**SCHOOL OF PUBLIC HEALTH**

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# POSTPARTUM CONTRACEPTIVE USE AMONG YOUNG MOTHERS IN KWAEBIBIREM DISTRICT, GHANA

**BY**

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## DECLARATION

I hereby declare that except for references to other people's work, which have been duly acknowledged, this proposal is a result of my own work and that it has not been presented either in whole or part in any university for award of another degree.

**……..** **…….**

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**(SUPERVISOR)**

## DEDICATION

This dissertation is dedicated to my dear mother, Mary Afua Agyepomaa for her support and sacrifice throughout my education from infancy to the university level.

I am forever grateful to her.

**AKNOWLEDGEMENT**

I am very grateful to Almighty God for His strength, protection and guidance throughout this course.

I am highly indebted to my academic supervisor, Dr. Agnes M. Kotoh, for her patience and guidance throughout this study and the valuable suggestions she made without which I could not have made any headway.

Finally, I thank my family for enduring my long absence from home during my studies at the School of Public Health. God bless you all.

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## LIST OF ACRONYMS

| | | |
|---|---|---|
| ANC | - | Antenatal clinic |
| CPR | - | Contraceptive Prevalence Rate |
| DHS | - | Demographic Health Survey |
| FP | - | Family Planning |
| GDHS | - | Ghana Demographic Health Survey |
| GHS | - | Ghana Health Service |
| GMHS | - | Ghana Maternal Health Survey |
| GSS | - | Ghana Statistical Service |
| IUD | - | Intrauterine Device |
| LAM | - | Lactation Amenorrhea Method |
| LARC | - | Long Acting Reversible Method |
| MDG | - | Millennium Development Goals |
| PPFP | - | Postpartum Family Planning |
| PNC | - | Postnatal Natal Clinic |
| TFR | - | Total Fertility Rate |
| UNPF | - | United Nations Population Fund |
| USAID | - | United States Agency for International Development |
| WHO | - | World Health Organisation |

## DEFINITION OF TERMS

**Family planning:** Voluntary decision and action taken by individuals to delay, prevent or achieve pregnancy through the use of contraception.

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

**Extended postpartum period**: The period of delivery up to 1 year.

**Postpartum contraception:** Defined as the initiation and use of a contraceptive method after childbirth but before fertility return.

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

**Postpartum amenorrhea**: Refers to the interval between childbirth and the return of menstruation. This is the period when the woman becomes temporary infecund following child birth.

**Unmet need for family planning**: This refers to the proportion of fecund women who wish to space their next birth or stop child bearing but are not using contraception.

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

**Contraceptive prevalence rate**: Percentage of women in the reproductive age who are using (or whose partners) are using a contraception method at a particular point in time, almost always calculated for married women or women in unions.

**ABSTRACT**

## Background

Postpartum family planning has the potential to reduce maternal and child morbidity and mortality. A short birth interval of less than two years is associated with adverse health effects for the mother and baby and the society as a whole. The aim of this study was to determine postpartum contraceptive prevalence among young mothers attending child welfare clinics in the Kwaebibirem District, Eastern Region, and explore factors that influence family planning uptake after delivery.

## Method

A clinic-based, cross-sectional study using interviewer administered structured questionnaire. 416 young postpartum mothers aged 15-24 years, with 6-18 months old babies and attending child welfare clinics were recruited consecutively for the study. Data was analysed using STATA 12 version. In addition to descriptive statistics, Pearson's chi-squared test was used for bivariate analysis of the socio-demographic and reproductive health factors and postpartum contraception. Multiple logistic regressions were used to explore factors associated with postpartum contraceptive use found to be significant at 95% confident interval and $p \leq 0.05$.

## Results

One hundred and ninety nine (47.8%) young postpartum mothers used modern contraceptives within 18 months after delivery. Fear of side effects (44.1%) remains the main barrier for non-use of modern contraceptives. Postpartum contraceptive use was significantly associated with tertiary education (AOR=9.4, 95% CI: 1.5-60.0); formal employment (AOR=0.3, 95% CI: 0.1-0.3); no previous history of contraceptive use (AOR=8.4, 95% CI: 4.0-18.2); non resumption of sexual intercourse after delivery (AOR=4.7, 95% CI: 2.0-10.3); no communication among partners about contraception (AOR= 0.1, 95% CI: 0.1-0.3).

## Conclusions

Modern contraceptive use among the young postpartum women was found to be relatively high compared to the current national prevalence rate of 22 percent. Formal education and spousal communication influence postpartum contraceptive use. Resumption of sexual intercourse was negatively associated with the use of postpartum contraception. Fear of side effects limits use.

## Recommendations

There is the need to empower women through improvement in female education and encourage discussions among couples on postpartum contraceptive use. Adequate and accurate information on potential side effects should be provided during counseling. Family planning providers should be empowered with skills to manage side effects when reported.

# CHAPTER ONE

# INTRODUCTION

## 1.1 Background

Postpartum family planning (PPFP) is the initiation of family planning services within the first twelve months following childbirth to prevent closely spaced and unintended pregnancies.

The World Health Organisation (WHO) Technical Consultation of Birth Spacing after reviewing multiple studies considering maternal, infant, and child health outcomes recommends a minimum of twenty four months intervals after a live birth in order to reduce the adverse outcomes for the mother and baby (WHO, 2006). Studies show that pregnancies occurring less than 12 months after the last delivery had poor outcomes for both mother and the infant (DaVanzo, Hale, Razzaque, & Rahman, 2007). In Sub-Saharan Africa, pregnancies within the first 12 months after delivery are more likely to end in potentially unsafe abortion because safe abortion care services are either not available or affordable exposing the women to risk of death (Cleland, Conde-Agudelo, Peterson, Ross, & Tsui, 2012a). Short interval pregnancies are associated with increased maternal morbidities such as anaemia, bleeding disorders, premature rupture of membranes, puerperal endometritis and mortality (Conde-Agudelo & Belizan, 2000). These serious problems could be avoided by the use of an effective family planning method within the immediate or extended postpartum period. Spacing pregnancies at least two years apart in the developing world could reduce maternal mortality by more than 40 percent and under five mortality by 31 percent (Cleland, Conde-Agudelo, Peterson, Ross, & Tsui, 2012b).

Although some progress has been made in terms of increasing access to maternal and child care services in Sub-Saharan Africa, no significant improvement has been observed in contraceptive use by postpartum mothers within the first year of delivery (Adeyemi, Ijadunola, Orji, Kuti, & Alabi, 2005). Unintended pregnancy rate remains high in sub-Saharan Africa and the underlying factors include poor access to family planning in the postpartum period. A study done in the southwestern part of Nigeria among Yoruba mothers found that prolonged exclusive breastfeeding offers some protection against unintended pregnancies provided the woman has not started menstruation (Kuti, Adeyemi, & Owolabi, 2007). The traditional practice of prolonged breastfeeding and voluntary abstinence after delivery provide some protection against unintended pregnancy (Rossier & Hellen, 2014). Some couples may report the practice of postpartum abstinence, but the definition of abstinence varies. For some, it means abstaining from regular sexual intercourse but have sex occasionally. The practice of abstinence is based on myth that early resumption of sexual intercourse could affect the quality of breast milk thereby affecting the health of the new-borns. Unfortunately, traditional methods of preventing pregnancy are eroding due to rapid urbanization and paid employment for mothers. The combination of shorter periods of exclusive breast feeding, early return of menstruation and early resumption of sexual intercourse increase the risk of unintended pregnancy as early as 3-4 months after delivery (Borda & Winfrey, 2010a).

Although knowledge of contraception and family planning is universal in Ghana, contraceptive use among young women remains low while unmet need in the postpartum period remains high (Ghana Statistical Service (GSS), Ghana Health Service (GHS), & ICF Macro International, 2009). Despite the fact that many young mothers prefer to delay their next pregnancy for at least 2 years, the majority of them

do not use effective postpartum contraception. Only 17 percent of married women or women in union aged between 15-19 years use a modern method of contraception compared to 38 percent of women between 25-39 years (Ghana Statistical Service, 2011).

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

Access to family planning services remains a challenge, especially in rural areas due to various factors. Women who decide to seek contraceptive services before resumption of menstruation are sometimes driven away by health care providers to come when menses resume (Campbell, Sahin-Hodoglugil, & Potts, 2006a; Brunie, Tolley, Ngabo, Wesson, & Chen, 2013). These providers erroneously advise these mothers to delay contraceptive use until their menses return. Consequently, many young women tend to use modern contraception only after resumption of sexual intercourse or return of menses exposing them to the dangers of unintended pregnancy (Ndugwa, Madise, John Cleland, & Fotso, 2010).

The aim of this study is to determine the prevalence of postpartum contraception among young mothers and examine factors that influence use or non-use of modern contraceptives during the postpartum period.

### 1.2 Statement of the problem

Short interval pregnancy remains a serious public health problem worldwide because of its negative impact on the mother, baby and the community as a whole. The postpartum period is usually characterised by emotional, physical and social outbursts which is worst for young women. Despite the considerable risk of untimed pregnancy within two years of delivery, many young mothers often do not pay attention to postpartum contraception (Teal, 2014). Thus the lapse between the resumption of sexual intercourse and adoption of an effective contraceptive method often leads to short interval pregnancy with elevated risk of maternal and neonatal morbidity and mortality.

The 2014 Ghana Demographic Health Survey (GDHS) shows a slight increase in the total fertility rate (TFR) from 4 to 4.2 over the past six years. Over the years, safe motherhood programs and other interventions have promoted the postpartum contraceptive use and also reduce unmet need for contraception across the country with the aim of helping all women achieve at least two year birth intervals. Information on family planning has been provided and effective birth spacing emphasised in child welfare clinics in Ghana, so far there has not been any evaluation of postpartum contraceptive use in the Kwaebibirem district. Anecdotal evidence shows that postpartum contraceptive use in the district is low despite high knowledge among young women. In view of the serious adverse consequences associated with short interval pregnancy, a study that explores the prevalence of postpartum contraceptive

use among this category of women is needed. This study examines factors that influence the use of contraceptives among young postpartum mothers and also ascertains whether antenatal and postnatal counselling as being practised currently influence contraceptive use. This study will add to the existing literature and go a long way to help address contraceptive needs among young postpartum women in the Kwaebibirem District and Ghana as a whole. The result will inform interventions targeted at young postpartum women with the goal of reducing morbidity and mortality related short-interval pregnancies.

### 1.3 Justification of the research

The United Nations Millennium Development Goals (MDGs) 4 and 5 aim at reducing under five mortality by half and maternal mortality by three quarters between 1990 and 2015. These targets may not be achieved without increasing resources in reproductive health and family planning, especially in the lower and middle income countries (Cates, Abdaal, Elsadr, & Haffiner, 2010). WHO estimates that 162,000 maternal deaths occurred in 2010 in sub-Saharan Africa with a lifetime risk of maternal death of 1 in 39 compared with 2200 maternal deaths and lifetime risk of maternal death of 1 in 3800 in the developed countries (WHO, 2012). Sub-Sahara Africa has the highest adolescent birth rate of 121 per 1000 women aged 15-19 years. Furthermore, this region has the greatest unmet need for family planning with only 21 percent married women aged 15-49 using modern contraception compared to 56 percent for other developing regions of the world ( Singh, Sedgh, & Hussain, 2010). Therefore, addressing the challenges of achieving MDG 4 and 5 must involve improving access to postpartum family planning since maternal mortality is the second leading cause of death in women between 15-19 years in Sub Saharan Africa. Reduction of under-five mortality by the prevention of

mother-to-child transmission of HIV can also be promoted through the use of effective contraception to prevent unwanted pregnancies. It is estimated that postpartum family planning can eliminate inter birth intervals of less than two years and avert one million out of the eleven million deaths in children less than five years (Cleland et al., 2006).

The child bearing continuum comprising of the antenatal, intra partum, immediate postpartum and the extended postpartum periods offer great opportunities for contraceptive counselling due to frequent visits to the healthcare facility and regular interactions between the pregnant women and health care providers (Warren, Mwangi, Oweya, Kamunya, & Koskei, 2010).

Nevertheless, postpartum family planning which offers a window of opportunity for optimal spacing or limiting child births is often neglected in Sub-Saharan Africa. Available literature on contraception among young people in Sub-Saharan Africa has often focused on primary prevention of unwanted pregnancies. Less attention has been paid to young mothers who have had one or more children. The few studies done in Ghana and Nigeria have focused on identifying factors that influence women's intention to adopt postpartum family planning (Eliason, Baiden, Quansa-Asare, Graham-Hayfron, Bonsu & Awusabo-Asare, 2013; Adegbola & Okunowo, 2009). However, it is a known fact that there is a wide gap between family planning intentions and actual use during the extended postpartum period (Dodoo, Ezeh, & Owuor, 2001; Potter et al., 2014). Therefore, there is inadequate information on postpartum contraception among young mothers in Ghana. This study will help fill the knowledge gap on postpartum family planning and inform policy and the development of effective strategies to address contraceptive needs of young postpartum mothers.

## 1.4 Objectives of the study

### 1.4.1 General objective

To explore factors that are associated with postpartum contraceptive use among young mothers attending child welfare clinics.

### 1.4.2 Specific objectives

1. To describe the general knowledge of postpartum contraceptives among the young mothers attending child welfare clinics.
2. To explore factors associated with postpartum contraceptive use or non-use among young mothers.
3. To examine factors associated with postpartum contraceptive choice among young mothers.

### 1.4.3 Research questions

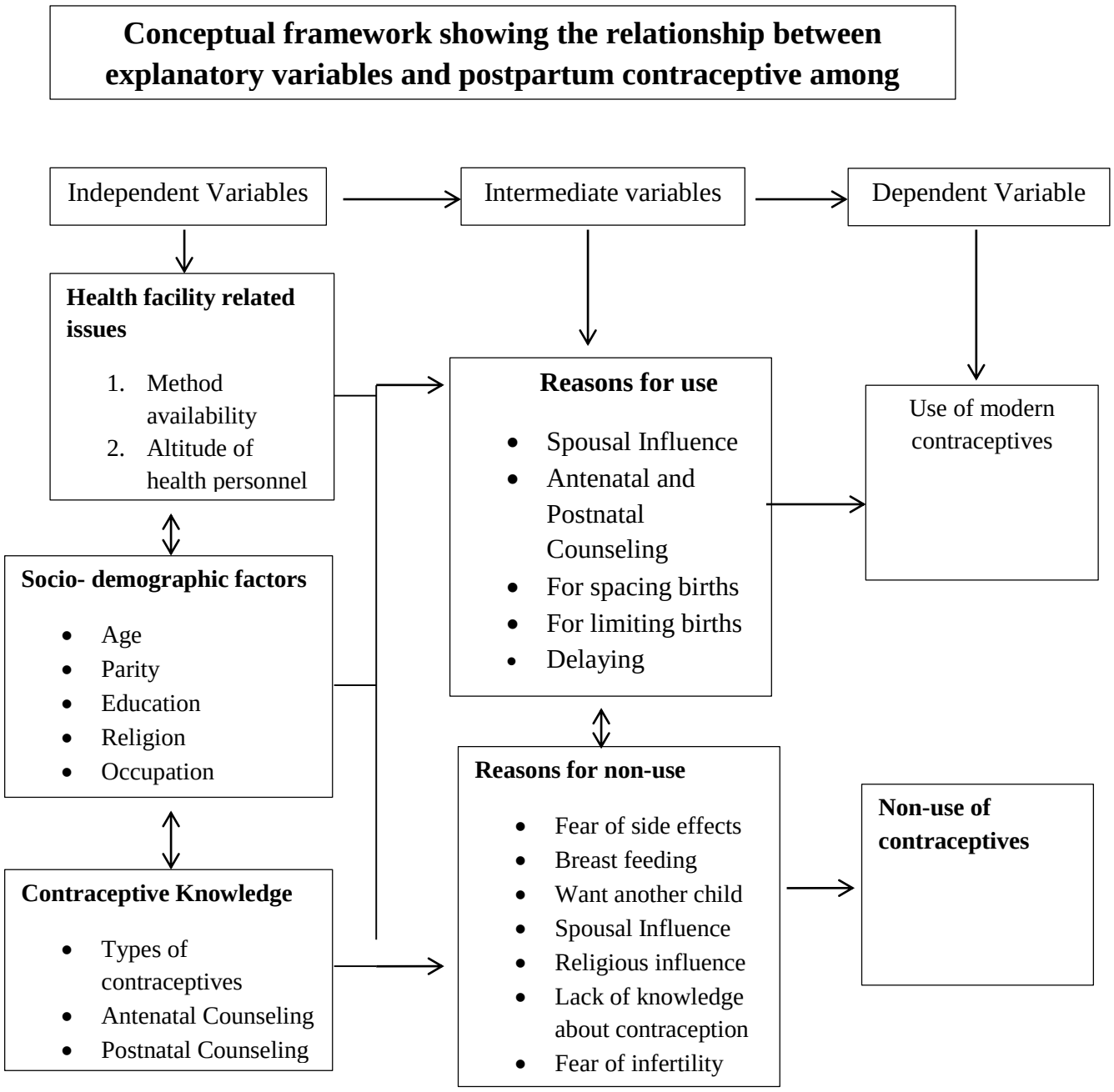
1. What is the prevalence of postpartum contraception among young mothers?
2. What are the factors that are associated with the use or non-use of postpartum contraceptives among young mothers?
3. Does antenatal and postnatal counselling influence contraceptive choice among young postpartum mothers?
4. Does antenatal and postnatal counselling influence contraceptive use among young postpartum mothers?

### 1.5 Conceptual framework

Figure 1 shows the conceptual framework explaining the pathways of the interactions between the independent variables (sociodemographic variables) and the dependent variable (postpartum contraceptive use). Several factors determine contraceptive use among young postpartum mothers. Researchers from different parts of the world identify factors such as the woman's age, parity, knowledge of contraceptives, educational level, religion, history of contraceptive use, desire for more children, partners influence as well as health service related factors.

The intermediate variables act as a link between the independent and dependent variables. All these variables from a web of complex matrix influences the decision to use or not to use contraceptives during the postpartum.

**Figure 1: Conceptual framework**




Source: Author's construct

# CHAPTER TWO

# LITERATURE REVIEW

## 2.0 Introduction

The literature review is focused on what is already known about postpartum family planning. The review addresses important issues about the sociodemographic characteristics of the postpartum women, prevalence of postpartum contraception, factors that affect the use or non-use of postpartum contraception among mothers. Barriers to postpartum contraception have also been discussed.

## 2.1 Postpartum family planning

Postpartum Family Planning (PPFP) is defined as the initiation and use of family planning methods during the first year after delivery. Contraceptive use could be initiated as early as 10 minutes after delivery of the placenta, or between 48 hours and six days post-delivery. However, some women may decide to use a method of contraception any time after the sixth week post-delivery until the end of the first year. This option is termed extended postpartum family planning. According to Ross & Winfrey, (2001), 95 percent of mothers in the low and middle income countries would like to avoid pregnancy within the next two years but 70 percent are not using any effective contraception.

Provision of postpartum contraception for young women with unmet need is the most effective way to avoid unintended and unwanted pregnancies, and unplanned childbirth. Unintended childbirth is associated with adverse morbidities such as poor bonding between mother and child as well as maternal depression (Gong, Hao, Tao, & Zhang, 2013). Unwanted pregnancies among young mothers are more likely to result in unsafe abortion in low and middle income countries where safe abortion services are either not

available due to restrictive abortion laws, unaffordable or not accessible especially in the rural areas. Worldwide, abortions contributes about 23 percent of all maternal deaths with 99 percent of all these deaths happening in the developing world (Ronsmans & Graham, 2006). In Ghana, deaths from complications of abortion contributes 11 percent to maternal deaths (Ghana Statistical Service et al., 2009).

Sadly, in some developing countries, especially in Sub-Saharan Africa, it is becoming increasingly clear that achieving the Millennium Development Goals 4 and 5 will be impossible without implementing accelerated programs aimed at increasing contraceptive uptake in the extended postpartum period. In view of this, in 2010, WHO in collaboration with Maternal and Child Health Integrated Program of the United States Agency for International Development (USAID) produced a document titled 'Statement for Collective Action for Postpartum Family Planning'. This document aims at offering a general approach towards addressing the unmet need for postpartum family planning as well, making a range of contraceptives available (WHO, 2013). The document was endorsed by several global family planning agencies, including the United Nations Population Fund (UNPF) and the International Planned Parenthood Federation (IPPF).

To promote the policy of increasing contraceptive use, the 2012 London Summit on Family Planning renewed international commitment to family planning, especially in the postpartum period by advocating for the incorporation of postpartum family planning into national and local safe motherhood programs. This is to ensure that the postpartum family planning programs are evidence based and rooted in field-tested practices. The WHO with support from various agencies developed and launched a resource material titled "Programming Strategies for Postpartum Family Planning" in

2013 at the International Conference on Family Planning in Addis Ababa. This comprehensive document focuses on family planning needs of postpartum women, with reference to cultural contexts and offers strategies on how to integrate postpartum family planning services into multiple entry points of the health delivery systems in low and middle income countries (WHO, 2013). The policy advocates for the provision of contraceptive counselling and services as continuum from antenatal care through postnatal and child welfare clinics.

### 2.2 Postpartum contraceptive prevalence

Data on postpartum family planning among young women worldwide is limited. Most studies on postpartum contraception concentrate on other categories of women such as adolescents, immigrants, women with special medical conditions and other minority groups. The prevalence of postpartum contraceptive use even within some countries varies depending on geography, socioeconomic and religious factors.

A study in the United States of America (USA) evaluating contraceptive use among over 43,000 postpartum women in 12 states and the New York City reported postpartum contraceptive prevalence of 88.5 percent with over 67 percent reportedly using a long acting method within two to nine months after delivery (Whiteman, Cutis, Hillis, Zapata, D'Angelo, Farr, Zhang,….& Rhobbins, 2009). Factors such as ethnic background of the respondents influenced the decision to use contraceptives. In this study, the Asian/Pacific Islanders had the lowest postpartum contraceptive prevalence rate and the lowest odds of using a highly effective modern method. From this study it could be concluded that geographical location as well as ethnicity and cultural sentiments are associated with postpartum contraceptive uptake and the choice of method. Also, a cohort study that tracked the outcome of postpartum women who

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

Another study in Mexico that analysed data from 17 states involving 2,238 urban low-income women demonstrated that prevalence of modern contraceptive use in the postpartum period between 2003–2004 was 47 percent with most of the women using intrauterine device, condoms or female sterilization (Barber, 2007). This study demonstrated that women who received both antenatal and postnatal counselling services were more likely to use postpartum contraception than those who did not receive such services.

In a cross sectional survey in India involving 123 postpartum mothers from a rural area in Uttar Pradesh it was realised that only 13.8 percent of mothers adopted a modern contraceptive method with 8.9 percent using condoms, 3.3 percent relied on lactation amenorrhoea method (LAM) and 1.6 percent chose the Intra Uterine Device (IUD) (Mahmood, Srivastava, Shrotriya, Shaifali, & Mishra, 2012). In this study, the authors concluded that lack of knowledge about postpartum contraception, breast feeding, the influence of the extended family and religious opposition to contraception acted as barriers to postpartum contraceptive use. Married middle socioeconomic class women,

18 years and above were more likely to use contraceptives during the postpartum period.

Another study in Onitsha in South Eastern Nigeria, which focused on the time of resumption of sexual activity and modern contraceptive use among postpartum mothers found that although 93.6 percent of the respondents had resumed sexual activity by 6 months postpartum, only 46 percent used any method of modern contraception thus exposing themselves to the risk of unintended pregnancy (Egbuonu, Ezechukwu, Chukwuka, & Ikechebelu, 2005). Lactation amenorrhoea remained the most common method of modern contraception for birth spacing among these women during the first 6 months, despite an early return to sexual activity and a return of menstruation in 33.8 percent of the respondents by 6 weeks. The study made a recommendation for promotion of modern contraceptives in the postpartum period, especially for women whose menstruation has commenced.

### 2.3 Factors affecting contraceptive use among postpartum mothers

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

#### 2.3.1 Age and contraceptive use

Studies in Sub-Saharan Africa show that young women are less likely to use contraceptives during the postpartum period, compared to older women in the reproductive age group. They believe that modern contraceptives may jeopardize their chances of having more children. The 2008 GDHS showed that only 20 percent of women aged between 15-24 years use modern contraceptives compared to 34 percent

among women between 35 and 45 years. Even when young women decide to use contraception, they prefer barrier methods and short acting contraceptives such as the pill, emergency contraception and injectable as compared to older women who prefer long acting reversible and permanent methods. The 2014 GDHS found that contraceptive use is lowest among currently married women aged 15-19 years compared to older women (45-49 years). Mahmood et al., (2012) reported a contrasting finding that postpartum contraceptive uptake was higher among women below 30 years in the middle socioeconomic class in a rural area in India. This difference in the results is due to the differences in the educational status of the women where the later study used well educated women who had access to varied sources of information on postpartum contraception and hence the likelihood of higher postpartum contraceptive use.

### 2.3.2 Number of children and contraceptive use

Various studies around the world found that women with high number of children are more likely to use contraception than women with fewer children. A study done in Uganda by Asiimwe & Ndugga, (2014) exploring factors associated with modern contraceptive use found that young women show a strong desire to have more children than older women leading to lower contraceptive use by women between ages 15-24 compared with older women between 25 and 34 years. The GDHS 2014 shows that modern contraceptive use increase with the number of living children. Whilst only 21 percent of married women who had no children reported contraceptive use, 30 percent by 3-4 children were using at least one modern method at the time of the survey. Another survey in Turkey explores the association between parity and contraceptive use among grand multiparous women found that with adequate information many women of high parity may decide to use modern contraceptives to limit child birth.

Providing counselling and contraceptive services led to an increase in contraceptive use from 33.5 percent to 59.5 percent with most of the grand multiparous women choosing long-term reversible methods or sterilisation (Ertem, Ergenekon, Elmaci, & Ilcin, 2001).

### 2.3.3 Income, woman's status and contraceptive use

Women with higher levels of education and income are capable of making informed decisions concerning their reproductive health, contraception and sexual behaviour. A comparative study conducted in Bangladesh among young mothers who were working and non-working mothers found that modern contraceptive use among the former was 65.5 percent and 58.2 percent for the latter (Laskar, Mahbub, Yokoyama, Inoue, & Harada, 2006). Logically, this is not surprising as educated women can learn and use contraception more effectively than uneducated women. The GSS, GHS, & ICF Macro, (2015) shows a positive association between education and contraceptive use. Thirty four percent of women with secondary education compared with 19 percent with no education used at least one modern contraception method at the time of the survey. This finding implies that improving female education generally may increase contraceptive use.

Another study on the impact of women's education and modern contraceptive use in Ethiopia also found a strong association between the level of education of women and contraceptive use (Gordon, Sabates, Bond, & Wubshet, 2011). This was mediated by the level of knowledge, access to health care services and attitudinal factors. Educated women are more likely to have knowledge about the contraceptive methods available, common side effects and are at higher odds of seeking care from family planning providers. A community based comparative study by Bogale, Wondafrash, Tilahun, &

Girma, (2011) on contraceptive decision making power between urban and rural married women found that in the urban areas women with gender equitable attitude were more than four times more likely to decide on modern contraceptive use as compared to those who showed inequitable attitude. Among the rural women, those who were knowledgeable about modern contraceptive use and took active part in decisions about their children were more likely to use modern contraception. Even among the rural women who think their husband's reaction to contraception would be negative, had higher odds of using contraception than those who thought their husband's reaction would be positive.

A study in Ghana by Greenaway, Leon, & Baker, (2012) that examined the role of health knowledge and its association between mothers' education and the use of reproductive and child care services in Ghana concluded that there is a strong relationship between health information and greater use of maternal and child health care services. The study observed that women with broader and comprehensive knowledge of health issues are more likely to seek care for themselves and also for their children when needed.

### 2.3.4 Female autonomy and contraceptive use

Female autonomy is defined as the ability of the woman to take important decisions concerning herself and members of her family without necessarily requiring permission of the male partners. In the context of fertility, female autonomy implies the ability of the woman to actually take important decisions about her reproductive choices such as deciding on how many children she would have and when to have them without requiring permission from her male partner.

In Africa the issue of female autonomy and contraceptive choice and use is controversial. Male partner influence is dominant in all spheres of life in most African countries. To assess the level of influence of male partners in contraceptive decision making in Nigeria, a study was undertaken to identify individual attitude towards the empowerment of women in making an independent decision on the right to accept, choose and use contraception without recourse to their male partner. The study showed that only 34.4 percent of the respondents thought that all women irrespective of their marital status should be given the independent right to choose and use contraception without input from the male partner (Bukar, Audu, Usman, El-Nafaty, & Melah, 2013). However, a majority of both genders supported the idea that male partner input is needed in contraceptive choice and use. This study reaffirms the dominance of male partners in contraceptive decisions in this part of the Nigerian society.

### 2.3.5 Spousal communication and support

Spousal communication is usually used as a focal point in community based family planning interventions. This provides a platform for couples to openly share ideas about fertility preferences and reproductive desires, enabling the providers to make valuable contributions for the couples to make informed choice. Studies of spousal communications have demonstrated that concurrence, which develops from open discussion on fertility desires and preferences between spouses often increases the likelihood of modern contraceptive uptake (Bawah, 2002; Ogunjuyigbe, Ojofeitimi, & Liasu, 2009; Kulczycki, 2008).

In many developing countries a woman's decision on postpartum contraceptive use may need spousal affirmation because of cultural norms and male dominance in decision making. Some tribes and religious groups are hesitant to discuss family planning openly

between spouses, accounting for a lower uptake of contraception within these communities. Family planning programs, the influence of male in the decision making process is usually underestimated with more attention focussed on the women. This is because it is the woman's health that is most at risk.

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

Whilst male influence cannot be undermined in most patriarchal societies in the developing world, the decision making process in contraception uptake is usually complex. Some women may use contraception secretly, despite disapproval from the male partner to avoid future conflict with the partner. These cases demonstrate that though spousal communication is vital in contraceptive use, the woman's desires and motivations may surpass that of the male spouse's influence (Yue, O'Donnell, & Sparks, 2010).

### 2.4 Barriers to postpartum contraceptive service provision

Provision of postpartum contraception in the immediate postpartum period helps to address the unmet need of mothers for contraception in the first year after delivery. Postpartum contraceptive services offer a cost effective and efficient means of avoiding unwanted pregnancy leading to improvement in both maternal and infant health. However, provision of postpartum contraception faces myriad of problems all over the world especially in developing countries. Challenges include access to service, quality

of service, method, availability and cost of service as well as negative provider attitude. These affect the choice and use of contraception in the postpartum period.

Studies done in the United States on postpartum contraceptive use among adolescent mothers have identified that those using long acting reversible contraceptive methods (LARC) like intrauterine devices immediately after delivery have a lower risk of rapid repeat pregnancy compared to those who adopt short acting methods such as oral contraceptive pills or contraceptive patch (Stevens-Simon, Kelly, & Kulick, 2001; Lewis, Doherty, Hickey, & Skinner, 2010; Thurman, Hammond, Brown, & Roddy, 2007). However, the provision of long acting reversible methods for adolescent mothers has challenges, especially among minority and poor communities. A study by Eisenberg, McNicholas, & Peipert, (2013) identified cost as a major barrier in the provision of long acting contraceptives for adolescent mothers since the service require cost-sharing with insurance providers. The study hypothesised that universal insurance coverage without recourse for out of pocket payment could increase use of LARC methods.

Another study by Ogburn, Espey & Stonehocker, (2005) to find out how many postpartum women who chose intrauterine devices antepartum actually obtained them post-delivery discovered that only 59 percent of the mothers received the service. Several barriers such as change of method of contraception based on providers' advice because the provider erroneously felt the young mother was not suitable for an IUD at the immediate postpartum period. Other reasons were that some of the mothers failed to attend the post-natal visit or they were persuaded to change to another method by providers at the postpartum visit because of conditions which the providers mistakenly thought were contraindicated for an IUD.

Provisions of permanent methods are also replete with barriers. Some studies have shown that women who opt for female sterilisation, either intra partum or postpartum do not receive the service. A study done to assess the rate and risk factors for not receiving sterilisation, although the mothers requested for it in the antepartum found that 46 percent of the mothers did not get the procedure done after delivery with the odds higher for young mothers, those who had vaginal delivery and those from minority ethnic groups (Zite, Wuellner, & Gilliam, 2005).

In the Sub Saharan Africa the challenge of meeting the desire to limit births is even greater. Contrary to conventional wisdom, which proposes that older women have an unmet need for permanent methods, studies show that in Africa there are many young women who have unmet need for family planning to limit future births. Demographic and Health Survey data from 18 countries analysed to assess the unmet need of young women for LARC and permanent methods show that over 8 million women have demand for preventing future births in Sub Saharan Africa (Van Lith, Yahner, & Bakamjian, 2013).

However, in Sub-Saharan Africa most of these women, mostly in their thirties are using short-acting or traditional methods of contraception instead of LARC thus exposing them to the risk of unintended pregnancy. Meeting the contraceptive needs of this underserved and often overlooked group of women is essential towards achieving good maternal health.

### 2.5 Providers' attitude and service restriction

Quality family planning services avails a platform to provide evidenced based and field tested knowledge about contraception and acceptance of effective methods by offering client centered individualised services.

Knowledge, skills and practice patterns of the family planning providers play a major role in providing easy access to contraceptive services. Negative influences, poor providers' communication and counselling skills, overbearing or 'pushy' attitude of providers, coercive tendencies from the side of the providers more often than not make women apprehensive and suspicious thereby affecting their decision to choose or use modern contraceptives (Yee & Simon, 2011).

Provider dependant contributory factor affects greatly the decision to use contraception, especially among women in deprived communities and women from minority groups. Negative counselling practices such as prescribing unwanted contraceptive methods without providing appropriate options may lead to non-use of the method and thus expose the woman to unwanted pregnancies.

Historical injustices in multiracial and multi-cultural societies usually raise suspicion among minorities about contraceptive 'conspiracies' to such levels that they feel contraception is being used as a means of controlling their population (Borrero, Schwarz, Creinin, & Ibrahim, 2009). Providers in such situations need to provide good client focussed services to dispel wrong perceptions. Patient centered care in which the provider helps the client to understand and partake in decision making about their fertility needs and provides a key component in delivering a high quality care and dispel conspiracy 'beliefs' cannot be overemphasized.

### 2.6 Reasons for use or non-use of modern contraceptives

Postpartum contraceptive use has the greatest potential of improving maternal health and reducing perinatal and infant mortalities**.** Antenatal and postnatal visits present a good opportunity for counselling for contraceptive services because of the unique

opportunity of several interactions with pregnant women and postpartum mothers during these visits.

In 2008, 342,000 women died of maternal causes with 99 percent of these deaths occurring in developing countries (Ahmed, Li, Liu, & Tsui, 2012). Without contraception the situation could have been worse for contraceptive use has the potential of averting more than 272,000 deaths per year (Stover & Ross, 2010).

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

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

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

Despite the enormous benefit of contraception to the individual and the society as a whole, there is a high unmet need for family planning services in the developing world.

A study by Sedgh and Hussain (2014) which analysed DHS data from 51 surveys in Africa, Asia and Latin America and the Caribbean showed that the unmet need for modern contraception for women between the ages of 15 and 49 years still remains high in all of these regions. The unmet need for modern contraception in Africa and Asia are 24 percent and 15 percent, respectively, with large variations across different countries in this region (Sedgh & Hussain, 2014a). Chigbu, Onwere, Aluka, & Kamanu, (2010) studied the contraceptive choices among rural women in south eastern Nigeria. Qualitative data were collected by in-depth interviews of the clients whose records were available as a family planning unit of a University Hospital between November 2005 and October 2007. The majority of the women preferred injectable and explained their choices based on the fact that injectable are non coital dependent, with little or no risk of failure or forgetfulness on the part of the users. And especially for those with no spousal consent, the women found injectable as convenient in order to avoid detection by their spouses.

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

Efforts have been made through research to explain the reasons why many women in their reproductive age still have a high unmet need through the use of both qualitative and quantitative study methods. Studies for unmet need based on DHS surveys in the 1990s concluded that lack of knowledge about contraception was the main reason in

Sub-Saharan Africa whilst fear of potential side effects accounted for non-contraceptive use in Latin America and Asia (Westoff & Bankole, 1995; Bongaarts & Bruce, 1995). Recent reviews of DHS surveys from developing countries, however, indicate a high level of general knowledge about contraception in most countries, but fear of side effects and disturbances in the menstrual cycles is increasingly becoming the main reasons for non-use of contraception (Sedgh, Hussain, Bankole, & Singh, 2007).

A qualitative study exploring the limits to contraceptive use among young women found that lack of knowledge on the various methods of contraception, obstacles to access and concerns over side effects, especially the fear of infertility accounted for the low uptake of contraception (Williamson, Parkes, Wight, Petticrew, & Hart, 2009). Because of these problems, younger women in this study relied on traditional methods and induced abortion as family planning methods.

A cross-sectional study on postpartum contraceptive use in a rural hospital in India found a high unmet need of modern contraception. Reasons for non-use of contraception were lack of knowledge, breastfeeding and postpartum amenorrhea, desire for more children and opposition of religion to contraception (Mahmood et al., 2012).

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

A study done by Stanback & Twum-Baah, (2001) in Ghana concluded that provider restrictions that impede clients' access to contraception are based on false safety issues and morals. Some providers erroneously believe for example that injectable contraceptives can cause future fertility problems for young women and some providers have inadequate knowledge on common side effects and as such exaggerate them during interaction with clients.

Another survey conducted among women of reproductive age in the Ga East of Accra, Ghana identified three broad barriers against modern contraceptive use: service related factors, awareness related barriers and influence of partners and others. The study found that almost half of the respondents believed that family planning is ineffective in preventing pregnancies, one third of the respondents considered modern contraception as unsafe, 20 percent perceive their partners as obstacles to contraceptive use and 65 percent reported at least one side effect from contraceptive use (Aryeetey, Kotoh, & Hindin, 2010). The findings above could explain why some women, despite demonstrating knowledge about contraceptives do not use them.

### 2.7 Factors influencing choice of contraception

Young women in developing countries, especially in the sub-Saharan region still has a high unmet need of family planning. In Ghana, for those who decide to use contraception, according to GDHS 2008, most rely on less effective short acting methods like condoms, emergency contraceptive pills exposing them to the risk of unwanted pregnancy.

The results from the CHOICE study in Austria which focussed on effective counselling and factors affecting women's contraceptive choices concluded that women in the study based their decision on 'easy to use' of the pill, weekly patch and the monthly vaginal

ring (Egarter, Nouri, Grimm, Ahrendt, Bitzer, & Cermak, 2012). A prospective cohort study exploring factors affecting choice of an IUD as contraception found that financial barriers still remain a challenge in the United States when a woman decides to use an IUD (Secura, Allsworth, Madden, Mullersman, & Peipert, 2010). Women who cannot afford this method will have to depend on less effective methods, thereby exposing themselves to the risk of unwanted pregnancy. Another study that explored factors that influences contraceptive choice among adolescent women from low socioeconomic background revealed that variables such as race, age, educational level and the type of insurance that the adolescent possesses affect the choice of the contraceptive method (Heavey, Moysich, Hyland, Druschel, & Sill, 2008). A longitudinal qualitative interview conducted by Weston, Martins, Neustadt, & Gilliam, (2012) among first time African American mothers using data from the Postpartum Adolescence Birth Control Study to identify factors that prevent, delay or promote the use of the IUD among postpartum mothers found a number of barriers. Three main domains were identified: service level obstacles which include personal insurance, clinical access and providers, fears and concerns from peers, relatives and partners and shifting birth control preferences. Lack of insurance coverage, difficulty in scheduling appointments for IUD insertion, limited clinic hours and referral requirements for adolescents, long waiting times and lack of providing training for the procedure was cited by the adolescents as barriers militating against access and use of an IUD. Incorrect eligibility requirements from the providers, improper provider counselling and lack of awareness of the benefit of IUD for the adolescents, despite evidence based recommendations for the use of IUD as long term and emergency contraception were seen barriers for IUD promotion.

## 2.8 Role of counselling in postpartum contraceptive use

The continuum of pregnancy offers providers opportune time for good contraceptive counselling for women and their partners since it gives them a chance to consider future contraceptive options prior to delivery to prevent rapid repeat of pregnancy, unsafe abortion and unwanted pregnancies especially in high risk women.

Family planning counselling is a bilateral interaction between the counsellor and the counselled with the intention to inform, motivate and educate couples by helping them to make voluntary and informed choices about contraception. Family planning counselling can be provided during different periods of a woman's reproductive life. The antenatal, immediate postpartum and the extended postpartum periods offer convenient time for contraceptive counselling due to multiple interactions between the health care providers and women. In order to promote the postpartum contraceptive use, contraceptive counselling has been integrated into maternal health and child care services in many countries worldwide.

A study in Nigeria to determine the influence of antenatal and post-natal counselling on the postpartum contraceptive use found that women who had multiple antenatal contraceptive counselling were more likely (57 percent versus 35 percent) to use postpartum contraception by 6 weeks than those who received single one-on-one postnatal counselling (Adanikin, Onwudiegwu, & Loto, 2013). The relationship between antenatal (ANC) and postnatal care clinic (PNC) attendance and postpartum contraceptive uptake has also been studied by Do & Hotchkiss, (2013) using population surveys in Kenya and Zambia (Kenya DHS 2008-2009 and Zambia DHS 2007). Using Cox proportional hazard ratio and controlling for confounders, the authors found a significant association between ANC/PNC service intensity and postpartum

contraceptive use in both countries. However, when the only PNC service intensity was analysed it was observed that there was no significant association between PNC and postpartum family planning.

Increasing the information and education provided after delivery before discharge from maternity units have been found to have strong positive effects on contraceptive use in the immediate postpartum. Study done in the Dominican Republic by (Vernon, 2008) among women who received information at the hospital during their delivery stay found that these women were 56 percent more likely to use postpartum contraception than those who did not receive any information at the delivery ward. Another study in Nicaragua similarly found an increased likelihood of postpartum contraceptive use in otherwise identical women by 73 percent (Vernon, 2008).

(Saeed, Fakhar, Rahim, & Tabassum, 2008) studied the effect of family planning information provided at the labour ward on postpartum contraceptive use. Women in the immediate postpartum period were randomised into two groups. The first group of mothers was provided with postpartum family planning counselling and leaflets containing information on contraception prior to discharge after delivery whilst the second group did not receive any such intervention. The investigators found that 57 percent of new mothers who received the information from the maternity unit had started using a modern method of contraception by 8 to 12 weeks postpartum compared to 8 percent of those who did not receive this information prior to discharge. The authors concluded that provision of contraceptive counselling in the immediate postpartum period may help improve family planning use. A household survey done in six cities in Senegal that focussed on 1179 women who had delivered within 2 years and accessing maternal and child care services found that women who received information on

contraception at the time of delivery were more likely to be using modern contraceptive compared to their counterparts who did not receive such information (Speizer, Fotso, Okigbo, Faye, & Seck, 2013).

Postnatal care (PNC) is an essential component of maternal health care, as most maternal deaths occur within the first few days after delivery. It is therefore crucial that routine PNC for all mothers take place immediately after childbirth and at least in the first six weeks. In addition to checking for complications that could result in maternal deaths and morbidity, an essential component of routine PNC is counselling and the offer of a wide range of family planning services. Studies done to evaluate whether postnatal care services influence postpartum contraceptive use among new mothers shows mixed results. One paper found the use and timing of postnatal check-ups to be significantly related to the use of modern contraception after delivery. Postpartum contraceptive use was three times more likely among women whose PNC visit took place within two days of delivery and six weeks postpartum. The adjusted odds of using a modern method of contraception in the postpartum period were 1.7 times higher among women who received PNC between three days and six weeks after their last delivery, relative to those who did not receive any PNC (Speizer et al., 2013).

### 2.9 Integrating postpartum family planning into newborn care programs in the community

Various communities based care services focus on immediate care of the baby within the first few weeks of life with targeted child care services such as immunization within few days of delivery. Interaction of new mothers with health care workers offers good opportunity for counselling for family planning. The early postnatal visits are ideal to integrate LAM counselling and support as well as providing information about fertility

return and need for contraceptive use. Child welfare and immunization visits during the first year postpartum offer important opportunities to discuss family planning and contraception with postpartum women. From the time of delivery, the risk of pregnancy increases and women need information and services that respond to the reproductive intentions for healthy spacing or limiting future pregnancies. The family planning providers therefore need to be knowledgeable and provide accurate information on which contraceptive methods can be used by breastfeeding mothers and when those methods can safely be introduced.

Studies have shown successful proof of an increase in postpartum contraceptive use and immunization. Using a referral model in two counties in Liberia, a study showed an increased total number of new acceptors of postpartum contraception to as high as between 73 percent and 90 percent in these two counties (Cooper, Fields, Mazzeo, Taylor, Pfitzer, & Jabbe-Howe, 2015). The study used trained vaccinators who provided counsel on postpartum family planning at the child welfare clinic and those who made the informed choice were referred to the family planning unit in the same facility for further counselling and the provision of a method. The limitation of this study was that the sample size was small.

However, a 2011 Cochrane Review Database Review did not find any evidence on the integrated family planning and maternal, newborn and child welfare programs in any developing country that had operational benefits despite the growing evidence on the role of family planning in improving child and maternal health (Bain-Brickley, Spaulding, Azman, Lindegren, Kennedy, & Kennedy, 2011). The review, however, showed that there were some improvements in maternal and child morbidity and mortality in some of the integrated programs, but these studies did not document clearly

the program designs and implementation details hence the authors' conclusion of lack of evidence.

# CHAPTER THREE

# METHODS

## 3.1 Study design

This study employed facility-based cross-sectional analytical design using one-on-one interviewer administered structured questionnaires adapted from GDHS. The data collection was done between 11th May 2015 and 7th June 2015.

## 3.2 Study Location

The study was done in the Kwaebibirem district in the Eastern Region of Ghana. The district is located at the southwestern corner of the Eastern Region and shares boundaries with the Birim North District to the north, Atiwa and East Akim Districts to the east, West Akim to the south and Birim Central to the south west. The district has a total population of 208,823 with a surface area of 1230 square kilometres (GSS, GHS, & ICF Macro, 2009). Kwaebibirem district has one district hospital, three health centres and 24 community health and preventive services (CHPS). The district hospital serves as the main referral facility for the inhabitants in the area and others from the adjoining districts. The district facilities have further been divided into eight sub-districts namely Abaam, Abehenase, Asuom, Kade, Otumi, Pramkese, Subi and Takyiman. Each of these eight sub districts supervises the activities of three CHPS compounds. Six of the sub district facilities provide basic emergency maternal and neonatal care with only the district hospital providing comprehensive obstetric care. The district has two medical officers, 24 midwives and 30 community health nurses. Each of the eight sub districts has a family planning unit which provides contraceptive services, comprehensive abortion care and adolescent friendly health care services. All the health centres and community health and preventive services in the sub-districts offer maternal and child

health services including antenatal, supervised delivery, postnatal and child welfare clinics.

In 2014, the total deliveries in the district were 2,352 out of these births 1420 occurred at the district hospital. The supervised delivery rate was 57.23 percent. In addition, 45.67 percent of all deliveries occurred in women between 15 and 24 years. The teenage pregnancy rate was 19.1 percent compared with a national teenage pregnancy rate of 16.7 percent (GSS et al., 2015) Contraceptive prevalence rate (CPR) within the target population is 11.7 percent far below the national CPR of 27 percent (GSS et al., 2015).

The district has a youthful population of 42 percent aged between 0-14 years, about 51.9 percent between 15-64 years and 5.5 percent above 64 years. Predominant occupations of the inhabitants are agriculture, which engages 76.8 percent, 11 percent in commerce, industry and services accounts for 8.5 percent and 3.7 percent respectively. Most of the inhabitants are connected to the national electricity grid. The district has a poor road network with most of the roads entered making it difficult for people to access health care at the district hospital

The abundant potentials in the mining and agricultural sectors of the district economy are the recipe for the influx of people from other parts of Ghana. The majority of the inhabitants is Akans, constituting 67.2 percent, Hausas 12.6 percent, Ewes 8 percent, Gas 7.5 percent and other minority tribes' accounts for 4.6 percent of the district population **(www.mofep.gov.gh or www.ghanadistricts.com Accessed on 20th December, 2014 at 12.30 hours).**

### 3.3 Variables

#### 3.3.1 Outcome variable

Postpartum contraceptive use among the young mothers attending the child welfare clinic

#### 3.3.2 Explanatory variables

1. Demographic background variables include: age, occupation, level of education, religious denomination, ethnicity, educational level of spouse, residence
2. Knowledge of postpartum contraception
3. Choice of contraceptive method
4. Antenatal and postnatal counselling
5. Socioeconomic factors that affect the postpartum contraceptive use

**Table 1: Study variables**

| Variable | Operational Definition | Indicator | Indicator measurement | Type of variable |
|---|---|---|---|---|
| Age | Age at last birthday | Age in completed years | Questionnaire | Continuous |
| Level of Education | Highest education attained | None, primary, JHS, SHS and Tertiary | Questionnaire | Ordinal |
| Occupation | Job performed daily | Unemployed, self-employment, Formal employment, Student | Questionnaire | Nominal |
| Religion | Faith of respondent | Christianity, Moslem, Traditional, Others | Questionnaire | Nominal |
| Resumption of sexual activity | Having sexual activity regular or irregular | Yes / No | Questionnaire | Binary |
| Current method of contraceptive use | The choice of contraceptive method | As reported by respondents | Questionnaire | Discrete |
| Purpose of contraceptive use | Reasons for women using a particular method | As reported by respondents | Questionnaire | Discrete |
| Couples Communication | Ability to share reproductive ideas | Yes / No | Questionnaire | Binary |
| Assessment of Family planning information | How respondents assess information provided by FP providers | Useful, Somewhat useful, Not useful | Questionnaire | Ordinal |

### 3.4 Sampling

#### 3.4.1 Sample size calculation

The study on postpartum contraception among young mothers appears to be the first study to be conducted in the Kwaebibirem district and I could not find any previous study in Ghana among this category of women. Therefore the sample size was calculated based on the assumption that 50% of young mothers would use contraception during the postpartum period.

The sample size was determined using the formula (Kadam & Bhalerao, 2010).

Where

$$N = \frac{\left(z_{1-\alpha/2}\right) 2 \ p(1-p)}{d^2}$$

N = required sample size

$Z_{1-\alpha/2}$ = confidence level of 95% (standard value of 1.96)

p = percentage of postpartum women assumed to use contraception = 50%=0.5

q = proportion of postpartum women not using contraception which equal to 1-0.5= 0.5

d = margin of error

Thus, the sample size was calculated as follows

$$N = \frac{1.96^2 \times 0.5(1-0.5)}{0.05^2}$$

$$N = \frac{3.8416 \text{ X } 0.5 \text{X } 0.5}{0.0025} = \frac{0.9604}{0.0025}$$

N= 384.16= 384 participants.

**Assumptions**

The sample size was calculated within the following parameters. P assumed percentage of postpartum young women more likely to use contraception = 50%, 95% confidence interval (z) and a margin of error (d) of 5%.

10% of the calculated sample size was added to account for non-response.

Minimum number of participants = **416 participants.**

### 3.4.2 Sampling method

All married, sexually active postpartum young women between 15 and 24 years, who had delivered between 6 months to 18 months prior to the study and attending the child welfare clinics at the district hospital, all three health centres and 12 CHP centres were included in the study. The 12 CHP centres were selected from the 24 by simple random sampling. The district hospital and the 3 health centres were selected because they are the largest facilities providing a wide range of services for the young mothers. The different health facilities selected for the study were coded and the facility codes were used to create an identification serial number for each respondent. Young mothers who gave written consent to participate in the study were recruited consecutively till the sample size was achieved. Consecutive enrolment was chosen to meet the sample size since the prevalence of pregnancy among this age group in the district was 45.7 percent in 2014. The eligible postpartum young mothers were selected after their babies had been seen by the nurses at the child welfare clinic. For young mothers who were less than 18 years and unaccompanied by an adult, an appointment date for the interview was arranged by the principal investigator after receiving consent from a parent or guardian and accent from the postpartum mother herself. To ensure privacy and confidentiality of the respondents the interviews were conducted at the designated area at the various health facilities under strict confidential settings.

### 3.5 Study Population

**Inclusion criteria**

1. The study population included all married or cohabiting young mothers between 15-24 years who delivered between 6-18 months prior to the study, regardless of parity, religion, educational level, occupation and are attending the child welfare clinic and do consent to participate in the study.
2. For young mothers less than 18 years written consent was sought from any guardian accompanying her and accent from the participants herself. If the young mother was unaccompanied by an adult, the interview was rescheduled at a time convenient for the respondent, when the necessary consent would have been duly sought.

**Exclusion criteria**

1. Young mothers with any medical conditions which prevent usage of contraceptives.
2. Young mothers with severe mental illness.
3. Young mothers who have had a hysterectomy.

### 3.6 Data collection techniques and tool

A structured questionnaire used for this study was adapted from the Ghana Demographic Health Survey (2008) on contraception. The questionnaire was translated by a professional translator into three different local languages that the respondents were comfortable to speak. The questionnaire was administered by the principal investigator and three female research assistants one-on-one. Data collected included age, parity, residence, highest educational level attained by the respondent, occupation, religious denomination, ethnicity, level of education of partners', knowledge on risk of

untimed pregnancy in the postpartum, method of contraception available, history of antenatal and postnatal counselling on family planning, previous and current contraceptive use, support/prevention of partners on use or choice of contraceptive method, socio-cultural and economic factors that influence on contraceptive use or choice, reasons for use or non-use of contraception.

### 3.6.1 Data quality control

To ensure quality data collection and control, three research assistants were engaged and trained by the principal investigator. The training exercise was necessary to ensure consistency and correct interpretation of the questionnaires to respondents. Research assistants were also trained in data collection techniques as well as how to protect the privacy and confidentiality of the participants. During the data collection process, the principal investigator went round daily to check the quality of work being done on the field. To minimise the risk of data loss, all the data collected were double checked daily to ensure they were complete and all internal inconsistencies sorted out. Questionnaires found to be incomplete were corrected in the field. Coding of the data collected was made by the principal investigator and then entered into the computer. The data was double entered and checked by the principal investigator.

### 3.6.2 Data processing and analysis

Unprocessed data extracted from the responses in the questionnaires were coded. Pre coded data were entered into the Excel spreadsheet (Microsoft Office, 2010). The data were cleaned and exported into the STATA version 12 (Stata Corporation, College Station, TX, USA) for windows for analysis. Descriptive statistics were used to assess the level of knowledge of postpartum contraception, age, parity, residence, highest educational level, occupation, religious denomination, ethnicity, partners' education

level and contraceptive use. Chi-squared test was used to determine the association between socio-demographic factors, reproductive health factors and postpartum contraceptive use. Multiple logistic regression was used to test the strength of associations of the variables that were significant at the bivariate level. Statistical significance is determined using 95% confidence interval and $p \leq 0.05$. The results obtained from the various analyses were presented in the forms of descriptive texts, tables and figures.

### 3.7 Ethical considerations

The study was approved by the Ghana Health Service Ethical Review Committee. Permission was sought from the Kwaebibirem District Health Management Team (DHMT), the management of the Kade Government Hospital and the three health centres in the district. The objectives and the rationale as well as the potential risks and benefits of the study were discussed with each patient and written consent was given by respondents before the interview was conducted. For mothers under 18 years accent were taken and informed consent taken from any guardian accompanying the mother. Respondents were made aware that entry into and exit out of the study were entirely voluntary. Names of respondents were not used on the questionnaires to reduce the possibility relating information gathered to the respondents. A computer file with a code accessible to the principal investigator only was created to protect the respondents' privacy and confidentiality. Answered questionnaires were locked and kept safely.

### 3.8 Pretesting of the questionnaire

Pretesting of the structured questionnaire was done at the St. Dominic Hospital in the adjoining district supervised by the principal investigator. Necessary corrections and modifications of the questionnaires were done after pretesting before the final print out.

Pretesting was on the level of knowledge on postpartum contraception and reasons for use or non-use.

# CHAPTER FOUR

# RESULTS

## 4.0 Introduction

This chapter presents the results of the study, which includes the primary characteristics of the respondents, relationship between socio-demographic characteristics, reproductive health related factors and young postpartum mothers' contraceptive use. Predictors of postpartum contraceptive use are also discussed.

## 4.1 Socio-demographic characteristics of respondents

Of the 420 postpartum mothers aged between 15-24 years, who had delivered between 6-18 months preceding the conduct of the interview and attending child welfare clinics recruited for this study, 416 responded to the questionnaires. This gave a response rate of 99 percent.

The mean age of respondents was 21 years (SD= 2.4). The majority, 73.3 percent belongs to the 20-24 age group.

Out of the 416 respondents, 230 (55.3%) had completed Junior High School (JHS), 37 (8.9%) had no formal education, 12 (2.9%) obtained tertiary education. Also, 194(44.6%) of the respondents had partners with primary education and 125(30.1%) were educated up to the JHS level. Male partners were more likely to have had tertiary education compared to the female counterparts [32(7.7%) versus 12(2.9%)].

The majority of the young postpartum mothers, 191(45.9%) were unemployed. Of those employed, 28 percent were found to be in the formal sector (private and public) and 20.2 percent were self-employed.

Akans were the dominant tribe, 69.2 percent, Ewes constitute, 11.8 percent, Hausa 6.3 percent. A greater number of the respondents, 272(65.4%) reside in the rural parts of the district (Table 2).

The majority 366(88%) of the respondents were Christians, followed by Islam, 38(9.1%).

**Table 2: Socio-demographic characteristics of respondents**

| Age group | Frequency | Percentages |
|---|---|---|
| 15 – 19 | 111 | 26.7 |
| 20 – 24 | 305 | 73.3 |
| **Educational level** | | |
| No education | 37 | 8.9 |
| Primary | 66 | 15.9 |
| JHS | 230 | 55.3 |
| SHS | 71 | 17.1 |
| Tertiary | 12 | 2.9 |
| **Partners Educational Level** | | |
| No education | 33 | 8.0 |
| Primary | 194 | 46.6 |
| JHS | 125 | 30.1 |
| SHS | 32 | 7.7 |
| Tertiary | 32 | 7.7 |
| **Occupation** | | |
| Unemployed | 191 | 45.9 |
| Student/ Apprentice | 24 | 5.8 |
| Self-Employment | 84 | 20.2 |
| Formal Employment | 117 | 28.1 |
| **Ethnicity** | | |
| Akan | 287 | 69.2 |
| Ga/Dangbe | 33 | 8.0 |
| Ewe | 49 | 11.8 |
| Dagbani/Grushie | 20 | 4.8 |
| Hausa | 26 | 6.3 |
| **Residence** | | |
| Urban | 144 | 34.6 |
| Rural | 272 | 65.4 |
| **Religion** | | |
| Christianity | 366 | 88.0 |
| Islam | 38 | 9.1 |
| Traditional | 9 | 2.2 |
| No religion | 4 | 0.7 |

### 4.2 Reproductive health characteristics of respondents

The median number of children was two per woman. The majority, 205(49.3%) of the mothers had one child, 33.4 percent had two children, 13.2 percent had three children and 4.1 percent had four to six children. Four hundred and four, (97.1%) of the women who took part in this study had less than one year old babies at the time of the survey.

Current contraceptive users among the respondents were 199(47.8%). The majority of the respondents, 273(66%) expressed the desire to have another child whilst, 90(21.7%) did not want any more children with 51(12.3%) not certain of their future reproductive goals. Most (62.6%) of the women wanted to delay the next birth by at least 2 years. A greater number, 304(73.3%) of the respondents had resumed sexual intercourse at the time of the study. The majority (71.8%) of those who had started sex did so before their babies were six months old but only 47.8 percent of all the young mothers used a method of contraception after delivery. Among the 414 respondents, 46.6 percent had a history of ever use of modern contraceptive with majority, 73 percent using them for child spacing (Table 3).

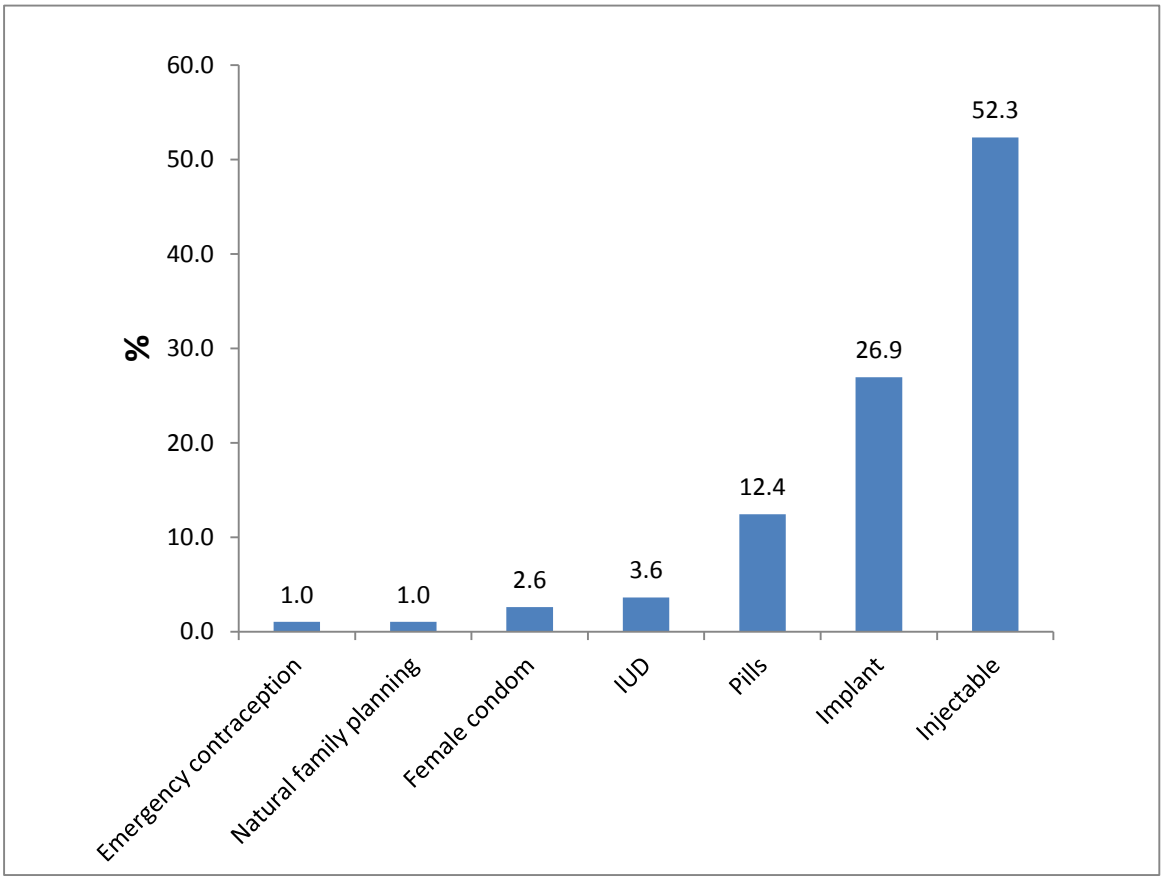
**Table 3: Reproductive health related characteristics of study participants**

| **Parity** | **Frequency** | **Percentages (%)** |
|---|---|---|
| 1 | 205 | 49.3 |
| 2 | 139 | 33.4 |
| 3 | 55 | 13.2 |
| 4 to 6 | 15 | 4.1 |
| **Age of last child (months)** | | |
| 6-12 | 404 | 97.1 |
| 13-18 | 12 | 2.9 |
| **Wanted another child** | N=314 | |
| Yes | 273 | 66.0 |
| No | 90 | 21.7 |
| Not sure | 51 | 12.3 |
| **Return of menses** | 299 | 71.8 |
| **Resumption of sexual intercourse after delivery** | 304 | 73.3 |
| **Last pregnancy not planned** | 268 | 65.5 |
| **Ever use of contraception** | 193 | 46.6 |
| **Contraceptive use after child bearing** | 172 | 41.5 |
| **Reasons for contraceptive use** | N=172 | |
| Space | 126 | 72.4 |
| Delay | 46 | 27.6 |
| **Current contraceptive use** | 199 | 47.8 |
| **Partner communication on contraception** | 237 | 57.0 |

### 4.3 Preferred method of contraception

The majority 101(52.6%) of current contraceptive users preferred the injectable, 51(25.5%) were using implant and 21(13.0%) were on pills, IUD 7(3.7%), female condom, 5(2.6%), natural family planning, 2(1.0%) and emergency contraception, 1(0.5%) (Figure 2).

**Figure 2: Preferred methods of contraception**




### 4.4 Antenatal and postnatal service utilisation during last pregnancy

The majority 393(94.5%) of the respondents attended antenatal clinics during their last pregnancy with most women, 359(86.4%) having 4 or more visits provided in a health facility. Majority 344(83.1%) of the respondents delivered in health facilities (Table 5). Of the 393 women who had ANC, 297(71.4%) received family planning and

contraceptive education during their antenatal visits and 126(30.1%) chose a modern method at the ANC. Postnatal attendance was also higher among the respondents, 387(93.3%) and more than three quarters of postpartum young mothers had education on healthy spacing and contraceptives. Out of the 126 who chose a method during prenatal counselling only 23.1 percent used the method at the time of the study (Table 4).

**Table 4: Antenatal and postnatal service utilization during last pregnancy**

| Variable | Frequency | Yes (%) | No (%) |
|---|---|---|---|
| Antenatal attendance | 416 | 94.5 | 5.5 |
| Antenatal counselling on family planning | 416 | 71.4 | 22.6 |
| Postnatal visits | 415 | 93.3 | 6.7 |
| Postnatal counselling on family planning | 413 | 77.2 | 22.8 |
| Choice of method during ANC | 416 | 30.3 | 69.7 |
| Use of method chosen at ANC | 416 | 23.1 | 76.9 |

**Table 5: Antenatal attendance and place of delivery**

| Number of visits | Frequency | Percentage |
|---|---|---|
| 1 | 28 | 6.7 |
| 2 | 6 | 1.4 |
| 3 | 23 | 5.5 |
| 4 or more | 359 | 86.4 |
| **Place of delivery** | | |
| Health facility | 344 | 83.1 |
| Home | 70 | 16.9 |

### 4.5 Association between socio-demographic characteristics and postpartum contraceptive use

Postpartum contraceptive use is not statistically associated with the following socio-demographic characteristics: age of the respondent ($\chi^2$=2.48, p=0.115), educational level ($\chi^2$=5.70, p=0.221), religion ($\chi^2$=4.52, p=0.191). However, educational level of the young mothers' partners ($\chi^2$=15.04, p=0.005), ethnicity ($\chi^2$=13.9, p=0.016) and area of residence ($\chi^2$=10.74, p<0.001) showed a significant statistical association with the postpartum contraceptive use (Table 6).

**Table 6: Association of socio-demographic characteristics with postpartum contraceptive use**

| Variable | Frequency | Contraceptive use | | P value |
|---|---|---|---|---|
| | | Yes (%) | No (%) | |
| **Age group** | | | | |
| 15 – 19 | 111 | 41.4 | 58.6 | 0.115 |
| 20 – 24 | 305 | 50.2 | 49.8 | |
| **Educational level** | | | | |
| No education | 66 | 59.1 | 40.9 | 0.221 |
| Primary | 230 | 43.5 | 56.5 | |
| JHS | 71 | 50.7 | 49.3 | |
| SHS | 12 | 41.7 | 58.3 | |
| Tertiary | 18 | 51.3 | 48.7 | |
| **Partners Educational Level** | | | | |
| No education | 33 | 69.7 | 30.3 | **0.005** |
| Primary | 194 | 47.9 | 52.1 | |
| JHS | 125 | 36.8 | 63.2 | |
| SHS | 32 | 56.3 | 43.7 | |
| Tertiary | 32 | 59.4 | 40.6 | |
| **Occupation** | | | | |
| Unemployed | 191 | 44.0 | 56.0 | **0.001** |
| Student/ Apprentice | 24 | 50.0 | 50.0 | |
| Self-Employment | 117 | 40.2 | 59.8 | |
| Formal Employment | 84 | 66.7 | 33.3 | |
| **Ethnicity** | | | | |
| Akan | 287 | 51.9 | 48.1 | **0.016** |
| Ga/Dangbe | 33 | 51.5 | 48.5 | |
| Ewe | 49 | 36.7 | 63.3 | |
| Dagbani/Grushie | 20 | 45.0 | 55.0 | |
| Hausa | 26 | 23.1 | 76.9 | |
| **Residence** | | | | |
| Urban | 144 | 36.8 | 63.2 | |
| Rural | 272 | 53.7 | 46.3 | |
| **Religion** | | | | |
| Christianity | 366 | 48.9 | 51.1 | 0.191 |
| Islam | 38 | 34.2 | 65.8 | |
| Traditional | 9 | 66.7 | 33.3 | |
| No religion | 3 | 33.3 | 66.7 | |

### 4.6 Association between respondents' reproductive health characteristics and postpartum contraceptive use

The use of contraceptives by the respondents in the postpartum period was significantly associated with parity ($\chi^2$=18.82, p<0.001), resumption of menstruation ($\chi^2$=15.3, p<0.001), age of the last child before menstruation ($\chi^2$=15.34, p<0.001), resumption of sexual intercourse after delivery ($\chi^2$= 56.85, p<0.001). Communication between partners about family planning was associated with postpartum use ($\chi^2$= 71.88, p<0.001). Other variables such as history of ever use of contraception ($\chi^2$= 61.29, p<0.001), postnatal education and counselling on contraception ($\chi^2$=12.52, p<0.001) and the choice of contraceptive method during ANC ($\chi^2$=17.75, p<0.001) were significantly associated with current postpartum contraceptive use (Table 7).

**Table 7: Association between reproductive health characteristics and postpartum contraceptive use**

| Variable | Frequency | Contraceptive use | | P value |
|---|---|---|---|---|
| | | Yes (%) | No (%) | |
| **Number of Living children** | | | | **<0.001** |
| 1 | 205 | 38.5 | 61.5 | |
| 2 | 139 | 54.6 | 45.3 | |
| 3 | 55 | 54.5 | 45.5 | |
| 4 -6 | 17 | 82.4 | 17.6 | |
| **Age of last child(months)** | | | | =0.185 |
| 6-12 | 404 | 47.3 | 52.7 | |
| 13-18 | 12 | 66.7 | 33.3 | |
| **Resumption of menstruation** | | | | **<0.001** |
| **Yes** | 299 | 53.9 | 46.1 | |
| No | 117 | 32.5 | 67.5 | |
| **Age of child before resumption of menses** | | | | **<0.001** |
| Before 6 months | 205 | 51.2 | 48.8 | |
| After 6 months | 99 | 56.6 | 43.4 | |
| **Ever use of modern contraception** | | | | **<0.001** |
| **Yes** | 193 | 68.4 | 31.6 | |
| No | 221 | 29.9 | 70.1 | |
| **Use of modern contraception after starting childbearing** | | | | **<0.001** |
| Yes | 172 | 79.1 | 20.9 | |
| No | 242 | 25.6 | 74.4 | |
| **Resumption of sexual intercourse after delivery** | | | | **<0.001** |
| Yes | 304 | 58.9 | 41.1 | |
| No | 111 | 17.2 | 82.9 | |
| **Choice of FP method at ANC** | | | | **<0.001** |
| Yes | 126 | 63.5 | 36.5 | |
| No | 290 | 41.0 | 59.0 | |
| **FP counselling before discharge** | | | | =0.307 |
| Yes | 194 | 50.5 | 49.5 | |
| No | 222 | 45.5 | 54.5 | |

### 4.7 Association between socio-demographic factors and postpartum contraceptive use

Multiple logistic regressions show that partners' educational level, ethnicity and residence of the respondents are not statistically associated with postpartum

contraceptive use. The level of education of the postpartum women was significantly associated with contraceptive use. 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, 95% CI: 1.5-60.0)]. In terms of employment, the women in formal employment had lower odds of postpartum contraceptive use [(AOR=0.3, 95% CI: 0.1-0.7)] (Table 8).

**Table 8: Multivariate analysis of socio-demographic factors and postpartum contraceptive**

| Variable | COR (95% CI) | P-value | AOR (95% CI) | P-value |
|---|---|---|---|---|
| **Educational level** | | | | |
| No education | 1.4(0.6-3.1) | 0.451 | 2.2(0.8-5.6) | 0.106 |
| Primary | 1.0 | | 1.0 | |
| JHS | **1.9(1.1-3.3)** | **0.033** | 1.4(0.6-3.3) | 0.503 |
| SHS | 1.4(0.7-2.8) | 0.332 | 1.6(0.5-4.8) | 0.431 |
| Tertiary | 2.1(0.6-7.1) | 0.265 | 9.4(1.5-60.0) | **0.017** |
| **Partners Educational Level** | | | | |
| No education | 1.4(0.6-7.1) | 0.441 | 0.8(0.2-2.9) | 0.784 |
| Primary | 1.0 | | 1.0 | |
| JHS | **1.9(1.1-3.3)** | **0.026** | 1.4(0.7-4.8) | 0.194 |
| SHS | 1.4(0.7-2.8) | 0.325 | 2.7(0.6-12.4) | 0.205 |
| Tertiary | 2.1(0.6-7.1) | 0.269 | 1.6(0.4-6.7) | 0.487 |
| **Occupation** | | | | |
| Unemployed | 1.0 | | 1.0 | |
| Student/Apprentice | 1.8(0.9-3.7) | 0.088 | 0.9(0.2-3.9) | 0.978 |
| Self-Employment | 0.2(0.7-1.9) | 0.303 | 0.5(0.1-1.8) | 0.340 |
| Formal Employment | **1.9(1.2-21.3**) | **0.001** | 0.3(0.1-0.7) | **0.003** |
| **Ethnicity** | | | | |
| Akan | 1.0 | | 1.0 | |
| Ga/Dangbe | 1.1(0.5-2.1) | 0.962 | 0.6(0.2-1.5) | 0.237 |
| Ewe | 1.9(1.0-3.5) | 0.051 | 2.3(0.9-5.9) | 0.089 |
| Dagbani | 2.4(0.7-0.8) | 0.147 | 1.7(0.2-15.3) | 0.650 |
| Grushie | 3.6(0.8-2.3) | 0.320 | 2.5(0.3-24.6) | 0.505 |
| Hausa | **3.6(1.4-9.2)** | **<0.01** | 4.0(0.9-17.6) | 0.063 |
| **Residence** | | | | |
| Urban | 1.0 | | 1.0 | |
| Rural | **0.5(0.3-0.8)** | **<0.01** | 0.9(0.5-1.6) | 0.683 |

### 4.8 Multivariate analysis of reproductive health factors and postpartum contraceptive use

Multiple logistic regressions show that respondents without any history of using contraception after they started childbearing had more than 8 times higher odds of using a method in the postpartum compared with women who had ever used a family planning method [(AOR=8.4, 95% CI: 4.0-18.2)]. Women who had not resumed sexual intercourse after delivery were almost 5 times more likely to use contraceptives than

those who had started [(AOR=4.7, 95% CI: 2.0-10.3)]. Comparing women who had PNC counselling on family planning to those who did not, the latter had 2 times higher odds of using postpartum contraceptives than the former [(AOR= 2.0, 95% CI: 1.0-4.0)].

Spousal communication was found to be associated with higher odds of contraceptive use with women who did not discuss contraceptive with their spouses had 10% lower odds to use same in the postpartum period [(AOR= 0.1, 95% CI: 0.1-0.3)] (Table 9).

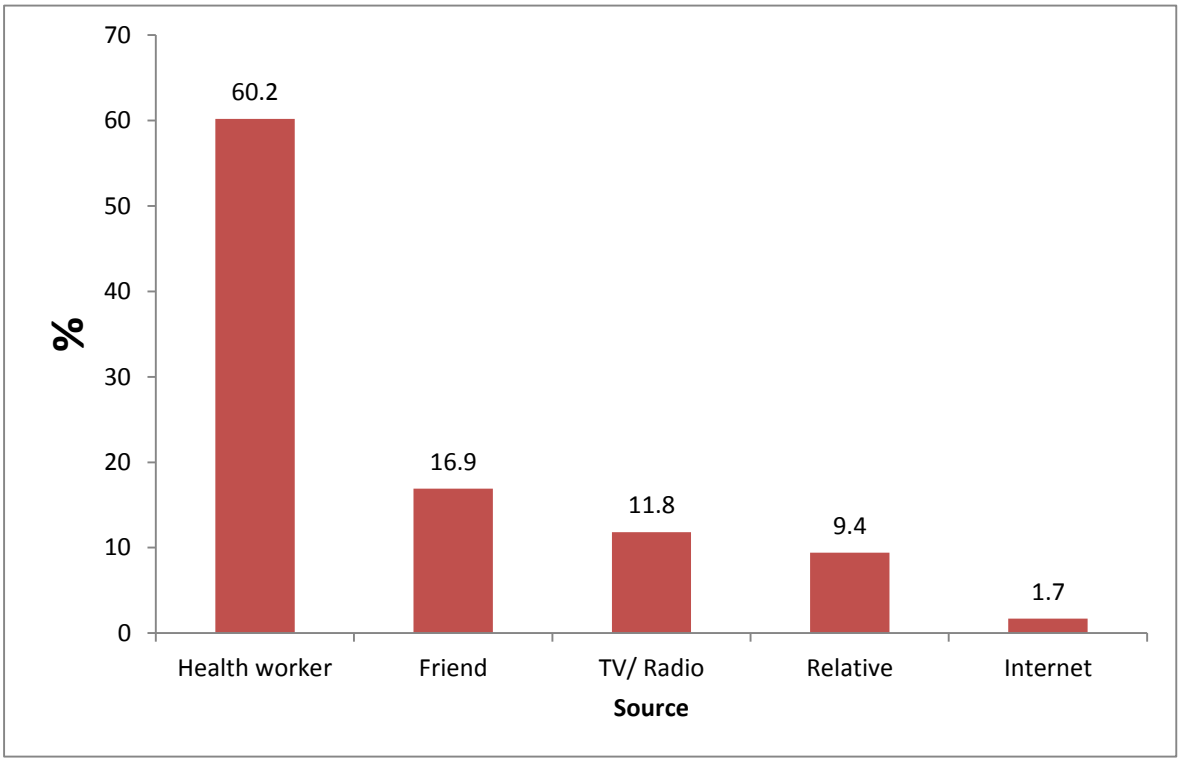
**Table 9: Multivariate analysis of reproductive health factors and postpartum contraceptive use**

| Variable | COR (95%CI) | P value | AOR(95%CI) | P value |
|---|---|---|---|---|
| **Number of living children** | | | | |
| 1 | 1.0 | | 1.0 | |
| 2 | **0.51(0.3-0.8)** | **0.003** | 0.9(0.5-1.8) | 0.745 |
| 3 | **0.52(0.3-1.0)** | **0.034** | 1.0(0.4-2.5) | 0.932 |
| 4-6 | **0.13(0.3-0.5)** | **0.002** | 0.9(0.1-14.4) | 0.918 |
| **Resume menstruation** | | | | |
| Yes | 1.0 | | 1.0 | |
| No | **2.42(1.5-3.8)** | **0.001** | 1.9(1.0-3.7) | 0.060 |
| **Ever use of modern contraception** | | | | |
| **Yes** | 1.0 | | 1.0 | |
| No | **5.1(3.3-7.7)** | **0.001** | 1.3(0.6-2.7) | 0.438 |
| **Use of modern contraception after starting childbearing** | | | | |
| Yes | 1.0 | | 1.0 | |
| No | **10.9(6.9-17.5)** | **0.001** | 8.4(4.0-18.2) | **<0.001** |
| **Resumption of sexual intercourse after delivery** | | | | |
| Yes | 1.0 | | 1.0 | |
| No | **6.93(4.0-11.9)** | **0.001** | 4.7(2.0-10.3) | <**0.001** |
| **FP information at PNC** | | | | |
| Yes | 1.0 | | 1.0 | |
| No | **2.4(1.5-3.9)** | **0.001** | 2.0(1.0-4.0) | **0.050** |
| **Communication between spouses on FP** | | | | |
| Yes | 1.0 | | 1.0 | |
| No | **0.2(0.1-0.3)** | **0.001** | 0.1(0.1-0.3) | **<0.001** |

### 4.9 Sources of contraceptive information

Majority, 218(60.2%) of the young postpartum women, mentioned health workers as their main source of information on contraception. Other sources provided by respondents include friends, 61(16.9%), television and radio, 43(11.8%), relatives, 34(9.4%) and internet, 6(1.7%).(Figure 3)

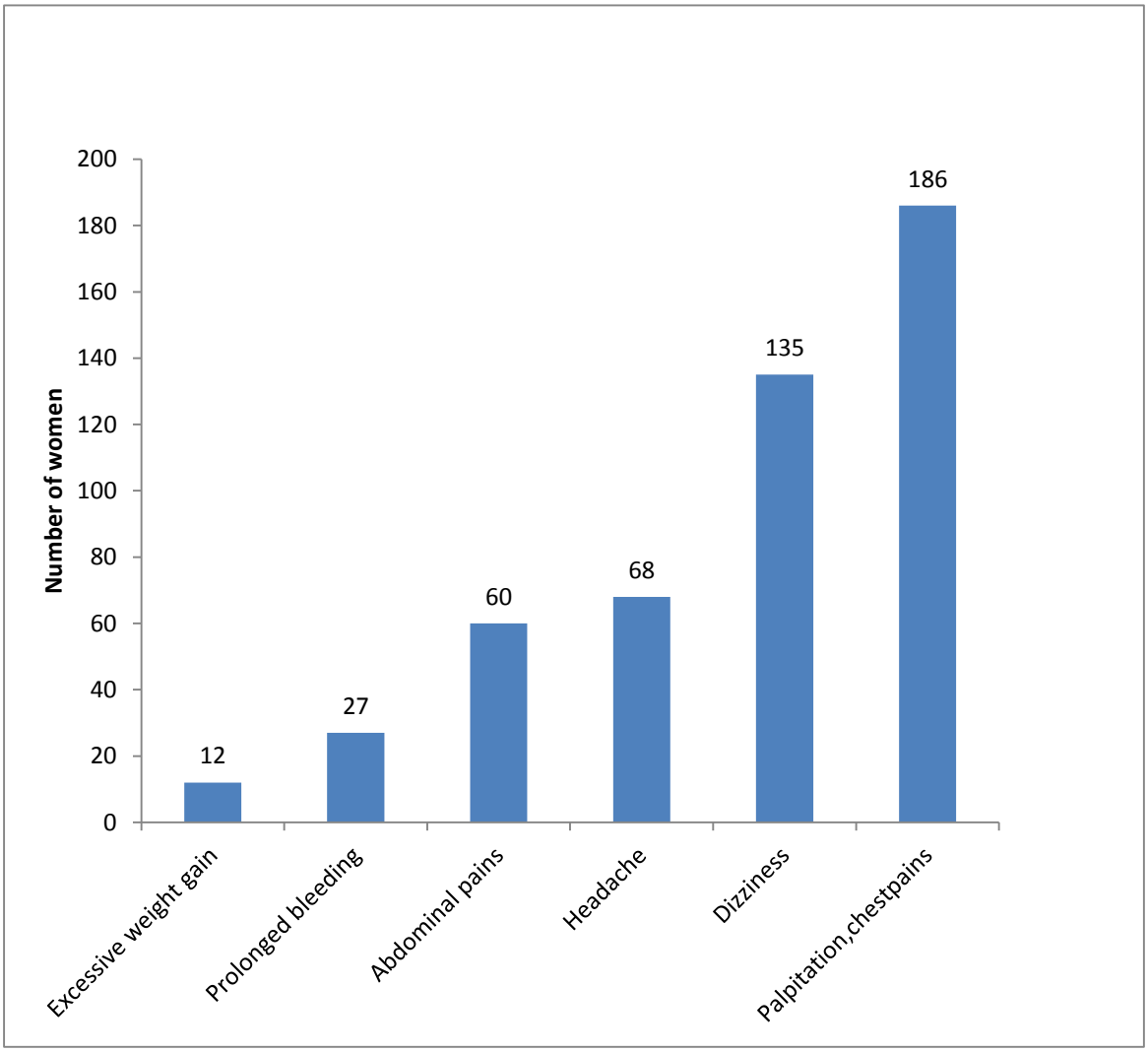
**Figure 3: Sources of contraceptive information**




#### 4.9.1 Reported side effects of contraceptives by respondents

Some women who reported ever use of modern contraceptives complained about experienced side effects. Out of the 279 women currently using contraceptives or had ever used at least one method, 114(40.8%) had experienced some side effects. Common side effects reported by the respondents include palpitation/chest pains, dizziness, headaches, abdominal pains, prolonged bleeding and excessive weight gain (Figure 4).

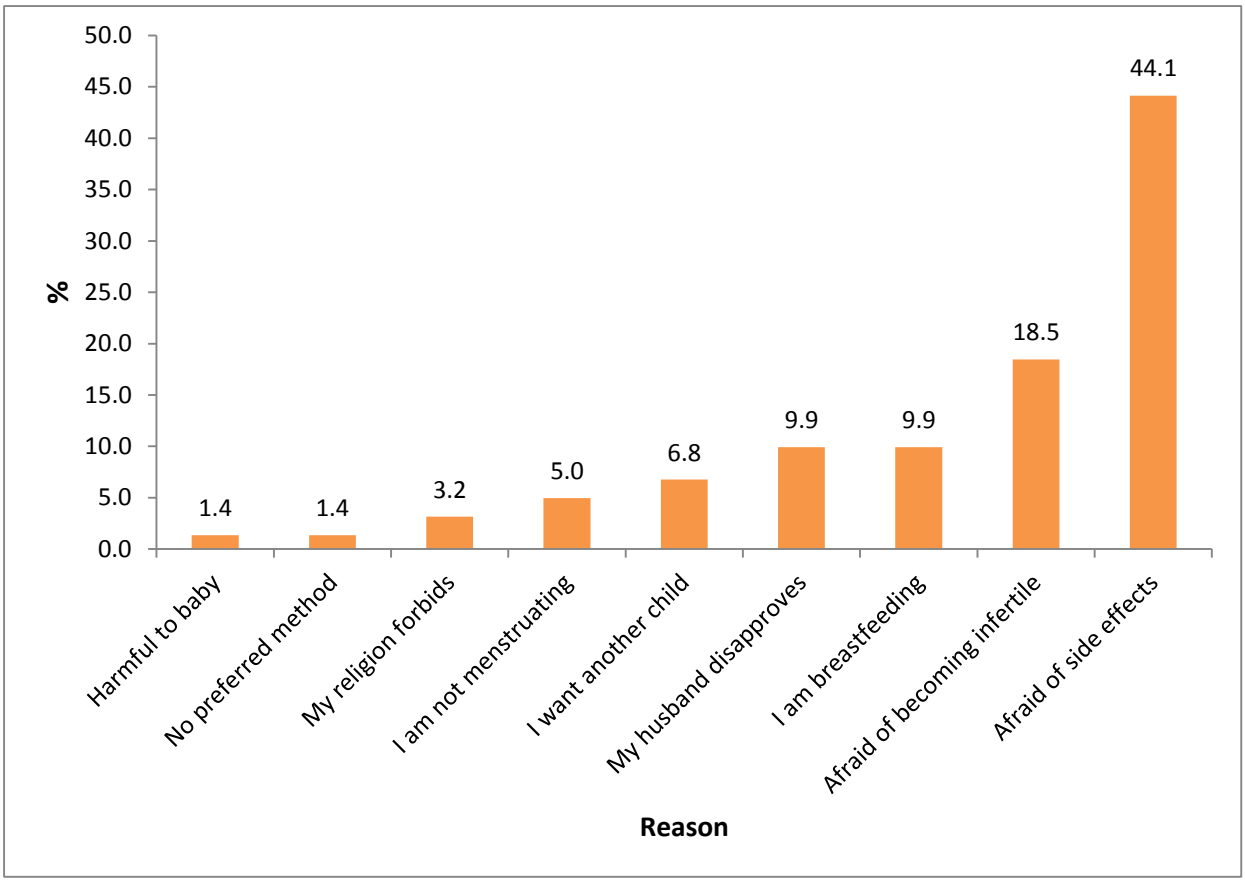
**Figure 4: Common side effects experienced by young postpartum women**




### 4.9.2 Reasons for non-use of postpartum contraception

Commonest reason why postpartum women do not use contraception was fear of side effects which amounted to 44.1 percent. About 10 percent did not use contraceptives due to husbands' disapproval and current breastfeeding (9.9%). Other reasons for non-use include want for another child, 6.8 percent, non- resumption of menstruation after delivery, 5 percent and religious prohibition, 3.2 percent (Figure 5).

**Figure 5: Reasons for non-use of postpartum contraception**



# CHAPTER FIVE

# DISCUSSION

## 5.0 Introduction

This chapter discusses the key findings of the study. The study sought to investigate postpartum contraceptive prevalence among young mothers and to explore factors that determine use or non-use of modern contraceptives.

Results from the study showed that awareness about contraception was high. However, less than half (47.8%) of participants were using a modern method of contraception at the time of the survey. Factors such as the tertiary education, formal employment, previous contraceptive use, resumption of sexual intercourse after delivery, communication about contraception among partners were found to be significantly associated with postpartum contraceptive use. There was no significant association between antenatal counselling and postpartum contraceptive use.

## 5.1 Level of awareness of postpartum contraception and contraceptive use

The result of the study shows that 76.4 percent of the respondents were aware of at least one modern method of contraception that can be used after delivery. The awareness level is lower than the 98 percent reported in GDHS 2008 for all women aged between 15-49 years. The lower rate found in this study is expected because the respondents were young women and this study focussed only on postpartum contraceptives. A similar level of knowledge, however, is reported in a study on knowledge and attitudes towards contraception among postpartum women in India (Sharma, Dorairajan, & Chinnakali, 2015). The main source of contraceptive information was health workers, which are in contrast with the GDHS 2008 where the majority of the respondents mentioned radio and television. The Kwaebibirem District is a rural district covered by

CHP centres, which provide door to door health care to the inhabitants. This explains why health care workers were the main source of family planning information. The IUD was the best known method of contraception followed by injections, pills and condoms. This is contrary to the findings in GDHS 2014 were male condom was the most mentioned modern contraceptive. Another study conducted in the Nkwanta district of the Volta region in Ghana found injectable as the commonest method known (Eliason et al., 2014). The reason for the high awareness of IUD among respondents was probably because of recent education campaign on IUD organised by GHS aimed at increasing its use in the district.

Despite the high knowledge of postpartum contraception, only 47.8 percent of the respondents used a modern method at the time of the survey. 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 (Mahmood et al., 2012). In contrast, this finding was higher than the reported 22 percent for modern methods in GDHS 2014 for all women in the reproductive age. Several studies have documented the same trends of high awareness and low uptake of family planning in developing countries (Sharma, Mohan, Das, & Awasthi, 2012; Sunita & Desai, 2013; Sherpa, Sheilini, & Nayak, 2013).

Although, majority (71.8%) of young mothers had resumed sexual intercourse before 6 months, only 47.8 percent of them were using a modern method of contraception. This finding compares with a similar study among postpartum mothers in Onitsha, in the south eastern part of Nigeria. The Onitsha study reported that 67.4 percent of the women resumed menses, before 6 months and more than 90 percent had resumed sexual activity by the sixth month. From these findings, it was clear many women who were

not using any method of contraception were exposed to the risk of a rapid repeat of pregnancy with serious adverse effects on the mother and baby. For those women who resumed menses, before six months breastfeeding could no longer be relied upon to offer protection against unwanted pregnancy. All the respondents had delivered more than 6 months, but 10 percent of them still relied on breastfeeding as the only method of contraception. This exposes them to the risk of unwanted pregnancy since LAM is proven to be an ineffective method of contraception after 6 months. Further, the results show that 22 percent of the respondents did not want to have any more children, but none of the respondents were aware of the permanent methods of contraception. The reason could be that the participants were young mothers and the health providers knowing that the regret rate of sterilization is high in women younger than 30 years decided not to provide information on permanent methods of contraception ( Singh, Ogollah, Ram, & Pallikadavath, 2012).

### 5.2 Factors associated with postpartum contraceptive use

Multivariate analysis showed a strong association between level of education and postpartum contraceptive use. The odds of using a modern family planning method were 9 times higher in women with tertiary education compared to those who completed only primary school. This is not surprising because similar findings have been documented in studies in Africa and elsewhere (Gordon et al., 2011; Teferra & Wondifraw, 2015; Achana et al., 2015). Educated women are more likely to appreciate the benefits of having fewer children and its potential positive impact on their own economic productivity. Formal education level of respondents of this study was low. Only 15 percent of the respondents had secondary and tertiary level education.

Compared to the unemployed, the odds of using a modern contraception was found to be lower in women engaged in formal employment. This result is in contrast with findings from other studies which showed that employment status is positively associated with contraceptive use. Nketiah-Amponsah, Arthur, & Abuosi, (2012) analysed GDHS 2008 data on family planning, reported in their paper: "Correlates of contraceptive use among Ghanaian women in the reproductive age" that formal or informal employment was consistently associated with a higher probability of modern contraceptive use after controlling for other covariates. Logically, women employed in the formal sector would be expected to use modern contraception since they are likely to have formal education and more eager to keep their jobs by avoiding frequent maternity leaves.

As expected, communication among partners about contraception showed increased odds of use in the postpartum. Both bivariate and multivariate analysis show that family planning, communication among couples was statistically associated with postpartum contraceptive use. This result is consistent with empirical findings from other published works in Africa and elsewhere (Bawa, 2002; Islam, Alam, & Hasan, 2013; Bhandari, Shrestha, & Thakuri, 2014). Women who discuss FP with their partners and understand its financial benefits to the family are more likely to use a method of modern contraception after delivery. Discontinuation rates of contraception are also higher in women who feel that the decision to use a method was taken by the partner without much input from them (Bekele, Gebremariam, & Tura, 2015). Spousal communication is used as a focal point in a community based family planning programs to encourage couples share ideas about reproductive goals and with the help of providers, these couples are then able to make informed choices.

Findings from this study show that young women who had no prior contraceptive use since they started child bearing had 8 times higher odds of FP uptake compared with those without previous history. This could be explained bearing in mind that women have different needs for contraception during their reproductive life. Some women may have discontinued previous contraceptive due to dissatisfaction with side effects or because they wanted to get pregnant. Those who experienced adverse effects may decide not to use contraceptives again after delivery. According to Daniels, Mosher, & Jones, (2013), as high as 74 percent of women who used Depo Provera over a period of 10 years discontinued due to side effects associated with changes in the menstrual cycle. Good and effective counselling about possible side effects is needed to increase uptake and reduce discontinuation rates.

The timing of contraceptive use and initiation of sexual intercourse has vital implications for reproductive outcome after delivery. The odds of using a modern method of contraception postpartum were almost 5 times higher for those who have not resumed sexual intercourse compared to those who have. This outcome is in contrast with another study in Kenya by Ndugwa, Cleland, Madise, Fotso, & Zulu, (2011) which reported that majority of postpartum women in a slum area of Nairobi initiated sexual intercourse before commencing postpartum contraceptive use. Most of the women used postpartum amenorrhoea as a method of contraception. The early initiation of contraception among the study participants may reflect a high degree of anticipatory precaution, as most of these women may have little control over the precise timing of sexual intercourse.

### 5.3 Reasons for non-use of postpartum contraceptives

The low uptake of contraception despite high knowledge of FP reflects the existence of barriers to use. This study found that fear of side effects, belief in becoming infertile after contraceptive use, husband's disapproval, current breastfeeding and religious reasons as the main factors contributing to non-use of postpartum contraception. These findings confirm studies by other authors (Whitaker, Dude, Neustadt, & Gilliam, 2010; Sedgh & Hussain, 2014b; Apanga & Adam, 2015). The fear of side effect might be based on their personal experiences or those other women they know or simply on unfounded perception. Some of the women attribute changes in their menstrual cycle to development of diseases in the reproductive system such as uterine fibroids. Prolonged and irregular vaginal bleeding has serious socio-cultural implication for many women.

### 5.4 Association between antenatal counselling and postpartum contraceptive use

The number of antenatal visits and counselling services on family planning and contraception offered during these interactions by health care workers were not to be significantly associated with contraceptive use after delivery (p=0.390). This compared with findings in the literature. Other studies reported no or little effect of prenatal contraceptive advice on postpartum use (Smith, Van der Spuy, Cheng, Elton, & Glasier, 2002; Akman, Tüzün, Uzuner, Başgul, & Kavak, 2010). In contrast, a study by Lauria, Donati, Spinelli, Bonciani, & Grandolfo, (2014) to determine the effect of pre and postnatal counselling on contraceptive use among Italian and immigrant women at three months postpartum found significant association between antenatal counselling and family planning use. A Nigerian study by Adanikin et al., (2013) also reported positive association between multiple prenatal counselling and subsequent postpartum family planning. From the literature, there appears to be conflicting opinions on the effect of prenatal counselling and postpartum contraceptive use.

Postnatal counselling was statistically associated with postpartum contraceptive use ($p<0.001$). Results from this study showed a negative association between postpartum education on contraception and subsequent use after delivery. Women who did not receive PNC counselling were more likely to use family planning at the time of the study. This finding is inconsistent with a study by Do et al, (2013). The reason for this unusual finding could be due to inaccurate information provided to the young mothers at the PNC. Postpartum contraceptive counselling is provided by community nurses who also offer child welfare services. These nurses mostly lack formal training in effective contraceptive counselling and may have limited contact time with the young mothers due to work heavy load the postnatal clinics.

### 5.5 Association between antenatal and postnatal counselling and postpartum contraceptive choice

Making an informed choice of a method of family planning after prenatal counselling was not significantly associated with contraceptive use in the postpartum. Although 30 percent of young mothers made the informed choice after counselling at ANC, only 23.1 percent used the selected method after delivery. Bivariate analysis showed no significant statistical association between contraceptive use and method of choice at ANC ($p=0.285$). The findings from this study is in contrast with a similar study in Uttar Pradesh in India where it emerged that couples who had antenatal counselling on IUD were more likely to use same in the postpartum compared with unbooked women (Agarwal, Gupta, Sharma, & Arora, 2015). However, a randomised control trial in Cape Town looking at the impact of antenatal counselling and its effect on choice of contraception in the postpartum period concluded that antenatal counselling did not influence the choice of contraception in the postpartum (Smith et al., 2002).

Reasons explaining this change of behaviour after delivery could be that deciding on a method is not based on only advice by providers but also fear of side effects or partners influence and other variables that might vary from one community to the other.

### 5.6 Limitations of the study

The problems of recall bias may affect the results because of the retrospective nature of the study. The sensitive nature with issues of sex and contraceptive use could be a limitation as respondents may be reluctant to provide certain information they consider to be intimate. This potential limitation was addressed by assuring the participants that their responses could not be traced to them but only used for academic purposes. This assurance might have encouraged majority of them to provide answers that actually reflect their reproductive behaviour. The cross-sectional design of this study limited the ability to understand patterns of use or non-use across individuals over time and also determine barriers to continued use after initiation of a modern method of contraception in the postpartum period.

### Assumptions

The following assumptions made during the study were; the method used led to a representative sample of the young postpartum mothers in the Kwaebibirem district and respondents did understand the questions and gave appropriate answers.

# CHAPTER SIX

# CONCLUSIONS AND RECOMMENDATIONS

## 6.1 Conclusion

The study shows that less than half of young postpartum mothers use contraceptives despite high awareness. Fear of side effects remains one of the main barriers which prevent women from using contraception in the immediate and extended postpartum period. Formal education and communication among couples were identified as important factors that promote postpartum contraceptive use. Antenatal and postnatal counselling as currently being practised does not influence postpartum contraceptive use or choice of method.

## 6.2 Recommendations

The advantages of postpartum contraceptive use towards the wellbeing of mother and child cannot be overemphasized. Based on the results of this study, the researcher recommends

**1)** Adequate counselling on side effects of each method should be provided and their fears adequately addressed by family planning service providers during every interaction with clients. For example, myths and misconceptions about various methods should be addressed during education on contraception at the ANC and PNC. Providers should be trained to effectively manage side effects and appropriate referrals given where necessary.

**2)** Health education on family planning and contraception should involve husband/partner group taking into consideration local socio-cultural factors.

**3)** Since contraceptive use is positively associated with formal education, there is the need to intensify campaign on girl child education in the district.

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# APPENDICES

## Appendix A: Consent Form

**Project Title:** Contraceptive use among young postpartum mothers

**Institutional Affiliation:** School of Public Health**,** College of Health Sciences**,** University of Ghana

Legon.

Telephone number:

**Background**

Personal Introduction

The lead investigator is Adofo Emmanuel; a student of School of Public Health is conducting a research on determinants of contraception use among postpartum young mothers.

The study is for academic purposes and a requirement for the award of Master of Public Health. The study is supervised by Dr. Agnes Kotoh of the School of Public Health, University of Ghana, Legon.

**Procedure**

Information to be collected includes socio-demographic data, cultural and economic factors, reasons for use or non-use of contraception, antenatal and postnatal counselling and health facility related factors.

**Risk and Benefits**

There is no foreseeable harm in this study although some of the questions may pose some discomfort. The benefit of this study may include its contribution to the development of reproductive health policies. It will also create awareness of postpartum contraception in the Kwaebibirem District as well as highlighting on the benefits of postpartum contraception for both the mothers and their children.

**Right to refuse**

Although there is no risk associated with this study protocols, you have the liberty to withdraw at any stage if you feel uncomfortable or desire to opt out. This will not affect any care you or your child receives at the hospital.

**Anonymity and confidentiality**

You are assured that any information you provide will be handled with the strictest confidentiality and this will not be shared with any third party not directly involved in the study and the responses provided will be used for academic purposes only. You name will not be written on the questionnaire to avoid the possibility of anybody tracing your responses to identify you.

**Before giving your consent**

Do you have any questions that you wish to ask or any clarifications you want to be addressed?

If you have any questions you wish to ask later, or anything you wish to seek clarifications on regarding the study, please do not hesitate to contact the principal investigator, Emmanuel Adofo on Telephone number: 0244275042, 0264275042 or Email- adofo_e@yahoo.co.uk.

You may also contact the academic supervisor on telephone number 0208088267 or email nyamikye@yahoo.co.uk.

**For further information on the study, you can contact Mrs. Hanna Frimpong, the administrator of the Ghana Health Service/Ethical Review Committee on telephone number 0243323525/0507041223**.

**PARTICIPANT**

I, ……..have been adequately informed about the purpose, procedures, potential risks, and benefits of this study. I

have had the opportunity to ask all pertinent questions and I am satisfied with the answers provided to me.

I know I can refuse to participate in this study without loss or benefit to which I would have otherwise been entitled to. Having been taken through the consent form thoroughly, I agree to enrol in this study.

Name of participant……

Signature or Right thumbprint……

**Interviewer's Statement**

I have explained the procedures to be followed in this study to the client in the language that she understands best and she has agreed to participate in the study.

Signature of the interviewer……

Date……

**Appendix B: Questionnaire**

**QUESTIONNAIRE ON POSTPARTUM CONTRACEPTIVE USE AMONG YOUNG MOTHERS ATTENDING CHILD WELFARE CLINICS IN KWAEBIBIREM DISTRICT. DATE……..**

**INFORMATION SHEET AND INFORMED CONSENT FOR INTERVIEWS**

Hello, my name is Emmanuel Adofo from University of Ghana, School of Public Health. I am doing a study on **postpartum contraceptive use among young mothers attending child welfare clinics in the Kwaebibirem District.**

You will be asked questions about your background, family planning knowledge and the services you received during the antenatal and postnatal visits. The survey will take about 30 minutes .The decision to participate or not in the study is completely voluntary. If you decide to participate, you are free to withdraw at any time you wish. You are not required to answer questions that you are not comfortable with. Your decision not to participate in the study or withdraw will not be shared with anyone and it will not affect you in this community or elsewhere. Your answers will be kept confidential and your name will not appear anywhere. If you have any question you are free to ask. Your honest and genuine participation in responding to the questions is very important and highly appreciated. Are you willing to continue with the interview? If yes proceed with the interview. If no thank the participant for their time and discontinue the interview.

---------- Respondent signature or thumbprint

----------Interviewer signature

## Instructions to the interviewer

1. Circle the response or write in the space provided.

2. Make sure you follow the skip patterns

3. Countercheck to ensure all the relevant questions are completed

| | SOCIO DEMOGRAPHIC CHARACTERISTICS OF RESPONDENTS | | |
|---|---|---|---|
| **NO.** | **Question** | **Response** | |
| **1** | How old are you? (Complete years) | …… | |
| **2** | What is your highest level of your education? | 1. No formal education | |
| | | 2. Basic | |
| | | 3. Secondary | |
| | | 4. Tertiary | |
| **3** | What is your religion? | 1. Christianity | |
| | | 2. Islam | |
| | | 3. Traditional | |
| | | 4. Other (Specify)……. | |
| **4** | What is your current marital status? | 1. Married | |
| | | 2. Cohabiting | |
| **5** | What is your current occupation? | 1. Student | |
| | | 2. Farmer | |
| | | 3. Unemployed | |
| | | 4. Salaried worker (Public) | |
| | | 5. Salaried worker (Private) | |
| | | 6. Trader | |
| | | 7. Artisan | |
| | | 8. Other (Specify)…… | |
| **6** | What is your partner's educational level? | 1. No formal education | |
| | | 2. Basic | |
| | | 3. Secondary | |
| | | 4. Tertiary | |
| **7** | Where do you live? | State …… | |
| | **Obstetrics and Contraceptive history** | | |
| **No** | **Question** | **Response** | |
| **8** | How many children do you have? | 1. One | |
| | | 2. Two | |
| | | 3. Three | |
| | | 4. Four | |
| | | 5. Other (Specify)…….. | |
| **9** | What is the age of your last child? (in months) | …… | |

| | | | |
|---|---|---|---|
| **10** | After weaning this child do you like to have another child? | 1. Yes | |
| | | 2. No | |
| **11** | Did you ever use any contraception? | 1. Yes | |
| | | 2. No | skip to 14 |
| **12** | If yes, what method did you or your partner use? | 1. Injectable | |
| | | 2. Pills | |
| | | 3. IUD | |
| | | 4. Condom | |
| | | 5. Implant | |
| | | 6. Emergency contraception | |
| | | 7. Withdrawal | |
| | | 8. Herbal medicine | |
| | | 9. Other (Specify)…… | |
| **13** | Why did you use the contraception? | 1. Space | |
| | | 2. Delay | |
| | | 3. Other (Specify)…….. | |
| **14** | If no, why did you not use any contraception? | 1. I wanted to have a child | |
| | | 2. I did not think I could be pregnant | |
| | | 3. My religion forbids | |
| | | 4. My partner objects to use | |
| | | 5. I am afraid of side effects | |
| | | 6. I am afraid of becoming infertile | |
| | | 7. Other (Specify)…… | |
| **15** | Did you experience any problems with that contraception? | 1. Yes | |
| | | 2. No | |
| **16** | If yes what problems did you face? | 1. Prolonged vaginal bleeding | |
| | | 2. Headaches | |
| | | 3. Backaches | |
| | | 4. Abdominal pains | |
| | | 5. Dizziness | |
| | | 6. Other (specify)…….. | |

| | Obstetrics and Contraceptive history | |
|---|---|---|
| | | |
| **No** | **Question** | **Response** |
| **17** | Who informed you about the method? | 1. Friend |
| | | 2. Relative |
| | | 3. Health worker |
| | | 4. Television / Radio |
| | | 5. Internet |
| | | 6. Other (Specify)…… |
| **18** | Was your last pregnancy planned? | 1. Yes |
| | | 2. No |
| | **Current contraceptive use** | |

| **NO** | **QUESTION** | **RESPONSE** | |
|---|---|---|---|
| **19** | Have you menstruated after delivery of this child? | 1. Yes | |
| | | 2. No | |
| **20** | At what age was your child when you started menstruating? (State in weeks or months) | | |
| | | | |
| | | …… | |
| **21** | Have you resumed sexual intercourse after delivery? | 1. Yes | |
| | | 2. No | |
| **22** | If yes at what age was your child when you resumed sexual intercourse? | 1. Yes | |
| | | 2. No | |
| **23** | Are you currently | 1. Yes | |

| | | | |
|---|---|---|---|
| | using any family planning method? | | |
| | | 2. No | |
| **24** | If yes what method are you using? | 1. Injectable | |
| | | 2. Pills | |
| | | 3. IUD | |
| | | 4. Condom | |
| | | 5. Implant | |
| | | 6. Emergency contraception | |
| | | 7. Withdrawal | |
| | | 8. Herbal medicine | |
| | | 9. Other (Specify)…….. | |
| | | | |
| | | | |
| | | | |
| **27** | If no, why are you not using family planning method? | 1. I want to have another child | |
| | | 2. My husband disapproves | |
| | | 3. It is harmful to the health of my child | |
| | | 4. I could not get a method of my choice | |
| | | 5. I am breastfeeding | |
| | | 6.My religion disapproves contraceptive use | |
| | | 7.I am afraid of side effects | |
| | | 8.I am afraid I will not become pregnant again | |
| | | 9. I intend using contraceptives later when menstruation begins | |
| | | 10. Other (Specify)…… | |
| **28** | Did you and your partner talked about family planning since you delivered? | 1. Yes | |
| | | 2. No | |
| **29** | Does your partner approve of contraceptive use? | 1.Yes | |

| | | | |
|---|---|---|---|
| | | 2.No | |

**Factors affecting postpartum contraceptive use**

| NO | QUESTION | RESPONSE |
|---|---|---|
| **30** | Where did you deliver your baby? | 1. Health facility |
| | | 2. At home |
| **31** | Did you attend antenatal clinic during pregnancy? | 1. Yes |
| | | 2. No |
| **32** | How many times did you attend antenatal clinic? | 1. None |
| | | 2. One |
| | | 3. Two |
| | | 4. Three |
| | | 5. Four |
| | | 6. Other (Specify)…… |
| **34** | Have you attended postnatal clinic? | 1. Yes |
| | | 2. No |
| **35** | If yes, did you receive any information on family Planning method during the antenatal visit? | 1. Yes |
| | | 2. No |
| | | |
| | | |
| **36** | Which methods did the providers talk about? | 1. Female Sterilization |
| | | 2. Male sterilization |
| | | 3. Injectable |
| | | 4. Pills |
| | | 5. Condoms |
| | | 6. Implant |
| | | 7. IUD |
| | | 8. Emergency Contraception |
| | | 9. Exclusive breastfeeding |
| | | 10. Other (Specify) |
| **37** | Did you choose a family planning method during ANC counseling? | 1. Yes |
| | | 2. No |
| **38** | If yes, are you currently using the method you chose at the ANC counseling? | 1. Yes |
| | | 2. No |
| **39** | Have you change the method you chose at ANC counseling? | 1. Yes |
| | | 2. No |
| **40** | If yes, why did you change the method? | 1. Providers advise |
| | | 2.My husband disapproves |
| | | 3. I am afraid of side effects |

| | | |
|---|---|---|
| | | 4. Other (Specify)…… |
| **41** | Did you receive counseling on family planning after delivery? | 1.Yes |
| | | 2.No |
| **42** | During your postnatal visit did you receive any information on family planning methods which can be used to delay or prevent pregnancy? | |
| | | 1. Yes |
| | | 2. No |
| **43** | Which methods did the providers talk about? | 1. Female Sterilization |
| | | 2. Male sterilization |
| | | 3. Injectable |
| | | 4. Pills |
| | | 5. Condoms |
| | | 6. Implant (Specify)…… |
| | | 7. IUD |
| | | 8. Emergency Contraception |
| | | 9. Others (Specify)…… |
| **44** | What other information was given by the providers during the counseling? | 1. Return to fertility |
| | | 2. Fertility intentions |
| | | 3. Healthy timing and spacing |
| | | 4. Exclusive breastfeeding |
| | | 5. Lactational Amenorrhoea Method |
| | | 6. All family planning methods |
| | | 7. Other (Specify)…… |
| **45** | Did the family planning service providers tell you about the side effects or problems you may encounter with the various methods | |
| | | 1. Yes |
| | | 2. No |
| **46** | Did the family planning providers tell you to start contraception only after resumption of menstruation? | |
| | | 1. Yes |
| | | 2. No |
| **47** | Did the family planning service providers invite your partner for counseling on contraceptive methods? | |
| | | 1. Yes |
| | | 2. No |
| **48** | Did the providers answer all your questions? | 1. Yes |
| | | 2. 00No |
| **49** | How do you assess the information given | 1. Useful |

| | | |
|---|---|---|
| | by the providers? | 2. Somewhat useful |
| | | 3. Not useful |
| | Knowledge of postpartum family planning | |
| 50 | Are you aware of family planning methods available at the clinic for postpartum mothers? | 1.Yes |
| | | 2.No |
| 51 | If yes, list the types you know (multiple response permitted) | 1. Injectable |
| | | 2. Pills |
| | | 3. IUD |
| | | 4. Male condom |
| | | 5. Female condom |
| | | 6. Implant |
| | | 7. Emergency contraception |
| | | 8. Withdrawal |
| | | 9. Herbal medicine |
| | | 10. Female Sterilization |
| | | 11. Other (specify)…… |
| 52 | Can you become pregnant whilst breastfeeding | 1. Yes |
| | | 2. No |
| 53 | Can one use injectable contraception after delivery? | 1. Yes |
| | | 2. No |
| 54 | How long does the injectable contraception protect the woman from pregnancy? | 1. One month |
| | | 2. Two months |
| | | 3. Three months |
| | | 4. I do not know |
| 55 | Can a woman start contraception before the menstruation begins? | 1. Yes |
| | | 2. No |
| 56 | Can condom be used to prevent pregnancy after delivery? | 1. Yes |
| | | 2. No |
| 57 | Can IUD be used up to 10 years to prevent pregnancy? | 1. Yes |
| | | 2. No |
| 58 | Injectable contraceptives may be associated with bleeding problems? | 1. Yes |
| | | 2. No |
| 59 | What else do you know about postpartum family planning? | …… |
| | | ……. |