FACTORS INFLUENCING ADOLESCENT PREGNANCY IN THE UPPER EAST REGION OF GHANA

Priscilla Mary Ntim Babae
Ghana

53rd Master of Public Health/International Course in Health Development
19 September 2016 – 8 September 2017

KIT (ROYAL TROPICAL INSTITUTE)
Health Education/Vrije Universiteit Amsterdam

Factors influencing Adolescent Pregnancy in the Upper East Region of Ghana

A thesis submitted in partial fulfilment of the requirement for the degree of Master of Public Health

By

Priscilla Mary Ntim Babae
Ghana

Declaration:

Where other people's work has been used (either from a printed source, internet or any other source) this has been carefully acknowledged and reference in accordance with departmental requirements.

The thesis **"Factors influencing Adolescent Pregnancy in the Upper East Region of Ghana"** is my own work

Signature: - 

53rd Master of Public Health/International Course in Health Development (MPH/ICHD)
19 September 2016 – 8 September 2017
KIT (Royal Tropical Institute)/Vrije Universiteit Amsterdam,
Amsterdam, The Netherlands

September 2017

Organised by:

KIT (Royal Tropical Institute), Health Unit
Amsterdam, The Netherlands

In co-operation with:

Vrije Universiteit Amsterdam/Free University of Amsterdam (VU)
Amsterdam, The Netherlands

Table of Contents

List of Tables

List of Figures

Acknowledgements

I am most grateful to the Almighty God for the divine wisdom, grace and the gift of life to complete this programme successfully.

Many thanks go to NUFFIC for granting me the scholarship to partake the Master Programme in the Netherland.

I also thank the teaching and non-teaching staff at KIT especially, my academic advisor, thesis supervisor and back stopper for their constructive feedback and encouragement.

Special appreciation to my family especially my father and mum (Rev. & Mrs. Babae) for their prayers, support and encouragement.

A special mention goes to all 53th batch of ICHD especially, Mr. Daniel Atta-Nyarko who has been my source of inspiration and strength throughout this course. I also want to acknowledge Mike, Bash, Tan, Jummy, Nora, Kwadwo, Hafsat and Mule.

A big thank goes to leaders and members of The Church of Pentecost, Amsterdam-PIWC for their prayers and support during my stay in Amsterdam.

I am grateful to Mr. Francis Ofori, Ms. Rosemond Kumi, Ms. Esenam Kavi, Mr & Mrs Danso-Duodo and family and Mr. Isaac Frimpong for their love and support during my stay in Amsterdam

To any other person who supported me in anyway, May God bless you.

Abstract

Background: Adolescent pregnancy is the second cause of death among adolescents and remains the major contributor to maternal mortality globally. Adolescent pregnancy continues to be a major problem especially in the Upper East Region (UER) of Ghana, where prevalence is higher than the national figure. This thesis seeks to assess the factors influencing adolescent pregnancy in the Upper East Region of Ghana.

Methodology: The conceptual framework of adolescent sexual reproductive health by Awusabo-Asare et al., 2006 was used. Qualitative, quantitative and mixed method literature were reviewed from Upper East Region Ghana and Sub-Saharan Africa.

Findings: The study revealed that adolescent pregnancy is influenced by community and religious norms of abstinence and reservation of sexuality discussion which are embedded in family and societies. The responsibility for initiating protection against pregnancy is unclear between partners. Specifically, in the Upper East Region, widespread of poverty and employment status expose adolescents to sexual exploitation, which can result in pregnancy. Social norms are the main issues that are influencing adolescent access to accurate information/knowledge and contraceptives.

Conclusion/Recommendation: There are multiple individual and environmental factors that influence adolescents' access to SRH information and services, choices and intentions around sexual behaviour and contraceptive use leading to adolescent pregnancy. These factors form a complex web and many are embedded in cultural norms. The Ghana Health Service should dialogue with community and religious leaders on matters concerning adolescent SRH and contraceptive and create an avenue to offer the adolescents the opportunity to express their needs.

Name of Author: Priscilla Mary Ntim Babae

Nationality: Ghanaian

Key Words: "Adolescent/Teenage Pregnancy", "Sexual and Reproductive Health", "individual factors", "Environmental factors", "Upper East Region"

Word Count: 13,175

List of abbreviations

ACDEP	–	ASSOCIATION OF CHURCH-BASED DEVELOPMENT PROJECTS
CHAG	–	CHRISTIAN HEALTH ASSOCIATION OF GHANA
CHPS	–	COMMUNITY-BASED HEALTH PLANNING AND SERVICES
CRC	–	CONVENTION OF THE RIGHT OF THE CHILD
CSE	–	COMPREHENSIVE SEXUALITY EDUCATION
FHDR	–	FAMILY HEALTH DIVISION REPORT
GDHS	–	GHANA DEMOGRAPHIC HEALTH SURVEY
GDP	–	GROSS DOMESTIC PRODUCT
GHS	–	GHANA HEALTH SERVICE
GLSS	–	GHANA LIVING STANDARD SURVEY
GSS	–	GHANA STATISTICAL SERVICE
HIV	–	HUMAN IMMUNO-DEFICIENCY VIRUS
ICPD	–	INTERNATIONAL CONFERENCE ON POPULATION AND DEVELOPMENT
ILO	–	INTERNATIONAL LABOUR ORGANIZATION
MICS	–	MULTIPLE INDICATOR CLUSTER SURVEY
MOH	–	MINISTRY OF HEALTH
NGO	–	NON-GOVERNMENTAL ORGANIZATION
NHIS	–	NATIONAL HEALTH INSURANCE SCHEME
KIT	–	ROYAL TROPICAL INSTITUTE
SSA	–	SUB-SAHARAN AFRICA
STI	–	SEXUALLY TRANSMITTED INFECTION
SRH	–	SEXUAL REPRODUCTIVE HEALTH
UER	–	UPPER EAST REGION
UNFPA	–	UNITED NATIONS POPULATION FUND
UNICEF	–	UNITED NATIONS INTERNATIONAL CHILDREN'S EMERGENCY FUND
WHO	–	WORLD HEALTH ORGANIZATION
YFS	–	YOUTH FRIENDLY SERVICES
VU	–	VRIJE UNIVERSITEIT

Glossary

Adolescent: World Health Organization (WHO) defines adolescents as people between the ages of 10 to 19 years (WHO, 2015)

Comprehensive Sexuality Education: "Age-appropriate, culturally relevant approach to teaching about sexuality and relationship by providing scientifically accurate, realistic, non-judgmental information" (UNESCO, 2009).

Contraceptive: a device or substance that is capable of preventing pregnancy.

Early/Child Marriage: "Is marriage before the age of 18 years" (WHO, 2013)

Maternal Mortality: WHO defines maternal death/mortality as "The death of a woman while pregnant or within 42 days of termination of pregnancy, irrespective of the duration and site of the pregnancy, from any cause related to or aggravated by the pregnancy or its management but not from accidental or incidental causes".

Puberty "It is the process of physical changes through which a child's body matures into adulthood, experiences sexual feelings and is capable of sexual reproduction (Rivera and WHO, 2004)

Total Fertility Rate (TFR): "It is the average number of live births a woman would have by the end of her reproductive life if she were subject to pass through those years bearing children at the current age-specific fertility rate" (GDHS, 2014).

Introduction

Adolescent pregnancy is of both public health and social concern. Millions of girls in both developed and developing countries suffer from the health and social consequences of early pregnancy. About 16 million girls between age 15 – 19 years give birth and 3 million girls in the same age group have an unsafe abortion (WHO, 2011 and 2014). About 13% of the global maternal death was as result of unsafe abortion (Ahman and Shah, 2011; WHO, 2012). Adolescents pregnancy is when an adolescent girl between the ages of 10 – 19 years becomes pregnant. About 14% of adolescents in Ghana have begun childbearing and highest in the Upper East region (GDHS, 2014; FHDR, 2015).

I have community nursing as my background and before coming to Royal Tropical Institute (KIT), I worked as a Project Officer on Adolescent Sexual Reproductive Health project in a local Non-Governmental Organization in the Northern Region of Ghana. The project aimed to contribute to a healthy and productive life among young people in Northern Ghana. Ultimately leading to reduced new human immuno-deficiency virus and sexually transmitted infection and teenage pregnancies. My work both as a community health nurse and Project Officer exposed me to the many challenges that adolescents face, including pregnancies. This experience motivated me to research into the factors influencing adolescent pregnancy. My thesis concerns assessing the factors that influence adolescent pregnancies. This stems from the fact that without clearly identifying these factors, efforts by both government and non-government organizations will not yield the optimal result. I drew inspiration from the fact that in my area of work, though we concentrated efforts on reducing adolescent pregnancies, some of the adolescents who were supposed to have served as role models were getting pregnant as well as those not in the project. It became increasingly worrying, as it was unclear to what were the underlying factors that were causing these pregnancies irrespective of the interventions that we were implementing in the communities. The thesis is relevant at this time in the economy of Ghana where the country is fighting to reduce maternal mortality which is one of the most important public health issues facing Ghana. I believe addressing the high prevalence of adolescent pregnancy will also prevent neonatal morbidity as well as mortality, which are also major public health issues facing my country, thereby contributing to the global efforts in reducing maternal and infant morbidity and mortality.

This thesis is a result of reviewing and analysing relevant literature on factors influencing adolescent pregnancy. Chapter 1 provides background information about demography, health and social context of Ghana and the Upper East Region. In chapter 2 the problem/justification of adolescent pregnancy, objectives, methodology and conceptual framework is presented. Findings on individual, environmental and interventions are presented in chapter 3. This is followed by discussion of findings in chapter 4 and finally, the conclusion and recommendations in chapter 5.

CHAPTER ONE

1.0 BACKGROUND INFORMATION

This chapter provides background information about the demography, health and social context that is relevant to adolescent pregnancy in the UER of Ghana.

1.1 Geography and Demography

Ghana is located in West Africa. It shares boundaries with Burkina Faso to the North, Gulf of Guinea to the South, Cote D`ivoire to the West and Togo to the East (Ghana Demographic Health Survey (GDHS), 2014).

As depicted in Figure 2 in appendix 1, Ghana is divided into 10 administrative regions with its administrative and political capital being Accra. The regions are further divided into 216 districts (Ghana Statistical Service (GSS), 2012).

The population of Ghana is estimated at 27 million in 2015 (GSS, 2014). Ghana has a growth rate of 2.5% with a life expectancy of 60 and 61 years for males and females respectively (GSS, 2012). Ghana has a youthful population with about 58% aged between 0 – 24 years and this is shaped by the effects of high fertility (4.2 children per woman) (GSS, 2012; GDHS, 2014). About 51% of the population lives in urban areas. About 71.2% of the population are Christians, 17.6% are Muslims and 5.2% are traditionalists (GSS, 2012). The Gross Domestic Product (GDP) of Ghana in 2015 was $37.54 billion with a growth rate of 1.1% and annual growth rate of 4.1%. The total health expenditure of the GDP was 3.6% in 2014 (WHO, 2015).

1.2 Upper East Region

The UER of Ghana comprises 9 administrative districts. Bolgatanga is the regional capital. It shares boundaries with Burkina Faso to the north, the Republic of Togo to the east, to the west with Sissala District and to the south with West Mamprusi. As depicted in Figure 4 in appendix 3. The population of the region is estimated at about 1 million with 51.6% females and 48.4% males. The region has primarily a rural population (77%). Adolescent aged 15 to 19 years constitute 11.1%, children under 5 constitute 13.9%, children between ages 0 to 14 years constitute 41.5% and elderly from 65 years and above constitute 6.8% (GSS, 2013). The population under 20 years represents 52.6% with a median age estimated at 19 years. About 93.7% of the population in the region depends on others, which may increase the economic burden of the working population. The majority of the dependency age is between 0-14 years, especially under 5. (GSS, 2013).

1.2.1 Economy

The UER is one of the poorest regions in Ghana. It is agrarian with a high proportion (68.7%) engaged in subsistence farming and animal rearing (GSS, 2013). Illegal small-scale mining of gold has also become rampant in some part of the region which draws a lot of adolescents to these areas (GSS, 2013).

1.2.2 Education/Literacy

The current education system is based on a three-tier system: six years in primary school (age 6-9 years), three years in Junior High School (12-15 years) and three years in Senior High School (16- 18 years) (GDHS, 2014). Education and literacy in the UER are low. About 47.5% of the population 11 years and above are literate compared to 74.1% nationwide. The literacy rate is lower in rural (28.5%) than the urban areas (44.3%). The proportion of the population (6 years and older) which has never attended school is 45.8% with 39.1% and 51.9% for male and females respectively. The proportion of females who have never been to school in the rural is also higher 55.2% than females in the urban 40.2% (GSS, 2013).

1.2.3 Social and cultural environment

The UER is a mix of several ethnic groups. The region has a patriarchal system of inheritance; decisions concerning the family including SRH are solely dependent on the man (Achana et al., 2015). There are conservative norms regarding open discussion on issues related to SRH between parents, elderly and adolescents. Polygamy and early marriage are a cultural norm practice in the region. There are three main religions; traditional (27.9%), Islam (27.1) and Christianity (41.7%) and within Christianity, the Catholics are the majority (19.9%) GSS, 2013)

1.2.4 Fertility

Fertility is high with a total fertility rate (TFR) of 4.9 births per woman in the UER. TFR among women with no education was very higher (6.2 births per woman) and 5.1 births per woman in rural areas with the highest among the lowest wealth quintile (6.3 births per woman) (GDHS, 2014).

1.2.5 Age of First Sexual Intercourse

About 11.8% and 9.3% females and males between 15 – 19 years had their first sexual intercourse at age 15 years. The median age for first sexual intercourse between women aged 20 – 49 years is 18.8 and 17.8 for urban and rural area respectively. This is about 18.4 year for the same age range for women in the UER; and 17.5 and 17.6 years for women with no education and lowest wealth quintile (GDHS, 2014).

1.2.6 Health Service Delivery

Health service delivery is organized from the community level to the regional level. The region has 13 administrative districts and 86 sub-districts (GHS, 2015). Varying services from preventive and curative at all levels are offered by 383 government health facilities, private not for profit and private for profit health facilities in the region (GHS, 2015). The region has one health research institute, 5 health training schools, a regional hospital, 290 CHPS zones, health centres and 5 district hospitals. Most of these health centres are managed by CHAG. Reproductive services are rendered in all facilities including contraceptive services however, the Catholic health facilities do not offer contraceptive services (GHS, 2015). The organization of health delivery in Ghana is in appendix 2

CHAPTER TWO

2.0 PROBLEM STATEMENT, JUSTIFICATION, OBJECTIVES AND METHODOLOGY

This chapter describes the problem of adolescent pregnancy, study objectives and methodology.

2.1 Problem statement/Justification

About 11% of all births worldwide are from mothers aged 15 to 19 years with about 95% occurring in low and middle-income countries (World Health Organization, 2014). Complications during pregnancy and childbirth are the second cause of death for girls aged 15 to 19 years. Globally, 3 million girls aged 15 – 19 years undergo unsafe abortion every year, which remains a major contributor to maternal mortality. About 65% of women who develop obstetric fistula developed it during adolescence (WHO, 2013). About 36.4 million girls become mothers before age 18 (Loaiza and Liang, 2013, WHO, 2014). According to WHO, about 50% of still birth risk is associated with babies born to mothers who are under the age of 20 years compared to mothers above 20 years. (WHO, 2014).

Sub-Saharan Africa (SSA) recorded the highest prevalence of adolescent pregnancy in the world in 2013 and countries having prevalence levels > 30% (Loaiza and Liang, 2013). Although adolescent pregnancy is also a problem in Ghana, contraceptive use among adolescents in Ghana is low. Only 30% of sexually active adolescents are currently using contraceptives with an even lower proportion (2%) in Northern Ghana (GDHS, 2014; Awusabo-Asare et al., 2017).

The 2015 annual report of GHS, Family Health Division indicates that unsafe abortion contributes to 7% of all maternal deaths in Ghana. About 12.1% of girls between 10 to 19 years got pregnant in 2015, 12.1% in 2014, and 12.3% in 2013 which was higher than the national target of 10% (FHDR, 2015). Abortion among the same group was 17.3% in 2015 of all pregnant adolescents (FHDR, 2015). There may be some unreported pregnancies and abortions which are not captured in the institutional report.

The adolescent pregnancy rate was 15.3% in the UER which is the highest compared to the other regions in the country in 2015, 15% in 2014 and 15.5% in 2013. The abortion rate among adolescents in the region was 24.5% in 2015, 24.1% in 2014 and 23.8% in 2013. Factors influencing adolescent pregnancy goes beyond the health system (FHDR, 2015). Studies show that social disadvantage factors like family and community level poverty, family disruption, unemployment and inequalities are associated with adolescent pregnancy (Odimegwu and Mkwananzi, 2016). A study in Cameroon showed that age at marriage, early sexual debut and contraceptive use significantly influenced adolescent pregnancy (Fathi, 2003).

The adolescent health policy has been developed and implemented to ensure that adolescent health and development is integrated into the health delivery system of Ghana (FHDR, 2015). An NGO, Association of Church-based Development Project (ACDEP) has over 4 years implemented SRH programmes in schools and currently implementing the Young People in Charge Project in the Northern and UER as an intervention to reduce teenage pregnancy, new HIV and Sexually Transmitted Infections (STI). The Youth Harvest Foundation is also implementing an Adolescent Sexual and Reproductive Health Project in schools in the UER. One would have expected that all these interventions would have positively influenced adolescents' sexual behaviour leading to productive and healthier lifestyles, however, the issue of teenage pregnancy is still a challenge. The question then is why are adolescents getting pregnant and what can be done to reduce adolescent pregnancies? This study is worth doing because little is known about the factors influencing adolescent pregnancy in the UER of Ghana.

2.2 Objectives of the study

2.2.1 Main objective

The study aims to assess the factors influencing adolescent pregnancy in the UER of Ghana in order to make recommendations to policy makers to institute measures that will contribute towards reducing adolescent pregnancy.

2.2.2 Specific Objectives

1. To examine individual factors that influence adolescent pregnancy.
2. To analyse environmental factors that influence adolescent pregnancy
3. To identify effective interventions to address adolescent pregnancy.
4. To make recommendations to policy makers to institute measures that will contribute towards reducing adolescent pregnancy.

2.3 Methodology

In order to achieve the objectives of this study, the literature and other documentation were reviewed. The conceptual framework of adolescent SRH cited in Awusabo-Asare et al., (2006) was used to analyse the factors influencing adolescent pregnancy in the UER of Ghana. Due to the limited literature on adolescent pregnancy in UER, literature from other regions in Ghana, Ghana as a whole, SSA and a few global sources were used. A search of bibliographic databases was done to identify published articles on adolescent pregnancy, contraception and SRH. Titles and abstract of articles were read to identify relevant ones, full text was identified and subjected to the inclusion criteria and relevant individual articles were finally used.

2.3.1 Search Strategy

Search engines and data sources such as PubMed, Google Scholar, Google were used. The KIT library, international and government websites such as WHO, UNFPA, UNICEF, GHS, GLSS, GSS, Researchgate, Guttmacher were also searched. This yielded electronic publications of books, articles, reports and fact sheets from UER, Ghana, SSA and a few global sources. Published, peered-reviewed and grey literature in English Language from 1999 till date was reviewed and reports from UER and Ghana on adolescent/teenage pregnancy were reviewed.

2.3.2 Key Words

The key words and combinations used in the study are summarised in table 1 below:

Table 1: Summary of key words used in search strategy

Objective	Key Words
Individual factors	"Adolescent pregnancy" OR "teenage pregnancy" Early sexual "debut", "education", "Employment", "marital status", "puberty", "AND" age", "Place of Residence", First marriage, first sex, poverty. SSA, Ghana, UER, global
Environmental factors	"Adolescent pregnancy" OR "Teenage pregnancy" AND Religion, Peers, Sexual partner, Parents/family, School, Economic, health service, information, Knowledge, youth friendly services, Contraceptive

	services, Media, internet, television, radio, Community, Norms, Values, Cultural, Abstinence. SSA, Ghana, UER, global
Policies	Policies, laws, conventions, Ghana, international
Interventions	CSE, Peer education programme, multiple component intervention, cash transfer, socio-economic programme, adolescent pregnancy, youth friendly services

2.3.3 Inclusion Criteria

- Articles published in English Language from 1999 – 2017
- Studies on adolescent pregnancy/teenage pregnancy in UER, Ghana, SSA, Global
- Studies on adolescent SRH in UER, Ghana, SSA, Global
- Studies on contraception in UER, Ghana, SSA and Global
- Full and published articles including peered reviewed

2.4 Conceptual Framework

The adolescent SRH conceptual framework looks at the specific context divided into individual characteristics and environmental factors, in relation to sexual and reproductive experience, knowledge and attitude on pregnancy/STI/HIV which have a further influence on current adolescent sexual behaviour and intention. For the purpose of this thesis, the focus was on adolescent pregnancy.

Individual characteristics include the demographic background and socio-economic context within which the adolescent lives. The demographic background and socio-economic factors have an influence on adolescents' choices and decisions which affect their SRH. (Awusabo-Asare et al.,2006). The environmental context comprised immediate-social, institutional and political/policy factors. These factors have an influence on the knowledge and attitude, future expectations, access to health information, self- esteem, self-efficacy, gender and power relation and risk assessment and the choices that adolescents make in relation to their SRH and these further influence adolescents' current behaviour and intentions. The immediate-social factors include relationships with parent/family, sexual partners, peers and organized youth groups. The institutional factors include religion, but also norms and values in the community, the school, the media, health system and economic conditions. Lastly, local, national and international policies can influence adolescents' sexual and reproductive health (Awusabo-Asare et al., 2006).
The knowledge, behaviour and attitudes considered SRH experience, knowledge on contraceptives and pregnancy including protective behaviour, risk assessment which is perceived the risk of getting pregnant and consequences, self-efficacy, gender and power relation, health information and services and self-esteem. The current sexual intentions are also related to sexual behaviour, contraceptive/condom use, intentions on fertility and use of health information and services (Awusabo-Asare et al., 2006).

This thesis focused on factors in the individual and environmental context that influence adolescents' pregnancy and how these factors influence the acquisition of accurate information in relation to knowledge on protective behaviour, contraceptives and negotiating protective action (Awusabo-Asare et al., 2006) as depicted in Figure 1.

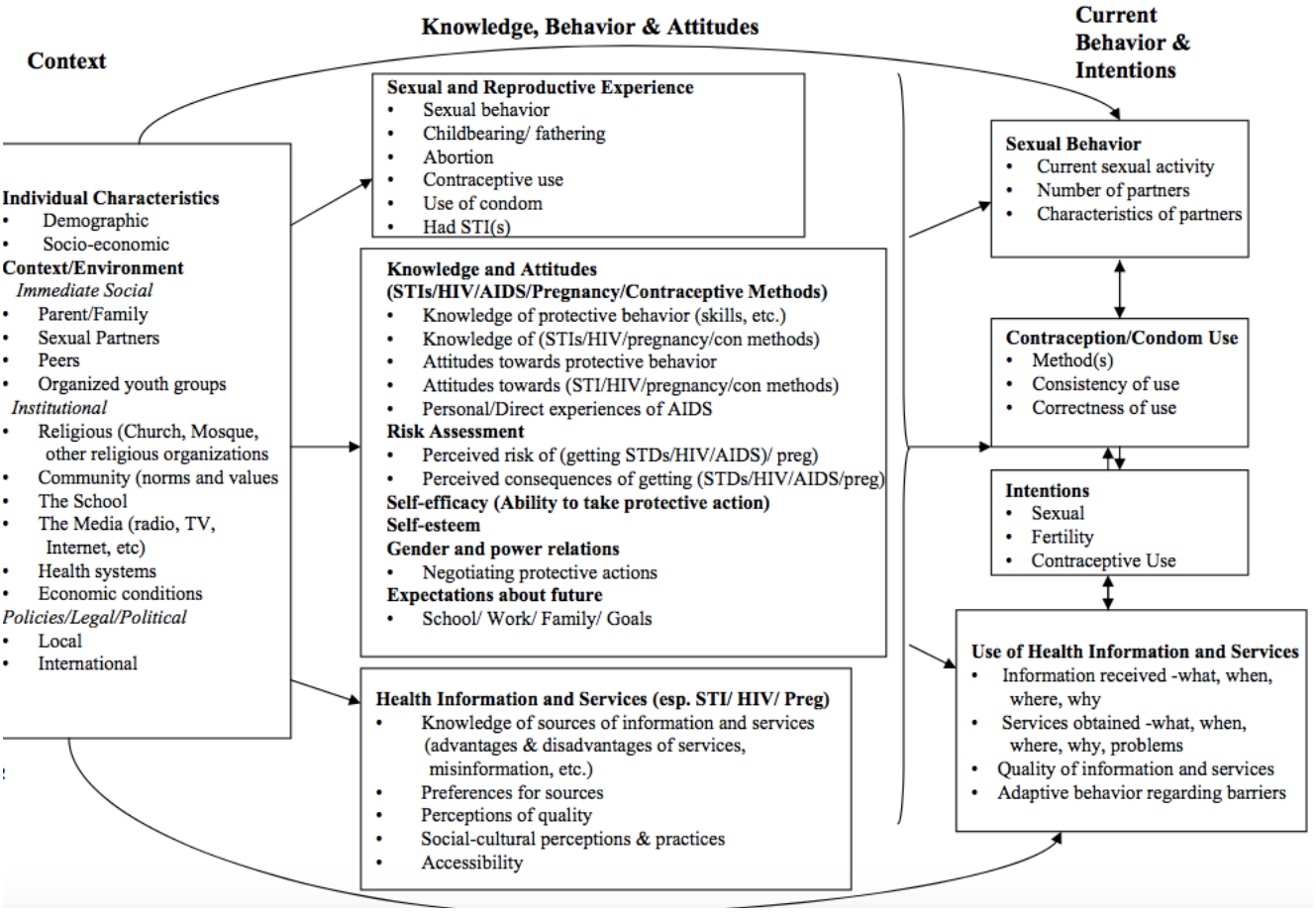

Figure 1: Conceptual Framework for adolescent sexual and reproductive health

2.5 Limitation of the study

Only literature in English language was reviewed. The study type was a desk review that depended on findings from empirical studies by other researchers which focussed entirely on adolescents aged between 15 to 19 years, without recourse to those between 10 to 14 years mostly associated with complications. Again, when it comes to data that was used, there is a possibility of underreporting, since the data consisted of those captured by data reporting systems in the country.

CHAPTER THREE

3.0 FINDINGS

The conceptual framework of adolescent SRH is applied to examine the factors influencing adolescent pregnancy in the UER of Ghana.

3.1 Individual factors

The individual factors described in this section are the demographic and socio-economic factors.

3.1.1 Demographic Factors

3.1.1.1 Age: age of puberty, sexual debut, marriage and pregnancy

Puberty occurs at a stage when many boys and girls are not fully developed cognitively and hence have less decision-making competence (Kar et al., 2015). There is a decline in the puberty age globally, the menarche age for girls is between 12 to 13 and boys experience the first ejaculation at 13 years (Anthony, 2011; Kar et al, 2015). Studies conducted in Ghana also estimate a decline in the mean age menarche at 12.74 and 13.66 years (Aryeetey et al., 2011; Ameade and Garti, 2016). The desire for intimacy and love making increases during this period as adolescents feel attracted and have sexual desire and thoughts for each other (Kar et al., 2015).

In Ghana, the age at sexual debut is relatively high (Zaba et al., 2004; Doku, 2012). About 11% females and 9% males between 25-49 years had their first sexual intercourse by age 15 and 47% of young females and 32% of young males between 25-49 years had their first intercourse at age 18 (GDHS, 2014). A study in Bolgatanga in the UER indicates the median age of sexual initiation for both sexes is 18 years which was measured among the 15-24 age group (Rondini and Krugu, 2009). Some studies reported association between early sexual debut and adolescent pregnancy (Keller et at., 1999, Imamura et al., 2007; Brahmbhatt et al., 2014) and specifically the inability to negotiate condom use as a risk factor for adolescent pregnancy (Karim et al., 2003; Toska et al., 2015).

About 40% of girls are married as children in SSA (UNICEF, 2015). About 5% of girls are married by age 15 and 21% married by age 18 in Ghana (UNICEF, 2014). In Ghana, 14% of women aged 15-19 years have begun childbearing (GDHS, 2014). One in every 4 women (27%) is married before age 18, UER having the highest percentage: 39.2% (MICS, 2011). About 9% of women aged 15 – 19 years indicate they have co-wives (GDHS, 2014). McCleary-Sills et al. (2014) indicates that some girls enter into marriage as second and third wives. According to the WHO (2004), adolescents who marry at an early age give birth early to proof their fertility. This is evident in Uganda, Kenya and Zambia where the risk of adolescent pregnancy as well as HIV is influenced by early marriage due to regular unprotected sex (Neema and Bataringaya, 2000; Clark, 2004). A study in Cameroon reveals that the likelihood of pregnancy among married adolescent girls was 6 times compared to unmarried adolescent girls (Fathi, 2003).

3.1.1.2 Place of Residence

Adolescent childbearing in Ghana is more prevalent in rural than urban areas: 17% and 12% respectively (GDHS, 2014). Rural girls are more likely to engage in early sexual intercourse compared to their urban counterparts (Doku, 2012), but urban boys initiate sex earlier than their rural counterparts (GDHS, 2014). A study in Ethiopia indicates that earlier sexual debut is prominent among urban dwellers than rural dwellers (Oljira et al., 2012). Child marriage is also more prevalent in rural than urban areas which increased from 30.6% in 2006 to 36.2% in 2011 across all rural areas in Ghana (MICS, 2011). The median age for first sexual

intercourse among women aged 20-49 years in rural areas was 17. 8 and 18.8 for urban area (GDHS, 2014).

3.1.2 Socio-economic factors

3.1.2.1 Education

Girls with less education coupled with rural residency or being part of a poor family are likely to get pregnant early (Loaiza and Liang, 2013). Higher education is protective for adolescent pregnancy while disliking school is associated with adolescent pregnancy (Berry et al., 2000; Bonell et al., 2005). An adolescent dropping out of school as a result of late enrolment which places the adolescent at a grade behind his or her age is an issue which may increase the occurrence of adolescent pregnancy (Loaiza and Liang, 2013). In SSA, about 38% of adolescents are out of school and 39% are enrolled in primary education (Loaiza and Liang, 2013). Gyan (2013) reports that "school dropout is seen as a cause and consequences of teenage pregnancy". However, Vundule et al. (2001) argues that poor school performance is not a risk factor for adolescent pregnancy. Berry et al. (2000) state that mother's high education is protective for adolescent pregnancy. About 55% of adult females have never attended school in the UER (GSS, 2013), which can be a risk factor for adolescent pregnancy of their daughters. Lack of education is also associated with child marriage. In Ghana, about 41.6% of uneducated women married before 18 years (MICS, 2011). This may be as a result of early marriage, poverty, multiple household chores and girls' responsibility of helping mothers in the market and farm as indicated in a study in Ghana, Nigeria and Togo (Tuwor and Sossou, 2008). Adolescents with high education level may be less at risk of adolescent pregnancy (Blum et al., 2005; Grant and Hallman,2008). A multicounty study including Ghana indicates that high community educational level is also associated with reduced incidence of risky sexual behaviour resulting in adolescent pregnancy, since it influences adolescents to aspire to high educational attainment (Stephenson, 2009)

3.1.2.2 Employment

Research shows that economic power of adolescent increases if adolescents engage in employment which can prevent them from engaging in early sex (Stephenson et al., 2014). However, as adolescent social interaction increases with employment, they could also be more at risk of being exposed to sexual activities (Stephenson et al., 2014). A study in Nigeria found that lack of opportunity and unavailability of decent jobs for adolescents are factors that contributed to adolescent pregnancy (Amoran, 2012). Some of the adolescents in the UER find themselves in "galamsey[1]" farming, petty trading and kayayei[2] (GSS, 2013). Some of them may also be jobless and pushed into early marriages and engagement in transactional sex. A qualitative study in Nigeria found that street trading and hawking goods in neighbourhood exposed adolescent girls to sex, which may end up in pregnancy (Ankomah et al., 2011). There is limited literature on employment of adolescents in the UER.

3.1.2.3 Poverty

Poverty is one of the main contributing factors to adolescent pregnancy (Keller et. al., 1999; Vundule et al., 2001; Imamura et al., 2007; Gyan, 2013; Kimball and Wissner, 2015). A study conducted in Nigeria reveals girls from low socio-economic families are twice as likely to get pregnant than those from wealthier families (Amoran, 2012). Gyesaw and Ankonah, (2013) argue that girls exchange sex for money as a source of income to sustain a living. A study conducted in Ghana indicates that about 68% of Junior High School girls engaged in sex for money which may end up in pregnancy (Afenyadu and Goparagu, 2003; Luke, 2003). In the

[1] Illegal small mining of gold
[2] Head potter

UER of Ghana, girls from poor families may engage in transactional sex as a source of income for livelihood and the intention to use a condom may be low as they may not have power to negotiate for safe sex (Van der Geugten et al., 2013) as evident in Nigeria (Isiugo-Abanihe and Oyediran, 2004). Poorer families tend to give their daughters out to marriage early to reduce the economic burden of the family, which can also lead to adolescent pregnancy (MICS, 2011; Loaiza and Liang, 2013). The UER is one of the poorest Regions in Ghana (GSS, 2013). Given the low wealth of people living in the UER of Ghana, adolescents may have limited access to sexual health information due to inability of poor families to purchase television, newspaper and cost of visiting the health facility for accurate information. (GLSS, 2013).
Adolescents may also not be able to afford contraceptive/condoms even if they are cheap, this will influence contraceptive/condom use (Amuyunzu-Nyamongo et al., 2005; Madise et. al., 2007). A multicounty study including Ghana reveals that poverty exposed girls to early sexual activity which may result in pregnancy (Madise et al., 2007). Also, it was found that the likelihood of the poorest adolescents to use condoms was low, which was prevalent in the rural areas (Madise et al., 2007). As indicated earlier community wealth is protective for early sex initiation (Stephenson et al., 2014)

3.2 Environmental Factors

3.2.1 Immediate Social

3.2.1.1 Parent/Family

A study conducted in the UER of Ghana among pregnant adolescents reveals that there was no discussion on sex with adolescents prior to the pregnancy. However, another study among non-pregnant adolescents reveals that there was some kind of discussion among adolescent girls and mother (Krugu et al., 2016; Krugu et al., 2017). The structure of the family may influence the behaviour of adolescents especially sexual behaviour, either positively or negatively (Burt, 2002; Holness, 2015). Parents' close relationship/support is linked to lower risk behaviour of adolescents especially regarding sexual activities (Miller, 2002, Nichols, et al., 2016). East et al. (2006) affirms this by saying "protective parenting has a positive impact under high risk conditions like poor family, deviant peers, older sister's or maternal teen birth even though it is not completely sufficient to counteract the impact of those risk". Others have argued that parent child communication, especially mother's discussion on sex initiation with adolescents is protective, resulting in less risky sexual behaviour and conforming to peer norms (Whitaker and Miller, 2000; Salami and Ayegboyin, 2015; Krugu et al., 2016). However, single parenthood, large family, having an older sexually active sibling or pregnant older sister are connected to the likelihood of adolescents to engage in early sex and adolescent pregnancy (Miller et. al., 2001, Miller, 2002, Karim et al., 2003, East et al., 2009; Okigbo and Speizer, 2015). A study conducted in Uganda reveals that lack of parent support/control, lack of information on SRH, poverty, family breakdown and bridal wealth were the reasons for adolescent pregnancy from the perspective of adolescents (Sekiwunga and Whyte, 2009). A qualitative study conducted in the southern part of Ghana indicates that parents found it difficult to discuss sexual matters with adolescents (Asampong et al., 2013). Kumi-Kyereme et al. (2007) indicates in a mixed methods study in Ghana that there was an inadequate discussion on sex related matters between adolescents and parents though parents tend to give instruction on avoidance of early sexual intercourse to girls than boys. A qualitative study in rural Nigeria indicates that sexuality was portrayed by parents as dangerous and unpleasant hence they avoided discussions on sexuality (Izugbara, 2008). Some adolescents in SSA are either uninformed or misinformed about their body development and sexuality (Santhya and Jejeebhoy, 2015). A study has shown that parents/families are another source of information on protective sexual behaviour (Amuyunzu-Nyanmongo et al., 2005). However, parents are not always able to provide accurate information to adolescents

due to limited knowledge on body development of adolescents and sexual health, judgemental attitude, being uncomfortable with sharing information, lack of time, the perception that their daughters are not at risk of pregnancy and not being approachable for discussion regardless of their experience on sexual issues (Amuyunzu-Nyamonga et al, 2005, Sekiwunga and Whyte, 2009, Bastien et al., 2011), which may not be different from the UER in Ghana. A qualitative study in Bolgatanga, UER, found that parents are not able to give accurate information on SRH due to lack of knowledge on SRH, shyness and unwillingness to discuss sex related issues (Van der Geugten et al., 2017). It has also been hypothesized that the widely accepted and highly promoted practice of abstinence until marriage in the UER limits access to information about other protective behaviour choices, which exposes the adolescent to risky sexual behaviour (Van der Geugten et al., 2013). A mixed method study in Ghana suggests that the authoritative nature of fathers' limits access to information on sexual and reproductive health by adolescents and the gender perception that is embedded in family limits the girls' access to information, where girls are more strictly monitored compared to boys (Kumi-Kyereme et al., 2007). This is in line with a study in Kenya where fear of punishment limited open discussion on sexual and sensitive issues (Okigbo et al., 2015).
The inability of parents to play their role in the light of giving accurate information pushes adolescents to engage in early sexual intercourse out of curiosity, peer influence and experimentation which is usually done without protection (Biddlecom et al., 2007; Jejeebhoy and Santhya, 2011). Parents who are able to openly discuss and share information on sex and condom use can positively influence the sexual behaviour of adolescents on when to engage in sexual activity, partner choice and condom/contraceptive use (Krugu et al., 2016).

3.2.1.2 Peers

Peer influence has been cited as a contributing factor of adolescent pregnancy in Ghana (Amuyunzu-Nyamongo et al., 2005, Gyan, 2013). Kumi-Kyereme et al. (2007) indicates that adolescents preferred to seek advice or discuss sexual related issues from peers and that peers are the important source of information on sexual matters. Similar findings indicating the role of peers as the primary source of sexual information was reported from a study in Tanzania (Silberschmidt and Rasch, 2001). According to Santelli et al. (2004) the sexual decisions of adolescents are influenced by their peer sexual experience. Peers have a positive or negative influence on adolescent behaviour especially regarding sexual activities (Neema and Bataringaya, 2000; Karim et al., 2003). The likelihood of adolescents being influenced by deviant and high-risk friends under unprotective parenting is high when they find themselves with such peers (East et al., 2006). Peers who indulged in alcohol has been linked to risky sexual behaviour which may result in adolescent pregnancy (Santelli et al. 2004, Kabiru and Ezeh, 2007, Woolf-King and Maito, 2011, Brahmbhatt et al., 2014). The more time adolescents spend with friends, the more likely they become exposed to their friends' behaviour (Deutsch et. al., 2015). A mixed method study conducted in the southern part of Ghana reveals that peer influence was a major factor contributing to adolescent pregnancy and early sex initiation as adolescents rely on peers for sexual information and also learn from their peers (Gyan, 2013). However, a small qualitative study conducted in Odumasi in the Ashanti region of Ghana found peer influence not to be a major contributing factor to adolescent pregnancy (Keller et. al., 1999). The adolescents desire to fit in and be accepted among their peers, influences them to conform to peer ideas without seeking for accurate information on sexuality hence sexual behaviour been informed by peer norms (Tolman et al., 2004; Smiler, 2008; Bearman et al., 2004, Tolman and McClelland, 2011). Adolescents are likely to engage in early sex, have multiple sex partners and low condom/contraceptive uptake if they perceive that their peers are doing same since they tend to model peer behaviour to gain recognition and respect among peers (Vundule et al., 2001; Newman and Newman, 2001; Kiesner et al., 2002; Pedlow and Carey, 2004; Lapinski and Rimal, 2005). Boer and Tshilidzi Mashamba, (2007) affirms for example that decisions to use condoms are dependent on the individual social network and normative pressure from peers.

3.2.1.3 Sexual Partner

A study conducted in four countries including Ghana reveals that adolescents enter into relationships with older adults "sugar daddy and mummy" (Amuyunzu-Nyamongo et al., 2005). This is also reported in Kenya and Tanzania where some adolescents engage in sexual relation with older persons though parents may disapprove such relationships (Longfield et al., 2002; Silberschmidt and Rasch, 2001). However, others argue that parents may approve such relationships as they urge their daughters to associate with well to do men who can support them financially (Silberschmidt and Rasch, 2001), which is linked to the section of poverty above. Other studies affirm that the main driver of such relationships is financial assistance (MacPhail and Campbell, 2001; Kaufman and Starvrou, 2004). These findings may not be different in the UER of Ghana, given the poor economic background. Two studies conducted in the Bolgatanga in the UER indicates that some female adolescents engaged in transactional sex and have multiple boyfriends at the same time. Adolescent girls' sexual relationships were based on economic gains as indicated previously in the poverty section (Van der Geugten et al., 2013; Krugu et al., 2017). Love may draw some of the adolescents in sexual relationships with a younger person of the same age (Van der Geugten et al., 2013). Some adolescents may be forced into sexual relationships through coerced sex, rape, sexual assault, abuse (Morche and Morche, 2013; Woog and Kagesten, 2017) even though some of the forced and coerced sex may be initiated by husband, boyfriend or family friend (Adjei et al., 2015; Rominski et al., 2016). Forced sex was also found in the study in Bolgatanga; and that condom use was perceived by adolescent girls as the responsibility of the male partner (Krugu et al., 2017). McCleary-Sills et al. (2014) reports that male adolescents perceived pregnancy prevention as the responsibility of girl partner. Research shows that sexually abused boys are at risk of being involved in making a girl pregnant and take up other risky behaviours as coping strategy (Saewyc et al., 2004). A study conducted in South Africa shows that girls who have multiple sexual partners are at high risk of getting pregnant compared to girls with one sexual partner. Again, adolescent boys tend to have multiple sexual partners in order to prove their masculinity (Jonas et al., 2016). However, the power imbalance that exists in most adolescent relations hinders the ability of girls to negotiate for safe sex and to take decisions on protective behaviour (Jewkes et al., 2003; Boer and Tshilidzi Mashamba, 2007; Heavey et al., 2008). Again, the wide age difference also put girls at a position which makes it difficult to question their partner's infidelity, a decision on fertility, contraceptives and condom use. (Jewkes et al., 2001; Silberchmidt and Rasch, 2001; Heavey 2008). Karim et al. (2003) indicates in a cross-sectional study in Ghana, that there was a limited discussion on sexual matters between adolescents and their sexual partners which may influence adolescents' contraceptive or condom use.

3.2.2 Institutional Factors

3.2.2.1 Religion

Abstinence and avoiding premarital sex among unmarried people is promoted among both Christian and Muslim religions in Ghana. Premarital sex among adolescents is seen as a sin, and some hypothesized that this may limit discussion around sexual matters between adolescents and adults subsequently hindering access to accurate information on sexuality (Anarfi and Owusu, 2011; Osafo et al., 2014). However, premarital sex among the adolescents is common practice in Ghana, including the UER. It is evident that abstinence only programmes have not yielded much result in reducing adolescent pregnancy (Santelli et al, 2006; Kirby, 2008; Ketting and Winkelman, 2013) since not all adolescents can abstain. Zavodny, (2001) and Amoran (2012) argues that religion is protective for adolescent pregnancy as confirmed in a study in Kenya which shows that strongly religious adolescents were more likely to delay first sexual encounter (Okigbo and Speizer, 2015). The UER is a

religious community where Islam is the major religion (GLSS, 2014). Madise et al (2007) found that Muslim girls have early sexual debut due to early marriage. A study in Cameroon also found an association between Islam and adolescent pregnancy and early marriage (Fathi, 2003).
Religion instructs adolescents on appropriate behaviour and proper conduct on sexuality by instilling values which deter immoral activities (Osafo et. al., 2014). However, the ideology of abstinence before marriage limits the discussion around sexual matters among adolescent and adults (Anarfi and Owusu, 2011; Geugten et al., 2013). This makes it difficult for adolescents to explore deep into sexual matters as abstinence may be seen as the only way to avoid pregnancy, STIs and HIV infection and adolescents may also see it as unreligious if they do not abstain. Some of the religious denominations have some reservation on the use of contraceptives among its members hence the less likely for adolescents who belong to this group to use any form of contraceptives (Tackyi, 2003). In effect, adolescents who belong to the Catholic denomination have limited knowledge on contraceptives given less knowledge of adults on contraceptives and the Catholic Mission Health facility not providing contraceptive services. Abdul-Rahman et al. (2011) indicates that one of the issues for the non-use of contraceptives among sexually active adolescents is related to the prohibition of contraceptives by their religion. As was found in a study in Ghana by Glover et al., 2003. The Muslim ideology of polygamy and early marriage may inhibit protective behaviour influencing early sex, lack of condom use and men seeking multiple sexual partners (Glover et al., 2003; Van der Geugten et al., 2013). Adolescents' current sexual behaviour and intention in UER may be highly influenced by the abstinence, reservation on contraceptives use and other protective behaviours.

3.2.2.2. Community Norms and Values

A qualitative study conducted in the UER points out that adolescent girls getting pregnant is regarded as a proof of fertility and continuity of family inheritance (Krugu et al., 2017). Glover et al. (2003) clearly state in a qualitative study conducted in Ghana that community norms hinder conversations around sexual matters. Due to the patrilineal inheritance in the UER, males are valued more than girls (GSS, 2013, Van der Geugten et al., 2013) hence given more opportunity in terms of access to education. It is culturally valued for a girl to remain a virgin until marriage, different from their males (Van der Geugten et al., 2013). Community's tolerance for an early sexual debut is favoured towards the male (Marston and King, 2006). A qualitative study in South Africa reveals that adolescent boys exhibit their masculinity through being sexually active and aggressive (Varga, 2003). Jewkes et al., (2001) argues that factors like unequal power relation and forced sexual initiation expose the girl to Adolescent Pregnancy, which are deeply rooted in community gender norms. Polygamous and early marriage are common practices in the UER (GSS, 2013, MICS, 2011). This exposes the adolescent girls to early pregnancy as a proof of their fertility (WHO, 2004). Moreover, condom use is not culturally accepted among married couples (Stephenson, 2009). It is evident in a study in Burkina Faso, Malawi and Uganda that adolescent pregnancy resulting from early sexual initiation is influenced by early marriage (Stephenson et. al., 2014).
A study in Bolgatanga in the UER shows that there is reservation in open discussion of adolescent sexuality (Krugu et al., 2017). Studies show that knowledge and attitudes of older adults in a community are an important source of information for adolescents (Stephenson, 2009) however, this cultural norm surrounding non-open discussion of sexuality hinders sharing of knowledge. The issue of high fertility preference which was found in UER of Ghana may make adolescent girls more reluctant to seek for information on contraceptives and push them to engage in sexual activity (Krugu et al., 2017). Community gendered roles and norms where the adolescent girl is socialized to be sexually passive and submissive put the adolescent girl at the disadvantage, limiting her access to information about her body development and sexual matters and ability to negotiate for safe sex and decision making on contraceptive use (Addai, 1999, Blanc, 2001). This may contribute to shyness to use

contraceptives /condoms use (Adjei et al., 2015; Apanga and Adam, 2015), as found in Kenya on the stigma associated with a female buying condom (Longfield et al., 2002). A study in Mozambique indicates that unequal decision-making power and non-use of condoms was more related to gender norms of submissiveness (Machel, 2001). Masculinity norms on domineering and cultural permissiveness on premarital and extramarital sex (Addai, 1999) also hinders preventive messages on avoiding multiple sexual partners and make adolescent boys reluctant to use a condom. This is evident in a qualitative study in Malawi where the ideology of masculinity pushed male adolescents into unprotected sex and multiple sexual affairs with the aim of maintaining maleness (Izugbara and Undie, 2008). However, the norm of abstinence/virginity may also influence the adolescent girl to avoid premarital sex that may result in pregnancy (Van der Geugten et al., 2013). On the other hand, abstinence norm has made the community to regard sex education as unnecessary as found in the UER of Ghana (Van der Geugten et al., 2017). The unsupportive and negative attitudes of adults coupled with social stigma about adolescent sexuality may hinder adolescents' access to accurate information on sexual matters and contraceptive/condom uptake (MacPhail and Campbell, 2001; Biddlecom et al., 2007). Newton-Levinson et al. (2016) found in a systematic review that cultural taboo of adolescent not supposed to be sexually active or access SRH services hindered adolescents from accessing SRH services and prevented providers to deliver SRH services. This may influence the discussion of SRH issues and contraceptives among health care providers or parents and adolescents.

3.2.2.3 The School

Research shows that being in school reduces the risk of adolescent pregnancy (Biddlecom et al., 2008; Perper et al., 2010; Brahmbhatt et al., 2014). A study in Ghana by Karim et al. (2003) indicates that school attendance has an effect of delaying early sexual initiation of adolescent. A study in Kenya found that the likelihood of an adolescent girl becoming pregnant is associated with poor school performance and girls who are committed to studies are less likely to get pregnant (Grant and Hallman, 2008). However, Keller et al. (1999) in a qualitative study in Ghana indicated that there was no academic problem among adolescent girls who were pregnant. Mensch et al. (2001) found that schools that provide equal opportunity and support for both sexes reduce the tendency of girls engaging in premarital sex which results in pregnancy. Lloyd et al. (2000) confirmed this by indicating that girls are demotivated and likely to drop out of schools where much inequities, concentration and support favour boys. The school is one of the important places where adolescents can learn about SRH (Manlove et al., 2002; Bankole et al., 2007). Awusabo-Asare et al. (2006) indicates that adolescents prefer information on SRH matters from teachers. A study in Bolgatanga in the UER of Ghana suggests that sex education in schools is limited due to moral values of abstinence thus less emphasis is placed on contraceptives and their effective usage (Krugu et al., 2017). The approaches like (demonstrations, role plays) used to deliver sex education in school may influence the practical delivery of accurate information on sexuality to adolescents, for example adolescents who have seen condom demonstration are two to five times as likely to have better knowledge on correct use of condom (Bankole et al., 2007). Again, the sensitive nature of sex and sexuality topic coupled with teacher's personal values may hinder effective delivery of sex education to adolescents. A qualitative study in Bolgatanga, UER found that some schools do not adequately teach SRH with the fear of stimulating adolescents into sexual activities (Van der Geugten et al., 2017), while it is evident that Comprehensive Sex Education (CSE) in schools does not hasten sex activities among adolescent (Kirby et al., 2007; Kohler et al., 2008). The inadequate and inaccurate information on SRH influences the ability of adolescents to correctly and consistently use contraceptives and condoms (Bankole et al., 2007). The unavailability of age appropriate CSE in some schools in Bolgatanga in the UER of Ghana pushes adolescents to rely on their personal and peer's perception on sexual matters which exposes them to risky sexual behaviour (Van der Geugten et al., 2017). CSE is delivered but does not cover out-of-school adolescents (GHS, 2017).

3.2.2.4 The Media (Internet, Radio, Television)

Van der Geugten et al. (2013), in a study in Bolgatanga, UER of Ghana, indicate that the media is one of the sources of information about sexual matters for adolescents. Benefo and Takyi (2002) and Awusabo-Asare et al., (2006) affirm this in their studies in Ghana. The ability of adolescents to be able to use the internet or read the newspaper is dependent on their literacy level, since information from these sources is mostly in English (Awusabo-Asare et al., 2006). The media offers adolescents' confidentiality and easy access to sexual information as parents and school remain reluctant to discuss sexual issues with adolescent (Brown, 2002; Gray et al., 2005; Bankole et al., 2007). However, Fatusi and Blum, (2008) point out in a study in Nigeria that the risk of premarital sex increases as adolescent become exposed to media. Brown et al. (2006) affirm that the early exposure of adolescents to sexual content on videos, music, television and magazines encourages and pushes adolescents into sexual activity. However, access to these sources is limited in the UER in Ghana given the limited internet coverage and availability of newspapers, which is mostly in the urban areas. Adolescents' limited search skills and lack of ability to assess the reliability of information may limit their knowledge of sexuality (Gray et al., 2005). The inability of some adolescents, to interpret and understand sexual contents information in movies, internet, music, magazines and television limits their access to accurate information, given the unregulated information from some of these sources (Brown et al., 2005). The media may positively influence adolescents' sexual behaviour and intention if sexual information is well regulated. About 2.3% of people living in the UER have access to a newspaper, 26.2% have access to television and 52.4% have access to radio. Awusabo-Asare et al. (2017) indicates that about 90% of adolescents in Ghana received information on SRH through the internets, television, radio, social media and pamphlets.

3.2.2.5 Health System

3.2.2.5.1 Health Information and Services

The health facility is one of the places where adolescents can seek accurate information and service on SRH, though some adolescents prefer drug stores (Biddlecom et al., 2007). However, adolescents are deterred by health workers judgemental attitude and disrespect (Morris and Rushwan, 2015). Awusabo-Asare et al. (2006) indicate that adolescents prefer to access SRH information and services from clinics and professionals such as health staff. Abdul-Rahman et al. (2011), in a study in Ghana, found that adolescents' major source of information on contraceptives is from the private pharmacy and drug stores. Some adolescents preferred to receive information on contraceptives and SRH services from the health facilities, however, some do not know where to access these services. Adolescents perceive the health facility as conducive in terms of quality of services and information, however, privacy and confidentiality were not maintained which influenced the utilization of reproductive health services (Biddlecom et al., 2007). Koster et al. (2001) also found a lack of privacy and confidentiality as the barrier to accessing reproductive health services among adolescent boys in a qualitative study in the eastern part of Ghana. In the same study, boys felt reluctant to approach female health workers and inconvenient opening hours were other barriers to accessing reproductive health services. Most health facilities in the UER are not easily accessible in relation to distance (Abdul-Rahman et al., 2011). A qualitative study conducted in Ghana found that judgemental and unfriendly attitudes of health staff prevent adolescents from accessing accurate information and contraceptive and other SRH services (Kumi-Kyereme et al., 2014). A study in Swaziland found that health staff knowledge on CSE was inadequate to provide quality services and information to adolescents (Mngadi et al., 2008). It was found in a study in Uganda that the unattractiveness of reproductive health service to adolescents was as a result of lack of privacy and unavailability of health staff to

provide effective adolescent health services (Atuyambe et al., 2015). A systematic review reports that lack of knowledge about SRH by adolescents, barriers to accessibility including cost of service, lack of service integration, lack of acceptability of service, shame and stigma in accessing services and fear about confidentiality. They also found health staff felt uncomfortable in providing SRH services, lack of competence of staff, shortage of staff and some staff acknowledged been judgemental towards adolescents (Newton-Levinson et al., 2016).

3.2.2.6 Economic Situation

Research shows that the economic situation of any country has a strong influence on the health outcomes, including adolescent pregnancy (Kappe, 2016). It is speculated that higher poverty is associated with higher adolescent births while higher income is associated with lower adolescent births (Kappe, 2016). The UER is one of the poorest regions in Ghana (GSS, 2013). There are disparities between the southern and northern part of Ghana in terms of development like road infrastructure has contributed to the difficulties in reaching rural areas with health education programmes (Rondini and Krugu, 2009).

3.2.3 Political factors, Policies and Law

3.2.3.1 International Treaties, Agreements and Conventions

Adolescents are faced with health risks that are detrimental to their development and some are unable to exercise their SRH right to prevent unintended pregnancies (McCleary-Sills et al., 2014). Commitments have been made over the years to eliminate adolescent pregnancy and fight for the rights of adolescents through the Convention of the Right of the Child (CRC) and the International Conference on Population and Development (ICPD) which was held in 1994 in Cairo and was reaffirmed at Beijing in 1995 (G.C, 2003; Glasier et al., 2006; Greene et al., 2012). It also called on governments to adopt and make available accurate information and services on SRH for adolescents (G.C, 2003; Glasier et al., 2006; Greene et al., 2012). The sustainable development goals lay emphasis on increased access to SRH (Water et al., 2015). These international treaties, agreements and convention have contributed to various policy revisions and policy developments in Ghana. This includes the revision of the 1964 National Population Policy in 1994 and 2015, the development of the reproductive health policy, adolescent health policy and the government commitment to providing access and equitable health services and reducing reproductive health problems among the population. This necessitated the inception of CHPS in selected rural areas to provide health services including reproductive and contraceptive services (GDHS, 2014, FHDR, 2015, Awusabo-Asare et al., 2017).

3.2.3.2 Laws and Policies of Ghana

In Ghana, the legal age for marriage is 18 years, therefore child marriage is illegal (ILO, 2017). However, the age of consent to sex is 16 years. These laws are not strictly adhered to in certain parts of the country, like the UER where there is a high prevalence of early marriage (MICS, 2006 and 2011; Anarfi and Owusu, 2011). There is an adolescent health policy that is targeted at "reducing the proportion of adolescents who marry before 18 years and give birth before age 20 by 80% by 2020". The policy was revised and renamed SRH policy for young people (FHDR, 2015). Abortion is possible on medical grounds and in the cases of rape, incest or defilement (Morhee and Morhee, 2006). The national HIV and AIDS, STI Policy was also developed in 2013 which advocated for an inclusion of age-appropriate sex education in the school curriculum (Awusabo-Asare et al., 2017). Adolescent health service policy and strategy has also been developed, aiming to "enhance the health status and quality of life of adolescents and young people in Ghana, to contribute towards the realization of their full

potential in national development through mainstreaming information and gender-sensitive and responsive health services" (GHS, 2017).

3.3 Effective Intervention to address adolescent pregnancy in the UER of Ghana

This section looks at effective interventions that would contribute to reducing adolescent pregnancy in the UER of Ghana.

3.3.1 Comprehensive sexuality education

Chandra-Mouli et al. (2015) indicate that CSE is effective when well implemented through coordinated and complementary approaches. Effective sex education programmes which are context specific are necessary to prevent adolescent risky sexual behaviour and adolescent pregnancy. CSE may be delivered in schools, community settings or health clinics or a combination of all settings which can reach both in-school and out-of-school adolescents. Evidence shows that CSE has proven to be effective to reduce adolescent pregnancy (Starkman and Rajani, 2002; Fonner et al., 2014; Haberland,2015). A study in Nigeria affirmed the effectiveness of comprehensive sexuality education and the possibility of a nation-wide scale-up (Rosen et al., 2004; Huaynoca et al., 2014).

A systematic review found that CSE demonstrated a significant decrease in adolescent pregnancy (Haberland, 2015). Incorporating gender and power norms into sexuality education have a positive effect on SRH outcomes (Haberland, 2015). The review indicates that among ten programmes that addressed gender and power, 80% led to significant health outcomes including reduced adolescent pregnancy (Haberland, 2015). Kirby et al. (2007) reveals in a systematic review that sexuality education did not hasten early initiation of sex among adolescent. Rather, there was increased condom used and delayed sexual initiation. The programmes were effective in rural and urban settings, low and middle-income setting, school and community settings and sexually experienced and inexperienced adolescents. In Ghana, CSE is taught in schools from primary four through to the senior high school. However, it is not a stand-alone programme but integrated into the school curriculum and focuses heavily on abstinence. There are also inadequate resources, lack of appropriate skills, lack of time and no monitoring and evaluation component to monitor and evaluate the teaching of SRH in schools. Only 8% of adolescents in the 3 study regions reported learning about all topics that constitute CSE (Awusabo-Asare et al., 2017).

3.3.2 Access to Youth Friendly Services

Youth friendly services (YFS) is proven to be effective if well implemented according to Chandra-Mouli et al., (2015). However, a systematic review reported that there is limited evidence that youth friendly family planning services impact on reproductive health outcomes. Two out of three studies examining long-term outcome had a reduction on adolescent pregnancy (Brittian et al., 2015). The intervention had confidentiality, accessibility, peer involvement, parental or family involvement, special training for staff, cultural competence, integration and provider interaction as components of the programme (Brittain et al., 2015). Chandra-Mouli et al. (2015) indicate that YFS should be linked with sexuality education and creating supportive environment through community awareness and acceptance creation. YFS are integrated into the routine health service delivery in Ghana but not all health facilities render YFS.

Unfortunately, access, implementation and impact of YFS is limited in both rural and urban settings in UER of Ghana since only 20 health providers have been trained in YFS (FHDR, 2015). Aninanya et al. (2015) found YFHS to be less effective in an evaluation of community-based intervention in the UER of Ghana. Apasera, (2013) found that lack of confidentiality, long queues, cost of services and negative response from providers limited utilization of HIV services in a cross-sectional study among men in the UER.

Utilization of SRH services by adolescents can be enhanced if approaches like "Communication and outreach activities inform adolescent about services and encourage the maximum use of services, health facilities are welcoming and appealing, providers are trained and supported to be non-judgemental and friendly to adolescent and community members are supportive of the importance of providing health services to adolescents" (Chandra-Mouli et al., 2015; Denno et al., 2015). The UER has only four functional adolescent health corners[3]. The absence of youth corners in most health facilities in Ghana is a concern and the few available services are not friendly enough (GHS, 2017).

3.3.3 Peer education Programmes

Peer-led programmes are flexible approaches that can be used in different contexts. However, the approach may vary depending on the objectives and operations, peer educators may act as counsellors or condom distributors, and may provide referrals to the health facility. This approach can have an impact on knowledge and behaviour of adolescents and on condom use (Kesterton and de Mello, 2010). According to Mellanby et al. (2001), peer-led education programmes may be effective in dealing with conservative norms and developing skills. However, it may not be effective in delivering factual health information. A peer-led intervention project (Support Peers and Encourage Empower through Knowledge – SPEEK) in Bolgatanga, UER of Ghana which was delivered in schools proved to be effective. It was able to positively change about 40% of the behavioural determinants, where students in the intervention were more positive to exercise their sexual right, confident to initiate and use a condom and able to decide when to have sexual intercourse and with whom (Krugu, 2016). Another study which evaluated adolescent SRH intervention in the UER in Ghana reveals that the peer outreach which provided health facility referrals and school-based component was feasible and effective in reaching out-of-school adolescents. (Aninanya et al., 2015). A study conducted to evaluate the West Africa Initiative programme in Ghana and Nigeria reveal that peer education is effective and cost-effective with the possibility of contributing and enhancing reproductive health outcomes of adolescents (Brieger et al., 2001). However, Chandra-Mouli et al. (2015) report that "peer education programmes contribute to information sharing and not effective in facilitating adolescents access to SRH services, changing behaviour and influencing societal norms". According to Michielsen et al. (2012) "peer education programme might be more effective if it is integrated in holistic interventions and if the role of peer educators is redefined to make it more of a sensitization and referral to expert and services"

3.3.4 Socio-economic support programmes

Interventions that are geared towards improving school attendance have been found to be effective to reduce adolescent pregnancy. This is evident in Malawi where conditional cash transfer to in-school girls and girls who have dropped out of school improved school attendance and enrolment and also contributed to the reduction of early marriages, adolescent pregnancy and self-reported sexual activity (Baird et al., 2010). Lee-Rife et al. (2012) indicate in a systematic review that interventions which combined different approaches and offer incentives are effective in preventing early marriage, which is a contributor of adolescent pregnancy. This intervention may not be feasible in the context of the UER because the government cannot sustain it. This is partly because there is no data concerning out-of-school adolescents and even those in school, irregular attendance of adolescents to school makes it difficult to really determine the actual number of adolescents that are required to be enrolled onto the programme. That notwithstanding, this could be piloted to ascertain the veracity so that funds could be sourced if appropriate to implement it whilst it goes through the process of approval from the respective authorities.

[3] Places where adolescent visit for counseling, meetings, hold discussions on sexuality and condoms

3.3.5 Multiple Component Interventions

These are combinations of supply and demand-side interventions that use a wide range of approaches: from health staff training, creating and improving health facility adolescent friendliness, community support activities, engaging community especially men and boys through community mobilization and outreach programmes, demand generation activities and mass media (Hope, 2007; Williamson, 2013; Kesterton and de Mello, 2010; Denno et al., 2015). According to Svanemyr et al. (2015), an intervention with multiple components is necessary looking at the multifaceted factors surrounding adolescent pregnancy. Comprehensive multiple interventions that were implemented in Kansas detected a decrease in estimated pregnancy and positive behaviour change (Paine-Andrews et al., 1999). It is evident that intervention that combines multiple components like health facility-based and community-based activities are effective in addressing social stigma surrounding adolescent SRH (Biddlecom et al., 2007). Catalano et al. (2012) indicate that approach that addresses risk and protective factors for adolescents is key. An evaluation of a 3-year community-based adolescent sexual and reproductive health intervention in the UER of Ghana which combined community mobilization, youth friendly services, school-based SRH education and peer outreach reported effectiveness of 3 components with less effect on youth friendly services (Aninanya et al., 2015).

Multiple intervention might address community, religious and gender norms that influence adolescent access to SRH services and contraception and pregnancy. Given the multifaceted factors influencing adolescent pregnancy in the UER of Ghana, multiple intervention may be applicable and effective if well implemented and coordinated through the active involvement of the community.

3.4 Conclusion

As indicated, a lot is being done in the UER of Ghana and Ghana as a whole but challenges still remain. Interventions need to be adapted based on the unique needs of the respective communities and age category. A range of adolescent SRH intervention in Ghana like CSE focus more on abstinence, YFHS is not friendly enough and not well accepted by community due to community and religious norms. However, peer education programme has been effective in the UER of Ghana. Single intervention has not been effective. Therefore, interventions must be holistic taking into consideration the multifaceted factors influencing adolescent pregnancy with significant involvement of relevant agencies through effective community involvement and engagement throughout the process. Marrone et al. (2014), indicate in a study in Ghana that "outreach services for adolescents' in rural areas, improving the capacity of health service providers to deliver youth friendly contraceptive services, improving privacy is vital to contribute to reducing adolescent pregnancy, STIs and HIV".

CHAPTER FOUR

4.0 DISCUSSION

This chapter seeks to explain the issues identified in the findings in conformity with the objectives of this thesis.

4.1 Individual Factors

The study reviewed factors at the individual level that influence adolescent pregnancy. Age at first sexual intercourse may influence the occurrence of pregnancy. This is because most of the first sexual intercourse is done with no intention of pregnancy but the fun of it, experimentation, expression of love, perception of friends having sexual intercourse and to gain recognition among peers (Vundunle et al., 2001; Van der Geutgen et al., 2013). Some of the first sexual intercourse among adolescents in the UER in Ghana were done without using a condom or any contraceptives (Van der Geutgen et al., 2013; Krugu et al., 2017). Adolescents may have unprotected sexual intercourse because they do not perceive the risk of pregnancy and may also see it as a way of proofing their faithfulness to their partners. In most instances, sexual intercourse happens spontaneously. Unprotected sexual intercourse may result in pregnancy, STIs and possibly HIV. The differences in age at first sexual intercourse between GDHS (2014) and Rondini and Krugu, (2009) may be as a result of recall bias. It is worth noting that some adolescent pregnancy is as a result of forced or coerced sex, and sexual assault. This was argued by Hall et al., (2014) and Adjei et al., (2015). These factors may apply to adolescents in the UER of Ghana. Adolescents who experience forced sex have little control over using condom or contraceptives. This is because most of the perpetrators are far older and any attempt to oppose sexual intercourse may result in more violence. The younger the age at first sexual intercourse, the less likely it is for the adolescent to use a condom or any contraceptive because of limited knowledge and lack of power to do so. Adolescent pregnancy may be a cause and consequence of child marriage. This is because an adolescent girl who gets pregnant may be forced to marry the person responsible for the pregnancy to reduce the shame. Others too may be pushed to marry as a way of preventing the girl from having premarital sex, and some may marry for economic reasons. Married female adolescents frequently have unprotected sexual intercourse as a fulfilment of their marital responsibilities and for pregnancy to proof their fertility, hence have no control over their sexual life. Married adolescent girls may not use condoms or any contraceptive since pregnancy may be intended or may not have the power to object sexual intercourse even if she does not want to. Some of these girls are normally married to older men and may enter into marriage as second or third wife as argued by McCleary-Sills et al. (2014). To gain the respect of their co-wives and husband, she will do whatever it takes by getting pregnant. Adolescent girls who are into such marriages have less decision-making power which influences their sexual life. Some unmarried adolescents may intend pregnancy to gain respect and also for the continuity of family name and inheritance which is evident in the UER of Ghana (Krugu et al., 2017). The Islam envisions that most births do not occur outside marriage hence the acceptance of early marriage and procreation among the Muslim group. However, there is reservation on contraceptive use. Given the Muslim proportion in the UER of Ghana, most of the adolescent marriages may be facilitated by this ideology to avoid premarital sex among adolescent girls. When it comes to who is responsible for pregnancy prevention, there seem to be conflicting arguments among boys and girls. Whilst the boys think that it is the responsibility for girls to protect themselves, the girls think otherwise. This sets the grounds for pregnancy to occur since they may not use any form of protection.

Rural residency is also an influencing factor of adolescent pregnancy. The underdevelopment in terms of road infrastructure makes it difficult to reach these areas with reproductive health services including health education on adolescent SRH and contraceptives. There is also less opportunity in terms of jobs in rural areas hence most adolescents find themselves in sexual

relationships and marriages which may eventually result in pregnancy. Contrary, urban areas offer more opportunities, better education, health and access to contraception.
High future expectation goes with high level of education. High level of education is found to be one of the protective factors for adolescent pregnancy (Bonell et al., 2005; Blum et al., 2005). Adolescents with high education are exposed to a lot of information from the internet, television and newspapers and may base their actions on facts not perception, unlike those with less education who are likely to be inclined with community norms and perceptions. There are some adolescents with high future expectations who are unable to fulfil them due to lack of financial support and poor performance at school. This category of adolescents may drop out and since there are fewer opportunities, may find themselves in sexual relationships, marriages and childbearing which are usually the available options for them. Once they are out of school it is less likely for them to have access to any form of sex education thus influencing their access to accurate information on SRH and contraceptives/condoms use.
Socio-economic factors such as unemployment and poverty are factors that influence adolescent pregnancy in the UER. It is expected that adolescents are in school per Ghana educational system. However, adolescents who are not able to make it to the senior high school tend to seek for jobs. The poverty level of most families in the UER, pushes adolescents to search for jobs to be able to sustain a living. However, there are little opportunities for this group on the labour market. Some girls find themselves in transactional relationships with older men whom they believe can financially support them and their families. Adolescents who engage in transactional sex or date older men may not be able to negotiate for condom use which is related to their self-efficacy. Adolescents may also not be able to negotiate as a sign of showing respect to their older partner forgetting the risk of pregnancy and STIs. Adolescents from poor families may not have access to accurate information on SRH and contraceptives. They may not afford the transportation cost to visit the health facility for information on contraceptives or condoms, hence may rely on friends who have inadequate knowledge on SRH. This further contributes to misconception on sexual matters. From the findings, both employment and unemployment could contribute to adolescent pregnancy in the UER of Ghana. This is because an adolescent girl who is unemployed may find other means to be able to make a living which could stimulate engagement in sexual activities. Contrary, adolescent boys who are employed may have the economic power to support their girlfriends so will also start sexual activities which may result in pregnancy. Again, adolescent girls who are also employed may be exposed to people as they interact in the execution of their jobs and may start sexual activities.

4.2 Environmental Factors

Religion and community norms may influence parents and family ideologies on moral and sexual matters. This is because community norms and religious values are mostly embedded in family and often shape how the family operates and train the child. Community and religion norms like abstinence are held firmly by parents and families in the UER of Ghana. This norm contributes to parents' reluctance in discussing sexual matters with adolescents. This further influence adolescents' access to accurate information. The norm and practice of polygamy and early marriage, related to religion, tend to influence families' practices in the UER of Ghana. Parents tend to give their adolescent girls out to marriage as a way of preventing them to engage in premarital sex, even though some may be for economic reasons to reduce the economic burden of the family, which is linked to socio-economic factors. Gender norms which relate to gender inequity in the community which are embedded in the family influence how adolescent boys and girls are raised. Adolescent girls are trained to be submissive and see the boy as superior. Parents tend to ensure strict measures and virginity ideology on the adolescent girls while the adolescent boy has freedom to explore, including premarital sex. This is because an adolescent girl is seen as weak and vulnerable hence needs to be supervised and controlled. This puts the adolescent girl at a disadvantage in terms of

accessing information on their SRH and their ability to negotiate for safe sex. As indicated by Addai, 1999; Blanc, 2001, parents and family encourage their married adolescent girls to give birth as soon as they enter into marriage to prove their fertility as also expected by the community, and this subsequently hinders their use of contraceptives. Though premarital sex is discouraged among adolescents, there is no evidence of explicit sanctions on a girl who gets pregnant or a boy who impregnates a girl. Family and parents tend to take responsibility of caring for the adolescent girl which may encourage other girls to also get pregnant.

Parents' and families' close relations, support and communication with adolescents may be linked to lowering risky sexual behaviour. This is because parents who have an interest in adolescents' affairs and have friendly relationships tend to discover some of the challenges adolescents go through and may arrest the situation at an early stage. This is indicated by East et al. (2006) who state that protective parenting has a positive impact on reducing adolescent pregnancy. In the UER where mothers are supposed to discuss sexual and moral matters with their daughters and fathers with their sons, the conservative norms surrounding the open discussion of sexual matters hinders parents' ability to engage in fruitful discussions with adolescents. Parents may perceive sex for adults, and may also perceive discussion of sexual matters may hasten sexual activities among adolescents. This may contribute to parents not feeling comfortable discussing sexual matters. Some parents may also have inadequate information and knowledge on adolescents' body development and SRH. This may be as a result of lack of access to appropriate information through media like television and newspapers, which are mostly in English and found in the urban areas. Adolescents, therefore, resort to friends who provide them with inadequate information on SRH and contraceptives, and this may influence their current behaviours and intentions.

School attendance may have an influence on delaying sexual initiation. Adolescents who are in school may focus on school activities and have less time for sexual activities. This will expose them to information on sexual matters at school which may help them to take up more protective behaviour compared to their counterparts who are out of school. This was indicated by Karim et al. (2003) and Awusabo-Asare et al. (2006) who argued that adolescent girls are exposed to pregnancy when they are out of school. Sex education in schools in the UER of Ghana is limited due to the moral value of abstinence which is influenced by community and religious norms. According to Van der Geugten et al. (2017), this influences the accuracy of SRH information given to adolescents. Peer influence is a contributory factor of adolescent pregnancy. This is because adolescents feel more comfortable discussing sexual matters with their peers who may have inaccurate information on SRH and contraceptives and tend to learn certain behaviour from peers.

The media is one of the sources through which adolescents in the UER of Ghana get information on SRH and contraceptives/condoms. The radio is the main source of information in the UER. Adolescents may have access to some information on the radio since resources and assets are shared by members of the household. It is worth noting that not all contents of information from these sources are accurate. One can also not lose sight of the fact that some adolescents may have access to mobile phones which are now widely used and thus adolescents may access some information through this medium on SRH and contraceptives/condoms. However, some of these gadgets may also be used to access pornographic material which may cause misconceptions or hasten sexual activities among adolescents.

The health system is the main body responsible for health services delivery in the UER of Ghana. However, staff attitude which may be influenced by religious and community norms deter adolescent from accessing SRH services. Some heath facilities are also under resourced and may not have a designated place like adolescent health corners. This means adolescents may have to join the main queues at the out-patient department to be able to access SRH services, which may deter some adolescents. Catholic health facilities that do not provide contraceptive services may also limit adolescents' access to contraceptive services. Youth friendly services may not be friendly enough and operational in all facilities. Health service

accessibility in terms of distance and cost are issues of concern. Some adolescents may not be aware of the services. As indicated by Abdul-Rahman et al. (2011), most health facilities in the UER are not easily accessible. Some of the adolescents also access SRH services from private health facilities like the pharmacy, and chemical shops.

There is an integration of SRH education programmes into the curricula of all schools which is delivered from primary four through to senior high school. However, the comprehensiveness of this sex education is limited with much emphasis on abstinence and less attention to healthy sexual behaviours like negotiating skills, contraceptives and condom use. This may be influenced by societal beliefs, community and religion norms on abstinence as indicated above.

The legal age of marriage which is 18 years is not adhered to in most communities. This may be as a result of the conflict between the legal age of sexual consent (16 years) and the legal age of marriage (18 years). The law does not provide any protection against pregnancy and as such, adolescents who are legally allowed to have sexual intercourse at age 16 years though not married stand the risk of getting pregnant. This might be because many people do not know the laws.

4.3 Interventions

CSE and youth friendly services have proven to be effective in addressing adolescent SRH needs including reducing adolescent pregnancy. However, these interventions are not well implemented in UER of Ghana since sex education focuses more on abstinence with less information about contraception and where to access sexual health services were lacking. The youth friendly services are not friendly enough due to judgemental attitude of staff, non-welcoming environment and few health facilities having a designated place for adolescent friendly services. CSE can be used to reach both in-school and out-of-school adolescents through peer-led or teacher-led education programmes. However, considering the multifaceted nature of adolescent pregnancy in the UER of Ghana, multiple interventions which combines CSE, youth friendly services with other approaches which target community involvement, gender inequities, risk factors, engaging men and building on protecting factors through a well-coordinated way may be effective since it can ensure synergy and capture both in-school and out-of-school adolescent, parents, religious and involvement of community leaders and health professionals.

4.4 The conceptual framework used for the Analysis

The conceptual framework used was very relevant in the Ghanaian context. It was a framework that was originally used in Ghana and therefore it was comprehensive and useful for this thesis. It allowed the researcher to analyse the factors that influence adolescent pregnancy in the UER of Ghana adequately. The issues were connected to each other, however, issues related to attitude, self-esteem, abortion, child bearing fathering were less prominent due to limited data in the UER. No modifications were made in using the framework as nothing relevant was missing.

CHAPTER FIVE

5.0 CONCLUSION AND RECOMMENDATIONS

5.1 Conclusion

Adolescent pregnancy is influenced by different factors ranging from individual to the environment in which adolescents live and operate. Some of these contextual factors may have an influence on adolescents' access to accurate information on SRH and contraceptive/condom use and this have influence on knowledge, current intention and behaviour.

The age at first sexual intercourse is a key factor that marks the beginning of adolescents' sexual activities. Adolescents who begin sexual activity at an early age are less likely to use any contraceptives/condoms. Furthermore, adolescents have conflicting stances on who should take the initiative on protection.

Early marriage has emerged as one of the individual factors that influence adolescent pregnancy in UER. Adolescent girls from low socio-economic backgrounds who belong to a religion that supports early marriage and live in a community where early marriage is a community norm may be at risk of early marriage, though some early marriages are a result of adolescent pregnancy.

Socio-economic factors like education, poverty and employment status also influence adolescent pregnancy. Poverty and unemployment push adolescents into early sexual activities and relationships including early marriages which may result in pregnancy. Adolescents who are out of school with less education are more likely to get pregnant. Adolescent girls who are unemployed are exposed to undue exploitations by matured males and their inability to negotiate for safer sex exposes them to pregnancies.

Societal norms, gender inequity and reservation on open discussion on sex play significant role in influencing adolescent pregnancy. Both the community and religion encourage abstinence and avoiding premarital sex and this limits open discussion on SRH and contraceptive use which predispose adolescents to pregnancies and pushes parents to give their adolescent girls to marry early to curtail pregnancies that might bring the family name into disrepute.

Peers are key sources of information on SRH to adolescents, however, the accuracy of the information can be questionable. Adolescents tend to behave in accordance to peer behaviour to gain recognition, which may lead to sexual activity and pregnancy.

Parents and family connectedness, support and adequate knowledge on adolescent SRH and contraceptives are important to facilitate open discussion and can contribute to reducing adolescent pregnancy.

The school is one place where adolescents can have access to accurate information on SRH however, teachers do not have adequate skills in delivering CSE in schools and might be limited to their own norms on sexuality.

The health system is not friendly and adequately resourced enough in providing SRH and contraceptive services to adolescents.

The unregulated content of the media can influence adolescents to engage in unprotected sexual intercourse which may result in pregnancy. However, the media like radio can be used to reach a wide group of adolescents, especially those out of school, to educate them on SRH and contraceptives/condom use.

Favourable policies and harmonization of inconsistent laws on the age of sexual consent and age of marriage in combination with multiple component interventions which comprises CSE, YFS, creating supportive environment, well-coordinated peer education and involvement of community are necessary to contribute to reducing adolescent pregnancy in the UER.

5.2 Recommendations

Government

- Government should revise and harmonize the age of sex consent and age at marriage.
- Government should have stiffer punishment for those who abuse adolescents through rape, coercion and defilement.
- Government, NGOs and relevant stakeholders should commit resources to equip teachers and health professionals including pharmacy and chemical shop attendants with necessary skills to deliver SRH information and services in UER.

Ghana Education Service (GES)

- GES should sensitize teachers and peer educators responsible for teaching CSE to handle topics professionally devoid of their religious and community norms and values.

Ghana Health Service

- GHS should be responsive by creating and resourcing adolescent friendly health corners in facilities that do not have them and also adequately equipping facilities that are under resourced.
- They should also train health staff on appropriate skills to deliver youth friendly services
- There should be a taskforce comprising the GHS, media operators and other relevant stakeholders to regulate the content of SRH information that is promoted on the various media platforms.
- GHS should dialogue with the community and religious leaders on matters concerning adolescent SRH and contraceptive and create an avenue to offer the adolescents the opportunity to express their needs.
- GHS should coordinate with other NGOs to design interventions that will cover out-of-school adolescents in rural areas and create an avenue to offer the adolescents the opportunity to express their needs.

Area for Further Research

- More research is needed to investigate patterns of adolescent pregnancy among adolescents aged 10 – 14 years in order to develop appropriate interventions since little is known among this age group.

REFERENCES

Abdul-Rahman, L., Marrone, G. and Johansson, A., 2011. Trends in contraceptive use among female adolescents in Ghana. *African Journal of Reproductive Health*, *15*(2), pp.45-55.

Achana, F.S., Bawah, A.A., Jackson, E.F., Welaga, P., Awine, T., Asuo-Mante, E., Oduro, A., Awoonor-Williams, J.K. and Phillips, J.F., 2015. Spatial and socio-demographic determinants of contraceptive use in the Upper East region of Ghana. *Reproductive health*, *12*(1), p.29.

Addai, I., 1999. Ethnicity and sexual behavior in Ghana. *Social Biology*, *46*(1-2), pp.17-32.

Adjei, B., Wolterbeek, R. and Peters, A.A., 2015. An evaluation of the current state of sexual and reproductive health and rights of women in Ghana. *Journal of Psychosomatic Obstetrics & Gynecology*, *36*(4), pp.155-160.

Afenyadu, D. and Goparaju, L., 2003. *Adolescent sexual and reproductive health behaviour in Dodowa, Ghana*. Centre for development and population activities (CEDPA).

Åhman, E. and Shah, I.H., 2011. New estimates and trends regarding unsafe abortion mortality. *International Journal of Gynecology & Obstetrics*, *115*(2), pp.121-126.

Ameade, E.P.K. and Garti, H.A., 2016. Age at menarche and factors that influence it: a study among female university students in Tamale, Northern Ghana. *PloS one*, *11*(5), p.e0155310.

Amoran, O.E., 2012. A comparative analysis of predictors of teenage pregnancy and its prevention in a rural town in Western Nigeria. *International journal for equity in health*, *11*(1), p.37.

Amuyunzu-Nyamongo, M., Biddlecom, A.E., Ouedraogo, C. and Woog, V., 2005. Qualitative evidence on adolescents' views of sexual and reproductive health in Sub-Saharan Africa. *Occasional Report*, *16*.

Anarfi, J.K. and Owusu, A.Y., 2011. The making of a sexual being in Ghana: The state, religion and the influence of society as agents of sexual socialization. *Sexuality & Culture*, *15*(1), pp.1-18.

Aninanya, G.A., Debpuur, C.Y., Awine, T., Williams, J.E., Hodgson, A. and Howard, N., 2015. Effects of an adolescent sexual and reproductive health intervention on health service usage by young people in northern Ghana: a community-randomised trial. *PloS one*, *10*(4), p.e0125267.

Ankomah, A., Mamman-Daura, F., Omoregie, G. and Anyanti, J., 2011. Reasons for delaying or engaging in early sexual initiation among adolescents in Nigeria. *Adolescent health, medicine and therapeutics*, *2*, p.75.

Anthony, D., 2011. *The state of the world's children 2011-adolescence: an age of opportunity*. United Nations Children's Fund (UNICEF).

Apanga, P.A. and Adam, M.A., 2015. Factors influencing the uptake of family planning services in the Talensi District, Ghana. *Pan African Medical Journal*, *20*(1).

Aryeetey, R., Ashinyo, A. and Adjuik, M., 2011. Age of Menarche among basic level school girls in Madina, Accra. *African journal of reproductive health*, *15*(3), pp.113-121.

Asampong, E., Osafo, J., Bingenheimer, J.B. and Ahiadeke, C., 2013. Adolescents and parents' perceptions of best time for sex and sexual communications from two communities in the Eastern and Volta Regions of Ghana: implications for HIV and AIDS education. *BMC international health and human rights*, *13*(1), p.40.

Atuyambe, L.M., Kibira, S.P., Bukenya, J., Muhumuza, C., Apolot, R.R. and Mulogo, E., 2015. Understanding sexual and reproductive health needs of adolescents: evidence from a formative evaluation in Wakiso district, Uganda. *Reproductive health*, *12*(1), p.35.

Awusabo-Asare, K., Biddlecom, A., Kumi-Kyereme, A. and Patterson, K., 2006. Adolescent sexual and reproductive health in Ghana: results from the 2004 National Survey of Adolescents. *Occasional Report*, *22*.

Awusabo-Asare, K., Stillman, M., Keogh, S., Doku, D.T., Kumi-Kyereme, A., Esia-Donkoh, K., Leong, E., Amo-Adjei, J. and Bankole, A., 2017. From paper to practice: Sexuality education policies and their implementation in Ghana

Bankole, A., Ahmed, F.H., Neema, S., Ouedraogo, C. and Konyani, S., 2007. Knowledge of correct condom use and consistency of use among adolescents in four countries in Sub-Saharan Africa. *African journal of reproductive health*, *11*(3), pp.197-220.

Bankole, A., Biddlecom, A., Singh, S., Guiella, G. and Zulu, E., 2007. Sexual behavior, knowledge and information sources of very young adolescents in four sub-Saharan African countries. *African journal of reproductive health*, *11*(3), pp.28-43.

Baird, S., Chirwa, E., McIntosh, C. and Özler, B., 2010. The short-term impacts of a schooling conditional cash transfer program on the sexual behavior of young women. *Health economics*, *19*(S1), pp.55-68.

Bastien, S., Kajula, L.J. and Muhwezi, W.W., 2011. A review of studies of parent-child communication about sexuality and HIV/AIDS in sub-Saharan Africa. *Reproductive health*, *8*(1), p.25.

Bearman, P.S., Moody, J. and Stovel, K., 2004. Chains of affection: The structure of adolescent romantic and sexual networks. *American journal of sociology*, *110*(1), pp.44-91.

Benefo, K.D. and Takyi, B.K., 2002. Mass media effects on AIDS knowledge and sexual behavior in Africa with special reference to Ghana. *International journal of sociology and social policy*, *22*(4/5/6), pp.77-99.

Berry, E.H., Shillington, A.M., Peak, T. and Hohman, M.M., 2000. Multi-ethnic comparison of risk and protective factors for adolescent pregnancy. *Child and Adolescent Social Work Journal*, *17*(2), pp.79-96.

Biddlecom, A., Gregory, R., Lloyd, C.B. and Mensch, B.S., 2008. Associations Between Premarital Sex and Leaving School in Four Sub-Saharan African Countries. *Studies in family planning*, *39*(4), pp.337-350.

Biddlecom, A.E., Hessburg, L., Singh, S., Bankole, A. and Darabi, L., 2007. Protecting the next generation in Sub-Saharan Africa: Learning from adolescents to prevent HIV and unintended pregnancy.

Biddlecom, A.E., Singh, S. and Munthali, A., 2007. Adolescents' views of and preferences for sexual and reproductive health services in Burkina Faso, Ghana, Malawi and Uganda. *African journal of reproductive health*, *11*(3), pp.99-110.

Blanc, A.K., 2001. The effect of power in sexual relationships on sexual and reproductive health: an examination of the evidence. *Studies in family planning*, *32*(3), pp.189-213.

Blum, R.W., Mmari, K.N. and World Health Organization, 2005. Risk and protective factors affecting adolescent reproductive health in developing countries.

Boer, H. and Tshilidzi Mashamba, M., 2007. Gender power imbalance and differential psychosocial correlates of intended condom use among male and female adolescents from Venda, South Africa. *British journal of health psychology*, *12*(1), pp.51-63.

Bonell, C., Allen, E., Strange, V., Copas, A., Oakley, A., Stephenson, J. and Johnson, A., 2005. The effect of dislike of school on risk of teenage pregnancy: testing of hypotheses using longitudinal data from a randomised trial of sex education. *Journal of Epidemiology & Community Health*, *59*(3), pp.223-230.

Brahmbhatt, H., Kågesten, A., Emerson, M., Decker, M.R., Olumide, A.O., Ojengbede, O., Lou, C., Sonenstein, F.L., Blum, R.W. and Delany-Moretlwe, S., 2014. Prevalence and determinants of adolescent pregnancy in urban disadvantaged settings across five cities. *Journal of Adolescent Health*, *55*(6), pp.S48-S57.

Brieger, W.R., Delano, G.E., Lane, C.G., Oladepo, O. and Oyediran, K.A., 2001. West African Youth Initiative: outcome of a reproductive health education program. *Journal of Adolescent Health*, *29*(6), pp.436-446.

Brittain, A.W., Williams, J.R., Zapata, L.B., Pazol, K., Romero, L.M. and Weik, T.S., 2015. Youth-friendly family planning services for young people: a systematic review. *American journal of preventive medicine*, *49*(2), pp.S73-S84.

Brown, J.D., 2002. Mass media influences on sexuality. *Journal of sex research*, *39*(1), pp.42-45.

Brown, J.D., Halpern, C.T. and L'Engle, K.L., 2005. Mass media as a sexual super peer for early maturing girls. *Journal of adolescent Health*, *36*(5), pp.420-427.

Brown, J.D., L'Engle, K.L., Pardun, C.J., Guo, G., Kenneavy, K. and Jackson, C., 2006. Sexy media matter: exposure to sexual content in music, movies, television, and magazines predicts black and white adolescents' sexual behavior. *Pediatrics*, *117*(4), pp.1018-1027.

Burt, M.R., 2002. Reasons to invest in adolescents. *Journal of adolescent Health*, *31*(6), pp.136-152.

Catalano, R.F., Fagan, A.A., Gavin, L.E., Greenberg, M.T., Irwin, C.E., Ross, D.A. and Shek, D.T., 2012. Worldwide application of prevention science in adolescent health. *The Lancet*, *379*(9826), pp.1653-1664.

Chandra-Mouli, V., Lane, C. and Wong, S., 2015. What does not work in adolescent sexual and reproductive health: a review of evidence on interventions commonly accepted as best practices. *Global Health: Science and Practice*, *3*(3), pp.333-340.

Chandra-Mouli, V., Svanemyr, J., Amin, A., Fogstad, H., Say, L., Girard, F. and Temmerman, M., 2015. Twenty years after International Conference on Population and Development: where are we with adolescent sexual and reproductive health and rights?. *Journal of Adolescent Health*, *56*(1), pp.S1-S6.

Clark, S., 2004. Early marriage and HIV risks in sub-Saharan Africa. *Studies in family planning*, *35*(3), pp.149-160.

Denno, D.M., Hoopes, A.J. and Chandra-Mouli, V., 2015. Effective strategies to provide adolescent sexual and reproductive health services and to increase demand and community support. *Journal of Adolescent Health*, *56*(1), pp.S22-S41.

Deutsch, A.R., Chernyavskiy, P., Steinley, D. and Slutske, W.S., 2015. Measuring peer socialization for adolescent substance use: A comparison of perceived and actual friends' substance use effects. *Journal of studies on alcohol and drugs*, *76*(2), pp.267-277.

Doku, D., 2012. Substance use and risky sexual behaviours among sexually experienced Ghanaian youth. *BMC Public Health*, *12*(1), p.571.

East, P.L., Khoo, S.T. and Reyes, B.T., 2006. Risk and protective factors predictive of adolescent pregnancy: A longitudinal, prospective study. *Applied Developmental Science*, *10*(4), pp.188-199.

East, P.L., Slonim, A., Horn, E.J., Trinh, C. and Reyes, B.T., 2009. How an adolescent's childbearing affects siblings' pregnancy risk: A qualitative study of Mexican American youths. *Perspectives on sexual and reproductive health*, *41*(4), pp.210-217.

Family Health Division Report., 2015. Annual Report

Fathi, E.A., 2003. *Teenage pregnancy in Sub-Saharan Africa Cameroon: as a case study* (Doctoral dissertation, The Ohio State University).

Fatusi, A.O. and Blum, R.W., 2008. Predictors of early sexual initiation among a nationally representative sample of Nigerian adolescents. *BMC public health*, *8*(1), p.136.

Fonner, V.A., Armstrong, K.S., Kennedy, C.E., O'Reilly, K.R. and Sweat, M.D., 2014. School based sex education and HIV prevention in low-and middle-income countries: a systematic review and meta-analysis. *PloS one*, *9*(3), p.e89692.

Ghana Age of Consent**.,** **https://www.ageofconsent.net/world/ghana** retrieved on 18th July 2017 @21:30pm

Ghana Demography and Health Survey., 2014.

Ghana Health Service., 2017. Adolescent Health Service Policy and Strategy (2016-2020)

Ghana Health Service., 2015. Annual Report Upper East Region

Ghana Health Service., 2014. Standard Operating Procedures on Health Information Management II, P. 8-38.

Ghana Living Standard Survey, 2014. http://www.statsghana.gov.gh/docfiles/glss6/GLSS6_Main%20Report.pdf, retrieved on 11 August 2017 @ 00:16 am.

Ghana Statistical Service., 2013. 2010 Population and Housing Census; Regional Analytical report

Ghana Statistical Service., 2013. 2010 Population and Housing Census; National Report

Ghana Statistical Service., 2012. 2010 Population and Housing Census

Glasier, A., Gülmezoglu, A.M., Schmid, G.P., Moreno, C.G. and Van Look, P.F., 2006. Sexual and reproductive health: a matter of life and death. *The Lancet*, *368*(9547), pp.1595-1607.

Glover, E.K., Bannerman, A., Pence, B.W., Jones, H., Miller, R., Weiss, E. and Nerquaye-Tetteh, J., 2003. Sexual health experiences of adolescents in three Ghanaian towns. *International family planning perspectives*, pp.32-40.

Google. Map of Ghana. http://www.ezilon.com/maps/africa/ghana-maps.html retrieved on 22/4/2017 @ 10:19pm (Map)

Grant, M.J. and Hallman, K.K., 2008. Pregnancy-related school dropout and prior school performance in KwaZulu-Natal, South Africa. *Studies in family planning*, *39*(4), pp.369-382.

Gray, N.J., Klein, J.D., Noyce, P.R., Sesselberg, T.S. and Cantrill, J.A., 2005. Health information-seeking behaviour in adolescence: the place of the internet. *Social science & medicine*, *60*(7), pp.1467-1478.

Greene, M., Joshi, S. and Robles, O., 2012. State of world population 2012. By choice not by chance. Family planning human rights and development.

Gyan, C., 2013. The effects of teenage pregnancy on the educational attainment of girls at Chorkor, a suburb of Accra. *Journal of Educational and Social Research*, *3*(3), p.53.

Gyesaw, N.Y.K. and Ankomah, A., 2013. Experiences of pregnancy and motherhood among teenage mothers in a suburb of Accra, Ghana: a qualitative study. *International journal of women's health*, *5*, p.773.

Haberland, N.A., 2015. The case for addressing gender and power in sexuality and HIV education: A comprehensive review of evaluation studies. *International Perspectives on Sexual and Reproductive Health*, *41*(1), pp.31-42.

Heavey, E.J., Moysich, K.B., Hyland, A., Druschel, C.M. and Sill, M.W., 2008. Female adolescents' perceptions of male partners' pregnancy desire. *Journal of Midwifery & Women's Health*, *53*(4), pp.338-344.

Holness, N., 2015. A global perspective on adolescent pregnancy. *International journal of nursing practice*, *21*(5), pp.677-681.

Hope, R., 2007. Addressing cross-generational sex: a desk review of research and programs.

Huaynoca, S., Chandra-Mouli, V., Yaqub Jr, N. and Denno, D.M., 2014. Scaling up comprehensive sexuality education in Nigeria: from national policy to nationwide application. *Sex Education*, *14*(2), pp.191-209.

Imamura, M., Tucker, J., Hannaford, P., Da Silva, M.O., Astin, M., Wyness, L., Bloemenkamp, K.W., Jahn, A., Karro, H., Olsen, J. and Temmerman, M., 2007. Factors associated with teenage pregnancy in the European Union countries: a systematic review. *European Journal of Public Health*, *17*(6), pp.630-636.

International Labour Organization 2017. The Children's Act, 1998 http://www.ilo.org/dyn/natlex/docs/WEBTEXT/56216/65194/E98GHA01.htm retrieved on 18th July 2017 @ 19:38pm

Isiugo-Abanihe, U.C. and Oyediran, K.A., 2004. Household socioeconomic status and sexual behaviour among Nigerian female youth. *African Population Studies*, *19*(1), pp.81-98.

Izugbara, C.O. and Undie, C.C., 2008. Masculinity scripts and the sexual vulnerability of male youth in Malawi. *International Journal of Sexual Health*, *20*(4), pp.281-294.

Izugbara, C.O., 2008. Home-based sexuality education: Nigerian parents discussing sex with their children. *Youth & Society*, *39*(4), pp.575-600

Jejeebhoy, S.J. and Santhya, K.G., 2011. *Parent-child communication on sexual and reproductive health matters: Perspectives of mothers and fathers of youth in India*. Population Council.

Jewkes, R.K., Levin, J.B. and Penn-Kekana, L.A., 2003. Gender inequalities, intimate partner violence and HIV preventive practices: findings of a South African cross-sectional study. *Social science & medicine*, *56*(1), pp.125-134.

Jewkes, R., Vundule, C., Maforah, F. and Jordaan, E., 2001. Relationship dynamics and teenage pregnancy in South Africa. *Social science & medicine*, *52*(5), pp.733-744.

Jonas, K., Crutzen, R., van den Borne, B., Sewpaul, R. and Reddy, P., 2016. Teenage pregnancy rates and associations with other health risk behaviours: a three-wave cross-sectional study among South African school-going adolescents. *Reproductive health*, *13*(1), p.50.

Kabiru, C.W. and Ezeh, A., 2007. Factors associated with sexual abstinence among adolescents in four sub-Saharan African countries. *African Journal of Reproductive Health*, *11*(3), pp.99-110.

Kappe, R., 2016. The Effect of the Religious Environment on Teenage Birth Rates in the United States. *Sexuality Research & Social Policy*, *3*(13), pp.241-251.

Kar, S.K., Choudhury, A. and Singh, A.P., 2015. Understanding normal development of adolescent sexuality: A bumpy ride. *Journal of human reproductive sciences*, *8*(2), p.70.

Karim, A.M., Magnani, R.J., Morgan, G.T. and Bond, K.C., 2003. Reproductive health risk and protective factors among unmarried youth in Ghana. *International family planning perspectives*, pp.14-24.

Kaufman, C.E. and Stavrou, S.E., 2004. 'Bus fare please': The economics of sex and gifts among young people in urban South Africa. *Culture, Health & Sexuality*, *6*(5), pp.377-391.

Keller, E.T., Hilton, D.B. and Twumasi-Ankrah, K., 1999. Teenage pregnancy and motherhood in a Ghanaian community. *Journal of social Development in Africa*, *14*, pp.69-84.

Kesterton, A.J. and de Mello, M.C., 2010. Generating demand and community support for sexual and reproductive health services for young people: A review of the Literature and Programs. *Reproductive health*, *7*(1), p.25.

Ketting, E. and Winkelmann, C., 2013. New approaches to sexuality education and underlying paradigms. *Bundesgesundheitsblatt-Gesundheitsforschung-Gesundheitsschutz*, *56*(2), pp.250-255.

Kimball, R. and Wissner, M., 2015. Religion, poverty, and politics: their impact on women's reproductive health outcomes. *Public Health Nursing*, *32*(6), pp.598-612.

Kirby, D.B., 2008. The impact of abstinence and comprehensive sex and STD/HIV education programs on adolescent sexual behavior. *Sexuality Research and Social Policy*, *5*(3), pp.18-27.

Kirby, D.B., Laris, B.A. and Rolleri, L.A., 2007. Sex and HIV education programs: their impact on sexual behaviors of young people throughout the world. *Journal of Adolescent Health*, *40*(3), pp.206-217.

Kiesner, J., Cadinu, M., Poulin, F. and Bucci, M., 2002. Group identification in early adolescence: Its relation with peer adjustment and its moderator effect on peer influence. *Child development*, *73*(1), pp.196-208.

Kohler, P.K., Manhart, L.E. and Lafferty, W.E., 2008. Abstinence-only and comprehensive sex education and the initiation of sexual activity and teen pregnancy. *Journal of Adolescent Health*, *42*(4), pp.344-351.

Koster, A., Kemp, J. and Offei, A., 2001. Utilisation of reproductive health services by adolescent boys in the eastern region of Ghana. *African Journal of Reproductive Health*, pp.40-49.

Krugu, J., 2016. *Beyond love: promoting sexual and reproductive health and rights of adolescents in Ghana* (Doctoral dissertation, Maastricht University).

Krugu, J.K., Mevissen, F.E.F., Prinsen, A. and Ruiter, R.A.C., 2016. Who's that girl? A qualitative analysis of adolescent girls' views on factors associated with teenage pregnancies in Bolgatanga, Ghana. *Reproductive health*, *13*(1), p.39.

Krugu, J.K., Mevissen, F., Münkel, M. and Ruiter, R., 2017. Beyond love: a qualitative analysis of factors associated with teenage pregnancy among young women with pregnancy experience in Bolgatanga, Ghana. *Culture, health & sexuality*, *19*(3), pp.293-307

Kumi-Kyereme, A., Awusabo-Asare, K. and Darteh, E.K.M., 2014. Attitudes of gatekeepers towards adolescent sexual and reproductive health in Ghana. *African journal of reproductive health*, *18*(3), pp.142-153.

Kumi-Kyereme, A., Awusabo-Asare, K., Tanle, A. and Biddlecom, A., 2007. Influence of social connectedness, communication and monitoring on adolescent sexual activity in Ghana. *African journal of reproductive health*, *11*(3), pp.133-147.

Lapinski, M.K. and Rimal, R.N., 2005. An explication of social norms. *Communication theory*, *15*(2), pp.127-147.

Lee-Rife, S., Malhotra, A., Warner, A. and Glinski, A.M., 2012. What works to prevent child marriage: a review of the evidence. *Studies in family planning*, *43*(4), pp.287-303.

Lloyd, C.B., Mensch, B.S. and Clark, W.H., 2000. The effects of primary school quality on school dropout among Kenyan girls and boys. *Comparative education review*, *44*(2), pp.113-147.

Loaiza, E. and Liang, M., 2013. Adolescent pregnancy: a review of the evidence.

Longfield, K., Glick, A., Waithaka, M. and Berman, J., 2002. Cross-generational relationships in Kenya: Couples' motivations, risk perception for STIs/HIV and condom use. *PSI Research Division, Working Paper*, (52).

Luke, N.K., 2002. Confronting the Myth of'Sugar Daddies': Recent Findings Linking Age Difference, Economic Transaction, and Risky Behaviour in Sexual Relations in Urban Kenya.

Luke, N., 2003. Age and economic asymmetries in the sexual relationships of adolescent girls in sub-Saharan Africa. *Studies in family planning*, *34*(2), pp.67-86.

Machel, J.Z., 2001. Unsafe sexual behaviour among schoolgirls in Mozambique: a matter of gender and class. *Reproductive health matters*, *9*(17), pp.82-90.

MacPhail, C. and Campbell, C., 2001. 'I think condoms are good but, aai, I hate those things':: condom use among adolescents and young people in a Southern African township. *Social science & medicine*, *52*(11), pp.1613-1627.

Madise, N., Zulu, E. and Ciera, J., 2007. Is poverty a driver for risky sexual behaviour? Evidence from national surveys of adolescents in four African countries. *African journal of reproductive health*, *11*(3), pp.83-98.

Manlove, J., Terry-Humen, E., Papillo, A.R., Franzetta, K., Williams, S. and Ryan, S., 2002. *Preventing teenage pregnancy, childbearing, and sexually transmitted diseases: What the research shows*. Washington, DC: Child Trends.

Marrone, G., Abdul-Rahman, L., De Coninck, Z. and Johansson, A., 2014. Predictors of contraceptive use among female adolescents in Ghana. *African journal of reproductive health*, *18*(1), pp.102-109.

Marston, C. and King, E., 2006. Factors that shape young people's sexual behaviour: a systematic review. *The lancet*, *368*(9547), pp.1581-1586.

McCleary-Sills, A.W., Stoebenau, K. and Hollingworth, G., 2014. Understanding the Adolescent Family Planning Evidence Base. *International Center for Research on Women. Available from:< http://www. icrw. org/publications/understanding-theadolescent-family-planning-evidence-base-review-of-literature/>[14 July 2016]*.

Mellanby, A.R., Newcombe, R.G., Rees, J. and Tripp, J.H., 2001. A comparative study of peer-led and adult-led school sex education. *Health Education Research*, *16*(4), pp.481-492.

Mensch, B.S., Clark, W.H., Lloyd, C.B. and Erulkar, A.S., 2001. Premarital sex, schoolgirl pregnancy, and school quality in rural Kenya. *Studies in family planning*, *32*(4), pp.285-301.

Michielsen, K., Beauclair, R., Delva, W., Roelens, K., Van Rossem, R. and Temmerman, M., 2012. Effectiveness of a peer-led HIV prevention intervention in secondary schools in Rwanda: results from a non-randomized controlled trial. *BMC public health*, *12*(1), p.729.

Morris, J.L. and Rushwan, H., 2015. Adolescent sexual and reproductive health: The global challenges. *International Journal of Gynecology & Obstetrics*, *131*(S1).

Miller, B.C., 2002. Family influences on adolescent sexual and contraceptive behavior. *Journal of sex research*, *39*(1), pp.22-26.

Miller, B.C., Benson, B. and Galbraith, K.A., 2001. Family relationships and adolescent pregnancy risk: A research synthesis. *Developmental review*, *21*(1), pp.1-38.

Mngadi, P.T., Faxelid, E., Zwane, I.T., Höjer, B. and Ransjo-Arvidson, A.B., 2008. Health providers' perceptions of adolescent sexual and reproductive health care in Swaziland. *International nursing review*, *55*(2), pp.148-155.

Morhee, R.A.S. and Morhee, E.S.K., 2006. Overview of the law and availability of abortion services in Ghana. *Ghana Medical Journal*, *40*(3).

Multiple Indicator Cluster Survey., 2011. UNICEF – Child Marriage

Neema, S. and Bataringaya, D., 2000. Research on adolescent sexual and reproductive health in Uganda. *Document review presented to Africa Alive. Retrieved May*, *16*, p.2006.

Newman, B.M. and Newman, P.R., 2001. Group identity and alienation: Giving the we its due. *Journal of youth and adolescence*, *30*(5), pp.515-538.

Newton-Levinson, A., Leichliter, J.S. and Chandra-Mouli, V., 2016. Sexually transmitted infection services for adolescents and youth in low-and middle-income countries: perceived and experienced barriers to accessing care. *Journal of Adolescent Health*, *59*(1), pp.7-16.

Nichols, S., Javdani, S., Rodriguez, E., Emerson, E. and Donenberg, G., 2016. Sibling teenage pregnancy and clinic-referred girls' condom use: The protective role of maternal monitoring. *Journal of child and family studies*, *25*(4), pp.1178-1187.

General. Comment., 2003. 4, Adolescent health and development in the context of the Convention on the Rights of the Child. *New York: United Nations Committee on the Rights of the Child*.

Odimegwu, C. and Mkwananzi, S., 2016. Factors associated with teen pregnancy in sub-Saharan Africa: a multi-country cross-sectional study. *African Journal of Reproductive Health*, *20*(3), pp.94-107.

Okigbo, C.C. and Speizer, I.S., 2015. Determinants of sexual activity and pregnancy among unmarried young women in urban Kenya: A cross-sectional study. *PloS one*, *10*(6), p.e0129286.

Okigbo, C.C., Kabiru, C.W., Mumah, J.N., Mojola, S.A. and Beguy, D., 2015. Influence of parental factors on adolescents' transition to first sexual intercourse in Nairobi, Kenya: a longitudinal study. *Reproductive health*, *12*(1), p.73.

Oljira, L., Berhane, Y. and Worku, A., 2012. Pre-marital sexual debut and its associated factors among in-school adolescents in eastern Ethiopia. *BMC public health*, *12*(1), p.375.

Osafo, J., Asampong, E., Langmagne, S. and Ahiedeke, C., 2014. Perceptions of parents on how religion influences Adolescents' sexual behaviours in Two Ghanaian communities: implications for HIV and AIDS prevention. *Journal of religion and health*, *53*(4), p.959.

Paine-Andrews, A., Harris, K.J., Fisher, J.L., Lewis, R.K., Williams, E.L., Fawcett, S.B. and Vincent, M.L., 1999. Effects of a replication of a multicomponent model for preventing adolescent pregnancy in three Kansas communities. *Family Planning Perspectives*, pp.182-189.

Pedlow, C.T. and Carey, M.P., 2004. Developmentally appropriate sexual risk reduction interventions for adolescents: Rationale, review of interventions, and recommendations for research and practice. *Annals of Behavioral Medicine*, *27*(3), pp.172-184.

Perper, K., Peterson, K. and Manlove, J., 2010. Diploma Attainment among Teen Mothers. Fact Sheet. Publication# 2010-01. *Child Trends*.

Rominski, S.D., Moyer, C.A. and Darteh, E.K., 2016. Sexual coercion among students at the University of Cape Coast, Ghana. *Annals of Global Health*, *82*(3), p.523.

Rondini, S. and Krugu, J.K., 2009. Knowledge, attitude and practices study on reproductive health among secondary school students in Bolgatanga, upper east region, Ghana. *African journal of reproductive health*, *13*(4), pp.51-66.

Rivera, R. and World Health Organization, 2004. Contraception in adolescence.

Rosen, J.E., Murray, N.J. and Moreland, S., 2004. *Sexuality education in schools: The international experience and implications for Nigeria*. Family Health International.

Saewyc, E.M., Magee, L.L. and Pettingell, S.E., 2004. Teenage pregnancy and associated risk behaviors among sexually abused adolescents. *Perspectives on sexual and reproductive health*, *36*(3), pp.98-105.

Salami, K.K. and Ayegboyin, M., 2015. Intergenerational Life Courses of Teenage Pregnancy in Ogbomosho South-Western Nigeria. *Children & Society*, *29*(5), pp.451-461.

Santelli, J.S., Kaiser, J., Hirsch, L., Radosh, A., Simkin, L. and Middlestadt, S., 2004. Initiation of sexual intercourse among middle school adolescents: The influence of psychosocial factors. *Journal of adolescent health*, *34*(3), pp.200-208.

Santelli, J., Ott, M.A., Lyon, M., Rogers, J., Summers, D. and Schleifer, R., 2006. Abstinence and abstinence-only education: a review of US policies and programs. *Journal of Adolescent Health*, *38*(1), pp.72-81.

Santhya, K.G. and Jejeebhoy, S.J., 2015. Sexual and reproductive health and rights of adolescent girls: Evidence from low-and middle-income countries. *Global Public Health*, *10*(2), pp.189-221.

Sekiwunga, R. and Whyte, S.R., 2009. Poor parenting: teenagers' views on adolescent pregnancies in eastern Uganda. *African journal of reproductive health*, *13*(4), pp.113-128.

Silberschmidt, M. and Rasch, V., 2001. Adolescent girls, illegal abortions and "sugar-daddies" in Dar es Salaam: vulnerable victims and active social agents. *Social science & medicine*, *52*(12), pp.1815-1826.

Smiler, A.P., 2008. "I wanted to get to know her better": Adolescent boys' dating motives, masculinity ideology, and sexual behavior. *Journal of adolescence*, *31*(1), pp.17-32.

Starkman, N. and Rajani, N., 2002. The case for comprehensive sex education. *AIDS patient care and STDs*, *16*(7), pp.313-318.

Stephenson, R., 2009. Community influences on young people's sexual behaviour in 3 African countries. *American journal of public health*, *99*(1), pp.102-109.

Stephenson, R., 2009. A community perspective on young people's knowledge of HIV/AIDS in three African countries. *AIDS care*, *21*(3), pp.378-383.

Stephenson, R., Simon, C. and Finneran, C., 2014. Community factors shaping early age at first sex among adolescents in Burkina Faso, Ghana, Malawi, and Uganda. *Journal of health, population, and nutrition*, *32*(2), p.161.

Svanemyr, J., Amin, A., Robles, O.J. and Greene, M.E., 2015. Creating an enabling environment for adolescent sexual and reproductive health: a framework and promising approaches. *Journal of Adolescent Health*, *56*(1), pp.S7-S14.

Tolman, D.L. and McClelland, S.I., 2011. Normative sexuality development in adolescence: A decade in review, 2000–2009. *Journal of Research on Adolescence*, *21*(1), pp.242-255.

Tolman, D.L., Spencer, R., Harmon, T., Rosen-Reynoso, M. and Striepe, M., 2004. Getting close, staying cool: Early adolescent boys' experiences with romantic relationships. *Adolescent boys: Exploring diverse cultures of boyhood*, pp.235-255.

Toska, E., Cluver, L.D., Boyes, M., Pantelic, M. and Kuo, C., 2015. From 'sugar daddies' to 'sugar babies': exploring a pathway among age-disparate sexual relationships, condom use and adolescent pregnancy in South Africa. *Sexual health*, *12*(1), pp.59-66.

Tuwor, T. and Sossou, M.A., 2008. Gender discrimination and education in West Africa: strategies for maintaining girls in school. *International Journal of Inclusive Education*, *12*(4), pp.363-379.

United Nation International Children Emergency Fund,2014. The State of the World's Children 2015: Reimagine the future.

United Nation International Children Emergency Fund 2015. Ending Child Marriage in Africa. *Girls Not Brides*

UNESCO, U., UNICEF and UNAIDS, W., 2009. International Technical Guidance on Sexuality Education: an Evidence-informed approach for schools, teachers and health educators, Vol. 1.

Van der Geugten, J., Van Meijel, B., De Vries, N.K. and Den Uyl, M.H., 2013. Virginity, sex, money and desire: premarital sexual behaviour of youths in Bolgatanga Municipality, Ghana. *African Journal of Reproductive Health*, *17*(4), pp.93-106.

van der Geugten, J., van Meijel, B., den Uyl, M.H. and de Vries, N.K.,2017. Protected or Unprotected Sex: The Conceptions and Attitudes of the Youth in Bolgatanga Municipality, Ghana. *Sexuality & Culture*, pp.1-22.

Varga, C.A., 2003. How gender roles influence sexual and reproductive health among South African adolescents. *Studies in family planning*, *34*(3), pp.160-172.

Vundule, C., Maforah, F., Jewkes, R. and Jordaan, E., 2001. Risk factors for teenage pregnancy among sexually active black adolescents in Cape Town. *South African Medical Journal*, *91*(1), pp.73-80.

WATER, C., ENERGY, C., WORK, D., CITIES, S., LAND, O., PEACE, J. and WATER, B., 2015. Sustainable Development Goals. https://www.oursplatform.org/wp-content/uploads/IPPF-SDGs-A-SRHR-CSO-Guide-for-National-Implementation.pdf retrieved on 18th July 2017.

Williamson, N., 2013. State of world population 2013. Motherhood in childhood. Facing the challenge of adolescent pregnancy.

Woolf-King, S.E. and Maisto, S.A., 2011. Alcohol use and high-risk sexual behavior in Sub-Saharan Africa: a narrative review. *Archives of sexual behavior*, *40*(1), pp.17-42.

Woog, V. and Kågesten, A., 2017. The Sexual and Reproductive Health Needs of Very Young Adolescents Aged 10–14 in Developing Countries: What Does the Evidence Show?.

World Health Organization, 2015. *Core competencies in adolescent health and development for primary care providers: including a tool to assess the adolescent health and development component in pre-service education of health-care providers*. World Health Organization.

World Health Organization., 2015. Country Profile. http://www.who.int/countries/gha/en/. Retrieved 14 August 2017 @21:40 pm

World Health Organization., 2014. Adolescent Pregnancy. Retrieved 18th July 2017 @ 14:21 pm. http://www.who.int/mediacentre/factsheets/fs364/en/

World Health Organization., 2013. Child Marriage: 39 000 every day. **http://www.who.int/mediacentre/news/releases/2013/child_marriage_20130307/en/** retrieved on 9 August 2017 @ 17:09 pm**.**

World Health Organization, 2012. Unsafe abortion incidence and mortality: global and regional levels in 2008 and trends during 1990-2008.

World Health Organization, 2011. Guidelines for preventing early pregnancy and poor reproductive outcomes in adolescents in developing countries

World Health Organization., 2004. Adolescent Pregnancy. **http://apps.who.int/iris/bitstream/10665/42903/1/9241591455_eng.pdf**. Retrieved on 11 August 2017 @ 01:07 am

Zaba, B., Pisani, E., Slaymaker, E. and Boerma, J.T., 2004. Age at first sex: understanding recent trends in African demographic surveys. *Sexually transmitted infections*, *80*(suppl 2), pp.ii28-ii35.

Zavodny, M., 2001. The effect of partners' characteristics on teenage pregnancy and its resolution. *Family Planning Perspectives*, pp.192-205.

Appendix 1: Map of Ghana

Figure 2: Map of Ghana
Source: www.ezilon.com

Appendix 2: Organization of Health Services in Ghana

Health Services in Ghana are organized through a comprehensive five-tier system linked through a referral network (Figure 3). It comprises both the public and private (GHS, 2014). The system of operation determines the flow of information from the lower level to the higher level and subsequent feedback flow of information. Generally, the organization of health services range from the community health units in a system known as the community-based health planning and services (CHPS) which serves as the primary health care and the more specialized tertiary referral hospitals (GHS, 2014). Other private health providers also exist, including chemical shops and traditional birth attendants and traditional healers. The sub-district level, which mainly comprises health centres, health posts and some community clinics, serves as the referral point for the CHPS compounds as well as the other private providers of health services (GHS, 2014). At the district level, district hospitals, polyclinics and faith based facilities like Christian Health Association of Ghana (CHAG) are normally found (GHS, 2014). These facilities serve as the referral points for the facilities at the sub-district and community levels. From the district level, the next level is the regional level where regional, teaching hospitals and other private hospitals serve as the referral points for the district level facilities (GHS, 2014). The Ministry of Health (MOH), which is the highest level, is where policy guidelines and directives for the whole sector emanate (GHS, 2014). Also at the national level is the headquarters of the Ghana Health Service (GHS). There is a collaboration between the public and private sector. All the public health facilities in the country are covered by the National Health Insurance Scheme (NHIS) whilst the majority of the private is also accredited to operate under the NHIS. Reproductive health services are covered under the NHIS except for contraceptives. Adolescent sexual and reproductive health services are rendered at the health centre and hospitals (GHS, 2014). CHPS activities embrace adolescent sexual reproductive health (SRH), but do not have a designated office for adolescent services as can be seen at the health centres and hospitals (GHS, 2014).

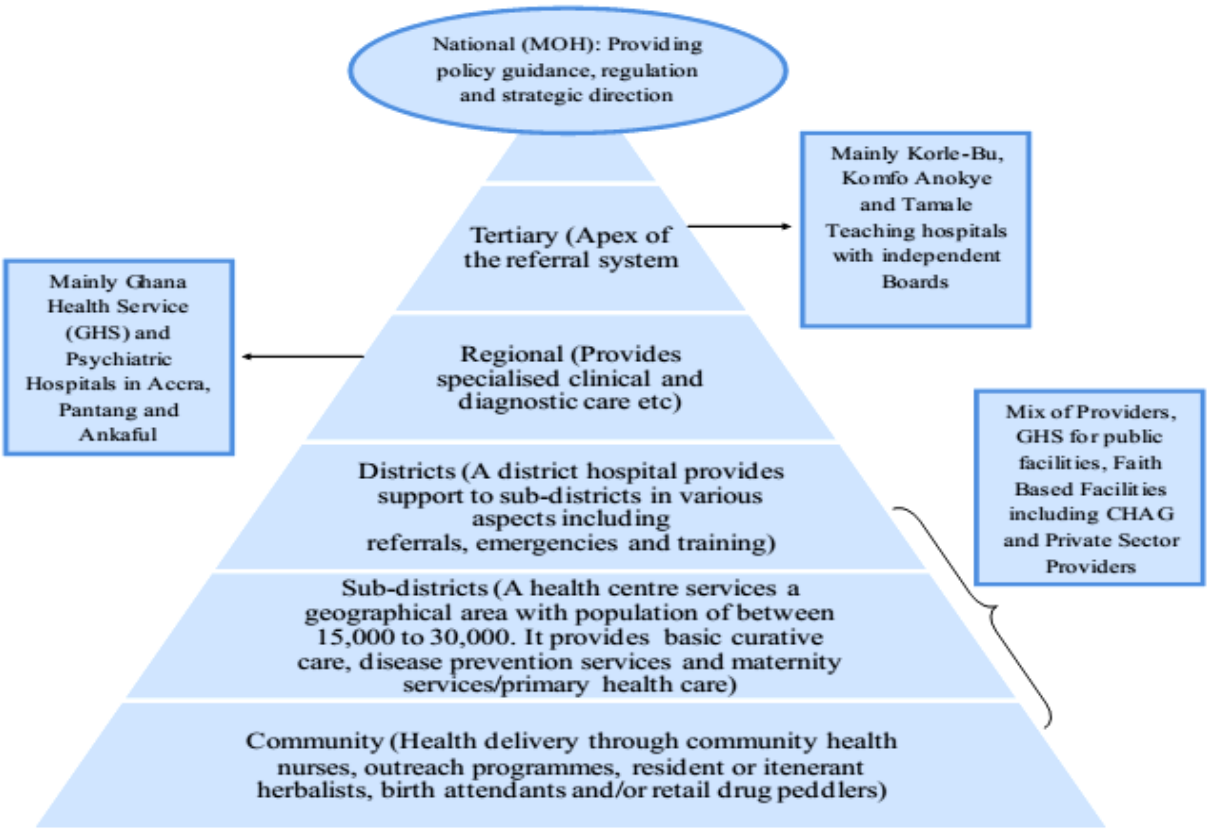

Figure 3: organization of health services in Ghana

Source: DHIMS II, GHS, 2014

Appendix 3: Map of the Upper East Region of Ghana

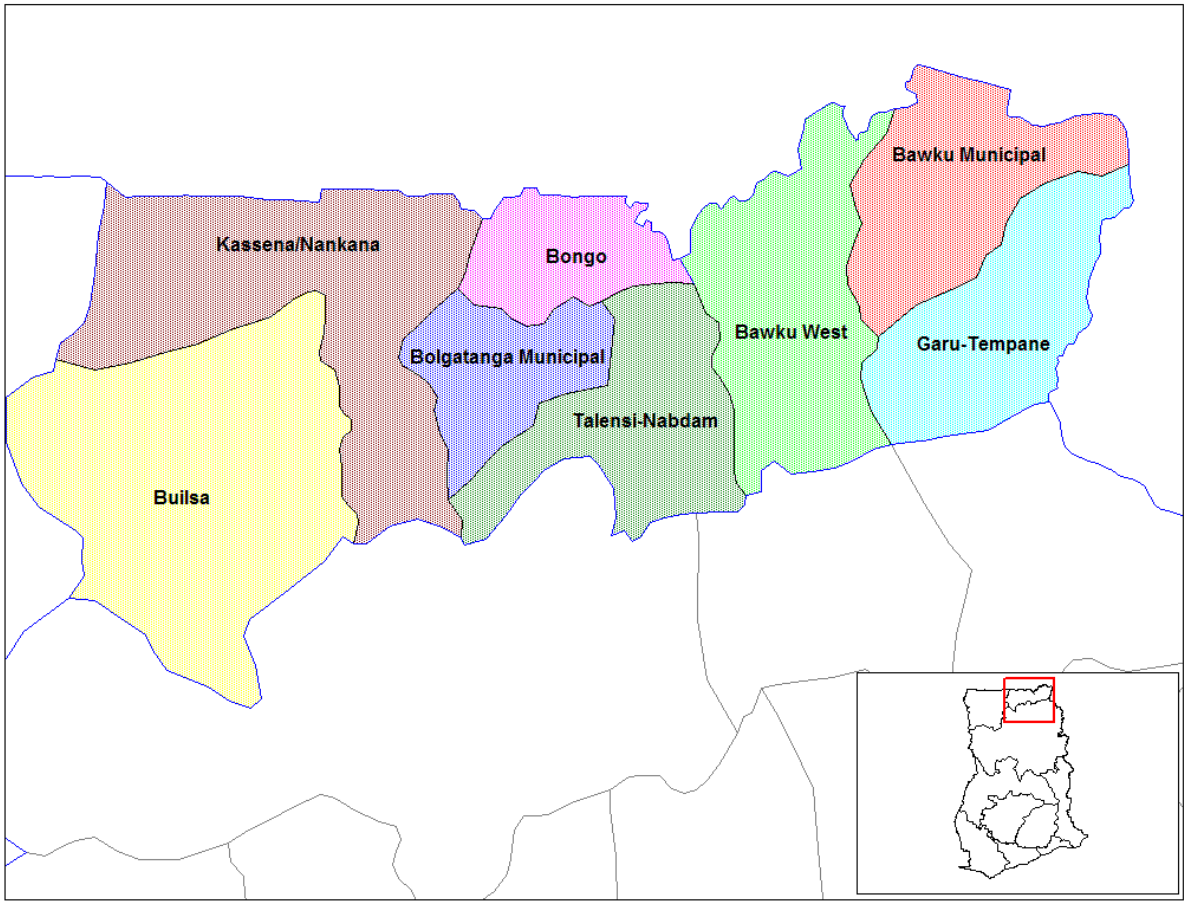

Figure 4: Map of Upper East Region of Ghana

Source: GSS, 2013