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FACTORS INFLUENCING THE UTILISATION OF FAMILY PLANNING METHODS AMONG POSTPARTUM WOMEN AT THE 37 MILITARY HOSPITAL OF GHANA

BY

PATIENCE OWUSU-AIDOO

10369426

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DECLARATION

I do hereby declare that apart from people's knowledge that has been duly acknowledged, this research proposal is the result of my hard work under competent supervision

I take full responsibility for any shortcomings in this work.

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PATIENCE OWUSU-AIDOO **DATE**

(Student)

…… ……

DR. EMMANUEL ASAMPONG **DATE**

(Academic Supervisor)

DEDICATION

This research work is dedicated to my son PAA KOFI OWUSU-AIDOO and my SISTER, DR MERCY AHUN for all their support towards my work.

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ABSTRACT

Introduction: The spacing of children is a foremost public health issue worldwide due to its consequence on maternal and neonatal health as well as development as a whole. Childbirth within the first two years after delivery considered highly risky, this notwithstanding, most women do not pay attention to family planning (FP) usage as the record show a low patronage of family planning services by postpartum women leading to pregnancies at shorter intervals than recommended.

Objective: The study established factors that influence the use of FP methods among postpartum women accessing health care at 37 Military Hospital.

Method: A cross-sectional study that adopted a quantitative approach was employed in the study. Coded structured questionnaire was used to collect the needed data. Consecutive sampling method was used to select 418 participants for the study. Descriptive statistics was done by computing means, median, frequencies and proportions. Bivariate and multi-variable analysis were done to establish associations and degree of associations between the outcome variable (utilisation of Postpartum Family Planning). Statistical significance was set at $p<5\%$.

Results: Out of the 410 postpartum women interviewed in this study, 34.2% (140) utilised postpartum family planning. In respect of attitude toward PPFP, mothers who indicated pregnancy prevention as the reason would utilise PPFP had 85% increased odds of PPFP utilization as compared to mothers who indicated spacing of their children as the reason they would have to utilize PPFP (cOR = 1.85; 95% CI = 1.22 – 2.81; p = 0.004). The following variables were found to be significantly associated with the utilization of FP services among postpartum women: history of contraceptive use ($p < 0.001$); post-delivery menses ($p < 0.001$); age of mothers' most recent child ($p = 0.026$); resumption of post-

delivery sexual activities ($p < 0.001$); post-delivery FP discussion with partner ($p<0.001$); and partner approval of contraceptive use ($p < 0.001$).

Conclusion: The prevalence of Postpartum Family Planning utilization is low, and this is influenced by factors at the individual, relationship and community level. There is therefore the need for more awareness creation by health professionals at the 37 Military Hospital and advocacy for the integration of the FP methods (that are paid for) into the National Health Insurance Scheme to encourage use.

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LIST OF ABBREVIATIONS

AOR	-	Adjusted Odds Ratio
CL	-	Confidence Interval
COR	-	Crude Odds Ratio
CWC	-	Child Welfare Clinic
FP	-	Family Planning
GDHS	-	Ghana Demographic and Health Survey
GSS	-	Ghana Statistical Service
IUD	-	Intrauterine Device
LAM	-	Lactational Amenorrhea Method
MoH	-	Ministry of Health
PPFP	-	Postpartum Family Planning
SDG	-	Sustainable Development Goal
UN	-	United Nations
UNDESAP	-	United Nations Department of Economic & Social Affairs, Population Division
WHO	-	World Health Organisation

CHAPTER ONE

INTRODUCTION

1.1 Background

Family planning (FP) is globally acknowledged as an important intervention aimed at reaching maximum maternal and child health as it has been scientifically demonstrated to lessen the burden of maternal and child mortality (Eliason et al., 2013). FP provides benefits which include the prevention of pregnancy related health risks in women, reduction in infant mortality, and prevention of sexually transmitted infections as well as reducing teenage pregnancies. FP has also been documented to empower women to know about their reproductive health rights as well as reduce population growth (WHO, 2018)

It has been generally acknowledged that women who have given birth need FP methods and that it dawns on health programs aimed at improving maternal and child health to address this need (World Health Organization, 2013). Interest in postpartum FP methods have been reported to stem from three assertions. To begin with, women who have delivered are focused on creating a mother-and-child bond with their neonates. Another aspect has to do with making birth to pregnancy intervals not to be less than 2 years which is essential for optimal health of both the mother and child (WHO, 2006, 2013). Short intervals between pregnancies have been reported to contribute to unfavourable maternal and child health outcomes (Cleland et al., 2012) The last assertion is that since both mother and child are most likely to encounter health programs for postnatal care and immunisations, it would be simple to integrate FP services (Wilopo et al., 2017). This will help widen opportunities to cover this unmet need (Gaffeld et al., 2014). Thus, it behoves that spacing pregnancies appropriately, could help prevent adverse pregnancy and birth outcomes such as preterm delivery, low

birth weight and small for gestational age. Thus, the use of postpartum FP is of paramount importance (Gebremedhin et al., 2018).

It is recommended that, the best time to initiative postpartum family planning usage, is six weeks after delivery (Randel, 2011). In general, there are two categories of postpartum FP methods. These include traditional methods such as breastfeeding, abstinence, calendar method and lactation amenorrhoea. The modern methods of PPFP include the use of intrauterine contraceptive devices, implants such as Jadelle and Implant, injectable, the use of progesterone oral contraceptives as well as condoms (Eliason et al., 2013; Rossier & Hellen, 2014; WHO 2013).

Varying prevalence of postpartum FP usage, have been reported by different studies. A cross-sectional study conducted in Addis Ababa on FP usage among women in the extended postpartum period reported prevalence of PPFP to be 80% (Abera et al., 2015). Similarly, another study conducted on the same subject area in Uganda also reported that more than a quarter of study respondents (28%) used modern FP methods after delivery (Rutaremwa et al., 2015). Also a study in Malawi reported that though 75% of postpartum women used FP methods one year after the postpartum period, however they started taking contraceptives after they have already resumed sexual intercourse with their partners (Bwazi et. a., 2014).

Different studies have shown different factors that influence the utilisation of postpartum family plaining. A Ugandan study reported that education, wealth status and age of women, determines usage, of modern FP method usage, among women during the postpartum period. They further reported that having skilled delivery, exposure to media and number of surviving children also influence FP method usage, among postpartum women (Rutaremwa et al., 2015). Similarly, another study in Ethiopia also found resumption of sexual intercourse, resuming sex before six weeks,

and menstruation to be factors associated with utilisation of postpartum FP (Demie et al., 2018). Furthermore, other factors reported to be associated with utilisation of postpartum FP include prior use of FP methods, and partner's communication about its usage. (Sileo, Wanyenze, & Kiene, 2015). Counselling on FP methods during delivery, counselling during antenatal care and postpartum period (Nigussie, Girma, & Tura, 2016) and prior use of FP methods to the last pregnancy (Gebremedhin et al., 2018).

In Ghana, though knowledge on conception and FP is universal, unmet needs during the postpartum period remains high. This unmet need results in increased rates of unplanned pregnancies, unsafe induced abortion, as well as maternal and child health problems. Thus, in 1970, the Ghana National Family Planning Programmes was established with the notion that it is a fundamental human right that every couple should be provided the opportunity to make a decision on the number and spacing of their children they wish to have (Odoi-Agyarko, 2003). To complement the efforts of this programme, a National Population Policy was promulgated in 1994. The main aim of this policy was to reduce the total fertility rate from 5.5 in 1993 to 3.0 by 2020. Thus, in order to achieve this goal, modern FP methods usage, would have to increase from 9.3% to 50% by 2020 (NPC, 1994). To achieve these objectives, a key national strategy was to integrate FP services into maternity services. This approach involves effective education during maternity care, to increase access to, and uptake of Family Planning methods. (MoH, 2003; Morhe et al., 2017).

Though Ghanaian women might wish to delay their next pregnancy, most of them do not use effective postpartum family planning methods. The Ghana Statistical Service reported in 2011 that only 17% of married women or women in union aged 15-19 years use a modern FP methods. Furthermore, they reported that 38% of women aged between 25 and 39 years also use some form of FP method (GSS, 2011). The last

demographic and health survey conducted in 2014 reported that FP prevalence rate was 27% among married women. However, a further lower rate of 23% was reported among all Ghanaian women (GSS, GHS, & ICF International, 2014). A study conducted in rural Ghana on factors influencing the intention of postpartum women to use FP indicated that male partner involvement, history of the use of injectable and acceptability of PPFP to the pregnant woman were important factors in the PPFP decisions of these women (Eliason et al., 2013). Thus, the promotion of FP methods usage, has become a national health priority.

In Ghana, less attention has been paid to the uptake of FP methods, among postpartum women. Thus, this study aims to determine the factors that influence the use of FP methods, among postpartum women accessing healthcare at 37 Military hospital.

1.2 Problem Statement

Spacing of children is a major public health problem worldwide due to the adverse effects it can have on the mothers, babies and the community. Though childbirth within the first two years after delivery is highly risky, most women do not pay attention to FP use (Teal, 2014). It has also been reported that the use of FP methods, among postpartum women, is low despite their unmet need for FP methods. (Borda et al., 2010). Thus, there exists a breach, between adoption of effective FP methods, and the resumption of sexual activities which leads to short interval pregnancies. This results in increased risk of maternal and neonatal mortality and morbidity (Teal, 2014).

According to the 2014 Ghana Demographic and Health Survey, the total fertility rate of Ghanaians has increased from 4% to 4.2% over the past six years. Various organisations over the years have embarked on educational campaigns to encourage the use of FP methods, amongst postpartum women in the country. Despite massive efforts

and resources put into educational programs, the adoption and use of FP methods, amongst post-partum women is yet to yield maximum results.

Data from the Public Health Division of 37 Military Hospital indicates that 1350 postpartum women used FP methods, out of 3951 registrants for the year 2017. This represents 34% of postpartum women that reported to the facility.

There is a significant breach, on factors influencing the utilisation of FP methods among postpartum mothers, as there has not been any research carried out at 37 Military Hospital on this subject area. Thus, this study seeks to examine the factors that influence the use of FP methods, amongst postpartum women in 37 Military Hospital. The results of this research would help to understand, factors influencing FP methods usage, and to adopt measures that would improve FP methods utilisation amongst postpartum women.

1. 3 Research Questions

1. What is the prevalence of FP methods usage, among postpartum women accessing healthcare?
2. What is the perception and attitude of postpartum women towards FP methods usage?
3. What are the factors associated with the utilisation of FP methods among postpartum women?

1. 4 General Objective

To determine factors that influence the usage of FP methods among postpartum women accessing health care at 37 Military Hospital.

1.4.1 Specific Objective

1. To determine the prevalence of FP methods usage, among postpartum women accessing health care.
2. To assess perception and attitude towards FP method usage among postpartum women.
3. To determine factors associated with utilisation of FP methods among postpartum women.

1. 5 Significance of the study

Issues of maternal health are of global concern. To this end, one target of the Sustainable Development Goal (SDG) 3 is "to reduce the global maternal mortality ratio to less than 70 per 100,000 live births by 2030" (UN, 2018). Thus, to achieve this target, there should be improvement in access to postpartum family planning services. To this end, factors which influence uptake of FP methods, among postpartum women need to be identified. Few studies conducted on this subject area in Ghana and Nigeria have focused on determining factors that influence women's intention to adopt postpartum FP services (Adegbola & Okunowo, 2009; Eliason et al., 2013). However, intention to use FP methods, doesn't necessary translate to usage. There is inadequate documentation on the utilisation of FP methods, among postpartum women in Ghana. This study will help bridge, this identified lapse, on postpartum FP usage. The findings of this study will be useful and of interest especially to researchers and reproductive health stakeholders. It will also be of importance to policy makers in the reproductive health sector and to other, interested parties on how to enhance utilisation of FP methods among postpartum women to ensure that many women can benefit from the services.

1.6 Definition of terms

FP-Is a practice which enables people to decide freely and responsibly the number of children, spacing and timing of the children they want.(Cohen & Richards, 1994)

FP services -This term will be used to refer to any medical or social activities and educational or informational services in FP that facilitate individuals so as to make decisions on the number and spacing of children as well as to freely choose the means by which they want to achieve this.

Utilisation – This is the actual use of FP methods

Utilisation of FP methods – Ability to use FP methods. Utilisation here will not only mean usage but also accessibility of FP methods to ensuring that there is timely spacing of birth among mothers which are dependent on; physical accessibility of the service, affordability and acceptability of the service (Ochako et al., 2015).

Unmet need for FP- This refers to the proportion of fertile women who wish to space their next birth or stop child bearing but are not using FP methods.

1.7 Conceptual Framework

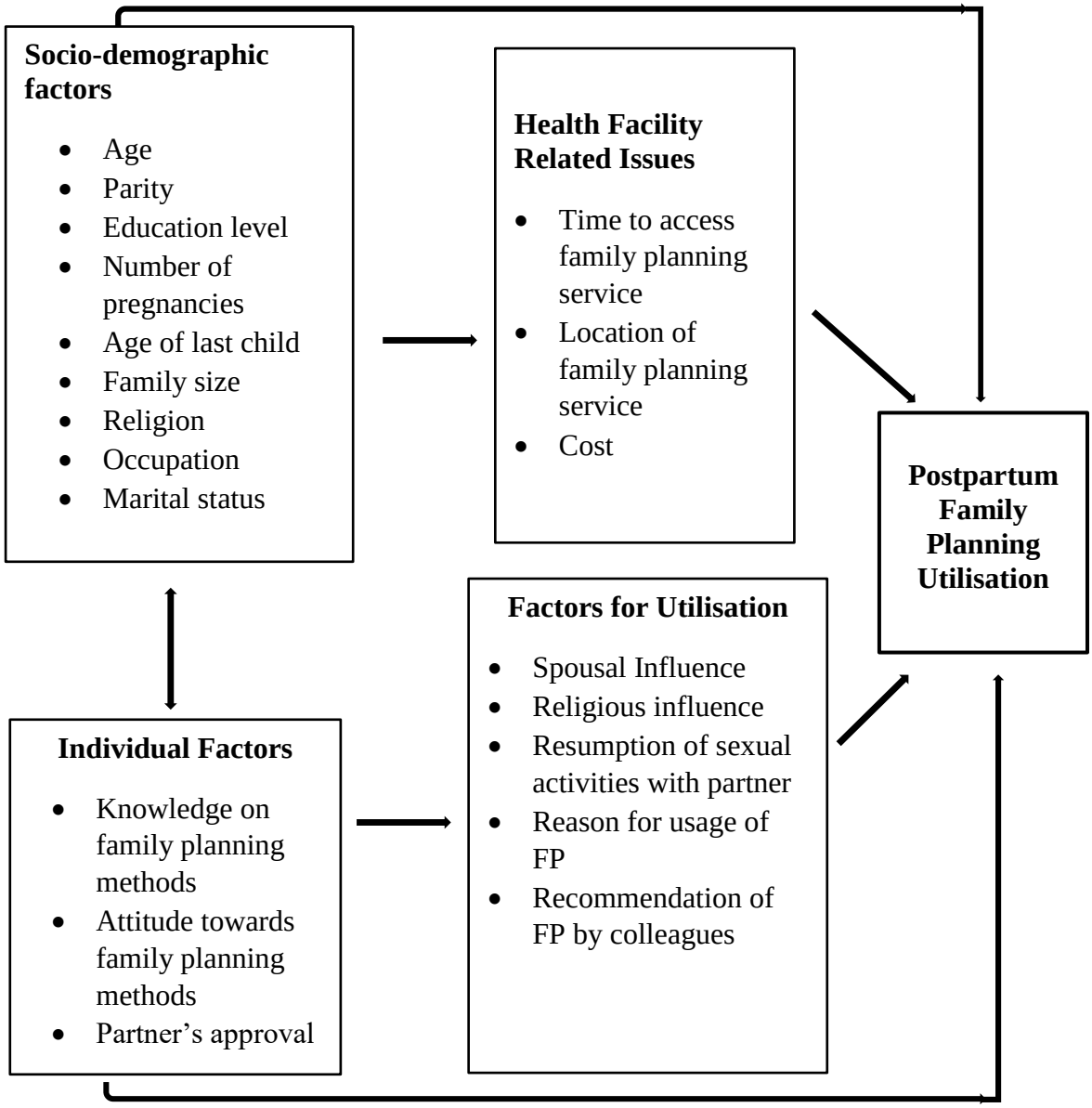

Figure 1: Conceptual framework adapted from Andersen & Newman (2005) based on the Health Care Utilisation Model

Source: Andersen & Newman 2005

1.8 Narrative of Conceptual framework

The conceptual framework above is the bedrock on which the objectives of the study rests. It was adapted from Andersen & Newman (2005) and it is based on the Health Care Utilisation Model**.** This model has tenets which are very pertinent to the study and well-suited with objectives of the study: determine the utilisation of FP among postpartum women; assess postpartum women perception and attitude towards FP method usage and to determine the factors associated with utilisation of FP methods among postpartum women at 37 Military Hospital.

The social determinants based on the framework focuses on issues of socio-demographic factors such as age, parity, educational level among others. Individual level factors like knowledge, attitudes and perceptions also affect the usage of FP methods. Other factors that affect health facility usage include the location, cost and time spent at the facility. In addition to the factors mentioned above, other determinants such as spousal, religious influence and recommendations by colleagues also influence the utilization of FP methods.

Perceptions about whether or not a woman who has recently given birth can use family planning methods, purposes for utilising family planning methods, how soon post-delivery family planning can commence, and perception about whether a woman can get pregnant in the post-partum period may influence the utilisation of PPFP. Attitudes such as a woman reason for utilising FP methods, whether or not they would recommend FP methods to colleagues, utilising available FP methods, at health facility, and utilsing available FP methods, if incorporated into maternal services may influence the use of FP methods.

The health service system will capture information on the cost of service, time and accessibility to the health facility.

In conclusion, findings from several studies by researchers have showed results on factors that influence the use of FP methods among postpartum women. Inspired by this conceptual model, this study seeks to assess the utilisation of FP methods among postpartum women, determine postpartum women perception and attitude towards FP method usage, and factors associated with utilisation of FP methods among post-partum women in 37 Military Hospital of Ghana. The factors identified in the model will, in addition to other factors in the literature, shape the development of questionnaire to elicit information to satisfy the questions this study seeks to answer.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter deals with related literature reviewed on utilisation of postpartum family planning. The review is about vital issues of the sociodemographic characteristics of the postpartum women, prevalence of postpartum family planning methods, attitude and perception and factors that influence the utilisation of postpartum family planning methods among postpartum mothers.

2.2 Postpartum Family Planning

The World Health Organisation (WHO) describes FP as "practices that allow individuals and couples to anticipate and attain their desired number of children and the spacing and time of their births". In order to achieve this feat, there is the need for the usage of FP methods, as well as addressing the issues, pertaining to infertility (WHO 2018). FP is propounded as an important aspect of health care provided to expectant mothers, during the antenatal period, right after delivery, and during the first year of the postpartum period (WHO, 2013). Postpartum Family Planning (PPFP) can be best defined as an initiation and usage of FP methods during the first year after delivery. Family planning methods usage, could also be initiated as early as 10 minutes after delivery of the placenta, or between 48 hours after delivery. Notwithstanding, some women may decide to use a family planning method any time after six weeks of delivery until the end of the first year. This option is termed as lengthy postpartum family planning.

Ross and Winfrey, (2001), were of the view that 95 percent of mothers in the low- and middle-income countries would like to avoid pregnancy within the next two years

following their study but 70 percent are not using any FP method. The concept of FP involves conscious efforts by a couple to limit or space the number of children. This is achieved via the use of family planning methods, categorized into two domains; modern and traditional methods. Modern methods of family planning include female and male sterilisation, the use of intrauterine device (IUD), pills, male and female condoms, implants, injectable, and the Lactational Amenorrhea Method (LAM).

Traditional methods of FP methods include withdrawal, folk methods and rhythm methods (GDHS, 2015).

Postpartum FP (PPFP) is defined as the "prevention of unintended pregnancy and closely spaced pregnancies during the first 12 months following childbirth" (WHO, 2013). There is empirical evidence that the promotion of FP in nations with high birth rates can reduce all maternal deaths by 32% and childhood deaths by 10% (Cleland et al., 2006). Though the use of FP averts maternal and child health, postpartum fertility and family planning are generally misunderstood by policy makers, health service providers, or the women themselves, thus, health education on PPFP, and its provision is vital and saves the lives of the mothers and their children (Borda et al., 2010).

WHO in collaboration with Maternal and Child Health Integrated Program of the United States Agency for International Development (USAID) produced a document titled 'Statement for Collective Action for Postpartum Family Planning? This document focused on a wider approach in addressing the unmet needs for postpartum family planning methods, as well, making a range of FP methods more accessible (WHO, 2013). The document was accepted by several global family planning agencies, including the United Nations Population Fund (UNPF) and the International Planned Parenthood Federation (IPPF) (UNPF and IPPF, 2015). To promote the policy of increasing FP usage, the 2012 London Summit on Family Planning, renewed

international commitment to family planning, especially in the postpartum period by advocating for the incorporation of postpartum family planning into national and local safe motherhood programs. This is to ensure that the postpartum family planning programs are evidence based and rooted in field-tested practices. The WHO with support from various agencies developed and launched a resource material titled "Programming Strategies for Postpartum Family Planning" in 2013 at the International Conference on Family Planning in Addis Ababa. This comprehensive document focuses on family planning needs of postpartum women, with reference to cultural contexts and offers strategies on how to integrate postpartum family planning services into multiple entry points of the health delivery systems in low and middle income countries (WHO 2013)). The policy advocates for the provision of family planning counselling and services to start from antenatal care through postnatal and child welfare clinics.

2.2.1 Postpartum Family Planning Prevalence

According to Adofo, (2014) information on postpartum family planning among postpartum mothers globally is limited. The prevalence of postpartum family planning usage, even within some countries varies depending on geography, socioeconomic and religious factors

Adofo (2014) further stated that a study done in the United States of America (USA) shows evaluating family planning usage, among over 43,887 postpartum mothers in 12 states and the New York City reported postpartum family planning prevalence among mothers in the sample, 88.0% reported current use of, at least one method of FP (Whiteman et al., 2009).

The unmet need of family planning method is high for many postpartum women in sub-Saharan Africa; across 21 low- and middle-income countries, an estimated 61% of

postpartum women (Dulli et al., 2016). The extended postpartum period, 12 months after childbirth, can be a time of particularly elevated risk for an unplanned pregnancy (Dulli et al., 2016) . Family planning methods, prevalence in 2015 was above 70 per cent in 13 countries of Europe as well as in Canada and the United States of America (UNDESAPD 2015) within 17 countries in Africa, they had family planning method among postpartum mothers' prevalence levels below 20 per cent. This group includes the populous country of Nigeria, where family planning usage, was, at less than half the level in Ethiopia which is between -16 per cent and 36 per cent (UNDESAPD, 2015).

The patterns of amenorrhoea and sexual abstinence determine the timing of postpartum family planning method, as well determine the predictors of postpartum FP usage (Eliason et al., 2018).

A review done by Adofo (2014), in a cohort study tracks the outcome of postpartum women who requested for tubal ligation observed that only 69 percent received the procedure by the end of the first year after delivery (Thurman & Janecek, 2010). It was found that, those who had the postpartum tubal ligation were more likely to be United States citizens, who had insurance cover, and attended prenatal clinics. Delivery by caesarean section was positively associated with receiving postpartum tubal ligation. Those who did not receive the procedure were more likely to be illegal immigrants, have no personal insurance cover and less likely to attend antenatal clinic. The authors concluded that financial barrier still remains a challenge when it comes to provision of postpartum tubal ligation in the United States of America (Thurman & Janeck, 2010).

In a cross sectional survey in India involving 123 postpartum mothers from a rural area in Uttar Pradesh, it was realised that only 13.8 percent of mothers adopted a modern FP method with 8.9 percent using condoms, 3.3 percent relied on Lactation

Amenorrhoea Method (LAM) and 1.6 percent chose the Intra Uterine Device (IUD) (Mahmood et al., 2012). In this study, the authors concluded that lack of knowledge about postpartum family planning, breast feeding, the influence of the extended family, and religious opposition to family planning, acted as barriers to postpartum FP usage. Married middle socioeconomic class women, 18 years and above were more likely to use FP method, during the postpartum period however, as reviewed by Adofo (2014), another study in Onitsha in South Eastern Nigeria, which focused on the time of resumption of sexual activity and family planning usage, among postpartum women found that although 93.6 percent of the respondents had resumed sexual activity by six months postpartum, only 46 percent used any family planning methods, that predisposes themselves to the risk of unintended pregnancy (Egbuonu et al., 2015). Lactation Amenorrhoea remained the most common method of family planning, for birth spacing among these women during the first six months, despite an early return to sexual activity and a return of menstruation in 33.8 percent of the respondents by six weeks (Adofo, 2014).

2.3 Attitude and Perception of Postpartum Mothers towards FP

A study conducted among rural postpartum women in a hospital in Kenya, reported that study participants indicated they were pleased with the quality of services rendered to them. The women stated they received adequate counselling on FP methods from workers at public facilities compared to local chemical shops where they perceived the staff were not experienced (Jalang'O, et al., 2017). Wuni et al., (2017) conducted an analytical cross-sectional study among women attending child welfare clinics in rural Ghana. Findings from their study showed that, compared to previous use, more women indicated they were using and would prefer more effective FP methods in future (Wuni

et al., 2017). A study was undertaken to know the awareness and attitude of FP usage, in postnatal women in a Government Hospital in Maharashtra. The results of the study showed that, 79.2% had not used any FP method before and the main reason for not using was that they wanted to conceive (46%), followed by fear of side effects (24.7%) from using the FP methods.

Regarding willingness to use the FP methods after counselling, 48.5% of women said they were not sure (Rokade & Hanji, 2018). A cross sectional study conducted by Sharma and colleagues to explore the knowledge level and attitude of postpartum mothers regarding FP usage revealed that, more than half of women felt the need for spacing; however, 65.8% stated they were not willing to adopt any modern method. They further stated the fear of side effects and non-approval of FP usage, by their husbands influenced their decisions not to adopt FP methods (Darroch & Singh, 2013). This was as a result of a cross sectional observational study conducted amongst postpartum women attending Kathmandu Medical College Teaching Hospital (Darroch & Singh, 2013).

The study reported varying reasons for discontinuation or unwillingness to use PPFP. Most of the reasons stated were husband being abroad, fear of side effects and not knowing which FP method to use. Similar findings were obtained in the results of Sharma and colleagues (Bajracharya et al., 2015). They both found in their study that, women had a negative attitude towards the use of FP methods because of some side effects (Singh et al., 2015).

2.4 Factors Influencing Utilisation of PPFP

Access to healthcare services has an essential role in promoting health equity and quality of life. (Levesque et al., 2013). Levesque et al., (2013), further stated that there is a direct link between the distance patients travel to access health and the reduction of ill health. Patients tend to use health facilities more if they are located close to them, than if they are far away (Mizen et al., 2015). The issue of distance of the patients to the centers is seen as one of the main determinants of use of health services (Stock, 2011). In third world countries the distance covered by patients is usually greater than in developed world countries, in which healthcare facilities are more accessible. This has an important impact on the quality of life of these countries capability of a population to obtain a specified set of healthcare services (Islam & Aktar et al., 2012). Reflecting the equilibrium between characteristics and expectations of the providers and the clients, quality care has been conceptualized into (Levesque et al., 2013) geographic accessibility, that is, the physical distance or travel time to the potential user; (Campbell et al., 2013) time spent at the facility, and cost of the FP service.

2.4.1 Prior use of FP methods

A cross-sectional study conducted among women presenting at child welfare clinics in urban Ghana reported previous FP methods correlates with its use among postpartum mothers (Wuni et al., 2017). History of FP methods use has been documented to influence PPFP among women in rural Uganda (Sileo et al., 2015).

2.4.2 Employment Status

Financial accessibility as well as willingness and ability of users to pay for services influences utilisation of family planning usage; A study done by Mizen et al., (2015) shows that acceptability in response of the health services providers to the social and

cultural needs of the individual expectations and communities in general affects its usage.

According to Delamater et al., (2012) identifying different levels of spatial accessibility to healthcare services in a certain area allows decision makers to understand the impacts of opening, closing, changing location or modifying the services offered by existing facilities. A cross-sectional study conducted in a country hospital in rural Kenya demonstrated that access to FP methods at health facilities influenced its usage among postpartum women (Jalang'O et al., 2017).

The post delivery period, is a key window of opportunity for health education. Counselling on fertility intention was a predictor of PPFP use (Bwazi et al., 2014a). Similarly, another cross-sectional study conducted among women attending child welfare clinics in urban Ghana reported discussing FP during antenatal care was a correlate of FP method usage among postpartum mothers(Wuni et al., 2017). According to (WHO, 2018)) importance of giving health education on provision of a choice of high-quality postpartum family planning methods helps to prevent unintended pregnancies through the first 12 months following childbirth for postpartum mothers.

Inadequate information to postpartum mothers exposes them to short intervals pregnancies in the postpartum period which pose the greatest risk for women and their infants and have increased risks of adverse health outcomes (WHO, 2018). In rural Kenya, a cross-sectional study conducted in a country hospital demonstrated that being young influenced the usage of FP methods among postpartum women. (Jalang'O et al., 2017).

Another cross-sectional study conducted in a country hospital in rural Kenya demonstrated that being employed influenced the use of family planning among

postpartum women (Jalang'O et al., 2017). Similar findings was reported by (Wuni et al., 2017)

2.4.3 Age and Family planning usage

Findings from that study showed that maternal age was positively associated with the use of FP method, among postpartum women (Bwazi et al., 2014b).

According to the 2015 GDHS, only 20 percent of women aged between 15-24 years used modern family planning methods compared to 34 percent among women between 35 and 45 years GDHS, 2015). Even when young women decided to use family planning methods, they prefer barrier methods and short acting FP methods such as the pill, emergency FP method and injectable as compared to older women who prefer long acting reversible and permanent methods. The 2015 GDHS found that family planning methods usage is low among married women. Mahmood et al., (2012) reported a contrasting finding that postpartum contraceptive uptake was higher among women below 30 years in the middle socioeconomic class in a rural area in India (Mahmood et al., 2012).

2.4.4 Educational Level

Differences in the educational status of the women revealed that educated women who had access to various sources of information on postpartum family planning had higher likelihood of using family planning methods more than those who have less education. A cross-sectional study conducted in a country hospital in rural Kenya demonstrated that, high level of education influenced the use of family planning among postpartum women (Jalang'O et al., 2017). Similarly, another cross-sectional study conducted among women attending child welfare clinics in urban Ghana reported that educational level correlates with FP method usage among postpartum mothers (Wuni et al., 2017).

Findings from a study at Ntchisi District Hospital in Malawi showed that education was a predictor of PPFP (Bwazi et al., 2014b).

Findings from that study showed that educated husband's approval of FP was a predictor of PPFP (Bwazi et al., 2014a)..

2.4.5 Parity of Postpartum Mothers

A prospective study in the Mfantseman Municipality of the Central region of Ghana reported parity as a significant predictor of postpartum contraceptive use (Eliason et al., 2018). Rutaremwa et al. (2015) further reported number of surviving children of a postpartum woman as a significant influencer of PPFP utilisation. Parity was positively associated with the use of FP method, among postpartum women (Bwazi et al., 2014).

2.4.6 Marital status of postpartum mothers

Studies have reported that marital status is a predictor of postpartum FP use (Gebremedhin et al., 2018). In rural Kenya, another study demonstrated being married was a factor that influenced the use of FP methods among postpartum women (Jalang et al., 2017). Bwazi and colleagues conducted a cross-sectional study to examine factors associated with the utilisation of postpartum FP services at Ntchisi District Hospital in Malawi. Findings from that study showed that husband's approval of FP was a predictor of PPFP (Bwazi et al., 2014).

2.5 Conclusion

The benefits of utilization of FP methods is widely acknowledged in the literature. This notwithstanding, there is low utlitisation of FP methods in developing counties especially Sub-Saharan Africa. This unfortunate phenomenon is the consequence of a myriad of factors including wrong perceptions as well as structural and other individual-level factors. It is therefore necessary to understand the current state of utilization of FP methods and the predictors of its utilization to inform policy and practice and this study is a contribution to this quest.

CHAPTER THREE

METHODS

3.1 Introduction

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

3.2 Study design

This study adopted a facility-based cross-sectional analytical design using one-on-one interview and administered structured questionnaires adapted from GDHS (Ghana Demographic Health Survey, 2015) to determine factors influencing the utilisation of FP methods among postpartum women in 37 Military Hospital of Ghana between February and June, 2019.

3.3 Study Area

The study was conducted at the child welfare clinic (CWC) at 37 Military Hospital. This is a specialist hospital located in the South-Eastern part of the Greater Accra Region. The hospital is located close to the Jubilee House, the seat of government, at the intersection of the Liberation road and Gifford Road. It is the largest Military Hospital in the Republic of Ghana. The hospital was established by General George Gifford, a British military officer, for providing treatment for troops who were injured in the Second World War. At the time of establishment, the hospital was called 37 General Hospital. However, it was handed over to 37 Military Hospital of the Gold Coast in 1956. The hospital was later expanded and opened to the public although the hospital continues to be staffed primarily by military personnel.

This hospital serves as one of the referral hospitals in the country, it also serves as the National Disaster and Emergency Hospital. It provides medical care to the United Nations and other international staff within the sub-region.

The hospital has a bed capacity of about 500 and comprises about 3500 military and civilian employees. It is estimated to record an annual outpatient attendance of about 26,486 visits and an annual inpatient attendance of about 13,208. Out of these attendances, about 85% is from the public. The hospital has a well-established obstetrics and gynaecology department which offers quality services to women in their reproductive ages. Thus, the study was conducted at the CWC located in the hospital where postpartum women bring their newborns for immunization services.

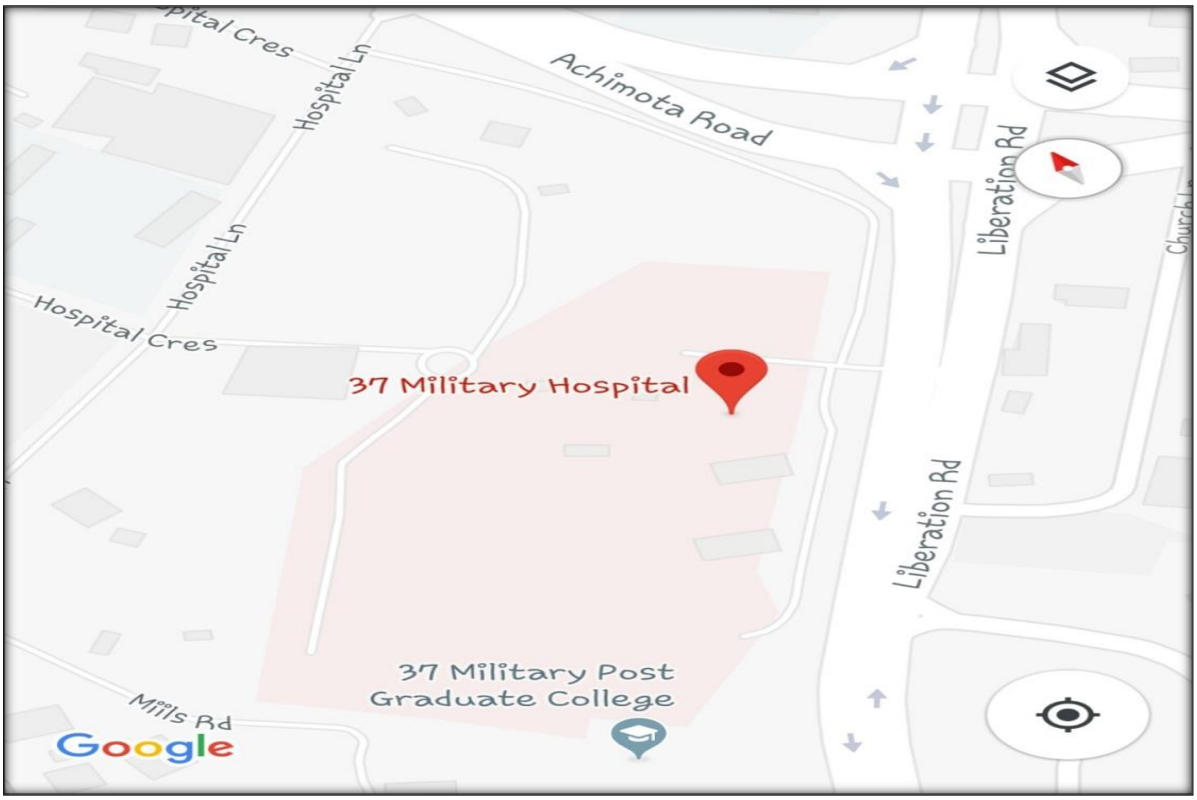

Figure 2: Map of study site

Source*:* Google Maps

3.4 Study population

The study population was postpartum women aged 15 years to 49 years who attended CWC of 37 Military Hospital during the period of the study.

3.5 Inclusion criteria

- For this study, postpartum mothers aged 15 years to 49 years who delivered between six to 18 months prior to the study and who consented to participate in the study were eligible for inclusion in the study.
- Postpartum women aged less than 18 years, who delivered between six to 18 months prior to the study, whose parent or guardian gave accent were included.

3.5.1 Exclusion criteria

- Postpartum women with medical conditions that prevented the use of FP method, were excluded from the study.
- Postpartum women with severe mental illness were also ineligible for inclusion in the study.
- Postpartum women who had hysterectomy were excluded

3.6 Sample Size Calculation

Postpartum FP uptake reported by a study by Morhe (2017) and friends was used in calculating the required sample size for this study. The study reported that 55% of postpartum women took up postpartum family planning (Morhe et al., 2017). Thus, the sample size of this study was calculated at 95% confidence interval using a formula by Cochran. The formula is given by:

n= $\frac{Z^2pq}{e^2}$ (Cochran, 1977)

Where:

- n= required sample size

- Z^2 = standard normal deviate for two tailed-test based on 95% confidence level = 1.96
- p= proportion of postpartum women using FP method = 55%= 0.55 (Morhe et al., 2017)
- q=1-p= proportion of postpartum women not using FP method = 1-0.55 = 0.45
- e= margin of error = 5% = 0.05
- Therefore, the sample size was calculated as follows
- $N = \frac{1.96^2 \times 0.55\ (1-0.55)}{0.05^2}$
- $N = \frac{3.8416\ \times 0.55\ \times 0.45}{0.0025}$
- $N = \frac{0.950796}{0.0025}$
- N= 380.32 = 380 participants
- However, to cater for non-response rate, an attrition rate of 10% was used to upwardly adjust the sample size. Thus, 1.1 × 380 = 418. Therefore, 418 postpartum women were surveyed in this study.

3.7 Sampling method

Consecutive sampling method was used to select participants for the study. To do this, eligible participants were identified based on the inclusion and exclusion criteria. Then, those who consented to partake in the study were enrolled in the study. Each participant was engaged, to answer the questionnaire which lasted for a minimum of 30 minutes.

3.8 Data collection techniques and tool

A structured questionnaire which was adapted from the 2015 Ghana Demographic and Health Survey (Ghana Demographic Health Survey, 2015) on FP, was used to elicit

information from study participants. This is because the GDHS tool has proven effective for eliciting information on FP and is widely accepted globally and contained the necessary questions which would produce the desired data to answer the research questions of this study. This questionnaire had four sections. The first part of the questionnaire focused on the demographic characteristics of the participants. The other sections elicited information of postpartum F P usage, perception and attitudes of postpartum women as well as factors influencing the use of postpartum FP methods. Prior to the administration of questionnaires, the aim of the study was explained to all respondents to ensure there is full comprehension and to rule out any form of ambiguity. The questionnaires were administered by the principal investigator with the help of three trained female research assistants on a one-on-one basis. The questionnaire was administered in the English Language for educated women and translated into Twi for non-English educated women. This lasted for average 30 minutes.

3.9 Data quality control

To ensure data quality, the tool, used in the study was validated via pre-testing. This pre-testing was done at the Arakan Maternity Centre, Burma Camp. This was done to avoid misinterpretation and allow for modification of ambiguous questions. The information provided by study participants during and after the period of data collection was kept private. In addition, to ensure data quality, research assistants used in the study were trained for a week prior to the data collection to ensure they are conversant with the data collection tool. During the data collection sessions, field supervisors were regularly monitored, the principal researcher ensured that the research assistants ensured they adhered to guidelines. During the data collection session, the questionnaires were validated, and all errors were corrected, after data collection, there

was double-entry of data by two different data entry clerks to ensure validity. The template for data entry was coded to prevent typographical errors associated with data entry.

3.10 Dependent Variable

The dependent variable in this study was the utilisation of FP methods

3.10.1 Independent Variables

These included demographic characteristics of postpartum women, obstetric and FP methods history, perceptions and attitudes towards postpartum FP services as well as knowledge on postpartum FP methods.

3.11 Data Processing and Analysis

3.11.1 Data Entry

After data collection, the data was sorted, coded and entered into EpiData Manager Version 4.0.2.101 r1409. Accuracy of the entered data was checked, and the clean database was then converted into Stata version 15.0 file (Stata Corporation, Texas, USA) before analysis.

3.11.2 Data Analysis

Descriptive statistics were used for frequencies. Percentages were reported for categorical

variables. Means and standard deviations were determined for continuous variables. Graphs and percentages were used to report on the rate of FP utilisation among postpartum women as well as their perception and attitudes towards FP. In addition,

Pearson Chi-square or Fisher's exact test (where required) was used to determine the association between the dependent variable (utilisation of FP methods by postpartum women) and independent variables (socio-demographic characteristics, attitudes, and perceptions). To add to this, univariate analysis using unadjusted logistic regression was used to look for an association between variables. Risk factors identified after the univariate analysis was then fitted into binary or multinomial logistic regression models. Reported p-values in the study were two-sided with significance levels of less than 0.05.

3.12 Ethical Consideration

Clearance was sought from the Institutional Review Board of 37 Military Hospital (**37MH-IRB IPN/278/2019**).

Permission and approval were also sought from the Commander of 37 Military Hospital and Officer-in-charge of Public Health Department of the hospital.

The aim and benefits of the study were discussed with each participant and written consent was given by respondents before the interview was conducted. Interpretation was done for uneducated participants so that their consent could be obtained. For mothers, under 18 years consent was sought from their parents or guardians accompanying postpartum mothers. They were also made aware that participation in the study was voluntary and that they can opt-out of it whenever they wish to do so. Names of participants were not used to maintain confidentiality. Data was kept in a secured place only accessible by the principal investigator. This was done to protect the respondents' privacy and confidentiality.

3.13 Pretesting of the questionnaire

Pretesting of the structured questionnaire was done at the Arakan Medical Center Burma Camp and supervised by the principal investigator. Necessary corrections and modifications of the questionnaires were made after pretesting before the final print out. Pretesting was on the level of knowledge on postpartum FP method and reasons for use or non-use.

CHAPTER FOUR

RESULTS

4.0 Introduction

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

4.1 Socio-Demographic Characteristics of Respondents

Table 1 provides the results of descriptive statistics of the socio-demographic characteristics of the postpartum mothers interviewed in this study. The mean age of the mothers was 28.9 years ± 5.1 SD. Only 8.8% of mothers had not been to school at all. Majority of the mothers were employed (67.8%). Most of the mothers were married (63.9%). Nearly 84% of the respondents had partners with senior high school certificate or above, 42% of whom attained senior high school education and 41.2% had tertiary education. Christians formed the majority of the mothers (73.7%). The median number of pregnancies was two pregnancies per mother. The median age of the last child born was six months. The median number of persons in the family of these mothers was three.

Table 1. Socio-demographic characteristics of respondents (n = 410)

Variables	Frequency	Percent (%)
Mean age in years (M ± SD)	28.9 ± 5.1	
Age category		
16 – 24 years	83	20.2
25 – 34 years	271	66.1
35 – 44 years	53	12.9
45 – 49 years	2	0.5
Above 50 years	1	0.2
Educational Level		
No Formal Education	36	8.8
Primary School	27	6.6
Junior High School	85	20.7
Senior High School	139	33.9
Tertiary	123	30.0
Employment Status		
Employed	278	67.8
Not Employed	132	32.2
Marital Status		
Co-Habiting	122	29.8
Separated	21	5.1
Married	262	63.9
Divorced	2	0.5
Widowed	3	0.7
Educational Level of Partner		
No Formal Education	11	2.7
Primary School	43	10.5
Junior High School	13	3.2
Senior High School	174	42.4
Tertiary	169	41.2
Religion		
Christianity	302	73.7
African Traditional	41	10.0
Islam	67	16.3
Median Number of Pregnancies	2	
Median Age of Last Child (months)	6	
Median Family Size	3	

4.2 Prevalence of Family Planning Methods Utilisation amongst Postpartum Women

Out of the 410 postpartum women interviewed in this study, 34.2% (140) utilised postpartum family planning methods (p = 0.34; 95% CI = 0.29 – 0.39). The rest of 270 particicpants (65.8%) did not use any family planning methods. Table 2 below shows the type of Family Planning Methods, used by the 140 participants.

Table 2. Proportions of Family Planning Methods Used

Family planning method (n=140)	Frequency	Percent
Injectables	67	47.86
Implants	37	26.42
Pills	13	9.29
Condoms	13	9.29
IUD	4	2.86
Withdrawal	2	1.43
Lactational Amenorrhoea	2	1.43
Sterilization	1	0.71
Emergency FP method	1	0.71

Majority of the participants (47.86%) used injectables. Followed by inplants (26.42%) and emergency family planning methods usage covered only 0.71%.

4.3 Perceptions and attitudes of PPFP associated with Utilization

4 .3.1 Perceptions of PPFP associated with Utilization

As shown in Table 3, mothers who are of the perception that six weeks after birth was the time a postpartum woman should use a family planning method had significantly 5.8 times the odds of PPFP utilization as compared to mothers who did not know (cOR = 5.82; 95% CI = 3.62 – 9.36; p < 0.001). Similarly, mothers who are of the perception that six months after birth was the time a postpartum woman should use family planning

method had significantly 8.2 times the odds of PPFP utilization as compared to those who had no idea (cOR = 8.15; 95% CI = 3.47 – 19.19; p < 0.001).

Table 3. Perceptions of PPFP associated with Utilization

Variables	Utilization of Postpartum Family Planning		χ^2	cOR (95 % CI)	OR
	yes (n = 140)	no (n = 270)			p-value
Family Planning Method Usage after Birth			0.056		
No	6(18.8)	26(81.2)		1	
Yes	134(35.5)	244(64.5)		2.38 (0.96 - 5.93)	0.063
Purpose for Usage of Family Planning Method			0.375		
Don't Know	43(36.5)	73(63.5)		1	
To Delay Pregnancy	95(32.7)	195(67.3)		0.85 (0.54 - 1.33)	0.471
For Treatment	2(50.0)	2(50.0)		1.74 (0.24 - 12.79)	0.587
Time A Postpartum Woman Should Use Family Planning Method			**<0.001***		
I Don't Know	52(19.7)	212(80.3)		1	
After Six Weeks	70(58.8)	49(41.2)		**5.82 (3.62 - 9.36)**	**<0.001***
After Six Months	18(66.7)	9(33.3)		**8.15 (3.47 - 19.19)**	**<0.001***
Pregnancy During Postpartum Period in The Absence of Family Planning Method			0.372		
Yes	119(35.1)	220(64.9)		1	
No	21(29.6)	50(70.4)		0.78 (0.45 - 1.35)	0.373

[+] (fisher's exact) *(statistically significant, p≤0.05) χ^2Chi-squared p-value

4.3.2 Attitude towards PPFP associated with Utilization

Table 4 shows the attitudes towards PPFP and their association with utilization. Mothers who indicated pregnancy prevention as the reason they would have to utilize PPFP had significantly 85% increased odds of PPFP utilization as compared to mothers who indicated spacing of their children as the reason they would have to utilize PPFP (cOR = 1.85; 95% CI = 1.22 – 2.81; p = 0.004).

Mothers who would not recommend PPFP to their colleagues had significantly 92% reduction in their odds of utilizing PPFP as compared to those who made such recommendations (cOR = 0.008; 95% CI = 0.04 – 0.18; p < 0.001).

Respondents who indicated that they would not use PPFP if available at health facilities had significantly 69% reduction in their odds of PPFP utilization as compared to those who said they would use PPFP if available at health facilities (cOR = 0.31; 95% CI = 0.20 - 0.49; p < 0.001).

Mothers who indicated that they would not use PPFP if it was incorporated into maternal care services rendered to women post-delivery had 84% reduction in their odds of PPFP utilization as compared to those who indicated that they would use PPFP if it was incorporated into maternal care services rendered to women post-delivery (cOR = 0.16; 95% CI = 0.09 – 0.27; p < 0.001).

Table 4. Attitude towards PPFP Associated with Utilization

Variables	Utilization of Postpartum Family Planning yes (n = 140)	no (n = 270)	χ^2	cOR (95 % CI)	OR p-value
Reason for Usage of Postpartum Family Planning Method			**+0.007***		
For Spacing	64(27.9)	165(72.1)		1	
To Prevent Pregnancy	74(41.8)	103(58.2)		**1.85 (1.22 - 2.81)**	**0.004***
For Treatment	2(50.0)	2(50.0)		2.58 (0.36 - 18.69)	0.349
Recommend Postpartum Family Planning Method to Colleagues			**<0.001***		
Yes	133(44.9)	163(55.1)		1	
No	7(6.1)	107(93.9)		**0.08 (0.04 - 0.18)**	**<0.001***
Usage of Postpartum Family Planning Method If Available at Health Facility			**<0.001***		
Yes	105(44.5)	131(55.5)		1	
No	35(20.1)	139(79.9)		**0.31 (0.20 - 0.49)**	**<0.001***
Usage of Postpartum Family Planning Method If Incorporated into Maternal Care Services			**<0.001***		
Yes	120(47.8)	131(52.2)		1	
No	20(12.6)	139(87.4)		**0.16 (0.09 - 0.27)**	**<0.001***

*(statistically significant, p≤0.05)

4.4 Factors Associated with PPFP Utilization

4.4.1 Socio-Demographic Characteristics Associated with Utilization of Postpartum Family Planning

Table 5 are the results from chi-square and simple logistic regression (bivariate analysis) to determine the socio-demographic characteristics associated with utilization of postpartum family planning. The results revealed age, educational level, number of

pregnancies, age of the last child and family size as socio-demographic factors significantly associated with utilization of PPFP.

A one-year increase in age significantly increased the odds of PPFP utilization by 9% (cOR = 1.09; 95% CI = 1.04 – 1.13; $p < 0.001$) amongst mothers.

Mothers with up to junior high school education had significantly 73% reduction in their odds of utilizing PPFP as compared to mothers who had no formal education (cOR = 0.27; 95% CI = 0.11 – 0.63; $p < 0.003$).

The educational level of partners, although significant in chi-square analysis ($p < 0.001$), showed no statistical association with utilization of PPFP in simple logistic regression.

A unit increase in the number of pregnancies by mothers significantly increased their odds of PPFP utilization by 62% (cOR = 1.64; 95% CI =1.39 - 1.94; $p < 0.001$).

There was a 4% significant increase in the odds of PPFP utilization per one month increase in the age of the most recent child of mothers (cOR = 1.04; 95% CI = 1.02 - 1.06; $p < 0.001$).

A one-unit increase in the number of people in a family of the mothers significantly increased their odds of PPFP utilization by 92% (cOR = 1.92; 95% CI = 1.59 - 2.32; $p < 0.001$).

Table 5. Socio-demographic characteristics associated with utilization of postpartum family planning

Variables	Utilization of Postpartum Family Planning		χ^2	cOR (95 % CI)	OR
	Yes (N = 140)	No (N = 270)	p-value		p-value
Age in Years	30.3 ± 5.4	28.1 ± 4.9		**1.09 (1.04 - 1.13)**	**<0.001 ***
Educational Level			**<0.001***		
No Formal Education	16(44.4)	20(55.6)		1	
Primary School	11(40.7)	16(59.3)		0.86 (0.31 - 2.36)	0.769
Junior High School	15(17.7)	70(82.3)		**0.27 (0.11 - 0.63)**	**0.003***
Senior High School	39(28.1)	100(71.9)		0.49 (0.23 - 1.04)	0.062
Tertiary	59(48.0)	64(52.0)		1.15 (0.55 - 2.43)	0.710
Employment Status			0.493		
Yes	98(35.3)	180(64.7)		1	
No	42(31.8)	90(68.2)		0.86 (0.55 - 1.33)	0.494
Marital Status			[+]0.060		
Co-Habiting	37(30.3)	85(67.7)		1	
Separated	3(14.3)	18(85.7)		0.38 (0.11 - 1.38)	0.142
Married	100(38.2)	162(61.8)		1.42 (0.89 - 2.25)	0.136
Divorced	0(0.0)	2(100.0)		1	
Widowed	0(0.0)	3(100.0)		1	
Educational Level of Partner			[+]**<0.001***		
No Formal Education	2(18.2)	9(81.8)		1	
Primary School	18(41.9)	25(58.1)		3.24 (0.62 - 16.83)	0.162
JHS	3(23.1)	10(76.9)		1.35 (0.18 - 10.00)	0.769
SHS	34(19.5)	140(80.5)		1.09 (0.23 - 5.29)	0.912
Tertiary	83(49.1)	86(50.9)		4.34 (0.91 - 20.70)	0.065
Religion			0.344		
Christianity	106(35.1)	196(64.9)		1	
African Traditional	16(39.0)	25(61.0)		1.18 (0.61 - 2.31)	0.623
Islam	18(26.9)	49(73.1)		0.68 (0.38 - 1.22)	0.199
Number of Pregnancies	2.7 ± 1.7	1.7 ± 1.2		**1.65 (1.39 - 1.94)**	**<0.001 ***
Age of the Last Child	16.3 ± 16.2	8.9 ± 13.2		**1.04 (1.02 - 1.06)**	**0.000***
Family Size	4.6 ± 1.6	3.6 ± 1.0		**1.92 (1.59 - 2.32)**	**0.000***

*(statistically significant, p≤0.05

4.4.2 Knowledge of family planning associated with Postpartum Family Planning utilization

Results from a simple logistic regression and chi-square test of association shown in Table 6 revealed that mothers' understanding of family planning was significantly associated with PPFP utilization (p = 0.016).

Mothers' who understood family planning as pregnancy prevention method had significantly 78% reduction in their odds of utilizing PPFP as compared to those who understood family planning as a treatment method (cOR = 0.22; 95% CI = 0.07 - 0.72; p = 0.013).

Table 6. Knowledge of family planning associated with Postpartum Family Planning utilization

Variables	Utilization of Postpartum Family Planning		χ^2	cOR (95 % CI)	OR
	yes (n = 140)	no (n = 270)			p-value
Understanding of Family Planning			**+0.016***		
For Treatment	9(69.2)	4(30.8)		1	
To Prevent Pregnancy	130(32.9)	265(67.1)		**0.22 (0.07 - 0.72)**	**0.013***
Others	1(50.0)	1(50.0)		0.44 (0.02 - 9.03)	0.598

*(statistically significant, p≤0.05)

4.4.3 Individual factors associated with Postpartum Family Planning utilization

Those who had no history of contraceptive use had 98% significant reduction in their odds of PPFP utilization as compared to those who have had some history of contraceptive use (cOR = 0.02; 95% CI = 0.01 - 0.06; p < 0.001).

Those who had not started their post-delivery menses had 92% significant reduction in their odds of PPFP utilization as compared to those who had started their post-delivery menses (cOR = 0.08; 95% CI = 0.04 – 0.16; p < 0.001).

A one week increase in the age of mothers' most recent child at which the mother resumed menstruation significantly increased the odds of PPFP utilization (cOR = 1.03; 95% CI = 1.00 – 1.06; p = 0.026).

Mothers who had resumed post-delivery sexual activities with their partners had 23 times the odds of PPFP utilization as compared to those who had not resumed post-delivery sexual activities with their partners (cOR = 23.05; 95% CI = 10.37 – 51.25; p < 0.001).

Mothers who had discussed family planning with their partners post-delivery had significantly 2.8 times the odds of PPFP utilization as compared to those who had not discussed family planning with their partners post-delivery (cOR = 2.83; 95% CI = 1.83 – 4.37; p < 0.001).

Mothers whose partners did not approve the usage of contraceptives had 87% significant reduction in their odds of PPFP utilization as compared to those whose partners approved of contraceptive usage (cOR = 0.13; 95% CI = 0.08 – 0.22; p < 0.001).

Table 7. Individual factors associated with Postpartum Family Planning utilization

Variables	Utilization of Postpartum Family Planning		χ^2	cOR (95 % CI)	OR
	yes (n = 140)	no (n = 270)			p-value
Prior Contraceptive Use			**<0.001***		
Yes	135(57.2)	101(42.8)		1	
No	5(2.9)	165(97.1)		**0.02 (0.01 - 0.06)**	**<0.001***
Menses After Delivery			**<0.001***		
Yes	127(49.2)	131(50.8)		1	
No	10(7.2)	129(92.8)		**0.08 (0.04 - 0.16)**	**<0.001***
Age of Child Before Menses Resumed	15.5 ± 11.3	12.7 ± 7.9		**1.03 (1.00 - 1.06)**	**0.026***
Resumption of Sexual Activities with Partner			**0.000***		
No	7(4.6)	144(95.4)		1	
Yes	130(52.9)	116(47.1)		**23.05 (10.37 - 51.25)**	**<0.001***
Age of Child Before Resumption of Sexual Activities	16.3 ±12.8	15.2 ± 10.8		1.01 (0.99 - 1.03)	0.461
Discussion of Family Planning with Partner After Delivery			**<0.001***		
No	42(22.1)	148(77.9)		1	
Yes	98(44.5)	122(55.5)		**2.83 (1.83 - 4.37)**	**<0.001***
Partner Approval of Contraceptive Use			**<0.001***		
Yes	112(54.4)	94(45.6)		1	
No[1]	28(13.7)	176(86.3)		**0.13 (0.08 – 0.22)**	**<0.001***

*(statistically significant, p≤0.05)

[1]

4.4.4 Health system factors associated with Postpartum Family Planning utilization

Respondents who located family planning services far away from the hospital had significantly 66% reduction in their odds of PPFP utilization compared to those who located family planning services close to the hospital (cOR = 0.34; 95% CI = 0.16 – 0.72; p = 0.005).

Mothers who go for family planning services on foot had significantly 60% reduction in their odds of PPFP utilization as compared to those who go via private transport (cOR = 0.40; 95% CI = 0.23 – 0.69; p = 0.001).

Paying for PPFP significantly reduced the odds of utilization by 91% as compared to not paying (cOR = 0.09; 95% CI = 0.05 – 0.14; p < 0.001).

Table 8. Health system factors associated with Postpartum Family Planning utilization

Variables	Utilization of Postpartum Family Planning		χ^2	cOR (95 % CI)	OR p-value
	yes (n = 140)	no (n = 270)			
Location of Family Planning Services			**0.003***		
Close to the Hospital	18(58.1)	13(41.9)		1	
Far away from the Hospital	122(32.2)	257(67.8)		**0.34 (0.16 – 0.72)**	**0.005***
Access to Family Planning Services			**0.005***		
Via Private Transport	42(46.2)	49(53.8)		1	
Via Foot	36(25.5)	105(74.5)		**0.40 (0.23 – 0.69)**	**0.001***
Via Public Transport	62(34.8)	116(65.2)		0.62 (0.37 – 1.04)	0.072
Time to Access Family Planning Services	22.1 ± 15.6	25.1 ± 19.4		0.99 (0.98 – 1.00)	0.125
Payment for Postpartum Family Planning Services			**<0.001***		
No	110(62.5)	66(37.5)		1	
Yes	30(12.8)	204(87.2)		**0.09 (0.05 – 0.14)**	**<0.001***

*(statistically significant, p≤0.05)

4.5 Factors associated with PPFP Utilization

Table 9 below shows a multiple logistic regression of all variables (age, educational level, number of pregnancies, age of last-child, family size, FP method usage, age of child before menses resumed, resumption of sexual activities with partner, discussion of family planning with partner after delivery, partner approval of FP method usage, location of family planning centres, access , payment for postpartum family planning services, time a postpartum woman should use family planning method, reason for usage of postpartum family planning method, recommend postpartum family planning method to colleagues, usage of postpartum family planning method if available at health facility, usage of postpartum family planning method if incorporated into maternal care services) that showed statistical significance in simple logistic regression showed a number of factors significantly associated with PPFP utilization.

Mothers with up to junior high school education had significantly 73% reduction in their odds of utilizing PPFP as compared to mothers who had no formal education (cOR = 0.27; 95% CI = 0.11 – 0.63; $p < 0.003$). After adjusting for all other variables, educational level of mothers at all levels (primary, junior high, senior high and tertiary education) were found to significantly reduce the odds of utilizing PPFP. Primary (aOR = 0.003; 95% CI = 0.00008 – 0.09; p = 0.001); Junior high school (aOR = 0.02; 95% CI = 0.0011 - 0.30; p = 0.005); Senior high school (aOR = 0.07; 95% CI = 0.006 - 0.84; p = 0.036); Tertiary (aOR = 0.02; 95% CI = 0.002 - 0.30; p = 0.004).

Those who had no history of contraceptive use had 98% significant reduction in their odds of PPFP utilization as compared to those who have had some history of contraceptive use (cOR = 0.02; 95% CI = 0.01 - 0.06; $p < 0.001$). However, after adjusting for all other variables, respondents who had no history of contraceptive use had significantly 96% reduction in their odds of utilizing PPFP as compared to those

who have had some history of contraceptive use (aOR = 0.04; 95% CI = 0.006 – 0.25; p < 0.001).

Mothers who had resumed post-delivery sexual activities with their partners had 23 times the odds of PPFP utilization as compared to those who had not resumed post-delivery sexual activities with their partners (cOR = 23.05; 95% CI = 10.37 – 51.25; p < 0.001). After adjusting for all other variables, the odds of utilizing PPFP was significantly 58.6 times as high among mothers who had resumed post-delivery sexual activities with their partners as compared to those who had not resumed post-delivery sexual activities with their partners (aOR = 58.58; 95% CI = 5.73 – 599.28; p = 0.001).

Payment for postpartum family planning services was a significant predictor of PPFP utilization. Paying for PPFP significantly reduced the odds of utilization by 91% as compared to not paying (cOR = 0.09; 95% CI = 0.05 – 0.14; p < 0.001). After adjusting for all other variables, paying for PPFP significantly reduced the odds of utilization by 88% as compared to not paying (aOR = 0.12; 95% CI = 0.05 – 0.34; p < 0.001).

Perceived time at which a postpartum woman should use family planning method was a significant predictor of PPFP utilization. Mothers who are of the perception that six weeks after birth was the time a postpartum woman should use family planning method had significantly 5.8 times the odds of PPFP utilization as compared to mothers who did not know (cOR = 5.82; 95% CI = 3.62 – 9.36; p < 0.001). Similarly, mothers who are of the perception that six months after birth was the time a postpartum woman should use family planning method had significantly 8.2 times the odds of PPFP utilization as compared to those who had no idea (cOR = 8.15; 95% CI = 3.47 – 19.19; p < 0.001). After adjusting for all other variables, mothers who are of the perception that six months after birth was the time a postpartum woman should use family planning method were not found to be statistically significant in the multiple logistic regression.

Also, mothers who are of the perception that six weeks after birth was the time a postpartum woman should use family planning method had significantly 3.2 times the odds of PPFP utilization as compared to those who had no idea (aOR = 3.22; 95% CI = 1.09 – 9.49; p = 0.034).

Perceived reason for the usage of postpartum family planning method was a significant predictor of PPFP utilization. Mothers who indicated pregnancy prevention as the reason they would have to utilize PPFP had significantly 85% increased odds of PPFP utilization as compared to mothers who indicated spacing of their children as the reason they would have to utilize PPFP (cOR = 1.85; 95% CI = 1.22 – 2.81; p = 0.004). After adjusting for other variables, the odds of utilizing PPFP was significantly 4.6 times as high among mothers who indicated pregnancy prevention as the reason they would have to utilize PPFP (aOR = 4.58; 95% CI = 1.43 – 14.62; p = 0.010).

Table 9. Factors associated with PPFP Utilization

Variables	cOR (95% CI)	p-value	aOR (95% CI)	p-value
Age	**1.09 (1.04 - 1.13)**	**0.000***	0.94 (0.84 - 1.05)	0.251
Educational Level				
No Formal Education	1			
Primary School	0.86 (0.31 - 2.36)	0.769	**0.003 (0.00008 - 0.09)**	**0.001***
Junior High School	**0.27 (0.11 - 0.63)**	**0.003***	**0.02 (0.0011 - 0.30)**	**0.005***
Senior High School	0.49 (0.23 - 1.04)	0.062	**0.07 (0.006 - 0.84)**	**0.036***
Tertiary	1.15 (0.55 - 2.43)	0.710	**0.02 (0.002 - 0.30)**	**0.004***
Number of Pregnancies	**1.62 (1.38 - 1.91)**	**<0.001***	1.29 (0.74 - 2.28)	0.369
Age of Last Child	**1.04 (1.02 - 1.06)**	**<0.001***	1.03 (0.99 - 1.07)	0.079
Family Size	**1.92 (1.59 - 2.32)**	**<0.001***	1.43 (0.76 – 2.67)	0.267
Prior Contraceptive Use				
Yes	1			
No	**0.02 (0.01 - 0.06)**	**<0.001***	**0.04 (0.006 - 0.25)**	**<0.001***
Age of Child Before Menses Resumed	**1.03 (1.00 - 1.06)**	**0.026***	1.02 (0.95 – 1.09)	0.563
Resumption of Sexual Activities with Partner				
No	1			
Yes	**23.05 (10.37 - 51.25)**	**<0.001***	**58.58 (5.73 – 599.28)**	**0.001***
Discussion of Family Planning with Partner After Delivery				
No	1			
Yes	**2.83 (1.83 - 4.37)**	**<0.001***	1.49 (0.49 – 4.53)	0.480
Partner Approval of Contraceptive Use				
Yes	1			
No	**0.13 (0.08 - 0.22)**	**<0.001***	0.98 (0.28 – 3.44)	0.976
Location of Family Planning Services				
Close to The Hospital	1			
Far Away from the Hospital	**2.92 (1.38 - 6.15)**	**0.005***	0.22 (0.009 – 5.18)	0.349

Table 9. Factors associated with PPFP Utilization (continued)

Variables	cOR (95% CI)	p-value	aOR (95% CI)	p-value
Access to Family Planning Services				
Via Private Transport	1			
Via Foot	**0.40 (0.23 - 0.69)**	**0.001***	1.34 (0.27 – 6.62)	0.718
Via Public Transport	0.62 (0.37 - 1.04)	0.072	0.37 (0.08 - 1.63)	0.190
Payment for Postpartum Family Planning Services				
No	1			
Yes	**0.09 (0.05 - 0.14)**	**<0.001***	**0.12 (0.05 - 0.34)**	**<0.001***
Time A Postpartum Woman Should Use Family Planning Method				
I Don't Know	1			
After Six Weeks	**5.82 (3.62 - 9.36)**	**<0.001***	**3.22 (1.09 – 9.49)**	**0.034***
After Six Months	**8.15 (3.47 - 19.19)**	**<0.001***	8.61 (0.44 - 169.76)	0.157
Reason for Usage of Postpartum Family Planning Method				
For Spacing	1			
To Prevent Pregnancy	**1.85 (1.22 - 2.81)**	**0.004***	**4.58 (1.43 – 14.62)**	**0.010***
For Treatment	2.58 (0.36 - 18.69)	0.349	4.39 (0.01 – 1296.51)	0.610
Recommend Postpartum Family Planning Method to Colleagues				
Yes	1			
No	**0.08 (0.04 - 0.18)**	**<0.001***	0.09 (0.007 – 1.06)	0.056
Usage of Postpartum Family Planning Method If Available at Health Facility				
Yes	1			
No	**0.31 (0.20 - 0.49)**	**<0.001***	1.19 (0.26 - 5.39)	0.825
Usage of Postpartum Family Planning Method if Incorporated into Maternal Care Services				
Yes	1		SS	
No	**0.16 (0.09 - 0.27)**	**<0.001***	0.57 (0.12 – 2.83)	0.495

*(statistically significant, p≤0.05)

CHAPTER FIVE

DISCUSSION

5.1 Introduction

This study sought to examine the factors associated with family planning utilisation among post-partum mothers in the 37 Military Hospital in Accra. Factors such as the junior high school education, formal employment, previous FP method usage, initiation of sexual intercourse after delivery, communication about FP method usage, among partners, were found to be significantly associated with postpartum family planning methods usage.

5.2 Prevalence of Utilisation of Planning Method Methods

In this study, the prevalence of PPFP utilisation was 34.2%. This is similar to a study conducted in Uganda (Rutaremwa et al., 2015). They reported that 28% of study participants used modern FP during the postpartum period. This difference might be due to the study area and target population variation, they are urban dwellers, also the current finding is in contrast with a number of studies that found a higher prevalence of PPFP utilization (Jalang'O et al., 2017; Gebremedhin et al., 2018 and Wuni et al., 2017). A cross-sectional study carried out in Addis Ababa, Ethiopia showed that the prevalence of postpartum FP use was 80.3% (Gebremedhin et al., 2018). Another cross-sectional study conducted in a country hospital in rural Kenya indicated the prevalence of postpartum usage of FP methods to be 86.3% (Jalang'O et al., 2017).

Two studies done in Ghana found a prevalence of 50% women using FP methods (Wuni et al., 2017; Eliason et al., 2013). Postpartum FP methods prevalence of 50% was reported in a study conducted in the Mfantseman Municipality of the Central region of Ghana (Eliason et al., 2013).

The study showed that 20.9% of the participants preferred injectable. according to a study conducted by Gizaw, 2016 which showed that the most frequently used method was injectable (68.2%).

5.3 Perception and Attitude towards Utilisation of Family Planning Methods

Perceived time at which a postpartum woman should use family planning method was a significant predictor of PPFP utilisation. Mothers who are of the perception that six weeks after birth was the time a postpartum woman should use family planning method were 6 times more likely to use post-partum family planning as compared to mothers who did not know. A study in a rural community in Ghana observed , about half of post-partum mothers commence the use of family planning about 8 weeks after delivery (Eliason, Bockarie, & Eliason, 2018). Early initiation of family planning helps prevent unwanted pregnancy which may occur even before the resumption of menstruation. Women in the early stages of post-partum life might think of the benefits of Lactational Amenorrhoea Method of family planning and therefore not initiate breastfeeding early. It is essential to note that the success of LAM depends largely on the fulfilment of three conditions including effective amenorrhoea, practice within six months post-partum and that exclusive or quasi exclusive breastfeeding is religiously practiced (Hassoun, 2018).

5.4 Factors Associated with Utilisation Family Planning Methods

Perceived reason for using of postpartum family planning method was a significant predictor of PPFP utilisation. Mothers who indicated pregnancy prevention as the reason they would have to utilise PPFP had significantly increased odds of PPFP utilisation, as compared to mothers who indicated spacing of their children as the reason

they would have to utilise PPFP. In another study, the main reason for using FP methods was to prevent pregnancy but most (79.2%) did not use it because they wanted to conceive (Rokade & Hanji, 2018). A cross-sectional study conducted by Singh and colleagues to explore the knowledge level and attitude of postpartum mothers regarding FP method usage, revealed that more than half of women felt the need for spacing (Singh et al., 2015). However, in this study spacing of children as reason did not significantly increase the odds of utilisation of PPFP. Perhaps most of the women interviewed had no intention of having additional children hence pregnancy prevention was of more priority to them than spacing their children.

Educational level of mothers at all levels was found to significantly reduce the odds of utilising PPFP as compared to mothers who had no formal education. In contrast, a cross-sectional study conducted in a country hospital in rural Kenya demonstrated that high level of education increased the use of FP method among postpartum women (Jalang'O et al., 2017). Similarly, another cross-sectional study conducted among women attending child welfare clinics in urban Ghana reported that educational level correlates with FP method use among postpartum mothers (Wuni et al., 2017). Findings from a study at Ntchisi District Hospital in Malawi showed that education was a predictor of PPFP (Bwazi et al., 2014b). In the current study, perhaps, the educated mothers have skilled jobs and busy work schedules hence are unable to attend a post-natal clinic where information on PPFP is usually given. There is also the possibility that health professional at these post-natal clinics do not pay much attention to these educated mothers because they feel they should have knowledge about PPFP.

Prior use of FP was found to significantly influence utilisation of FP in the post-partum period. Those who had no history of FP method use had a significant reduction in their odds of PPFP utilisation as compared to those who have had some history of FP method

use. A cross-sectional study conducted among women presenting at child welfare clinics in urban Ghana reported previous F P method usage, correlates with its usage, among postpartum mothers (Wuni et al., 2017) the findings in this study was similarly reported that history of FP usage, has been documented to influence PPFP among women in rural Uganda (Sileo et al., 2015). Women who have in the past, used FP methods may have had the benefit of know the prospects and potential consequences of utilising FP methods. These may boost their confidence in wanting to utilise FP in the post-partum period whiles women who have not utilised it before, may have the fear of what it may be like to use FP method, especially in the postpartum period, hence the reduced odds of utilisation among the post-partum mothers who have no history of FP utilization. There is a need for more awareness creation to get women in the child bearing age to use FP methods mostly among the sexually active ones since their earlier exposure to FP method, may prevent non-utilisation in the post-partum period.

One other finding in this study was that mothers who had resumed sexual activities post-delivery with their partners had significantly higher odds of PPFP utilisation as compared to those who had not resumed sexual activities post-delivery with their partners. Obviously, no sexual activity, in itself, does not give mothers any reason to worry about pregnancy. It is when sexual activity resumes post-partum that gives them a reason to either plan for the next pregnancy or not. Encouraging early resumption of post-delivery sexual activity too seem like a plausible recommendation if it will promote the utilisation of PPFP.

Payment for postpartum family planning services was a significant predictor of PPFP utilisation. Paying for PPFP significantly reduced the odds of utilisation as compared to not paying. At the 37 Military hospitals, some family planning methods are given for free depending on supplies from governmental and non-governmental organisations.

Usually, condoms are given for free as it is the most commonly donated FP device by these governmental and non-governmental organisations. However, for FP devices such as Injectables, Implants, and IUDs, post-partum mothers pay for them, unfortunately, and these ones that are paid for, are the most preferred devices, used by post-partum mothers in this study. The cost involved may prevent mothers from utilising PPFP even if they may wish to do so.

5.5 Conclusion

The findings in this chapter, reveals low patronage of family planning methods among postpartum mothers in 37 military hospital. There is therefore the need to increase health education on its usage right from the antenatal to the post-natal period by midwives and other health providers. Steps need to be taken by the health professionals and management (Military Command) of the hospital to advocate for the integration of the devices that are paid into the National Health Insurance Scheme.

5.6 Limitations of the Study

The study may be limited in design. This was cross-sectional study, hence, time-related relationships between variables could not be assessed. Association found between explanatory variables and Utilisation of PPFP was unable to identify the causal effects. Secondly, the utilisation of PPFP relied on self-response of participants. It is well documented that self-reporting is liable to response bias (Morhe et al., 2017).

CHAPTER SIX

CONCLUSION AND RECOMMENDATION

6.1 Conclusion

In this study, out of the 410 postpartum women interviewed, the prevalence of PPFP utilization was low (34.2%). Injectables were the most commonly used PPFP method used among the mothers who utilized PPFP, followed by implants which were used by the postpartum mothers utilizing PPFP.

Perceived time at which a postpartum woman should use family planning method was a significant predictor of PPFP utilization. Mothers who are of the perception that six weeks post-delivery was the time a postpartum woman should use family planning method had significantly 3.2 times the odds of PPFP utilization as compared to those who had no idea.

Perceived reason for using of postpartum family planning method was a significant predictor of PPFP utilisation. The odds of utilizing PPFP was significantly higher among mothers who indicated pregnancy prevention as the reason they would have to utilise PPFP as compared to mothers who indicated spacing of their children as the reason they would have to utilise PPFP.

Mother's educational levels (primary, junior high, senior high and tertiary education) were found to significantly reduce the odds of utilizing PPFP as compared to mothers who had no formal education.

Prior use of FP was found to significantly influence the utilization of FP methods, in the post-partum period. Those who had no history of FP usage, had a significant reduction in their odds of PPFP utilisation as compared to those who have had some history of FP usage.

Resumption of Sexual activity post-partum significantly influenced utilisation of PPFP. Mothers who had resumed sexual activities post-delivery with their partners had significantly higher odds of PPFP utilisation as compared to those who had not resumed sexual activities post-delivery with their partners.

Payment for postpartum family planning services negatively influenced PPFP utilisation.

6.2 Recommendations

On the basis of the findings of this study, the following recommendations are made.

1. Health workers and community-based organisations should educate women on, among other things, the appropriate time women are supposed to use PPFP methods. This is because, the study found that mothers who are of the perception that six weeks after birth was the time a postpartum woman should use family planning method were 6 times more likely to use post-partum family planning as compared to mothers who did not know.
2. Specific interventions should be implemented to target educated women, younger women, and women from relatively smaller families because the study found that such groups have lower odds of using PPFP methods.
3. Family planning services should be brought closer to the people because mothers who had to travel on foot to access PPFP services were less likely to use PPFP methods.
4. Financial barriers that restrict FP access and usage must be removed and cost of FP services should be inculcated into the National Health Insurance Scheme to increase FP usage because paying for PPFP significantly reduced the odds of mothers patronising it.

5. Further research should be done to evaluate the reasons why educated women were less likely to use family planning compared to the non-educated.

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APPENDICES

APPENDIX I CONSENT FORM

TITLE: Factors Influencing the Utilisation of Family Planning Methods among Postpartum Women in 37 Military Hospital of Ghana
Principal investigator: Lt. Col. Patience Owusu -Aidoo
Address: School of Public Health; Department of Social and Behavioral Sciences, University of Ghana, Legon
Phone No.: 0249042426

General Information about Research
My name is Patience Owusu-Aidoo. I am a graduate student of University of Ghana School of Public Health undertaking a research on **Factors Influencing the Utilisation of Family Planning among Postpartum Women in 37 Military Hospital of Ghana**. The study seeks to find out the various factors that influence how you use modern contraceptives and birth control methods in planning the time and spacing of your children. Participants are required to share their experiences on the use of family planning methods, by responding to the questions.

Confidentiality
Personal information that will lead to identification of clients will not be included in the questionnaire. Questionnaire clients will respond to, will be anonymous (will not bear names of participants) so you will not be identified. However, be assured that your privacy and confidentiality will be respected. You can choose a place of convenience to answer the questions. Participant information will be kept on a computer with a secured password. Filled questionnaires will be kept under lock and key, with only the principal investigator having access.

Possible Benefits
Participating in this study affords you an opportunity for the participants to gain some knowledge and awareness on family planning. Also, findings from this study will be shared with hospital authority which may inform policy that improves the overall delivery of reproductive and maternal health services.

Possible risk and Discomfort
Be assured that the research comes at no physical risk except the risk/discomfort of sharing intimate issues about your sexual life.

Cost
Be assured that the research comes at no cost except your precious time that will be used to fill the questionnaire.

Compensation
Participants will be compensated with a handkerchief. The cost of one of these handkerchiefs is GH₵ 3.00.

Voluntary Participation and Right to Leave the Research
You participate in this research at your own free will. You may decide to discontinue or with draw. Nobody will be upset if you decide to discontinue/ withdraw at any time while answering the questionnaire.

APPENDIX II VOLUNTEER AGREEMENT

The above document describing the benefits, risks and procedures for the research title "**Factors Influencing the Utilisation of Family Planning methods among Postpartum Women in 37 Military Hospital of Ghana**" has been explained to me.
I have read or have had someone read all of the above, asked questions, received answers regarding participation in this study, and am willing to give consent to participate in this study as a volunteer.

Date _____ Name and Signature or mark of volunteer _____

If volunteers cannot sign the form themselves, a witness must sign here:
I was present while the nature and purpose of this study were read to the volunteer. All questions asked were answered satisfactorily regarding participation in this study, and volunteer gave consent to participate in this study.

Date _____ Name and Signature or mark of witness _____

If volunteer is below age 18, a parent or guardian must sign here:
I was present while the nature and purpose of this study were read to my child. All questions asked were answered satisfactorily regarding participation in this study, and I give parental consent for my child to participate in this study.

Date _____ Name and Signature or mark of witness _____

I certify that the nature and purpose, potential benefits, possible risks associated with participating in this research have been duly explained to the above individual.

Date _____ Name and Signature of Person Who Obtained Consent _____

Contacts for Additional Information
If you still have pertinent questions about the research and whom to contact in case of research-related injury, please call Lt. Col. **PATIENCE OWUSU –AIDOO** on **0249042426.**

Your rights as a Participant
This research has been reviewed and approved by the 37 Military Hospital review board (37MH-IRB). If you have any questions about your rights as a research participant you can contact the IRB Office between the hours of 7:30 am – 3:00pm through landline 0302 769667 or IRB Administrator (Prince Yaw Ashitey- 024 300 4247) or email addresses: irb37milhosp@gmail.com.

APPENDIX III
CHILD ASSENT FORM

By making a mark or thumb printing below, it means that you understand and know the issues concerning this research study. If you do not want to participate in this study, please do not sign this assent form. You and your parents will be given a copy of this form after you have signed it.
This assent form which describes the benefits, risks and procedures for the research titled *[Factors Influencing the Utilisation of Family Planning Methods, Among Postpartum Women, at 37 Military Hospital.]* has been read and or explained to me. I have been given an opportunity to have any questions about the research answered to my satisfaction. I agree to participate.

Child's Name:……. **Researcher's Name:……**

Child's Mark/Thumbprint…….. **Researcher's Signature:……**

Date: …… **Date:** ……

APPENDIX IV
QUESTIONNAIRE

QUESTIONNAIRE FOR FACTORS INFLUENCING THE UTILISATION OF FAMILY PLANNING METHODS AMONG POSTPARTUM WOMEN IN 37 MILITARY HOSPITAL OF GHANA

DEMOGRAPHIC INFORMATION **(Please tick the appropriate answers)**		
S/N	**QUESTION**	
1	Age [ ]	
2	Highest level of education 1. Primary School [ ] 2. No formal education [ ] 3. JHS/JSS/Middle School [ ] 4. SHS/SSS/Vocational/O&A Level [ ] 5. Tertiary [ ]	
3	Are you employed? 1. Yes [ ] 2. No [ ]	
4	Marital status 1. Single [ ] 2. Co-habiting [ ] 3. Separated [ ] 4. Married [ ] 5. Divorced [ ] 6. Widowed [ ]	
5	Level of education of partner 1. No formal education [ ] 2. Primary School [ ] 3. JHS/JSS/Middle School [ ] 4. SHS/SSS/Technical/O&A Level [ ] 5.Tertialy Education [ ]	
6	Which Religion do you belongs to? 1.Christianity [ ] 2.African Traditional [ ] 3. Islam [ ] 4.Others……	
7	How many times have you been pregnant? (Please state)	
8	What is the age of your last child?	
9	What is the age interval between your last two pregnancies?	
10	How many are you in the Family (family size)?	
KNOWLEDGE ON POSTPARTUM FAMILY PLANNING **(Please tick where applicable)**		
11	Have you ever heard of any family planning method? 1. Yes [ ] 2. No [ ]	
12	If yes, what was your source of information? **(Tick as many as apply)** 1. Media [ ] 2. Nurse/midwife/doctor [ ] 3. Friends/relative [ ] 4.Others……	
13	What is your understanding of family planning? 1. To prevent pregnancy [ ] 2. For treatment [ ] 3.Others…….	
14	What family planning methods do you know of?	

	1. Condoms [ ] 2. Implants [ ] 3. Withdrawal [ ] 4. Injectable [ ] 5. Pills [ ] 6. Sterilization [ ] 7. Emergency contraception 8. IUD [ ] 9. Lactational Amenorrhoea Method [ ] 10 others…….	
CONTRACEPTIVE USE HISTORY		
15	Have you ever used any contraception? 1. Yes [ ] 2. No [ ]	
16	If yes, what contraceptive method did you use? (**tick as many as apply**) 1. Condoms [ ] 2. Injectable [ ] 3. Implants [ ] 4. Pills [ ] 5. Withdrawal [ ] 6. Sterilization [ ] 7. Emergency contraception 8. IUD [ ] 9. Lactational Amenorrhoea Method [ ] 10. Others……	
17	If yes, why did you use this/these contraceptive method(s)?	1. To prevent pregnancy [ ] 2. For treatment [ ] 3. For other reasons [ ]
18	If no, why haven't you used any contraception before? 1. Fear of side effect [ ] 2. Spousal refusal [ ] 3. Cost [ ] 4. Others ……..	
CURRENT CONTRACEPTIVE USE **(please tick where applicable)**		
19	Have you had your menses after the delivery of your last child? 1. Yes [ ] 2. No [ ]	
20	How old was your child when you had this menses [In Weeks] ……	
21	Have you resumed sexual activities with your partner after the delivery of this child? 1. Yes [ ] 2. No [ ]	
22	How old was your child when you resumed sexual activities [In Weeks]……	
23	Are you using any form of family planning method currently? 1. Yes [ ] 2. No [ ]	
24	If yes, which method are you using 1. Condoms [ ] 2. Injectable [ ] 3. Implants [ ] 4. Pills [ ] 5. Withdrawal [ ] 6. Sterilization [ ] 7. Emergency contraception 8. IUD [ ] 9. Lactational Amenorrhoea Method [ ] 10. Others……	
25	Did you experience any problems while using any of the FP methods during the postpartum period? 1. Yes [ ] 2. No [ ]	
26	If yes, what problems did you experience? 1. Headaches [ ] 2. Back aches [ ] 3. Abdominal pains [ ] 4. Dizziness [ ] 5. Prolonged vaginal bleeding [ ] 6.Others ……	
27	Did you and your partner discuss family planning after you delivered your last child? 1. Yes [ ] 2. No [ ]	
28	Does your partner approve of contraceptive use? 1. Yes [ ] 2. No [ ]	

ACCESSIBILITY TO POSTPARTUM FAMILY PLANNING **(please tick the appropriate answers)**	
29	Where can you locate family planning services? 1. In the hospital [ ] 2. Close to the hospital [ ] 3. Far away from the hospital [ ]
30	How do you get access to these services 1. Via foot [ ] 2. Via private transport [ ] 3. Via public transport [ ] 4. Others ……
31	How long does it take to access family planning services? ……. Minutes/hours
32	Do you pay for postpartum family planning services (PPFP)? 1. Yes [ ] 2. No [ ]
33	If yes, how much do you pay for the services | Gh c…….
PERCEPTION ABOUT POSTPARTUM FAMILY PLANNING	
34	Can a woman who has given birth recently use family planning method? 1. Yes [ ] 2. No [ ]
35	For what purposes will a woman who has recently given birth use a family planning method 1. Don't know [ ] 2. To delay pregnancy [ ] 3. For Treatment. [ ] 4. Others …….
36	How soon do you think, a postpartum woman should use family planning method? 1. I don't know [ ] 2. After six weeks [ ] 3.After six months [ ] 4. Others ……
37	In your opinion, do you think a woman can get pregnant during the postpartum period in the absence of a family planning method? 1. Yes [ ] 2. No [ ]
ATTITUDES TOWARDS POSTPARTUM FAMILY PLANNING	
38	What would make, you use postpartum family planning method? 1. To prevent pregnancy [ ] 2. For spacing [ ] 3. For Treatment [ ] 4. Others …….
39	Would you recommend postpartum family planning method to your colleagues? 1. Yes [ ] 2. No [ ]
40	Would you use postpartum family planning method, if it is available at the health facility you regularly visit? 1. Yes [ ] 2. No [ ]
41	Would you use postpartum family planning method if it is incorporated into maternal care services rendered to women after delivery? 1. Yes [ ] 2. No [ ]

Thank you for taking time to complete this questionnaire!