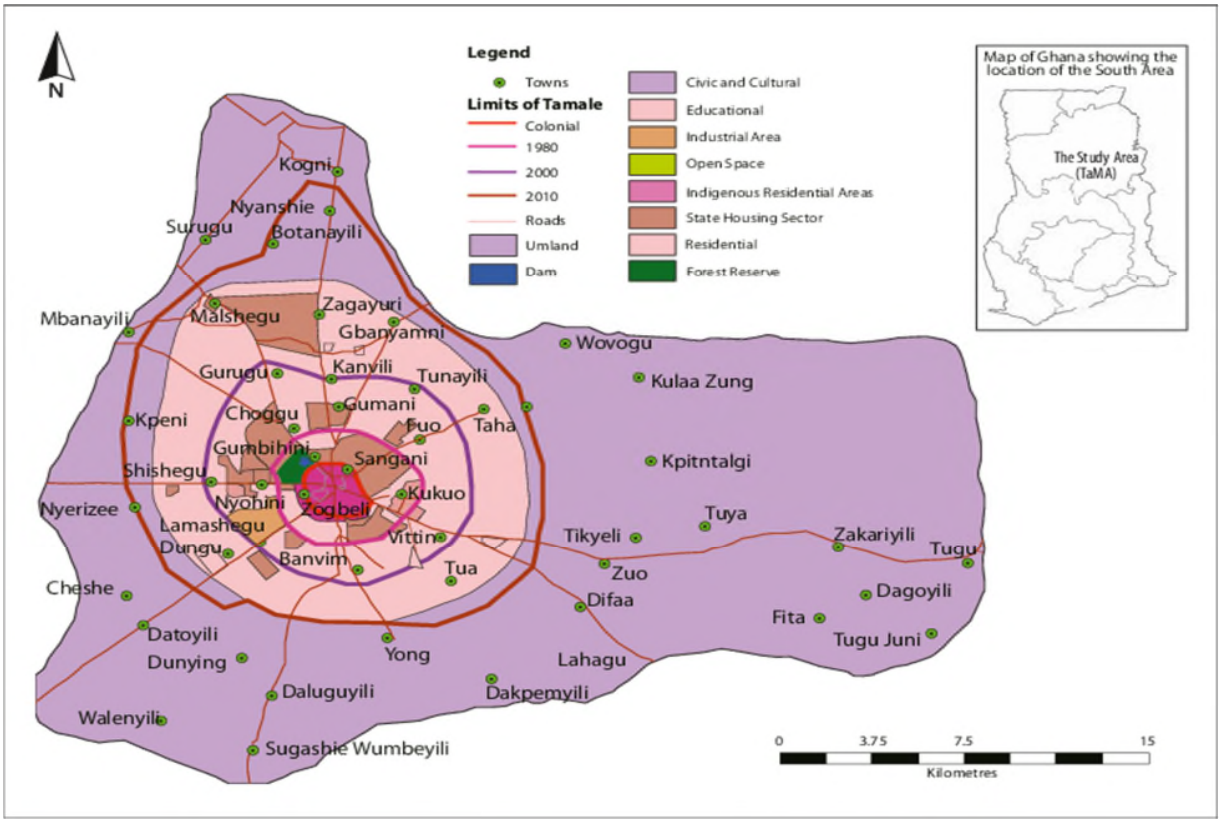

Appendix 1. Map of the Tamale Metropolis showing the sub-districts and health facilities.

Source; Google maps

Appendix 2.TIME LINE FOR THE STUDY

MONTHS	**SEPT/2019**	**OCT/2019**	**NOV/2019**	**DECEM/2019**	**MAY-JULY 2020**	**AUGEST/2020**	**NOVEM/2020**	**NOVEM/2020**	**JAN/2021**
ACTIVITY									
Proposal writing	Proposal writing								
Defense of proposal		Defense of proposal							
Writing of thesis			Writing of thesis	Writing of thesis					
Data collection					Data collection				
Data analysis						Data analysis			
Presentation of draft of thesis							Presentation of draft of thesis		
Submission of final thesis								**Submission of final of thesis**	
Defense of thesis									**Defense of thesis**

APPENDIX 3. STUDY QUESTIONNAIRE.

FAMILY PLANNING UPTAKE AND PERCIEVED DELIVERY OUTCOMES AMONG POSTPARTUM WOMEN IN TAMALE METROPOLIS

The researcher is a student of University for Development Studies, Tamale, and is currently conducting a study on Family Planning uptake and perceived delivery outcomes among postpartum women in the Tamale Metropolis postpartum women in the Tamale Metropolis. This study is a partial requirement for the fulfillment of the award of Master's Degree; hence the researcher would be most graceful if you could assist by answering the following questions. All information provided would be treated with all the confidentiality that it deserves.

A. Has the respondent agree to participate in the survey?
B. Enumerator, please explain the purpose of the survey to the respondent. Make sure she agrees to participate in the survey, otherwise end the interview.

Yes No
This field is required

6.4 SURVEY SECTION

A1. Name of Enumerator A2. Interview Date
A3. Respondent Code A4. Sub-district
Bilpeila Nyohini Vitting Tamale Central
A5. Facility name
A6. Questionnaire No
B: Socio-demographic characteristics of respondents
Enumerator, please introduce each section to the respondent
B1. How old are you?….
B2. What is your educational level?
No education PRIMARY JHS SHS TERTIARY
B3. What is your occupation?
Unemployed Self-employed civil/public servant Housewife
B4. What is your residence?
Rural Urban
B5. What is your marital status?
Single Married (monogamous) Married(poligamous) Dirvoce Widow
B6. What is your religious affiliation?

○ Christianity ○ Islam ○ Traditional

WE ARE NOW IN SECTION B (C: Obstetric history) Enumerator, please introduce this Section to the respondent

C1. At what age did you experience your first pregnancy? Value should be >=15 but <=49

C2. How many times have you become pregnant? ……..

C3. How many times have you given birth? The value cannot be more than B2C4. How many of them are alive?…….. C5: Have ever lost a pregnancy?

○ Yes ○ No

C6. How old were you?……

C7. What was the mode of your last delivery? Enumerator please explain the mode of delivery to the respondent

○ CS ○ SVD

WE ARE GOING INTO A NEW SECTION

Section D (Gynecological Health)

Enumerator, please introduce this section to the respondent

D1. Did you have any of the following when you were pregnant?

☐ High blood pressure (HBP) ☐ Low blood pressure (LBP) ☐ Gestational weight gain (GWG) ☐ Vaginal bleeding ☐ Anaemia ☐ Glucose 6 phosphate dehydrogenase defect (G6PD) ☐ Hepatistis ☐ syphilis ☐ HIV ☐ None

SECTION E: Family size and childbirth pattern

E1. How many children do you want to have?…… E2. What sex preference do you or your husband want?

○ Male only ○ female only ○ Mixed sex ○ Any sex

E3. Have you discussed and agreed with your husband the number of children you want to have?

○ Yes ○ No

E4. How many wives does your husband have?……. E5. Are you currently staying with your husband?……..

○ Yes ○ No

SECTION F: Knowledge on Contraceptives F1. Have you heard of contraception?

○ Yes ○ NO

F2. Where did you hear about it?

☐ Health worker ☐ Tv ☐ Radio ☐ Dailies ☐ school/Books ☐ Friends ☐ others

F2i. Please specify others

F3. Do you know any contraceptive method?

○ Yes ○ No

F4. Which contraceptive method do you know?

☐ Pills ☐ IUDS ☐ Injectables ☐ Condom ☐ Diaphragm ☐ Sterilization ☐ Implant ☐ Withrawal ☐ Periodic Abstinence ☐ others

F4i. Please specify others

F5. Do you think that using modern contraceptive during sex provides 100% protection from pregnancy?

○ Yes ○ No

G: Contraceptive use (Uptake prevalence).

G1. Have you ever used any form of contraceptives in your life?

○ Yes ○ No

G2. At what age did you first use a contraceptive?……

G3. Were you on contraceptive before your last pregnancy?……..

○ Yes ○ No

G4. Did you struggle to become pregnant after stopping the contraceptive?

○ Yes ○ No

G5. How long did it take you to become pregnant after stopping the contraceptive? Please write it here.……..

SECTION H: Resumption of sexual activity and onset of menses.

H1. How old is your baby? Please write the age here. H1i. Unit of measurement;

○ Weeks ○ months

H2. Have your menses resumed?

○ Yes ○ No

H3. How long post- delivery did you start menstruating? H3i: unit of measurement

○ Weeks ○ Months ○ Years

H4: Have you resumed sexual activity with your partner?

○ Yes ○ No

H5. Are you on any contraceptives now?

○ Yes ○ No

H6. Are you willing to take one now?

○ Yes ○ No

SECTION I: Antenatal attendance records

I1. Did you attend ANC when you were pregnant with your current child?

○ Yes ○ No

I2. How many times did you attend ANC before delivery of your current child?……

I3. How old was your pregnancy when you started ANC? I4i. Unit of measurement

○ Weeks ○ Months

I5. Were you counseled on family planning at the ANC?

Yes No

I6. In your view were you given enough information at the ANC to enable you practice Family Planning after delivery?

Yes No

SECTION J: Determinants of postpartum family planning

J1. Where you counseled on family planning prior to the delivery of your current child?

Yes No

J2. What was the attitude of the midwife during the family planning counseling prior to delivery?

Excellent Very good Good Satisfactory Bad

J3. In your view are there wide varieties of family planning methods in the hospital to choose from?*

Yes No

J4. What are the available Family Planning methods in the hospital? Multiple responses allowed from?

Pills Intrauterine device Injectable (depo-provera) Norplant Spermicidal Condom Tubal ligation Vasectomy Others

This field is requiredJ4i. Please specify others*

SECTION K: Barriers to family planning uptake K1: Do you have a health facility in your area that renders Family Planning services?

Yes No

K2: What means of transport do you use to access the Family Planning services?

Walking bicycle motor bike Taxi/YellowYellow Car

K3: In your view, are the family planning services affordable?

Yes No

K4. What is the cost of obtaining a family planning method in the health facilities?

K5: Are there any cultural beliefs and practices that prevent the use of contraceptives among postpartum women in your community?

Yes No Don't know

K5i: kindly tell us

k6. What is the perception of the community members about postpartum women who uses Family Planning services?

They like sex don't want deliver more children Want to control their partners Others

k7. What will you say is the main reason why postpartum women do not use modern contraceptives?

Religious beliefs Distance to acquisition of contraceptives Attitude of the contraceptive providers Partner or family members opposed to using Side effects Lack of knowledge Infrequent sex Hard to get preferred methods Too costly Counseling received about contraceptives Cultural or traditional beliefs Others

SECTION L: Perception on the effects of Family and Perceived delivery outcome

L1. Did you practice family planning prior to conceiving your current child?

Yes No

L2. How long did it take you to become pregnant for your current child?

L2i. Unit of measurement.

Weeks Months Years

L3. Did you have difficulties in getting pregnant for your current child?

Yes No

L4. What was the outcome of delivery?

Prolonged labour Normal delivery CS Others Please specify

L5. Would you attribute the outcome of your delivery to uptake of family planning?

Yes No

L6. What was the condition of the child after delivery?

Excellent Very good Good Satisfactory Bad

L7. Would you attribute the condition of your child to uptake of family planning?

Yes No

L8. Does the usage of family planning affect a woman's future fertility/pregnancy in anyway?

Yes No Don't know

GO. Record your current location

UNIVERSITY FOR DEVELOPMENT STUDIES

School of Medicine and Health Sciences

(Department of Community Health and Family Medicine)

Tel : 03720 - 93295
E-Mail :
Local : 5:7811/106.15
Internet: www.uds.edu.gh

Post Office Box TL 1883,
Tamale, Ghana, West Africa.

Office of the Head

25/02/2020

The Metropolitan Health Director
Tamale Metropolis
Tamale, N/R

LETTER OF INTRODUCTION

Aneakumpo Dorithy Talata

This is to introduce to you, Ms. Aneakumpo Dorithy Talata, a Master of Public Health student of School of Medicine and Health Sciences of the University for Development Studies. Ms Dorithy is currently working on her thesis titled: ***Family planning uptake and perceived delivery outcome among postpartum women in Tamale Metropolis of the Northern Region of Ghana.*** Ms Dorithy wants to have access to health facilities within the metropolis to carry out this important academic exercise. I would be grateful if could grant her access and any information she may need.

OFFICE OF THE HEAD
Dep. Of Comm. Health & Family Medicine
UDS-SMHS, TAMALE

Thank you.

Yidana Adadow *(PhD)*
(HoD, CH&FM)

GHANA HEALTH SERVICE

Core Values
1. People Centered
2. Professionalism
3. Team Work
4. Innovation
5. Discipline
6. Integrity

METRO. HEALTH DIRECTORATE
GHANA HEALTH SERVICE
P.O. BOX TL. 1191,
TAMALE

Tel: 233 - 71: 23765
Fax: 233 - 71: 23765

10th March,2020

My Ref No: GHS/MHD/
Your Ref No: .....

THE SUB-DISTRICT HEAD
- **BILPEILA HEALTH CENTRE**
- **TAMALE CENTRAL HEALTH CENTER (RCH)**
- **VITTIN HEALTH CENTER**
- **NYOHINI HEALTH CENTER**

Dear Sir/Madam,

LETTER OF INTRODUCTION TO UNDERTAKE A RESEARCH

This is to introduce Ms. Aneakumpo Dorithy Talata from the University for Development Studies that wish to conduct a research on the topic **"Family planning uptake and perceived delivery outcome among postpartum women in Tamale Metropolis of the Northern Region of Ghana".**

She has been given approval to collect data at your facility.

Please kindly accord her the needed assistance and support.

Thank you.

DR. FRANCIS SOAH ALI
(METRO. DIRECTOR OF HEALTH SERVICES)

UNIVERSITY FOR DEVELOPMENT STUDIES

School of Medicine and Health Sciences

(Department of Community Health and Family Medicine)

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Post Office Box TL 1883,
Tamale, Ghana, West Africa.

Office of the Head

25/02/2020

The Research Unit
Tamale Teaching Hospital
Tamale, N/R

LETTER OF INTRODUCTION

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OFFICE OF THE HE...

Dep. Of Comm. Health & Family Medicine
UDS-SM... TAMALE

Thank you.

Yidana Adadow *(PhD)*
(HoD, CH&FM)

Department of Research &Development
Tamale Teaching Hospital

TTH/R&D/SR/028
11/03/2020

TO WHOM IT MAY CONCERN

CERTIFICATE OF AUTHORIZATION TO CONDUCT RESEARCH IN TAMALE TEACHING HOSPITAL

I hereby introduce to you **Ms. Angakumpo Dorithy Talata,** a Master of Public Health Student, Department of Community Health and Family Medicine, UDS. The student has been duly authorized to conduct a study titled **"Family Planning Uptake and Perceived Delivery Outcome among Postpartum Women in Tamale Metropolis of the Northern Region of Ghana".**

Please accord the candidate the necessary assistance to enable her completes the study. If in doubt, kindly contact the Research Unit on the second floor of the administration block or on Telephone 0209281020. In addition, kindly report any misconduct of the Researcher to the Research Unit for necessary action.

The candidate is required to furnish the hospital a copy of the dissertation/Study upon completion.

Please note that this approval is given for a period of six months, beginning from 11th of March, 2020 to 10th of September, 2020.
Thank You.

ALHASSAN MOHAMMED SHAMUDEEN.
(HEAD, RESEARCH & DEVELOPMENT)

KWAME NKRUMAH UNIVERSITY OF SCIENCE AND TECHNOLOGY
COLLEGE OF HEALTH SCIENCES
SCHOOL OF MEDICAL SCIENCES / KOMFO ANOKYE TEACHING HOSPITAL
COMMITTEE ON HUMAN RESEARCH, PUBLICATION AND ETHICS

Our Ref: CHRPE/AP/340/20

29th September, 2020.

Dr. Williams Walana
Department of Community
Health and Family Medicine
University for Development Studies
TAMALE.

Dear Sir,

LETTER OF APPROVAL

Protocol Title: *"Family Planning Uptake and Perceived Delivery Outcomes among Postpartum Women in the Tamale Metropolis of the Northern Region of Ghana."*

Proposed Site: *Central Reproductive and Child Health Clinic(RCH), Tamale Teaching Hospital Tamale; Vittin Health Center; Vittin Belipela Health Centre; Belipela Nyohini Health Centre.*

Sponsor: *Principal Investigator.*

Your submission to the Committee on Human Research, Publications and Ethics on the above-named protocol refers.

The Committee reviewed the following documents:

- A notification letter of 11th March, 2020 from the Tamale Teaching Hospital (study site) indicating approval for the conduct of the study at the Hospital.
- A Completed CHRPE Application Form.
- Participant Information Leaflet and Consent Form.
- Research Protocol.
- Questionnaire.

The Committee has considered the ethical merit of your submission and approved the protocol. The approval is for a fixed period of one year, beginning **29th September, 2020** to **28th September, 2021** renewable thereafter. The Committee may however, suspend or withdraw ethical approval at any time if your study is found to contravene the approved protocol.

Data gathered for the study should be used for the approved purposes only. Permission should be sought from the Committee if any amendment to the protocol or use, other than submitted, is made of your research data.

The Committee should be notified of the actual start date of the project and would expect a report on your study, annually or at the close of the project, whichever one comes first. It should also be informed of any publication arising from the study.

Thank you, Sir, for your application.

Yours faithfully,

Rev. Prof. John Appiah-Poku.
Honorary Secretary
FOR: CHAIRMAN

Room 7 Block J, School of Medical Sciences, KNUST, University Post Office, Kumasi, Ghana
Phone: +233 3220 63248 Mobile: +233 20 5453785 Email: chrpe.knust.kath@gmail.com / chrpe@knust.edu.gh