UNIVERSITY FOR DEVELOPMENT STUDIES

SCHOOL OF PUBLIC HEALTH

UTILIZATION OF CONTRACEPTIVE METHODS BY POST PARTUM WOMEN IN THE TAMALE METROPOLIS, GHANA

ABDUL-RAHMAN MUBARIK

2021

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ABDUL-RAHMAN MUBARIK

(UDS/MPH/0018/19)

THESIS SUBMITTED TO THE SCHOOL OF PUBLIC HEALTH OF THE UNIVERSITY FOR DEVELOPMENT STUDIES, IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE AWARD OF A MASTER OF PUBLIC HEALTH DEGREE

NOVEMBER, 2021

DECLARATION

Student

I hereby declare that this thesis is of my own effort towards the award of a Master of Public Health Degree and that, to the best of my knowledge it contains no material previously published by another author nor which has been presented for the award of any degree at any University, except for references to other people's work which has been duly acknowledged.

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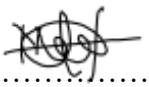
Signature……  …… Date: 15th November, 2021

Supervisor

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

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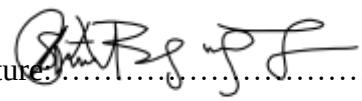
Signature:……  …… Date: 15th November, 2021

ABSTRACT

Postpartum contraception is an essential determinant for population control and mitigation of maternal, infant morbidity and mortality. Birth spacing lowers the risk of preterm birth, a major cause of infant mortality. Northern region has the lowest contraception uptake of 11% in Ghana. Again, limited study has been conducted on this topic over the years hence necessitating the conduct of this study. Mixed study design was employed for the study. Simple random and purposive sampling technique were used to recruit 318 and four postpartum mothers and midwives respectively in four health centres. Data was obtained through structured questionnaire and key informant interviews. Chi-square and logistic regression analysis was adopted to determine the relationships that existed between socio-demographic characteristics, reproductive health factors, partner support and postpartum contraceptive uptake. Qualitative data was transcribed and imported into Quirkos software version 2.3.1 for coding and analysis.

The study revealed 25.5% prevalence for postpartum contraception.The commonest contraceptive method used by mothers were injectable (28.4%), followed by contraceptives pills (23.5%) and UID (18.5%). Implants (13.6%) and condom (7.4%) were the least used method. Women who were not informed on contraceptive side effects had lower odds of using contraceptives compared to well informed women (AOR=0.16, 95% CI: 0.06 -0.50, $p< 0.001$). Expectantly, employment and spousal support were found to have influence on postpartum contraceptive uptake. Contraceptive prevalence was relatively higher among women compared to the national prevalence rate of 22%. High quality post-partum family planning services must be considered a priority area in health care delivery in Ghana.

Family planning uptake is still low contextually and therefore the need for the Ministry of Health to strengthen collaborations with the civil society groups, community stakeholders and NGOs to intensify advocacy on post-partum contraception in the Tamale Metropolis and Ghana at large.

ACKNOWLEDGEMENT

I am much grateful for the gift of life and the rare opportunity to have attained this height on the educational ladder, special thanks to the Almighty Allah for His Mercy, Guidance and Protection. I am eternally grateful to all people who supported in one way or the other in making this piece and my entire programme a success.

I am highly indebted to my indefatigable supervisor, Dr. Ahmad Sukerazu Alhassan for his patience, valuable suggestions and constructive criticisms towards the successful completion of this thesis.

More importantly, I extend gratitude to my family for their unconditional motivation, emotional and financial support throughout my study for the MPH programme and accompanying research work.

I further extend my gratitude to all my research participants for taking part of their busy schedule to respond to the study instruments. My special thanks go to all research assistants who supported immensely during the data collection period.

My sincere appreciation finally goes to Mr. Abdallah Karim and Mr. Salifu Mohammed Gazali for contributing immensely towards the production of this piece.

I declare that you are worthy of mention here and May the almighty Allah bless you all.

DEDICATION

I dedicate this work to my dear parents, Hajia Maria and Alhaji Abdul- Rahman for their immense support throughout my education from infancy to this level. May the Almighty Allah continue to bless them abundantly.

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AIDS	Acquired Immune Deficiency Syndrome
ANC	Antenatal Care
AOR	Adjusted Odds Ratio
ART	Anti-Retroviral Therapy
BCC	Behavioural Change Communication
CHPS	Community-based Health Planning and Services
CPR	Contraceptive Prevalence Rate
FP	Family Planning
FPET	Family Planning Estimation Tool
GDHS	Ghana Demographic and Health Survey
GHS	Ghana Health Service
GSS	Ghana Statistical Service
HBM	Health Belief Model
HIV	Human Immune Virus
IPV	Intimate Partner Violence
IUD	Intrauterine Device
LAM	Lactational Amenorrhoea Method
LARC	Long-Acting Reversible Contraception
MoH	Ministry of Health
NGO	Non-Governmental Organization
NRHD	Northern Regional Health Directorate
PHC	Primary Health Care
PNC	Postnatal Care

PPD	Postpartum Depression
PPFP	Post-Partum Family Planning
SDGs	Sustainable Development Goals
STI	Sexual Transmitted Disease
TFR	Total Fertility Rate
UNFPA	United Nations Populations Fund
USAID	United States Agency for International Development
WHO	World Health Organization

CHAPTER ONE

INTRODUCTION

1.0 Background

Post- partum contraception is an important intervention for the mitigation of infant and maternal morbidity and mortality. It is has been recognized as an essential course in helping countries attain Sustainable Development Goal five (SDG-5) which is aimed at promoting gender neutrality and equity among women and the girl child (Aviisah et al.., 2018). Family planning is a key component of Ghana's population policy introduced to address the country's health, social and economic issues and more essentially help minimize the rapid population growth rate the country is experiencing. It also allows married couple and single partners to achieve their reproductive health goals and as well gives them the prerogative to choose whether or not to have children. The increased usage of family planning methods has led to the improvement of reproductive health outcomes such as fewer unwanted pregnancies, low -risk births, lower mother & child mortality, improved educational and economic benefits among women. There are advantages of contraceptive use at the population level, in addition to the individual effects. According to Canning and Schultz (2012), decrease in fertility rate can help boost economic growth by reducing the number of children and youth who solely dependants compared to the working population, thus are increasing the number of women engaged in paid labour to earn a living. The continuous growing population poses a challenge to the attainment of the 2030 agenda for sustainable development, especially in the African continent, where countries are expected to provide basic health-care services, education, and consequently job opportunities for an ever-increasing number of children and young people. Under

Goal 3 of the SDGs, which encompasses a number of targets to effectively ensure the safety of lives and health of the population, the agenda 2030 for Sustainable Development contains realistic targets that are pertinent to mitigating the unmet needs for family planning and fertility (Stover et al., 2017).

Globally, modern contraceptive use is increasing rapidly at sixty three percent (63%) but continue to be relatively low in terms of patronage in Sub-Saharan Africa (Aviisah et al., 2018). This has accounted for the decrease in world fertility rate from 3.2 live births per woman in 1990 to 2.5 live births in the year 2019. In Sub-Saharan Africa, the continent with the highest fertility rates, total fertility declined from 6.3 births per woman in 1990 to 4.6 births per woman in 2019 (Stover et al., 2017).

Ghana´s first organized effort towards scaling up family planning services begun in 1969, with an attempt of developing the first population policy through effective cooperation between the Ministry of Health and the Ministry of Finance & Economic Planning. The success rate was however nominal and so the policy was subsequently revised in 1994 with priority on fertility reduction through family planning services. The main objectives of Ghana's population policy adopted in 1994 was aimed at reducing the country's total fertility rate to 4.0 by 2010 and to 3.0 by the year 2020. Also, it aimed at increasing the modern contraception to 28% by 2010 and to fifty percent (50%) by the year 2020.The policy finally targeted achieving a minimum birth spacing of at least two years by 2020. Even though the aforementioned objectives have not been entirely achieved, however significant strides have been made by the Ghana Health Service in conjunction with the health ministry to corroborate the availability of FP commodities and the appropriate utilization of modern

contraceptives. It's worth noting that when services are of good quality and easily available to communities, FP adoption rises. Access to FP services is hindered by poverty, poor access to logistics and commodities, civil unrest, deficient program coordination, and dwindling donor funding (Wuni et al., 2018).

In Ghana, knowledge, availability and utilization of family services have increased fairly, and the government is steadily progressing towards its objective of lowering the total fertility rate to 3.0 by 2020 through the utilization of modern contraceptive methods by post-partum mothers. Concerted efforts by some Non-Governmental and Civil Society groups such as Mariestopes International Ghana (MSIG), Planned Parenthood Association of Ghana (PPAG) Northern Sector Action on Awareness Centre (NOORSAC), Social Marketing Foundation of Ghana and United Nations Populations Fund (UNFPA) have led to awareness and knowledge improvement among the Ghanaian population about the importance of family planning resulting to increased contraceptive use and decreased total fertility rate. Unfortunately, the unmet needs for contraceptive use among post-partum women is still high in Ghana despite the availability and universal knowledge on modern contraceptive methods.

According to the 2014 Ghana Demographic and Health Survey report, there has been increase in fertility rate (TFR) since 2008 through to 2014 (GSS &GHS, 2015). The marginal increase in fertility rate from 4.0 to 4.2 in 2008 and 2014 respectively depicted that the usage of modern contraceptives are less desired by married women.

Meanwhile out of the 27% of married women using contraception, only twenty two percent (22 %) use a modern method (GDHS 2014). It is also interesting to note that

twelve months after birth could be the riskiest period for unplanned pregnancy because most women do not use contraceptives at that period (Mahmoud et al., 2017). The modern contraceptive prevalence upon several national health surveys have shown evidence of increment from 22% to 25% in 2015 and 2018 respectively in Ghana which needs to be improved to the 50% target the country envisaged by 2020 (GSS 2015, GSS 2018).

In Ghana, 30% of presently married women have an unmet need for family planning services, with 17% having an unmet need for birth spacing while 13% have an unmet need for birth limitation (GSS & GHS, 2015). The unmet demand for FP is highest among women who have just given birth. Despite this, individuals frequently do not obtain the assistance they require to promote birth spacing or reduce the risk of unplanned pregnancy and its implications (Mahmoud et al., 2017). These unmet needs ought to be reduced drastically by making available and accessible family planning services as well as the establishment of sexual health friendly centres to improve FP compliance. Improved counselling to individuals and couples is also essential in addressing the challenge. But yet worrying is the fact that most women in Ghana do not deliver within health facilities while many do not attend routine postpartum visits but rather visit health facilities to seek immunization services for their children who are under five years (Vance et al., 2014). Given the schedule for the immunization services, it provides a valuable chance to communicate with postpartum mothers on a regular basis during the postpartum period.

Again, according to the 2014 Ghana demographic health Survey, Northern region had the lowest percentage of women (11%) using any method of contraception compared

to Volta region recording the highest percentage (32%). In Africa, the use of modern contraception is still low and can be linked to the high incidence of unsafe abortions, unplanned pregnancies, and maternal morbidity & mortality (Eliason et al., 2013).

African nations such as Mozambique and Kenya have made utmost progress in terms of increasing prevalence of modern contraception and decreasing unmet need for FP usage among women. They were able to do so by implementing effective strategies that aided national efforts in gathering, analysing and using data to monitor family planning development, focusing primarily on applications like the Family Planning Estimation Tool (FPET). The tool is a web application that uses historical survey data and data from family planning services to generate estimates and projections of family planning indicators over time. It is currently used for married women of reproductive age (Cahill et al., 2020). This can serve as a case study for Ghana in our course to attaining wider FP services coverage especially among post-partum women.

Research on post-partum family planning and factors influencing its usage seem neglected in Ghana. There is not much information on how women ultimately decide their readiness to patronize post-partum family planning services therefore it's of importance conducting this study to ascertain the proportion of post-partum women utilizing modern contraceptive methods as well as identifying influencing factors that hinders the usage of these contraceptives since the post-partum period serves as a window for unplanned pregnancies. This study will be conducted in health facilities within the Tamale Metropolis of Northern region where child welfare and immunization services are offered.

The influencing factors identified as a result of this study's findings will serve as priority intervention areas for the Ministry of Health and other maternal & reproductive health partners in Ghana to focus on in order to improve the use and compliance of family planning services among postpartum mothers.

1.1 Problem Statement

The rapid population growth in Ghana is a major concern for government and other stakeholders despite efforts to mitigate it. Several population policies including Family Planning have been developed over the years but the challenge still remains with the implementation of these policies. The non-existence of a legislative instrument to support the national Family Planning programme probably is a contributory factor that has hindered the effective implementation of FP policies. Short-term pregnancy continues to be a pressing public health concern globally due to its serious negative impact on women, children and society at large. The postpartum period is generally characterized by worse psychological, physical and societal outbursts for mothers. In spite of the high risk of an unplanned pregnancy within a period of two years after giving birth, most women often neglect contraception after birth (Teal, 2014).

Even though the government was committed to increasing the modern contraceptive prevalence rate to thirty percent (30%) among married women by 2020, the goal could not be achieved. Lower fertility rate is the only strategy to help change the population dynamics into valuable demographic dividends through massive investment in family planning and reproductive health programmes.

Many postpartum women in Sub-Saharan Africa have unmet contraceptive needs; in twenty-one low- and middle-income countries, an estimated sixty one percent of postpartum women had unmet contraceptive needs (Dev et al., 2019). However, in Ghana, 30% of post-partum women have unmet needs for family planning services even though there is enough information on FP services and maternal health. The situation in Ghana is a reflection of low patronage of FP services despite improved social marketing of FP services. Effective family planning services should offer a variety of methods and commodities, so that the method most suitable for a clients can be provided. Choice in family planning methods increases the level of acceptance and user continuation of services (Hatcher et al., 2001). Interestingly, the government sector provided sixty four percent (64%) of contraceptives to users as at 2014, an increase from thirty-nine percent (39%) in 2008 making government remain the major source of contraceptive distribution in Ghana compared to the private sector (GSS & GHS, 2015). Although the government of Ghana owns the family planning program, foreign donors such as the United Nations Population Fund (UNFPA) and the United States Agency for International Development (USAID) have a lot of say on how the program is run because of the funds they inject to support service delivery and distribution of commodities (Rowan et al., 2019).

Safe motherhood programs and other interventions have boosted postpartum contraception use and lowered unmet contraception demand in Ghana over the years. Information on family planning and the emphasis on birth spacing are always provided at various clinics in Ghana as part of these project objectives.

The effects of unplanned pregnancy during the postpartum period can be devastating since it has a tendency of causing still birth, miscarriages and can even lead to death. Within the first years of postpartum, closely spaced pregnancies are the riskiest for mothers and new born babies resulting in increased risks for adverse outcomes such as preterm, low birth weight and small for gestational age babies (Da Vanzo et al. 2007). Consequently, some women may resort to abortion which may not be appropriate.

To date, no evaluation on the use of postpartum contraceptives has been conducted in the Tamale Metropolis due to underreporting and to some extent, data unavailability. Despite women's considerable understanding of postpartum contraception, evidence from the Northern regional health directorate suggests that postpartum contraceptive use remains low in the Tamale Metropolis.

In light of the significant negative effects of unexpected pregnancies during the post-partum period, a study is needed to explore the frequency of postpartum contraceptive use among this postpartum woman. This study seeks to examine the factors that influence the rate of contraceptive use among mothers after childbirth within health facilities in Tamale Metropolis.

1.2 Justification of study

In many developing countries, excessive population growth seems to be a barrier for smooth economic growth including Ghana. Even though many declarations have been made over the years on how couple can freely decide the number and spacing of their

children with the help of family planning services. Unfortunately, the narrative in most developing countries still remains the same.

Ghana is striving to reduce its maternal and child mortality rate in order to achieve sustainable development goal three (3) and five (5) which lay emphasis on good health & well-being and gender equality & women empowerment respectively. However, this can only be attained through the practice of postpartum contraception by women. According to the World Health Organization, in 2010 there were 162,000 maternal deaths in Sub-Saharan Africa, with a lifetime risk of one in 39, compared to 2,200 maternal deaths and a lifetime risk of one in 3,800 in developed countries. This evidence suggest that maternal deaths are still high in the region. Postpartum family planning is the most efficient means of avoiding unwanted pregnancies and maternal deaths among women of reproductive age (15-49), achieve birth spacing and improve maternal and child health.

Even though the Ghana Health Service in collaboration with other Reproductive Health NGOs have brought affordable health care services to the doorsteps of people through the Community- based Health Planning Services (CHPS) concept, there is still not significant improvement in the uptake of contraceptives by post-partum women. The educational level, income status and geographical location of women has an association with the usage of contraceptives among women(Aviisah et al., 2018).

Post-partum family planning has enormous benefits to the mother, child and community at large as it offers women the opportunity to effectively space or limit their births and consequently avoid complications of unwanted pregnancies. This

would increase women's and children's health, and households will be more prosperous, invest more, and have greater opportunities for their children. The economy will expand, and the strain on natural capital and utilities will lessen. In effect, the country will be closer to meeting the third Sustainable Development Goals. Goal 3 of the United Nations Sustainable Development Goals (SDGs) aims at reducing global maternal mortality ratio to less than 70 per 100,000 live births by 2030. However, this goal cannot be achieved unless financing for reproductive health and family planning services are expanded, particularly in poor and middle-income countries (Cates et al., 2010).

In Ghana, mothers have insufficient knowledge about postpartum contraception. As a result, this research will contribute to closing the knowledge gap on postpartum family planning and as well influence policy implementation and innovative interventions in order to meet postpartum contraception needs of mothers. This research will also add to the body of knowledge and will go a long way towards meeting the contraceptive needs of postpartum women in the Tamale Metropolis and Ghana as a whole. The findings of this study will improve programs and policies aimed at postpartum women with the objective of reducing morbidity and deaths linked to unplanned and short-term pregnancies.

The study also seeks to ascertain the factors that may influence women of childbearing age in the utilization of contraceptives in the postpartum period and as well suggest recommendations to shape policy formulations and implementations.

1.3 General Objective

The main objective of the study is to determine the proportion of post-partum mothers utilizing modern contraceptive services and the factors that influence the usage within health facilities in the Tamale Metropolis, Northern region.

1.4 Specific Objectives

1. To ascertain the proportion of post-partum mothers utilizing modern contraceptives in Tamale
2. To discover the various types of contraceptives used by post-partum mothers in the Tamale Metropolis
3. To determine the factors influencing the utilization of contraceptives among post-partum mothers in Tamale.
4. To assess the influence of partner support on postpartum family planning uptake among women in Tamale Metropolis
5. To explore strategies that may encourage post-partum mothers in the usage of contraceptives within the Tamale Metropolis.

1.5 Research Questions

1. What proportion of post-partum mothers utilizes modern contraceptives in the Tamale Metropolis?
2. What type of modern contraceptives are commonly accessed by post-partum mothers in the Tamale Metropolis?
3. What are the factors influencing the utilization of contraceptives by post-partum mothers in the Tamale Metropolis?

4. What effects does partner support have on postpartum family planning uptake among women in Tamale Metropolis
5. What strategies can potentially scale up the usage of modern contraceptives among post-partum mothers in the Tamale Metropolis

1.6 Conceptual framework of the Study

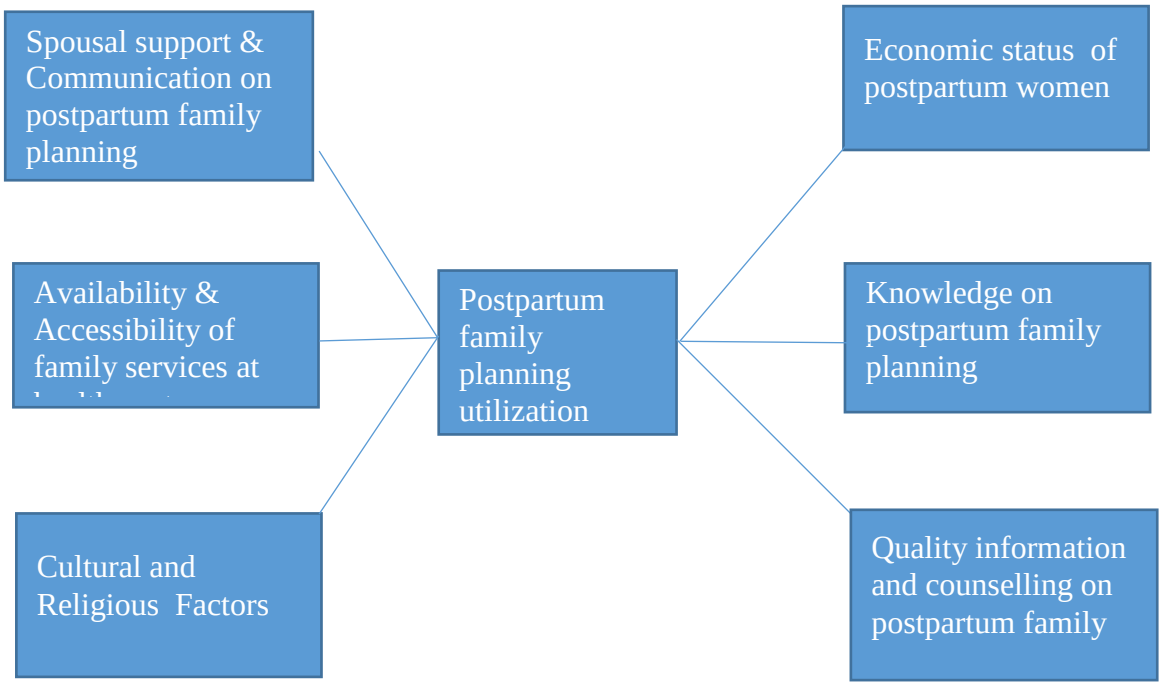

Figure 1.1: Conceptual Framework

Source: Author´s Construct

The conceptual framework above explains the pertinent factors that predicts the family planning uptake behaviour of postpartum mothers. The framework is the authors own construct. However, a well-tested comprehensive conceptual framework designed by Rosenstock known us the health belief model (HBM) was one of the early emerged models used to explain variations in contraceptive uptake among women in the 1970s and 1980s(Hall, 2012). Availability and access to family planning services at health centres, quality information and counselling on postpartum FP, spousal support and communication on postpartum family planning, economic status of women, cultural and religious factors are key determinants for utilization of contraceptives among postpartum mothers. Once these barriers are improved, there will be wide usage of contraceptives among mothers during the postpartum period.

1.7 Structure of the thesis

The thesis is structured into six main chapters. Chapter one (1) is the introduction of the study which entails the background of the study, problem statement, research questions and objectives, justification and structure of thesis. Chapter two (2) embodies literature review which outlines relevant information related to the study. Chapter three (3) outlines the methodology employed for the research. Chapter four (4) presents analysis and results for the study while chapter five (5) and six (6) focuses on discussion of the results and conclusion /recommendation for the study respectively.

1.9 Definition of Terminologies

Family Planning: Implies the ability of individuals and couples to anticipate and attain their desired number of children, spacing and timing of their births.

Contraception: Defined as any means capable of preventing pregnancy through the treatment of involuntary infertility. The contraceptive effect can be obtained through temporary or permanent means.

Modern Contraceptive Method: Modern contraceptive methods are technological advances designed to overcome biology and permit complete sexual freedom. It consists of a product or medical procedure that interferes with reproduction from acts of sexual intercourse. It includes oral contraceptives, injections, condoms, subdermal implants, male and female sterilization and Intrauterine devices (Hubacher & Trussell, 2015).

Family Planning Estimation Tool: It refers to a web application that uses historical survey data and data from family planning services to generate estimates and projections of family planning indicators over time (Cahill et al., 2020).

Fertility Rate: The fertility rate at a particular age is defined as the number of children born alive to women of that age during the year as a percentage of the average yearly population of women of that age. It is represented in terms of children per woman. The total fertility rate is the sum of the age-specific fertility rates for all women multiplied by five. The age-specific fertility rates are those within the age groups from 15–49 (WHO)

Live Birth: A live birth is defined as the complete expulsion or extraction from the mother of a baby, irrespective of the duration of the pregnancy, which, after such separation, breathes or shows any other evidence of life, such as beating of the heart, pulsation of the umbilical cord, or definite movement of the voluntary muscles, whether or not the umbilical cord has been cut or the placenta is attached. Each product of such a birth is considered live born. (WHO)

Sexual Health: Refers to the integration of the somatic, emotional, intellectual, and social aspects of sexual being in ways that are positively enriching and that enhance personality, communication, and love (Infantil et al., 2004).

Postpartum: The postpartum period begins immediately after childbirth as the mother's body, including hormone levels and uterus size, returns to a non-pregnant state. The terms puerperium, puerperal period, or immediate postpartum period are commonly used to refer to the first six weeks following childbirth. The World Health

Organization (WHO) describes the postnatal period as the most critical and yet the most neglected phase in the lives of mothers and babies because most maternal and new-born deaths occur during this period

Demographic and Health Survey: It refers to nationally-representative household surveys that provide data for a wide range of monitoring and impact evaluation indicators in the areas of population, health, and nutrition. It is conducted about every 5 years (USAID, DHS program).

Maternal Health: Refers to the health of women during pregnancy, childbirth and the postpartum period. It encompasses the health care dimensions of family planning, preconception, prenatal and postnatal care in order to reduce maternal mortality and morbidity.

Contraceptive Prevalence Rate (CPR): Percentage of couples using a contraceptive method, either modern or traditional.

Mathematically, CPR = $\frac{\text{Married women (15–49 years) currently using contraceptive}}{\text{Total married women in the reproductive age (15–49 years)}}$ *100

CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

What is already understood about postpartum contraception is the subject of the literature review. The literature review will be used to identify and draw relevant theoretical and conceptual framework for defining the research topic, lay the building blocks for this study, stimulate new research ideas, and determine any gaps or inconsistencies in the existing body of knowledge. In addition, it will help evaluate variety of sources, such as academic and professional journal articles, books, and web-based materials(Rowley & Slack, 2004). Many studies have been conducted to investigate the factors that inform contraceptive use among postpartum mothers. Therefore, the information gathered from previous studies will be used to provide an understanding of the factors that could foster or hinder the patronage of post-partum family planning services among women.

More importantly, the analysis will address key issues relating to the sociodemographic characteristics of postpartum mothers, the prevalence of postpartum contraception, factors influencing the use or non-compliance of postpartum contraception among mothers, the family planning methods commonly accessed by post-partum mothers and partner support for postpartum family planning. Postpartum contraception barriers that prevent mothers from practicing family planning have also been addressed.

2.1 Family Planning in Ghana

The initial establishment of the national family planning program was dominated by the ministry of finance and economic planning. It sought, but only partially succeeded in bringing the health ministry on board. The goal was to develop a national family planning program by bringing various ministries and private organizations together through the establishment of the national family planning council with full representation from the government and private sector.

According to the World Health Organization (WHO), despite significant advances in family planning uptake over the years, many women worldwide wish to prevent pregnancy but unfortunately most couple do not use contraception. There are several unmet needs which includes poor family planning service, lack of a variety of methods, fear of opposition from partners, and concerns about side effects among others. Unwanted pregnancy is a serious ongoing social and health problem in Africa.

By avoiding unwanted and untimely pregnancies, as well as limiting women's exposure to the health risks of childbirth and abortion, family planning helps save lives and protects health of women and children. Couples and individuals have the right to freely and responsibly choose the number and spacing of their children and as well have access to information, education, and resources that are required for any method of family planning.

Considering the consequences, it is essential to avoid unwanted pregnancies by allowing access to contraception, including emergency contraception, as well as safe

abortion services and empowering women to make their own reproductive choices (Fotso et al., 2013).

When maternal mortality was declared in Ghana as a national emergency, the government recognized the essence of handling family planning as a multisector issue and readily took action. Since the government's initial commitment to expanding quality FP services in 2012, the number of stakeholders working to expand quality FP services has grown to include both the public and private sectors, civil society (including faith-based organizations, professional guilds, etc.), and the media. Ghana has taken significant steps to making services and methods readily available to all, including the establishment of a legislative instrument in 2017 to include FP in services provided under the national health insurance and the provision of FP services and commodities at no cost in its public health facilities. Ghana continues to increase the number of women and girls who use modern contraceptives, through enhanced provider training, a broader method mix, and increased demand for family planning (World Fertility and Family Planning 2020 Highlights)

In Ghana, both the governmental and commercial sectors play a key role in providing family planning services. The commercial sector widely distributes non-clinical short-term measures such as the pill and condoms. Ghana has a thriving social marketing program that collaborates with, pharmacies, private clinics and maternity homes, as well as significant non-governmental organizations (NGOs) like the Planned Parenthood Association of Ghana (PPAG) and Mariestopes International Ghana (MSIG). The public sector offers the complete spectrum of clinical and non-clinical

FP methods largely through health facilities and also supports key partners such as PPAG and Mariestopes International (MSIG) etc.

2.2 Postpartum contraception

Post-partum contraception is defined by WHO as the prevention of closely-spaced pregnancies and unwanted pregnancies through the first twelve (12) months following childbirth. Family planning (FP) is an essential component of health care provided during the antenatal period, immediately after delivery and during the first year postpartum (WHO 2009). In most cases, post-partum family planning is incorporated into reproductive, maternal, neonatal, and child health care. By successfully separating birth-to-pregnancy intervals by at least 2 years and birth-to-birth intervals by at least 3 years, post-partum family planning might avert more than 30% of maternal and 10% of new-born mortality (Tran et al., n.d.).

According to some studies, a woman's need for contraception changes throughout her reproductive years, but need is highest during the postpartum period (Jalang'O et al., 2017). Contraception can be used as soon as 10 minutes after the placenta is delivered or as late as 48 hours to 6 days after the placenta is delivered. However, some women may continue to use a contraceptive method after the sixth week preceding delivery and up to the end of the first year.

According to Ross & Winfrey (2001), 95% of mothers in low- and middle-income countries wish to delay pregnancy for two years, but 70% do not use any effective contraceptive method.

The postpartum period also known as the postnatal period begins immediately after childbirth as the mother's body physiology, including hormonal levels (oxytocin, adrenaline, prolactin and endorphins) and uterus size returns to a non-pregnant state. The mother immediately after birth, go through a transition that may be physical, physiological or psychological in nature. Physiologically, the new mother losses weight, the abdomen also reduces and the uterus begin to shrink back to its normal shape and size through the help of the oxytocin hormone. This process is known as involution. According to the World Health Organization, the post-partum period is the most crucial yet neglected phase in the lives of women and babies as most maternal and neonatal deaths occur during this period.

Depression and mood swings may set in some new mothers during the partum period most especially during the early days after delivery, it may rise sharply for a week and finally diminishes in the second week. This can also be referred to as “Baby blues”. However, it may be more intense after early weeks of delivery which may lead to postpartum depression. Postpartum depression is a mental disorder that affects the mood of a new mother, loss of interest or pleasure, feelings of guilt, poor concentration. It can also lead a new mother to withdraw from his partner, unable to bond well with the new born baby, experience anxiety, suicidal thoughts, and insomnia. The cause of postpartum depression maybe associated to the sudden change in hormones after delivery combined with stress, isolation, sleep deprivation, and fatigue.

Postpartum depression (PPD) affects between 10% and 15% of women after delivery though it is quite difficult in predicting who will go through such experience among

a population of women. However, women who might have had previous experience on postpartum depression may have 50% chance of experiencing another episode during the post-partum period (Werner et al., 2016). A research study from the don population-based cohort revealed that, a mother suffering from mild form of postpartum depression taking care of a baby by herself without help could be frustrating, and it is even more frustrating if that is her first child. The study further revealed that risk factors for postpartum depression which is one of the most pervasive complications of child bearing are poorly understood in Africa (Weobong et al., 2015).

Despite the seriousness of postpartum depression, there are some interventions that can be rolled out to reduce postpartum depression among new mothers. The interventions include providing supportive psychological counselling that encourages and informs parental identity, offering psychoeducation about the postpartum period and adopting mindful techniques aimed at helping mothers to cope better when their babies are distressed.

It is important to note that the most successful approach to reducing accidental and premature pregnancies as well as unplanned childbirths is to provide postpartum contraceptives for women with unmet needs. Unintended childbirth maybe related to adverse morbidities, such as impaired mother-child bonding and maternal depression (Gong et al., 2013).

Furthermore, the World Health Organization (WHO) in 2013 held a conference specifically on family planning in Ethiopia, Addis Ababa. The conference was

focused on the family planning needs of post-partum women and Strategies to incorporate postpartum family planning programs in low and middle-income countries' health delivery systems. Consequently, a comprehensive policy document was adopted. The policy aimed at promoting the provision of reproductive health services and facilities by postnatal and child welfare clinics as a way of effectively continuing antenatal care.

2.3 Prevalence of Post-Partum Contraception

Statistics on postpartum contraception among women is limited especially in Ghana and Africa in general. Most postpartum contraceptive studies in the past focused on teenagers, refugees and women with special medical conditions, women in rural areas and diverse ethnic groups. Depending on geography, socio-economic and religious factors, the contraceptive prevalence differs even within some countries (Cleland et al., 2011).

Contraception use varies across the world. There are different degrees of usage among continents. Within countries, there are also regional and zonal differences in contraceptive use. Disparities in contraceptive usage account for about 92% of the variation in fertility, implying that when contraception is widely used, fertility will decline and birth spacing will become more common (Agwanda et al., 2014). As a result, contraception is critical not just for its impact on fertility, but also for the health of both the mother and the child.

Postpartum period is an essential entryway for family planning service provision among women of reproductive age (15-49). The postpartum period is a crucial period

where most maternal and neonatal mortalities occur and so there is an urgent need for the design of interventions to help reduce this canker. It has been estimated that PPFP prevents about 30% and 10% of maternal and child mortalities respectively (Prata et al., 2011). Admittedly, the health of both mothers and new-borns can be maintained through the practice of postpartum family planning. Family planning use during post-partum has the potential of significantly reducing unintended pregnancies and ensuring adequate birth spacing. Unfortunately, most women are still uncertain about the use of family planning methods during this period. The prevalence of postpartum family planning differs across countries with developed countries recording high prevalence compared to developing countries of which Ghana is inclusive. This is as a result of the variation in our cultural beliefs, socio-economic status, educational level and level of partner support. However, uptake of modern family planning methods remains low in most African countries and this is associated with a high incidence of unwanted pregnancies, unplanned deliveries and maternal mortalities (Cleland et al., 2011).

Among married women or those in intimate relationships in West Africa, a low prevalence of modern contraceptive use of less than 20% was reported in the year 2017 (Cahill et al., 2018). Generally, the use of contraception among women of reproductive age in sub-Saharan Africa increased steadily from 13 percent in 1990 to 29 percent in 2019 indicating that there is improvement in the usage of family planning methods (World Fertility and Family Planning 2020, 2020).

According to the 2014 Ghana Demographic Health Survey (GSS & GHS, 2015), contraceptive prevalence rate among married women stood at twenty seven percent

(27%) for all methods, and twenty-two percent (22%) for modern methods. Again, the prevalence of contraceptive use among married women in urban areas is higher than married women in rural areas with prevalence rate of 26% and 28% respectively. However, by region, the Volta region recorded the highest prevalence rate of 32% while the Northern region recorded the lowest rate of 11%.

It is interesting to note that the trend in family planning acceptor rate in Northern region where this study is conducted increased marginally in the year 2014 by 19.4% and declined steadily in 2015 by 18.5%. However, it increased sharply from 24.1% in 2018 to 28% in 2020 as reported in the 2020 Ghana Health Service annual report. The increased performance observed over the years in the region could be attributed to the massive family planning outreaches programmes embarked on by midwives and some private partners in sexual and reproductive health services, the implant task shifting policy implemented to provide community health and enrolled nurses the opportunity to be trained to provide implant services at various health facilities, the increased collaborative efforts with other implementing partners and the private sector, promotion of male involvement in family planning activities, and more importantly, the identification and training of community leaders as advocates for family planning services.

Adoption of postpartum contraception offer women the opportunity to pursue their ambitions and as well help them to be healthy together with their children so as to enable them have a fulfilled and promising life.

2.4 Contraception methods commonly accessed by post-partum mothers

There are several contraceptive options that women can use during the immediate post-partum period in order to be safe from becoming pregnant again. It is recommended that postpartum women start contraception three weeks after birth and the family planning method to be chosen during the postpartum period may depend on the feeding option adapted for the new born.

Contraceptive methods are often categorised into modern or traditional methods. Modern methods of contraception include the intra-uterine device (IUD), male and female sterilisation, implants, injectable, oral contraceptive pills, male and female condoms, diaphragm, cervical cap and spermicidal foam, jelly, cream and sponge, vaginal ring, lactational amenorrhea method (LAM), emergency contraception etc. Some breastfeeding women practices the Lactational Amenorrhoea Method (LAM) which is usually started immediately after birth up to six months. The contraceptive effects of this method are as a result of the increased levels of prolactin. The production and secretion of the gonadotrophin hormone are inhibited when prolactin levels increase in the body of the breast-feeding mother. This method is proven to be 98% effective(Frcog et al., 2014). Progestogens can be started six weeks after delivery while combined oestrogen-progesterone contraceptives are started six months post-delivery in order to block ovulation thereby preventing pregnancy(Loewenberg Weisband et al., 2017).

In the case of women who are not breastfeeding, other recommended methods are the use of progestogens right after delivery as well as the use of combined method three weeks post-delivery (USAID, 2008). The traditional methods are natural family

planning methods and they include rhythm also known as calendar period, withdrawal method etc. However, the modern contraceptive methods tend to be more effective at averting unintended pregnancies compared to the traditional methods (UN World Fertility and Family Planning 2020 Highlights).

Globally, 49 percent of women in their reproductive ages (15-49 years) representing 922 million women in 2019 were using some form of contraception, an increase from 42 percent representing 554 million women in 1990. Again, 45 percent of women of reproductive age were using a modern method of contraception in 2019, making up 91 percent of all contraceptive users compared to 36 per cent of women in their reproductive age who were using a modern method of contraception in 1990, constituting 86 per cent of all contraceptive users. This data indicates that there has been gradual decline in the use of traditional contraceptive methods among women in the last 29 years (UN World Fertility and Family Planning 2020 Highlights). Furthermore, in West Africa, the use of lactational amenorrhea method and calendar method were commonly reported among women practising contraception with 72.1% and 51.8% utility rate respectively. However Ghana and Malawi reported implants as the preferred contraceptive method by post-partum women from two respective studies in 2010 and 2013 (Dev et al., 2019).

In Ghana, unmarried women in their reproductive ages are the vast majority in the usage of contraceptives of any method representing 45 percent while 27 percent of married women use any contraceptive method. However, in terms of the category of contraception, 22 percent use modern method and five percent (5%) use the traditional methods. With the usage of modern contraceptives among married women , injectable

are the most widely used with 8 percent, followed by 5 percent use of implants and pills respectively (GSS & GHS,2014)

The 2014 GDHS also demonstrates that with the number of living children, modern contraceptive use increased. While contraceptive use was reported by only twenty one percent of married women who were nulliparous, at least one modern method was used by women who had 3-4 children. Similarly, a study conducted in Turkey showed a correlation between parity among postpartum women and contraceptive use. The study further revealed that with enough information, most multiparous women could possibly decide to adopt modern methods of contraception to reduce childbirth. The provision of counselling and contraception programs resulted in the rise in contraceptive use from 33.5 percent to 59.5 percent, with most multiparous women preferring long-term reversible or sterilization methods (Ertem et al., 2001).

2.5 Factors Affecting Contraceptive use among Postpartum Mothers

The relationship between postpartum family planning and possible accompanying factors that may influence postpartum women to use or not use some form of contraceptive method is revealed by data from many studies around the world. These factors may include age, geographical location, educational level, parity, information on family planning services, cultural and religious factors, and spousal influence, past experience with the use of contraceptives, influence of relatives and in-laws as well as quality of family planning services. These factors can be roughly divided into demographic characteristics, socioeconomic characteristics, fertility preferences, and use of maternal health services.

It is important to note that fertility rates as well as maternal and child mortality rates have all decreased in many developing countries over the last few decades. This is owing to a rise in the use of modern family planning methods as well as changes in child and maternal care. Despite this development, child and maternal mortality rates remain alarmingly high. In 2003, 200 million women in developing countries were estimated to be in need of modern contraception. Seventy-five million people had unwanted pregnancies (Singh et al., 2009), with 20 million of these women having illegal abortions according to the World Health Organization. More than 500,000 women die each year from pregnancy-related causes, and nearly four million new-borns die largely from preventable condition (WHO, 2007).

Most women have provided a variety of reasons for not using modern contraception despite their desire to avoid unplanned pregnancies. The reasons are outlined below.

2.6 Information on postpartum contraception

Information on postpartum contraception, its importance to the mother, the child and the country at large is mostly not propagated to women especially during antenatal and postnatal periods by midwives or gynaecologist. Family planning counselling during the antepartum period provides a crucial window of opportunity to address unmet need for family planning during the post-partum period. Many women complain they don't get any advice on the importance of family planning before they give birth. As a result, they go home assuming they're not at risk of becoming pregnant since they have delivered. Only to realise they are pregnant again within some weeks post-delivery. In Mexico, where family planning counselling is an integral part of prenatal care, an assessment of the impact of this counselling service revealed that

47% of women used a modern contraceptive process after delivery to prevent unwanted pregnancies. Those who received guidance on family planning during prenatal care were slightly more likely to use a contraceptive than those who did not (OR= 2.2). (Barber, 2007).

Again, due to the high rate of illiteracy among rural women, it is always cumbersome for them to appreciate family planning issues. Informed option is therefore critical for determining, tracking, and evaluating the quality of family planning services. Clients accessing family planning services have a right to know about the different contraceptive options available and the potential side effects of these options as well as what to do if they experience side effects or symptoms as a result of the methods adopted. According to the 2014 Demographic and Health Survey report, about seven out of ten modern contraceptive users constituting 67% were taught by a health worker about the possible side effects of various family planning methods, six out of ten constituting 57% were told what to do if they had side effects, and seven out of ten constituting 72% were informed about other contraceptive options. It further revealed that contraceptive users were less likely to obtain information about side effects or issues with the procedure used from a private medical facility than from a public medical facility (37 percent versus 77 percent), or information about what to do if they encounter any side effects (28 percent versus 67 percent), or information about other methods that may be used from a private medical facility than from a public medical facility (48 percent versus 81 percent). This clearly shows that clients are well informed on their contraceptive choices in public health facilities compared to private health facilities.

Due to the information gap, many women have fears and concerns regarding the use of contraceptives some of which unfortunately are based on myths and misconceptions. Hearsay about side effects and misinformation were common reasons for non-use. Menstrual irregularities caused by hormonal contraceptives as well as perception that contraception might lead to infertility, particularly in young women, emerged as major themes.

Some women also believed blood tests were required to ascertain the type of contraceptive method to be used before they are offered with the options. Other concerns of many women are that a specific contraceptive method could make them infertile, as a result preventing them from using contraceptives in many situations. The fears harboured by clients can only be allayed through accurate information given by health workers during antenatal and postnatal visits. More advocacies can also be done through community outreaches and radio programmes to help minimize the infodemics associated with contraceptive use among postpartum women.

2.7 Partner Support for Postpartum contraception

In many low-income countries, including Ghana, a woman's decision to use postpartum contraception may require husband permission due to cultural norms and male dominance in the decision-making process. Gender inequities and norms relating to women's subordination offer Ghanaian men overwhelmingly more power than women, particularly when it comes to sex.

Some tribes and religious groups are wary of publicly discussing family planning because of the perceived trivialities associated with it. As a result, there is a lower

utilization of contraceptives in these societies. In planning of FP adoption initiatives, the role of men in decision-making is often ignored, with more emphasis on women because of the perceived health risk associated with non-compliance to family planning services.

Most African women have a strong desire to use contraception to avoid unintended pregnancy; however, in most situations, their partner's attitude or reaction will decide whether they will use it. According to a study conducted by Toure (1996), it revealed that while men often have positive attitudes toward family planning, their wives often assume they are against the practice. In addition, a connection between spousal communication and the use of family planning was evident. Unfortunately, one-tenth of married women report that not using contraception is due to their husbands' disapproval (Drennan, 1998).

In community-based family planning interventions, spousal support and communication is often used as a benchmark to ensure the utilization of contraceptives. This offers an opportunity for couples to freely discuss their fertility preferences and reproductive needs, allowing clinicians to contribute useful information to help couples make informed decisions. Consensus, which evolves over time, has been demonstrated in studies of spousal communications (Bawah,2002). Some women may use contraception in secret, despite their male partner's disapproval, in order to avoid potential conflict. These examples show that, while spousal communication is important in contraceptive use, the woman's preferences and motives can outweigh the influence of the male spouse. Most women therefore

go an extra mile in engaging in family planning services without seeking consent from their partners leading to serious conflict which may eventually lead to divorce.

Data available shows that the majority of married women (63percent) in Ghana who are using contraception say that decisions about using family planning are made jointly by the husband and wife, over one-quarter (27 percent) of women say they make decisions alone about the use of family planning, and only 11 percent said that their husbands/partners mainly decides their use of contraception (GSS & GHS, 2015).This finding reveals that spousal communication pertaining family planning services is markedly increasing contrary to other studies that suggest the opposite.

The use of PPFP may be successfully increased among women through community-based care that includes husbands and as well as information, education and communication materials. A prospective cohort research in India showed a substantial increase (61.8 percent versus 30.6 percent) in contraceptive usage by women in the intervention group compared to the control group at 9 months postpartum. An educational campaign was conducted out by community health workers with the aid of flyers, posters and booklets. Pregnant women, their husbands, mothers-in-law, and opinion leaders of the community were all targeted by the campaign (International et al., 2018).

According to a study by Kimuna and Adamchak (2001), male acceptance of a contraceptive method and determination of family size must be taken into account when making contraceptive choice and use decisions. This is in line with another study conducted in Ghana by Ezeh (1993) which revealed that spousal influence is more

often an exclusive right of the husband than a shared decision. Though the predominance of females cannot be denied in most patriarchal societies in developing countries, the contraceptive decision-making process is typically complicated. Women have little to say when it comes to decision making process regarding their contraceptive choices.

2.9 The role of family planning counselling in the usage of PPFP services

Family planning counselling during the postpartum period is one of the effective ways to help women adjust to another modern form of contraception to avoid having too many pregnancies and adhering to the recommended two-year birth spacing by the World Health Organization (WHO). This can be done through well trained community health workers, midwives and clinical providers at various health centres and more importantly establishing friendly reproductive health centres were confidentially, warm and receptive environment can be assured. Also, women must be given the opportunity to ask questions to enable them make informed choices. Furthermore, integration of counselling on contraception during antenatal care and labour periods has the potential of increasing post-partum contraceptive use (Puri et al., 2020). PPFP counselling incorporated with ANC is considered a good period to advise women on return to fertility, proper use of LAM, and pregnancy risk during the postpartum period, while PNC offers an opportunity to reaffirm what has been learned (Zimmerman et al., 2019). Unfortunately, the availability of antenatal contraceptive counselling is not universal. Depending on the location and the health system, different practices are used. Just a small percentage of mothers are counselled about future contraception during the antenatal period. On the contrary, counselling on postpartum contraception is normally postponed until six weeks after childbirth,

when the postnatal check is performed which is usually two to three weeks away the recommended time for starting contraception. Many women may resume sexual activity by that time and would be at risk of another pregnancy. In effect, women who go through multiple antenatal contraceptive counselling sessions were likely to use current contraceptive methods than those who received only one postnatal counselling session (Care, 2013). Another study in India discovered that there was a link between provision of FP counselling to women when they are in the hospital or health centre for childbirth and increased modern contraceptive usage (Dehingia et al., 2019).

In promoting modern contraceptive use and fulfilment of couples' family planning needs and goals, it is critical to provide high-quality contraceptive counselling. Quality FP counselling also has great impact on family planning initiation and continuation among couples. Some studies on various contraceptive methods has shown that adequate counselling on side effects, clarification of misconceptions surrounding the use of contraceptives and resolving spousal dynamics such as clandestine usage can contribute to the consistent use and continuation of contraceptive methods (Dehingia et al., 2019). Unfortunately, the prevalence of FP counselling among couples remains low in Ghana due to societal norms and religious beliefs. Some couple may feel uncomfortable seeking counselling services as a result of low confidence in service providers. Often times, the information provided maybe biased due to the provider's personal beliefs, personal knowledge, or moral resistance to certain FP methods. According to a study conducted in Nepal, it revealed that doctors were rated as the most trustworthy source of information by women as far as FP counselling was concerned surpassing nurses/midwives, implying that including more doctors in family planning counselling could help women absorb information

and improve perceptions of quality FP counselling (Puri et al., 2020). Despite the availability of family planning services in some places, women and girls do not believe they can have access due to negative attitudes among health workers which tend to discourage them from patronizing the services (Averill, 2012). Religious leaders also preach against the practice thereby discouraging their congregants or followers who would have wished to adopt the practice. For instance, some Islamic clerics and pastors preach against FP services and encourages their followers to rather procreate more with the notion that what is ordained by God cannot be contested nor changed. Even though recent interventions for ensuring quality FP services are focused on interpersonal relationships, or individual encounters, women's integrity, privacy and confidentiality as well as preparedness of health facilities in providing services, a very small proportion of women received any counselling from clinicians, suggesting a huge gap in provision of FP services. Continued use of modern contraception by married women of reproductive age can be encouraged with high-quality FP counselling and a person-centred counselling approach.

2.10 Incorporating postpartum contraception into community new-born care programs

Many aspects of Ghana's primary health care system already include family planning.

Most notably, family planning was one of the original functions of the Community-based Health Planning and Services (CHPS) program, which was established to increase access to basic health care in rural and underserved communities. The Ghana Family Planning Costed Implementation Plan, which outlines strategies for improving sexual and reproductive health, was approved by the government as part of Ghana's

FP2020 commitments. In order to fulfil the FP2020 commitments, the strategy emphasizes the value of incorporating family planning into the primary healthcare (PHC) structure and other vertical programs such as maternal and child health care, antiretroviral therapy clinics, and client-initiated HIV testing (Rowan et al., 2019).

It is important to note that most community-based care programs concentrate on infant care during the first few weeks of life of a new-born, including services like immunization within early days after birth. Interactions between new mothers and health-care providers give a good chance for family planning counselling. Early postnatal visits are therefore essential for incorporating Lactational Amenorrhea Method (LAM) counselling as well as information on fertility. During the first year after delivery, child welfare and immunization visits provide a window for tackling incompliance to family planning and contraception with mothers. LAM is a highly effective contraceptive method that also has significant benefits for infant health. Even though LAM is a temporary method, there is evidence that it is a gateway to other modern contraceptives. However, more education must be done on the effectiveness of LAM as a reliable postpartum contraceptive method since some providers have doubts about its efficacy. Information on types of contraceptives and the timing for its intake must also be well communicated by providers.

A piloted study conducted in Liberia on integrated family planning and immunization model at ten health facilities in two counties found that the overall number of new acceptors of postpartum contraception increased between 73 and 90 percent in these two counties. The study employed well trained nurses (vaccinators) who counselled on postpartum contraception at the child welfare clinic, and those who made an

informed decision were referred to the same facility's FP unit for additional counselling and subsequently provided with the method (Cooper et al., 2015).

In Ghana, Rwanda, Togo, and Zambia, quasi-experimental studies on integrating family planning and immunization services were conducted. After services were integrated in Rwanda and Togo, it revealed that there was a significant increase in contraceptive use but no change in patronizing immunization services. In Ghana and Zambia, however, there was no statistically significant increase in contraceptive uptake, and immunization data were not tracked. Process findings from Ghana and Zambia, on the other hand, indicated that the model was not implemented as directed. In Zambia, family planning information was frequently given during group discussions rather than one-on-one counselling sessions whereas family planning messages were not consistently communicated in Ghana.

However, some studies revealed findings contrary to the evidence of effective integration of postpartum family planning into new-born care programs in developing countries. According to Adofo E. 2014, Cochrane systematic review conducted in 2011 revealed some improvements in maternal & child morbidity as well as fatality due to some interventional programs, but these surveys did not clearly document the project conceptualization and implementation plans, leading to the authors' conclusion of inadequate evidence (Bain-Brickley et al., 2011).

2.11 Impact of maternal age and contraceptive usage among post-partum mothers

According to the 2014 GDHS, the age of a woman influences her contraceptive uptake. Usage is low among young women aged 15-19 (19%), owing to the fact that they are still in the process of starting a family, and higher among the elder women aged 45-49 (18%), some of whom are no longer fertile. Among currently married women, injectable are the most common modern form (8 percent), followed by implants and the pill (5 percent each). Another study revealed that young women were less likely to use contraceptive compared to older women of childbearing age during the postpartum period. This is because it is believed that modern contraceptives can severely affect their ability to have more children.

Again, young women opt to use contraception by choosing short term contraceptive methods like injectable and emergency contraceptive pills compared to older women choosing long-acting reversible and lifelong contraceptive methods. Traditional and short-acting reversible contraceptives are mainly used by women of reproductive age in Sub-Saharan Africa, however they are vulnerable to inaccurate or inconsistent use, as well as failure.

Long-acting reversible contraception (LARC), on the other hand, will offer up to ten (10) years of highly efficient pregnancy prevention. LARC contraception is one of the safest, most cost-effective, and most efficient methods of contraception available. The copper intrauterine device (IUD), the levonorgestrel intrauterine system (LNG-IUS), and the contraception implant are all part of the LARC.

Each year, an estimated 16 million teenagers between the ages of 15 and 19 give birth in developing countries with complications from conception, birth, and illegal abortion being the leading cause of death among teenage females. Maternal sepsis and haemorrhage are frequent causes of death among women aged 25 and below in developed countries (Krashin et al., 2015).

According to the 2008 World Public Health Survey, only 20% of women aged 15 to 24 used modern contraceptives, compared to 34% of men.

In a rural area of India, Mahmood et al (2012) found that postpartum contraception was more prevalent among women under 30 years of age and belonged to the middle-income class. This disparity in findings is attributed to variations in the educational levels of the participants, with the latter research using elite women who had access to a variety of sources of knowledge on postpartum contraceptives, thus the higher probability of the adoption of postpartum contraception.

2.12 Economic factors influencing postpartum contraception

Family planning plays an essential role in terms of poverty reduction, population growth and human development. This view is supported by evidence from the United Nations and other governmental and non-profit organizations (Allen, 2007).The widespread of poverty in developing and densely populated countries is alarming since per capita income is low due to the high population. For example, in India, research revealed that only males earning at least Rs. 5000 were 2.3 times highly likely to utilize contraception (Balaiah et al., 2005).

Robust family planning services, however, have a number of advantages, including improved mother and new-born survival and care, nutrition, educational achievement,

improving social status of women and girls, HIV prevention, and other sexually transmitted infections.

According to Allen (2007), on average, poorer women had more unplanned pregnancies and fewer contraceptive options than wealthy ones. Ethiopia, Bangladesh, Kenya, Rwanda, Haiti, and Nicaragua are among the nations where women have one to two more children than they desire. Family planning interventions are therefore desperately needed in these countries and other low-income countries. In a related study conducted in Bangladesh, it revealed that the amount of a couple's wealth impacts male engagement in family planning (Kamal et al., 2013).

According to Abdel and Amira (2013), rural regions in Kenya are linked with low economic levels, and hence contemporary contraceptives are replaced with traditional techniques, which do not always work.

Poverty has a linkage to poor educational outcomes which in turn contributes to the high unmet needs for family planning. Ferdousi et al. (2010) and Hossain (2003) discovered that the degree of education of couples has influenced their usage of contraceptives in India and Bangladesh, respectively. As a result, the higher one's educational level, the more he /she uses and adapt contraception. In Uganda, research suggest that males with higher levels of education had a reduced unmet need for family planning.

According to the United Nations population division, less endowed couples had higher propensity to have children at early adolescence than affluent couples. They further reported that, as compared to rich couples, poorer couples have more children

throughout their lifetimes. Modern contraceptives, on the other hand, are only used by rich couples. As a result, impoverished couples are relegated to the usage of conventional contraception, which males are often hesitant to accept. Therefore, lack of male involvement in FP can have dire consequences on many women and the family at large. A study conducted in Uganda revealed that women perceived men to be obstacles to family planning utilization as they are responsible for family planning decisions which usually had consequences on the family or household (Kabagenyi et al., 2014).Relatedly, another study revealed poverty as a major barrier to male involvement in family planning. Also, even for wealthy women whose husbands were poor, only 1 out of 5 married women had unmet demand for contraception. In patriarchal societies, where men have control over their families, they see it as their responsibility to provide entirely for their households. However, if they cannot afford contraception, they will prohibit their spouses from obtaining family planning services due to their financial situation. It is therefore important to involve males in family planning programs so as to improve postpartum family planning uptake.

CHAPTER THREE

RESEARCH METHODOLOGY

3.0 Introduction

This section would discuss the background of the study location, study design and type and study population. It also describes the subjects of the study, the instruments used, data collection procedure and analysis, statistical tools used, limitations of the study and more importantly how the sample size of the study was computed. The inclusion and exclusion criteria used and ethical considerations are also explicitly stated.

3.1 Study area

The study was conducted in the Tamale Metropolis covering all health facilities under each sub-district in all the four (4) sub-districts. The area is selected for the study because of the observed high rate of unplanned pregnancy among postpartum women and non-adherence to the two (2) year birth spacing recommended by the national population council.

Tamale is a cosmopolitan city with a population of 360,579 representing 9.4 percent of the region's population. Female and male population in Tamale constitutes 50.3 and 49.7 percent respectively. Among the population, 48.6% constituting inhabitants who are 12 years and older, are married compared to 44.2% who have never married. The fertility rate of Tamale stands at 2.8 slightly lower than the estimated 3.5 attributed to the entire Northern region (*Tamale Metropolitan Assembly*, n.d.).

According to the 2010 Tamale Metro population census report, the proportion of literate males constituted 69.2% of the total population higher than that of females with 51.1%. Five out of ten people (54.8%) within the Metropolis indicated they speak and write both English and Ghanaian languages. The Metropolis host to a number of schools including two public and one private college of health, one public university, five public senior high schools and a host of basic schools. A number of recreational facilities are also situated in the Metropolis.

The metropolis has been zoned into four (4) sub-metro with a total of nineteen (19) health facilities/clinics that provide health care services to two hundred and sixty-seven (267) communities. It also has one regional hospital, one teaching hospital and a host of five (5) other hospitals. There are also three (3) maternity homes and seven (7) CHPS compounds situated in the metropolis (NRHD, 2020).

Again, 63.3 percent and 36.7 percent of the population aged 15 years and older in the metropolis are economically active and uneconomically active respectively. The economic status of the metropolis is quite impressive compared to other districts in the region. Even though the Metropolis is a business city, it is characterised with a subsistence economy of which agriculture is the main occupation of some inhabitants. There is huge agricultural prospects in the Tamale metropolis as the land is suitable for the farming of grains, tubers and livestock. Other economic activities include transport business, food vending, weaving, agro-processing such as shea butter extraction, meat processing, fish mongering, wholesale and retail of general goods and services.

Majority of inhabitants residing in the Tamale Metropolis are Muslims by religion and Dagombas by tribe.

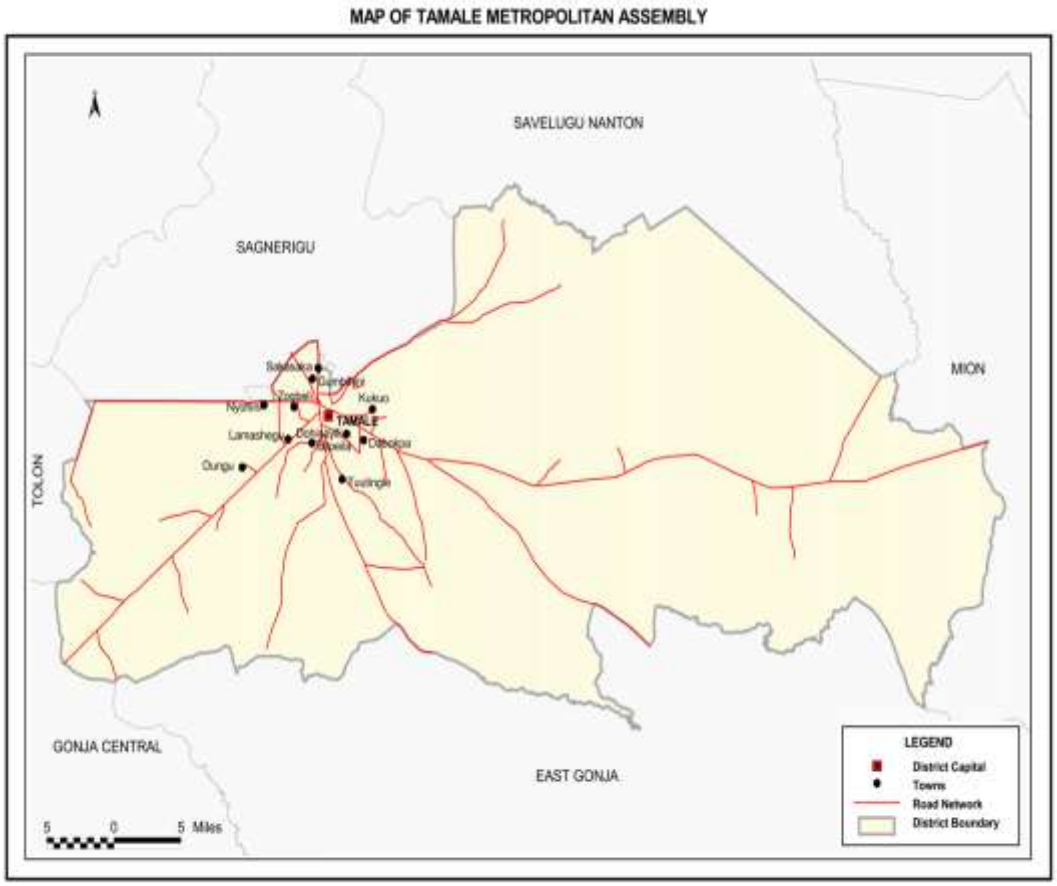

Figure 3.1: Map of the Study Area

Source: Ghana Statistical Service

3.2 Study Design

A cross-sectional analytical and descriptive study designs were employed and data originated through quantitative and qualitative methods. The descriptive approach was used to determine the proportion of post-partum mothers utilizing modern contraceptives and factors that influences them to practice post-partum family planning. The analytical approach was also adopted to determine the relationship

between factors and the postpartum uptake of family planning thereby establishing whether there is statistical significance or otherwise. The rationale for adopting a mixed method approach for this study was to ensure that I, the investigator gets in-depth information from participants and as well ensure validity and reliability of study instruments and statistical significance. The design also allows the investigator to easily collect data that can be used as a basis for further research (Mingying Zheng, 2015).

3.3 Study Population

All women within the reproductive age brackets (15-49 years) who had at least given birth to a live baby and living with their partners were eligible to participate in the study. Respondents would be recruited from public health facilities were family planning services are provided within the Tamale Metropolis.

3.3.1 Inclusion Criteria

Married women who had given birth within the past 12 months and living with their partners.

3.3.2 Exclusion Criteria

Women with children older than twelve (12) months were excluded from the study.

3.4 Sampling Technique

A simple random sampling method was employed for the selection of health facilities. A sampling frame consisting of all government/public health facilities were obtained from the Metropolitan Health Directorate. The list included all facilities offering both delivery and family planning services. Using simple random sampling method, four

(4) health facilities were selected for the study. To prevent bias, names of all health facilities under each sub-metro were written on pieces of papers and folded for random picking. One health facility was then selected under each sub-metro making it four (4) facilities in all.

In addition, respondents were recruited from the chosen health facilities using purposive sampling technique to participate in the study. Women who fell within the postpartum period and met the inclusion criteria were randomly selected and interviewed.

3.5 Sample Size Estimation

The sample size required for the study is 317. This was based on the postulation of a margin of error of 0.05, 95% confidence level and an estimated population proportion of 25% and 10% non-response rate. The minimum sample size was obtained for the study by using Cochran formula (Cochran, 1977).

Using Cochrane's formula, a minimum sample size of **288** was required for the study. However, the prevalence of utilization of modern contraceptive is greater than ten (>10) therefore, the prevalence of 25% was used for the computation.

$$n = \frac{(Z)^2(p)(1-p)}{E^2}$$

$$n = \frac{(1.96^2)(0.25)(1-0.25)}{0.05^2} = 288$$

Where,

n = estimated sample size

E = margin of error

Z = critical Z- score at 95% confidence

p = prevalence

Non response rate of 10% (0.1) gives: 0.1 x 288 = 28.8

Adding 28.8 to the sample size (n) of 288 gives, *(i.e., 28.8+ 288= 316.8)* Hence, the sample size for the study was approximated to 317.

3.6 Data collection procedure and technique

At enrolment, we administered coded questionnaires to mothers, and collected information on maternal sociodemographic characteristics, knowledge on the type of family planning services, commonly used family planning methods during the postpartum period, accessibility of mothers to contraceptive methods, barriers to family planning uptake among mothers and some interventions they think could help improve family planning usage. The definition of postpartum was clearly spelt out to research assistants as the uptake of modern contraceptives within a year of delivery. Purposive sampling technique was adopted by research assistants to recruit eighty (80) participants in each health facility who met the study criteria. A period of two weeks was used by the research assistants to collect data on all the targeted 80 participants. Each interview session lasted between 15 to 20 minutes.

One key informant being a midwife was also purposively recruited in each facility. The interview centred on availability of different contraceptives at the health centre, counselling services, information on side effects of some contraceptives, logistics required for delivering effective family planning services, and barriers to uptake of family planning by mothers. The questionnaire was administered in both the English and Dagbani language.

3.7 Data Collection Instrument

A permission letter was sought from the Tamale Metropolitan health directorate and submitted to all heads of various health facilities earmarked for the study. A structured questionnaire was administered to all respondents through face-face approach in each health facility visited. The questionnaire was adopted from the 2014 Ghana Demographic and Health Survey questionnaire template. The purpose of the study was explicitly explained to all respondents in order to avoid doubts before questionnaire was administered.

To have a deeper insight of the factors influencing contraceptive usage among postpartum mothers and other key challenges faced by service providers in delivering family planning services, key informant interviews were also conducted. The in-charge of the family planning unit in each health facility was interviewed using purposive sampling technique; Tamale West Hospital, Nyohini Health Centre, Builpeila Health Centre and RCH.

Interview guides were developed in English and read out in English language. A recording device was used to capture the audio of respondents.

In addition, to ensure the data validity and reliability, the questionnaire was pre-tested on at least six (6) post-partum mothers and one midwife each in three different health facilities. The questionnaire consisted of open and close ended questions categorised into five (5) sections. The first section comprised of socio- demographic variables such as religion, ethnic group, age, marital status, employment status, level of education and number of children. The second sections seek to assess the level of knowledge on contraception, usage and source of family planning information. The third section examined factors influencing the utilization or non-utilization of family planning services. It encompasses questions on accessibility and availability of FP services at various health centres, visits for PNC services, cost of FP services, side effects of FP methods etc. The fourth part of the questionnaire probed to ascertain whether post-partum women get the necessary support from their partners with regards to seeking of FP services, level of communication with regards to FP usage and the abuse/violence women go through meted out by their partners for using FP services. The final section consists of proposed strategies that may help scale up the utilization of FP services by post-partum mothers.

Respondents who are literates upon interrogation administered the questionnaire in English while non-literate respondents administered the questionnaire and guided through the local dialect.

After data had been collected, all questionnaire that were deficient in information were discarded. Completed questionnaires were arranged in an orderly fashion.

3.8 Study variables

3.8.1 Dependent variable

Current uptake of contraceptive by postpartum mothers attending postnatal services

3.8.2 Independent variables

The predictor variables for the study are categorised into sections as outlined below.

- Demographic background characteristics: Age, employment status, partners educational level, religion, residence, ethnicity and educational level of respondents
- Knowledge on modern contraceptives
- History of contraceptive use
- Impact of partner support on contraceptive use
- Factors affecting or influencing postpartum contraceptive uptake

Table 3. 1: Study Variables

Variable	Functional Definition	Scale of Measurement
Age	Last birthday of respondent	Interval
Religion	Faith/ Denomination	Nominal
Marital status	Staying with partner	Nominal
Employment status	Current occupation of respondent	Nominal
Residence	Where respondent lives	Nominal
Educational level	Highest educational level attained by respondent	Ordinal
Age of child	Age of child as at the time of study	Interval
Current modern contraceptive use	Any type of modern contraceptive used by respondents as at the time of study	Binary
Knowledge on contraceptive	Awareness of various types of contraceptives by respondents	Binary
Partner support for contraception	Ability to discuss and have financial support for contraceptives	Binary
Availability of family planning services	All category of contraceptives present at health centres	Binary
History of contraceptive use	Previous exposure to any contraceptive method	Binary
Side effects of contraceptive	Negative impact of contraceptive use	Binary

3.9 Ethical consideration and Consent

Ethical clearance and approval were sought from the Ghana Health Service review committee board with protocol number **GHS-ERC/046/06/21.** Introductory letter from the school of public health introducing the principal investigator/ student and the purpose of the study was sent to authorities of the health facilities earmarked for the study. In addition, the participants were given clear explanations on the objectives and details of the study. Those who agreed to be a part of the study were required to give acknowledgement by signing a consent form. Participants were made to understand that, notwithstanding their consent given, they had freewill to pull out from the study at any point in time they felt like withdrawing. To ensure confidentiality, the respondent's identities will remain anonymous and undisclosed at every point of the study. The questionnaire was coded to maintain privacy and confidentiality, and respondents' identities were not required to fill out the questionnaire. Individual respondents were interviewed in a separate location to ensure their privacy. There is no mention of any of the participants in this report, and all information obtained about participants will be kept absolutely secret between the primary investigator and the research participants.

3.11 Potential risks and safety of respondents from COVID-19

The research in its natural state posed very little or no risk at all to both researcher and respondents at the health facilities, but with the Coronavirus (COVID-19) pandemic still in existence, one could not be complacent in the entire exercise. From the commencement of this study to the end, all necessary protocols such as social distancing, physical distancing, appropriate handwashing with soap under running water or use alcohol-based hand sanitizer and wearing face mask were observed by

the research team and the respondents. All respondents were encouraged to put on a nose mask/ face shield before interviews are granted and those without nose mask were provided with one by the research team.

3.12 Data analysis and Management

The data collected were analysed as outlined below. Both descriptive and inferential methods were employed in the data analysis. Frequencies, percentages, and odds ratios were reported at 5% significance level. Chi-Square tests were used to investigate the associations between utilization of postpartum contraceptives and the demographic variables such as socio-economic status, educational level, partner support for family planning parity and information on side effects. Both univariate and multivariate logistic regression analysis were applied to estimate crude and adjusted odds ratios. Univariate analysis was conducted to describe the exposure and outcome variables independently. Bi-variate analysis was then used to determine the existence of any association between the exposure and outcome variables. Variables included at the multivariate level were pointed out from Chi-square tests and univariate logistic regression analysis. The presence of significant relationships between the independent and the dependent variable was determined using crude odds ratios (COR). The adjusted odds ratios (AOR) were then calculated to account for confounders that might mask the root causes of the relationships. The Statistical Package for the Social Sciences (SPSS) software, version 16, was used to implement these statistical processes.

For the qualitative analysis, the audio recordings (interviews) of respondents were further transcribed and translated into English for the purposes of analysis. The

research team repeatedly listened to the audio interview in order to become more familiar with the content before comparing it to the transcripts. The transcripts were then coded and a thematic analysis was performed using the Quirkos qualitative analysis software package (Version 2.3.1). Upon completion of the coding phase, codes associated to each quotation were summarized. To further discover significant themes connected with each code, constant comparison methods were employed to analyse similarities, and differences between individual cases (Nicola et al., 2013). The key emergent themes relating to prevalence of contraceptive usage was the commonly assessed contraceptive types, logistics and other challenges faced by health providers that could serve as a barrier to contraceptive service delivery and associated factors that could influence postpartum mothers to adopt contraception. This analysis was adopted to inform the qualitative results of the study.

Data was collected using the Kobo collect tool. Research assistants were trained on usage of the software application using mobile phones. The kobo collect tool was used to check the verification of data, minimizing of errors and double data entry. The research team also ensured that incomplete questionnaire was adequately resolved. Prior to data transmission, the data file was encrypted with password known to only researchers in order to ensure confidentiality of data. The data was then extracted from the kobo collect platform and duly coded so as to make analysis easier. Upon completing data collection, all audio recordings and other information were discarded.

3.13 Theoretical Framework

The theoretical framework (TFA) of acceptability defines acceptability as a multifaceted construct that reflects the cognitive and emotional responses of people delivering or receiving a healthcare intervention (Sekhon et al., 2017).

The theoretical framework of acceptability (TFA) consist of seven constructs relating to participants perceptions and feelings about post-partum contraceptive uptake; effective attitude (general feelings about the post-partum family planning), burden(effort to adopt post-partum family planning), perceived effectiveness(perception of post-partum family planning ability to achieve its long term fertility goal), ethicality(fit within the value system), intervention coherence(deep understanding of post-partum family planning and how it will work out), opportunity cost (What must be given up to achieve positive results) and self-efficacy(feeling that efforts must be made to partake in post-partum family planning uptake).

The TFA was chosen as a theoretical basis as it provided a clearly defined building blocks for theorising through its seven constructs which relates to acceptability of post-partum family planning among women and communities.

3.14 Limitation of study and steps employed to address limitations

1. There was the probability of inaccurate information being provided to the researcher by respondents due to the nature of the topic & confidentiality issues. Field enumerators mitigated this by clearly explaining each question to

respondents in their respective local dialects. They also did probe to ensure accuracy in the responses of participants.

2. There could be potential recall bias from study participants pertaining some questions which may not be reflective of the actual findings of the study. Questions were categorized into sub-sections/ topics. For instance, questions on reproductive characteristics were zoned differently from questions on preference on types of contraceptive usage.
3. Information transcribed by field enumerators for non-literate respondents could be inexact. To avert this, the lead researcher doubled checked the information before and after transcription to ensure validity.

3.15 Assumptions of study

1. There was an assumption that all respondents who participated in the study gave out accurate information
2. Another assumption was that the number of respondents recruited for the study constituted the true representation of the study population.

3.16 Dissemination of results

The findings of this study would be shared with the library of the University for Development Studies and the Tamale Metropolitan health directorate. In addition, the results would be published on at least one scientific or peer review journal and will also be presented in any seminar if the need be. Findings of this study shall be made public without any restriction so as to help add to the existing literature.

CHAPTER FOUR

RESULTS

4.0 Introduction

In this chapter, the findings of the study are presented in line with the study objectives. The results reported includes the socio-demographic attributes of respondents, the proportion of postpartum women using contraceptives, the interplay between socio-demographic characteristics and contraceptive use, reproductive health behaviour and contraceptive use, relationship existing between contraceptive usage and partner support and factors that may predict the usage of contraceptives among postpartum mothers. The strategies that may be instituted to promote postpartum contraception are also comprehensively discussed.

In order to attain the objectives of the study, the relationships between the aforementioned variables were explored based on the themes that emerged in the qualitative analysis. Both quantitative and qualitative methods were used in analysing the results.

In all, a total of 318 postpartum women and four (4) midwives (head of family planning units) were interviewed on the use of contraceptives in different health centres within the Tamale Metropolis.

4.1 Distribution of study participants

4.1.1 Respondents socio-demographic characteristics

All the 318 married postpartum women aged between 15-49 years attending post-natal visits and had given birth within 12 months prior to the conduct of the study was

recruited to respond to the questionnaire. A response rate of 100 percent was therefore achieved.

Out of the 318 post-partum women interviewed, 175 women aged 25-34 representing 55% constituted the majority and 35-49 aged women being the least category 55 (16.7%). Islam was

the dominant religion 291(91.5%) followed by Christianity 27(8.5%). None of respondents belonged to the traditional or any other religion aside Islam and Christianity.

In terms of educational level, 103(32.4%) respondents being the majority indicated they had completed Senior High School, 63(19.8%) women had attained basic education and 61 (19.2%) women had attained tertiary education. However, 91(28.6%) of the women never had formal education. Relatedly, majority of the respondents 110 (34.6%) had partners with tertiary education, 92(28.9%) of respondent's partners had attained Senior High School level, 60(18.9%) of the partners had basic education, 14(4.4%) had Arabic education and 42 (13.2%) never had formal education. Comparatively, male partners 110 (34.6%) had attained tertiary education than their female counterparts 61(19.2%). Majority of the women had some form of employment with 113 (35.5%) being self-employed, 88(27.7%) being petty traders, 54(17%) being formally employed and 19 (6%) being students or under apprenticeship. 44(13.8%) of the women were however unemployed. In addition, majority of the women interviewed belonged to the extended family 207(65.1%) whereas 111(34.9%) were aligned to the nuclear family system. Expectantly, most respondents belonged to the Mole-Dagbani ethnic group 266 (83.6%) while 52(16.4%) belonged to other ethnic groups consisting of Akan (4.7%), Guan

constituted (6.4%), 2.3% for Ewe, 2.6% and 0.3% for Gurma and Ga-Adangbe respectively.

Almost all respondents resided in urban parts of the Tamale Metropolis (93.1%) with just 6.9% living in rural parts of the Metropolis. The socio-demographic data is represented in Table 4.1.

Table 4.1: Socio-demographic characteristics of respondents

Variable	Frequency	Percentage (%)
Age group		
15-24	90	28.3
25-34	175	55
35-49	53	16.7
Respondents level of education		
Basic school	63	19.8
SHS	103	32.4
Tertiary	61	19.2
No education	91	28.6
Partners Level of Education		
Primary school	60	18.9
SHS	92	28.9
Tertiary	110	34.6
No education	56	17.6
Residence		
Urban	296	93.1
Rural	22	6.9
Religion		
Christian	27	8.5
Muslim	291	91.5
Ethnicity		
Mole Dagbani	266	83.6
Others	52	16.4
Employment Status		
Employed	253	79.6
Unemployed	65	20.4
Family Type		
Extended	207	65.1
Nuclear	111	34.9
Marital Status		
All married	318	100

Source: Field Data, 2021.

4.1.2 Reproductive Health Behaviour of Respondents

Out of 318 respondents, 145(45.6 %) indicated they had ever used modern contraceptive to prevent pregnancy and for birth spacing. However, Majority of the respondents indicated they had never had a history of contraceptive usage 173 (54.4%).

Only quarter 81(25.5%) of the respondents were found to be using contraceptives at the time of the study against 237(74.5%) who were not using any contraceptive method during the same period. Majority 196(61.6%) of the mothers had average of two children, 92(28.9%) of them had average of four children and 30(9.4%) of mothers had four or more children. In terms of birth spacing, 165(51.9%) mothers had two or more years space interval between their current and preceding child whereas 72(22.6%) of mothers had birth spacing of less than two years between their current and preceding child. However, 81(25.5%) of mothers had their first live birth as at the time of the survey.

More also, majority of the mothers 204(64.2%) had children ranging between the ages of one to five months old whereas 114(35.8%) mothers had children with ages ranging between six to twelve months old.

When asked about postnatal visits, 192 (60.4%) of mothers responded they had regular postnatal attendance whiles 126(39.6. %) of them indicated they did not regularly visit their health centres for postnatal care according to the schedule.

Again, respondents were asked how often they inquired about the availability of family planning services at their health centres and 120(37.7%) of them indicated they always inquire about FP services anytime they visit their health centres. However,

198(62.3%) responded they had never inquired about the availability of FP services from their providers during postnatal visits (see Table 4.2).

Table 4.2: Reproductive health related characteristics of respondents

Variable	Frequency	Percentage (%)
Currently using any FP method		
No	237	74.5
Yes	81	25.5
Parity		
1-2	196	61.6
3-4	92	28.9
5 or more	30	9.4
Age of last child before menstruation		
0-5 months	204	64.2
6-12 months	114	35.8
Birth Spacing of Children		
first time live birth (new mothers)	81	25.5
2 or more years	165	51.9
Less than 2 years	72	22.6
History of contraceptive use		
No	173	54.4
Yes	145	45.6
Inquiry about availability of contraceptive at health facility		
Yes	120	37.7
No	198	62.3
Regular post-natal visits after birth		
Regular	192	60.4
Sometimes	126	39.6

Source: Field data, 2021

4.2 Associations between post-partum contraceptive use and independent variables

4.2.1 Chi-square analysis between post-partum contraceptive use and socio-demographic characteristics

The table below presents information on chi-square analysis probing the association between post-partum contraceptive use and socio-demographic characteristics. From the results, religion ($\chi 2$=10.816, p=0.00), ethnicity ($\chi 2$=4,011, p=0.045), and employment status ($\chi 2$=11.352, p=0.001) of respondents showed a significant statistical association with the postpartum contraceptive usage. However, age, residence, educational level of respondents, partner's educational level and family type of respondents were not statistically associated with modern contraceptive use.

Table 4.3: Association between post-partum contraceptive use and socio-demographic characteristics

	Current Contraceptive Use		
Variable	**No (%)**	**Yes (%)**	**P-Value(p), Chi- square($\chi 2$)**
Age group			**P>0.178, $\chi 2$=3.449**
15-24	73(30.8)	17(21.0)	
25-34	128(54.0)	47(58.0)	
35-49	36(15.2)	17(21.0)	
Respondent level of education			**P>0.214, $\chi 2$=4.482,**
Basic school	45(19.0)	18(22.2)	
SHS	72(30.4)	31(38.3)	
Tertiary	45(19.0)	61(19.2)	
No education	75(31.6)	91(28.6)	
Partners Level of Education			**P> 0.253, $\chi 2$=4.080**
Primary school	46(19.4)	14(17.3)	
SHS	67(28.3)	25(30.9)	
Tertiary	77(32.5)	33(40.7)	
No education	47(19.8)	9(11.1)	
Residence			**P>0.759, $\chi 2$=0.094**
Urban	220(92.8)	76(93.8)	
Rural	17(7.2)	5(6.2)	
Religion			**P>0.000, $\chi 2$=10.816**
Christian	13(5.5)	14(17.3)	
Muslim	224(94.5)	67(82.7)	
Ethnicity			**P<0.045, $\chi 2$=4.011**
Mole Dagbani	204(86.1)	62(76.5)	
Others	33(13.9)	19(23.5)	
Employment Status			**P<0.001 $\chi 2$=11.352**
Employed	178(75.1)	75(92.6)	
Unemployed	59(24.9)	6(7.4)	
Family Type			**P>0.249 $\chi 2$=1.331**
extended	150(63.3)	57(70.4)	
Nuclear	87(36.7)	24(29.6)	

Source: Field data, 2021

4.2.2 Chi-Square Analysis of respondent's reproductive health behaviour and postpartum Contraceptive uptake

Contraceptives uptake among mothers was significantly associated with history of contraceptive use ($\chi2=96.763$, $p<0.001$), regular post-natal visits after birth ($\chi2=4.537$, $p<0.033$) and age of the last child before menstruation ($\chi2=5.786$, $p<0.016$). However, variables such as parity ($\chi2=3.484$, $p>0.175$), birth spacing between children ($\chi2=2.171$, $P>0.338$**),** and enquiry about availability of contraceptive at health facility by respondents ($\chi2=2.082$, $p>0.149$) were not significantly associated with current postpartum contraceptive use by mothers. Table 4.3 shows the information on the analysis.

Table 4.4: Association between reproductive health characteristics and postpartum contraceptive uptake

Variable	Current Contraceptive Use n=237 No (%)	n=81 Yes (%)	P-Value(p), Chi-square($\chi 2$)
Parity			**P >0.175, $\chi 2$=3.484**
1-2 children	152(64.1)	44(54.3)	
3-4 children	62(26.2)	30(37.0)	
5 or more children	23(9.7)	7(8.6)	
Last Birth / Age of child			**P<0.016, $\chi 2$=5.786**
0-5 months	161(67.9)	43(53.1)	
6-12 months	76(32.1)	38(46.9)	
Birth Spacing of Children			**P>0.338, $\chi 2$=2.171**
First live birth (new mother)	63(26.6)	18(22.2)	
2 or more years	125(52.7)	40(49.4)	
Less than 2 years	49(20.7)	23(28.4)	
History of contraceptive use			**P<0.000, $\chi 2$=96.763**
No	167(70.5)	6(7.4)	
Yes	70(29.5)	75(92.6)	
Inquiry about availability of contraceptive at health facility			**P>0.149, $\chi 2$=2.082**
Yes	84(35.4)	36(44.4)	
No	153(64.6)	45(55.6)	
Regular post-natal visits after birth			**P<0.033, $\chi 2$=4.537**
Regular	135(57%)	57(70.4%)	
Not regular	102(43%)	24(29.6%)	

Source: Field data, 2021

4.3 Modern contraceptive prevalence among postpartum women in the Tamale Metropolis

Out of the 318 post-partum mothers interviewed, a quarter of them were currently using contraceptives 81(25.5%) against 237(74%) who were not using contraceptives (See figure 4.1).

The key informant interview conducted also revealed that an average of twenty (20) mothers seek family planning services monthly. Here are responses of four (4) midwives selected from different health centres for the study.

> *Normally we give talks to enable mothers develop interest when they come to deliver their babies and for those who haven't reached term, Thursdays are set aside for them: we have one on one discussions about family planning when expectant mothers come for antenatal visits. Generally, about 4 to 5 mothers come daily and 15 to 20 mothers monthly visits the facility to seek for family planning services*
>
> *[midwife – Nyohini Health centre]*

> *Normally depends on mother's choice of the mother to either do it every 3 months or a year or 2 or even more. They do come to the facility as and when it's due for them to visit for renewal when it's out of date. Sometimes, a few of them return to the facility to report side effects. Generally, about 30 mothers visits the facility to seek for family planning services in a month. [(midwife) – Tamale West Hospital]*

Soon after six weeks postpartum. About 5 clients visit the family planning unit weekly and 20 monthly on average [(midwife) – Builpeila Health Centre]

About 3 to 5 mothers come daily and approximately 15 mothers monthly visits the facility to seek for family planning services.[(midwife) – Tamale RCH]

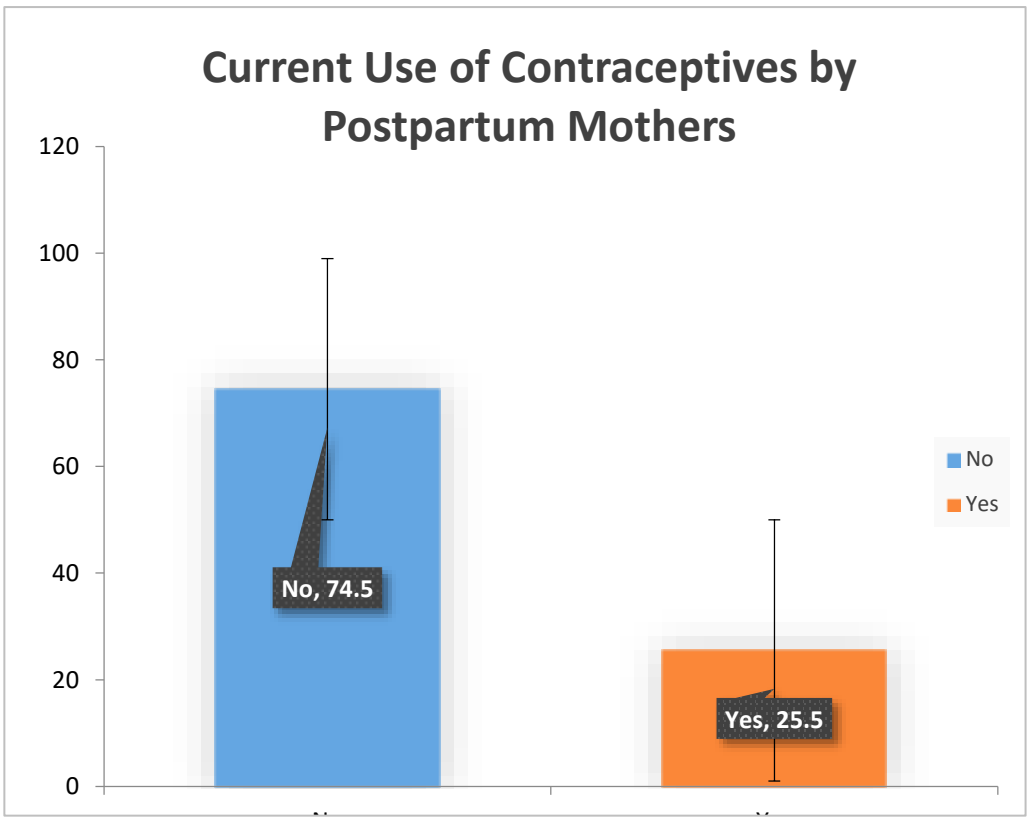

Figure 4.1 2: Bar chart depicting contraceptive prevalence

Source: Field Data, 2021

4.4 Common contraceptive methods used by postpartum mothers

Out of the 81(25.5%) postpartum women who responded positively towards the usage of contraceptives, 23(28.4%) being the majority indicated the injectable contraceptive method was their preferred choice. 19(23.5%) of them used oral contraceptive pills followed by Intrauterine device (IUD) usage being 15(18.5%). Also, 11(13.6%) of respondents chose implants as their preferred choice and 6(7.4%) indicated they were currently using condom.

The least utilized contraceptive method among respondents were lactational amenorrhoea 4(4.9%) and rhythm 3(3.7%) respectively (See figure 4.2)

The findings from the qualitative part of this study also spotted injectable as the most widely used contraceptive among postpartum mothers in the Tamale Metropolis adding up to evidence obtained from the quantitative analysis. The midwives in the selected health centres were asked on the commonest contraceptive method postpartum women patronize and these were their responses.

> *Injectable (Depo Provera) which is progesterone only, implants and then contraceptive pills. Condoms are normally not patronized [(midwife) – Nyohini Health centre]*

> *Injectable, contraceptive pills and then Male condoms.[(midwife) – Tamale West Hospital]*

Injectable (Depo Provera) which is 3months, implants and then contraceptive pills. Condoms have a very low patronage in the facility.[(midwife) – Builpeila Health Centre]

Injectable is the commonest method women patronize. Some also like pills and a few normally like implant. Women do not like condoms. They do not even request for it. [(midwife) – Tamale RCH]

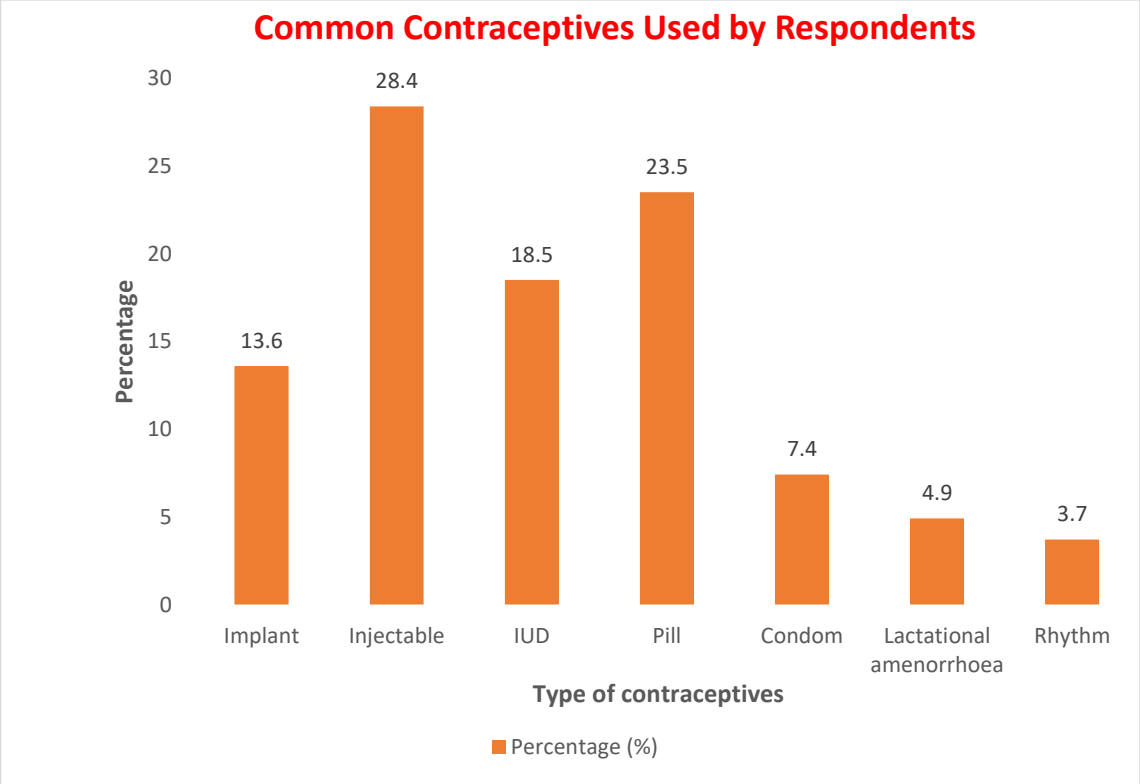

Figure 3.2: Contraceptive types used by Respondents

Source: Field Data, 2021

4.5 Sources of contraceptive information by respondents

Majority of the postpartum women 251(78.9%), indicated their main source of information on contraceptives was from health providers. Other sources of information mentioned by respondents included friends/neighbours 39(12.3%) followed by radio/television 43(11.8%).

Respondents mentioned books/leaflets as the least source were they had information on contraceptives 5(1.6%) (See Table 4.5).

Table 4.5 : Sources of Contraceptive Information

Variable	Frequency	Percentage (%)
Sources of Information On Contraceptives		
Books/leaflets	5	1.6
Friends/Neighbours	39	12.3
Health Education Sessions during ANC/ postnatal visits	251	78.9
Radio/Television	23	7.2

Source : Field Data, 2021

4.6 Respondents knowledge on the contraceptive types

Most respondents had some appreciable knowledge on the various contraceptive methods they were assessed on. Majority of mothers were aware of methods such as condom (95%), injectable (87.1%), oral contraceptive pills (69.2%), implants (62.9%), intrauterine device (UID) (54.4%).However, few of the respondents had

little knowledge on lactational amenorrhea (27.7%) with rhythm/calendar method (44%) being the least. Table 4.6 below shows the distribution.

Table 4.6: Presentation of Respondents Knowledge on Contraceptive Use

Variable	Frequency	Percentage(%)
Pill		
Yes	220	69.2
No	98	30.8
IUD		
Yes	173	54.4
No	145	45.6
Implant		
Yes	200	62.9
No	118	37.1
Lactational Amenorrhea		
Yes	88	27.7
No	230	72.3
Condom		
Yes	302	95
No	16	5
Injectable		
Yes	277	87.1
No	41	12.9
Rhythm Method		
Yes	140	44
No	178	66

Source: Field Data, 2021

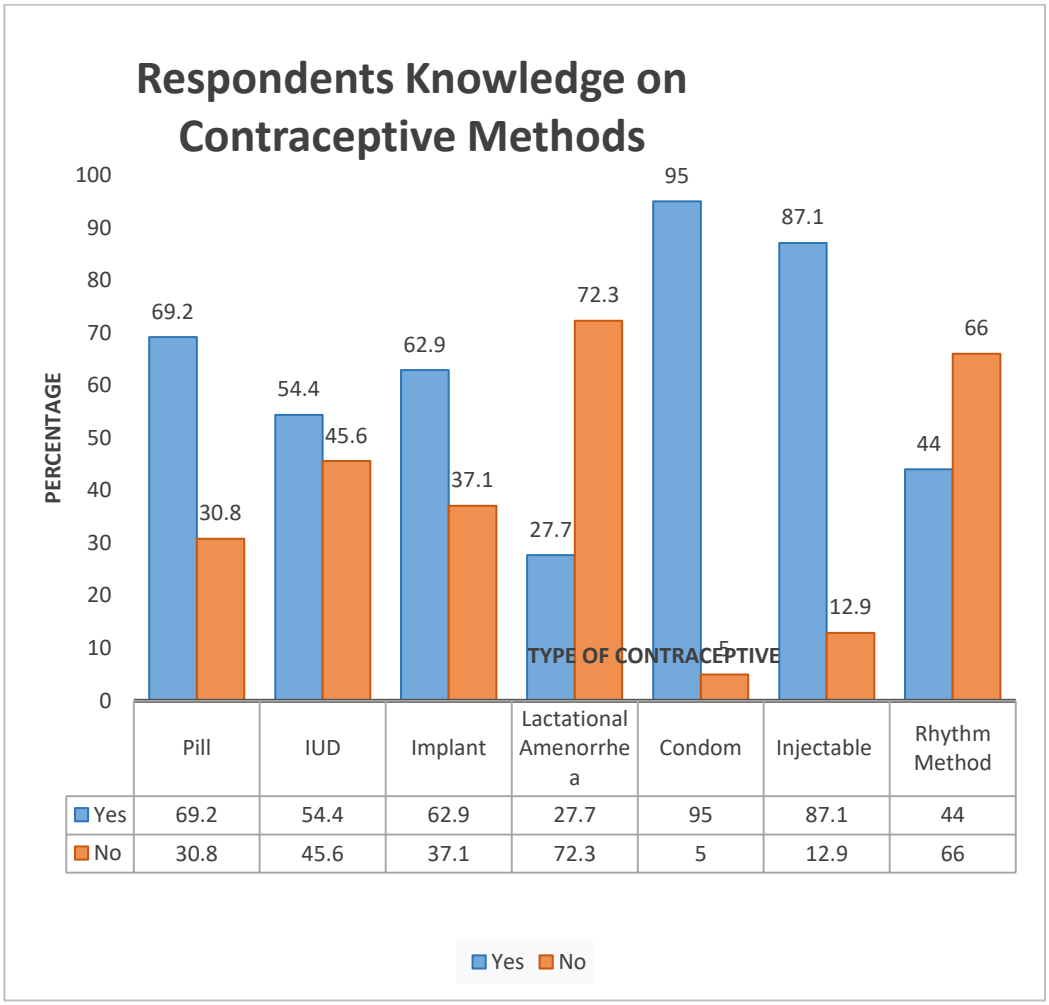

Figure 4.3: Knowledge on Contraceptive use

Source: Field Data, 2021

4.7 Factors influencing the utilization of post-partum contraception among Mothers in the Tamale Metropolis

More than 70% of postpartum mothers responded affirmatively of being informed on the side effects of the various type's contraceptives methods. In terms of cost, more than 80% of users of postpartum family planning indicated the cost of contraceptives were low and could not serve as a barrier to their usage. Again, almost all respondents indicated that family planning methods were accessible at various health centres and over 80% of respondents also did indicate they were impressed with service providers

considering how friendly, accommodating and informative they are during service delivery. When asked about how comfortable they were at health facilities were FP services are offered, majority of the mothers responded affirmatively. More than half (68.9%) of the respondents said their societies considered family planning as a taboo or frown against FP usage. Relatedly, 58.8% of the respondents further reiterated that religious beliefs opposed the uptake of family planning services (Table 4.7).

Table 4.7: Factors Influencing the Utilization of Post-Partum Contraception

Variable	Frequency	Percentage (%)
Are you informed on side effects of FP during Post-natal visits		
Yes	280	77.4
No	72	22.6
Is cost of FP services a barrier to your usage		
Yes	42	13.2
No	276	86.8
Are FP services accessible at the health centres you visit		
Yes	297	93.4
No	21	6.6
Does your society perceive FP as a taboo		
Yes	219	68.9
No	99	31.1
Religious beliefs that oppose the usage of contraceptive		
Yes	187	58.8
No	131	41.2
Are health providers friendly and accommodating		
Yes	280	88.1
No	38	11.9
How comfortable are in an environment where FP services are offered		
Yes	239	75.2
No	79	31.1

Source: Field Data, 2021

4.8 Factors associated with uptake of contraceptives among postpartum mothers

Among the seven (7) factors asked by respondents to ascertain whether they could influence the uptake of contraceptives by postpartum women, only Information on side effects of contraceptives was statistically significant with postpartum contraceptive use ($\chi2=14.401$, $p<0.001$) indicating that postpartum contraceptive usage could be influenced by the information mothers receive on side effects. However, cost of contraceptives ($\chi2=1.976$, $P>0.160$)**,** availability of family planning services at health centres ($\chi2=1.482$, $P>0.223$)**,** acceptance of family planning by respondents society **(**$\chi2=0.047$, $P>0.828$), religious beliefs of respondents that could hinder the usage of contraceptives($\chi2=1.467$, $P>0.226$), friendly and accommodating nature of service providers($\chi2=3.447$,$P>0.063$) and comfortability of respondents in environments where family planning services are offered($\chi2=0.400$, $P>0.527$) were not significantly associated with post-partum contraceptive use. Implying that these factors could not influence the decision of post-partum women with regards to uptake of family planning (see Table 4.8).

During the key informant interview, issues of religious beliefs, comfortability of respondents at family planning units, societal perceptions about contraception and side effects were also revealed by health providers as factors that could negatively affect the adoption of postpartum family planning .However, they indicated that cost of contraceptives could not negatively influence the usage of contraceptives in the postpartum period due to the cheap cost of the common methods patronize by mothers. The setting of the family planning unit was a challenge mentioned by midwives and did not attract women to the unit. Another pertinent issue mentioned by midwives was

that shortage of family planning logistics which sometimes hinder the smooth delivery of family planning services.

> *One major barrier is partner's refusal to consent to the usage of family planning in Northern region as part of their norms. Religious believes in the Islamic and catholic sects is another barrier. Limitation of Privacy due to the facility's setting. The closeness of wards makes clients feel unsecure. Cost is effective, 2ghc for 3 months because of government subsidy on family planning products. Some prefer patronizing family planning commodities at drug store to safe guard their reputation because of in adequate privacy in the facility. Generally, infrastructure serves as a major barrier which also limits services like intrauterine device. [(midwife) – Nyohini Health centre]*

> *Male Partners refusal to allow their partners freely seek family planning services as a result of their religious and cultural believes is a barrier. Limitation of Privacy due to the facility's setting is another problem. The closeness of units makes clients feel unsecure to seek for the family planning services.[(midwife) – Tamale West Hospital]*

> *The society frowns on the usage of family planning as perceived, therefore clients find it difficult to freely access the units for services to be rendered. They feel very uncomfortable once there are other clients around. Another major barrier is*

Partners refusal to consent to the usage of family planning due to Religious and cultural believes. [(midwife) – Builpeila Health Centre

The major barrier is that most women still harbour the perception of family planning having serious side effects. Some say they not give birth again after using [(midwife) – Tamale RCH]

Unit's location which hinder privacy of clients and shortage of commodities e.g. There's regularly shortage of injectable in the facility. [(midwife) – Nyohini Health centre]

Some clients who are from other regions usually complain about the family planning service cost been covered by the National Health Insurance Scheme in their facilities. Though it doesn't prevent them from patronizing. Some also deliberately come to seek for services already pregnant, with the mind-set that family planning can cause abortion. Therefore, assessments including UPT i.e. Urine pregnancy test is usually done for clients to rule out pregnancies before the actual service been rendered. Another challenge is that location of units which hinder privacy of clients also limits clients' attendance. [(midwife) – Tamale West Hospital]

Lack of acceptance and ignorance among some mothers. Also, shortage of commodities in the facility [(midwife) – Builpeila Health Centre]

Shortage of commodities and closeness of family planning unit to the waiting area e.g. injectable in the facility. [(midwife) – Tamale RCH]

In charge midwives were also asked whether logistic challenge could serve as a barrier to effective delivery of family planning in their various facilities and most of them indicated it was a challenge but did not entirely prevent them from delivering family planning services.

Sometimes we do run out of contraceptives. But within a week we have our facility restocked again. So I will say logistics isn't much a problem. But we still need more equipment to operate effectively.[(midwife) – Nyohini Health centre]

No problems with logistics. We always have in excess [(midwife) – Tamale West Hospital]

There is enough commodities but sometimes there is a shortage in one or two of the commodities. Services like intrauterine device is not done in the facility since there is inadequate equipment and infrastructure. [Health professional (midwife) – Builpeila Health Centre]

Yes we do have shortages. We sometimes get donations from NGOs and so we don't normally run short of commodities. [Health professional (midwife) – Tamale RCH]

Table 4.8: Factors associated with uptake of contraceptives among Postpartum

Variable	Contraceptive Use n=237 No (%)	n=81 Yes (%)	P-Value(p),Chi-square(X)
Are you informed on side effects of FP during Post-natal visits			**P<0.001,X=14.401**
Yes	171(72.2)	75(92.6)	
No	66(27.8)	6(7.4)	
Is cost of FP services a barrier to your usage			**P>0.160,X=1.976,**
Yes	35(14.8)	7(8.6)	
No	202(85.2)	74(91.4)	
Are FP services available at the health centres you visit			**P>0.223, X=1.482**
Yes	219(92.4)	78(96.3)	
No	18(7.6)	3(3.7)	
Does your society support FP usage			**P>0.828, X=0.047**
Yes	164(69.2)	55(67.9)	
No	73(30.8)	26(32.1)	
Religious beliefs that oppose the usage of contraceptive			**P>0.226,X=1.467**
Yes	144(60.8%)	43(53.1%)	
No	93(39.2%)	38(46.9%)	
Receptiveness of service providers (friendly and accommodating)			**P>0.063,X=3.447**
Yes	204(86.1)	76(93.8)	
No	33(13.9)	5(6.2)	
How comfortable are in an environment where FP services are offered			**P>0.527 X=0.400**
Yes	176(74.3)	63(77.8)	
No	61(25.7)	18(22.2)	

Mothers

Source: Field Data, 2021

4.9 Partner support and post-partum contraception usage among mothers in the Tamale metropolis

Among respondents, only 98(30.8%) of postpartum mothers affirmatively responded that their partners would be willing to approve and finance the uptake of family planning whiles over 220(69.2%) of mothers indicated their partners would not be willing to approve or offer financial assistance for the uptake of family planning services. Again, when mothers were asked whether they had discussions on family planning with their partners after birth, less than half 106(33.3%) of them said they did have discussions on family planning. Majority however, 212(66.7%), responded they had never discussed family planning related issues with their partners (see Table 4.9).

The midwives indicated that male partners did not regularly accompany their partners when asked whether male partners support their wives in seeking family planning services. This suggests women do not get enough support from their partners. Their responses are outlined below.

> *Quite a number of couples do turn in for services regularly in the facility. Counselling on family planning is done using the MEC (Medical eligibility criteria) in selecting suitable method for clients. Education on side effects of desired method, components of drug and adverse reaction making sure clients understand what is been discussed. [(Midwife) – Nyohini Health centre].*

A very few number of couples sometimes do turn in for services in the facility but not often. [(midwife) – Tamale West Hospital]

A number of couples visit for services regularly in the facility. Men do not really support their partners for FP uptake. It's mostly difficult getting them to even counsel especially in serious maternal cases. [(midwife) – Builpeila Health Centre]

Women do come with their husbands but not regularly. You see them once in a blue moon [(midwife) – Tamale RCH]

Table 4.9: Partner Support and Post-partum contraception

Variable	Frequency	Percentage (%)
Would your partner approve/finance FP after birth		
Yes	98	30.8
No	220	69.2
Do you discuss FP with your partner after birth		
Yes	106	33.3
No	212	66.7

Source: Field Data, 2021

4.10 Association between Partner support and postpartum contraceptive uptake

The use of contraceptives by the postpartum mothers was significantly associated with all the two variable. Approval of postpartum family planning by partners of respondents ($\chi 2=19.796$, $p<0.001$) and partner communication on family planning ($\chi 2=24.152$, $p<0.001$). (Table 4.10)

Table 4.2: Chi square table showing Partner support and postpartum contraceptive use

Variable	Current Contraceptive Use n=237 No (%)	n=81 Yes (%)	P-Value, Chi-square
Would your partner approve FP after birth			**X=19.796, P< 0.001**
Yes	89(37.6)	9(11.1)	
No	148(62.4)	72(88.9)	
Discussing with partner on contraceptive use			**X=24.152, P<0.001**
Yes	61(25.7)	45(55.6)	
No	176(74.3)	36(44.4)	

Source: Field Data, 2021

4.11 Univariate Analysis of socio-demographic, reproductive health factors, partner support and postpartum contraceptive use

Binary logistic regression analysis revealed that religion, ethnicity, employment status, age of last child before menstruation, history of contraceptive use, frequency of postnatal visits, awareness of side effects, partner approval of contraceptive use and discussion with partner on family planning by respondents are all significantly

associated with postpartum contraceptive usage. Respondents who were Christians were three times less likely to use contraceptives compared to Muslims (O.R = 3.06, 95% C.I: 1.61-8.03, p<0.002). Again, respondents who belonged to other ethnic groups like Akan, Ewe, Hausa, Gurili, and Guan were less likely to adopt contraception compared to postpartum women who belonged to the Mole Dagbani group (O.R = 1.09, 95% C.I:1- 3.56, p<0.048). Postpartum women who were gainfully employed or engaged in petty trading were five times more likely to use contraceptives compared to unemployed postpartum women (O.R = 5.12 95% C.I:1.70 - 15.5, p<0.002).

In terms of variables relating to reproductive health characteristics, women who had babies ranging between the ages of six (6) to twelve (12) months had more than two times higher odds of using contraceptives during the postpartum period compared to mothers with babies ranging between the ages of 0- 5 months old (O.R = 2.91, 95% C.I: 1.41- 6.0, p<0.017). Also, women who had not been previously exposed to contraceptives prior to childbearing had lower odds of adopting postpartum family planning compared to the women with history of contraceptive use (O.R = 0.03, 95% C.I: 0.01 - 0.91, p<0.001).Women who did not attend postnatal visits regularly were less likely to use contraceptives compared to women who attended regularly (O.R = 0.49, 95% C.I: 0.21- 1.01, p<0.034). Postpartum women who are not informed on side effects of contraceptives are less likely to use contraceptives after birth compared to those who are well informed (O.R = 0.16, 95% C.I: 0.06 -0.50, p<0.001).

For variables regarding partner support and communication, the analysis showed that women who did not had approval from their partners to use contraceptives were

almost five times more likely to use contraceptives compared to women who had approval from their partners. (O.R = 4.81, 95% C.I: 2.30 - 10.1, p<0.001). Again, women who did not had discussions with their partners on family planning were less likely to use contraceptives during the postpartum period compared to women who usually have discussion with their partners on family planning issues (O.R = 0.27, 95% C.I: 0.16 - 0.46, p<0.001). (Table 4.11)

Table 4.31: Univariate analysis of reproductive health factors and postpartum contraceptive use

Variable	Univariate OR(95% CI)	P-value
Demographic Characteristics		
Religion		
Muslim	**Ref**	
Christian	3.06 (1.61- 8.03)	0.002
Ethnicity		
Mole Dagbani	**Ref**	
Others	1.90(1.00 - 3.56)	0.048
Employment status		
Unemployed	**Ref**	
Employed	4.0(1.71 -10.0)	0.002
Reproductive health characteristics		
Last birth / Age of Child		
0-5 months	**Ref**	
6-12 months	1.87(1.12- 3.13)	0.017
History of contraceptive use		
Yes	**Ref**	
No	0.03(0.013 - 0.08)	0.001
Regular postnatal visits		
Regular	**Ref**	
Unregularly	0.56(0.32- 0.96)	0.034
Fear of side effects		
Yes	**Ref**	
No	0.21(0.09 -0.50)	0.001
Partner Support and Communication		
Partner approval for Contraceptive use		
Yes	**Ref**	
No	4.81(2.30 - 10.1)	0.001
Discussion with partner on Family planning		
Yes	**Ref**	
No	0.27(0.16 - 0.46)	0.001

Source: Field Data, 2021

4.12 Multivariate logistic regression analysis of socio-demographic, reproductive health factors, partner support and current postpartum contraceptive use

Table 13 shows the results of multivariate logistic regressions analysis of contraceptive use among postpartum mothers using the statistically significant characteristics/factors obtained by the univariate logistic regression analysis. Respondent's employment status, last delivery, history of contraceptive use, awareness of side effects and discussion with partner on family planning was found to be statistically associated with contraceptive use during the postpartum period. However, ethnicity, partner support for family planning, frequency of postnatal visits and religion of respondents were not statistically significant with postpartum contraceptive use.

Employed women had higher odds of using contraceptives after birth compared to unemployed women (AOR=5.12, 95% CI: 1.70 -15.5, p<0.004). After adjusting for confounding variables, it revealed that respondents who had never used contraception prior to childbearing were less likely to use a contraceptive method in the postpartum period compared with women who had history of contraception usage (AOR=0.03, 95% CI: 0.01 - 0.9, p<0.001). Women who had children aged 6 -12 months were almost three times likely to adopt postpartum family planning compared to women with children aged 0 – 5 months (AOR=2.91, 95% CI:1.41 – 6.0, p< 0.004) after adjusting for confounding variables. Again, women who were not informed on contraceptive side effects had lower odds of using contraceptives compared to women who were well informed on the side defects after adjusting for confounders (AOR=0.16, 95% CI: 0.06 -0.50, p< 0.001) . Postpartum women who had discussions

with their partners on family planning were 73% less likely to adopt family planning compared to those who regularly discussed family planning with their partners after adjusting for confounders (AOR=0.46, 95% CI: 0.21 - 0.91, p< 0.027).

Table 4.42: Multivariate Logistic Regression Table

Variable	Multivariate OR(95% CI)	P-value
Demographic Characteristics		
Religion		
Muslim	**Ref**	
Christian	1.13 (0.31- 4.09)	0.848
Ethnicity		
Mole Dagbani	**Ref**	
Others	1.12(0.37 - 3.44)	0.838
Employment status		
Unemployed	**Ref**	
Employed	5.12(1.70 -15.5)	0.004
Reproductive health characteristics		
Last birth / Age of Child		
0-5 months	**Ref**	
6-12 months	2.91(1.41- 6.00)	0.004
History of contraceptive use		
Yes	**Ref**	
No	0.03(0.01 - 0.91)	0.001
Regular postnatal visits		
Regular	**Ref**	
Unregularly	0.49(0.21- 1.01)	0.054
Fear of side effects		

	Ref	
Yes		
	0.16(0.06 -0.50)	0.001
No		
Partner Support and Communication		
Partner approval for Contraceptive use		
	Ref	
Yes		
	1.64(0.62- 4.32)	0.315
No		
Discussion with partner on Family planning		
	Ref	
Yes		
	0.46(0.21 - 0.91)	0.027
No		

Source: Field Data, 2021

4.13 Strategies in scaling up the utilization of modern contraceptives among post-partum mothers in the Tamale Metropolis

Respondents were presented with five (5) proposed interventions that could help scale up contraceptive use among mothers and were asked to either agree, disagree or indicate their neutrality (indifferent). Table 4.12 presents the statistics on the level of agreement reached by respondents.

4.14 Policy makers understanding the needs, desires, and constraints of postpartum women for FP services through action research

Of all the 318 postpartum mothers who responded, 293(92.1%) agreed with the intervention, 7(2.2%) disagreed and 18(5.7%) responded they were indifferent.

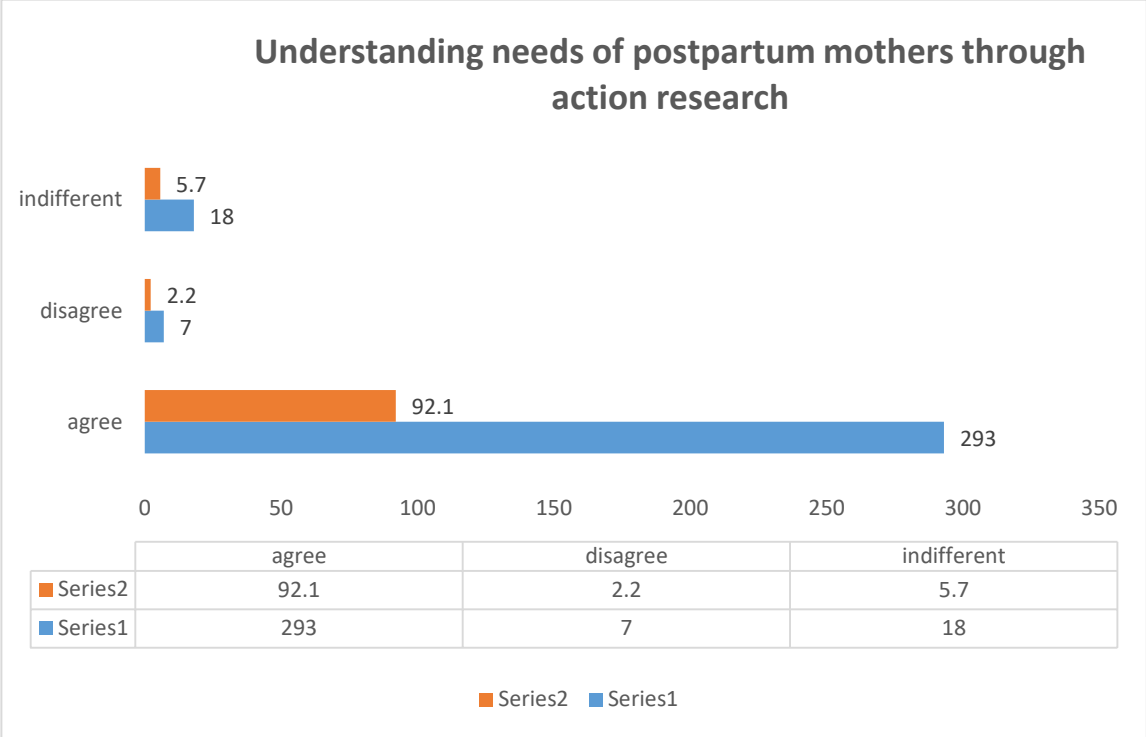

Figure 4.4: The level of agreement of the above strategy

Source: Field Data, 2021

4.15 Implementation of health behaviour change and communication initiatives at the community level or through mass-media

Majority of the mothers agreed to the implementation of this action 282(88.7%). Few of the mothers disagreed 22(6.9%) and only 14(4.4%) mothers responded indifferent regarding implementation of behaviour change and communication initiatives through mass media.

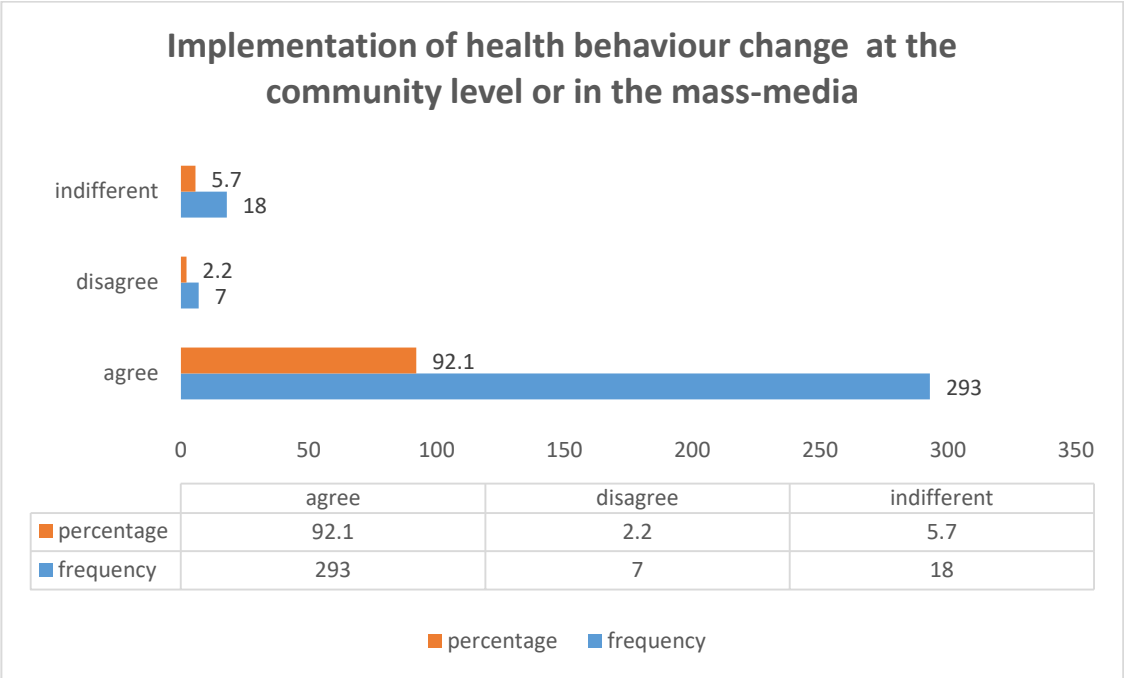

Figure 4.5: The level of agreement on health behaviour change strategy

Source: Field Data, 2021

4.16 Provision of high-quality PPFP information, counselling and services during postnatal visits by competent, confident and committed healthcare Providers

Almost all of the mothers agreed that high quality information and counselling should be provided by competent healthcare providers services 306(96.2%). Few of the mothers disagreed 6(1.9%) and only 6(1.9%) mothers responded indifferent.

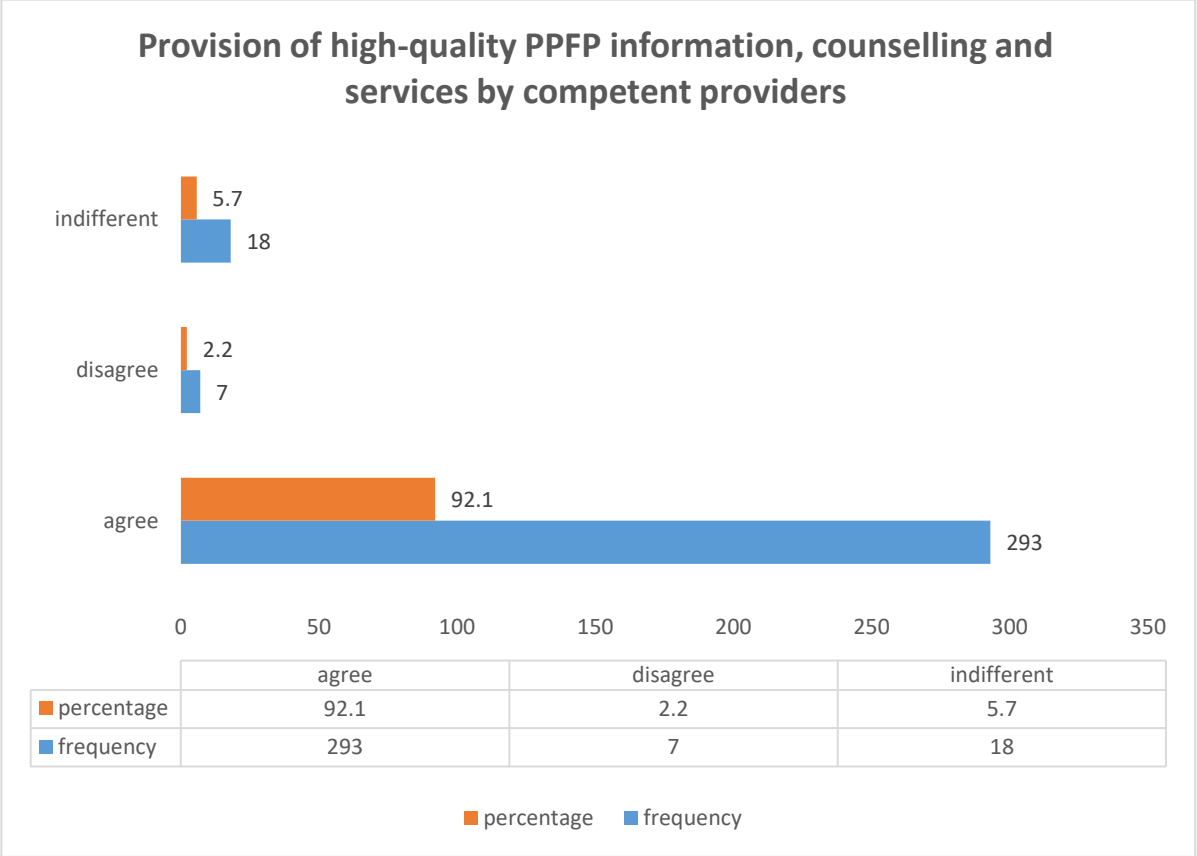

Figure 4.6: The level of agreement on high quality PPFP provision strategy

Source: Field Data, 2021

4.17 Community health workers regularly identify and follow up pregnant women for ANC services /reinforce PPFP messages

Almost 286(90%) of mothers agreed that community health workers should regularly identity and refer pregnant women for ANC services in order to obtain information on PPFP. However, 7(2.2%) mothers disagreed while 25(7.9%) said they were indifferent about that action.

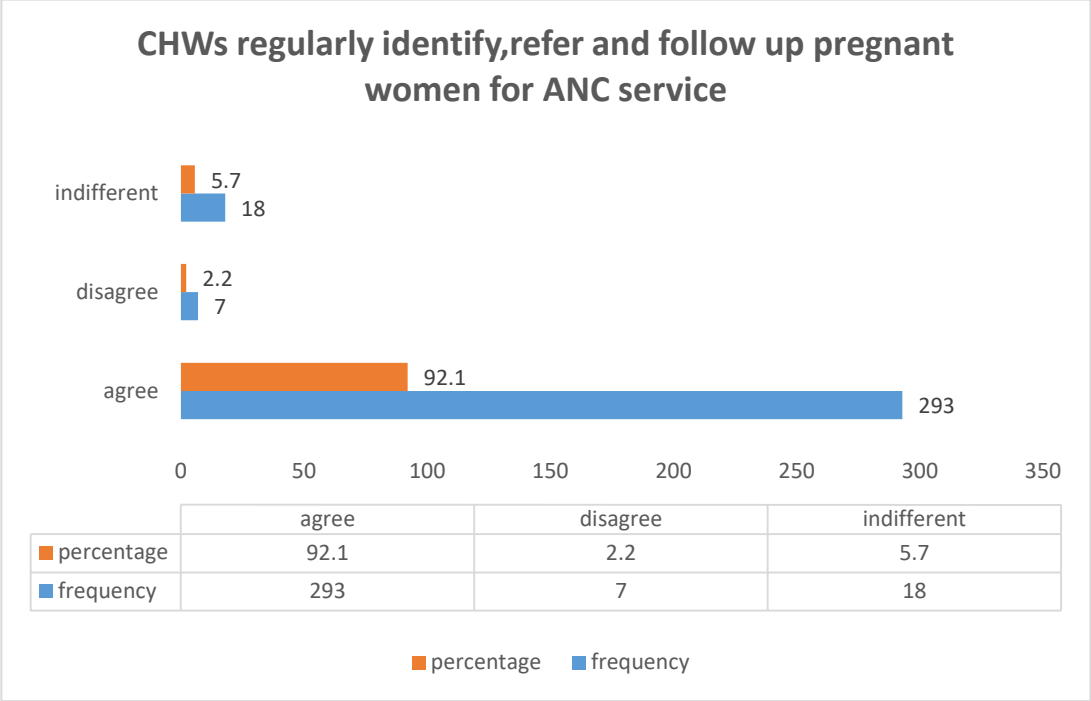

Figure 4.7: Level of agreement on strategy of CHWs following up pregnant women

Source: Field Data, 2021

4.18 Legislation be passed to punish men who violate women against PPFP

Compared with the agreement level reached on other interventions, the agreement level for this action was relatively low 220(69.2%). However, a quite number of respondents disagreed to this action compared to the disagreement level reached on other interventions 73(23%). Again, an appreciable number of respondents said they were indifferent with regards to passing a legislation of that sort 25(7.8%).

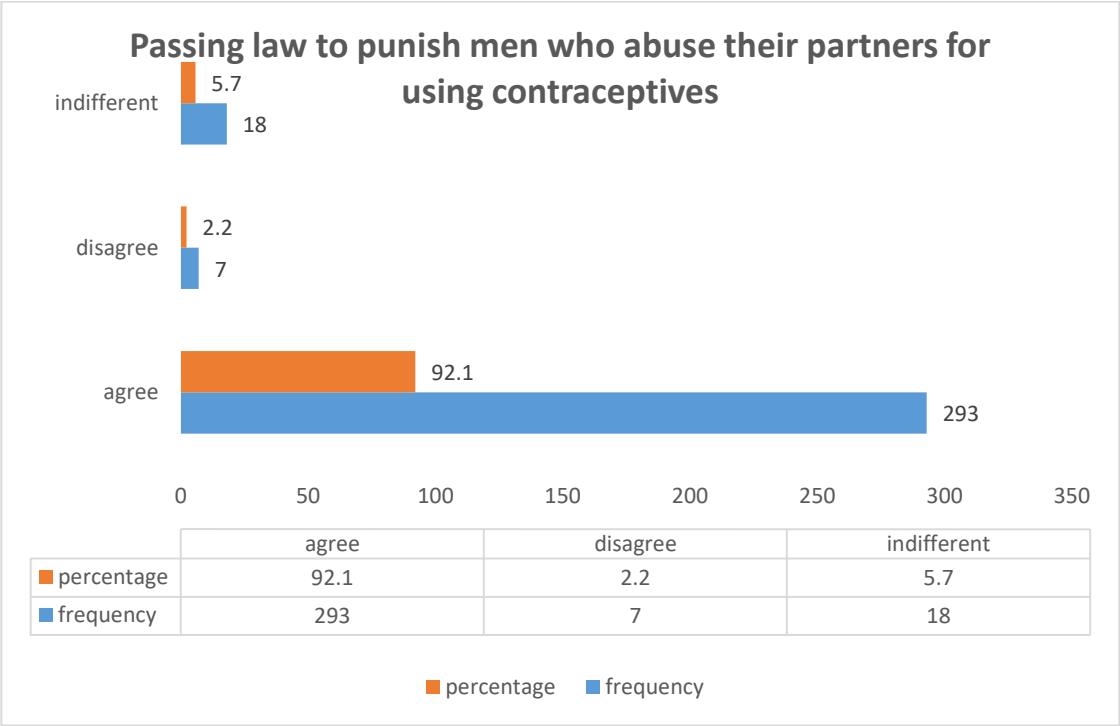

Figure 4: Level of agreement on strategy of passing legislation to punish men who abuse their partners

Source: Field Data, 2021

Table 4.13: Presentation of level of agreement on strategies to improve PPFP

Variable	Frequency	Percentage (%)
Policy makers should understand the needs, desires, and constraints of postpartum women for FP services through action research		
Agree	293	92.1
disagree	7	2.2
indifferent	18	5.7
Implementation of health behaviour change and communication initiatives at the community level or in the mass-media		
Agree	282	88.7
disagree	22	6.9
indifferent	14	4.4
Provision of high-quality PPFP information, counselling and services during postnatal visits by competent, confident and committed healthcare Providers		
Agree	306	96.2
disagree	6	1.9
Indifferent	6	1.9
CHWs regularly identify, refer and follow up pregnant women for ANC services and provide/reinforce PPFP messages		
Agree	286	89.9
Disagree	7	2.2
Indifferent	25	7.9
Legislation be passed to punish men who violate women against PPFP		
Agree	220	69.2
Disagree	73	23.0
Indifferent	25	7.9

Source: Field Data, 2021

4.19 Rankings of the level of agreement reached by respondents on strategies of improving contraceptive use

The Kendall's 'W' computed was found to be 0.106 (10.6%) indicating a lower degree of unanimity among respondents on all five (5) interventions outlined. Passing of legislation to punish men who abuse women had the highest mean rank of 3.42

followed by implementation of health behaviour change and communication initiatives at the community level or through mass-media (2.96). Community health workers regularly identifying, referring and following up on pregnant women for ANC services and reinforcing PPFP messages was next with a rank of 2.95. Policy makers understanding the needs, desires, and constraints of postpartum women for FP services through action research and Provision of high-quality PPFP information, counselling and services during postnatal visits by competent, confident and committed healthcare Providers had the least rank of 2.89 and 2.78 respectively. The intervention regarding passing legislation to protect women from abuse being the highest rank implies its importance and urgency and so respondents supports its prioritization against all other four (4) interventions outlined.

Table 4.14: Rank of Various Levels of Agreements among Respondents on Proposed Strategies

Strategies	Mean rank
Policy makers should understand the needs, desires, and constraints of postpartum women for FP services through action research	**2.89**
Implementation of health behaviour change at the community level or through the mass-media	**2.96**
Provision of high-quality PPFP information, counselling and services during postnatal visits by competent, confident and committed healthcare Providers	**2.78**
CHWs regularly identify, refer and follow up pregnant women for ANC services and provide/reinforce PPFP	**2.95**
Legislation be passed to punish men who violate women against PPFP	**3.42**

Source : Field Data, 2021

Table 55 Kendall's Coefficient of Concordance

N	300
Kendall's W	0.106
Chi-Square	134.453
Degree of freedom(df)	4
p-value	0.000

4.20 Strategies proposed by midwives to help promote postpartum contraption among mothers

Response from heads of family planning units in four health facilities during our key informant interview revealed that inclusion of stakeholders such as religious leaders, chiefs and other influential people in the advocacy for postpartum family planning could help improve uptake among mothers in various communities. Another strategy that emerged was the detachment of the family planning unit from the

> *Stakeholders including religious, traditional and opinion leaders actively campaigning for the usage of family planning as well as health workers education of general public on he importance and benefits of family planning. [(midwife) – Nyohini Health centre]*

> *The provision of a unit which will ensure clients privacy and confidentiality. Also, stakeholders actively campaigning for the usage of family planning as well as health workers educating the general public on the importance and benefits of family planning*

during Social gathering and meeting of youth groups to advocate for it.[(midwife) – Tamale West Hospital]

Stakeholders including religious, traditional and opinion leaders actively campaigning for the usage of family planning since they have much audience as well as the health workers educating the public on the importance and benefits of family planning [(midwife) – Builpeila Health Centre]

Religious leaders should be involved in advocacy for family planning since they are revered in the community [(midwife) – Tamale RCH]

CHAPTER FIVE

DISCUSSION

5.0 Introduction

This chapter discusses the key findings of the study based on each objective. Literature was reviewed thoroughly in order to make comparisons to ascertain the rationale behind the trends and patterns of prevalence of contraceptive use among postpartum mothers.

Post-partum family planning is essential for reducing infant and maternal mortality. It offers enormous benefits to the mother, child and community at large as it provides an opportunity to effectively space or limit their births and consequently helping in avoiding complications of unwanted pregnancies soon after birth.

The World Health Organization strongly recommends that women after live delivery, should have an interval of not less than twenty-four months (two years) before attempting the next pregnancy. Interestingly, the findings from this study revealed that only 165(51.9%) of mothers out of a total of 318 had a birth spacing of two years between their current children and the preceding ones. This indicates that not all women still heed to the recommendation of the WHO and GHS regarding the 2-year spacing in between their births. However, the interval recommended for abortion or miscarriage situations is six months.

The study conducted in the Tamale Metropolis sought to ascertain the prevalence of postpartum contraception among mothers and to explore the factors influencing the utilization of these modern contraceptives.

5.1Prevalence of postpartum contraception in the Tamale metropolis

318 women within one year post-partum (12 months) were interviewed for the study. Out of this number, only 81 representing 26% of the postpartum women were using modern contraceptives as at the time of the study. This finding is higher than the 2014 Ghana Demographic and Health Survey which reported 22% contraceptive prevalence among married women of reproductive age. Interestingly, the prevalence is above the Ghana Health Service's national family planning target rate of 23.3%. The prevalence recorded for this study is also higher than a reported prevalence of 21% in a similar study conducted in the Ledzokuku Krowor Municipality in the Greater Accra region of Ghana, the most populated region in the country (Beson et al., 2018). Similarly, a study conducted in Addis Ababa, Ethiopia revealed postpartum contraceptive prevalence to be 80.3% (Gebremedhin et al., 2018). However, this is contrary to the findings of study conducted in the Kumasi Metropolis in the Ashanti region of Ghana which reported 40.5% prevalence (Asamoah, 2015). Another study carried out in the kwaebibirem district also in the Ashanti region revealed 48.7% prevalence of contraceptive use among postpartum women (Adofo, 2014). The disparities observed in prevalence may be due the difference in the socio-demographic characteristics of the respondents, time of study and design. Again, the sample sizes used for the above mentioned studies were different from this study sample. For instance, 416 postpartum mothers participated in Adofo (2014) study whereas 318 respondents actively partook in this study. The definition of postpartum family planning utilization in this study may differ for other studies.

5.2 Common Types of Contraceptives used by Post-Partum Mothers in the Tamale Metropolis

The most common type of contraception adopted by mothers using contraceptives according to the study was injectable followed by oral contraceptive pills and intrauterine device (IUD). The least preferred method was implants. This findings is consistent with the reportage of injectable being the most widely used contraceptive method by married women (GSS&GHS, 2014). Also, a study conducted in Ghana specifically in the Nkwanta district of the Volta region reported injectable as the commonest contraceptive method used by postpartum mothers (Eliason et al., 2014). Interestingly, the injectable contraceptive is the most widely used method in Nigeria (Ijarotimi et al., 2018). Interestingly, all the midwives we interviewed also indicated that injectable was the highly patronized contraceptive methods at the family planning unit. An in-charge of one hospital said "*Injectable is the commonest method women patronize. Some also like pills and a few normally like implant. Women do not like condoms. They do not even request for it" [(midwife)]*. However, the findings is in contrast with that of a study conducted in family planning clinics of two (2) teaching hospitals and three (3) district hospitals situated in two cities of Ghana, Kumasi and Accra. It reported implant as the most commonly used contraceptive among women.

The reason for the high patronage of the injectable by mothers may be attributed to the simple administration of the method as well as the comfortability associated with it compared to the other methods. Another reason probably is that they can be used regardless of a daily activity like pill taking. Most women would be able to discontinue usage after three months so as to give room for another pregnancy. One other advantage of the method which encourages postpartum women in its usage is

that it allows women to keep their contraceptive usage private especially in the study setting where the use of contraception is seen to be awkward due to cultural or religious reasons. Again, most lactating women can effectively breastfeed their kids because the injection has no effect on either the milk composition or its quality. Other methods such as pill, intrauterine device (IUD) and implant has relatively lower utilization rate generally in Ghana according to the 2014 Demographic and Health Survey. The reason for low usage of the pill maybe related to the inconvenience associated with the regular or daily administration of the drug through the oral route.

With regards to knowledge on modern contraceptives among the postpartum women, the study revealed condom as the best-known method followed by injectable and then contraceptive pill. This finding is in line with that of 2014 Ghana Demographic Health Survey which reported these three methods in chronological order as the most widely known among reproductive aged women. In contrast, the Inter uterine device (UID) was the most widely known method followed by injections, oral contraceptive pills and condoms according to a study conducted in Kwaebibirem district (Adofo, 2014). The high level of knowledge could be attributed to the increased dissemination of family planning information mainly by health workers during antenatal and postnatal visits. Another reason could be due to the rise in social marketing strategies and behavioural change communication (BCC) interventions kept in place by non-governmental organizations such as Mariestopes International Ghana, Planned Parenthood Association of Ghana and Catholic Relief Services to promote contraceptive use in the Northern region.

Health workers were recorded as the main source of contraceptive information according to the study, which is in contrast with the 2014 Ghana Demographic Health Survey where mass media was reported. Previous study conducted in Ghana also reported television as the main source of contraceptive information by postpartum mothers (Beson et al., 2018). Tamale Metropolis has a total of nineteen health facilities that provides health care services to residents in many communities. There are therefore many midwives and nurses in these facilities and may explain why health care workers constitute the main source of family planning information.

Despite the high awareness of contraceptives among of postpartum mothers in the Tamale Metropolis only twenty-six (26%) percent of them used a modern contraceptive method at the time of the survey. This confirms the findings of Beson et al (2018) in a study conducted in the Ledzokuku Krowor Municipality in the Greater Accra region which reported that knowledge and awareness of various contraceptives method by reproductive aged women did not guarantee their usage of contraceptives. It is therefore time service providers shift focus from facility-based family planning services to community based service provision so as to improve the acceptor rate of family planning in the Metropolis and Ghana as a whole.

5.3 Factors influencing the utilization of contraceptives among post-partum mothers in Tamale.

Five (5) factors emerged as predictors of postpartum contraception usage. Some were as a result of demographic characteristics of respondents whereas others emerged from reproductive health perspective. The multivariate analysis showed a strong association between respondent's employment status and postpartum contraceptive

use. Employed women had 5 times higher odds of using contraceptives after birth compared to unemployed women. This finding is in consonance with a previous study conducted on Postpartum fertility behaviours and contraceptive use among women in the Mfantseman Municipality in the Central region of Ghana by (S. K. Eliason et al., 2018).

Postpartum women who were not informed on contraceptive side effects had lower odds of using contraceptives compared to women who were more informed. This finding is consistent with a study recently conducted in Tanzania which reported side effects of contraceptives as the most hindering factor for postpartum contraceptive use(Johnson et al., 2020). Another study conducted in an urban area in the Greater Accra region of Ghana is in consonance with the findings of the study (Beson et al., 2018). However, the findings of this study in sharp contrast with a previous study conducted in the Wa Municipality which reported that information on side effect had no impact on postpartum contraception uptake (Haruna, 2014). The fear of side effects has been a major problem in the uptake of contraceptives. Many women are of the perceptions that some contraceptive methods can reduce fertility and may eventually lead to barrenness. Again, some women purchase these contraceptives from over-the-counter drug stores and pharmacies without undergoing any blood test to ascertain their blood groups or underlying conditions which may later expose them to some side effects. The efficacy of these contraceptives depend largely on a woman's blood pressure, reproductive history and whether or not she's lactating(World Health Organization Department of Reproductive Health Services, 2015). In addition, some women experience prolonged bleeding which may interfere with the normal menstrual flow of women. It also appears that most women are poorly

educated about the possible side effects of the methods they choose before they start uptake and this could lead to discontinuation.

The study further revealed that women who had no history of contraceptive usage prior to childbearing had lesser odds of adopting contraception during the postpartum period compared to women with history of contraception. This finding corroborates with a cross-sectional study conducted in a university hospital in Ohio, United States of America .It reported that postpartum breastfeeding mothers who had no history of contraceptive use before childbearing was a sole factor for unintended use of contraception (Loewenberg Weisband et al., 2017). Nonetheless, findings from a similar study conducted in Kailali District, Nepal contradicts the findings of this study. It reported that women who used contraception in the past prior to childbearing had greater likelihood of adopting postpartum contraception(Joshi et al., 2020). The non-use of contraceptive by postpartum mothers who had previously used contraception prior to birth may be linked to their previous experience regarding side effects of some methods they were exposed to. Another reason may be due to the strict opposition women face from their partners for using contraceptives especially in Africa where there's male dominance.

5.4 Partner Support for Postpartum Family Planning in the Tamale Metropolis

According to Shisoka & Litali (2015), male involvement goes beyond the use of family planning methods but the attitude, perceptions, encouragement, and support those men provide to their partners towards the use of family planning. Male engagement in family planning education and counselling probably can improve the usage of contraceptives among women in the postpartum period. Unfortunately, the

resistance by some male partners in allowing their partners to use contraceptives especially in sub-Saharan Africa also add up to the unmet contraceptive needs by postpartum women. The multivariate analysis showed that women who discussed family planning with their partners were very less likely to adopt contraception in the postpartum period. This finding is however discordant with the results of a similar study conducted in India which reported that women who discussed family planning with their partners had higher odds of using contraceptives (Edietah et al., 2018). In another related study conducted in Nepal, the findings revealed that partner communication was significantly associated with contraceptive use among couples (Underwood & Dayton, 2020). Discussion of contraception among couples may encourage postpartum contraceptive usage but not entirely. Women may not get approval from their partners even upon discussing contraception with their partners. This may be due to the negative perceptions men harbour about family planning as several studies conducted in Sub-Saharan Africa have established that men possess more power in the contraceptive use decision-making process. Approval of family planning and contraception by the male partners was associated to have significant highly likelihood of contraceptive usage by mothers (Edietah et al., 2018). However, some women may decline the use of contraception until they have had their last intended child as a result of the negative perceptions they have about contraceptives. In the study setting, for the fear of victimization, most women hide to seek for services and do not even want to be seen by their relatives or neighbours. Even though habitants (men) in the Metropolis are exposed to contraceptive information, some still exhibit primitive behaviours towards their spouses for using contraceptives. An account from a midwife in one of the health centres in the Metropolis during our key

informant interview confirms this assertion. *"Mothers sneak to patronize family planning due to lack of partners consent" [Health professional (midwife)]*. A qualitative study conducted in Ethiopia, Nigeria and Uganda indicated that covert use of contraception among women as a result of partner opposition had higher motivation for contraceptive use(Kibira et al., 2020).

Expectantly, better spousal communication regarding family planning has been associated with higher contraceptive use and lower unmet need (Pearson & Becker, 2014). It's therefore important to develop interventions that would increasingly target men to form an integral part of the family planning process in order to enhance the uptake of contraception among female partners, mitigate discontinuation among those with unmet needs, and foster switching of methods where necessary.

5.5 Strategies to scale up the usage of modern contraceptives

Despite the enormous benefits of modern contraceptive to postpartum mothers, there is still quite lower prevalence in terms of usage leading to the high unmet contraceptive need. Meanwhile, many findings from different surveys have indicated the higher knowledge of contraceptives among couples as well as higher intentions of two-year birth spacing between their children. However, there are still challenges that prevent postpartum women from adopting contraception. Some of these challenges are as a result of the social norms and attitudes of male partners which varies in different communities.

Respondents were asked on their opinions on five (5) strategies. The strategies were centred on the propagation of family planning policy initiatives through mass media,

provision of high-quality family planning counselling and services, implementation of health behaviour change and communication initiatives, community health workers following pregnant women to reinforce postpartum family planning messages and passing legislation to punish men who violate women against postpartum family planning.

From the Kendal W statistics, it was revealed that majority of the respondents opined that the intervention that centred on passing a legislation to punish men who abuse women for using contraceptive be implemented first if the interventions were going to be rolled out at the time of the survey. The results are in consonance with a study conducted in Nigeria on domestic violence being a barrier on contraceptive uptake. The study reported strong association between the non-contraceptive usage among women and domestic violence (Bishwajit & Yaya, 2018). The effectiveness of family planning services may one way or the other be hindered due to the high prevalence of domestic and family violence in Ghana. Research in Ghana revealed that about twenty eight percent of women have experienced sexual, emotional, economic or physical intimate partner violence [IPV](Apatinga & Tenkorang, 2020). Reasons for Ghanaian women being vulnerable to domestic violence may be due to social/cultural norms, male dominance, gender and socio-economic inequality targeted at women (Tenkorang & Owusu, 2018).The reason respondents chose this intervention could be as a result of their personal experiences. According to Bishwajit et al (2018), women who reported lifetime experience of intimate partner violence were significantly less likely to adopt contraception as well as maintain their fertility goals. Women do suffer economic, sexual and physical abuse women from their husbands. Probably, this intervention when enforced could serve as a deterrent for many other men in Ghana.

Even though there is an existing legislation on gender- based violence, it is not enforced. The domestic violence act, 2007 (Act 732) is the primary domestic legal framework aimed at combating gender-based violence in Ghana. The law defines the crime of domestic violence and provides for arrest and prosecution of perpetrators of the law. Unfortunately, many men still abuse their partners for using contraception in many parts of Ghana.

CHAPTER SIX

CONCLUSION AND RECOMMENDATION

6.0 Conclusion

This study explored the prevailing contexts that drive acceptability of post-partum family among women in the Tamale Metropolis and findings of the study subsequently aligns to the constructs of the theoretical framework of acceptability.

The study revealed there is low adoption of post-partum family planning in the Tamale Metropolis which calls for serious advocacy and resource mobilization for family planning related services. Even though the prevalence obtained (25.5%) for this study is relatively higher compared to the national contraceptive prevalence rate of 22%, the onus still lies on health professionals to clear the misconceptions women harbour about FP. Religious leaders also have a critical role to play in this regard. A concerted effort is required from all manner of persons to ensure high prevalence of post-partum family planning uptake in Ghana. In fact, population control is needed for the development and economic growth of individuals, households and the country at large. Therefore, government must prioritise family planning related issues by investing heavily into it so as to promote the uptake of FP services.

Again, service providers should as much as possible exhibit professionalism during delivery of family planning services and also create an enabling environment for all mothers who come to seek FP services.

More also, data on post- partum family should be harnessed by health professionals at all health centres in order ensure higher uptake among mothers since their attitudes

have tendency of influencing the decisions of clients. The data when obtained accurately would also help policy makers monitor the adoption rate in order to shape policy implementation and directions. High quality post-partum family planning services are important in ensuring higher prevalence and population control hence must be considered as a priority area in health care delivery in Ghana.

6.1 Recommendations

The following proposed recommendations are outlined based on the findings of the study to help improve family planning uptake among postpartum women. The recommendations are directed to the Ministry of Health (MoH), the Metropolitan Health Directorate and Health facilities in the Metropolis.

Ministry of Health (MoH)

- The health ministry should collaborate with civil society and non-governmental organizations to intensify the importance postpartum family planning to all community stakeholders in order to have community leaders rally behind the postpartum family planning advocacy. This effort would help demystify the misconceptions held by community folks about postpartum contraception.
- The ministry should improve a resource mobilization for family planning related services especially with regards to commonly used FP method like IUD.
- MoH should ensure that legislative instrument is passed to improve FP compliance in Ghana.

- ❖ The ministry of Health should ensure promotive health messages on postpartum family planning are broadcasted regularly through radio programs and national television channels.

Metropolitan Health Directorate

- ❖ Ensure timely and regular supply of method mix to all health centres offering family planning services to encourage switching of methods.
- ❖ The directorate should try possible means to detach the family planning unit from maternity so as to ensure privacy of clients.

Health Facilities

- ❖ Service providers should adequately counsel clients on side effects of each contraceptive method and thoroughly examine them using the medical eligibility criteria to mitigate the occurrence of side effects after usage
- ❖ Health workers should encourage women to come along with their partners during antenatal and postnatal services in order to foster partner support for family planning services.

Further Research

Research should be conducted to ascertain the disparities that exist between contraceptive method uptake in rural and urban geographies in the Northern Region.

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APPENDICES

APPENDIX I: QUESTIONNAIRE FOR THE STUDY

UNIVERSITY FOR DEVELOPMENT STUDIES

SCHOOL OF PUBLIC HEALTH

I am a student from the School of public health, university for development studies, Tamale, conducting a study on the utilization of contraceptive methods by post-partum women in the tamale metropolis, Ghana. This study is requirement for obtaining my Master of Public Health(MPH) degree hence I will be much grateful if you could assist me by answering the following questions. All information given would be confidential. However, you are at liberty to withdraw in the course of administering the questionnaire if you so wish.

SECTION A - RESPONDENT'S SOCIO-DEMOGRAPHIC CHARACTERISTICS

(Please tick (√) appropriately)

1. Residence

   a. Urban [ ] b. Rural [ ]

2. Age group

   a. 15-24 [ ] b. 25-34 [ ] c.35-49 [ ]

3. Religion

   a. Muslim [ ] b. Christian [ ] c. Traditionalist [ ] d. Other [ ]

4. Ethnic group

   a. Mole-Dagbani [ ] b. Others [ ]

5. Level of education

a. Primary/Basic [ ] b. Senior High School [ ] c. Tertiary [ ] e. never schooled

6. Your husbands level of education

a. Primary/Basic [ ] b. Senior High School [ ] c. Tertiary [ ] e. never schooled

7. Marital status

a. Married [ ] b. Single [ ] c. Divorced [ ] d. Separated [ ] e. Widowed [ ]

8. Type of Family

a. Extended [ ] b. Nuclear [ ]

9. Total number of children (parity)

a.1 – 2 [ ] b. 3 – 4 [ ] c. >5 [ ]

10. Last delivery/birth

a. 0-5 months [ ] b. 6-12 months [ ]

11. What is your current employment status?

a. Employed [ ] b. Unemployed [ ]

12. Birth spacing between children

a. First time delivery [ ] b. 2 or more years [ ] Less than 2 years [ ]

S/N		Indicate by ticking YES/NO	
		YES	**NO**
1	Do you often get information on PPFP during postnatal visits		
2	How often do you enquire about available FP services at your health facility		
3	Have you ever used any contraceptive method (history of contraceptive use)		
4	Have you ever had operation (female sterilization) to avoid having any more children		
5	Has your partner ever had an operation (Male Sterilization) to avoid having any more children		
6	Women can take pill to avoid being pregnant		
7	Women can have loop (IUD)placed in their vagina to prevent pregnancy		
8	Women can have an injection by a health provider that can prevent them of becoming pregnant for one or more months		
9	Men can put a rubber sheath(Condom) before sexual intercourse to prevent pregnancy		
10	Women can place a sheath (Condom)in their vagina before sexual intercourse to prevent pregnancy		
11	Women can place a thin flexible disk in their vagina before sexual intercourse (Diaphragm)		
12	Women can place a suppository , jelly or foam before sexual intercourse		
13	Women would not have sex on days of the month they are mostly to get pregnant (Rhythm method)		
14	Men can be careful and pull out before climax (Withdrawal)		

15	Lactational amenorrhea method can be used to prevent pregnancy		
16	After unprotected sex , women can take special pills within five days to avoid being pregnant		
17	Have you ever heard any method or ways women or men can use to avoid pregnancy		
18	Are you currently using any method to delay or avoid being pregnant		

SECTION B -Knowledge, Usage & Source of Contraceptives

18a	If **YES,** which method are you or your partner using (Circle the letters appropriately)	a	PILL
		b	IUD
		c	INJECTABLES
		d	IMPLANT
		e	MALE CONDOM
		f	RHYTHM
		g	LACTATIONAL AMENORRHEA
		h	JELLY-
		i	FEMALE STERILAZTION
		j	MALE STERILIZATION
		k	DIAGHRA

SECTION C -FACTORS INFLUENCING PRACTICES TOWARDS PPFP

(Please tick (√) the most appropriate)

(YES) ☐

(NO) ☐

1. How often do you go for post-natal care services after birth? Regular

   Sometimes

2. Do you seek FP services after birth YES ☐ NO ☐

3. Are you always comfortable within the environment

   of the health center were FP services are offered YES ☐ NO ☐

4. Are FP services available at your health center? YES ☐ NO ☐

5. Are health providers at the center friendly and accommodation YES ☐

   NO ☐

6. Are you informed on side effects on some of the YES ☐ ☐

   NO

   FP methods by your service provider

7. Does your religious sect disapprove/approve YES ☐ NO ☐

   the use of PP contraception?

8. Does the society in which you live disapprove/approve

   the use of PP contraception YES ☐ NO ☐

9. Is the cost of FP services an obstacle to its usage? YES ☐ NO ☐

SECTION D -EFFECTS OF SPOUSAL SUPPORT AND COMMUNICATION

(Please tick (√) the most appropriate)**YES** **NO**

1. Do you often discuss FP with your partner YES ☐ NO ☐

2. Would your partner approve the use of FP methods YES ☐ NO ☐

3. Does your partner support you financially to patronize FP services YES ☐ NO ☐

4. Do you experience violence from your partner for using FP method during the postpartum period YES ☐ NO ☐

SECTION E - INTERVENTIONS TO PROMOTE PRACTICE OF PPFP

(Please tick (√) the response that best indicates your opinion about the statements below)

S/n	Statements	Agree	Disagree	Indifferent
1	Policy-makers and service providers should know and understand the needs, desires, and constraints of postpartum women for FP services through action research			

2	Implementation of health behaviour change and communication initiatives at the community level or in the mass-media			
3	CHWs should regularly identify, refer and follow up pregnant women for ANC services and provide/reinforce PPFP messages			
4	There should be provision of counselling services during postnatal visits by competent, confident and committed healthcare Providers			
5	Legislation be passed to punish men who violate women against PPFP			

QUALITATIVE DATA (KEY INFORMANT INTERVIEW)

UNIVERSITY FOR DEVELOPMENT STUDIES

SCHOOL OF PUBLIC HEALTH

I am Abdul-Rahman Mubarik, a student from the School of Public Health, university for development studies, Tamale, conducting a study on the **Utilization of Contraceptive Methods by Post-Partum Women In The Tamale Metropolis of Northern Region, Ghana.**

This study is requirement for obtaining my Master of Public Health (MPH) degree

hence I will be much grateful if you could assist me by answering the following questions. Your responses to these questions would be recorded with a device and later transcribed. All information given would be confidential. However, you are at liberty to withdraw in the course of administering the questionnaire if you so wish.

KEY INFORMANT INTERVIEW

(This questionnaire is supposed to be administered to **ONLY** In-charge midwives at study facilities)

1. How often do mothers seek for FP services after birth?
2. What type of FP services are commonly patronized by postpartum mothers at your center?
3. How often do you educate postpartum mothers in your facility on the usage of FP services?
4. What is your assessment of the behaviors of mothers towards the usage of FP services
5. What are some of the barriers you think affect the patronage of FP services by post-partum mothers in your facility.
6. What are some of the challenges you face in the delivery of FP services in your health facility.
7. Do you have enough logistics and FP commodities for family planning services?
8. What interventions would you suggest to improve FP uptake among Postpartum mothers

APPENDIX II: CONSENT FORM

PARTICIPANTS' STATEMENT

I acknowledge that I have read or have had the purpose and contents of the Participants' Information Sheet read and all questions satisfactorily explained to me in a language I understand (……*name of language*). I fully understand the contents and any potential implications as well as my right to change my mind (i.e. withdraw from the research) even after I have signed this form.

I voluntarily agree to be part of this research.

Name or Initials of Participant…….. ID Code

……..

Participants' Signature ……...OR Thumb

Print……

Date: …….

INTERPRETERS' STATEMENT

I interpreted the purpose and contents of the Participants' Information Sheet to the above named participant to the best of my ability in (Dagbani, Twi, Hausa) language(s) to her genuine understanding.

All questions, appropriate clarifications sort by the participant and answers were also duly interpreted to her satisfaction.

Name of Interpreter……

Signature of Interpreter……..

Date……..

STATEMENT OF WITNESS

I was present when the purpose and contents of the Participant Information Sheet was read and explained satisfactorily to the participant in the language he/she understood (Dagbani, Twi, Hausa)

I confirm that he/she was given the opportunity to ask questions/seek clarifications and same were duly answered to his/her satisfaction before voluntarily agreeing to be part of the research.

Name:……

Signature…….... OR Thumb Print …….....

Date:……

INVESTIGATOR STATEMENT AND SIGNATURE

Brief statement or declaration that investigator has given enough information to participants to make informed decisions.

I certify that the participant has been given ample time to read and learn about the study. All questions and clarifications raised by the participant have been addressed.

Researcher's name……

Signature …….

Date…….

APPENDIX III: ETHICAL CLEARANCE

GHANA HEALTH SERVICE ETHICS REVIEW COMMITTEE

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

My Ref. GHS/RDD/ERC/Admin/App 121419
Your Ref. No.

Research & Development Division
Ghana Health Service
P. O. Box MB 190
Accra
Digital Address: GA-050-3303
Mob: +233-50-3539896
Tel: 1233-302-681109
Fax + 233-302-685424
Email: ethics.research@ghsmail.org
8th October, 2021

Mubarik Abdul-Rahman
University for Development Studies
P.O. Box 192 Tamale

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

GHS-ERC Number	**GHS-ERC 046/06/21**
Study Title	The Utilization of Contraceptive Methods by Post-Partum Women in the Tamale Metropolis of Northern Region, Ghana
Approval Date	8th October, 2021
Expiry Date	7th October, 2022
GHS-ERC Decision	**Approved**

This approval requires the following from the Principal Investigator

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

You are kindly advised to adhere to the national guidelines or protocols on the prevention of COVID -19

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

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

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

SIGNED.....
Dr. James Akazili
(Head, Ethics & Research Management Department)

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