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POSTPARTUM FAMILY PLANNING PRACTICES AMONG WOMEN IN GHANA

ALHAJI SALIHU ENUM

2019

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POSTPARTUM FAMILY PLANNING PRACTICE AMONG WOMEN IN GHANA

BY

ALHAJI SALIHU ENUM

Thesis submitted to the Department of Population and Health of the Faculty of Social Sciences, College of Humanities and Legal Studies, University of Cape Coast, in partial fulfilment of the requirements for the award of Master of Philosophy degree in Population and Health

FEBRUARY 2019

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DECLARATION

Candidate's Declaration

I hereby declare that this thesis is the result of my own original research and that no part of it has been presented for another degree in this university or elsewhere.

Candidate's Signature: ..... Date: .....

Name: Alhaji Salihu Enum

Supervisors' Declaration

We hereby declare that the preparation and presentation of the thesis were supervised in accordance with the guidelines on supervision of thesis laid down by the University of Cape Coast.

Principal Supervisor's Signature: ..... Date: .....

Name: Prof. Augustine Tanle

Co-Supervisor's Signature: ..... Date: .....

Name: Prof. Eugene K.M. Darteh

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ABSTRACT

Postpartum family planning has the potential of contributing to the achievement of Sustainable Development Goal 3, which aims at ensuring quality maternal health, promoting wellbeing for all as well as the consequence of each pregnancy. Using women's postpartum family planning framework, the study sought to examine the postpartum family planning uptake. The study used secondary data from the Ghana Demographic and Health Survey (DHS), (GSS, 2014). Bivariate and multivariate regression models were applied to examine the relationship between background characteristics and postpartum family planning uptake. The results showed that majority of the women were in their extended postpartum period. The proportion of women who were using postpartum family planning were few. However, Brong-Ahafo region recorded the highest prevalence rate. A higher proportion of married women used modern contraceptive type compared to the traditional or folklore. The injectables were the most used contraceptive method. There is statistical relationship between age, marital status, occupation, region, residence and postpartum family planning uptake but not with religion. It is recommended that the various family planning service providers, Ghana Health Service and Ministry of Health should focus education specifically on immediate postpartum contraception since this can help prevent unintended pregnancies within the first six months postpartum and promote initiation of contraception before the return of menses

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KEY WORDS

Postpartum

Family Planning

Practice

Women

Ghana

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DEDICATION

To the memory of my Mum, Madam Hassana Esseku Enum (1941-2017) and my son Abdul Aleem Enum (2013-2018)

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TABLE OF CONTENTS

Digitized by Sam Jonah Library

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Digitized by Sam Jonah Library

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Digitized by Sam Jonah Library

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LIST OF TABLES

Digitized by Sam Jonah Library

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LIST OF FIGURES

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LIST OF ABBREVIATIONS

CPR	Contraceptive Prevalence Rate
DFID	Department for International Development
DHS	Demographic and Health Survey
FP	Family Planning
GDHS	Ghana Demographic and Health Survey
GHS	Ghana Health Service
GSS	Ghana Statistical Service
IDHS	Indonesia Demographic and Health Survey
LAM	Lactational Amenorrhea Method
MCH	Maternal and Child Health
MDG	Millennium Development Goals
NHPC	Nairobi Health and Population Council
NHIS	National Health Insurance Scheme
PPFP	Postpartum Family Planning
SDG	Sustainable Development Goals
SSA	Sub-Saharan Africa
STD	Sexually Transmitted Diseases
TFR	Total Fertility Rate
UDHS	Uganda Demographic and Health Survey
UNDP	United Nations Development Programme
UNFPA	United Nations Fund for Population Activities
UNGASS	United Nations General Assembly Special Section
UNICEF	United Nations Children's Fund
USAID	United States Agency for International Development

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WHO	World Health Organisation

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CHAPTER ONE

INTRODUCTION

Background to the Study

The Sustainable Development Goal (SDG) 3 is focused on reducing the global maternal mortality ratio to less than 70 per 100,000 live births by 2030 and end preventable deaths of newborns and under-five children (Buse and Hawkes, 2015). Postpartum Family planning (PPFP) and birth spacing are, therefore, recognised as the methods for reducing such global maternal, neonatal mortalities and unintended pregnancies (Bhutta *et al.*, 2014). Postpartum family planning according to Adofo (2014) is the usage of contraceptives through the first 12 months following birth. From Adofo the 12 months following birth is technically grouped into immediate and extended postpartum period which determines when and the type of contraceptives to use.

Globally, more than one-third of 205 million pregnancies that occur annually are unintended as a result of low postpartum contraceptive use and high unmet needs (Borda, Winfrey & McKaig, 2010). According to Borda, Winfrey and McKaig, majority of these pregnancies occur in sub- Saharan Africa (SSA), where more than one third of 182 million pregnancies are unintended as PPFP is often ignored and has a number of biases and misconceptions and are, therefore, associated with a high incidence of unwanted pregnancies, unsafe abortions, unplanned deliveries and eventually high maternal mortalities (WHO, 2004). Furthermore, sub-Saharan Africa has the greatest unmet need for family planning, with only 21 percent of married women aged 15-49 using modern family planning to prevent unintended

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pregnancies, compared with 56 percent for others in developing countries (Singh et al., 2009).

Research has also shown that pregnancies occurring within a year after birth are riskier for the health of both mother and child. According to Ghana Statistical Service, Ghana Health Service and ICF Macro (GSS/GHS/ICF Macro) (2009), children born within one year of a preceding birth have a higher risk of mortality than those born after longer intervals (Da Vanzo et al., 2007). Also, short birth spacing intervals below 18 months are associated with an increased risk of neonatal, infant, and under-5 child mortality; neonatal morbidity; infant/child malnutrition; low birth weight; preterm birth and pregnancy complications (WHO, U., USAID, F., & AED, U. 2010).

Postpartum family planning care and methods, however, are estimated to have the potential to save 150 million maternal deaths a year by reducing the global unintended pregnancies (Glasier et al., 2006). In enhancing and promoting postpartum family planning care and methods at the initial months after delivery, World Health Organisation (WHO) recommends the uptake of a family planning method by 12 weeks postpartum. According to WHO, postpartum periods represent an avenue to address high mortality rates, unintended and unwanted pregnancies at the initial stages in sub-Saharan Africa. According to Cleland et al., (2006), the uptake of family planning during the first month postpartum period also has the potential to reduce the number of unintended pregnancies significantly. From the Nairobi Health and Population Council (NHPC), consistent postpartum family planning can play a critical role in increasing and decreasing birth-to-pregnancy interval and the mortality of babies (Onyango-Ouma, Birungi, & Geibel, 2005).

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The postpartum period has been hailed as a period when unmet need for contraception is particularly high in developing countries (Ross & Winfrey, 2001). According to Sedgh et al., (2007), the unmet need still applies to a particularly large proportion of postpartum women. This may be due to the long periods of amenorrhea related to breastfeeding and to the existence of a strong tradition of postpartum abstinence. In Ghana, long durations of breastfeeding are common; however, the length and intensity of breastfeeding vary widely among women and across societies. This, according to Rossier and Hellen (2014) is an important factor in determining the need for contraception postpartum. From Rossier and Hellen, women who think becoming pregnant so soon after childbirth is illusion and so do not practise any form of contraception are highly at risks. A study carried out in Peru and Indonesia to assess the dynamics of contraceptive use and breastfeeding during the postpartum period also revealed that although the likelihood of contraceptive adoption was highest in the month women resumed menstruation in both countries, about 20 percent of subsequent pregnancies occurred to women before they resumed menses (United Nations, 2004). These results emphasize the importance of integrating postpartum family planning into post-natal care system.

Postpartum abstinence from sexual intercourse after childbirth is also a common practice deep rooted in the cultures of different communities worldwide with varying duration (Anderson *et al.*, 2002; Oladapo, Iyaniwura, & Sule-Odu, 2008). The practice of long postpartum abstinence was possible because of polygamy where men generally got married to several wives, who after birth were requested to stay away from their husband to allow the

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husband to sleep with other wives. This allowed the woman to breastfeed the child exclusively for as long as three years or more without any intercourse with the husband, which eventually led to well spacing of her children (De judicibus & McCabe, 2002; Oladapo, Iyaniwura, & Sule-Odu, 2008). Another reason given by Awusabo and Anarfi (1997) was that long postpartum abstinence worked well for females in the past when migration was limited or over short distances so that wives could travel to and from their natal homes, where separate rooms or sections existed for couples even in the same compound. Also, accommodation was not a problem for visiting in-laws and other control measures such as ridicule had an effect on people's behaviour. From the biological or natural point of view, sexual desire decreases in the third trimester and postpartum period which leads to decreased frequency of sexual intercourse (DeJudicibus & McCabe, 2002; Oladapo, Iyaniwura, & Sule-Odu, 2008).

The introduction of modern family planning methods, coupled with modernization and migration, has led to the breakdown of some of these safeguards (Awusabo & Anarfi, 1997). This shift in socio- cultural practice is manifested in the fact that it is no longer possible for a mother who is working in a modern establishment to take a long leave of absence from work to recuperate or breastfeed, or for a visiting in-law to stay for a long period with a couple who can afford only one room in an urban area. Also, it is more difficult now to marry and maintain more than one wife in the urban setting. Finally, Awusabo and Anarfi argued, it is not possible for some women to go to their maternal home to deliver and stay away from their husbands for

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months and, therefore, need contraceptives to protect themselves against pregnancy.

Recent calculations also show that the mean duration of postpartum insusceptibility to pregnancy (the period of combined amenorrhea and abstinence) lies between 2 to 8 months in most sub- Saharan African countries (GSS, 2014) and associated with unintended pregnancies and short birth intervals.

During postpartum period, information dissemination on breastfeeding, postpartum amenorrhea, contraceptives availability and service provision is essential and relevant to sustain the health of both the mothers and newborn babies. However, few organizations have made it a priority to address those needs for women, especially during the months after delivery. The situation has been compounded by the scarcity of postpartum care in many countries, creating a major public health challenge for women and their babies (Fort, Kothari & Abderrahim, 2006). A study into postpartum family planning (PPFP) practice could provide some understanding to family planning uptake following delivery. What has accounted for the decline in contraceptive uptake is also not well understood and demands a careful inquiry into this problem.

Statement of the Problem

The uptake of postpartum family planning methods remains low in SSA and it is responsible for high incidence of unwanted pregnancies, short birth intervals, unsafe abortions, unplanned deliveries and maternal mortalities (Rossier & Hellen, 2014). Data from Demographic and Health Surveys (DHS) in 27 Sub-Saharan African countries indicated that less than 20 percent of women who wish to avoid pregnancy during the postpartum period use some

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form of modern contraception (Ross & Winfrey, 2001). This means that 83 percent of women in SSA do not use any form of family planning method after delivery. The low uptake PPFP, therefore becomes a major public health problem in SSA.

In Ghana, the magnitude of PPFP use in the first two to eight months after a birth is not different from other SSA countries and remains poorly practiced. Very little is known about PPFP among Ghanaian women (Black et al, 2010). The Ghana Multiple Indicator Cluster Survey (2011) indicated that only 24 percent of all women currently married or in union reported using modern methods. Again, data from the 2014 GDHS also shows that only 22 percent of currently married women use modern contraceptives. The decrease in percentages indicates that more women now than ever are not using any contraceptives though they are at a greater risk of unwanted pregnancy and short birth intervals. This figure is likely to decrease, more especially among postpartum women if comprehensive postpartum family planning care is not incorporated into the broad family planning care and service (Adofo, 2014).

In the 2014 GDHS conducted by GSS (2014), information collected showed that Ghanaian women are amenorrhoeic for an average period of 4 months and can also abstain for a period of 3 months. In general, the proportion of women who are amenorrhoeic or abstaining (postpartum insusceptibility) decreases with increasing months after delivery and this becomes a major public health challenge. From the 2014 GDHS, the proportion dropped from 96 percent in the first two months after birth to 21 percent at 7- 12 months and to 2 percent or less at 30 months or later, which indicate low postpartum family panning use after the first two months of

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delivery. This shows that majority of Ghanaian women still want to abstain after the first two months following a birth but do not use any method. According to GSS (2014), more than 1 in 10 non-first births (13 %) occur after too short an interval following a birth (less than 12 months). They are more vulnerable to unintended pregnancy, short birth intervals and unsafe abortion after 2 months and beyond.

Moreover, research has also confirmed a high "unmet need" for postpartum family planning in SSA (Cleland, 2012) though the root causes are largely unknown (Ghana Statistical Service/Ghana Health Service and I.C.F Macro, 2008) (GSS/GHS/ICF Macro). Despite its great social and demographic significance, women who are pregnant or have recently given birth are not adequately informed about family planning or offered a postpartum contraceptive method to prevent another pregnancy as part of Maternal and Child Health (MCH) services (Adofo, 2014).

Postpartum period is inadequately captured in Maternal and Child Health Research in Ghana and very few studies have also focused on the FP needs of women during this period (Eliason *et al*., 2013; Njuki *et al*., 2012). According to Awusabo and Anarfi (1997), not much is known about the dynamics of the postpartum period and issues associated with the resumption of sex. Achana *et al*. (2010) also concluded that improved access to sexual and reproductive health information and modern contraception could erode the logic of observance of postpartum abstinence and, therefore, research into the prevalence of postpartum family planning practice and level of postpartum family planning uptake is necessary in contemporary life.

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Objectives of the Study

The general objective of this study was to assess postpartum family planning (PPFP) practice in Ghana. The specific objectives were to:

i. examine the current FP practice among immediate and extended postpartum women in Ghana;
ii. assess the prevalence of postpartum family planning;
iii. examine the influence of socio-demographic characteristics of women who practice postpartum FP.

Research Hypothesis

The hypotheses of the study were:

H_0**:** There is no significant relationship between socio-demographic characteristics of a woman and postpartum family planning uptake.

H_1: There is a significant relationship between socio-demographic characteristics of a woman and postpartum family planning uptake.

Rationale of the Study

At the United Nations General Assembly Special Section (UNGASS) conference in 1999 where the Millennium Development Goals (MDGs) were first defined and re-echoed in the Sustainable Development Goals (SDGs), maternal health care gained much attention of the global community. Postpartum family planning has been identified as one of the essential indicators of maternal health by the World Health Organisation (Buse and Hawkes, 2015).

The study, therefore, provides current data on the prevalence of postpartum family planning and, hence, the nation's performance in relation to SDG 3 which could inform programmes aimed at improving maternal and

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child health situations in various health centres, hospitals, the Ghana Health Service and the country as a whole.

Secondly, the findings on immediate and extended postpartum family planning provides a good indicator for assessing the performance of postnatal care in the various health facilities and ensuring access to quality maternal health care, promote well-being for all as well as the outcome of family planning programmes in Ghana. Thus, ensures universal access to sexual and reproductive health care services, including family planning information and education, and the integration of reproductive health into national strategies and programmes (Buse and Hawkes, 2015), therefore, assist to present different knowledge for monitoring.

Also, the data on postpartum family planning prevalence can be used to design a comprehensive contraceptive programmes and directive for Ghana health service and also to enhance postpartum women's knowledge in adopting contraceptive methods in the future.

It is expected that findings from this study provides insight and add to the prevailing discourse on postpartum family planning services.

Finally, it would serve as the basis for further research on postpartum family planning and maternal health since it would provide additional information to researchers, NGOs, and women activists who would be interested in issues of maternal and child health.

Organisation of the Study

The study is organised in five chapters. Chapter One captures the background to the study, statement of the problem, objectives of the study, hypotheses of the study, the rationale of the study and chapter organisation.

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Chapter Two discusses the literature on aspects of antenatal care services and related issues. Theoretical, as well as the conceptual framework, are also discussed. The third chapter focuses on the methods of the study. Among the issues covered are the source of data, sampling and sampling procedure, variable description, data analysis and the data limitation of the study. Presentation of the results and discussion are covered in Chapter Four. The last chapter is devoted to summary of the main findings, conclusions, recommendations and suggestions for further research.

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CHAPTER TWO

REVIEW OF RELATED LITERATURE

Introduction

Interest in postnatal health care has increased since the inauguration of the Safe Motherhood Program in Nairobi in 1987 and the introduction of Millennium Development Goals (MDG's) and SDG's in 2000 and 2015. It was identified that a wide gap exists between contraceptive use and postpartum women. The chapter explores diverse consulted literature, mainly focusing on Africa and other developing countries, highlighting pertinent issues on contraception comprising empirical and theoretical literature and the conceptual framework.

The empirical literature explores specific issues relevant to the topic on need and demand for family planning, overview of contraceptive use and options, contraceptive prevalence, postpartum period and postpartum family planning. It aims at shedding more light on the various types of contraceptives available worldwide, family planning methods for postpartum women, prevalence of postpartum family planning, importance of postpartum family planning, contraceptive practice among postpartum women, factors affecting use of contraceptives and factors discouraging postpartum uptake of family planning.

The theoretical literature reviews women's postpartum family planning Conceptual Frameworks by Tirah (2015), unmet need for Contraception Framework by Yawsson (2014) and the theory of Reasoned Action and Planned Behaviour by Ajzen and Fishbein (1981). Tirah's Conceptual Framework was adopted to guide the study.

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Need and Demand for Family Planning

Considering the extent of the need for family planning in Ghana and the potential demand for contraception to space or limit childbearing, postpartum women are considered to have the highest unmet need for family planning. According to Cleland, Shah and Daniele (2015), Women who are using a family planning method are believed to have a met need for family planning. Therefore, total demand for family planning comprises women with unmet need and met need for family planning.

From the GDHS (2014) among currently married women, 30 percent of them have an unmet need for family planning. The unmet needs for postpartum women are higher in spacing than limiting children. This means that about one in four currently married women is using a method of contraception The total demand for family planning among women captured in the GDHS is 59 percent (35 % for spacing births and 24 % for limiting births), thus, only 40 percent from the total demand for family planning is currently being met, which implies that the contraceptive needs of three-fifths of currently married women are not being met.

A comparison of the findings from the 2008 and the 2014 GDHS surveys shows that there has been little change in unmet need for family planning among currently married women over the five-year period. Likewise, the total demand for family planning did not show any substantial change. Unmet need generally decreases with age. In Ghana, the sharpest declines are between the ages of 15 to 24 years and 40 to 45 years. Younger women have a greater unmet need for spacing, while older women have a greater unmet need for limiting. Women in rural areas have a greater unmet need for family

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planning than their urban counterparts (38 percent, compared with 32 percent). It is also interesting to note that women in rural areas have higher unmet need for spacing than their urban counterparts.

Research has shown that women with secondary or higher education have a lower level of unmet need for family planning than women with primary education or no education. Again, total demand for family planning is highest for women with primary education and lowest for women with no education. From the above analysis, it is clear that most of the family planning is not on postpartum women.

Overview of Contraceptive Use and Options

In the Latin America and the Caribbean, more than one-half of pregnancies are unintended, even though about 65 percent of married women of reproductive age use modern contraceptives (Bankole and Malarcher, 2010). There is however, a very low contraceptive use in such areas. Almost two-thirds of pregnancies in the Caribbean, South America and Central America including Mexico are unintended. This relates to 62 percent in the Caribbean, 63 percent in South America and 43 percent in Central America including Mexico.

In SSA, 18 percent of married women use modern methods and services of family planning. This means an estimated 35 million women in Sub-Saharan Africa have unmet need for family planning (Singh et al., 2009). It can, therefore, be concluded that married women want to delay or stop childbearing but are not using any method. Modern family planning services, according to Singh et al., include counseling, provision of contraceptives and follow- up. In Mongolia, the use of some of the family planning methods

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increased more than others, with significant increases in the use of the pill, injection and female sterilization (Singh *et al*., 2009). The Intra- Uterine Device (IUD) and periodic abstinence in the overall contraceptive is 13 percent and more (Janssen *et al*., 2005).

Substantial evidence is found in existing literature that broadening the choice of family planning methods increases overall family planning prevalence. The provision of a wide range of contraceptive methods increases the opportunity for individual couples to obtain a method that suits their needs. Contraceptive choice is also a central element of quality of care in the provision of family planning services and an important dimension of women's reproductive rights. To increase prevalence, family planning programs should offer a variety of safe, effective, acceptable and affordable contraceptive methods to help women prevent unwanted pregnancies and sexually transmitted diseases (STDs) and also help them achieve their childbearing goals (Magadi & Curtis, 2003). According to Kim (2015), postpartum women who have used contraceptives in the past and intend to use them in the future are more likely to use contraceptives than those who have not used contraceptives in the past. The women who have not used contraceptives in the past and intend to use them in the future are motivated but are also likely to face challenges and obstacles than prior users. A study done in Iran revealed that prior contraceptive use was a significant factor influencing contraceptive use (Erfani, & McQuillan, 2008).

Contraceptive Prevalence

Contraceptive prevalence rate (CPR) is the proportion of women of reproductive age who are using (or whose partner is using) a contraceptive

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method at a given point in time (Rutstein & Rojas, 2006). Globally, contraceptive prevalence rate has increased over the years in the developing world though it is higher in the developed world (Merriam & Brockett 2011). According to Westoff (2012) and Ross and Winfrey (2001), many countries in SSA have low rates of contraceptive use. This means that contraceptive use has increased worldwide over the last decade contrarily to the situation in Africa which continues to have a high unmet need for family planning.

In Africa, contraceptive prevalence rate (CPR) for modern methods ranges from 1.2 percent in Somalia to 60.3 percent in South Africa. Contraceptive prevalence is lower in West Africa than in other parts of SSA (Westoff, 2012). According to Singh et al., (2009), knowledge on family planning has remained consistently high in Uganda over the past 5 years with 97 percent of all women 15-49 having heard at least one method of contraception. From the UDHS findings, 52 percent of currently married women have ever used a family planning method at least once in their life time. The most commonly used methods are the injectables, pills and the rhythm method among the married women. The UDHS results, therefore, showed that contraceptive prevalence rate was only 23.7 percent including both modern (18 percent) and traditional contraceptive methods (5.7 percent). Again, the unmet need for family planning services was 41 percent. This suggests that many women who would have been able to delay or avoid a pregnancy are not able to and, therefore, end up having unintended pregnancies.

In Ghana, approximately 17 percent of women currently married or in union use contraceptives (GSS/GHS/ICF Macro, 2008). Northern Region has

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the lowest use of contraceptives while Western Region records the lowest in terms of modern methods. Contraceptive prevalence is highest in the Brong-Ahafo region. Again, married women in urban areas are more likely to use contraceptives than those residing in rural areas (GSS/GHS/ICF Macro, 2008). Modern contraceptive use is lower in women below 19 years but increases until age 44 years and declines.

Ghanaian women in urban areas are more likely to use contraceptive methods than their rural counterparts; women with at least some secondary education are more than twice as likely to use contraceptives as women with no education (GSS/GHS/ICF Macro, 2008). Use of any method and use of any modern method increase with level of education. Modern contraceptive use increases with women's education. According to GSS/GHS/ICF Macro, 19 percent of married women with more than secondary or higher education use modern methods compared with 11percent of women with no education. Use of modern methods also increases with household wealth. Contraception use is positively related to wealth status, increasing from 14 percent among currently married women in the lowest wealth quintile to 31 percent in the highest wealth quintile (GSS/GHS/ICF Macro, 2008).

According to Macro (2011), the total unmet need of 35 percent of married and co-habiting women use contraceptives. Contraceptive use in the urban areas was however 37 percent and 32 percent in rural areas. The magnitude of unmet need for birth spacing (23 %) is higher than unmet need for limiting (12 %). This means that unmet need generally decreases with age. Younger women have a greater unmet need for spacing, whereas older Ghanaian women of reproductive age have greater unmet need for limiting.

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There are sharp declines between the two youngest age groups (from 62 % to 42 %) and the two oldest age groups (from 31% to 20 %) (GSS/GHS/ ICF Macro, 2009).

Macro (2011) has shown that 26 percent of women aged 15-49 years have an unmet need for contraception. Sixteen percent (16 %) have an unmet need for spacing and 10 percent have an unmet need for limiting. The magnitude of unmet need for family planning is greater in women who live in rural Ghana than those residing in the urban area (37 %, versus 32 %) (Macro, 2011). In the rural areas women have higher unmet need for spacing than for limiting. Unmet need for family planning is highest among women in the second wealth quintile and lowest among women in the highest wealth quintile (43 % and 24 %, respectively). In all wealth quintiles, unmet need for spacing is higher than unmet need for limiting (GSS/GHS/ICF Macro, 2008). The unmet need for the Brong – Ahafo region is 35.3 percent, a little above the national value. In this region, the unmet need for spacing (24.8 %) also outweighs the unmet need for limiting (10.5 %) (GSS/GHS/ICF Macro, 2008).

Postpartum Period and Postpartum Family Planning (PPFP) Use

Postpartum period is defined as the 12-month interval following a birth, usually described as "immediate" and "extended postpartum period" (Mc Kaig, et al., 2006, Ross & Winfrey, 2001). The immediate postpartum period starts from the first day of delivery to first six weeks after delivery while the extended postpartum period starts from the first six weeks to the first one year after delivery.

This period is characterised by a rising risk of unwanted conception and often frustrated desire for contraceptive protection (Depineres *et al.*,

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2005). For a woman who is giving birth for the first time, the postpartum period marks probably the most significant and life changing event she ever experienced (WHO, 2004). This means that the postpartum period is a very special phase in the life of a woman and her newborn child. This period is also marked by strong emotions, dramatic physical changes and the assumption of and adjustment to a new role (Ross & Winfery, 2010). Thus, new mothers then move from the social status of "women" to that of a "mother" (Helman & Oz, 2001). The postpartum period forms part of the normal continuum of the female reproductive cycle. This fact is reflected by services with respect to that continuum which include quality antenatal care and intra partum care that can create a smoother postpartum (WHO, 2004).

According Ahman and Shah (2007), WHO and UNICEF defined postpartum family planning (PPFP) as the prevention of unintended pregnancy and closely spaced pregnancies through the first 12 months following childbirth. It addresses the needs of those who wish to have children in the future (referred to as ‘spacers’), as well as those who have reached their desired family size and wish to avoid future pregnancies (referred to as ‘limiters’). The postpartum family planning, therefore, explains that closely spaced pregnancies within the first year postpartum are the riskiest for mother and baby, resulting in increased risks for adverse outcomes, such as preterm, low birth weight and small for gestational age (Da Vanzo et al., 2007).

From the analysis of Demographic and Health Surveys data of 27 countries by Ross and Winfrey (2001), 95 percent of women who are 0–12 months postpartum want to avoid a pregnancy in the next 24 months. However, 70 percent of them are not using contraception. The use of PPFP in

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West and Central Africa has been shown to be unacceptably low, compared to other regions of the world. For example, analysis of Demographic and Health Survey report from 43 countries published by Mascarenhas *et al*., (2012) revealed that postpartum family planning prevalence rate at twelfth month postpartum ranged from 21.3 percent in Ghana demographic and health survey in 2008 to as low as 5.9 percent in Sierra Leone demographic and health survey in 2008.

The postpartum period is also a period in which a woman has to devote a lot of her time to care for her newborn child as well as cope with a series of emotional and physical changes and often extreme tiredness (Salway, 1994). Research has proven that many postpartum women have high unmet need for family planning during their first year after delivery. This attests to the fact that PPFP has a significant role in reducing the unmet need for family planning. The high unmet need for postpartum family planning exposes the mothers to pregnancy during the first year after delivery, which adversely affects the health of both the mother and the baby due to short birth intervals (Nelson *et al*., 2007; Ross & Winfrey, 2001; Smith *et al.*, 2009). Ross and Winfrey revealed an estimated 74 percent unmet need of contraception during the first year in SSA as compared to 54 percent in Latin America and 62 percent in Asia. The analysis also indicated that only 18 percent of postpartum women in SSA are using contraceptives as compared to 42 percent in Latin America and 32 percent in Asia. In Kenya, Nigeria and India, the unmet need for PPFP is alarmingly high at 68, 62 and 73 percent respectively, and only one fifth of the postpartum mothers use family planning during the first year after birth (Borda & Winfrey, 2006; Borda, 2009).

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Family Planning Methods for Postpartum Women

There are numerous family planning methods that can be used by postpartum women and using them can even be immediately after delivery. Some methods are recommended for all women while others depend on the feeding option chosen for the newborn. For all women, barrier methods such as condoms, diaphragms and cervical caps can be used immediately after delivery. Intrauterine devices and female sterilization can be initiated from the immediate post-delivery period up to about 48 hours if not, then will have to be delayed till 4 and 6 weeks later respectively. Male sterilization/vasectomy which can be done immediately post- delivery is an ideal method. This is because the 12-week period that it takes before the male is infertile coincides with the normal practice of postpartum abstinence for most couples. For breastfeeding women, the Lactational Amenorrhoea Method (LAM) is started immediately after delivery up to six months; progestagins can be started 6 weeks post- delivery while combined progesterone-oestrogen contraceptives are started after 6 months. In the case of non- breastfeeding women, other recommended methods are progestagins right after delivery and the combined method 3 weeks after delivery (Jackson & Glasier, 2011).

Prevalence of Postpartum Family Planning

Adoption of postpartum contraception enables women to have a more fulfilled life even as they have the opportunity to pursue goals that they might otherwise have been unable to pursue. The prevalence of postpartum family planning varies from country to country with high rates being recorded in developed countries and low rates in developing countries. In Indonesia, for instance, postpartum contraceptive rates are as high as 75 percent (Shapiro &

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Gebreselassie, 2008), compared to Zambia which has a prevalence rate of only 33 percent (Ross & Winfrey, 2001). The postpartum contraceptive prevalence rate for Ghana in 2012 was approximately 36 percent, with the Kumasi Metropolitan Area recording a rate of 15.5 percent for the same period (Asamoah, 2015).

Importance of Postpartum Family Planning

Data obtained from several studies have led many to conclude that it is better to initiate contraception immediately after delivery in order to avoid the potential consequences (Bhutta et al., 2014). Postpartum family planning is important to reinforce women's rights to determine the number and spacing of their children to avoid the risks of pregnancy and unsafe abortion and to prevent deaths of mothers and children. According to Singh et al. (2009), unsafe abortions will decline as women will not get desperate and resort to all sorts of unsafe means to terminate unwanted pregnancies.

It prevents unintended pregnancies, including those of women who face increased risk related to pregnancy. It is estimated that unintended pregnancies will drop by greater than two-thirds, from 75 million in 2008 to 22 million per year if the need for both family planning and maternal and newborn services are met (Singh *et al*., 2009).

Reducing unmet need for family planning has the potential to reduce maternal deaths by 30 percent, and infant death by 60 percent, amongst women who have given birth at very closely spaced intervals (less than 24 months) (Cleland et al., 2006). Evidence suggests that women who have more than four children are at increased risk of maternal mortality.

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Also, postpartum is an important period for effective family planning measures, which lengthens birth spacing, improves maternal and infant health and the rate of unsafe abortions even though contraception demands fluctuate over the course of a woman's reproductive life. According to Mc Kaig and Dellar (2006), postpartum family planning is the commencement and use of contraceptives during the first year after delivery by reducing lifetime risk of maternal mortality and preventing exposure to pregnancy. This is because most of the unintended pregnancies in the year following childbirth are associated with abortion and poor pregnancy outcomes, thus a public health concern.

Contraceptive Practices among Immediate and Extended Postpartum Women

The postpartum period is grouped into immediate postpartum and extended postpartum period. These groupings have different contraceptive practices.

The immediate postpartum women contraceptive practices are between two- six months after delivery which means they use contraceptive immediately two to six months after delivery. A baseline survey of postpartum and post-abortion women conducted by Access-FP (2008) in Albania indicated that most women (94 %) wanted to discuss family planning options with their providers within the 2 to 6 months period after delivery, with the remaining 6 percent not interested in discussing family planning. In spite of the demand for information for family planning, only four women reported receiving any family planning and none received a method.

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Result of a combined analysis of diagnostic studies in three countries on immediate postpartum women findings demonstrate a clear relationship between the degree to which women report being informed, counseled about, and offered methods during their hospital stay and the uptake of methods before discharge from the hospitals (Vernon, 2008). In Honduras, a research team conducted quarterly surveys to collect data on five sub- groups of women who attend postnatal in hospitals. These are the proportion who had been given information or counselling on contraception, those who were offered a method, those who received a method, those who wanted a method but had not received it (called "unmet demand"), and as a proxy for the quality of services and those who had not received a desired method and had not been given an explanation for this. During a 15-month period, the proportion of women who received family planning information more than doubled, and the proportion who received a method tripled. The intervention as indicated above significantly decreased unmet demand for contraception and the proportion of women who were not told why they did not receive a method they wanted (Sedgh, Hussain, Bankole & Singh, 2007).

Research in SSA Asia and the Near East, and Latin American countries showed that more than 80 percent of immediate postpartum women do not want a pregnancy in the two years following a delivery, including a substantial proportion of women who do not want more children. About half of these women would like to start using a contraceptive method during the postpartum period. Of these, more than half want to begin using a method immediately after delivery or at six weeks. The rest mentioned a time between six weeks and at six months or at what they perceive as the return of fertility (Brambila,

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Figueroa, & Taracena 2001; Sedgh et al., 2007). Thus, programs can respond more fully to immediate postpartum women's desires and needs by providing information about fertility return and contraceptives at different times during that postpartum period (Jackson & Glasier, 2011).

Vernon (2008) emphasized that programs that offer a full range of contraceptives to women at hospitals have greater uptake of contraceptives than programs that do not. In the Dominican Republic, where most hospitals only offer female sterilization, the proportion of women who receive a contraceptive method before discharge is 12 percent, compared to 25 percent and 44 percent, respectively, in Haiti and Nicaragua, where IUDs, pills, injectables, LAM, implants, and condoms are also offered (Vernon, 2008).

A Ministry of Health (MOH) hospital in Tunisia tested scheduling a single visit for mothers and children on the 40th day postpartum. Out of the 9,240 women who gave birth at the hospital, 83 percent attended the postpartum, of which women who attended the postpartum visit, 56 percent accepted a family planning method (Access-FP, 2008). A study involving contraceptive choices of new family planning clients at the Komfo Anokye Teaching Hospital found that about 53 percent sought modern contraception within the months of postpartum period and that the most chosen method was injectable contraceptives (Srofenyoh & Lassey, 2003).

According to Borda, Winfrey and Mc Kaig, (2010), the extended postpartum contraceptive practice is influenced by breastfeeding education and the use of LAM, return of menses and return to sexual activity. This means breastfeeding education, return of menses and sexual activity are determinant in using contraceptives among the extended postpartum women.

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The connection between breastfeeding as a traditional family planning method and the chances of conception has been investigated over the years. Several studies have demonstrated the correlation between breastfeeding duration and birth interval length as well as the duration of postpartum amenorrhoea. Based on the results from eight countries, the Bellagio Consensus Statement also concluded that for women who breastfeed 'fully or nearly fully and remain amenorrhoeic, the cumulative risk of conception over the first six months postpartum is less than two percent, that is, similar to or lower than the risks attached to the use of modern methods of contraception (Kennedy, Rivera, & McNeilly, 1989). Results from a study in USA suggest that a feeding frequency of seven feeds per day, each lasting fifteen minutes, can achieve a two percent pregnancy rate over the first six months postpartum. For women who are not breastfeeding, pregnancy can occur within 45 days of giving birth (Jackson & Glasier, 2011). Among women who do not exclusively breastfeed, pregnancy can also occur before menstral period resumes. Contrarily, breastfeeding is not absolute and since ovulation may occur in the first menstrual cycle following the birth, a woman may conceive even without any visible menses. Epidemiological studies suggest that postpartum women are among the most highly vulnerable to unintended pregnancy (Borda, Winfrey & Mc Kaig, 2010), probably because many of them lack access to, or do not wish to use hormonal contraceptive methods for fear of transmission of exogenous hormones to the infant.

Breastfeeding as an effective traditional method can, therefore, be said to depend on the patterns of the breastfeeding, the return of menses and the duration of protection postpartum. Researchers have suggested that

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recommending full breastfeeding plus amenorrhoea at one extreme, or amenorrhea alone at the other, are inappropriate but instead quantify more precisely the pattern of breastfeeding required to maintain low risks of ovulation and conception (Campbell, Graham & Lancet Maternal Survival Series steering group, 2006). This explains that a certain level of protection may be achieved by different patterns of breastfeeding, for example, either long, infrequent feeds or shorter, frequent feeds and that there is need for contraceptive use during breastfeeding. In terms of menses, the Bellagio consensus concluded that the resumption of menses should be taken as an indicator of return to fecundity and the need for an alternative form of contraception (Kennedy, Rivera, & McNeilly, 1989). However, other research has shown that in many instances, mainly when menses returns soon after birth, ovulation may follow rather than precede the first bleed. Eslami et al., (1990) concluded from data from the Philippines that within the first six months postpartum, the return of menses does not necessarily indicate imminent ovulation. Campbell, Graham & Lancet Maternal Survival Series steering group, (2006), also found that in the first six months exclusive breastfeeding confers very low risks of ovulation even if menses resumes. Duration of postpartum can provide a high degree of protection up to six months postpartum. Findings from some studies suggest that lactational amenorrhoea alone, even in the presence of supplementation, carries low risks of pregnancy up to a year postpartum (Kennedy & Visness, 1992), and it has even been suggested that protection may be relied upon up to the resumption of menses, regardless of the time since birth (Short, Lewis, Shaw & Renfree, 1991).

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In conclusion, the issue of postpartum adoption of contraception becomes necessary when a woman's body returned to normal fecundity (Borda, Winfrey & Mc Kaig, 2010) immediately after childbirth. This means that to avoid unwanted pregnancy, couples would obviously need to adopt some form of contraception as soon as sexual activity resume, following delivery despite the fact that majority of women in developing countries feed their newborn child at the breast which delays subsequent pregnancies.

Breastfeeding delays the resumption of ovulation and the return of menses. For individual postpartum women, the resumption of menstruation is not predictable. For non-breastfeeding women, most experience menses return within four to six weeks. The longer menses return is delayed, the more likely it is that ovulation will precede menses return (Fischer, Trussell, Kennedy & Loewenhardt, 2004). Individual studies appear to draw linkages between menses return and initiation of contraceptive use (Ross & Winfrey, 2001). Borda, Winfrey and McKaig (2010) also found that family planning use is most likely in the month following menses return.

Studies have shown that periods of abstinence from sexual activity after a birth vary greatly. Qualitative research has indicated that among those practicing postpartum abstinence, irregular sexual activity may happen early, progressing to regular activity later (Desgrees-du-lou & Brou, 2005). There is some literature about the associations among breastfeeding, return to sexual activity and contraceptive use. Women in Peru who were three months postpartum and breastfeeding were less likely than non- breastfeeding women to have resumed sexual intercourse, compared to their counterparts in Indonesia (Becker & Ahmed, 2001).

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Comparison on the use of modern family planning among women at 3.0–5.9 months postpartum and at 9.0–11.9 months postpartum to all currently married women for 17 countries, sorted from lowest use of family planning to greatest use showed that in 15 of the 17 countries, women are more likely to be using modern family planning at the end of the postpartum period (9.0–11.9 months) than in the middle of the postpartum period (3.0–5.9 months). In most countries, the increase is quite large. In Bangladesh, India, Tanzania, Ghana and Malawi, the increase is more than 10 percentage points whilst in the Democratic Republic of Congo, Ethiopia, Haiti, Guinea, Madagascar, Mali, Nigeria, Rwanda and Uganda, the increase is less than five percent (World Health Organization, 2004).

The use of modern family planning is low among postpartum women, compared with the unmet need for family planning. In all countries except Nigeria and Guinea, the percentage of women who need family planning services at 9.0–11.9 months postpartum exceeds 80 percent (Tirah, 2015). In more than half of the countries, the percentage of women who need family planning services exceeds 90 percent. In all countries, the percentage of women needing family planning services greatly exceeds the percentage that is actually using family planning services. In fact, only in Bangladesh does the use of modern family planning as a percentage of totals need exceed 50 percent (Tirah, 2015).

A study by Yavinsky et al., (2015), on Postpartum Family Planning Use in Uganda found that majority of women (70 percent) did not use any method between their most recent birth and the end of the calendar period.

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Most of the respondents who used a method preferred a short-term method (82% of contraceptive users, 25% of all women included in the sample).

In Sub- Saharan Africa, women's knowledge about their own fertility tends to be limited and, therefore, cannot correctly identify the "at risk" period for getting pregnant postpartum (Sedgh et al., 2007). Studies have shown that making contraceptive methods available in the postpartum period leads to higher contraceptive prevalence rates. A study in Peru compared a cohort of women who were offered counselling and temporary methods, including the intrauterine device (IUD), in one ward at a hospital in Peru with a cohort of women in a different ward who were discharged without being offered comparable services. Six months after delivery, 82 percent of the women who were offered methods were using one, with 40 percent using the IUD. By comparison, 69 percent of women who had not been offered the methods were using one, with 27 percent using an IUD (Mosher, Martinez, Chandra, A., Abma & Willson 2004). The intention to use family planning is enormous in Ghana. Almost half of currently married non-users (48 %) intend to use family planning in the future. Injectables are the preferred method for future users (39 %) (GSS/GHS/ICF Macro, 2008).

The integration of family planning with child immunization services is a promising approach to meet the contraceptive needs of postpartum women and, in turn, improve the health of mothers and their children. According to an analysis of the Demographics and Health Surveys (DHS) in 27 countries, two-thirds of women in the extended postpartum period want to delay or avoid future pregnancies but are not using a modern family planning method. At the same time, immunization coverage is high in many developing countries, and

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the recommended child vaccination schedule allows for multiple contacts between providers and mothers in the year following birth. The provision of family planning information, referrals, or services during immunization visits can be an efficient way to reach women to promote the healthy timing and spacing of pregnancies ((Singh et al., 2009).

Factors Influencing the Use of Contraceptives among Postpartum Women

According to Baidoo (2013), several studies on family planning and contraceptive use have come to the conclusion that education, social-economic conditions, spouses' discussion on family planning, concerns about detrimental side effects of contraception, religious misconception, social and culture acceptability of contraception are some of the factors influencing contraceptive use. He also added women economic status, the right of a decision-making, son preference, residence, poverty, fatalistic attitude, male dominance in most of the societies, designing or implementation of various contraceptive strategies, family size and the behavioral approach of human beings to influenced contraception among postpartum.

According to Roy *et al*. (2003), the use of contraceptives and family planning methods in the postpartum period is influenced more by women's intention rather than their unmet needs. Thus, intention to practice contraception is a more valid indicator of the demand for family planning than unmet need, even after adjustment for women who state that they will use contraceptives but might fail to do so. This means that women's intention to practice contraception in postpartum period better visualize their future need for family planning and, therefore, are more likely to translate it into actual use.

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Martin and Juarez, (2006), in a study using data from DHS for nine Latin American countries, found that women with no education have large families of 6-7 children, analogous to those of women in the developing world. Better educated women have broader knowledge, higher socio-economic status and less fatalistic attitudes toward reproduction than do less educated women. Results of a regression analysis indicate that these cognitive, economic and attitudinal assets mediate the influence of schooling on reproductive behavior and partly explain the wide fertility gap between educational strata. It is undeniable that an individual's decision-making process is influenced by interpersonal communication regarding the acceptance of new ideas and behaviors.

A study by Darko (2016) revealed that women who discussed the number of the children they would like to have in their reproductive lifetime were three times more likely to use contraceptive methods as compared to women who did not discuss the issue with spouses/partners. Also, women who discussed family planning issues with their spouses/partner were six times more likely to use a contraceptive method as compared to those who did not discuss with their spouses/partners. Another study in the Accra Metropolis by Boamah et al., 2014), reported that a lack of communication between husbands and their partners on the acceptance of contraceptive is major factor contributing to the low prevalence rate in the area. According to him, more than three -quarter of the married men reported that there were no communications with their partner on contraceptive use.

Akyeah (2007), in a study into factors influencing the utilization of family planning in Kwabre District, revealed that most of the women have

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high level of knowledge about contraceptive. However, this does not translate into the use of the modern contraceptives. According to him, most of the respondents (30.5 %) were aware of at least three methods of contraception while 4.7 percent were aware of seven to nine contraceptive methods. The most common contraceptive methods available were contraceptive pill, contraceptive injection and the condom.

Duflo (2012) reported that women who participated in rotating credit or savings schemes were more likely to discuss family planning with their husbands and use more traditional and modern contraception than are other women who worked for cash. However, those women who worked for cash often increased their autonomy which induced them to take part in fertility decision-making. This result highlighted that the importance of women's economic power and their control on their partner may influence their participation in using contraception. It can be seen that women who have economic power in terms of their occupation will have the power to make decisions about their health. Another socio-economic factor that can have influence on fertility behavior is access to media. Family planning programs can be promoted via media such as television, radio, print and electronic media. This is an effective means to inform people and increase their knowledge about the program.

Another study by Baidoo (2013) reported that educational attainment, such as completed secondary school, will be conducive to an increased knowledge of fertility and positive behaviour regarding contraceptive use. Being informed about the family planning program is classified by the level of

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knowledge of contraceptive methods and how to access those modern methods.

Kincaid and Do (2006), in his binary logistical analysis study, found out that contraceptive knowledge, spousal communication, exposure to family planning messages, and socio-economic and demographic factors also have significantly affected contraceptive discontinuation. He further concluded that both exposure to family planning messages through personal contact and women's autonomy have had strong effects on contraceptive discontinuation.

Mahood et al., (2013), also researched into factors influencing the current use of modern contraception methods in Lampung Province. In her study, data from the 2007 Indonesia Demographic and Health Survey (IDHS) among 925 currently married women aged between 15 and 50 years were analysed.

The correlation between selected demographic, socio-economic and family planning variables and the current use of modern contraception was analyzed by using the Chi-Square Test and multinomial logistic regression. The findings of the Chi-Square Test revealed that parity, women's age, marital duration, educational attainment, occupation, wealth index, place of residence, including being decision makers in contraception choices, and being informed of those choices all have a strong correlation with the current use of modern contraception, thereby making them strong factors influencing contraceptives.

The findings of the multinomial logistic regression in her study also confirmed that women aged between 15 to 24 years, women who work in the agricultural sector, and those who were informed about choices were likely to use short-term methods.

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This suggests that it was less likely that other people who acted as decision makers encouraged women to use short-term and long-term methods of modern contraception.

Mekonnen and Worku (2011) in a study, also reported that married women who have higher education were more likely to be current contraceptive users, the odds ratio being three times higher for such women, compared with their uneducated counterparts. However, there is no significant difference in current contraceptive use between women with primary education and those without any formal education. The respondent's number of living children has a positive effect on current use of contraception. Obviously, this is expected in view of the positive relationship between fertility and infant mortality. The probability of a subsequent birth increases significantly following the death of the last child or earlier child death experience

In a cross-sectional survey of 21 countries in Sub-Saharan Africa using the demographic and health survey data by Manning, Longmore and Giordano (2000), it was revealed that discussions with partner on contraceptive use influence its use. The study also established that women usually do not discuss sexual plans and desire with their husbands, especially on matters relating to the number of children to have and spacing of birth. Women's socio-economic position which is often indicated by their occupation also influenced their contraceptive behavior.

Muntifering (2011) conducted a research into how attitudes towards family planning and discussion between wives and husbands affect contraceptive use in Ghana. The study used regression to analyze data from

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the 1988 Ghana Demographic and Health Survey. The research revealed that 77 percent of cohabiting marital partners held similar attitudes toward family planning and that 73 percent of the concordant couples approved of contraceptive use. Regression analysis showed that urban residence, the wife's attitude toward family planning and discussions of family planning between spouses have significant independent effects on current contraceptive use.

Husband and wife communication about family planning and contraceptive use has been an important factor in the use of contraceptive. According to Lasee and Becker (1997), both knowledge and approval of family planning are virtually universal in Kenya. According to them, among 98 percent of couples, one or both partners know of at least one modern method, and among 85 percent of couples both partners approve of family planning. Discussion with a partner about family planning was reported in 82 percent of couples. Knowledge and approval of family planning, husband-wife communication, desire for more children and ideal family size are all significantly associated with current use. The multiple logistic regression analyses from the research show that husband-wife communication, particularly the wife's perception of her husband's approval of family planning, is highly associated with current contraceptive use.

A review of religious research by Mahoney *et al*., (2008) showed that a contraceptive use is influenced by religious groups. Importantly, this demonstrates that most religious leaders interpret family planning to represent an action that is permitted within the Islamic world view (Underwood, 2000). This means that religious leaders and their congregation favour the use of family planning and contraception. Some studies have shown that religious

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leaders, as respected members of a community, can be effective advocates for family planning.

The Islamic Republic of Iran, for example, has developed a highly successful family planning program for it members in the past decade, and much of this success has been attributed to the support and guidance provided by the country's religious leaders (Underwood, 2000). Adamczyk (2008), found out that unlike Traditional and Catholic faiths, Protestant and Other Christian churches do not directly or indirectly oppose contraceptive use. Therefore, the higher contraceptive use among Protestant and Other Christian faiths may be influenced by their lack of opposition to contraception, abortion, and sterilization. For urban other Christian women, even after the necessary controls, religion continued to emerge as significant determinant of contraceptive use. Almualm and Kalmis (2007), in their study, revealed that among married Shona-speaking men, the use of modern contraceptive methods is high (increasing from about 56 % to 59 % during a campaign). This means men exposed to the campaign were significantly more likely than other men to make the decision to use family planning and to say that both spouses should decide how many children to have.

Factors Discouraging Contraceptive Methods among Postpartum Women

According to Barber (2007), women have numerous and complex reasons for not using postpartum contraceptives. Baker expanded some of these reasons as follows:

Lack of information on postpartum family planning and its benefits during the ante-natal and early post- delivery period affect women's failure to use postpartum family planning. Many postpartum women report that they

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receive no advice concerning the need for family planning when they deliver; as a result, they go home thinking they are not at risk of getting pregnant only to realise otherwise.

In Mexico where family planning advice has been incorporated into the prenatal care guidelines, evaluation of the effect of this counselling showed that 47 percent of women used a modern contraception method in their postpartum period. According to Barber (2007), those who received family planning advice during prenatal care were more likely to use a contraceptive than were those who did not receive such advice. In Ethiopia, 17 percent of women had no knowledge of a source for a method while 13 percent of women did not know of a method (Korra, 2002). Also, rural uneducated women who had never discussed family planning either at home or at a health facility with a health worker had a significantly higher unmet need leading to high risk of unplanned pregnancies. Hardon et al., (2012), revealed that there are many missed opportunities for family planning counselling in Kenya, and service users in focus group discussions confirmed this view. This has caused low percentage of modern contraceptive use among Kenya women. A woman in Kenya reported that she had attended the requisite four Antenatal Care (ANC) visits but had not been told anything; whatever information she received was through friends.

In Ghana, lack of information on postpartum family planning and its benefits during the ante-natal and early post- delivery period have not been captured as factor impeding the use of family planning in the postpartum period (GDHS, 2014).

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After delivery, the new mother is limited in her mobility as her body is recovering from the stress of pregnancy and delivery. The situation is aggravated in the event that she had to undergo Caesarean section or had an episiotomy or tears. Proximity of a health facility to such a woman will, therefore, be an important determinant of whether she will access the family planning services or not. In Kenya, the proximity to family planning service providers found out that the farther away the client was from the service provider, the less likely she was to seek the services. This is attributed to the fact that the farther away the client was from the provider, the higher the cost for transportation and transaction as well as waiting and travelling time (Okech, Wawire & Mburu, 2011). In rural Burkina Faso, 10-15km away from individual destination can be a barrier to attending antenatal, let alone postnatal clinic. Women who live in rural communities are in charge of the household and farm and, therefore, are reluctant to lose a day's work to visit the service delivery point.

In Ghana, most family planning services are not free and require the client to pay some money in order to utilize them. Women who, therefore, have no gainful employment may find it difficult to do so. Additionally, some women are unable to get a method of family planning because they are unable to find money to pay for it because their partners perceive it as not being urgent (Cleland, Shah and Daniele 2015). Often, this means the women will have to forgo their first choice of contraception as they find it difficult getting the money for the contraception and transportation from their partners. For these women, if a method is unavailable and they are asked to return later with

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the correct amount in order to receive the desired method, it will be problematic as they cannot afford the cost of a second trip.

Pregnant and postpartum women are in a delicate state and are greatly affected by what is communicated to them and the way it is communicated. Poor quality of family planning services therefore affects postpartum family planning uptake. It is vital that service providers create a warm, receptive environment for counseling and give the women the opportunity to ask questions to enable them make informed choices. Though services may be technically available, women and girls do not feel they can use them because of negative attitudes of health workers that push them away (Averill, 2012).

Analysis of Demographic and Health Survey data from 15 countries showed that 7-27 percent of women discontinued use of contraceptives during the first year for broadly classified quality-related reasons (RamaRao *et al*., 2003). A study in Sierra Leone following the conflict in 2002 revealed that the quality of care was hampered by a lack of counseling skills in reproductive health staff, resulting in clients not receiving accurate information on family planning methods or referrals not being made for different methods when women experience side effects (Jackson, & Glasier, 2011).

In Burkina Faso, once a method is chosen, the woman is usually told about potential side effects such as spotting or amenorrhea, although some disadvantages are never discussed (e.g. lack of protection against STIs/HIV for hormonal contraception). In other instances, the information given is partial because it is influenced by the provider's own opinions, personal experience or religious opposition to particular methods. Some methods are not promoted because of an apparent lack of demand. For instance, it was said

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that the female condom has too many protocols, and was too big and unpopular with the girls. The response of one rural health centre was to stop ordering them (Cleland, Shah and Daniele 2015). For many women, availability of a particular family planning method influences whether they will come to the family planning clinic after delivery.

In rural Malawi, it was shown that for women who used modern contraceptives, the commonly used method was Depo-Provera injectable. The reason given was that it was easy to hide its use from their husbands (Chipeta, Chimwaza & Kalilani-Phiri, 2010). In the slums of Kenya, it was revealed, by the women who were interviewed, that services were rated as being of high quality and likely to be patronised when a preferred method of contraception was available (Okech, Wawire & Mburu, 2011).

Partner Support in Postpartum Family Planning also affects women's decision to use postpartum family planning uptake. Due to the psychological changes a woman undergoes in the period after delivery, it is crucial that she receives all the support she needs to ensure speedy recovery and enable her to take good care of her newborn and further to adopt contraceptive use.

Family support also plays a vital role at this stage and in most African settings, the new mother usually will go and stay with her mother or a close female relative who will assist her in caring for the baby and allow the mother to have periods of rest. This means that the desire to use contraception as a means of preventing unwanted pregnancy will be low since the mother will not assume sexual activity because she is not staying with her husband. However, the attitude or response of the partner, in most cases, will determine whether she will go through with it or not.

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Ampofo (2001) indicated in his paper that men often have positive attitudes towards family planning but their wives tend to believe that they are opposed to the idea. His report also stated that there was a positive association between spousal communication and the use of family planning. However, one- tenth of married women have reported that the main reason behind non-use of contraceptives is because their husbands disapprove (Petersen & Hyde 2011). This is consistent with studies in Ghana (Leong *et al*, 2015) which reveal that spousal influence tends to be an exclusive right of the husband rather than a mutual decision.

In Kenya, partner approval was the most important determinant in respondents using family planning services. Hence, the probability of respondents using family planning services was as high as 83 percent when consent from partners was given, compared to when none was given (Okech, Wawire & Mburu, 2011). These reports, however, contradict findings from the 2008 Ghana Demographic and Health Survey which revealed that in only 3 percent of non-users was the disapproval of a husband or partner cited as the reason (GSS/GHS/ICF Macro, 2008). Cleland, Shah and Daniele (2015) also reinforced the former view with her findings which concluded that women who are convinced of their desire to use contraception are sometimes unable to persuade their partners to agree, thereby having to sometimes conceal the use of contraceptives by visiting the clinic at night and leaving their cards at the clinic. Sometimes, however, threats of a partner taking on another wife may be enough to dissuade or stop a woman from using contraception.

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Theoretical and Conceptual Frameworks

This section reviews some of the theories and models by Yawson (Factors Predicting Unmet Need for Contraception), Ajzen and Fishbein (Theory of Reasoned Action and Planned Behaviour) and Tirah (Women's Postpartum Family Planning).

Conceptual Framework

Yawson (2014) explained numerous factors that are likely to affect contraceptive use leading to high unmet need for contraception. Social, religious and cultural beliefs affect societal perceptions and ideas and, in turn, shape morals and behavior. Women who belong to societies that frown upon contraceptive use are more likely to feel stigmatized when they accept to use contraceptives. Such women, their partners and their societies are likely to disapprove contraceptive use. Although these women may have clear intentions not to have any more children or to wait for more than two years, they will find it difficult to accept contraception. These women will then be left with unmet need for contraception.

According to Krakowiak *et al*., (2011) Access to contraceptives is essential to ensure acceptance and regular use of methods. There are various types of access that may enhance or deter contraception. Access may be defined by distance from a service centre to a woman's home, the cost of contraceptives, health worker attitude, language barrier and place of residence. The physical distance from a woman's house to a service provider could determine the ease with which she can reach the service provider. The further away a woman lives from a service centre, the less likely she will be able to attend regular clinics ((Krakowiak *et al.,* 2011). It has, however, been

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documented that distance from a service centre does not affect contraceptive use and, by extension, is unlikely to affect unmet need (Krakowiak *et al.*, 2011).

Cost of contraceptives is also thought of as a possible factor that may affect access to contraception. This may lead to unmet need for pregnant women (Yawson, 2014). However, earlier studies have documented that cost of methods is not a reason for non-contraceptive use and, by extension, should not lead to unmet need.

The place of residence of a woman may affect contraceptive use. Service providers tend to be concentrated in urban areas. Urban dwellers were found to have contraceptive prevalence that was 2.3 times higher than rural dwellers (Van Lerberghe, 2008). Some societal belief and practices in Ghana may promote contraceptive use and reduce unmet need for contraception or deter women and their husband from practicing contraception. In societies where discussions on sexual intercourse are forbidden, couple discussion of contraception is likely to be low.

Discussion of contraceptive is very likely to enhance contraceptive use. Women who discuss contraceptives with their husbands may feel more confident to get information on contraception and are likely to use a method. In situations where people have beliefs and practices that frown upon contraception, spouses may have to sneak to practice contraception. For the fear of societal opposition, these women may prefer to stay away from known service points even when they express the need for contraception. Some religious groups strictly prohibit the use of contraceptives; this is likely to decrease women's approval of FP which in-turn will determine the level of

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unmet need. A catholic woman may not want to openly accept contraceptives for the fear of being seen by the church as a deviant. In a typical Ghanaian society, a woman's own disapproval or her husband's disapproval may not be the only disapprovals that can deter a woman from accessing a method. The influences of the extended family, the church and even friends do matter. Over the years, previous experiences of contraceptives have been passed on through the grape vine to younger generations. Some women may not have used contraceptives but may have developed fear of side effects of contraceptives as a result.

The conceptual framework by Yawson also describes the possible relationships between socio-demographic factors (background characteristics) and proximate factors that most probably predict unmet need for family planning. The socio-demographic factors include age, occupation, educational status, religion, rural or urban residence, and wealth status. The factors that were considered immediate determinants of unmet need (proximate factors) are knowledge of contraceptives, age at first sexual intercourse and first marriage, couples' discussion of FP and the fertility preferences of a woman.

Women's approval of FP is likely to predict contraceptive use and hence the level of unmet need. Some religious groups strictly prohibit the use of contraceptives; this is likely to decrease women's approval of FP which in-turn will determine the level of use and non-use of contraception among such women. The husbands of these women are also less likely to approve of contraceptive use and such couples are very less likely to discuss contraception. Marriage or cohabitation is a primary indication of the regular exposure of women to the risk of pregnancy, hence is essential in the

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assessment of unmet need. In populations with low age at first marriage, early childbearing and fertility is high (Afessa, & Keegan, 2007). In Ghana, however, it is noteworthy that marital relationship is not the only union that serves as prerequisite to childbearing. Some childbearing occurs outside marriage (GSS/GHS/Macro, 2009). Cheng (2011) indicated that mass media and social networks play important roles in disseminating contraceptive knowledge. A woman with exposure to information from a higher number of media sources is more likely to be knowledgeable and more likely to use contraceptives than her counterpart with little exposure. Yawson's framework was not directed towards postpartum family uptake, though it has the elements of socio-demographic and family planning in it.

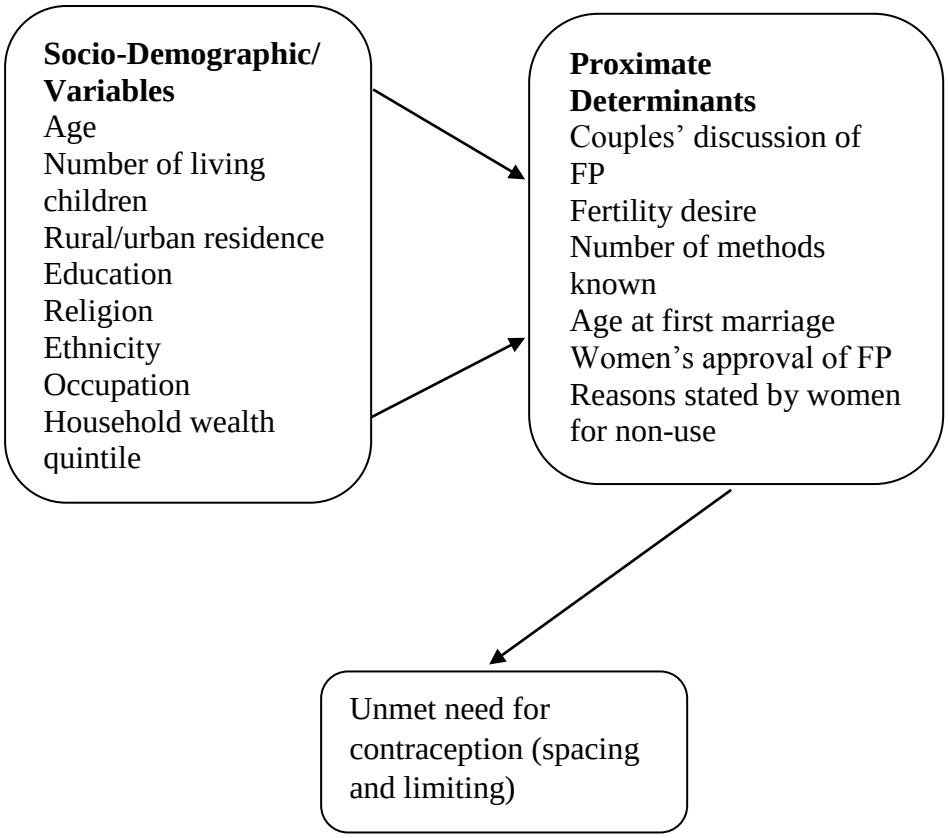

Figure 1: Factors that may Predict Unmet Need for Contraception
Source: Yawson (2014)

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Theory of Reasoned Action and Planned Behaviour

Ajzen and Fishbein formulated in 1980 the theory of reasoned action (TRA). This resulted from attitude research from the Expectancy Value Models. Ajzen and Fishbein formulated the TRA after trying to estimate the discrepancy between attitude and behaviour. This TRA was related to voluntary behaviour. Later on, behaviour appeared not to be 100 percent voluntary and under control, this resulted in the addition of perceived behavioural control. With this addition, the theory was called the theory of planned behaviour (TpB). The theory of planned behaviour is a theory which predicts deliberate behaviour, because behaviour can be deliberative and planned. The theory of reasoned action and planned behaviour (TpB) explains the process that leads to the formation of intentions and the relationship between intentions and subsequent behaviour. This theory posits that attitudes towards a behaviour, subjective norms, and perceived behavioural control together affect the intention to act, which in turn directly affect behaviour (Ajzen and Fishbein, 1980). The three factors affecting intentions are each caused by a set of beliefs, which are determined by factors in the individual's background.

According to this theory, intentions, in conjunction with perceived behavioural control, explain most of the variability in planned behaviour. Strictly speaking, TpB is a theory about how intentions, rather than preferences or desires, affect behaviour. Thus, the intention to use contraceptives influences its actual use. This can be presented diagrammatically as shown below:

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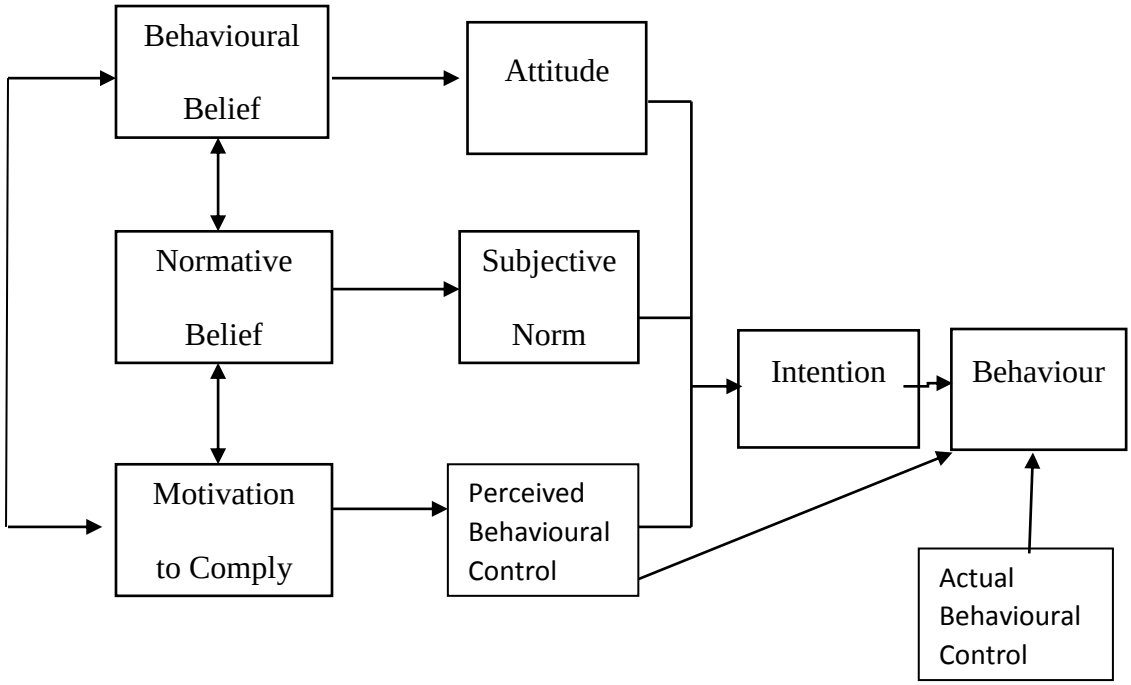

Figure 2: Theory of Reasoned Action and Planned Behaviour
Source: Ajzen and Fishbein (1980)

Intention connotes commitment to a course which usually leads to instrumental behaviour (such as contraceptive use). Desires are, however, wishes, which may be based more on emotions than on reality. For example, an infertile person may want to have a biological child. It appears that in the contraception literature, the terms contraceptive "preference" and "intention" have sometimes been used interchangeably. While the word "intention" conceptually has elements of desire and planning (Ajzen and Fishbein, 1980), preference relates only to the desire aspect. Most survey questions are translated into local dialects which may not adequately distinguish between the notions of desire and intention.

Being cognizant of the conceptual difference between preference and intention, this work will turn to other theoretical perspectives. Perugini and Bagozzi (2001) propose a modification to the theory of reasoned action and planned behaviour in which desires are antecedent to intentions, which in turn

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affect behaviour. In this modified model, attitudes, subjective norms, and perceived behavioural control work through desires. Armitage and Conner (2001, p. 471), in a meta-analysis of applications of TpB, confirm Perugini and Bagozzi's finding in their conclusion that "attitude, subjective norm and perceived behavioural control account for significantly more of the variance in individuals' desires than intentions or self-predictions, but intentions were better predictors of behaviour." Essentially, Perugini and Bagozzi's modified model suggests that desires/preferences can replace the antecedents of intentions in the TpB model. Therefore, at the individual level, postpartum contraceptive preferences may mediate between background variables and behaviours, but this correlation may not be as strong as the intention correlation. From the contraceptive preference of postpartum, a woman can influence her use of contraception.

Furthermore, even though planned behaviour theories generally posit that background and life cycle variables have no direct effects on the occurrence of an action, the empirical literature on the determinants of contraceptive use from cross-sectional studies suggests that socio-economic background characteristics and life cycle factors (age, parity, marital status, marital duration), which are often correlated, are significant independent predictors of both intentions and actual contraceptive use. However, typically, after controlling for intentions, life cycle variables tend to have stronger effects on contraception than variables measuring socio-economic background in studies examining the predictors of fertility at the individual level.

In analysing the effect of background variables on postpartum contraception, it is also important to factor in when these background

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circumstances occurred in the life course of the individual. While individuals do make deliberate choices about some important aspects of their lives, such as employment, schooling, and place of residence, these choices may influence the kind of contraceptive to use.

Furthermore, it is possible that some background factors do not directly affect outcomes, as asserted by the psychological theories. It may instead be the case that individuals with certain background characteristics differ from those without those characteristics in ways that have a bearing on their contraceptive use. For example, educated women may come from smaller families, or they may have spouses who are equally educated, and who, therefore, are more likely to share their preference for contraceptive methods for reducing large family size. Educated women may also be more likely to have the fortitude to stick to their preferences even in the face of spousal disagreement. Such traits, which are associated with conventional background factors but are often unobserved, may substantially explain differences in postpartum contraceptive method used. These considerations suggest that there is the need to show the association between some socio-economic factors and postpartum contraceptive use after controlling for all relevant characteristics that potentially confound the relationship.

Theory of reasoned action has been used to examine a number of behaviours such as cheating, contraceptive usage, smoking, limiting sun exposure, dieting, voting and consuming genetically engineering foods (Hale, Householder, & Greene, 2002). Also, it has been used to study the residual effects of past on later behaviour (Ajzen, 2002). The strength of theory of

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reasoned action can be seen in its ability to predict and understand influences on behaviour that is under the volitional control of the individual.

A weakness of the theory of reasoned action is its individualistic approach. It does consider the role of environmental, structural and cultural factors in the theory (Ajzen, 1991).

Based on the weakness of the theory of reasoned action, theory of planned behaviour (Ajzen, 1991) was proposed in 1991 as an extension of the theory of reason action by adding the variable perceived behaviour control. The theory of planned behaviour postulates three conceptually independent elements of intention. The first element is the attitude towards the behaviour which may refers to the degree to which a person has either an unfavourable or favourable evaluation or appraisal of the behaviour in question. The second element predictor is a social aspect labelled subjective norm; it refers to the perceived social burden to either perform or not to perform the behaviour. The third element of intention is the notch of perceived behavioural control which denotes the perceived comfort or struggle of performing a behaviour and it is presumed to reflect previous experience in addition to predict difficulties and impediments.

As a universal law, when the subjective norms and attitudes with respect to a behaviour are positive, the better the perceived behavioural control and the tougher an individual's intention to accomplish the behaviour under deliberation. The comparative importance of subjective norm, attitude, and perceived behavioural control in the prediction of intention is anticipated to differ across circumstances and behaviours (Ajzen, 1991).

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The theory of planned behaviour which is an improvement of the theory or reason action also has some limitations. A Meta – analytic study by Armitage and Conner (2001) showed that subjective norm construct is a weak predictor of intentions. Moreover, the elements of intentions are not only restricted to subjective norms, attitudes and perceived behavioural control (Ajzen, 1991). Theory of planned behaviour has been used to study whistle – blowing in the classroom (Stone et al. 2012), cheating and the intent to cheat (Beck & Ajzen, 1991; Stone, Jawahar, & Kisamore, 2010).

Women's Postpartum Family Planning Conceptual Framework

A conceptual framework by Tirah (2015) draws on socio-demographic characteristics of Postpartum Women and Family Planning Uptake (Figure 3). From Tirah (2015), service related factors include skills of providers, equipment, exposure to family planning messages, quality of care and maternal health services. The skills and the assistance offered by the service providers may encourage or discourage postpartum women from using or not using PPFP methods. From Tirah's opinion, qualified, knowledgeable, friendly and experienced PPFP providers can motivate women to use PPFP. In addition to it, the exposure to family planning messages may cause women to use PPFP or not.

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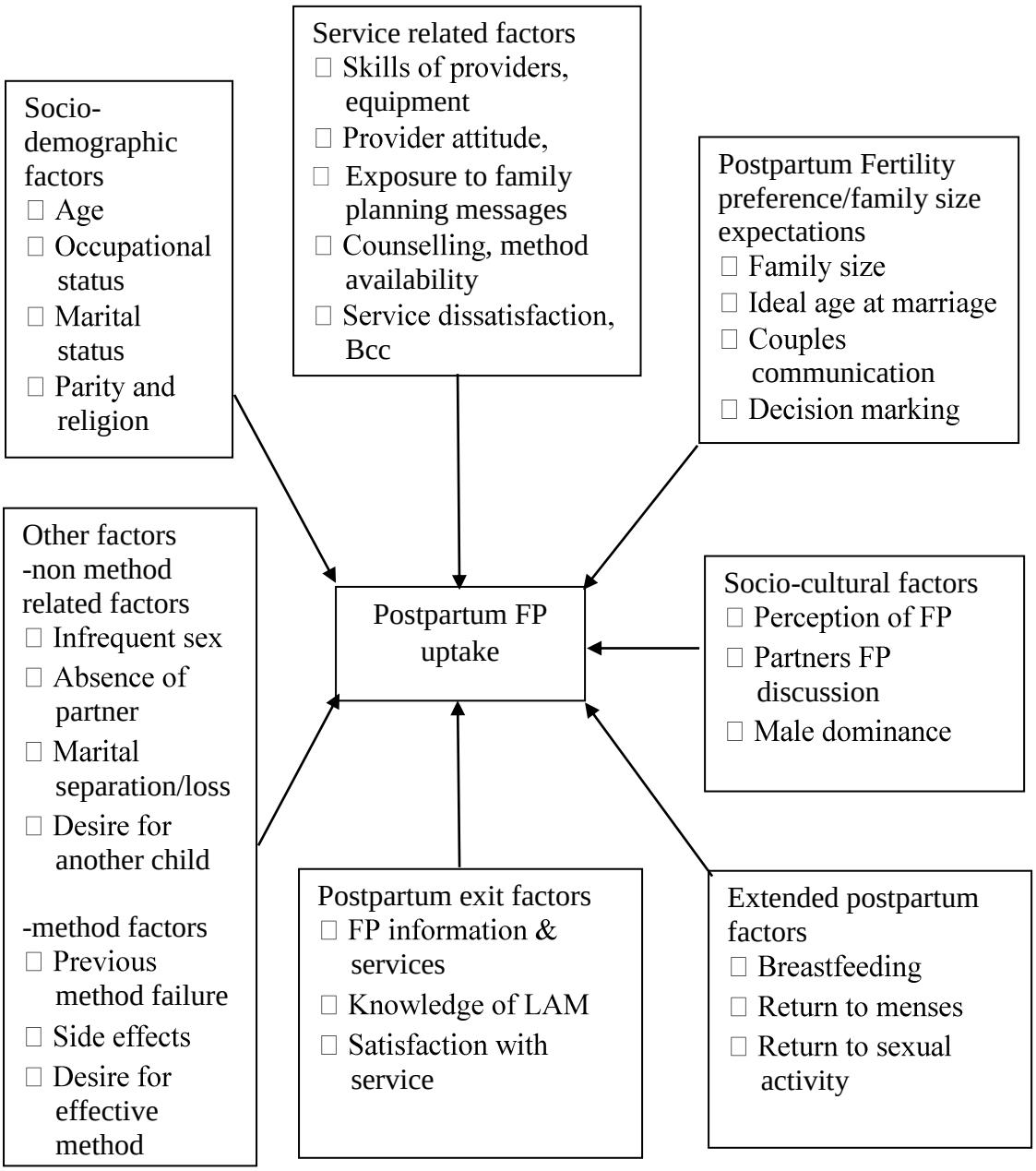

Figure 3: Conceptual Framework for Women's Postpartum Family Planning
Source: Tirah (2015)

The exposure to family planning messages in Ghana shows that six in ten women aged 15–49 and 7 in 10 men age 15–49 have heard family planning messages on the radio (GSS/GHS/ICF, 2009). These family planning messages, however, do not target women who are in their postpartum period. This is particularly high in urban areas and among the affluent and more educated individuals. For example, women and men in the Greater Accra

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Region are more likely to be exposed to all three media sources (radio, TV, and newspaper). Women's exposure to all three media sources generally increases with increase in family planning education (GSS/GHS/ICF Macro, 2008).

According to Tirah (2015), the more knowledge women have about postpartum family planning, the less difficulty they have in adopting a method. In a study by Frontiers titled "Meeting the Family Planning Needs of Postpartum Women" (Jackson & Glasier, 2011), it was found that a greater proportion of women use services for antenatal care, immunization, and well-baby care than postnatal care services. This implies that meeting the family planning needs of postpartum women as well as service related issues and its education, postpartum family planning should be encouraged from the time of antenatal attendance since patronage is very high at this period. This again suggests that there are several factors that interplay to contribute to the underutilization of postnatal care. The service dissatisfaction, provider attitude and quality of care in family planning are complex and multi-dimensional issues (Tirah, 2015). For example, Bruce, in his framework of quality, includes six quality indicators: choice of methods; information given to clients; technical competence; client-provider interpersonal relations; mechanisms to ensure follow-up; and continuity and the appropriate constellation of services.

International Planned Parenthood Federation's framework of "Client's Rights and Provider's Needs" also provides the following as quality of care for both clients and service providers. The client's rights include access to services, rights to information, informed choice, safe services, privacy and

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confidentiality, dignity, comfort and expression of opinion and continuation of care whilst provider's needs are facilitative supervision and management, information, training and development, and supplies, equipment and infrastructure (Hong, Montana & Mishra, 2006).

The Various indicators used in measuring quality of care can, therefore, be grouped into provider's observance of standards of practices, infrastructure and system readiness and client's perceptions and knowledge. The dimensions of quality of care are interconnected. For example, provider's observance of quality practices is enhanced by training, monitoring and supervision and the client's opinion about quality of services also reflects provider practices. A study in six countries (Thailand, Egypt, Tunisia, Zimbabwe, Guatemala and Colombia) established the use of postpartum family planning and maternal and child health (MCH) services to be significantly associated, independent of intervening factors (Tirah, 2015). A similar study in five countries (Bolivia, Guatemala, Indonesia, Morocco and Tanzania) found out that the results in three of the five countries suggested that the intensity of MCH service use is positively associated with subsequent contraceptive use after controlling for the same factors.

Postpartum family planning, in the view of Tirah (2015), is also influenced by socio-demographic factors such as age, residence, occupational status, marital status, parity and religion. The age of the women, though a distal determinant of postpartum family planning uptake is seen as an important factor that plays a major role in contraceptive use dynamics. In general, contraceptive use is relatively higher for younger women and decreases with age after 30 years (Chakraborty *et al.*, 2003; Koc *et al.*, 2000;

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Troitskaya & Andersson, 2007). Younger women have greater access to and knowledge about methods of contraception whereas at older age, fecundity is low with less frequent sexual contact, thereby reducing motivation to use. Tirah (2015) elucidates that older women use postpartum family planning less frequently than younger women.

In Tirah's assessment, women living in urban areas are more likely to use postpartum contraception because they have more information about and greater approval of family planning. This means that in the rural areas, women have higher unmet need for contraception. Tirah also argued that occupational status of women influences their decision to use family planning method. The influence of occupational status on family planning methods varies in the formal and informal sectors. In the formal sector occupation, women do not have the laxity to get pregnant regularly, compared to women in the informal sector where there is little or no restriction on getting pregnant. Hence, women in formal sector employment are more likely than women in informal sector to use contraception due to work time schedules and the demands at work places. The effect is that women in formal sector have greater chance to use postpartum family planning methods than women who work in the informal sectors. A study done in China revealed that working mothers are more likely to use postpartum contraception than non-working mothers (Che, Cleland and Ali 2004). This implies that ooccupational status has an effect on contraceptive use. Women's decision making in using contraception will be higher for women who are active in the labour market. Occupation, like education, gives women more control over family planning decision-making, including making a choice for the desired number of children.

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Occupation has a strong influence on contraceptive use because many women value paid employment and additional children become a cost due to the loss of income (Adane, 2013). Women with higher qualifications, having sound financial footing and an equal share in decision-making, are expected to be higher adopters of contraceptives than others. The desire to delay, stop or space childbearing among postpartum women in any marital union is fast gaining attention in more stereotypy settings. GDHS (2014) found that about one-third (30 %) of married Ghanaian women desire to have no more children. They are potential users of family planning and, therefore, have greater unmet needs. According to Tirah (2015), unmet need for family planning is defined as the percentage of married women who want to space their next birth or stop childbearing entirely but are not using contraception. Married couples are more likely to use contraception through spousal communication about desired number of children than other marital status groups because of their frequent sexual exposure. Marriage duration positively increases the use of contraception.

The study by Tawiah (1997) revealed that contraceptive use is higher for those who were married for more than ten years. Tirah (2015) defined parity as the numerical order of the live birth or foetal death recorded in relation to all previous issues of the mother irrespective of whether the issue is a live birth or foetal death or whether pregnancies were nuptial or extra nuptial. The number of living children a postpartum woman has affects her motivation and intention to use a contraceptive method. Contraceptive use increases when the number of living children increases. The higher the number of children, the more likely is family planning use (Chakraborty *et al*., 2003;

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Okech *et al.*, 2011; Tawiah, 1997; Troitskaya & Andersson, 2007). The more the children a woman has, the more likely that the number of living children exceeds the desired number of children, thus increasing motivation to control unwanted pregnancy.

According to Leite and Gupta (2007), the desire for no more children increases with parity from 2 percent of married women with no living children to 92 percent of women who have four or more children. They also made similar observation in Brazil and found that the likelihood of contraceptive discontinuation was less among women with one child and more than 3 children, compared with women who had no child. The Catholic and Orthodox Churches are known to be against family planning and abortion. In addition, the Muslim faith also opposes contraceptive use as children are considered to be gift from Allah. A study conducted in Ghana showed, however, that religion's effect on the current use of contraception was not significant because once women experiences higher education, their religion and ethnic background do not significantly affect current contraception use (Tawiah, 1997). Lakew et al., (2013) found that Ethiopian Christian women were less likely to use contraception as compared to those with other religions. However, current contraception use was significantly lower among Ghanaian Muslim women as compared to Christian women in general (Crissman *et al.*, 2012).

In Kenya, the Catholic religion followers are more likely to use family planning services as compared to Protestant and Muslim women (Okech *et al.*, 2011). Increasing educational level has a positive effect on the use of contraceptives. Dudgeon and Inhorn., (2004) showed that education gives

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young women autonomy to make informed choices about their reproductive health and to avoid unsafe sex which results in unintended pregnancy. This explains that education is found in all cases to be related to greater postpartum family planning use and modern contraceptive use. Gupta (2000) said that women with higher education and higher standard of living are better off as they appreciate the health and social advantages of protecting themselves from further pregnancies. Young women tend to postpone pregnancy until they have completed their education and they feel that they are socially and economically secure. Education facilitates the acquisition of information about family planning. It increases husband-wife communication and increases couples' income potential, making a wide range of contraception methods affordable (Khouangvichit, 2002). However, Newmann *et al.,* (2005) observed that education level predicted contraceptive knowledge but did not predict contraceptive use or intention to use among postpartum young mothers.

The extended postpartum factors as explained by Tirah (2015) are breastfeeding, return to menses and return to sexual activity. Breastfeeding is seen as a vital contraceptive effect of controlling birth. According to Marchini et al., 2007) stimulation of the nipple during suckling is related to the level of hormones released from the pituitary gland, suppressing ovarian activity and the absence of menses, thereby reducing the risks of immediate conception after delivery. This means that breastfeeding delays the resumption of menses, preventing women from immediate pregnancy after birth. Women who experience early menses have high uptake of postpartum family planning methods than their other counter parts. Women who return into sexual activity early after birth (six weeks or before) stand the greater chance of becoming

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pregnant, hence their early adoption of contraception. This factor plays a vital role in postpartum women's decision to use contraceptives.

Infrequent sex, absence of partner, marital separation/ loss and desire for another/ more child are factors under non-method related factors that influence postpartum family planning uptake. When a woman is not having frequent sex, the risk of pregnancy is reduced; therefore, she will not have the desire to use contraceptive methods whilst in their postpartum period. This reduces the intake of postpartum family planning use. Also, women who have the desire or the wish for another child may see family planning methods as not important as compared to women who desire for more children in their reproductive age.

Tirah (2015) grouped family size, ideal age at marriage, couples' communication and decision making under postpartum fertility preference/family size expectation factors as they can influence postpartum women family planning uptake. Generally, in Ghana, the average family size is 3.3 children per woman in urban areas and 5.5 children per woman in rural areas (GDHS, 2014. Regional variations are also observed with the highest TFR (6.2) in Northern Region compared with the lowest TFR (3.2) in Greater Accra. Postpartum women with large family size number may decide to use contraception to limit their chances of giving birth again whilst postpartum women with no or small family size may agree on giving birth more, hence reducing or stopping the use of contraceptives.

Socio-cultural factors such as male dominance, perception of FP and partners' FP discussion influence PPFP. Male heads of households strongly influence decisions around family size and contraceptive use within marriage.

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Again, couples or partners who discuss their desired number of children or the use of family planning (FP) are more likely to use a contraceptive method than those who do not. Additionally, research indicates that if a wife conceals her contraceptive use from her husband, it is usually indicative of the absence of communication, lack of confidence or disagreement on the use of FP methods between spouses. If the husband does not approve, she is not likely to use any method (Lasee & Becker, 1997). A study that sought to promote male participation in family planning in rural Nigeria revealed a statistically significant association between spousal communication and current use of family planning methods by respondents' wives (Omideyi *et al*., 2011).

The main strengths of this conceptual framework show how the independent variables such as service related factors, socio-demographic factors, socio-cultural factors, postpartum exits factors, extended postpartum factors, postpartum fertility preference/family size expectations and other factors act to influence the uptake of postpartum family planning (Tirah, 2015). However, it has been criticised based on the reason that it does not show the relationship between the variables such as previous method failure, side effects, desire for effective method and postpartum exit factors influencing postpartum family planning uptake (Okech et al, 2011).

In order to precisely reflect the variables of interest of the study in the adapted model, the framework used religion, region, education, residence and occupation as the socio-economic factors. The socio-demographic factors were age, marital status and parity. The contraceptive prevalence was grouped into prevalence by contraceptive types and prevalence by contraceptive

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methods. Some variables were not included because they were not captured in the GDHS data set for which the study was grounded upon.

Tirah's conceptual framework for women's postpartum family planning was adapted and explained in Figure 4. The independent variables for the study are socio- economic factors, socio- demographic factors, extended/ immediate PFP and postpartum FP prevalence as seen in Figure 4. The dependent variable for the study was the postpartum FP practice. It is expected that the interaction of postpartum FP and socio-economic factors, socio-demographic factors and extended and immediate postpartum would influence the postpartum FP practice. The strength of the model lies in the fact that it looks at the direct factors that lead to postpartum FP practice. Specifically, it looks at the individual characteristics and how they influence FP practice. The limitation of the model is that it does not consider postpartum exit factors such as FP information and services available at health centres and the satisfaction of the services. Secondly, it is silent on previous method failure and other side effects on postpartum women in their use of FP.

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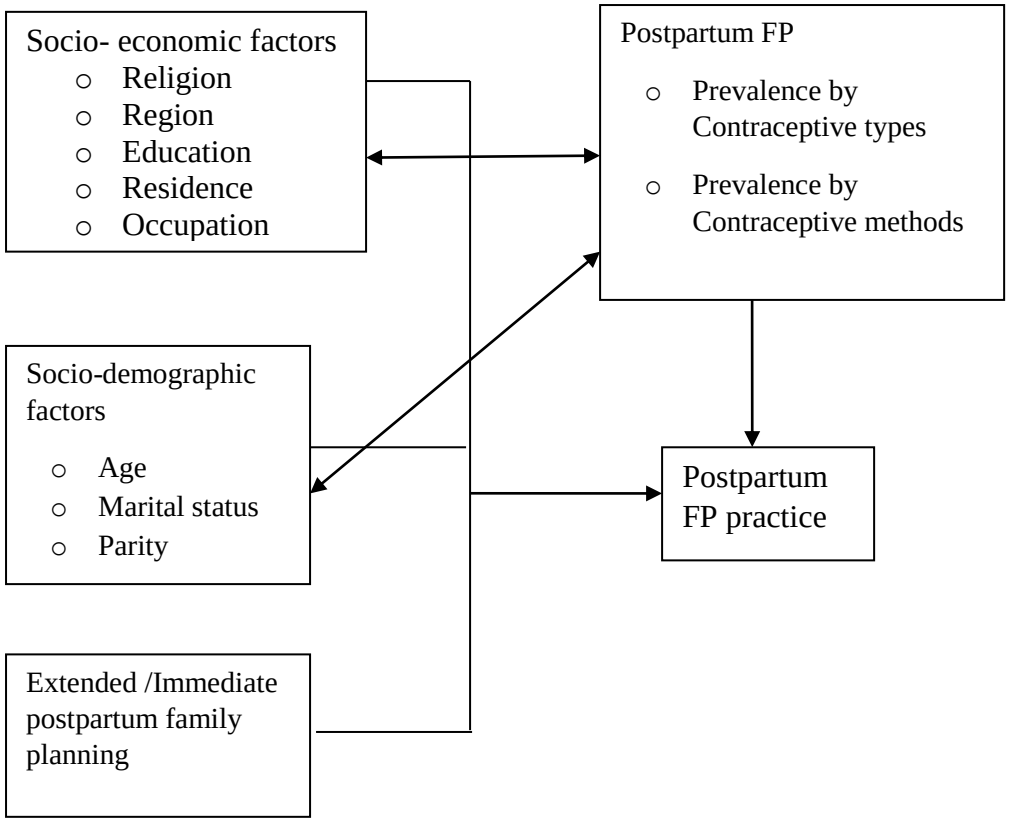

Figure 4: Conceptual Framework
Source: Adapted from Tirah (2015)

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CHAPTER THREE

METHODOLOGY

Introduction

This chapter aims at presenting a detailed description of the research framework and procedures used in conducting this study. However, this study did not involve the collection of primary data but utilized existing data from the Demographic and Health Survey (DHS). It also discusses the methods of data collection, study area, sources of data, sampling procedure, acquisition of data, description and definition of variables, data processing and management issues and data analysis. The limitations associated with the data used have also been discussed.

Study Area

The Republic of Ghana covers an area of 238,537 sq. km and lies along the west coast of Africa. It is bordered by three French-speaking countries: Togo on the east, Burkina Faso on the north and La Côte d'Ivoire on the west. The Gulf of Guinea washes its 560 kilometres coastline on the south. There are 10 administrative regions in Ghana: Western, Central, Greater Accra, Volta, Eastern, Ashanti, Brong-Ahafo, Northern, Upper East, and Upper West. Ghana's population was estimated at 27,670,174 in 2015 (GSS 2014). The Ashanti, Eastern, and Greater Accra regions together constitute about 50 percent of the country's population. Upper East is the least populated region, accounting for 2 percent of the total population of Ghana. The regions are subdivided into 216 districts to ensure equitable resource allocation and efficient, effective administration at the local level (GSS, 2014). The Ghanaian population is made up of several ethnic groups, with the Akans constituting

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the largest group (48 percent), followed by the Mole-Dagbani (17 percent), Ewe (14 %), Ga-Dangme (7 %), and others (14 %) (GSS, 2014).

The population of Ghana, according to the 2010 Population and Housing Census, stood at 24,658,823 (GSS, 2014). Accordingly, this gives an annual growth rate of 2.5 percent from 2000 to 2010. The population density estimated on the 2010 Population and Housing census was 103 persons per square kilometres and a sex ratio of 95 males per 100 females.

With regards to religious affiliation, seventy-one percent of Ghana's population are Christians (Catholic, Protestant, Pentecostal/Charismatic and other Christian), about 18.0 percent profess Islam (17.6 %), 5.2 % are Traditionalists while 6.1 percent practice other religions (GSS, 2014).

In terms of education, Ghana has about 26 percent of its population six years or older having no education (Never attended school, Nursery, and Kindergarten), 56.3 percent are in primary education. Secondary education represents 15.6 percent of the population six years and older. Higher education (Bachelor degree and post graduate) denotes 2.1 percent of the population 6 years and older (GSS, 2014).

In relation to economic activities, Ghana has about 70 percent of the total population aged 15 years and above being economically active and about 30 percent economically inactive. Forty percent of the economically active population are skilled agricultural, fishery and forestry workers, followed by 21 percent as service and sales workers, and 15 percent being in crafts and related trade. Professionals, managers, and technicians account for 9.5 percent and clerical support workers and other occupation also represent 12.6 percent of the total economically active population (Ghana Statistical Service, 2014).

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The country can be divided into three vegetation zones, namely: coastal savannah characterised by shrubs and mangrove swamps and a forest belt that gradually thins out into a dry savannah as one moves northwards. Ghana is a lowland country except for a range of hills on the eastern border and Mt. Afadjato, the highest point above sea level (884 metres) to the east of the Volta River.

The health care system of Ghana post-independence was established on the premise of Primary Health Care with a free health care delivery (Durairaj, D'Almeida, & Kirigia, 2010; Boateng & Awunyor-Vitor, 2013). The free health care model saw government paying for the consultation and medication fees. However, this was not be sustained for a long period due to the growing population and as such a token user fee was then introduced in 1972, the 'Cost Sharing' system of health care where patients were made to pay for their medication whilst the government paid for consultation.

In 1985, the 'Cash and Carry' system of health care came into effect. Patients were supposed to pay for the full cost that bothered on health care and medication (Dalinjong & Laar, 2012). Then in 2003, the national Health Insurance Scheme (NHIS) was introduced with the view of making health care affordable and accessible to everyone to protect the poor and people who are disadvantaged.

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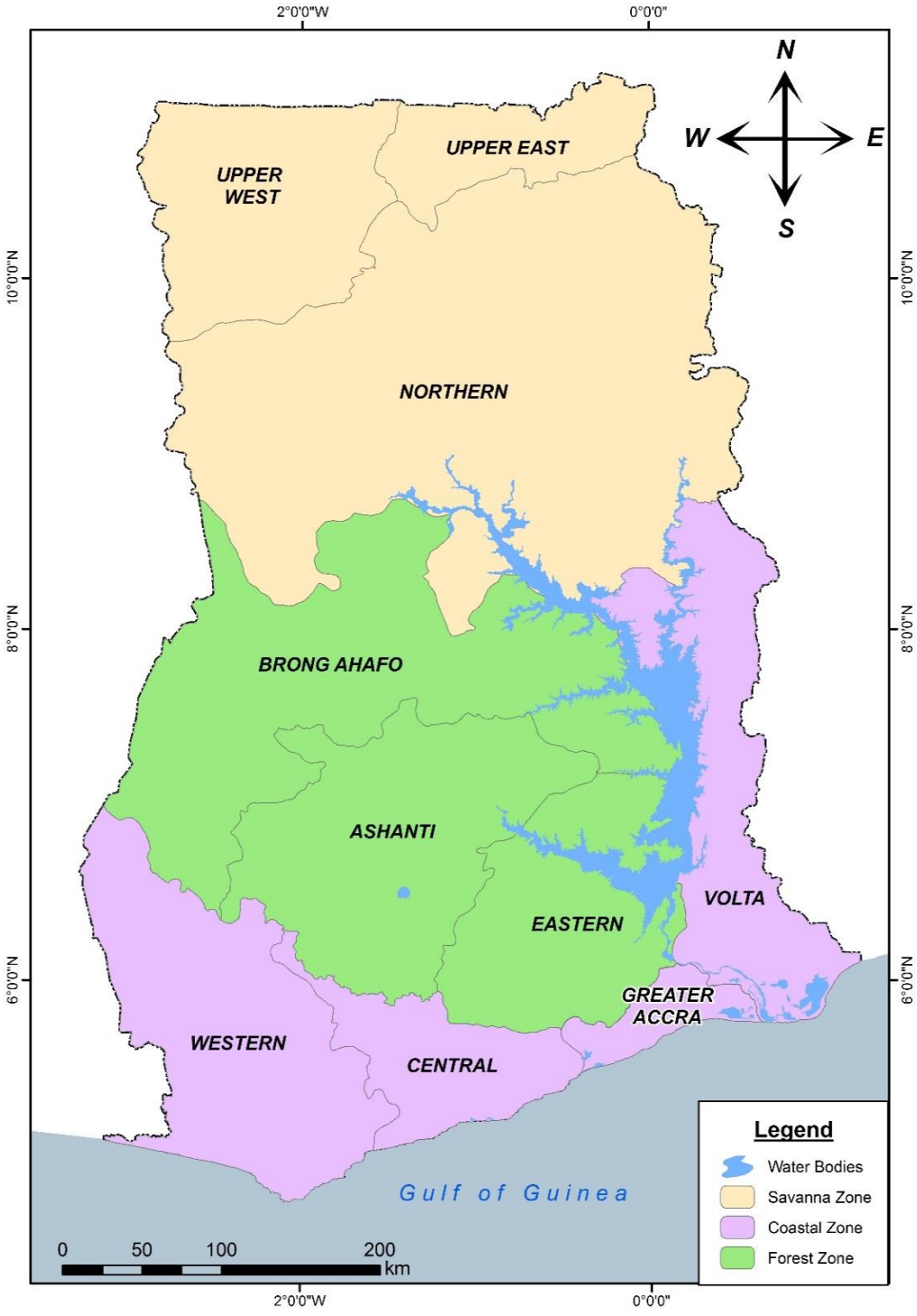

Figure 5: Map of Ghana
Source: GSS, (2013)

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Study Design

A cross-sectional study design was adopted in this study to assess Postpartum Family Planning (PPFP) uptake in Ghana. This design was considered appropriate for the study because of the nature of the data, the objectives set and the hypotheses guiding the study. The study also adopted positivism approach. According to Antwi and Hamza (2015), positivism underpins quantitative research which searches for truth, which is considered objective. It, therefore, produces numerical data which asserts that there is one defined reality, measurable, observable and quantifiable. Its epistemological assumption is that genuine knowledge is objective and quantifiable, and these attributes are suitable for this study.

The Ghana Demographic and Health Survey used a cross sectional research design. The approach was designed to provide data to monitor the population and health situation in Ghana with a primary objective of generating recent reliable information on family planning and others. The approach was used because the full coverage of the population was impossible. It provided a better option since it addresses the survey population in a short period of time, makes comparisons of many different variables at the same time and produces equally reliable and valid results.

Data and Sources

The data used in this study were extracted from the 2014 version of the GDHS survey. GDHS is a nationwide survey which covers all the ten regions of Ghana and is designed and conducted every five years. It is one of the worldwide DHS with most comprehensive sources of information on contraceptive use, breastfeeding, postpartum amenorrhea and postpartum

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abstinence. Ghana Demographic and Health Survey was carried out by 25 field teams from the Ghana Statistical Service.

Three questionnaires were used for the 2014 GDHS: The Household Questionnaire, the Woman's Questionnaire, and the Man's Questionnaire. These questionnaires, which were based on standard Demographic and Health Survey (DHS) questionnaires, were adopted to reflect the population and health issues relevant to Ghana (GSS, 2014). The Household Questionnaire was used to list all the members of a household and visitors to the selected households. Basic demographic information was collected on the characteristics of each person listed, including his/her age, sex, marital status, education, and relationship to the head of the household.

The Woman's Questionnaire was used to collect information from all eligible women aged 15-49.These women were asked questions on topics including background characteristics (age, education, media exposure, etc.); birth history and child mortality; residence of children under age 18 not living with their parents; knowledge and use of family planning methods; fertility preferences; antenatal, delivery, and postnatal care; breastfeeding and infant feeding practices; vaccinations and childhood illnesses; marriage and sexual activity; women's work and husbands' background characteristics; women's empowerment indicators, maternity leave, and bridewealth; knowledge, awareness, and behaviour regarding HIV/AIDS and other sexually transmitted infections (STIs); knowledge, attitudes, and behaviour related to other health issues (e.g., smoking, tuberculosis, and blood pressure).

The survey gathered data from women who had given birth within the last five years preceding the interview by asking about breastfeeding practices

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and duration, as well as durations of postpartum amenorrhea and abstinence. The reproductive calendar section of the DHS collected retrospective information on contraceptive use. This section of the questionnaire asked women to recall month-by-month information about contraceptive adoption, discontinuation, or switching for a 5-year period before the survey. Based on the date of birth of a child, the information on postpartum contraceptive use from the reproductive calendar section can be matched with the information from the individual core questionnaire. The 2014 GDHS interviewed 9,396 women ages 15– 49 from 12, 831 households covering 427 clusters throughout Ghana. It had a response rate of 97 percent (GSS, 2014).

The data quality was enhanced through field supervision and monitoring by senior officials of GSS and ICF Macro to ensure reliability and accuracy. As pertained to all nationally representative data sets, the Ghana Demographic and Health Survey also used sample weights to regulate for effects of under and over sampling and such survey biases have the possibility to affect the generalizability of the results. Sample weights are alteration factors used to account for differences in probability of selection and interview between cases as a result of survey design or chance (GSS, 2014; GSS, GHS and ICF Macro, 2009).

Target Population

The studied population is women of childbearing age (15 to 19 years old) and the target population was postpartum women between the ages of 15 and 49 who had given birth within the past twelve months captured in the GDHS 2014 and currently using contraceptives. The study employed this group of

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people because these constituted the immediate or extended postpartum women.

Sampling Procedure

The sampling frame used for the 2014 GDHS is an updated frame from the 2010 Population and Housing Census provided by the Ghana Statistical Service (GSS, 2014). The frame excluded nomadic and institutional populations such as persons in hotels, barracks, and prisons. The 2014 GDHS sample was stratified and selected in two stages. Each region was stratified into urban and rural areas, yielding 20 sampling strata. Samples of EAs were selected independently in each stratum in two stages

The first stage involved selecting sample points (clusters) consisting of enumeration areas (EAs) delineated for the 2010 PHC and a total of 427 clusters were selected generating 12,831 households.

The second stage involved systematic sampling of households. A household listing operation was undertaken in all the selected EAs in January-March 2014, and households to be included in the survey were randomly selected from the list. Weights were calculated taking into consideration respective clusters, household, and individual no-responses so that there will be representativeness. About 30 households were selected from each cluster to constitute the total sample size of 12,831 households. A total of 9,396 women aged 15–49 was the sample for the 2014 GDHS and 1,305 of them had their most recent birth in the 12 months prior to the date of interview (Table 1) which represented postpartum women aged 15-49 and also representing 14 percent of the entire women population.

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Table 1- *Sampling Procedure*

Data used	Sample Frame	Cluster	Households	All women interviewed	Total Postpartum women	Women using PPFP
GDHS 2014	2010 PHC	427	12,831	9,396	1,305	213

Theoretical Model

In order to find the interaction between background characteristics and PPFP practice in Ghana, the study employed the Grossman, (1972) model of health care demand which was later extended by Jacobson, (2000). In order to apply the Grossman Model (1972), the following assumptions were employed.

Assumptions of the Model

- A household has a postpartum woman and consumes postnatal care.
- A postpartum woman exerts a relatively high degree of control over her health by virtue of the fact that she can influence her health-affecting consumption patterns and healthcare utilization.
- Household acts as maximizing welfare (utility) from the consumption of both medical and non-medical goods and services;
- Medical goods and services are made up of contraceptive methods and non-maternal healthcare;
- Health status depends on healthcare and other demographic characteristics of spouses and household;
- Total household income is spent on medical and non-medical goods and services.

Based on the above assumptions, the household utility function is given as

$$u = f(h, x) \quad (1)$$

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Where h denotes health status and x denotes non-health commodities. Health status depends on health care and other factors and is given as;

$$h = h(M_{tm-1}, \bar{M}_h, L_{ht}, Z_{ht}, \xi_{ht}) \ldots\ldots\ldots \quad (2)$$

Where L_{mt} is the amount of time used in the production of postpartum woman's health, M_{tm-1}represents stock of health of a postpartum woman, Z_{ht} and ξ_{ht} are respectively exogenous observable and unobservable variables affecting h.

$$x = x\left(b_j, t_x\right) \quad (3)$$

Where b_j denotes purchasable non health goods and services and t_x is the time associated with the use of non-health goods and services.

A household faces an income constraint of the form

$$I_t = Y_* + w_t T_{wt} = P_{xt} X_t + P_{yt} Y_t \quad (4)$$

Where I_t is a combination of labour and non-labour family income, T_{wt} is the time spent to earn wage income,w_t, $P_{xt}$and P_{yt} are respectively the wage rate, prices of X_t and Y_t.

The household also faces a time constraint in the production of household resources given as

$$T = L_{ut} + T_{ht} + T_{wt} \quad (5)$$

Where T is the total fixed amount of time available (e.g., 24 hours per day), L_{ut} represents the time household allocate for leisure, T_{ht} is time household allocate to the production of health more especially postpartum healthcare and T_{wt} is time for allocate for work hence w_t is wage rate.

From equations (2) and (3), the indirect utility function of the household can be expressed as;

$$u = u[h(M_{tm-1}, \bar{M}_h, L_{ht}, Z_{ht}, \xi_{ht}), x\left(b_j t_x\right)] \quad (6)$$

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Equation (6) can be used as the basis for a random utility choice model. Given that a postpartum woman, a household faces j options. Each option differs in terms of its impact on health status and total cost. So for choice j, we can then define V_j as the level of indirect utility associated with that alternative;

$$V_J = u[h(M_{tm-1}, \bar{M}_h, L_{ht}, Z_{ht}, \xi_{ht}), x(b_j t_x) \quad (7)$$

Rewriting equation (7) as

$$V_J = U(h, x) \quad (8)$$

Where h represents the postpartum woman's health and x represent all other commodities that affect household utility.

And using equations (4), (5) and (8) the utility maximization problem is

$$max\ V_J = U(h, x)$$

Subject to the budget and time constraints above, plus the condition of positive initial stock of the postpartum woman's ($H > 0$)

$$\sum_{j=1}^{j} P_{xt}X_t + \sum_{s=j=1}^{s} P_{yt}Y_t + wL_{ut} + wT_{ht} = wT_{wt} + Y_* = I_t \quad .... \quad (9)$$

Where Y_* is unearned income

Setting the lagrangean equation gives

$$L = u(h, x) + \lambda[I_t - wL_{ut} + wT_{ht} - \sum_{j=1}^{j} P_{xt}X_t - \sum_{k=0}^{n} P_{yt}Y_t] = 0 \quad (10)$$

Taking the first derivatives of the Lagrangian function with respect to maternal health and commodities $X\ and\ Y$ until the initial conditions are met and solving these first order conditions associated with this optimization problem and picking the maternal healthcare alone produces the reduced form of the Marshallian demand function for maternal healthcare M_h given as

$$M_h = (p, x, Z, t) \quad (11)$$

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Where M_h is maternal health care, p denotes the price of M_h which is captured by the wealth status, vector x denotes non-health goods and services, vector z captures observable and unobservable demographic characteristics of spouses and the household and denotes time associated with the use of maternal health care.

Empirical Model Specification

In reality there are a multiplicity of factors that do influence the mother in making such a decision, thus, the study goes a step further to carry out a binary logistic regression analysis where these variables are allowed to interplay. The binary logistic regression model is specified as a generic latent linear probability function as:

$$M_h = X'\beta + \mu \quad (12)$$

M_h is (PPFP uptake) which has been ordered as 0 and 1; X is a vector of explanatory variables, and μ represents the random error term that is assumed to be normally distributed.

Estimation Technique

This study employed binary logistic regression to estimate the model above. It is estimated using maximum likelihood estimation technique. This study used binary logistic regression model because the dependent variable, PPFP uptake is a binary variable.

Description and Definition of Variables

Postpartum family planning uptake is the proportion of women who used a contraceptive method within the first year after delivery during the survey. It was considered the main dependent variable for this study. The Postpartum family planning uptake variable was derived from the response to

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the question "are you currently doing something or using any method to delay or avoid getting pregnant If YES: which method are you using?" Responses were categorised under female sterilization, male sterilization, IUD, injectables, implants, pill, condom, female condom, diaphragm, foam/jelly, lactational amenorrhea method, rhythm method, withdrawal, other modern method and other traditional method.

The independent variables used in this study included maternal age, marital status, educational Level, residence, wealth status, ethnicity, occupation, parity (birth order), regional zone. In addition, prevalence of postpartum family planning by methods and by types was also coded. Maternal Age was captured into 7 standardised age groupings in DHS, thus, 15 – 19, 20 – 24, 25 – 29, 30 – 34, 35 – 39, 40 – 44, and 45 – 49. Marital status was originally captured as never married, married, living together, widowed, divorced and not living together. Educational Level was categorised into four categories: no education, primary education, secondary education and higher education. The type of residence was coded as urban or rural. Occupation was captured as not working and working (professional/technical/managerial, clerical, sales, agricultural-self-employed, agricultural – employee, services, skilled manual and unskilled manual). Religion was classified as Catholic, Anglican, Methodist, Presbyterian, Pentecost/Charismatic, Islam, other Christians, Traditional/spiritualist and no religion. Parity (birth order) was captioned from a question that measured if respondents have ever given birth. It was recoded and responses were categorised as zero (prior to current pregnancy), one birth, two births, three births, four births, five births, six births and seven births and more.

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Data Analysis

Data analyses were performed with STATA version 13 and focused on women aged 15-49 who have given birth in a year preceding the survey as captured in the reproductive calendar. A number of variables were recoded and giving new names so that they would be consistent and in line with the objectives and hypothesis set. All missing values were further dropped to have a clean data set. The results were weighted using the available sample weight factor (v005) of the GDHS dataset. Whether a respondent is currently postpartum amenorrheic, this variable is created from the maternity history by checking if the period returned after the last birth. If the woman is currently pregnant, then, she is coded as not currently amenorrheic, irrespective of whether her period returned after the last birth. If there are no births in the last year, then, this variable is coded 0 "Not currently amenorrheic." Postpartum contraceptive initiation is defined as the first contraceptive use after a birth. The duration of the period from birth to adopting a contraceptive method and from birth to pregnancy is calculated based on the beginning and ending dates of each event.

Logistic regression analysis was carried out. The bivariate analysis was to present the current FP practice among immediate and extended postpartum women in Ghana and the prevalence of postpartum family planning while the binary logistic regression was applied to assess the effect of each independent variable on the dependent variable. The binomial or binary logistic regression was use to deal with the situations where the observed outcome for the dependent variable (postpartum family planning) had only two possible types, "0" and "1" and also to assess if the independent variables predict the

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dependent variable. The binary logistic regression was the appropriate statistical analysis use to assess if the set of independent variables (age, education, occupation, religion, region) predict the dichotomous dependent variable (postpartum contraceptive use). Binary logistic analysis was also used because the independent variables (predictors) such as age, education, occupation, religion and region are continuous, discrete and combination of continuous and discrete. The logistic regression model is as follows:

$$\text{Logit}(p_i) = \text{Ln}(p_i/[1 - p_i]) = b_i x_i$$

Whereby:

p_i is the probability that some postpartum women are current contraceptive users.

b_i is the estimated regression coefficients

x_i 's are the independent covariates

The odds ratio $(p_i/[1 - p_i])$, represents the odds of those women in union with certain characteristics of using contraceptives.

Binary logistic regression was based on the assumption that the dependent variable should be dichotomous in nature and the data should not have any outlier. The main dependent variable, postpartum family planning uptake was captured as a dichotomous variable and this approach helped to explain the association between the dependent variable and the independent variables of the study and allow for the calculation of the odds of an event of postpartum family planning use or not.

In summary, the dependent variable, postpartum family planning uptake, was coded 0 = No, and 1 = Yes. The explanatory variables used in the binary logistic regression were the socio-economic and socio-demographic

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factors such as age, marital status, occupation, education, ethnicity and regional zones.

Data Limitations

The Ghana Demographic and Health Survey used cross-sectional design and the sample used was different from the previous samples carried in all the rounds as in 1988, 1993, 1998, 2003 and 2008. The probability is that different set of respondents were used for the 2014 survey and that could not reflect responses for all pregnant women in Ghana. Differences in the sample over time may have effects on the results owing to inherent characteristics. There is also the limitation that comes with self-reporting made by the mothers' interview. There is also the possibility of the survey being affected by recall bias or deliberate misreporting.

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CHAPTER FOUR

RESULTS AND DISCUSSION

Introduction

This chapter reports the findings of the study based on the objectives stated. The analysis captures the socio-demographic characteristics of women on postpartum FP uptake, describes the current family planning practice among immediate and extended postpartum women, investigates the prevalence of postpartum family planning, postpartum family planning by current contraceptive types and methods and describes the influence of socio-demographic and economic characteristics of women on postpartum family planning uptake.

Socio-Demographic Characteristics of Respondents

Table 2 represents the socio-demographic characteristics of the 1,305 postpartum women used in the study. From the results, about 54 percent of the respondents were below 30 years of which women within the age group of 25-29 years recorded the highest of 26 percent of all ages. This conforms to the 2014 GDHS which reported 52 percent of all women under age 30, reflecting the young age structure of the population.

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Table 2: Socio-Demographic Characteristics of Postpartum Women Aged 15-49

Variable	Percent (%) n= 1305
Age	
15-19	7.3
20-24	20.7
25-29	26.5
30-34	22.1
35-39	15.5
40-44	6.4
45-49	1.5
Marital Status	
Never married	9.4
Married	66.2
Living with partner	21.5
Widowed	0.6
Divorced	0.8
Separated	1.5
Parity	
One birth	21.0
Two births	21.2
Three Births	18.0
Four births	13.3
Five births	10.7
Six births	6.6
Seven or more births	9.2
Occupation	
Not working	25.1
Professional/Technical/Managerial	4.4
Clerical	0.5
Sales	29.4
Agricultural - self employed	27.8
Agricultural - employee	0.7
Services	1.2
Skilled manual	10.6
Unskilled manual	0.3

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Table 2 continued

Education	
No education	33.4
Primary	20.0
Secondary	42.2
Higher	4.4
Religion	
Catholic	13.8
Anglican	0.8
Methodist	5.2
Presbyterian	4.3
Pentecostal/Charismatic	33.4
Other Christian	12.4
Islam	20.8
Traditional/Spiritualist	4.1
No Religion	5.2
Region	
Western	10.1
Central	9.4
Greater Accra	7.0
Volta	8.0
Eastern	9.0
Ashanti	10.0
Brong-Ahafo	11.0
Northern	16.0
Upper East	10.5
Upper west	9.1
Residence	
Urban	39.8
Rural	60.2
Total	100.00

Source: Computed from GDHS (2014)

Majority of the women were married (66 %). Approximately 42 percent of postpartum women had a maximum of two children while those having six children recorded the lowest percentage of only seven percent. One out of four (25 %) postpartum women were unemployed while 75 percent were employed. Out of 75 percent who were employed, about 29 percent of the women were into sales while less than one percent were into clerical and

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manual work. Majority of the women were Christians with Pentecostal/charismatic faith constituting 64.3 percent. About 47 percent of the women had higher education (secondary and tertiary). About one-third (33 %) had no formal education while less than one third (20 %) had only primary education. Thirty five percent of the postpartum women were from the three Northern regions namely Upper East (16.02 %), Upper West (9 %) and Northern region (16 %). Greater Accra recorded the lowest percentage (almost 7 %). Finally, 60 percent of the postpartum women lived in rural areas.

Influence of the Socio-demographic Characteristics of Postpartum Women on FP Uptake

Table 3 displays the influence of the socio-demographic characteristics on FP uptake. The age distribution of postpartum women shows that about half of the respondents (54 %) were aged between 15 and 30 years. This compared favorably with what was reported by 2014 GDHS (52 %) for all women. Among all ages, approximately 84 percent of postpartum women did not use family planning while only 16 percent were using family planning. The youngest and oldest age groups had very low contraceptive use of less than two percent.

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Table 3: Influence of Socio-Demographic Characteristics of Women on Postpartum FP Uptake

Variable	Non-use n= 1092	Use n= 213	Percent %
Age			
15-19	6.4	1.0	7.4
20-24	17.3	3.4	20.7
25-29	21.3	5.2	26.5
30-34	18.4	3.7	22.1
35-39	13.1	2.4	15.5
40-44	5.6	0.8	6.4
45-49	1.2	0.2	1.4
Marital Status			
Never in union	8.4	0.9	9.3
Married	54.4	11.7	66.1
Living with partner	18.5	3.1	21.6
Widowed	0.6	0.0	0.6
Divorced	0.5	0.3	0.8
Separated	1.2	0.4	1.6
Parity			
One birth	17.5	3.5	21.0
Two births	17.4	3.8	21.2
Three Births	14.6	3.4	18.0
Four births	10.7	2.5	13.2
Five births	9.4	1.3	10.7
Six births	5.7	0.3	6.0
Seven or more	8.4	0.9	9.3
Occupation			
Not working	21.75	3.46	25.21
Professional	2.23	1.92	4.44
Clerical	0.38	0.15	0.54
Sales	24.29	5.15	29.44
Agricultural-self Employed	24.83	3.07	27.90
Agricultural - Employee	0.46	0.23	0.69
Services	1.08	0.08	1.15
Skilled manual	8.30	2.31	10.61
Unskilled manual	0.31	0.00	0.31

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Table 3 continued:

Education			
No education	30.19	3.22	33.41
Primary	16.78	3.22	20.00
Secondary	34.10	8.05	42.15
Higher	2.61	1.84	4.44
Religion			
Catholic	10.96	2.84	13.79
Anglican	0.61	0.15	0.77
Methodist	4.29	0.92	5.21
Presbyterian	3.52	0.77	4.29
Pentecostal	27.51	5.90	33.41
Other Christian	10.50	1.92	12.41
Islam	17.85	2.99	20.84
Traditional/spiritual	3.75	0.31	4.06
No religion	4.67	0.54	5.21
Region			
Western	8.51	1.61	10.11
Central	8.12	1.30	9.43
Greater Accra	5.36	1.46	6.28
Volta	5.90	2.07	7.97
Eastern	7.59	1.46	9.04
Ashanti	8.12	1.84	9.96
Brong-Ahafo	8.51	2.53	11.03
Northern	15.10	0.92	16.02
Upper east	8.81	1.69	10.50
Upper west	7.66	1.46	9.12
Residence			
Urban	32.41	7.36	39.77
Rural	51.26	8.97	60.23
Total	83.63	16.37	100.0

Source: Computed from GDHS (2014)

The results show that postpartum women in the age range 25-29 years recorded the highest use of postpartum family planning of 5 percent while those aged 40-49 years recorded the lowest (0.23 %). This suggests that contraceptive method use increases with age, reaching its peak at age group 20-25 and then starts to decline after age 25 years. This confirms the findings of Koc *et al*., (2000), Chakraborty *et al.*, (2003) and Troitskaya and Andersson (2007) that generally, contraceptive use is relatively higher for younger women and decreases with age after age 30. Similarly, GDHS (2014) reported

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that contraceptive use among all women increased by age and peaked at 25-29 years, then diminished thereafter. This contradicts with GSS/GHS/ICF Macro (2008) which showed that contraceptive use peaked at 30-34 years and then diminishes. Those aged between 25-29 years recorded the highest percentage of non- use while only one percent aged 45-49 years were not using.

Influence of marital status on postpartum family planning in contraceptive use was very apparent among the different marital statuses. Majority of the non-contraceptive users (54 %) were women who were married. They were closely followed by women living with partner. It then decreased sharply to 0.61 percent in those who are widowed. Married women also recorded the highest use of contraceptive use (11.72 %) while women who were widowed recorded no contraceptive use. This means that women whose partners are dead will not use any family planning methods.

About 4 percent of contraceptive users occurred among women who had two children while women with seven or more children recorded the lowest of postpartum family planning. Among those who were not using any contraceptive, women who had only one child recorded the highest non-use, declining to women having six children. This conforms to similar studies reported in Nigeria where women are more likely to use family planning service if they have two children (Babalola & Fatusi, 2009).

Religion constitutes one of the socio-demographic characteristics of postpartum women that can influence family planning uptake. Almost 84 percent of women of all religion were not using any postpartum family planning. Pentecostal/ Charismatic recorded highest percentage of non- use of contraception (28 %) with Anglican recording the lowest (0.61 %).

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Pentecostal/ Charismatic women again recorded the highest use of postpartum family planning (5.9 %) while Anglican women recorded the lowest use of postpartum family planning uptake (0.15 %). The Protestants (Anglican, Methodist and Presbyterian) recorded more contraceptive use compared to the Catholics. The explanation for this could, perhaps, lie in the fact that the protestant ethic often tends to be more accepting to contraceptive use compared to Catholics.

This argument is consistent with literature where Protestant women were more likely than Catholics to use highly effective contraceptive methods and this also support why Catholic faiths don't support contraceptive use (Rutaremwa *et al*., 2015). Postpartum women in rural areas recorded the highest percentage in both the use and non-use of postpartum family planning. Almost nine percent of postpartum women were using postpartum family planning while approximately 51 percent of women were not using any form of postpartum family planning. Out of the 40 percent of postpartum women in the urban areas, only seven percent were using postpartum FP while 33 percent were not. In terms of region, Brong-Ahafo Region recorded the highest percentage (2.53 %) of postpartum family planning uptake while Northern Region recorded the least percentage (0.92 %). For non-contraceptive users, Northern Region (15.10 %) recorded the highest percentage while Greater Accra had the lowest percentage (5.36 %)

Educational level of postpartum women is a key influence of their family planning uptake. Out of the 84 percent who are not using family planning, 30 percent had no education while the remaining (54 %) had some level of education. This agrees with other studies that revealed that women

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with higher education tend to be better informed about family planning services and are more likely to use the service than their peers with lower education (Simkhada et al., 2008).). Among the 16 percent who are using family planning, 13 percent had some level of education. Postpartum women who completed secondary education recorded the highest percentage (8.05 %) use of postpartum family planning uptake while women with higher education recorded the least percentage (1.84 %). Similarly, postpartum women with secondary education (34.1 %) recorded the highest percentage of women who do not use family planning. Women with higher education (2.61 %) also recorded the lowest of all.

Generally, postpartum women who are not working had lowest percentage of non-use of family planning (22 %) against 62 percent of all working women reporting non-use of family planning. Among postpartum women who are using family planning, three percent were not working, against 13 percent who were working. For postpartum women who were not using contraceptives, 24 percent were into sales, 25 percent were self-employed in agricultural business, 0.3 percent were clericals and 0.46 percent were agricultural employees. For those who were using, five percent were into sales, constituting the highest percentage declining to zero for postpartum women who were unskilled.

Current FP Practice among Immediate and Extended Postpartum Women

Table 3 shows the current FP practice among immediate and extended postpartum women. Out of the 213 postpartum women who were using contraceptives, only 14 percent adopted family planning in the first three

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months (immediate postpartum period) while 86 percent adopted postpartum family planning between 4 to 12 months (extended postpartum period). This suggests that contraceptive adoption is high in the extended period. According to Do and Hotchkiss (2013), contraceptive adoption increases quickly in the first six months after childbirth. Studies have shown that the need for contraceptives varies during a woman's reproductive years, but demand is highest during the postpartum period (Mascarenhas et al., 2012). Another study in 17 African countries found out that in all but one (Madagascar) of the 17 countries, women are more likely to be using FP at the end of the extended postpartum period (9.0 to 11.9 months) than at the beginning (immediate postpartum period) (0 to 2.9 months) (Borda, Winfred & McKaig, 2010).

According to Borda, Winfred and McKaig, (2010), in Bangladesh, Ghana, India, Kenya, Malawi, Tanzania, and Zambia, the use of modern FP at the end of the postpartum period (9.0 to 11.9 months) is more than 10 percentage points higher than use at the middle of the postpartum period (3.0 to 5.9 months). The research, therefore, suggests that postpartum women do not perceive themselves as vulnerable to pregnancy during the immediate postpartum period because they are breastfeeding or menses has not returned.

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Table 4: Current FP Practice among Immediate and Extended Postpartum Women

current contraceptive method	Immediate postpartum			Extended postpartum									
	1 n=8	2 n=6	3 n=15	4 n=11	5 n=14	6 n=30	7 n=20	8 n=32	9 n=38	10 n=29	11 n=8	12 n=2	Total 213
Pill	4.17	8.33	4.17	8.33	4.17	25.00	8.33	12.50	8.33	16.67	0.00	0.00	
IUD	0.00	50.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	50.00	0.00	0.00	
Injections	3.57	0.00	5.95	3.57	3.57	9.52	10.71	21.43	27.38	9.52	3.57	1.19	
Condom	0.00	5.56	0.00	0.00	16.67	11.11	11.11	11.11	16.67	16.67	11.11	0.00	
Female Sterilization	0.00	14.29	28.57	14.29	0.00	28.57	0.00	0.00	0.00	0.00	14.29	0.00	
Periodic Abstinence	4.76	4.76	4.76	4.76	4.76	23.81	4.76	9.52	19.05	14.29	0.00	4.76	
Withdrawal	10.00	0.00	20.00	0.00	10.00	10.00	30.00	10.00	10.00	0.00	0.00	0.00	
Other	0.00	0.00	0.00	50.00	50.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Implants/Norplant	2.50	0.00	7.50	7.50	10.00	15.00	7.50	12.50	10.00	22.50	5.00	0.00	
LAM	33.33	0.00	33.33	0.00	0.00	0.00	0.00	33.33	0.00	0.00	0.00	0.00	
Other Modern Method	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	50.00	50.00	0.00	0.00	
Total in %	3.76	2.82	7.04	5.16	6.57	14.08	9.39	15.02	17.84	13.62	3.76	0.94	

Source: Computed from GDHS (2014)

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For all methods, 38 percent of postpartum women started using a method in the 9th month. Among postpartum women, about 14 percent adopted the pill in the immediate postpartum period while 86 percent adopted it in the extended postpartum period. With Intra- Uterine Device (IUD), 50 percent each adopted it in the immediate and extended postpartum period. Only 10 percent of postpartum women adopted the injection in the immediate postpartum period and the rest adopted it later. Data on contraceptive adoption for women who reported use of a contraceptive method by Ndugwa *et al.*, (2011) shows that overall, injectables (48%) and pills (22%) remain the most common methods used during the 12-month postpartum period. Less than 10 percent of postpartum women started using the condom (6 %) in the immediate postpartum period while the remaining 94 percent started in the extended postpartum period. Majority of the postpartum women (57 %) adopted female sterilisation after the immediate period. Though periodic abstinence (14 %) recorded relatively low uptake level for the immediate period, LAM recorded a higher proportion of contraceptive use for the immediate period. According to Ndugwa *et al.* (2011), traditionally, lactational amenorrhea (LAM), combined with prolonged postpartum sexual abstinence in some regions, was the main spacing mechanism.

Prevalence of Postpartum Family Planning

Prevalence of postpartum family planning constitutes only 16 percent of entire postpartum women. According to the data, there has been consistent fall in contraceptive prevalence rate (CPR) in Ghana since 2005 to 2014 (GDHS, 2014). The finding was lower than the reported 22 percent for modern methods in GDHS (2014) for all women in the reproductive age. Again,

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contraceptive prevalence was higher than a similar study in rural India among postpartum women where only 13.8 percent of women adopted a modern method after delivery (Sharma, Dorairajan & Chinnakali, 2017). In contrasts, it is lower than a recent study in Kenya which reported that more than three quarter (86.3%) of the respondents were found to have adopted postpartum contraception.

Prevalence of Postpartum Family Planning by Current Contraceptive Types

Contraceptive types are the broad classification of contraceptives as in modern type, traditional type and folkloric type.

Modern contraceptive methods are the most common among postpartum women in Ghana. The results of the study indicated that eight out of ten representing 84 percent postpartum women used a modern contraceptive method with a little under one percent using folkloric methods. Almost 15% were using traditional methods. This finding is consistent with Kenya's national trends that show that women prefer modern contraceptives (53%) to the traditional methods (5%) (Mascarenhas et al., 2012). A study by Do and Hotchkiss (2013) in Kenya also confirms a high percent of modern methods. According to them, forty-six percent adopted a modern method of contraception. Research findings in Sub-Saharan Africa showed that the proportion of women aged 15–49 using a traditional method was 4 percent.

The prevalence of postpartum family planning by current contraceptive types was cross tabulated with the socio- demographic characteristics and presented in Figures 6, 7, 8 and 9 and also in Tables 4, 5, 6 and 7.

Figure 6 shows the percentage distribution of contraceptive types by all women aged 15-49. Generally, postpartum women aged 25-29 years recorded

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the highest use of postpartum family planning with a percentage of almost 38 percent. According to Mascarenhas *et al,* (2012), younger women were the most avid users of postpartum contraception, especially between ages 19–24 years. A DHS analysis of 21 countries also showed that a majority of women who use contraceptives were aged between 20 and 34 years (Rutaremwa *et al*., 2015). Postpartum women aged 45-49 years recorded the least postpartum contraceptive use (one percent). Among all the ages, almost 84 percent were using modern methods such as pills, implants and injectable, about 15 percent used traditional methods while only one percent were using folkloric methods. All women aged 15-49 years, 35- 39 years, 40-44 years and 45-49 years were practicing modern methods. For ages between 20-24 years, 86 percent used modern methods while only two percent and 12 percent were using folkloric and traditional methods respectively. Approximately 85 percent of postpartum women aged 30-34 years were using modern methods of contraceptives, almost 13 percent used traditional methods such as withdrawal and periodic abstinence while only two percent were using folkloric methods. Of those who are within the age group of 35-39, only a few (25 %) were using traditional methods.

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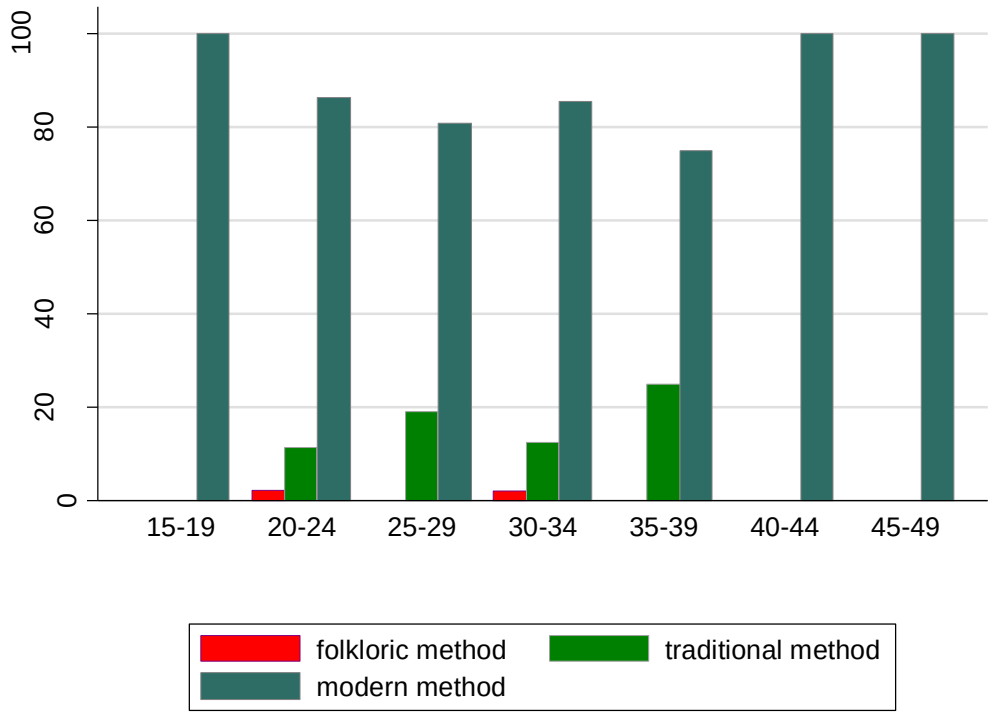

Figure 6: Prevalence of Family Planning Types by Age
Source: Computed from GDHS (2014)

Prevalence of postpartum family planning also varies with women's marital status. This is represented by Figure 7. Married women use contraceptive types more than any women in other marital status. They recorded the highest prevalence contraceptive types and are more likely to use modern methods than traditional methods. Among women's marital status, 90 percent of currently married women, including those living with a partner used a type of contraceptive while the remaining 10 percent is shared among other marital status such as never married, divorced and separated. Among the married women, almost 86 percent were using modern methods, about 13 percent were using traditional methods while only one percent were using folkloric. This, however, contradicts a report by Hakim, Sultan & Ahmed 2001 in Pakistan Reproductive Health and Family Planning Survey that only

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17% of married women of reproductive age currently use a modern method of contraception. For postpartum women who were not in union, majority (83 %) of them was using modern methods while 17 percent were using traditional methods. All women who were separated were using modern contraceptives while for postpartum women who were divorced, 67 percent and 33 percent were using modern and traditional methods respectively.

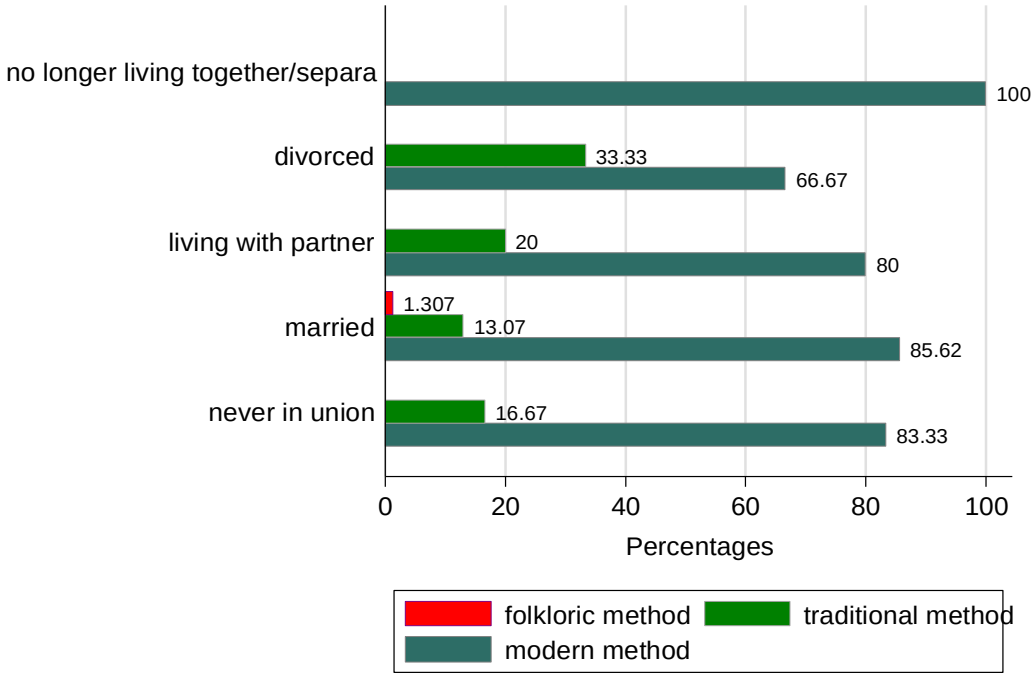

Figure 7: Prevalence of Family Planning by Marital Status
Source: Computed from GDHS (2014)

The number of children a woman has depicts how well she uses contraceptives in her postpartum period. The use of modern family planning methods increases with increasing number of children, from 74 percent for women with one child to 94 percent for women with five children and reaching its peak (100 %) for those women with six children. The opposite pattern is observed for traditional methods. Figure 8 depicts contraceptive types by background characteristics, parity. The use of a traditional method is highest among women with one child and lowest among those with six

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children. Women with either one, two, four, five and six children recorded no use for folkloric methods. Women with 7 children and more recorded the highest use of folkloric methods; women with one child recorded the highest use of traditional methods while women with five children recorded the highest use modern methods. It can, therefore, be concluded that folkloric methods cannot be an effective method of family planning. For postpartum women with one child, about 74 percent were using modern methods while few (26 %) were using traditional methods. With regard to women who had only two children, about 84 percent used modern methods while 16 percent were using traditional methods.

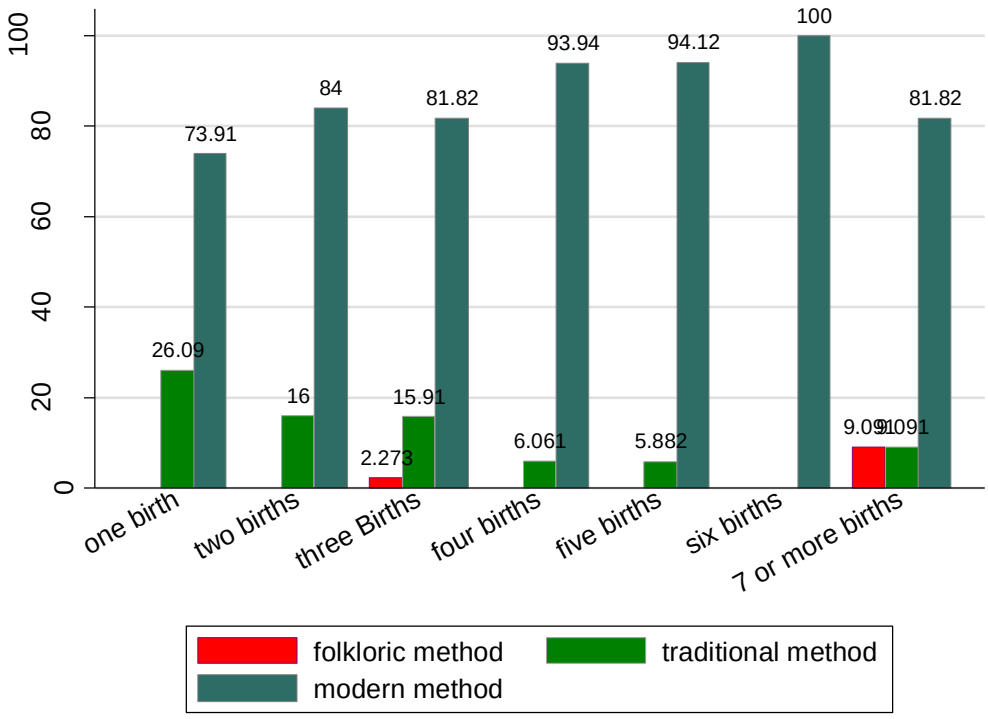

Figure 8: Prevalence of Family Planning Types by Parity
Source: Computed from GDHS (2014)

The postpartum family planning prevalence varies among the 10 regions in Ghana. It shows regional prevalence level. Prevalence is relatively

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highest in Brong-Ahafo (15 %), followed by Volta (13 %) and Ashanti regions (11 %) and lowest in Northern, Central, Greater Accra and Upper West (5 %, 7 %, 8 % and 8 % respectively). From the literature, Northern Region has the lowest use of contraceptives while Western Region records the lowest in terms of modern methods. Postpartum women in the Northern Region are, however, vulnerable to short birth intervals, unplanned deliveries and unwanted pregnancies because of the low prevalence rate recorded. Married women in urban areas are more likely to use contraceptives than those residing in rural areas (GSS/GHS/ICF Macro, 2008). Brong-Ahafo women recorded the highest use of modern family planning methods (15 %) followed by Volta Region (14 %) and Upper East (12 %). Greater Accra recorded the lowest use of modern method by a percentage of 6 percent. Traditional methods were predominately with Ashanti Region (29 %) while Upper East and Upper West recorded zero percentage. Both Central and Northern regions recorded equal percentage for folkloric methods (50 % each) and the rest of the regions used none of the folkloric methods. Figure 9 shows the family planning types by region.

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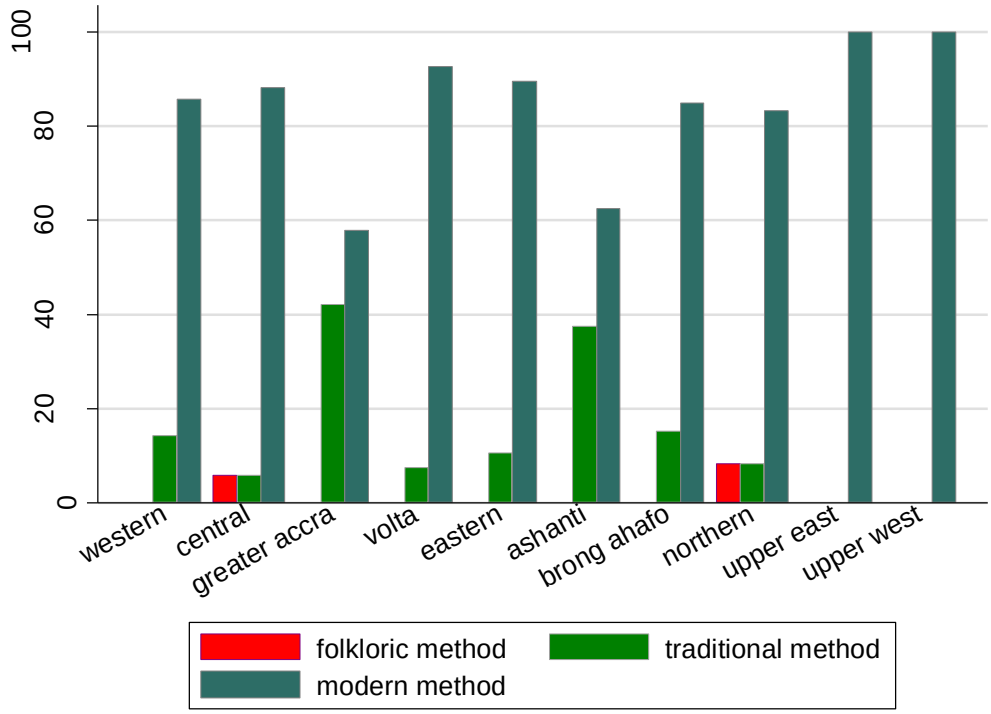

Figure 9: Prevalence of Family Planning Types by Region
Source: Computed from GDHS (2014)

Table 5 shows the prevalence of family planning types by religion. The highest postpartum family planning prevalence by religion is in the Pentecostal or Charismatic religion (36 %), followed by Islam (19 %) and Catholic (18 %). Prevalence rate among Anglican, Methodist, Presbyterian group and among those in other Christian faiths are one percent, five percent, four percent and 11 percent respectively, whilst it is only two percent among those in the Traditional or Spiritualist group. Pentecostal/charismatic women recorded the highest use of the modern method (37 %) while Anglican postpartum women recorded the lowest (one percent). It can be concluded that Anglican women are more prone to public health problems. Relating to family planning as many of them are not using contraceptive types.

Traditional family planning method (32 %) was predominantly used by the Pentecostals while Methodist, Traditional/spiritualist and no religion had

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none. Catholic and Islam secured 50 percent each for folkloric methods. Schoonheim & Hülsken (2011) found out that the higher contraceptive use among Protestants and Other Christian faiths may be influenced by their lack of opposition to contraception, abortion, and sterilization.

Table 5: Prevalence of Postpartum Family Planning Types by Religion

	current use by method type			
Religion	Folkloric	Tradition	Modern	Total n=213
Catholic	50.0	13.0	17.0	17.4
Anglican	0.0	0.0	1.1	1.0
Methodist	0.0	16.1	3.9	5.6
Presbyterian	0.0	16.1	2.8	4.6
Pentecostal/charismatic	0.0	32.3	37.2	36.1
Other Christian	0.0	9.7	12.2	12.0
Islam	50.0	12.9	18.9	18.3
Traditional/spiritualist	0.0	0.0	2.2	2.0
No religion	0.0	0.0	3.9	3.0
Total	100.00	100.00	100.00	100.00

Source: Computed from GDHS (2014)

Contraceptive use was mostly among women with secondary education (49 %), which confirms the 2014 GDHS that contraceptive use increased with women's education. It has a great influence on how women adopt contraceptive types. The use of modern contraceptive method increases with education from 20 percent for all postpartum women with no education to 50 percent for women with a secondary education. According to Baidoo (2013), 19 percent of married women with more than secondary education use modern methods, compared with 11 percent of women with no education. According to Baidoo, educational attainment, such as completed secondary school will be conducive to an increased knowledge of fertility and positive behaviour

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regarding contraceptive use. Similar patterns were observed for use of traditional methods; their use is highest among women with secondary education (48 %) and lowest among women with no education and primary education (12.9 % and 12.9 % respectively). Postpartum women with primary education or higher were not using any folkloric method. It can, therefore, be concluded that education enlighten women's knowledge on family planning use. Table 6 shows the prevalence of family planning types by education.

Table 6: Prevalence of Postpartum Family Planning Types by Education

Education	current use by method type			
	Folkloric	Tradition	Modern	Total n=213
No education	100.0	12.9	20.0	20.0
Primary	0.0	12.9	21.1	20.0
Secondary	0.0	48.4	50.0	49.0
Higher	0.0	25.8	8.9	11.0
Total	100.00	100.00	100.00	100

Source: Computed from GDHS (2014)

Table 7 shows the prevalence of family planning types by residence.

Table 7: Prevalence of Postpartum Family Planning Types by Residence

Place of residence	Current use by method type (%)			
	Folkloric	Tradition	Modern	Total (n=213)
Urban	0.0	71.0	41	45
Rural	100.0	29.0	59	55
Total	100.00	100.00	100.00	100.00

Source: Computed from GDHS (2014)

Contraceptive use is largely among women in rural areas than those in urban areas. Women in rural areas constitute about 55 percent of the entire

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contraceptive prevalence, against 45 percent for women in urban areas. Modern method of family planning for urban areas (41 %) is relatively low, compared to 59 percent for women in rural areas. According to Nakanyala (2008) Over 60 percent of women using modern contraceptive methods were residing in urban areas in 1992, while over 50 percent were living in rural areas in 2000 in Namibia. The change between the periods shows that there has been a huge improvement in rural areas as women were sensitised about modern methods of contraception and commenced using them.

This contrasts with GSS (2014) which indicates that Ghanaian women of all ages in urban areas are more likely to use contraceptive methods than their rural counterparts. From the GSS, contraceptive use in the urban areas was, however, 37 percent and 32 percent in rural areas. This finding also refutes the notion that in Ghana, the magnitude of unmet need for family planning is greater in women who live in rural Ghana than those residing in the urban area. However, a different pattern is observed for traditional methods. Urban women recorded the highest use of traditional methods (71 %) while women in the rural areas recorded the least (29 %). No postpartum women were using folkloric in the urban areas.

Finally, prevalence of postpartum family planning also varies with occupation. Women who engaged in sales recorded the highest prevalence (31 %) followed by those who were not employed (21 %) and self- employed in agriculture (18 %). Modern method (32 %) was highly used by postpartum women who engaged in sales. Both professional women and sales women recorded the highest use of traditional methods of 25.8 percent while those

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who are not working and women who engaged in sales recorded 50 percent each. Table 8 shows the prevalence of family planning types by occupation.

Table 8: Prevalence of Family Planning Types by Occupation

Respondent's occupation	current use by method type			
	folkloric %	Tradition %	Modern %	Total n= 213
Not working	50.0	12.9	22.2	21.0
Professional/technical/managerial	0.0	25.8	9.4	12.0
Clerical	0.0	3.2	0.6	1.0
Sales	50.0	25.2	32.2	31.3
Agricultural - self employed	0.0	9.7	20.6	19.3
Agricultural - employee	0.0	3.2	1.1	1.0
Services	0.0	3.2	0.0	0.4
Skilled manual	0.0	16.1	13.9	14
Total	100.00	100.00	100.00	213

Source: Computed from GDHS (2014)

Prevalence of Postpartum Family Planning by Current Contraceptive Methods

The level of current use of contraceptive methods is, therefore, one of the indicators mostly used to assess the success of family planning prevalence. This section is focused on the levels and differentials in current use of postpartum FP methods by specific socio-demographic characteristics. It describes the percentage distribution of postpartum women by age, education, marital status, which is currently using specific family planning methods. Generally, the injection is the most commonly used method among postpartum women (33 %) followed by implants (18 %), with less than one percent (0.6 %) using other methods and IUD. A similar study by Adofo (2014) in Ghana found out that the majority (53%) of current contraceptive users preferred the

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injectable, 25.5 percent were using implant and 13 percent were on pills, IUD, four percent, female condom, three percent, natural family planning, one percent and emergency contraception, 0.5 percent. This contradicts a study by Daniels, Daugherty & Mosher (2015) in USA which reported pills as the most commonly used method. According to them, 82 percent had ever used the oral contraceptive pill. Periodic abstinence and lactational amenorrhea (LAM) methods are used by 13 percent and 12 percent of postpartum women respectively. The prevalence of postpartum family planning by current methods was cross tabulated with the background characteristics and presented and explained in Table 8 and in figures 9 and 10.

Injectable is the most preferred contraceptive method among all postpartum women aged 15- 49 years. A study by Bankole and Malarcher, (2010) found out that pills (30%) was the main method of contraception used followed by condom (20%). The implants/ Norplant recorded the second highest use among ages 15-19 years (33 %), 20-24 years (16 %), 30-34 years (27 %) and 40-44 years (30 %). The pill, condom and implant recorded the same level of use (15 %) after injectable among age group 25-29 years. According to Martin *et al.*, (2014), a pill was the current main method of contraception. The use of modern family planning methods increases with increasing number of children contraception for European women with 45 percent of women in the ages 25-29 years, followed by condom (24%) of the same age range. Those aged between 35-39 years, on the other hand, preferred the pill and periodic abstinence (18 %) after the injectable. Finally, among age group 45-49 years, female sterilization (33 %) is preferred after injectable

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(Table 9). This is confirmed by Daniels, Daugherty and Mosher (2015) which indicated 50 percent postpartum women using female sterilization.

Table 9: Prevalence of Family Planning Methods by Age

	Age							
Method	15-19	20-24	25-29	30-34	35-39	40-44	45-49	Total
Pill	8.3	4.6	14.7	10.4	17.7	10.0	0.0	24
Iud	0.0	2.3	0.0	0.0	0.0	10.0	0.0	2
Injections	58.3	50.0	32.4	37.5	32.1	40.0	66.7	84
Condom	0.0	11.3	14.7	6.3	0.0	0.0	0.0	18
Female Sterilize.	0.0	0.0	0.0	2.1	14.3	10.0	33.3	7
Abstinence	0.0	6.8	13.2	8.	17.7	0.0	0.0	21
Withdrawal	0.0	4.6	5.9	4.2	7.1	0.0	0.0	10
Other	0.0	2.3	0.0	2.1	0.0	0.0	0.0	2
Implants	33.4	15.9	14.7	27.1	10.7	30.0	0.0	40
LAM	0.0	0.0	2.9	2.1	0.0	0.0	0.0	3
Other Modern Method	0.0	2.2	1.5	0.0	0.0	0.0	0.0	2
Total	100.00	100.00	100.00	100.00	100.00	100.00	100.00	213

Source: Computed from GDHS (2014)

Cross tabulating contraceptive methods against education, the data show that women with secondary education (65 %) mostly used the implants while women with higher education (5 %) used the implants as the least preferred method (Figure 10). Women with higher education (67 %) preferred the LAM method while women with primary education or lower recorded no use of LAM. No postpartum woman with higher education used the pill, IUD and female sterilization; however, about half of postpartum women with secondary education used the pill (54 %) and IUD (50 %). Six out of ten women with secondary education used the condom while only one out of ten

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women with no education (11 %) used the condom. While 40 percent of women with secondary education used withdrawal, only 10 percent with primary education used withdrawal. Periodic abstinence is preferred by only 29 percent of women with higher education while only 5 percent of postpartum women with education used periodic abstinence.

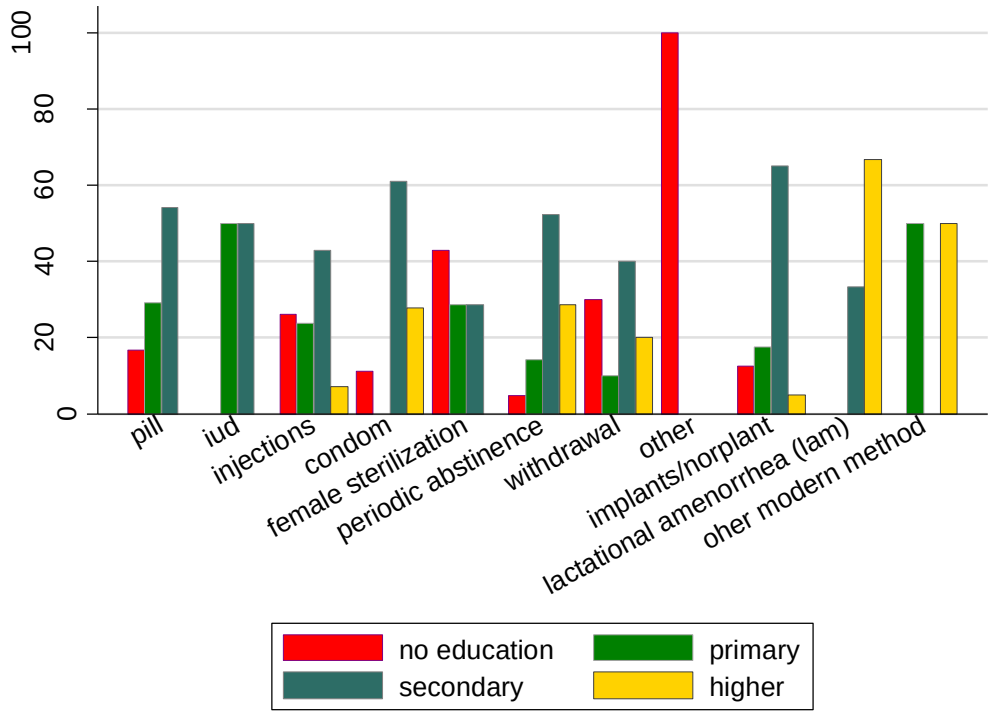

Figure 10: Prevalence of Family Planning Methods by Education
Source: Computed from GDHS (2014)

The result of marital status by contraceptive use depicts that pills, IUD , injection, condom, periodic abstinence, withdrawal, implant and lactational amenorrhea are predominantly used by postpartum married women. According to Nakanyala (2008), the growing percentage of women using effective family planning methods such as pills, IUD, implant is a primary cause of the rampant declines in fertility in most developing countries. Nakanyala also emphaised that injection is mostly used by married women. In his studies in Namibia showed about 74 percent of married women use

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injection which is higher than pills and other forms of modern and traditional methods. The IUD as a modern method, recorded 100 percent use of contraceptives and lactational amenorrhea as traditional method also recorded 100 percent use of contraceptive use among the married women whilst, the pills, injection, condom, periodic abstinence, withdrawal and implant recorded 75 percent, 78 percent, 61 percent, 71 percent, 50 percent and 63 percent respectively.

The least contraceptive use was reported by postpartum women who were divorced and those who were no longer in marital union. Pills, IUD, condom, injections, periodic abstinence and lactational amenorrhea recorded zero contraceptive use by postpartum women who were divorced at the time of the 2014 GDHS survey whilst female sterilization, withdrawal and implants also recorded least percentages of 14, 10 and 3 respectively. Those who were no longer in marital union, recorded the lowest percentage of injection (2.4 %), condom (2) and implants (3) contraceptive use and rest of the contraceptives recorded zero usage.

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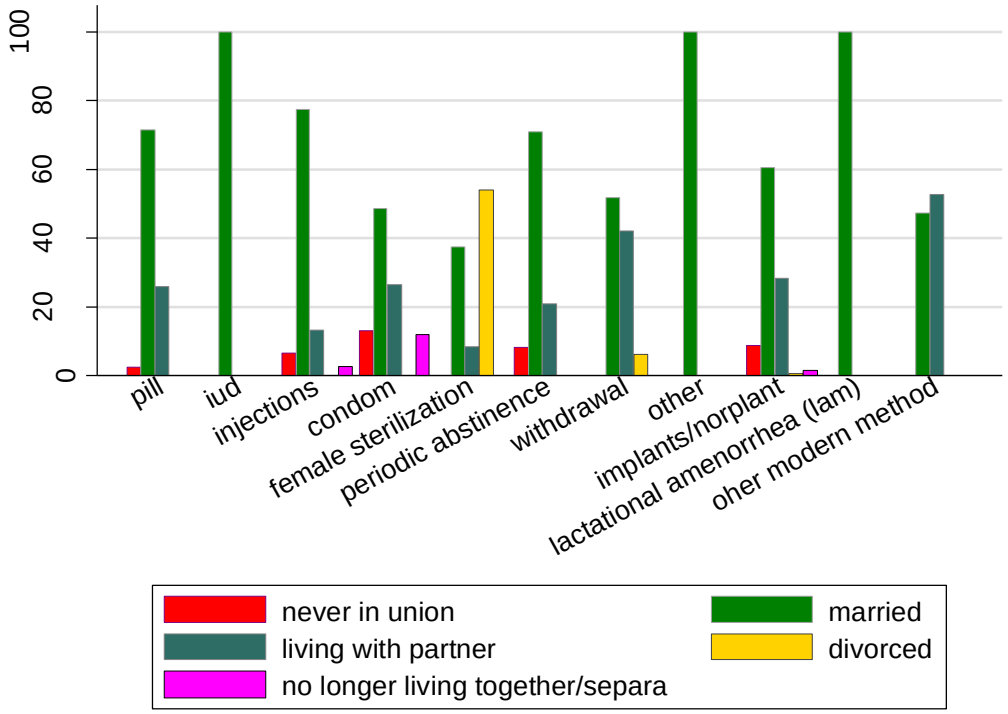

Figure 11: Prevalence of Postpartum Family Planning by Marital Status
Source: Computed from GDHS (2014)

Logistic Regression on Postpartum Family Planning Uptake in GDHS 2014

The Table 10 below presents the results of the binary logistic regression model of the demographic and socio-economic factors to determine which ones have an effect on current contraceptive use among postpartum women in the 2014 GDHS. The odds ratios for a certain independent variable represent the factor by which the odds (event) change for a one-unit change in the independent variable (Bongart and Johansson, 2000). For all factors, the first category has been assigned as the reference category. The odds ratio values of less than one implies that individuals in that category have a lower probability of using contraceptives than individuals in the reference category. Moreover, a value greater than one imply an increase in the likelihood of

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reporting current use of contraceptives. Variables imputed in the model included: age groups, marital status, parity, religion, residence, region, education and occupation of the postpartum women. Out of those variables, religion was found to have no significant effect on contraceptive uptake.

Table 10 shows that in 2014 postpartum women aged between 40 - 44 years were less likely to use contraceptives when compared to our reference category (15-19). In addition, the odds of women aged between 25 and 29 years were much greater than those aged 30 years and above. Women between 40 and 44 years old were therefore found to have no significant effect on current usage of contraceptives in comparison to those younger.

Table 10: Logistic Regression on Socio-demographic Characteristics of postpartum Women

Variable	Odds Ratio
Age	
15 – 19	Ref
20 – 24	1.36
25 – 29	1.74
30 – 34	1.36
35 – 39	1.15
40 – 44	0.95
45 – 49	1.31
Marital status	
never in union	Ref
Married	1.97
living with partner	1.52
Widowed	1.00
Divorced	3.93
Separated	3.06
Parity	
one birth	Ref
two births	1.09
three Births	1.14
four births	1.17
five births	0.69
six births	0.80
Seven or more	0.50

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Table 10: continued

Education	
No Education	Ref
Primary	1.80
Secondary	2.21
Higher	6.62
Religion	
Catholic	Ref
Anglican	0.97
Methodist	0.83
Presbyterian	0.84
Pentecostal	0.83
other Christian	0.71
Islam	0.65
Traditional	0.32
no religion	0.44
Residence	
Urban	Ref
Rural	0.77
Region	
Western	Ref
Central	0.85
Greater Accra	1.43
Volta	1.85
Eastern	1.01
Ashanti	1.20
Brong-Ahafo	1.57
Northern	0.32
Upper East	1.01
Upper West	1.00
Occupation	
Not Working(r)	1.00
Professional	5.42
Clerical	2.52
Sales	1.33
Agricultural - self employed	0.78
Agricultural - employee	3.14
Services	0.45
Skilled manual	1.75
Unskilled manual	1.00

Source: Computed from GDHS (2014)

Ref = reference categories

Divorced postpartum women are 4 times more likely to report current usage of contraceptives than those in the never in union (reference category).

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Women living with partner attained the lowest odds (1.521438) with less likely to report usage of contraceptives.

The more the number of living children a woman has, the less she is likely to be a current user of contraceptives; this is confirmed by the following results. In the 2014 GDHS, women that had five and more living children were less likely to be currently using contraceptives, compared to those with no children (reference category). The odds for women with 7 and more children alive declined roughly by half than those with four children and less.

With regards to occupation, agricultural self-employed and services were less likely to use postpartum family planning when compared to our reference category (not working). Women with professional and technical occupation are 5 more likely to use postpartum family planning than their counterparts. Adofo (2014) found out that terms of employment, women in formal employment had lower odds of postpartum contraceptive use [(AOR=0.3, 95% CI: 0.1-0.7)]. According to Adedini et al., (2015), women who were working in the public sector were 5(five) times more likely to use contraception after delivery, compared to unemployed women. He further emphasized that for those who worked in the private sector, the odds of uptake were almost 3(three) times higher with reference to unemployed women.

Women from Volta Region are more likely to use postpartum family planning, compared to those from the other nine regions (OR=1.85, $p<0.90$) whilst women from Northern Region were less likely to use contraceptives than the other regions, with Western Region as the reference region.

Using Catholic as reference, all religious denominations are less likely to use postpartum family planning. However, Traditionalist/spiritualists had

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the lowest odds ratio and were less likely to use postpartum family planning, compared to other denominations.

Educational attainment was found to play an important role in the current usage of contraceptives among postpartum women. The notion that the higher the women's level of education completed the more likely they are in being current contraceptive users was validated as the odds of women with higher education was highest (6.621849). This is also confirmed by Adofo (2014) in his studies that women with tertiary education had more than 9 times higher odds of using postpartum contraception, compared with those with only primary education [(AOR=9.4, $p<0.05$ CI: 1.5-60.0)]. According to Rossier & Hellen, (2014), women with no education were 1.56 times less likely to use contraceptive than women who had secondary and higher education whereas women with primary education were 1.28 times less likely to use contraceptives than women with secondary education and higher.

In summary, a total of 9,396 women aged 15–49 was obtained for the 2014 GDHS of which 1,305 postpartum women were obtained for the analysis. 213 postpartum women from the 1,305 postpartum women were using contraceptives. Majority of postpartum women adopted the contraceptive use in their late period. Parity, education, age, marital status, occupation, region and residence all had statistically significant relationship with postpartum family planning uptake whilst only religion had no statistically significant relationship with postpartum family planning uptake.

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CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Introduction

This chapter presents a summary of the main findings. It then draws conclusions and recommendations for implementing policies to ensure effective postpartum family planning care in Ghana.

Summary of the Study

The study examined the postpartum family planning uptake in Ghana in the 2014 GDHS. Specifically, the study sought to describe the current FP practice among immediate and extended postpartum women, assess the prevalence of postpartum family planning and to examine the influence of socio-demographic characteristics of women on postpartum FP uptake.

To achieve the objectives of the study, hypotheses were tested to examine the relationship between socio-demographic characteristics and postpartum family planning uptake. The conceptual framework for the study was the postpartum family planning model by Tirah (2015). It identifies the interplay of socio-demographic factors, socio-economic factors and extended postpartum factors in the postpartum family planning uptake.

The methods of the study made use of the positivist philosophy of social science research, thus using a quantitative approach which includes tables, and graphs to address the objectives of the study. The study used data from the 2014 Demographic and Health Survey (GSS, 2014). The GDHS used a two-stage sample design, first, selecting clusters of a sample frame and, second, selecting households systematically from the clusters. The target population was women between the ages of 15 and 49 years who were either

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usual residents of the selected households or visitors who spent the night before the survey in the selected household and who had given birth within the past twelve months. A total of 9,396 women aged 15–49 was obtained for the 2014 GDHS and 1,305 postpartum women were also obtained for the study.

Summary of the Main Findings

About 26 percent of the women were within the age group of 25-29 years and approximately 66 percent were married. It was found that about 42 percent of postpartum women had one to two children and 29 percent of the women were into sales. Pentecostal/charismatic was the predominant religious sect constituting 64.3 percent. About 47 percent of the women had higher education (secondary and tertiary), almost one third (33.4 %) had no formal education. Almost 35 percent of the postpartum women were from the three Northern regions with Greater Accra recording the lowest percentage (seven percent). Finally, 60 percent of the postpartum women lived in rural areas.

Out of the 213 postpartum women who were using contraceptives, only 14 percent adopted family planning in the first three months (immediate postpartum period) while 86 percent adopted postpartum family planning between 4 and 12 months (extended postpartum period) and all methods of family planning, 38 percent of postpartum women started using a method in the ninth month.

The study recorded a contraceptive prevalence rate of 16 percent, meaning that 213 out of the 1305 postpartum women were using family planning methods. The results of the study indicated that about eight out of ten (84 %) postpartum women used a modern contraceptive type. About 90 percent of currently married women including those living with a partner used

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modern methods. The use of modern family planning methods increases with increasing number of children, from 74 percent for women with one child to 94 percent for women with five children. Postpartum family planning prevalence was highest in the Brong-Ahafo Region (15 %). About 50 percent of Moslems and half of Catholics practiced folkloric methods. The use of modern contraceptive method increases with education from twenty percent for all postpartum women with no education to 50 percent for women with secondary education. Modern methods of family planning for urban women was low (41 %), compared to that for women in the rural areas (59 %). Women with higher education (67 %) preferred the LAM method while women with primary education or lower recorded no use of LAM. The injectables were the highest contraceptive method used.

Parity, education, age, marital status, occupation, region and residence all had statistically significant relationship with postpartum family planning uptake whilst only religion had no statistically significant relationship with postpartum family planning uptake.

Conclusions

Postpartum family planning plays a key role in women's reproductive health. Its prevalence and practice have greater impact on the health and well-being of women as well as on the outcome of each pregnancy. The proportion of postpartum women who are not using contraceptives are more than those who were using contraceptives. Majority of the women were in their extended postpartum period.

Generally, the highest use of contraceptive type was modern methods such as pills, implants and injectables. Folkloric contraceptive type recorded

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the lowest. Women within the ages of 25-29 years recorded the highest use of modern contraceptive type whereas women within the ages of 45-49 years recorded the lowest use by contraceptive types. All women who were separated used modern contraceptive types. The use of modern contraceptive type also increases with increasing number of children. Brong- Ahafo Region recorded the highest modern contraceptive use by types while Greater Accra recorded the lowest modern contraceptive use. Women with secondary and higher education were more likely to use modern contraceptive type than women with no education. Women from rural areas are more likely to use modern contraceptive type than women in the urban areas.

It is concluded that injection is the most commonly used contraceptive method. It is highest among postpartum women aged between 15-49 years old and those who are married. However, implants are mostly used by women with secondary education.

The youngest and oldest age groups had little influence on postpartum family planning uptake as they recorded very low contraceptive use than the other age groups. Majority of the non-contraceptive users were women who are married. Also, women with two children were likely to adopt postpartum FP. Postpartum women in the rural areas recorded the highest use of postpartum FP.

Recommendations

Based on the key findings of the study, the following recommendations are made:

i. Family planning service providers should focus specifically on immediate postpartum contraception since this can help prevent

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unintended pregnancies within the first six months postpartum and promote initiation of contraception before the return of menses.

ii. From the findings, any programme aimed at enhancing postpartum contraceptive use should target women with low education.

iii. Ministries of Health and Education should collaborate with Non-Governmental Organizations to intensify education of women on postpartum family planning. This effort is vital as women seem uninformed about the contraceptive types and methods.

1. There must be a regular supply of contraceptive methods by various postnatal care clinics. This will ensure that methods are constantly available at the clinic and women can choose.
2. Women, who deliver at health facilities, as a rule, should be educated and offered a family planning method on delivery and/or at postnatal clinics.

Suggestion for Further Study

i. Using qualitative methods to ascertain the reasons behind low postpartum family planning uptake.

ii. Determinants of unmet need for contraception among Ghanaian Women.

iii. Contraceptive use, intention to use and unmet need during the extended postpartum period.

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APPENDICES

The following are output results derived upon running a binary logistic regression using the 2014 GDHS data. The Odds ratio's appearing in Table 10 in Chapter 4 are sourced from these output tables. The dependent variable is current contraceptive user status. The independent variables includes: age group, religion, woman's marital status, educational attainment, region, parity, type of place of residence and occupation.

The 2014 binary logistic regression model output are coded in the form of: v013= age group, v717= women's occupation, v501= women's marital status, v224= parity, v130=religion, v025=residence, v106=education

Case Processing Summary

weighted Cases		N	Percent
Selected Cases	Included in Analysis	1305	100
	Missing Cases	0	0
	Total	1305	100
Unselected Cases		0	0
Total		100	100

Dependent Variable Encoding

Original Value	Internal Value
Non contraceptive user	0
Contraceptive user	1

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Variable codes	Log likelihood.	Number of obs	LR chi2	Prob > chi2	Pseudo R2
v013	-577.59191	1305	6.18	0.4029	0.0053
v501	-574.99839	1297	8.51	0.0746	0.0073
v224	-575.68167	1305	10.00	0.1245	0.0086
v130	-575.88763	1305	9.59	0.2948	0.0083
v025	-579.20641	1305	2.95	0.0856	0.0025
v024	-563.28338	1305	34.80	0.0001	0.0300
v106	-560.82093	1305	39.73	0.0000	0.0342
v717	-557.77403	1297	42.96	0.0000	0.0371

Variable codes	Std. Err.	Z	P>z	[95% Conf.	Interval]
v013					
20-24	.4767772	0.88	0.376	.6865234	2.705386
25-29	.5855087	1.64	0.101	.8973676	3.36312
30-34	.4714656	0.89	0.375	.6896521	2.683209
35-39	.4239391	0.37	0.712	.5551752	2.366409
40-44	.4321965	-0.12	0.903	.3863296	2.316193
45-49	.9197539	0.39	0.698	.3323588	5.183122
_cons	.0440867	-6.31	0.000	.0780217	.2615703
v501					
Married	.6249252	2.14	0.032	1.060148	3.670286
living wi..	.5304862	1.20	0.229	.7681791	3.013327
Widowed					
Divorced	2.9624	1.81	0.070	.896134	17.22251
no longer..	1.831017	1.86	0.062	.9440924	9.889307
_cons	.0331651	-7.29	0.000	.060119	.1979545
v224					
Two births	.2454129	0.39	0.696	.7027161	1.696143
Three Bi..	.2655502	0.57	0.569	.7238256	1.801187
Four births	.2945726	0.62	0.537	.7127661	1.915044
Five births	.2089999	-1.24	0.215	.3767293	1.245696
Six births	.2818575	-0.62	0.533	.4042338	1.598161
7 + births	.1777002	-1.95	0.051	.2493145	1.003553
_cons	.0326101	-9.90	0.000	.1469742	.2769523
v130					
Anglican	.7843748	-0.04	0.966	.1968197	4.743295
Methodist	.3045319	-0.51	0.608	.4028398	1.702639
Presbyterian	.3315914	-0.44	0.659	.3876488	1.821019
Pentecostal	.1849749	-0.84	0.401	.5352928	1.283719
Other Chris	.2011178	-1.22	0.221	.4032929	1.233352
Islam	.1635962	-1.72	0.085	.3940791	1.061946
Traditional	.1740767	-2.09	0.037	.1069911	.9303552
No religion	.1949779	-1.85	0.064	.1873668	1.049814
_cons	.0477236	-7.33	0.000	.180246	.3714204
v025					
Rural	.1164154	-1.72	0.085	.5731085	1.036146
_cons	.0256572	-13.12	0.000	.1818448	.2832441

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Variable codes	Std. Err.	z	P>z	[95% Conf.	Interval]
v024					
Central	.2995731	-0.47	0.640	.4240718	1.694549
Greater Accra	.5042808	1.03	0.304	.7203943	2.85725
Volta	.6052871	1.89	0.059	.9772247	3.515273
Eastern	.3504715	0.04	0.967	.5153993	1.996643
Ashanti	.392803	0.55	0.584	.6289662	2.277146
Brong Ahafo	.4867374	1.46	0.145	.8563312	2.883683
Northern	.1226193	-2.98	0.003	.1526332	.6791857
Upper East	.3365548	0.03	0.973	.5266475	1.941499
Upper West	.3468199	0.01	0.990	.5103915	1.97611
_cons	.0450207	-7.00	0.000	.1186694	.3016156
v106					
Primary	.4208607	2.51	0.012	1.137445	2.8456
Secondary	.4321601	4.07	0.000	1.50969	3.245373
Higher	2.066887	6.06	0.000	3.591638	12.2086
_cons	.0173031	-13.79	0.000	.0775508	.1465277
v717					
Professional	1.716459	5.34	0.000	2.914886	10.08348
Clerical	2.143035	1.08	0.279	.4736791	13.3593
Sales	.2792063	1.37	0.169	.8845561	2.010008
Agric. Self Emp	.1807305	-1.08	0.281	.4941988	1.227329
Agric. Emplo	2.280006	1.58	0.114	.7591822	13.02392
Services	.4705283	-0.76	0.445	.0576556	3.499857
Skilled manu.	.4567048	2.13	0.033	1.046495	2.916121
Unskilled manual					
_cons	.025519	-11.46	0.000	.1160967	.2177871

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