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ADOLESCENT PREGNANCY IN AN URBAN COMMUNITY: A STUDY IN THE SUNYANI MUNICIPALITY

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DECLARATION

I, Diana Baafi, hereby declare that apart from specific references which have been duly acknowledged, this dissertation is my own work put together under the supervision of Prof. Augustine Ankomah, and that this work has not been presented in part or whole for the award of any other degree.

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(Student)	(Supervisor)
Signature: ……..	Signature: ……
Date: ……..	Date: …….

DEDICATION

To my father Daniel Baafi and the entire Baafi family.

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You never promised that the journey will be easy but you promised that your grace and mercy will see me through. Indeed your grace and mercy have seen me through and I am grateful to you Almighty God. I am very grateful to my supervisor Prof Augustine Ankomah for his guidance, suggestions and the many efforts making sure that this study comes out well. I am also deeply grateful to Dr Abubakar Manu for his advice and support throughout my course.

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ABSTRACT

Adolescent pregnancy is a social issue of public health importance that has received attention from many program designers, policy makers and most population researchers globally. It plaques both developed and developing countries, but it is more prevalent in developing countries especially those in Sub-Saharan Africa. Many factors such as early marriage, peer influence, religious and cultural beliefs, adolescent sexual behaviour and socioeconomic status have been linked to the prevalence of adolescent pregnancy. The study therefore sought to investigate the factors influencing adolescent pregnancy in the Sunyani Municipality, the challenges and the support systems available to adolescent mothers. An unmatched case control study was used for the study. A multi stage sampling which include stratified sampling technique, consecutive sampling and systematic sampling was used to select 120 cases and 125 controls for the study. Date was collected using a structured questionnaire and analysed with STATA version 13. Descriptive statistics were used to describe the factors that influence adolescent pregnancy by summarizing them into percentages, and frequencies. Regression analysis was carried out to test for association between the predictor and the outcome variables.

The findings of the study indicated that current occupation of the adolescents, and influences of social media on adolescent sexual behaviour were the major factors that influence adolescent pregnancy within the Sunyani municipality. There is therefore the need for the establishment of more adolescent health corners to cater for the health needs of the adolescents. Girl-child education is also an important solution to deal with the increasing prevalence of adolescent pregnancy.

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LIST OF ACRONYMS

AIDS …….Acquired Immune Deficiency Syndrome

BECE….....Basic Education Certificate Examination

CBO ……...Community Based Organization

DF…….. Difference

FBO ……..…..Faith Based Organization

GHARH ……Ghana Adolescent Reproductive Health

GSS…….. ……..Ghana Statistical Service

GHS…….... ……Ghana Health service

GDHS……Ghana Demographic and Health Survey

HIV……..Human Immunodeficiency Virus

IUD ……...Intrauterine Device

MICS…….....Multiple Indicator Cluster Survey

NGO……. ……Non -Governmental Organization

PCA ……. ……..……Principal Component Analysis

SD ……..….Standard Deviation

SPSS ……Statistical Package for Social Sciences

TFR…….....Total Fertility Rate

UNFPA……...United Nations Population Fund

UNICEF……United Nation Children's Fund

UK…….. ……United Kingdom

USA……..……..United States of America

WHA ……..…..... World Health Assembly

WHO……. ……World Health Organization

CHAPTER ONE

1.0 INTRODUCTION

1.1 Background of the study

One social issue which is of public health importance and has received much attention globally is teenage or adolescent pregnancy. Teenage pregnancy is a social problem the plaques both developed and developing countries. The United States of America (USA) has an abstract definition for teenage pregnancy. Every under-age girl who becomes pregnant is termed as teenage pregnancy. United Kingdom's (UK) definition of teenage pregnancy is more specific. The UK defines teenage pregnancy as a girl who before her eighteenth (18^{th}) birthday becomes pregnant. The United Nation Children's Fund defines teenage pregnancy as "a teenage girl, usually within the ages of 13 and 19 becoming pregnant" (UNICEF, 2008).

In Ghana, adolescent or teenage is defined as a person between the ages of 10 – 19 years (GSS, 2013). Teenage pregnancy is defined as getting pregnant at teenage or adolescent period which is between 10 and 19 years. In this study however, teenage pregnancy will be defined as pregnancy in female adolescents who are between the ages of 15 and 19 years.

In general, the term teenage pregnancy applies to all women who become pregnant before reaching the age of legal adulthood. The margin varies across the world.

The issue of teenage pregnancy is as a result of many factors. These factors include customs and traditions that result in early marriage, lack of education, influence of peers to engage in sexual activities, non-use or incorrect use of contraceptives, poverty, sexual behaviours of adolescents which are mostly influenced by alcohol and drug use, low self-esteem and exposure to family violence or abuse (UNICEF, 2008).

Teenage pregnancy has also been associated to the desire to meet basic needs, sexual violence and need for self-respect (Gyesaw & Ankomah, 2013).

There are so many consequences of teenage pregnancy. In most cases teenage girls who get pregnant are stigmatized in the society especially when the pregnancy occurs before marriage in Ghana and some parts of Africa. It is however common to have a child or children before marriage in many countries.

The rate of pregnancy before marriage is high Latin America and the Caribbean and some parts of Sub-Saharan Africa as compared to that of Asia (WHO, 2014). In Ghana, 9.2% of adolescent between ages 15 and 19 years were married and 3.2% were living with their partners though not married (GSS, 2010). Also, 5.2% of adolescents between the ages of 12 and 14 years were also married according to the Ghana Statistical Service report (2010). In the Brong Ahafo Region, 7.8% of adolescent females between ages 15 and 19 were found to be married with 3.8% between the ages of 12 and 14 years (GSS, 2010). Teenage pregnancy is also high in most high income or developed countries such as the United States of America.

Social stigma is attached to teenage pregnancy among societies and cultures (UNFPA, 2013).

In situations of unplanned pregnancy, most of the adolescent girls result to termination of pregnancy by methods which put their lives at risk. In some cases these adolescents lose their lives and where they are fortunate enough to survive, it leaves serious repercussions on their reproductive health. A study by the Guttmacher Institute (2004) indicated that about 16% of adolescents between the ages of 12 and 24 years have been involved in the termination of pregnancies. People who are between the ages of 15 and 24 years account for 40% of HIV infection incidence in adults in 2009 (UN, 2011).

By virtue of age, most adolescents who become pregnant may not physiologically be able to cope with the health, social and economic burdens that result from the early pregnancy (GSS, 2010).

Prevalence of teenage pregnancy has become common in most societies in Ghana. It occurs mostly in adolescents who are in the basic and junior high schools. One (1) out of eight (8) pregnancies in Ghana happens to be an adolescent (Ghana Health Service, 2009). During the 2009 Basic Education certificate Examination (BECE) there were two (2) teenage mothers who were among the candidates writing their exams in the Ho Municipality in the Volta region of Ghana. These mothers were 13 and 15 years (Kunateh, 2009). In the Manya Krobo District in the Eastern region of Ghana, more than thirty three (33) female students were not able to sit for their BECE due to pregnancy (Selby, 2012). There was a record of 572 teenage pregnancies in the Shama District of the Western region and a reported mass failure of children who sat for the BECE in that area (Selby, 2012). In the Sunyani West District of the Brong Ahafo region, 259 teenage pregnancies were recorded between January to June 2014 (vibeGhana, 2014).

1.2 Statement of problem

Teenage pregnancy is a social problem which is also of public health importance globally and Ghana is no exception. The 2010 Population and Housing census emphasized the contribution of adolescent toward the Total Fertility Rate (TFR) of Ghana. Out of the total TFR in 2008, 8.2 percent were from adolescents (GSS, 2010). The Guttmacher Institute (2004) stipulated that 12% of girls between 15 and 19 years have ever given birth in Ghana. The Institute also recorded that one out of every ten births that occur in the country is from an adolescent mother.

Notwithstanding all the efforts put into its prevention through education in the mass media and it being incorporated in the Ghana Education Service's syllabus, and Non-Governmental Organizations (NGOs), the incidence of teenage pregnancy has become common in the country. The director in charge for the centre for migration studies of the University of Ghana who was concerned about the spate of teenage pregnancy stated that "teenage pregnancy is a threat to national development and that if concerted efforts and pragmatic solutions were not found to address the issue, it would be a disaster for the growth and development of the country" (VibeGhana, 2014).

According to the WHO (2011), "about 16 million adolescent girls of the ages 15 and 19 years give birth each year." The babies born to these adolescents constitute approximately 11% of births worldwide. Out of this, 95% occur in developing countries or low-middle income countries (WHO, 2011). It is also stated that 50% of the proportion of births in adolescents occur in Sub-Saharan Africa whilst that of Latin America including the Caribbean, and China constitute 18% and 2% respectively. The WHO stipulated that 10% of girls in low-middle income countries become mothers before age 16 years with the highest rate occurring in south-central and south- eastern Asia and Sub-Saharan Africa (WHO, 2011). In Mali, the percentage of births in adolescent girls before age 18 years was 46.3% from 2008 to 2012. The adolescent rate of birth was also purged at 189.6 per 100 000 live births for 2006 to 2010 (UNICEF, 2013). UNICEF (2011), also states that 10% to 40% of young unmarried girls have had unplanned or unwanted pregnancy and about 14 million children are born every year to unmarried women between the ages of 15 and 19 years globally.

In Ghana, as high as 16.2% of adolescent girls give birth by age 18years with the birth rate of 69.7 per 100,000 from 2006 to 2010 (UNICEF, 2013). A report by VibeGhana.com (2014) stated that 750,000 teenagers between the ages of 15 and 19 years get pregnant every year. In the year 2013 alone, 14,000 adolescents got pregnant in the Central region. Gomoa West District of the Central region recorded a total of 762 teenage pregnancies in the year 2013. Out of the 762 teenage mothers 17 were between the ages of 10 and 14years. In the Brong Ahafo region, the situation of teenage pregnancy is not different from what is happening in the other parts of the country. The number of teenage girls who were pregnant during the Basic Education Certificate Examination increased from 77 in 2010 to 111 in 2011, and further increased to 170 in 2012. There were a recorded 28 pregnancies at the primary school level and 15 pregnancies at the junior high school level during the 2012/2013 academic year in the Techiman Municipality (VibeGhana, 2013).

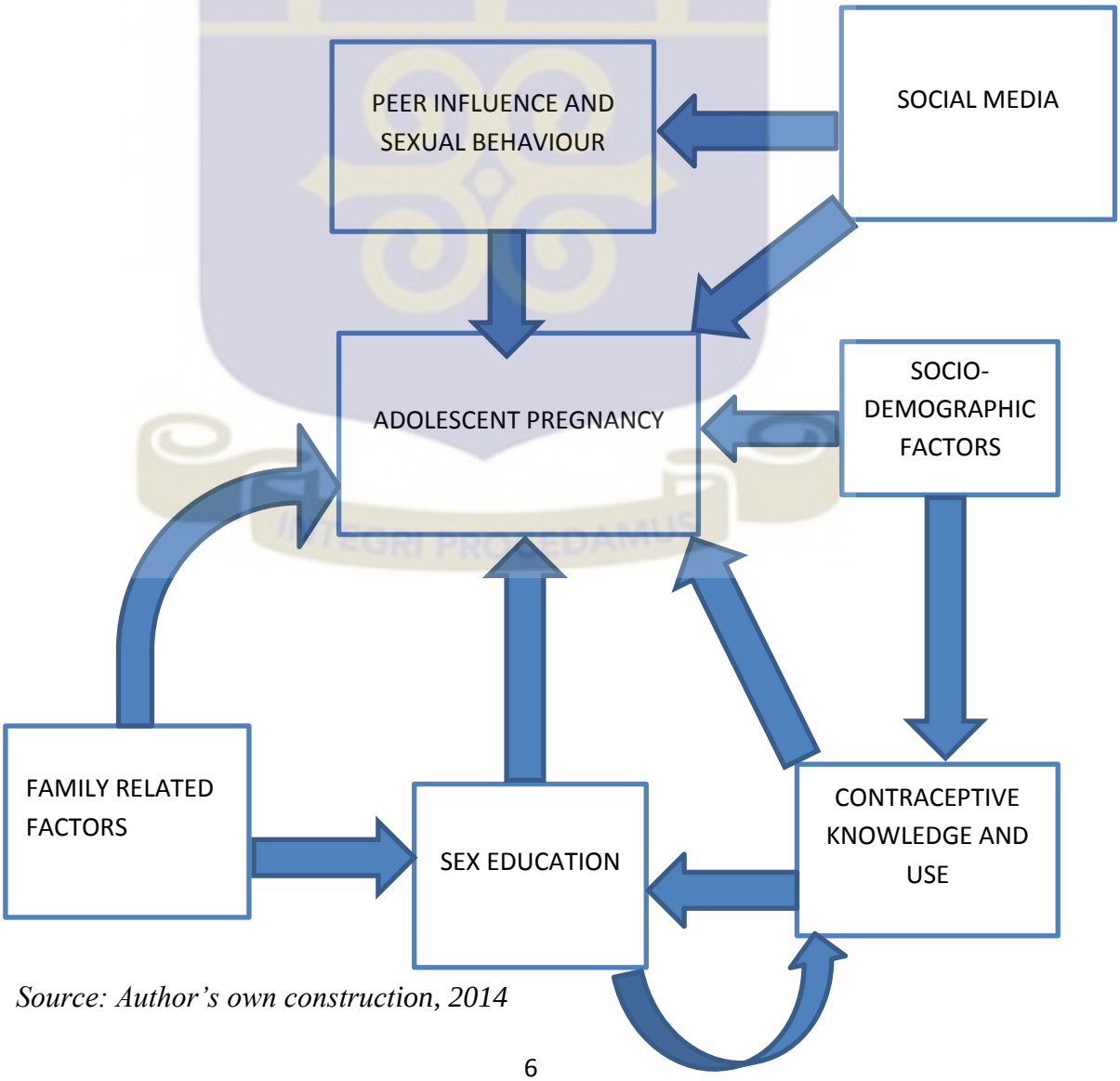
At the Sunyani Municipal Hospital, out of the 1817 ante natal attendance, 161 were teenagers or adolescents. This shows that adolescents who are pregnant constitute 9% of the total ante natal attendance for the year 2013. In the Sunyani Municipality, 647 teenage pregnancies were recorded out of the 6766 pregnancies in the year 2012 making it 9.4%. In the year 2013, 589 out of the total 6766 pregnancies recorded in the Municipality were adolescents. The total number of deliveries recorded in the Brong Ahafo Region for the year 2013 was 65,815. Out of this figure, teenage girls who were pregnant constituted 25,391 making it 38.6% of the total deliveries (Sunyani Municipal Health Directorate, 2014).

Notwithstanding all the efforts put into the reduction and prevention of teenage pregnancy by the Ministry of Health, the Ghana Health Service, the Municipal Health

Directorate and NGOs in the municipality, teenage pregnancy is still an issue confronting the people of Sunyani. The question therefore remains; why does two adolescents with similar characteristics and living under similar conditions one become pregnant and the other does not become pregnant. No specific studies have been done to unravel this mystery and therefore little is known about the exposure that leads to one adolescent becoming pregnant and the other not becoming pregnant under the same conditions. This study seeks to explore to the factors that influence the level of teenage pregnancy Sunyani Municipality

1.3 Conceptual framework for the study

Figure 1: Conceptual framework of factors influencing adolescent pregnancy



Source: Author's own construction, 2014

Figure 1 represents the conceptual framework for the study. The model illustrates the relationship between the outcome variable and the independent variables. This model helps the researcher to identify the possible antecedents, the basic reasons, for a specific effect, problem, or condition.

Predictive variables such as level of education, peer influence, support systems, sexual abuse and knowledge and use of contraceptives, family – related factors, societal norms and socio-demographic factors including age, ethnicity and religion are all factors that contribute to adolescent pregnancy.

Family factors such as the economic status of parent or guardian, marital status of parents, existence of both parents and sisters who gave birth at early age have all been known to influence on adolescent pregnancy. Peer influence and sexual behaviours such as age at first sex, number of partners, age of partner and the kind of relationship with sex partner can lead to adolescent pregnancy.

In some communities, the knowledge of contraceptives is high but not withstanding the high rate of knowledge on contraceptives, the rate of use is low. In such communities the level of adolescent pregnancy is high since most adolescents do not use any form of modern contraceptives even though they know about them.

1.4 Rationale for the study

Adolescent pregnancy is on the rise in Ghana and the Sunyani Municipality is no exception. Most of the data supporting adolescent pregnancy as a social issue which is of public health concern brings out low educational level, sexual abuse, need for self-recognition, poverty and non-use and low knowledge on contraceptive use as factors that contribute to adolescent pregnancy. Several studies been carried out on the factors that contribute to the level of teenage or adolescent pregnancy but much more

still needs to be done especially in areas of effects or consequences of adolescent pregnancy and prevention.

This study therefore seeks to contribute to this by examining the factors that influence the adolescent pregnancy while assessing the challenges of adolescent pregnancy on the teenage mother and the society as a whole. The study also examines the support systems available for these adolescents. It is hoped that this study will help authorities in the planning and carrying out interventions to address the issue of adolescent pregnancy. The study also adds to the nascent and fledging works on adolescent pregnancy and its influence on the teenage mother and the society.

1.5 Objectives of the study

The general objective of this study is to identify the factors that influence the level of teenage pregnancy in the Sunyani Municipality.

The specific objectives were the following

- Identify the factors that influence the level of teenage pregnancy in the Sunyani Municipality.
- Assess the challenges that teenage pregnant mothers face in the Sunyani Municipality.
- Explore the support systems available to the teenage mother in the Sunyani Municipality.

1.6 Research questions

- What are the factors that influence the level of teenage pregnancy in the Sunyani Municipality?
- What challenges do teenage mothers face in the Sunyani Municipality?

- What are the support systems available for the teenage mother in the Sunyani Municipality?

1.7 Organisation of the study

The study is organized into five chapters. Chapter one contains the background to the study, statement of the problem, research questions, the objectives of the study and the rational for the study. Chapter two reviews relevant literature related to the study, and the conceptual framework for the study. Chapter three describes the study design, target population, sampling procedure, sample size, the research instrument used, data and sources, data processing and analysis, and the ethical issues arising from the research. Chapter four concerns itself with data analysis, and presentation, chapter five discusses results of the study while chapter six provides the conclusions and recommendations of the study.

CHAPTER TWO

2.0 LITERATURE REVIEW

2.1 Introduction

This chapter seeks to review available and relevant literature that informs the study. The chapter discusses the incidence of adolescent pregnancy, factors that influence the level of teenage pregnancy in the Sunyani Municipality, the challenges of adolescent pregnancy on the teenage mother and the society and the support systems available for these teenage mothers.

2.2 Incidence of adolescent pregnancy

A report by the World Health Organization revealed that about 16 million adolescent girls between the ages of 15 and 19 become pregnant every year. The babies born to these adolescents constitute approximately 11% of all births worldwide. Out of this, 95% occur in developing countries or low-middle income countries (WHO, 2011). A survey carried out from mid- 1990s to early 2000s in 51 countries indicated that about 10% of girls were mothers before the age of 16 years with the highest rate emerging from Sub-Saharan Africa and the South Central and South Eastern Asia (Miller, Sate, & Winward, 2005).

Adolescent births in the low and middle income countries are twice higher compared to that of more developed countries (WHO/MPS NOTES, 2008). The rate ranges from 1% in Japan and Republic of Korea to as high as 20% in Democratic Republic of Congo. The WHO has reported that of the total 15 countries with the highest rate of adolescent pregnancy (30% or greater) worldwide, 14 are found in Africa. It further stated that one out of ten adolescent girls has a child before attaining 15 years in Chad, Guinea, Mali, Mozambique and Niger where there is a high rate of child

marriage (Mangiaterra, Pendse, McClure & Rosen, 2008). The United Nations Population Fund (UNFPA) has also reported that 18 African countries constitute the top 20 countries with high rate of adolescent pregnancy worldwide, with Niger having the highest rate of 51% of women delivering before age 18 years every year (UNFPA, 2013).

The UNFPA in The State of World Population report stated that West and Central Africa account for the highest percentage (6%) of reported births before age 15 years among developing countries. The report also made claims that the West and Central African regions account for 44% of the unsafe abortion among adolescents who are between 15 and 19 years in developing counties in the world which excludes East Asia (UNFPA, 2013).

There is a projection that there will be a rise in adolescent pregnancy from 10.1 million in 2010 to 16.4million in 2030 in Sub-Saharan Africa. That is from 2 million adolescent births per year in 2010 to 3.3 million adolescent birth per year in 2030 (UNFPA, 2013).

There has been variation in the birth rate of adolescent girls between the ages of 15 and 19 years in Sub-Saharan Africa in recent years. The variation ranges from 37 births per 1000 girls in Mauritius to 229 births per 1000 girls in Guinea. This rate is compared to that of worldwide which is 65 births per 1000 girls. In North Africa and the Middle East, average birth rate is around 56 births per 1000 girls varying from 7.5 births in 1000 girls in Tunisia to 122 per 1000 girls in Oman. However, the rate in these regions fell substantially between 1970s and early 1990s.

The rates in Asia are not different from that of some part of the world. The rate for Central Asia varies from 27.7 per 1000 girls in Azerbaijan to 152 per 1000 girls in Afghanistan. In East and South Asia and the Pacific, the rate varies from 3.6 per 1000

girls to 115 per 1000 girls in Bangladesh. Birth rate however has fallen since mid-1970s in these regions.

Latin America has an average of 78 per 1000 girls varying from 48.3 per 1000 girls in Cuba to 149 per 1000 girls in Nicaragua. There was notable increase in some countries of this region from mid-1970s to early 1990s (Bearinger, Sieving, Ferguson, & Sharma, 2007).

In Europe, average rate is 25 per 1000 girls with varying range of 5.4 per 1000 girls in Switzerland to 40.4 in Bulgaria. There is a considerably varying incidence rate of adolescent pregnancy in Europe. The United Kingdom (UK) has the highest rate in Western Europe. This rate is however, lower to that of Bulgaria, Russia and Ukraine in the whole of Europe (Tripp & Viner, 2005). There were significant fall in the rate of teenage pregnancy throughout most countries in Western Europe during the 1970s, 1980s and 1990s. The rates of the United Kingdom however remained above the level of the early 1980s (Tripp & Viner, 2005).

There has been a significant decrease (25%) in the rate of teenage pregnancy in the United States of America (USA) from 2007 to 2011. Notwithstanding this reduction, United States of America still has the highest rate of adolescent pregnancy among developed countries (Kost & Henshaw, 2014). The teenage pregnancy rate for USA as of 2010 was 57.4 pregnancies per 1000 women. There was a record reduction in the rate of teenage pregnancy from 116.9% in 1990 to 57.4% in 2010. Between 2008 and 2010 the teenage pregnancy rate dropped by 15%, from 67.8% in 2008 to 57.4% in 2010 (Kost & Henshaw, 2014).

One factor that determines the level of fertility in any given population is the age at first birth. In Ghana, adolescents between the ages of 12 and 19 years contribute 6.6% of the total fertility (GSS, 2013). In Ghana, as much as 12% of adolescent girls

between the ages of 15 and 19 have had a child. It is estimated that 1 out of every 10 births occur among adolescent girls in Ghana (Awusabo-Asare & Abane, 2004). About 13% of women between ages 15 and 19 years have already given birth to their first child in Ghana. The highest childbearing rate (23%) is in the Central and Northern regions of Ghana with the lowest rate (7%) occurring in Western and Greater Accra regions (GSS, 2008). It was identified that women with little or no education were likely to begin child bearing at an early age whilst woman who have attained secondary education or more are less likely to start child bearing early (31% compared to 1%) (GSS, 2008).

The 2014 GDHS reports that 14% of adolescents between the ages of 15 and 19 years have already started childbearing, 11% have given birth to their first child and 3% were pregnant during the survey (GSS, 2014). The report also indicated that the proportion of adolescents who have begun childbearing increases with age; 1% at age 15 to as high as 31% at age 19years. The regions with the highest childbearing rate as indicated in the report were the Volta, Brong Ahafo and the Central regions (Ghana Statistical Service, 2014).

In the Brong Ahafo region, 21.3% of adolescents have begun childbearing, of which 17.5% have had a live birth and 3.8% are pregnant. The rate for adolescents who have no education and have begun childbearing was 23.2% whilst that of those with secondary education was 6.2% (GSS, 2014). According to the report, adolescents within the second wealth quintile (21%) tend to begin childbearing earlier than those in the other quintile (GSS, 2014). The Ghana Statistical Services (GSS) reported in the 2010 Population Census report that about 44% of women between ages 25 and 49 years became sexually active by age 18 years in Ghana. It was also identified that

about 5.2% of adolescent girls between ages 12 and 14 were married and 9.6% of adolescent girls of ages 15 and 19 were also married (GSS, 2012).

Pregnancies among adolescents entail risks to the mother and the child in Ghana. Adolescent girls who become pregnant at a younger age are more likely to experience prolonged and obstructed labour. There is also the possibility of them refusing to seek proper ante natal and medical care due stigmatization associated with early pregnancy. However, the 2008 GDHS report indicated that adolescent pregnant girls who receive antenatal care have increased to 97 percent. Although there has been an increase in the number of adolescent pregnant girls who attend ante natal clinics, some pregnant adolescent girls still do not receive antenatal care (GSS, 2009). On the average, there is a higher rate of morbidity and mortality among infants born to adolescent mothers than children of older women (GSS, 2009).

Most pregnancies that occur in adolescent girls are unplanned or unwanted and because of this most girls resort to unsafe abortion which even if they survive may have long term effect on their reproductive life (WHO, 2011).

2.3 Influential factors

The World Health Assembly (2011) in seeking to reduce adolescent childbearing or pregnancy and improving the health of adolescents and young people adopted a declaration which urges all member states to;

- Review and revise policies to protect young people form early childbearing
- Provide access to contraception and reproductive health care services and
- Promote access to accurate information on sexual and reproductive health.

Although all these declarations have been adopted by member states including Ghana, the level of adolescent pregnancy is still on the rise. Numerous factors have been

reported to be the main factors influencing the level of adolescent pregnancy. Among these factors are early marriage, adolescent sexual behaviour, influence of peers, and sexual abuse, contraception, age discrepancy in relationships, family systems, societal norms, marriage, support systems, socio-economic factors and environment.

2.3.1 Early marriage

Societal and traditional norms such as early marriage are important contributing factors of adolescent pregnancy. It is known that child bearing is not uncommon in many developing countries due to diverse cultures. Most traditions and cultures in Sub-Saharan Africa encourages teenage marriages and parenting (Odu & Ayodele, 2007).

In Nigeria, due to divergent culture of the Christians in the South and Muslims in the North, there are differences in teenage marriage and parenting. Some tradition's use physical development as the measurement of maturity in adolescents (Odu & Ayodele, 2007). Certain ethnic groups see teenage marriage as a positive choice in life. For instance, the rate of adolescent pregnancy among some South Asian ethnic settlers in the United Kingdom is high (Tripp & Viner, 2005). In Yemen, there is a high rate of early marriage which keeps increasing due to factors such as poverty, low level of education and dominance of traditional beliefs.

Early marriage of adolescent girls is seen as a means of protection for young adolescent girls from engaging in illegal sexual behaviours. Early marriage in adolescent is also seen as a proof of fertility for adolescent girls in Yemen (Shuaib, Frass, Al-harazi, & Ghanem, 2011). According to the UNICEF's state of the World's children report, one third of women in Bangladesh aged 20-24years were married before they reached the age of 15years (UNICEF, 2011). Chad and Mali leads the rate

of early marriage among adolescents globally with a percentage of 86% followed by Niger with 85%. The rate of early marriage in Ghana is 39% and is among countries with early adolescent marriage (UNICEF, 2011). In India, although the legal age at marriage is 18 for females and 21 for males, early marriage continues to be the norm (by age 15 as many as twenty six percent (26%) of females are married). A study in Turkey showed that adolescent marriages constitute about 55.6% of all marriages. About 5.0% of these marriages happened without the approval of the adolescent girl. Whereas 55.8% of the women with adult marriages married based on romance only 25.4% of adolescents girls married out of love (Ceylan, 2014). In India, though adolescent marriage is a cognizable offence, many parts of the country still practice it. Factors that contribute to early marriages in the country are poverty, ignorance, social customs and high rate in fertility (Kumar, Singh, Basu, Pandey, & Bhargava, 2007).

Ghana has been found to be among countries with the highest child marriage prevalence rates in the world. It has been revealed that 12% of adolescent girls between the ages of 15 and 19 years have become pregnant or already given birth (Gyesaw & Ankomah, 2013). In the 2010 Population and Housing Census, it was revealed that 5.2% of adolescents between ages 12 and 14 are married. 9% of adolescents girls who are between the ages of 15 and 19 years are also married (GSS, 2012). Most Policy studies have shown that adolescent pregnancies in the developed world mostly appear to be unplanned (Kost & Henshaw, 2014).

2.3.2 Knowledge and use of contraceptives

Another factor mostly associated with the level of adolescent pregnancy is low or no use of contraceptives or unmet need for contraceptives. A Southwark teenage pregnancy and parenthood strategy report (2001-2010) reported that most sexually active adolescents do not use any means of contraception during their first sexual

intercourse. There is therefore a 90% chance of these sexually active adolescents conceiving each year (Odu & Ayodele, 2007). The study further indicated that most adolescents feel embarrassed discussing matters concerning contraceptives than talking about sex.

Most adolescent also do not use contraceptives due to lack of knowledge about its use or even the type of method to use (Kumar et al., 2007). Most adolescents are mostly confused as to whether they have the legal right to use contraceptives and even if they have the right which type of contraceptive to use and where to get it from. They are also concern about how to use contraceptives (Odu & Ayodele, 2007). A study by Tripp and Viner (2005) revealed that most sexual intercourse that takes place during early ages is often associated with non-use of contraceptives. This is normally due to inaccessibility to contraceptives, lack of skills and self-efficacy to negotiate contraception. A Guttmacher report showed that majority of sexually experience teens (78% of females and 85% of males) in the United States used contraceptives during their first sexual intercourse. Adolescents who have sex at age 14 or younger are less likely to use contraceptive at first time of sex than older teen.

Condom was seen to be the most commonly used contraceptive method for first intercourse; 68% of females and 80% males. Other methods used are pills, and long-acting methods like IUD and implants (Guttmacher, 2014).

A study in the Niger Delta of Nigeria revealed that lack of resources reduces accessibility to contraceptive and reproductive advice in developing countries. The study further stressed that this situation have been exacerbated by religious beliefs that discourages the use of artificial birth control or family planning methods (Isa & Gani, 2012).

Contraceptive use among sexually active unmarried adolescents in Sub-Saharan Africa is low. This varies from 3% in Rwanda to a high of 56% in Burkina Faso. The low rate in usage of contraceptives can be attributed to unmet needs or non-usage of contraceptives even though most women desire to control their birth (Hindin & Fatusi, 2009).

Most countries in Sub-Saharan countries expect a woman who gets married to start having children right away. Due to this, there is a low usage of contraceptives among adolescents who are married. Social status and identities of women in most Sub-Saharan Countries are tied to motherhood and childlessness is highly stigmatized. This therefore prevent most married adolescents from using any form of contraception (Hindin & Fatusi,2009).

A report in the 2010 Population and Housing census indicated that there is low usage of contraceptives by adolescents who are sexually active in Sub-Saharan Africa which has led to increase rate of unplanned pregnancies and sexually transmitted infections including HIV/AIDS (Blanc & Way, 2014). The percentage use of modern contraceptives by women between 15 and 19 years 5.2% and 7.6% for all female adolescents and adolescents who are currently married respectively. Ghana therefore report lowest contraceptive use between women aging from 15 to 19 (GSS, 2010). However, a study by Biddlecom et al. (2007) as cited by Boamah, (2012) revealed that in the study which was conducted among adolescents between the ages of 12 and 19 years in Ghana, Burkina Faso, Malawi and Uganda, 43-65% of female adolescents and 50-65% male adolescent were found to have used contraceptives before.

In Ghana, the use of contraceptives is lower in adolescents between the ages of 15 and 19 years. Knowledge of contraceptives is also lower in rural areas as compared to

urban areas. However there has been an increase in level of knowledge about contraceptives for women between ages 15 and 49. Awusabo-Asare et al. (2006) in a report on the 2004 youth reproductive health survey among adolescents between the ages of 12 and 19 years indicated that 90% of adolescents know at least one modern method of contraceptive. It was realised that the male condom was the widely known contraceptive method followed by the female condom and the pills respectively. It was further revealed that 8% of adolescent girls between the ages of 15 and 19 who are currently married also use contraceptives (GSS, 2008).

2.3.3 Peer influence and sexual behaviour

Adolescent sexual behaviour is a key contributing factor to the level of adolescent pregnancy. Sexual activities of adolescents within or without marriage can have many adverse effects on their reproductive health outcomes.

Studies have shown that adolescents with negative psycho-social circumstances are more vulnerable to risky sexual behaviour. As a way to prove their fertility, some adolescent girls involve themselves in risky sexual activities. Most of these risky sexual activities were done with or without contraceptives (Waddington, 2007). Adolescents become sexually active at an early age and most of them do not use any form of contraceptives (Adu-Gyamfi, 2014; Makiwane, 2010; Mlambo, 2005). Unprotected sex exposes the adolescent to unintended pregnancies, unwanted childbearing, abortion which can even claim their lives and sexually transmitted infections (Hindin et al., 2009).

Most adolescents in the United Kingdom revealed that they were drunk when they first had sexual intercourse. About 11% of adolescent girls reported that they were pressured by their sexual partners to have sex on their first time. Adolescents who

were under 16 years of age in the study also confessed to having unsafe and unprotected sex (Tripp & Viner, 2005).

Influences from peers have also been found to be a major contributor to adolescent pregnancies. This is most often done by peers influencing or pressuring each other to indulge in sexual activities which most times is unprotected and therefore leads to unintended pregnancies (Colin; Smetana, Campione-Barr, & Metzger, 2006). The use of drugs and alcohol result in unintended sexual activity (Waddington, 2007). Peer pressure has also been found to be a causal factor for premarital sexual activity in Sub-Saharan Africa. A study conducted in Ghana and Uganda documented that adolescents were influenced by their peers to indulge in unsafe sexual behaviours though they were not ready for that (Amuyunzu-nyamongo, Biddlecom, Ouedraogo, & Woog, 2005).

2.3.4 Social media

The world has become a global village due to the advent of technology. The need for information on issues around the world has been made easy and possible through the mass and social media (Television, newspapers, internet and radio). The mass media according to the Ghana Multiple Indicator Cluster Survey (2011) "is a pre-requisite for living a meaningful life". The mass media has become a tool for learning and behavioural change.

Adolescent are not left out when it comes to accessing information through the mass media. It has been reported that 9.5% of adolescent girls between 15 and 19 years in Ghana have access to all three mass media at least once a week and that of adolescent boys between 15 and 19 years is 12.5% (MICS, 2011). This means that, adolescents are privy to programs with adult or sexual theme and this may influence their sexual

behaviour which may lead to adolescent pregnancy. The media has been shown to have a greater influence on adolescent early sexual behaviour.

The media most times depicts the thrilling aspect of sex which lures the adolescent into perceiving sex to be some form of fashion. Since most adolescent have the magazines and internet as their vital source of sex education, they therefore go into early sex not thinking about the consequences of it such as unwanted pregnancies and sexually transmitted infections (Strasburger, Wilson, & Jordon, 2009). A study conducted in the United States of America, comparing the outcomes of exposure to the mass media in white and blacks showed that white adolescents' sexual activity were greatly influenced by sexual content in music, magazines and television which also prone them to involving themselves in early sexual activities. Black adolescents on the other hand were influenced by the perception of their parents expectations and sexual behaviour of their peers rather than what they see and hear through the mass media (Brown, L'Engle, Pardun, Guo, Kenneavy & Jackson, 2006).

Another study also reported that there is a link between listening to music with degrading sexual lyrics and early initiation of sexual intercourse in adolescent. This according to the study is because youth who listen to more degrading music with sexual context are more likely to move from intercourse to advanced non-coital sexual activities (Martino, Collins, Elliot, Strachman, Kanouse, & Berry, 2006).Watching sex on television has also been found to hasten or increase the likelihood for adolescents to initiate sexual activities which also result in adolescent pregnancy (Chandra et al., 2008).

The outburst of technology has presented new means of accessing information on reproductive health for most adolescents. A study conducted in the United States of

America indicated that about 73% of adolescents used at least one form of social networking site which in Facebook, WhatsApp, Myspace and Twitter. Most of the college students reported the internet as their key source for information on sexual health. Although the adolescents according to the study indicated that they would have preferred getting information or talking to health professionals in person, searching for information on reproductive health or sexual health on the internet is their only option in obtaining such information (Selkie, Benson, & Moreno, 2011).

2.3.5 Family related factors

Family related factors such as fathers who leave their families, sisters of childbearing teenagers and mothers who were involved in adolescent pregnancy have been found to have an association with adolescent pregnancy. Also family economic status has been known to have influence on adolescent pregnancy. A qualitative study at Chorkor, a suburb of Accra Ghana, by Gyan (2013) indicated that out of the 55 respondents, 94% agreed that poverty influences adolescent pregnancy since most female adolescents exchange sex for gift or money. A study by Nyovani et al. (2007) as cited by Boamah (2013) also indicated that female adolescents from poor families have 2.7 times the odds of being engaged in premarital sex which mostly lead to adolescent pregnancy compared to those from rich families.

Studies have shown that fathers who leave their families due to divorce, family conflicts and poverty puts their daughters at greater risk for early sexual activities which may result in adolescent pregnancy. This occurs due to lack of parental monitoring and mentoring from both parents (Odu & Ayodele, 2007). There has been substantial evidence that reveals that sisters of childbearing adolescents have high adolescent birth rate. According to the report, "socialization and social theories of intergenerational transmission of early childbearing contend that children born to

teenage mothers are at risk of early pregnancy because of their mother's marital instability and reduced parenting ability as well as poorer socioeconomic environment in which young mother raise their children" (East, Reyes, & Horn, 2007).

Most adolescent pregnancies are seen to be unwanted or unplanned. However, not all adolescent pregnancies are unwanted. It has been shown that about 22% of adolescent pregnancies are planned. The need to be loved completely encourages some adolescent girls into getting pregnant. Others also see it as a route of escape from repressive home situation and also as a measure of maturity for both male and female adolescents (Odu & Ayodele, 2007). In the United Kingdom, some adolescent from some particular ethnic group see teenage pregnancy as a positive life choice (Tripp & Viner, 2005). Gyesaw and Ankomah in their study discovered that some respondents for the study chose to become pregnant since they saw childbearing as a measure of maturity and a means to elicit societal respect (Gyesaw & Ankomah, 2013).

The level of education also has influence on adolescent pregnancy. The UNFPA State of World Population report, 2013 indicated that girls who stay in school for longer periods or years are less likely to become pregnant. Most adolescents from poor homes are less likely to complete their schooling. However, most health information on adolescent reproductive health is taught in higher grade which is a disadvantage to girls who do not complete their schooling (WHO, 2011).

2.3.7 Sex education

Another factor that influences adolescent pregnancy is sex education. Sex education for adolescents in most parts of the world especially Africa is seen to be a taboo. Many parents, cultures and societies frown on discussing sexual matters with their adolescents. According to a study, sex education is a sensitive and controversial topic

in most countries. Issues such as who is to carry out sex education; whether parents or teachers, parental control over what is to be included in the sex education, the core values to be inculcated into the education and what is to be considered appropriate adolescent sexual behaviour hinders the promotion of sex education (Shtarkshall, Santelli & Hirsch, 2007).

Sex education is an important component in the development of the adolescent. It provides the adolescent with all the necessary information they need to know about their bodies, gender, reproductive health, puberty, knowledge on contraceptives which enhance their usage and the consequences of coitus which include sexually transmitted infections and unwanted pregnancies. It also helps the adolescent to make informed decisions concerning their sexuality. A study by the American Academy of Paediatrics (2001) indicated that sex education have greatly impacted the sexual behaviour of adolescents as effective programmes has provided them with practical skills such as exercising self-control and increasing communication and negotiation skills.

A study by Muller, Gavin and Kulkarni (2008) indicated that sex education for adolescents have positive effect on their use of contraceptives during their first sexual intercourse. Notwithstanding all these benefits of sex education, most parents find it difficult to talk about sex with their adolescents. Just as the parents, adolescents also find it uncomfortable and difficult to discuss matters concerning sex with their parents as indicated by Shtarkshall et al. (2007). The study further indicated that in homes where parents are able to discuss issues of sex with their adolescents, mostly the content is limited, infrequent and mostly between certain family members such as mother and daughter. This communication often times happen after the adolescent has already initiated sex. Odu & Ayodele (2007) also reported that most adolescents feel

embarrassed to discuss matters that concern contraceptive use though they can talk about sex.

Although most times sex education is taught in schools, they are started in the middle schools or the junior high school which becomes a disadvantage to most adolescent girls who due to reasons such as poor background are not able to get to that level (WHO, 2011). Shtarkshall et al. (2007) reported that most adolescents prefer school as their source of information on sex with the home being the last choice even though they would have preferred additional information from their parents. Adolescents therefore tend to seek for information on reproductive health from peers and the media such as the internet, magazines and television. This leaves most of the adolescents believing what is reported in the media about sex resulting in unwanted pregnancies as reported by Strausburger et al. (2009). Miller (2006) also reported that lack of sex education which teaches the adolescent about safe sex can lead to adolescent pregnancy. A study by Adu-Gyamfi (2014) in the Upper Denkyira West district in Ghana also indicated that about 83% of the respondents agreed to the assertion that lack of sex education results in adolescent pregnancy.

2.4 Consequences or challenges of adolescent pregnancy

A lot of health risk and socioeconomic effects have been associated with early or adolescent pregnancy. These effects are not only concentrated on the adolescent mother but also the infant and the society as a whole. A study in the United States of American indicated that about a million adolescents get pregnant each year which brings great cost to the adolescent mother, the baby and the society (Odu & Ayodele, 2007). Early child bearing has been found to be associated with many health glitches including anaemia, mental illness (puerperal psychosis), malaria, unsafe abortion, and obstetric fistulae (WHO, 2008).

Most girls after realising they are pregnant resort to any means possible to terminate the pregnancy. Some go to the extent of undergoing unsafe abortion which even if they survive leaves permanent mark or adverse effect on their reproductive life. This usually occurs in developing countries where abortion is not legalized. About 2-4 million adolescents practice unsafe abortion every year in developing countries (WHO, 2011). Adolescent pregnancy contributes immensely to maternal mortality, perinatal mortality and infant mortality. In 2008, WHO stated that adolescent pregnancy contributed to 13% of all deaths and 23% of all disability adjusted life years (WHO, 2008). Adolescent pregnancy was also found to contribute to rancorous cycle of ill-health and poverty (WHO, 2008 & WHO, 2011).

Pregnancy related deaths are found to be the leading cause of mortality among adolescent girls who are between the ages of 15 and 19 years worldwide (Isa et al., 2012). However, recent studies have shown a decline in the rate of deaths in all regions globally especially in South-East Asia where mortality rate have reduced from 21 to 9 deaths per 100,000 girls since the year 2000 (WHO Fact Sheet, 2014). It is in view of this that the UN Secretary General launched The Global Strategy for Women's and Children's Health in September 2010 to address the issues concerning the health and welfare of adolescent girl. This was also to achieve the Millennium Development Goal -5 which is related to reduction of maternal mortality (WHO, 2011).

The WHO also reported that perinatal deaths among infants born to mothers who are below the age of 20 are 50% higher compared to infants born to mothers who are above 20 years (WHO, 2011). Babies who are born to adolescent mothers also have the likelihood of developing childhood health problems than babies born to older mothers (Odu & Ayodele, 2007). The adverse effect of poor new born health resulting

from adolescent pregnancy can have inter-generational effect and also long term effects which may result in adulthood diseases (Foetal Origins of Adulthood Diseases) (WHO, 2008). In Ghana, it has been revealed that birth to adolescent mothers between the ages of 15 and 19 years have the highest rate of infant and child mortality (GSS, 2010).

There have been various studies that spell out the nexus between adolescent pregnancy and undesirable socioeconomic consequences on the mother and her baby. Recent studies however have shown that there is no clear evidence as to whether adolescent pregnancy results in adverse socioeconomic factors or socioeconomic factors leads to adolescent pregnancy (WHO, 2008). Blanch et al. (2011), indicated that low socioeconomic effects do not only affect the adolescent mother just after birth of the child but also it affect future care of the mother and the child especially if the adolescent mother do not have any support systems available to her. Gyan (2013) revealed that about 86% of respondents of the study were out of school due to adolescent pregnancy. As much as 82.8% of respondents indicated that the pregnancy has affected their academic performance whilst 94% of the respondents had no intentions of going back to school after delivery.

Although there is the existence of literature on the factors influencing adolescent pregnancy, most of these studies were carried out in the United States and other parts of Africa. Much has not been done in Ghana. Also most of the studies do not bring out the reasons why some adolescent get pregnant whist others do not given that they are all exposed to same or similar conditions. The study therefore seeks to research into the reasons for this phenomenon and also contribute to existing literature to facilitate future studies.

CHAPTER THREE

3.0 METHODOLOGY

3.1 Introduction

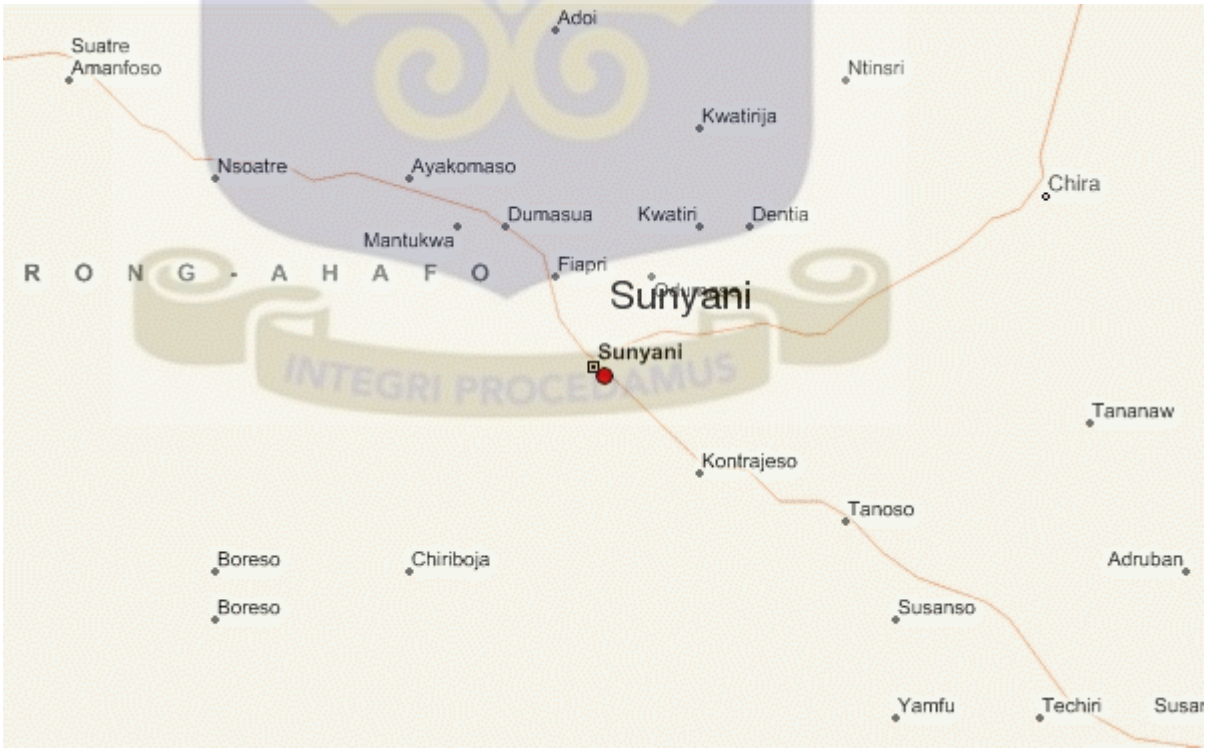
This chapter discusses the various methods and techniques that were employed in the study. It describes the study area, research design, the data and sources, the study population, sampling method, sample size, data collection techniques, fieldwork, data processing and analysis and ethical issues. The chapter also concludes with the challenges that were encountered on the field during the research.

3.2 Study area

Sunyani is located in the heart of the Brong Ahafo region. It serves as the Regional capital for the Brong Ahafo Region. It doubles as the Municipal capital of the Sunyani Municipality and it's one of the 27 administrative districts of the region. It lies between Latitudes 70º 55'N and 70º 35'N and Longitudes 20º W and 20º 30 'W. The municipality has a total land area of 829.3 Square Kilometres (320.1square miles). The Sunyani Municipality lies within the middle belt of Ghana with Heights from 750 feet (229 meters) to 1235 feet (376 meters) above sea level. The topography of the municipality is fairly flat thus suitable for large scale agricultural mechanisation. Sunyani Municipality falls largely within the Moist – Semi Deciduous Forest Vegetation Zone. Most of the primary vegetation can be found in patches around the north-west, east and southern parts of the municipality. These include the Yaya and the Amoma forest reserves. This vegetation zone also contains most of the valuable timber species. Due to the characteristics of the vegetation cover, tree crops such as cocoa and citrus are able to thrive well. As a result of lumbering and farming practices, most of the forest areas have been degraded. Re-afforestation is therefore

being undertaken in the forest reserves to reverse the trend. According to the 2010 population census, the population for the Sunyani municipality is 123,224. This population comprises of 39,011 people between the ages of 0-14, 80,011 between the ages of 15-64 and 4,202 falls within the ages 65 and over (Ghana Statistical Service, 2012). The municipality have a Regional hospital which caters for the inhabitants of the municipality and also serves as a referral point for the region. There is also a municipal hospital. There are eight (8) health centres, one (1) mission hospital, two (2) private hospitals, three (3) Quasi clinics; Police Clinic, Prisons Clinic and 3BN MRS, six (6) private Clinics, five (5) school clinics and three (3) maternity homes in the municipality. All in there are thirty (30) health facilities in the Municipality and out of these eighteen (18) facilities provide ante natal and post-natal services for the community. About 45% of the populace are into farming.

Figure 2: Map of Sunyani



3.3 Type of study

An unmatched case-control method was used for the study. A case control study is the investigation into the extent to which persons who are selected due to specific condition or disease (case) is compared to a person who do not have the condition or disease (control) but is from the same population and have been exposed to the possible risk factors of the condition so that the hypothesis that one of those factors is a cause of the condition can be evaluated. A case-control study is normally used when outcomes are rare in the population sampled for a research study (Cummings, 2009). According to Cummings (2009), Cornfield (1951) noted that in situations where outcomes are adequately rare, the odds ratio from case-control helps to approximate the risk ratio associated with exposure and disease outcomes in a population. Greenland & Thomas, (1982), Rodrigues & Kirkwood, (1990) and Rothman, Greenland & Lash, (2008) however realised later the odds ratio will estimate the incidence rate ratio even when outcomes are common if controls are sampled as each case is sampled.

Although the Brong Ahafo Region is among the regions with highest rates of adolescent pregnancy, it is still rare to find a large number of adolescents being pregnant at a time. It is therefore difficult to have a bigger sample size which will make it easy for generalization of research results. Case-control approach helps to increase the sample size which also increases the likelihood of generalization. An unmatched case-control method was employed in this study. The cases for this study are adolescents who are 15 years and above but have not celebrated their 19th birthday and are either pregnant or have given birth to at least one child. The controls on the other hand are adolescent girls who are 15 years and above but have not yet celebrated their 19th birthday, who are not pregnant or given birth before and live

within the same community as the cases. Statistical analysis allows the researcher to draw conclusion about whether a certain situation or exposure led to the condition. The research questions used in the study allows for several risk and confounding variables. The researcher sought to make inferences into why adolescent in the Sunyani Municipality are exposed to same factors or conditions but some get pregnant and others do not get pregnant.

Variables

3.4 Variables

3.4.1 Independent variables

Age

Educational level

Religious background

Marital status

Place of birth

Current occupation

Ethnicity

Socioeconomic status of parents

Peer influence

Social media

Sex education

Family related factors

Knowledge and use of contraceptives

3.4.2 Dependent variable

Adolescent pregnancy

3.5 Study population

The study involved adolescent females between the ages of 15 and 19 years who are residents of the Sunyani Municipality.

3.5.1 Inclusion criteria for cases

Female adolescents who are 15 years and above, currently pregnant or have given birth to at least one child and have not yet celebrated their 19th birthday.

3.5.2 Exclusion criteria for cases

Female adolescents, who are below 15 years, have been pregnant before but aborted before term and adolescents who are not pregnant.

3.5.3 Inclusion criteria for controls

Control – Female adolescents who reside within the Sunyani Municipality and are between the ages of 15 and 19 years and are not pregnant.

3.5.4 Exclusion criteria for controls

Female adolescents below 15 years who are pregnant or have been pregnant before

3.6 Sampling method

A multi stage sampling design was used for the study. Stratified random sampling was used to select the cases and the controls. Purposive sampling was employed to select pregnant adolescent girls as cases. Pregnant adolescents and adolescent mothers who visited the health facilities within the municipality for ante natal and post-natal services were selected for the study as the cases.

Stratified sampling technique was used to divide the municipality into four strata namely Sunyani which included Area 1 to 4, Roman Ridge, Zongo and Penkwasi; Abesim which covered the area from the Sunyani Polytechnic to the entire Abesim township; Atronie which covered Asufufu to the entire Atronie township and its surrounding village; and New Dormaa which spanned from New Dormaa town to Yawhia on the Techiman road.

The towns were stratified into the groups to comprise both urban and rural setting to facilitate good representation. The choice of the sub-districts was based on factors such as socioeconomic status, background characteristics and homogeneity. At the community level, based on the population density, a sampling interval was developed for the houses to be randomly selected for the study. For example, in Atronie where the population is not dense and most of the villages are sparsely situated, a sampling interval of every 5^{th} house was used to select houses where controls were systematically selected. Adolescent girls who are between the ages of 15 and 19 years in the selected houses were interviewed; not more than one per house. In houses where there was more than one adolescent girl, one girl who accepted to be part of the study was randomly selected through simple random technique where papers with yes and no written on them were randomly picked. The one who picked yes was then

included in the study. In houses where there were no adolescent girls, a different house which was not part of the already chosen households was used.

3.7 Sample Size

Epi Info STATCALC APP was used to calculate an unmatched case-control comparison of pregnant and non- pregnant sample size for 50% exposure in non-pregnant group.

CI= 95%

Power of 80%

Ratio of cases to control=1:1

Sample size: cases = 120

Control = 125

Total = 245

3.8 Data collection technique/methods & tools

Well-structured questionnaires were used to interview adolescents to gather data. The questionnaires were read and filled for respondents who could not read and write after they have been explained in the local language. For participants who could read and write, the questionnaires were given to them to answer by themselves. The questionnaire used for the cases were the same as the ones used for the control group but there were some questions that the controls were exempted from answering.

Respondents who are the cases were selected from the ante natal and child welfare clinics within the municipality. Controls were also selected from the individual households within the community.

The consent of the participants was sought before questionnaires are given. Participants were asked to sign or thumbprint on a well written consent form after the study has been explained to them for them to agree to participate voluntarily. In situations where guardians were present for respondents who were below 18 years, the guardians signed and the adolescents assented to it before questionnaires were administered.

3.9 Data processing and analysis

Case-control data is mostly analyzed with the Mantel-Haenszel stratified methods, logistic regression or conditional logistics regression to estimate adjusted odds ratio (Cummings, 2009).

Descriptive statistics was used to describe the factors that influence adolescent pregnancy by summarizing them into percentages, proportions and frequencies. Mean and standard deviation was calculated for age. Figures were presented in tables and graphs. Data was analyzed using Stata version 13, SPSS and Microsoft Excel. Chi-square test was used to measure association between the outcome and predictor variables. A P-value of less than 0.05 indicated an association between the variables. Regression analysis (logistic regression) using both univariate and multivariate analysis was carried out to assess the odds of the factors influencing adolescent pregnancy and the outcome variable which is adolescent pregnancy. This was carried out to establish the strength of association between the predicator and outcome variables. Data entry was carried using Microsoft excel. To calculate the economic

status of the respondents' parents or guardian using their assets, Principal Component Analysis (PCA) method was used. The PCA helps to estimate the wealth levels using the asset of the persons as wealth indicator (Córdova, 2008). Assets such as television, washing machine, sowing machine, refrigerator, mobile phones, car, houses and farms were used as a measure of the economic status of the respondents.

3.10 Ethical consideration/issues

Ethical clearance was obtained from the Ghana Health Service, the municipal assembly, the regional health directorate and the municipal health directorate before the research was started.

The participants who were adolescents gave their consent before they were recruited into the research. The participants were not forced or coerced to take part in the study. The whole study including the methodology, the benefit of the study, the harm involved and the voluntary aspect were made known to the participation to aid them in making informed decision to be part of the study.

Parents or Guardians for the adolescents who were below 18 years were asked to give consent before the data was taken from the adolescents. The adolescents also assented before participating in the study.

An informed written consent was used for both parents or guardians and the study participants. Participants were assured of confidentiality and anonymity.

Participants were also made to know that there were no incentives and that they could withdraw at any time during the study. They were also assured of no or minimal harm both physically and mentally during participation.

3.11 Training of data collectors

Adolescent reproductive health issues are sensitive since adolescents are vulnerable. Because of this, professionalism and skills must be employed during data collection. Prior to data collection, data collectors for the study were trained to equip them with the necessary knowledge and skills needed for the collection of data. The training took place on the 18th and 19th of May, 2015.

Participants were taken through the techniques of data collection, ethical interaction with human participants such as; role of the data collector, importance of respect, voluntary participation, informed consent, vulnerable populations, personal privacy, protection of personal information and response to participant questions. Participants were also taken through issues of data integrity which included respect for the science of the study, collecting, recording, and storing study data. With the role of the data collector, participants were made to know that the person who collects information on behalf of a research team is an "ambassador" for the study. Therefore the data collector has the responsibility of making sure that the information collected for the study comes from individuals who understand what they are agreeing to do.

Participants were also made aware that each person who is part of the research team must show respect for: the goals of the research project, the individual study participant, the study area and the data collected that will help achieve project objectives. In the area of voluntary participation, research assistants were made aware that no individual person is required to participate in a research project. If the study includes an informed consent process, then each person approached by a study team member has the right to refuse to hear about the study, and the right to refuse to join the study. Even if a person joins the study, he or she may refuse to answer specific questions in a survey or questionnaire, refuse to give a specimen or refuse to take a

test, and may decide to withdraw from a study at any time. Data collectors were taught how to conduct an interview as to how to explain to the participant what the research is about, thanking the respondent and asking if they have questions at the end of the interview and the need to listen and showing interest in what the respondent is saying during the interview.

3.12 Pre-test or Pilot Study

A pilot study or pretest was carried out after the research assistants have been trained in data collection. It was done within the Sunyani West district where the adolescents have similar characteristics as those in the study area. After the pretesting, the questionnaires were reviewed and the necessary corrections were made before data was collected. The pretesting helped to clarify the adequacy of the questions, estimate the approximate time for each questionnaire and help make the necessary corrections for the questionnaire for the actual study.

3.13 Limitations of the study

The main challenge encountered during the field work of the study was the difficulty in recruiting cases for the study. Most of the adolescent mothers were unwilling to participate in the study.

CHAPTER FOUR

4.0 RESULTS

4.1 Introduction

This chapter discusses the results and analysis of the study. It covers factors such as socio-demographic, social media influence on adolescent pregnancy, knowledge and use of contraceptives, peer influence and sexual behaviour, influence of sex education on adolescent pregnancy, family related and challenges the adolescent mothers go through or face when they got pregnant. The chapter also looks at the support systems for the adolescent mothers and relationships and strength of association between the influential factors and the outcome variable which is the adolescent pregnancy.

4.2 Socio-demographic information of participants

Table 4.1 represents the socio-demographic background of the participants of the study. It shows that majority (64.9%) of the respondents were in the 17 – 18 years age range. About 42.9% of the respondents were residents of Sunyani (main town). Out of the 245 female participants recruited, 51% were control (never been pregnant) leaving 49% as cases (Pregnant or given birth). More than half (69.4%) of the participants were singles, 24.1% (co-habiting), 4.5% (married) and 2.0% (divorced). Majority (55.9%) of the respondents were in school with 55.5% attained Junior high school as highest level of education. Majority (72.2%) identified themselves as Christians, 26.9% as Muslims and 0.8% as traditionalists. Akan was the dominating ethic group (47.3%) in the municipality followed by Mole-Dagbani group (37.1%) due to the fact that Brong Ahafo region serves as a stopping point for migrants from the north to the south of Ghana. More than half (52.7%) of the participants were born outside the Sunyani municipality. Concerning current occupation of participants, most of the

participants identified themselves as students (56.7%), 26.5% as unemployed, 8.2% as artisan apprentices, 5.7% as traders and 2.9% as farmers. Majority (77.6%) of the participants were without children.

Table 4.1: Socio-demographic information of respondents

Characteristics	Frequency, N	Percentage (%)
Location		
Sunyani	105	42.9
Abesim	46	18.8
Atronie	48	19.6
New Dormaa	46	18.8
Participant		
Case	120	49.0
Control	125	51.0
Age(years)		
15 - 16 years	86	35.1
17 - 18 years	159	64.9
Marital Status		
Single	170	69.4
Co-habiting	59	24.1
Married	11	4.5
Divorced	5	2.0
Current in school		
No	108	44.1
Yes	137	55.9
Highest educational level		
No formal education	16	6.5
Primary	30	12.2
Junior High School	136	55.5
Senior High School	62	25.3
College/ Tertiary	1	0.4
Religious affiliation		
Christian	177	72.2
Muslim	66	26.9
Traditionalist	2	0.8
Ethnic background		
Akan	116	47.3
Ga	18	7.3
Ewe	17	6.9
Mole-Dagbani Group	91	37.1
Banda	3	1.2
Place of birth		
Within Sunyani Municipality	116	47.3
Outside Sunyani Municipality	129	52.7
Current occupation		
Student	139	56.7
Trader	14	5.7
Farmer	7	2.9
Artisan Apprentice	20	8.2
Unemployed	65	26.5
Number of children		
None	190	77.6
1	45	18.4
2 or More	10	4.1
Total	245	100.0

Table 4.2: Socio-demographic risk factors in cases and controls by adolescent pregnancy

Characteristics	Frequency (%)		Chi-square *P*-value
	Case	Control	
Location			
Sunyani	72(60.0)	33(26.4)	**0.001**
Abesim	6(5.0)	40(32.0)	
Atronie	28(23.3)	20(16.0)	
New Dormaa	14(11.7)	32(25.6)	
Age(years)			
15 - 16 years	22(18.3)	64(51.2)	**0.001**
17 - 18 years	98(81.7)	61(48.8)	
Marital Status			
Single	66(55.0)	109(87.2)	**<0.0001**
Co-habiting	43(35.8)	16(12.8)	
Married	11(9.2)	0(0.0)	
Currently in school			
No	85(70.8)	23(18.4)	**0.001**
Yes	3529.2)	102(81.6)	
Highest educational level			
No formal education	13(10.8)	3(2.4)	**0.001**
Primary	22(18.3)	8(6.4)	
JuniorHigh School	59(49.2)	77(61.6)	
Senior High School	26(21.7)	36(28.8)	
College/ Tertiary	0(0.0)	1(0.8)	
Religious affiliation			
Christian	87(72.5)	90(72.0)	0.334
Muslim	31(25.8)	35(28.0)	
Traditionalist	2(1.7)	0(0.0)	
Ethnic background			
Akan	48(40.0)	68(54.4)	0.082
Ga	7(5.8)	11(8.8)	
Ewe	10(8.3)	7(5.6)	
Mole-Dagbani Group	54(45.0)	37(29.6)	
Banda	1(0.8)	2(1.6)	
Place of birth			
Within Sunyani Municipality	55(45.8)	61(48.8)	0.642
Outside Sunyani Municipality	65(54.2)	64(51.2)	

Table 4.2: Socio-demographic risk factors in cases and controls by adolescent pregnancy (cont'd)

Factors	Frequency (%)		Chi-square
	Case	Control	*P*-value
Current occupation			
Student	34(28.3)	105(84.0)	
Trader	14(11.7)	0(0.0)	**0.001**
Farmer	7(5.8)	0(0.0)	
Artisan apprentice	17(14.2)	3(2.4)	
Unemployed	48(40.0)	17(13.6)	
Parity			
None	65(54.2)	125(100)	
1	45(37.5)	0(0.0)	**0.001**
2 or more	10(8.3)	0(0.0)	
Total	120(100)	125(100)	

The bivariate analysis (Table4.2), revealed a significant association between the dependent variable Adolescent Pregnancy and socio-demographic information such participant's location (p= 0.001), age (p = 0.001), marital status (p= 0.001), currently in school (p= 0.001), highest level of education (p= 0.001), current occupation (p= 0.001) and parity (p= 0.001).

As shown Table 4.2, whilst most of the controls were within the 15 – 16 age groups (51.2%), majority of the controls were within the ages of 17 – 18 years (81.7%). Although majority of both cases and controls reported to be single, the percentage of controls who were single was higher (87.2%) as compared to the cases (55.0%). Most of the cases were co-habiting (35.8%). There was a statistically significant difference between the number of cases who were currently in school and that of the controls. About 70.8% of the cases were currently out of school whilst 81.6% of controls were in school. Both cases and controls indicated the Junior high school as the highest level of education attained. Majority of both cases (72.5%) and controls (72.0%) were Christians with 25.8% of cases and 28.0% of controls being Muslims. Even though Sunyani is known to be predominately an Akan community, most of the cases were of the Mole-Dagbani ethnic background (45.0%) whilst majority of the controls were

Akans (54.4%). Concerning current occupation, the findings as reported in Table 4.2 presented most of the cases to be unemployed (40.0%) whist majority of the controls were students (84.0%). Only 28.3% of the cases were students.

4.3 Influential factors of adolescent pregnancy

Table 4.3 presents the potential reproductive health risk factors comparing the cases and controls in the study. As shown in Table 4.3, a significant number of both cases (54.2%) and controls (74.0%) belong to at least one social media even though the number of controls who belong to a social media is greater as compared to the cases ($p<0.0001$). About 49.4% and 40.0% of both cases and controls reported belonging to Facebook and WhatsApp respectively. More than half of the cases (53.8%) reported that social media influence their sexual behaviour whist 26.3% of the controls reported being influenced sexually by social media ($p<0.0001$).

Even though there is a high level of contraceptive knowledge among both cases (85%) and controls (88%), contraceptive use among both groups was low. Less than half of both cases (49.0%) and about one-third (33.6%) of controls reported ever using at least one method of contraceptive ($p=0.023$). There was a statistically significant difference in current relationship status among the respondents. Most of the cases as shown in the table are currently in a relationship (70.0%) as compared to 49.6% of the controls ($p=0.001$). More than two thirds of both cases (72.5%) and controls (88.8%) had both parents alive. However, there were higher percentage of cases whose parent not alive (27.5%) as compared to 11.2% of the controls ($p=0.001$). There was wide difference between the cases and the controls when it comes to economic status. Most of the cases (50.0%) fell within the low income status whilst most controls (44.8%) were in the high income tertile ($p<0.0001$).

There was no significant association between variables such as usage of social media, contraceptive knowledge, age at first sex, parents who are still married, sex education and how they were initiated into their first sexual intercourse whether consensual or not, sisters of adolescent mothers and adolescent pregnancy.

Table 4.3: Reproductive risk factors for Adolescent pregnancy in cases and controls

Factors	Frequency (%)		Pearson chi-square *P*-value
	Cases (n=120)	Controls (n=125)	
Social media affiliation			
No	55(45.8)	30(24.0)	<0.0001
Yes	65(54.2)	95(74.0)	
Social media influence on sexual behaviour	n=65	n=95	
No	30(46.2)	70(73.7)	<0.0001
Yes	35(53.8)	25(26.3)	
Usage of social media			
Almost every day	41(63.1)	61(64.2)	0.884
Once a while	24(36.9)	34(35.8)	
Contraceptive knowledge			
No knowledge	18(15.0)	15(12.0)	0.492
Knowledge	102(85.0)	110(88.0)	
Contraceptive use			
Never used	52(51.0)	73(66.4)	0.023
Used	50(49.0)	37(33.6)	
Age at first sex, years			
10-14	42(35.0)	18(30.0)	0.504
15-18	78(65.0)	42(70.0)	
Initiation of sex			
Non-consensual sex	48(40.0)	22(36.7)	0.665
Consensual sex	72(60.0)	38(63.3)	
Current relationships			
No	36(30.0)	63(50.4)	0.001
Yes	84(70.0)	62(49.6)	
Received sex education			
Yes	118(98.3)	124(99.2)	0.537
No	2(1.7)	1(0.8)	
Parents alive			
No	33(27.5)	14(11.2)	0.001
Yes	87(72.5)	111(88.8)	
Parents still married			
No	34(39.1)	32(28.8)	0.129
Yes	53(60.9)	79(71.2)	
Sisters of adolescent mothers			
No	94(78.3)	104(83.2)	0.333
Yes	26(21.7)	21(16.8)	
Economic status			
Low	60(50.0)	29(23.2)	<0.0001
Medium	35(29.2)	40(32.0)	
High	25(20.8)	56(44.8)	

4.4 Regression analysis showing risk factors for adolescent pregnancy

Table 4.4 is a logistic regression showing risk factors for adolescent pregnancy among both cases and controls in the Sunyani municipality. In a simple logistic regression, age was independently found to be a reproductive risk factor among both cases and controls (OR=0.21, 95% CI=0.12-0.38). Marital status as presented in the Table 4.4 was also found to be a significant potential risk factor for both cases and controls in the Sunyani municipality (OR= 0.22, 95% CI=0.12-0.43). Adolescents who were currently in school or not in school was also found to be a significant reproductive risk factor in both cases and controls (OR=10.77, 95% CI=5.91-19.62). Adolescents who had completed junior high school and senior high school were also found to have a greater odds of adolescent pregnancy as compared to those have completed primary school (JHS; OR=5.66, 95% CI=1.54-20.76, SHS; OR=6.00, 95% CI=1.55-23.21). Current occupation among the cases and controls was significantly associated with adolescent pregnancy. Respondents who are learning a trade or vocation had a 0.03 times odds of adolescent pregnancy (OR=0.03, 95% CI=0.01-0.09) whilst those who reported being unemployed had a 0.11 odds of adolescent pregnancy (OR=0.11, 95% CI=0.06-0.23). The influence of social media on adolescent sexual behaviour (OR=0.31, 95% CI=0.15-0.60), contraceptive use (OR=0.53, 95% CI=0.30-0.92), current relationship (OR=0.42, 95% CI=0.25-0.71) and whether both parents of cases and controls were alive (OR=3.01, 95% CI=1.52-5.96) were all found to be a potential reproductive risk factor for all of the respondents of the study. Respondents who reported to be in the medium and high income status had 2.36 and 4.63 higher risk of adolescent pregnancy.

However, in the multivariate analysis only the influence of social media on adolescent sexual behaviour and the current occupation status were found to be independent reproductive risk factors for adolescent pregnancy in both cases and controls.

Table 3.4: Logistic regression of reproductive risk among cases and controls for adolescent pregnancy in the Sunyani Municipality

Factors	Frequency (%)		Unadjusted OR(95% CI)	Adjusted OR(95% CI)
	Cases (n=120)	Controls (n=125)		
Age, years				
15-16(ref)	22(18.3)	64(51.2)	1	1
17-18	98(81.7)	61(48.8)	0.21(0.12-0.38)	0.45(0.15-1.32)
Marital status				
Single (ref)	66(55.0)	109(87.2)	1	1
Co-habiting	43(35.8)	16(12.8)	0.23(0.12-0.43)	0.54(0.16-1.86)
Married	11(9.2)	0(0.0)		
Currently in school				
No (ref)	85(70.8)	23(18.4)	1	1
Yes	35(29.2)	102(81.6)	10.77(5.91-19.62)	0.23(0.02-2.62)
Educational level				
No formal education(ref)	13(10.8)	3(2.4)	1	1
Primary	22(18.3)	8(6.4)	1.58(0.35-7.02)	0.55(0.01-24.21)
JHS	59(49.2)	77(61.6)	5.66(1.54-20.76)	0.47(0.03-6.75)
SHS	26(21.7)	37(29.6)	6.00(1.55-23.21)	0.61(0.04-9.10)
Current occupation				
Student (ref)	34(28.3)	105(84.0)	1	1
Vocation	38(31.7)	3(2.4)	0.03(0.01-0.09)	**0.02(0.00-0.50)**
Unemployed	48(40.0)	17(13.6)	0.11(0.06-0.23)	**0.04(0.00-0.52)**
Social media affiliation				
No(ref)	55(45.8)	30(24.0)	1	
Yes	65(54.2)	95(74.0)	2.68(1.55-4.62)	
Social media influence on sexual behaviour	n=65	n=95		
No (ref)	30(46.2)	70(73.7)	1	1
Yes	35(53.8)	25(26.3)	0.31(0.15-0.60)	**0.30(0.12-0.73)**
Contraceptive use				
Never used (ref)	52(51.0)	73(66.4)	1	1
Used	50(49.0)	37(33.6)	0.53(0.30-0.92)	0.57(0.22-1.45)
Current relations				
No (ref)	36(30.0)	63(50.4)	1	1
Yes	84(70.0)	62(49.6)	0.42(0.25-0.71)	1.94(0.69-5.44)
Parents alive				
No (ref)	33(27.5)	14(11.2)	1	1
Yes	87(72.5)	111(88.8)	3.01(1.52-5.96)	2.72(0.78-9.49)
Economic status				
Low (ref)	60(50.0)	29(23.2)	1	1
Medium	35(29.2)	40(32.0)	2.36(1.25-4.46)	1.49(0.46-4.82)
High	25(20.8)	56(44.8)	4.63(2.43-8.85)	2.50(0.82-7.66)

ref=reference for the categorical group

4.5 Challenges faced by pregnant adolescents

Table 4.5 shows the challenges the adolescents went through when they became pregnant. It covers how they reacted when they go to know they were pregnant as well as how their parents/guardians and their partners reacted when they got the news of the pregnancy. The average age for the adolescents who were pregnant was found to be 16 years with Standard Deviation of 1, minimum age of 13 years and a maximum age of 18 years. Most of the pregnant adolescents (33.3%) were living with both parents when they got pregnant. Those who were living with their mothers only were 30.8%, father only (3.3%) and other relatives were 20.0%.

When asked about their reaction to the news of their pregnancy, most stated that they felt disappointed (36.7%) followed by afraid (32.5%). About 23.3% however felt happy and 7.5% felt matured at being pregnant at that age. Again, when asked how their parents/guardians reacted upon hearing about their pregnancy, most reported their parents/guardian were angry (31.7%) followed by disappointed (27.5%) and 18.3% indifferent. Parents/guardians who were happy with the news were about 22.3%. The findings revealed that most pregnant adolescent's partners accepted responsibility (50.8%) and 23.3% felt happy, however 21.7% denied responsibility and 4.2% felt angry upon hearing the news.

Table 4.4 Challenges facing pregnant adolescents and adolescent mothers

Challenges	Frequency (N)	Percentage (%)
Who adolescent was living with when she got pregnant		
Both parents	40	33.3
Mother only	37	30.8
Father only	4	3.3
Husband	10	8.3
Others	5	4.2
Other Relatives	24	20.0
Reaction to the news of pregnancy by adolescent		
Happy	28	23.3
Afraid	39	32.5
Disappointed	44	36.7
Felt matured	9	7.5
Reaction of parents/guardian react to the news of the pregnancy		
Happy	27	22.5
Angry	38	31.7
Disappointed	33	27.5
Indifferent	22	18.3
Reaction of partner to news of the pregnancy		
Happy	28	23.3
Angry	5	4.2
Accepted responsibility	61	50.8
Denied responsibility	26	21.7
Total	120	100.0

4.6 Support systems available for adolescent mothers

The findings showed that most pregnant adolescents (71.7%) did receive support from their parents/guardian (Table 4. 6). Out of those that received support, most indicated financial support (52.3%) and food and shelter (47.7%) as the main form of support given them by their parents/guardians. More than half (63.3%) indicated that they received support from partners while 36.7% said otherwise (Table 4.6). Financial support (93.4%) was the main support received from partners. The study further revealed that majority (78.3%) did not receive support from the community, group or friends whilst 21.7% received support, which comes in the form of financial support (53.8%), emotional support (23.1%) and lastly food and shelter (23.1%) (Table 4.6). Most pregnant adolescents (62.5%) did not feel rejected by loved ones after getting pregnant. About 37.5% of the respondents felt rejected by their family and friends (Table 4.6)

Table 4.5: Support systems available to pregnant adolescents and adolescent mothers

Factors	Frequency (N)	Percentage (%)
Support from parents/guardian (N=120)		
Yes	86	71.7
No	34	28.3
Kind of support (N=86)		
Finance	45	52.3
Food and Shelter	41	47.7
Support from partner (N=120)		
Yes	76	63.3
No	44	36.7
Kind of support (N=86)		
Finance	71	93.4
Food and Shelter	5	6.6
Support from community (N=120)		
Yes	26	21.7
No	94	78.3
Kind of support (N=26)		
Emotional Support	6	23.1
Finance	14	53.8
Food and Shelter	6	23.1
Feeling of rejection (N=120)		
Yes	45	37.5
No	75	62.5

4.7 Effects of adolescent pregnancy

The findings revealed that most pregnant adolescent (54.2%) were in school when they got pregnant; out of this majority (70.8%) indicated they have dropped out of school due to the pregnancy. However, more than half (60.9%) indicated that they intend to go back to school. Most of the pregnant adolescents (85.0%) indicated they were not working or learning a trade when they got pregnant, however most of those who were working indicated they have not been able to work (50.0%) after getting pregnant followed by weakness (22.2%),not punctual at work (16.7%), not able to learn (11.1%).

Most pregnant adolescents (65.0%) indicated they did not or have not encountered any health problems in their pregnancy. However 35.0% indicated they have encountered health problems such as vomiting (26.3%) followed by weakness (23.2%), malaria (19.0%), abdominal pains (19.0%), candidiasis (9.5%) and anaemia (2.4%). Among those with children, 13.3% indicated their infants frequently fall sick with sickness such as malaria (75.0%) followed by anaemia (18.8%) and skin rashes (6.3%).

Again, the study found that most pregnant adolescents (53.3%) did not regret being pregnant at their current age whilst 46.7% did regret being pregnant at current age, with reasons such as school/vocation dropout (42.9%) followed by unpreparedness (30.4%) and finally parental neglect (26.8%).

Table 4.6 Effects of adolescent pregnancy on the adolescent mother and child

Factors	Frequency (N)	Percentage (%)
Were you in school when you got pregnant (N=120)		
Yes	65	54.2
No	55	45.8
Did/have you dropped out of school (N=65)	120	100.0
Yes	46	70.8
No	19	29.2
Intention to go back to school (N=46)		
Yes	28	60.9
No	18	39.1
Working or learning a trade before pregnancy (N=120)		
Yes	18	15.0
No	102	85.0
Effects of the pregnancy on work (N=18)		
Weakness	4	22.2
Not able to work	9	50.0
Not punctual at work	3	16.7
Not able to learn	2	11.1
Did you or have you encountered any health problems in your pregnancy (N=120)		
Yes	42	35.0
No	78	65.0
Health problems encountered (N=42)		
Abdominal Pains	8	19.0
Candidiasis	4	9.5
Malaria	8	19.0
Anaemia	1	2.4
Vomiting	11	26.2
Weakness	10	23.

Table 4.7 Effects of adolescent pregnancy on the adolescent mother and child (cont'd.)

Factors	Frequency (N)	Percentage (%)
Does your child frequently fall sick (N=120)		
Yes	16	13.3
No	104	86.7
Health problems that normally affect the child (N=16)		
Skin Rashes	1	6.3
Anaemia	3	18.8
Malaria	12	75
Regret due to pregnancy at this age (N=120)		
Yes	56	46.7
No	64	53.3
Reason for regret (N=56)		
School/Vocation Dropout	24	42.9
Parental Neglect	15	26.8
Unpreparedness	17	30.4

CHAPTER FIVE

5.0 DISCUSSION

5.1 Introduction

The purpose of this study was to find out the factors that influence adolescent pregnancy and to understand why among female adolescents within the Sunyani municipality some get pregnant during the adolescent stage whilst others do not. The residency, age, marital status, being in school and educational level, occupation, parity, belonging to social media and its influence on sexual behaviour, contraceptive use, being in relationships, having parents who are alive and economic status were found to influence adolescent pregnancy. However, only current occupation and social media influence on sex behaviour were found to be independent reproductive risk factors among adolescent.

5.2 Incidence of adolescent pregnancy

The study revealed that at least one out of every three female adolescent have either given birth or pregnant by age 19 years. Out of the 245 respondents used for the study, 120 (49.0%) were either pregnant or have a live child before the age of 19 years. The finding is consistent with a study by Awusabo-Asare & Abane, (2004) which stated that as much as 12% of adolescent girls between the ages of 15 and 19years have had a child in Ghana. Similar finding has also been reported by Gyesaw & Ankomah, (2013) which showed that about 12% of adolescent girls between ages 15 and 19 years are pregnant or have already given birth. The GSS, (2010) has reported that 44% of women aged between 25 and 49 years reported being sexually active by age 18 years. This is consistent with the findings of this study where

majority of the adolescents in both study groups had their first sexual encounter between the ages of 15-18 years.

5.3 Factors influencing adolescent pregnancy

5.3.1 Influence of socio-demographic factors on adolescent pregnancy

The study revealed that there was a significant relationship or association between socio-demographic factors such as location, age, marital status, level of education and current occupation and adolescent pregnancy.

The findings with regard to the age, place of residence, educational status and economic status were consistent with the findings of the 2014 GDHS report (GSS, 2015). The 2014 GDHS, reported that teenage pregnancy increased with age, whereas teenagers with no education, medium income status and reside especially in the rural areas are more likely to begin childbearing at an early age (GSS, 2015).

In terms of marital status, there was a significant difference among the groups with regard to adolescent pregnancy with majority of the study groups not married. This finding is similar to what was reported in the 2008 GDHS, where teenage pregnancy was found to be among teenagers who had never been married (GSS, 2009). It was also consistent with a UNICEF (2008) report which stated that 10-40% of young unmarried girls have had an unplanned and unwanted pregnancy. On the other hand, the 2011 UNICEF children report rated Ghana as among countries with high rate of early marriage. It has also been found that adolescent girls engage in early marriage as a proof of their fertility Shuaib et al. (2011). In Sunyani municipality as shown in the study, adolescents do not need to get married to prove their fertility.

5.3.2 Influence of social media on adolescent pregnancy

Another factor that has been known or thought to have influence on adolescent pregnancy is the use of social media by adolescents. The study showed that about 54.2% of cases and 74.0% of controls belong to at least one social media such as WhatsApp and Facebook. This is consistent with a study in the United States of America by Selkie et al. (2011) which indicated that about 73% of adolescents use one form of social networking site such as Facebook and WhatsApp.

In this study, social media affiliation and its influence on sexual behaviour were found to influence adolescent pregnancy. This finding is consistent with the findings of Strasburger et al. (2009), Chandra et al. (2008) and Martino et al. (2006) which presented the influence of the social media on early sexual behaviour of adolescents and its consequences such as STI and unwanted pregnancy since most of the adolescents just look at the thrilling aspect of sex as depicted by the media and not its consequences. However, after adjusting the odds ratio, social media affiliation was found to be of no significance to adolescent pregnancy in the Sunyani municipality.

5.3.3 Influence of knowledge and use of contraceptives of adolescent pregnancy

Knowledge and use of contraceptives is another factor known to have greater influence on adolescent pregnancy. Most studies have linked the non-use of contraceptives by adolescents to lack of knowledge on contraceptives. As indicated by Kumar et al. (2007), Odu and Ayodele (2007) and Tripp and Viner (2005), lack of contraceptive use in adolescents is as a result of lack of knowledge on contraceptives in adolescents. The findings of this study however are contradictory to those studies. Findings of this study indicated that 85.0% of the cases and 88.0% of the controls had knowledge on contraceptives. In total, 86.5% of the respondents of the study had knowledge on at least one method of contraceptive as indicated in figure 3. This is

consistent with the study by Awusabo-Asare et al. (2006) which states that about 90% of adolescents between the ages of 12 and 19 years have knowledge on at least one modern method of contraceptive. Notwithstanding the high rate of contraceptive knowledge among the respondents, only a few reported ever using contraceptives; 49.0% of cases and 33.6% of controls. As high as 51.0% of cases and 66.4% of the controls reported never using any form of contraceptive. This corresponds with the GSS, (2010) report which placed Ghana among the nations with lowest usage of contraceptives in women between the ages of 15 and 19 years. The study also found that about 75.6% of the respondents who were sexually active did not use any form of contraceptive during their first sexual intercourse. This finding is consistent with the Southwark teenage pregnancy and parenthood strategy report (2001-2010) which indicated that most sexually active adolescents do not use any form of contraceptive during their first sexual experience and a report by Tripp & Viner (2005) that shows that most adolescents do not use any contraceptives during their first sex. The findings however contradict a Guttmacher Institute report in 2014 that showed that 78% of female and 85% of male adolescents in the USA use contraceptives during their first sexual experience.

However, this study found that there is no significant association between knowledge on contraceptives and adolescent pregnancy whereas contraceptive use was found to influence adolescent pregnancy. It indicated that non-use of contraceptives has an influence on adolescent pregnancy. These findings are similar to the findings of Odu & Ayodele, (2007) that indicated that there is 90% chance of sexually active adolescents becoming pregnant each year.

5.3.4 Influence of peer and sexual behaviour on adolescent pregnancy

Another factor that is known to have influence on adolescent pregnancy is peer influence and sexual behaviour. This study found that most of the adolescents among the study were sexually active within the ages of 15-18 years with the mean age of 15 years. Out of the number that reported being sexually active, 81.7% of the cases as compared to 61.7% of the controls did not use any form of contraceptive for protection during their first sexual intercourse. This is consistent with the findings of the studies of Makiwane (2010), Mlambo (2005) and Adu-Gyamfi, (2014) who reported that most adolescents become sexually active at an early age and do not use any form of protection or contraceptives.

The findings of this study also revealed that about 68.9% of the adolescents were initiated into sex due to the pressure from friends. This finding is consistent with that of the study by Amuyunzu-Nyamango et al. (2005) where most adolescents were reported to indulge in unsafe sexual behaviour as a result of pressure from peers. Smetena et al. (2006) have also linked adolescent pregnancy to adolescent sexual activities facilitated by peer pressure or influence.

This study found that about 5.9% of the study groups were under the influence of alcohol and drugs during their first sexual experience. This finding is consistent with that of Tripp and Viner (2005) and Waddington (2007).

Being in current relationship was found to influence adolescent pregnancy. However, it could not independently predict adolescent pregnancy.

5.3.5 Influence of sex education on adolescent pregnancy

With respect to sex education, the findings of the study revealed that there was no significant association between sex education and adolescent pregnancy. This finding

is contrary to the study by Adu-Gyamfi (2014) and Miller (2006) that relates lack of sex education to adolescent pregnancy. However, students who indicated that sex education was not part of their school syllabus had 3.05 odds of adolescent pregnancy. That is they had a higher chance of getting pregnant as compared to those who had sex education as part of their syllabus. Sex education was found to be high among both the controls and the cases (99.2% for controls and 98.3% for cases). With the source of information, 29.8% of the respondents indicated their peers as their source of information, followed by teachers and the health professionals respectively (18.8% and 13.9%). About 15.1% of the respondents mentioned parents as their source of information on adolescent reproductive health. The study revealed that just like most adolescents, parents of these adolescents also found it difficult to talk about sex to their wards. This corresponds with the study by Shtarkshall et al. (2007). Media too was found to be a source of information for 18.4% of the respondents. This goes with the assertion of Strausburger et al. (2009) that lack of information on sex from parents result in adolescents turning to their peers and the media for information on sex.

5.3.6 Influence of family related factors on adolescent pregnancy

The last factor to be discussed is family related factors which include the economic status of parents/guardians, marital status of parents or guardians, sisters who gave birth during their adolescent age and how they felt when they got to know they were pregnant. According to the findings, most of the adolescents; 72.5% of the cases and 88.8% of the controls had both parents alive. Out of this percentages, 60.9% of cases compared to 71.2% of controls had parents still married. The study revealed that there was no significant association between adolescents who have lost one parent or those whose parents were not still married and adolescent pregnancy. This therefore

contradicts the assertion by Odu and Ayodele (2007) that fathers who leave their families put their daughters at a greater risk of early sexual activities which may result in adolescent pregnancy. There was also no significant association between sisters of adolescent mothers and adolescent pregnancy. This also contradicted the findings of East et al. (2007) that revealed that sisters of childbearing adolescents have high adolescent birth rate. With respect to economic status, the findings revealed a significant association between economic status and adolescent pregnancy when the odds ratio was unadjusted. It was revealed that adolescents who come from high income families had 4.63 higher chance of adolescent pregnancy as compared to those from low income homes. The findings from the study in respect to economic factor contradicted that of Nyovani et al. (2007) as cited by Boamah (2013) and Gyan (2013) that revealed that poverty has a great influence on adolescent pregnancy. The findings also revealed that not all adolescent pregnancies are unwanted. As stated by Gyesaw & Ankomah (2013), Odu & Ayodele (2007) and Tripp & Viner (2005), most of the respondents of the study who were pregnant (23.3%) reported being happy when they realised they were pregnant. About 7.5% also reported feeling matured upon the realisation that they were pregnant. About 64.0% of respondents also reported that they have no regrets getting pregnant. These findings therefore showed that family related factors such as economic status, sister of adolescent mother and marital status of parents do not have any significant influence on adolescent pregnancy in the Sunyani municipality.

5.4 Challenges facing adolescent mothers

Numerous studies have shown that adolescents go through many challenges when they become pregnant. The findings of the study revealed that most adolescents had difficulties with their parents/guardians when they got to know they were pregnant.

About 38% of the respondents reported their parents/guardians being angry at them whilst 33% reported disappointment on the side of their parents/guardians when they got to know about their pregnancy. However, it was shown that about 50.8% of the partners or the men who got the adolescents pregnant accepted responsibility as shown in table 5. The findings of the study as indicated in table 7 also revealed that about 65 (54.2%) were in school when they got pregnant. Out of this number, 46 (70.8%) had to drop out of school. This finding corresponds with that of Gyan (2013) which reported that 86% of the respondents of the study had to drop out of school due to adolescent pregnancy. The finding further revealed that out of the percentage of adolescents who dropped out of school, 60.9% were either back in school or had intentions of going back to school. This however is in contrast with Gyan (2013) which reported that about 94% of the respondents had no intentions of going back to school after delivery. For those who were learning a trade, 50.0% reported that they are not able to go to work again because of the pregnancy. WHO (2008) reported that early childbearing is associated with many health problems such as anaemia, malaria, unsafe abortion and obstetric fistula. The finding of the study with respect to challenges was not different as any respondents reported health problems such as vomiting (26.2%), general weakness (23.8%), abdominal pain (19.0%) and malaria (19.0%). Only 2.4% of the respondents reported of anaemia. In contrast with the report by WHO (2011) and Odu & Ayodele (2007) linking adolescent pregnancy to high rate of infant morbidity and mortality, all the respondents had their babies alive and only a few (13.3%) reported their children have health problems. Out of this, 75% reported malaria whilst 18.8% reported of anaemia.

5.5 Support systems available to the adolescent mother

The study sought to find out if there were any support systems available for these pregnant adolescents and adolescent mothers. The findings of the study revealed that there were strong support systems for these adolescents. As presented in table 14, the findings revealed that as much as 71.7% of the respondents receive support in the form of finance, food, shelter and help from their parents or guardians. About 63.3% of the respondents reported receiving support from their partners and this support comes in the form of finance and food and shelter. There was however a revelation that most of the respondents did not receive support from the community. About only 21.7% of the respondents reported receiving help from the community which comes in the form of encouragement, money, food and taking care of the child when they need help. Many respondents (62.5 %) reported that they do not feel rejected because of their pregnancy.

CHAPTER SIX

6.0 CONCLUSIONS AND RECOMMENDATIONS

6.1 Conclusions

The study sought to find out why some adolescents within the Sunyani municipality get pregnant during their adolescent period whilst others do not get pregnant. The study was specifically to;

- Find out the factors that influence the level of adolescent pregnancy in the Sunyani municipality
- Assess the challenges these adolescents go through when they get pregnant
- Explore the support systems available to them and
- Recommend measures that can be employed to address the issue of adolescent pregnancy in the municipality.

The study discovered that socio-demographic factors such as the place of resident of the adolescent, age, marital status, whether adolescent is in school or not, highest educational level attained by the adolescent, current occupation of adolescent that is whether they are working, in school or unemployed and parity are potential reproductive risk factor for the female adolescents between the ages of 15 and 19 years. Other potential reproductive risk factors included social media affiliation, non-use of contraceptives, current relationship status of the adolescent, the economic status of the parents of adolescents and whether both parents of the adolescents were alive.

However, the main reproductive risk factors for adolescent pregnancy found among female adolescents in the Sunyani municipality are current occupational status and social media influence on sexual behaviour.

The main challenges faced by adolescent mothers in the Sunyani municipality included dropping out of school and dropping out of learning trade. The findings of the study indicated a statistically significant difference in the percentage of cases (28.3%) who reported being students and that of the controls (84.0%). This shows that longer stay in school or education is a means of preventing adolescent pregnancy.

The major challenge found in the study was the issue of school dropout. About 70.8% of the adolescents who were in school reported dropping out of school when they became pregnant. Those who were learning trade too had to stop working when they realized they were pregnant (50%).

Adolescent mothers in the Sunyani municipality had access to strong support systems. Support systems included receiving support from the parents or guardians and their partners. The findings of the study indicated that there were strong support systems in place for the adolescent mothers. Most of the respondents (71.7%) reported receiving support from the parents or guardians whilst 63.3% also reported receiving support from their partners.

6.2 Recommendations

Considering the findings of the study, the following recommendations are made to help individuals, communities and the country as a whole solve the issue of pregnancy among adolescents.

- The findings of the study indicated that most of the adolescents who were pregnant were school dropouts. There is therefore the need to encourage education among adolescents especially the female adolescent since longer stay in school help to avoid early sexual debut and pregnancy.

- There is also the need to encourage adolescent mothers to go back to school or find a trade that will help to improve their quality of life. Individuals and NGOs within the communities can set up schools or vocational institutions that will help train the adolescents especially the adolescent mothers to empower them financially for them to also be able to look after themselves and their children.
- Peer educators can also be employed to educate their fellow adolescents on sex education which covers reproductive health, use of contraceptives and consequences of risky sexual behaviours.
- Parents must also be educated and encouraged to educate their wards about sex before they initiate sexual activities.
- Programmes on social media should be channeled to educate the adolescent and not just to entertain them. Adolescents can also be encouraged to use social media for the purpose of education. Reproductive health information can be sent to adolescents to educate them through text messaging and internet sites mainly for education on adolescent reproductive health.
- There is also the need for further research into the long term effect of adolescent pregnancy in the municipality and also the reason behind high rate of knowledge on contraceptives but low rate of use among adolescents in the municipality.

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APPENDICES

APPENDIX 1: CONSENT/ASSENT FORM

Title of study: Adolescent pregnancy in an urban community: A study in the Sunyani Municipality

This research work is a private research carried out as part of the requirement of the Master of Public Health degree of the School of Public Health, College of Health Sciences, University of Ghana. The research will be for duration of about six weeks, in the second quarter of 2015.

The information gained through this study will benefit the larger society by in dealing with the issue of adolescent pregnancy.

In this study there will be questions concerning feelings, perceptions and attitudes that may be embarrassing and or unusual. However, the risk of participation will be no greater than those encountered on day –to-day basis. Please note that participation is fully voluntary and you may refuse to, or discontinue from participating in the study at any time without facing any sanctions.

You are assured of strict anonymity and confidentiality on any information you give. Only the research team will have access to the answered questionnaires. Confidentiality and privacy will be maintained by keeping all materials under lock and key.

In addition to your consent (assent), consent will be sought from your parents/guardians if you are below 18 years of age.

I have read the foregoing or it has been read to me. I have had the opportunity to ask questions and any questions I have asked have been answered to my satisfaction. I therefore consent voluntarily to participate in this study.

Signed: ……..

Thumbprint

Witness: ……

For further information or clarifications, please contact the following:

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ERC Administrator: Hannah FrimpongHannah.Frimpong@ghsmail.com +233 243235225

APPENDIX 2: QUESTIONNAIRE

Date……Study Site……..Code……

PARTICIPANTS' INSTRUCTIONS. Do not write your name; tick only one correct response and multiple responses where applicable. Only adolescent girls aged between 10-18 years are eligible for this study.

Part One – Socio-demographic information		
Q1	What is your age in years?	[ ]
Q2	What is your sex?	1. Male [ ] 2. Female [ ]
Q3	What is your marital status?	1. Single [ ] 2. Co-habiting [ ] 3. Married [ ] 4. Divorced [ ] 5. Never Married [ ]
Q4	Are you currently in school?	1. Yes [ ] 2. No [ ]
Q5	What is your highest level education attained?	1. No formal education [ ] 2. Primary [ ] 3. Junior High School [ ] 4. Senior High School [ ] 5. College/Tertiary [ ]
Q6	What is your religious affiliation?	1. Christian [ ] 2. Muslim [ ] 3. Traditionalist [ ] 4. Others [ ] (specify)……
Q7	What is your ethnic background?	1. Akan [ ] 2. Ga [ ] 3. Ewe [ ] 4. Dagbani [ ] 5. Others [ ] (specify)……
Q8	Where were you born?	…… ……..
Q9	What is your current occupation?	…… ……
Q10	How many children do you have?	[ ] 99 [ ] for No child

Part Two – Social Media influence on Adolescent pregnancy		
Q11	Do you belong to any social media?	1. Yes [ ] 2. No [ ] ***if No, skip to Q 17***
Q12	If yes, which do you belong? ***(Tick as many as applicable)***	1. Facebook [ ] 2. Instagram [ ] 3. Twitter [ ] 4. WhatsApp[ ] 5. Others [ ] (specify)……
Q13	What is your purpose for using the social media?	1. Education [ ] 2. Business [ ] 3. Socialization [ ]4. Entertainment [ ] 5. Others [ ] (specify)……
Q14	What do you normally watch on these media?	…… ……
Q15	How often do you use these social media?	1.Almost every day [ ] 2. At least once a week [ ] 3. Less than once a month [ ] 4. Once a month [ ] 5. Others (specify) ……
Q16	Does it have any influence on your sexual behaviour?	1. Yes [ ] 2. No [ ]

Part Three – Knowledge and Use of Contraceptives			
Q17	Have you heard of any method that can be used to prevent pregnancy?		1. Yes [ ] 2. No [ ] ***If No, skip to Q21***
Q18 If yes, which of the following method(s) have you heard of?		Q19 Which of the method(s) do you use?	Q20 How often do you use any of the methods?
Injectable	Yes [ ] No [ ]	Yes [ ] No [ ]	[ ] Every time [ ] Once a while [ ] Never used [ ]
Pills	Yes [ ] No [ ]	Yes [ ] No [ ]	[ ] Every time [ ] Once a while [ ] Never used [ ]
Implants	Yes [ ] No [ ]	Yes [ ] No [ ]	[ ] Every time [ ] Once a while [ ] Never used [ ]
Condoms	Yes [ ] No [ ]	Yes [ ] No [ ]	[ ] Every time [ ] Once a while [ ] Never used [ ]
Periodic abstinence/ Rhythm	Yes [ ] No [ ]	Yes [ ] No [ ]	[ ] Every time [ ] Once a while [ ] Never used [ ]
Others Specify.....		Yes [ ] No [ ]	[ ] Every time [ ] Once a while [ ] Never used [ ]

Part Four – Peer influence and Sexual behaviour		
Q21	If I may ask, when was the last time you had sex?	1. Never had sex [ ] 2. Less than a week [ ] 3. Less than a month ago [ ] 4. more than a month ago [ ] 5. Others (specify)…… ***If Never had sex, skip to Q29***
Q22	At what age did you first had sex?	[ ]
Q23	If I may ask, who initiated you into sex?	1. Friend [ ] 2. Sibling [ ] 3. Relative [ ] 4. Others [ ] (specify)……
Q24	How were you initiated into having sex?	1. Consensual sex [ ] 2. Rape [ ] 3. For financial gains [ ] 4.Was under the influence of alcohol/drugs [ ] 5. Others (specify)……
Q25	Did you use any form of protection?	1. Yes [ ] 2. No [ ] ***If No skip to Q 27***
Q26	If yes which form of protection did you use?	1. Condom [ ] 2. Pills [ ] 3. Emergency contraceptive [ ] 4.Others (specify)……

Q27	What was your relationship with the person you had sex with for the first time?	1. Husband [ ] 2. Boyfriend [ ] 3. Ex-boyfriend [ ] 4. Casual acquaintance [ ] 5. Others [ ] (specify)……
Q28	How old was (is) your first sexual partner?	[ ]
Q29	Are you currently in a relationship?	1. Yes [ ] 2. No [ ] ***If No, skip to Q33***
Q30	If yes, how many sexual partners do you have?	[ ]
Q31	Do you use protection with your current partner(s)?	1. Yes [ ] 2. No [ ] ***If No, skip to Q33***
Q32	If yes, which form of protection do you use?	1. Condom [ ] 2. Pills [ ] 3. Emergency contraceptive [ ] 4. Others (specify)……

Part Five – influence of Sex Education on Adolescent pregnancy		
Q33	Where/who is your source of information on sexual and reproductive health?	1.Peers [ ] 2. Parents/Guardians [ ]3. Media/internet [ ] 4. Health professional [ ] 5.Teachers [ ] 6. Others [ ] (specify)……
Q34	Does your school syllabus include sex education?	1. Yes [ ] 2. No [ ]
Q35	Will it be easy and comfortable for you to discuss issues on sex with your family and friends?	1. Yes [ ] 3. No [ ]

Part Six – Family Related Factors		
Q36	Are both of your parents alive?	1. Yes [ ] 2. No [ ] ***If No, skip to Q38***
Q37	If yes, are they still married?	1. Yes [ ] 2. No [ ]
Q38	Do you have a sister who gave birth at an early age?	1. Yes [ ] 2. No [ ] ***If No, skip to Q41***
Q39	If yes, does it have any influence on your current state?	1. Yes [ ] 2. No [ ]
Q40	How does it influence you?	……
Q41	Does your parents/guardian have regular income?	1. Yes [ ] 2. No [ ]

Q42 Economic status Assessment Check List for parents/guardian

ITEM(s)	Please Tick appropriate
Accommodation ownership	
Own	1. Yes [ ] 2. No [ ]
Rented	1. Yes [ ] 2. No [ ]
Type of Building	
Story Building	1. Yes [ ] 2. No [ ]
More than 3 bedrooms	1. Yes [ ] 2. No [ ]
Self-contained	1. Yes [ ] 2. No [ ]
Single bedroom	1. Yes [ ] 2. No [ ]
Clay house	1. Yes [ ] 2. No [ ]
Cocoa farm	1. Yes [ ] 2. No [ ]
Car/truck	1. Yes [ ] 2. No [ ]
Motor bike	1. Yes [ ] 2. No [ ]
Corn mill	1. Yes [ ] 2. No [ ]
A set of furniture	1. Yes [ ] 2. No [ ]
Television	1. Yes [ ] 2. No [ ]
Refrigerator	1. Yes [ ] 2. No [ ]
Washing machine	1. Yes [ ] 2. No [ ]
Computer/Laptop	1. Yes [ ] 2. No [ ]
Sowing machine	1. Yes [ ] 2. No [ ]
DVD	1. Yes [ ] 2. No [ ]
Radio	1. Yes [ ] 2. No [ ]
Mobile phone	1. Yes [ ] 2. No [ ]
Bicycle	1. Yes [ ] 2. No [ ]

Please END interview if participant have never been pregnant before, otherwise continue

Part Seven – Challenges (cases only)		
Q43	How old were you when you got pregnant?	[ ]
Q44	How old was your partner at the time of your first pregnancy?	[ ]
Q45	Who were you living with when you got pregnant?	1. Both parents [ ] 2. Mother only [ ] 3. Father only [ ] 4. Husband [ ] 5. Others (specify) ……
Q46	How did you react to the news of your pregnancy?	1. Happy [ ] 2. Afraid [ ] 3. Disappointed [ ] 4. Felt matured [ ] 5. Others [ ] (specify) ……
Q47	How did your parents/guardian react to the news of your pregnancy?	1.Happy [ ] 2. Angry [ ] 3. Disappointed [ ] 4. Indifferent [ ] 5. Others [ ] (specify) ……

Q48	How did your partner react upon hearing about your pregnancy?	1.Happy [ ] 2. Angry [ ] 3. Accepted responsibility [ ] 4. Denied responsibility [ ] 5. others[ ] (specify) ……

Part Eight – Support System		
Q49	Did you receive any support from your parents/guardian after you got pregnant?	1. Yes [ ] 2. No [ ] ***if No skip to Q51***
Q50	If yes, what form of support did you receive?	……..
Q51	Have you been receiving support from your partner?	1. Yes [ ] 2. No [ ]***if No skip to Q53***
Q52	If yes, in what way does he support you?	……
Q53	Do you receive any support from your community, group or friends?	1. Yes [ ] 2. No [ ]***If No, skip to Q55***
Q54	In what way do they support you?	……
Q55	Do you sometimes feel rejected by your loved ones after you got pregnant?	1. Yes [ ] 2. No [ ]

Part Nine – Effects of adolescent pregnancy		
Q56	Were you in school when you got pregnant?	1.Yes [ ] 2. No [ ] ***If No, skip to Q59***
Q57	If yes, did/have you dropped out of school?	1.Yes [ ] 2. No [ ] ***If No, skip to Q59***
Q58	Do you intend to or are you back in school?	1.Yes [ ] 2. No [ ]
Q59	Were you working or learning a trade when you got pregnant?	1.Yes [ ] 2. No [ ]
Q60	If yes, how has the pregnancy affected your work?	…… ……..
Q61	Did you or have you encountered any health problems in your pregnancy?	1.Yes [ ] 2. No [ ]
Q62	If yes, what health problems did you encounter?	…… ……
Q63	Does your child frequently fall sick?	1.Yes [ ] 2. No [ ] If No, skip to Q65
Q64	If yes, what form of sickness does the child normally suffer from?	…… ……

Q65	Have you regretted being pregnant at this age?	1. Yes [ ] 2. No [ ] If yes, Explain your answer. …… …….. …… …… …… ……

Thank You for your cooperation

APPENDIX 3: GHS ETHICAL REVIEW CLEARANCE LETTER

GHANA HEALTH SERVICE ETHICAL REVIEW COMMITTEE

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

My Ref. :GHS-ERC: 3
Your Ref. No.

Research & Development Division
Ghana Health Service
P. O. Box MB 190
Accra
Tel: +233-302-681109
Fax + 233-302-685424
Email:Hannah.Frimpong@ghsmail .org

30th March, 2015

Baafi Diana
School of Public Health
University of Ghana
Legon, Accra

ETHICAL APPROVAL - ID NO: GHS-ERC: 93/02/15

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

"Adolescent Pregnancy in an Urban Community: A Study in the Sunyani Municipality"

This approval requires that you inform the Ethical Review Committee (ERC) when the study begins and provide Mid-term reports of the study to the Ethical Review Committee (ERC) for continuous review. The ERC may observe or cause to be observed procedures and records of the study during and after implementation.

Please note that any modification without ERC approval is rendered invalid.

You are also required to report all serious adverse events related to this study to the ERC within seven days verbally and fourteen days in writing.

You are requested to submit a final report on the study to assure the ERC that the project was implemented as per approved protocol. You are also to inform the ERC and your sponsor before any publication of the research findings.

1

Please note that this approval is given for a period of 12 months, beginning March 30th 2015 to March 29th 2016.

However, you are required to request for renewal of your study if it lasts for more than 12 months.

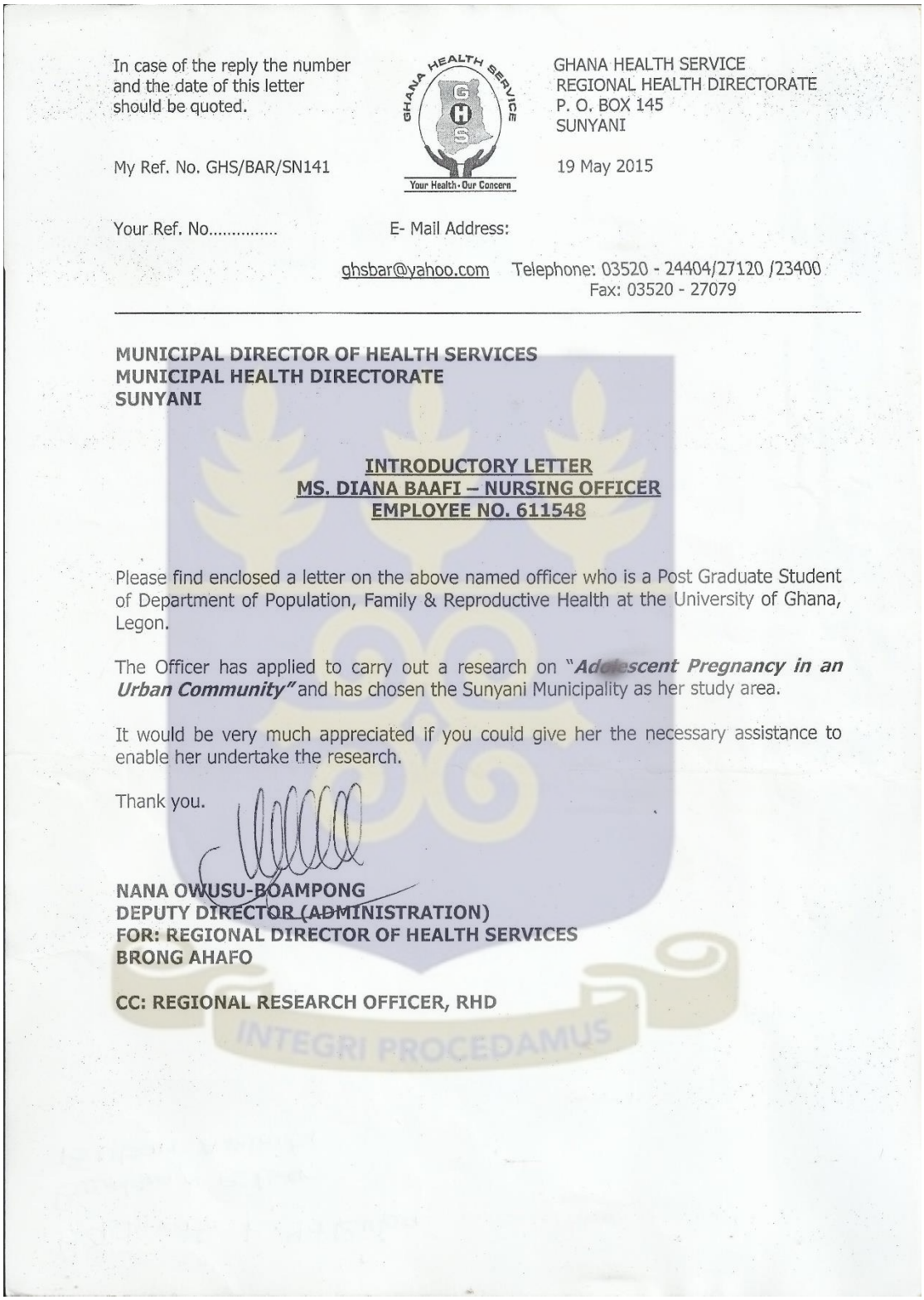
Please always quote the protocol identification number in all future correspondence in relation to this approved protocol

SIGNED.....

DR. CYNTHIA BANNERMAN
(GHS-ERC CHAIRPERSON)

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

APPENDIX 4: INTRODUCTORY LETTER FROM THE REGIONAL HEALTH DIRECTORATE



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

GHANA HEALTH SERVICE
REGIONAL HEALTH DIRECTORATE
P. O. BOX 145
SUNYANI

My Ref. No. GHS/BAR/SN141

19 May 2015

Your Ref. No.....

E- Mail Address:

ghsbar@yahoo.com Telephone: 03520 - 24404/27120 /23400
Fax: 03520 - 27079

MUNICIPAL DIRECTOR OF HEALTH SERVICES
MUNICIPAL HEALTH DIRECTORATE
SUNYANI

INTRODUCTORY LETTER
MS. DIANA BAAFI – NURSING OFFICER
EMPLOYEE NO. 611548

Please find enclosed a letter on the above named officer who is a Post Graduate Student of Department of Population, Family & Reproductive Health at the University of Ghana, Legon.

The Officer has applied to carry out a research on ***"Adolescent Pregnancy in an Urban Community"*** and has chosen the Sunyani Municipality as her study area.

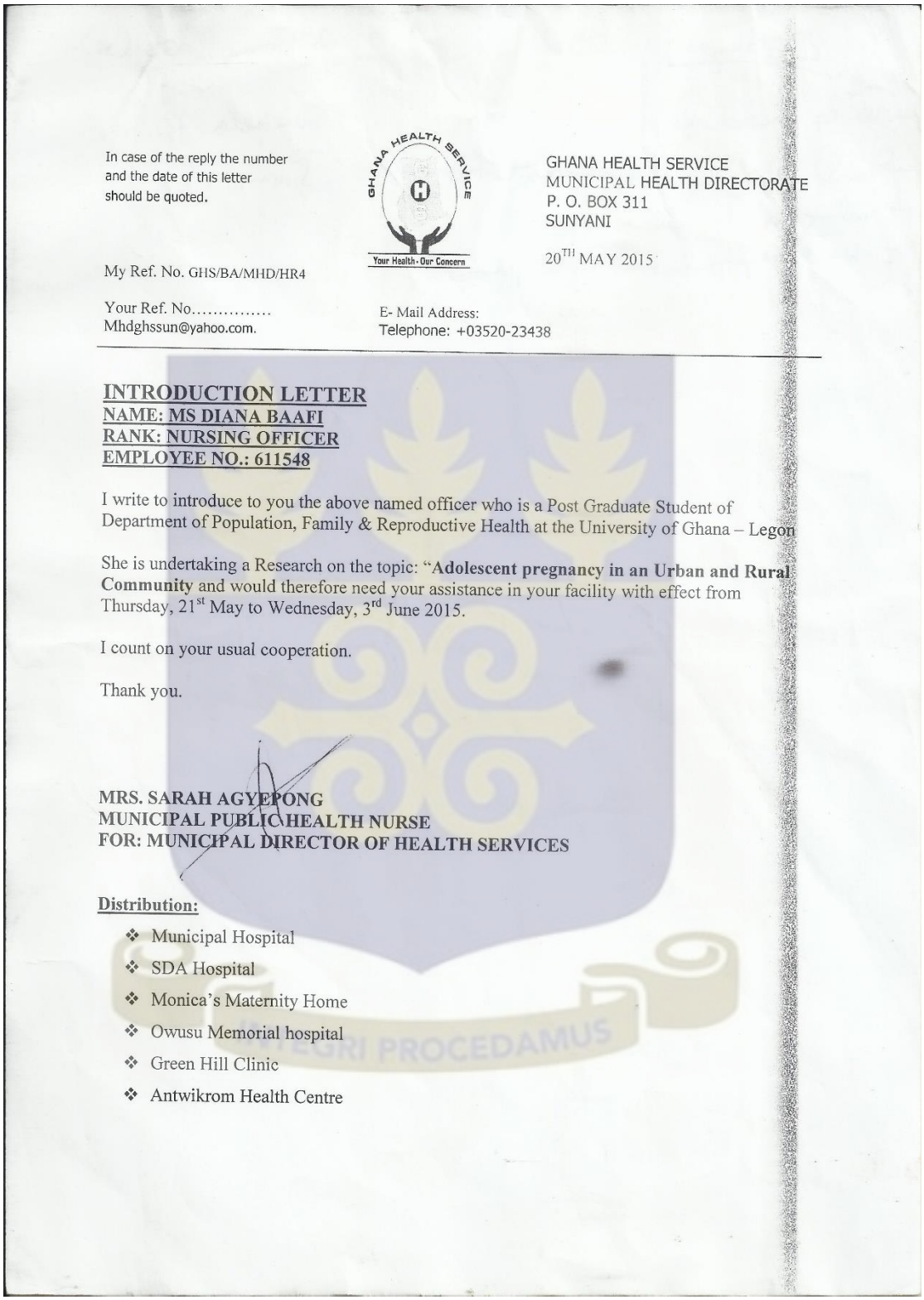
It would be very much appreciated if you could give her the necessary assistance to enable her undertake the research.

Thank you.

NANA OWUSU-BOAMPONG
DEPUTY DIRECTOR (ADMINISTRATION)
FOR: REGIONAL DIRECTOR OF HEALTH SERVICES
BRONG AHAFO

CC: REGIONAL RESEARCH OFFICER, RHD

APPENDIX 5: INTRODUCTORY LETTER FROM THE SUNYANI MUNICIPAL HEALTH DIRECTORATE



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

GHANA HEALTH SERVICE
MUNICIPAL HEALTH DIRECTORATE
P. O. BOX 311
SUNYANI

20TH MAY 2015

My Ref. No. GHS/BA/MHD/HR4

Your Ref. No.....
Mhdghssun@yahoo.com.

E- Mail Address:
Telephone: +03520-23438

INTRODUCTION LETTER
NAME: MS DIANA BAAFI
RANK: NURSING OFFICER
EMPLOYEE NO.: 611548

I write to introduce to you the above named officer who is a Post Graduate Student of Department of Population, Family & Reproductive Health at the University of Ghana – Legon

She is undertaking a Research on the topic: "**Adolescent pregnancy in an Urban and Rural Community** and would therefore need your assistance in your facility with effect from Thursday, 21st May to Wednesday, 3rd June 2015.

I count on your usual cooperation.

Thank you.

MRS. SARAH AGYEPONG
MUNICIPAL PUBLIC HEALTH NURSE
FOR: MUNICIPAL DIRECTOR OF HEALTH SERVICES

Distribution:

- Municipal Hospital
- SDA Hospital
- Monica's Maternity Home
- Owusu Memorial hospital
- Green Hill Clinic
- Antwikrom Health Centre