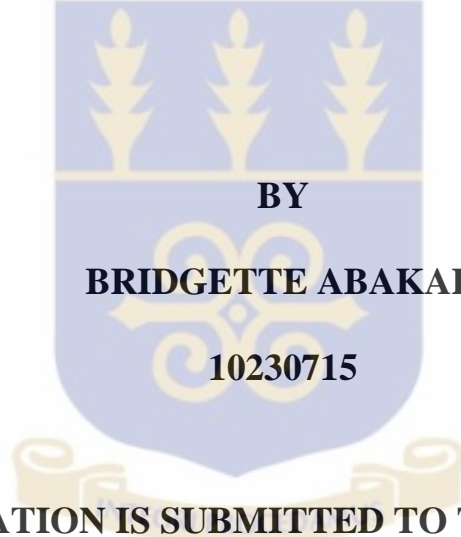


**SCHOOL OF PUBLIC HEALTH
COLLEGE OF HEALTH SCIENCES
UNIVERSITY OF GHANA**

**SEX EDUCATION AND ITS INFLUENCE ON SEXUAL BEHAVIOR
IN THE WEST AFRICAN SENIOR HIGH SCHOOL IN THE
GREATER ACCRA REGION**



**THIS DISSERTATION IS SUBMITTED TO THE UNIVERSITY OF
GHANA, LEGON IN PARTIAL FULFILMENT OF THE
REQUIREMENT FOR THE AWARD OF MASTER OF PUBLIC
HEALTH (MPH) DEGREE.**

JULY, 2015

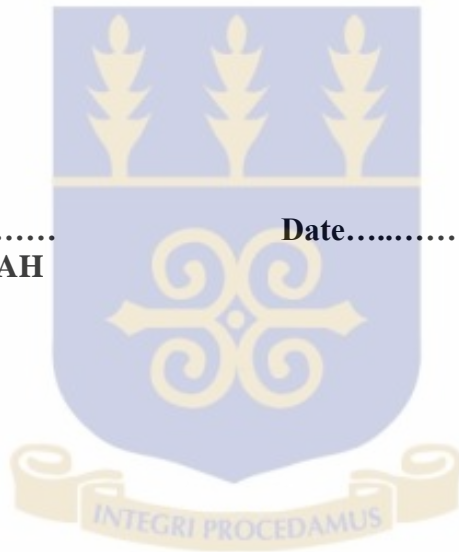
DECLARATION

I, hereby declare that this work is a result of my own research, carried out in the school of Public Health, University of Ghana under the supervision of Professor Philip Baba Adongo.

I also declare that with the exception of other academic works referenced which has been duly acknowledged. This proposal has not been submitted to this or any other university for any degree.

.....
BRIDGETTE ABAKAH
(Student)

Date.....



.....
PROF. PHILIP BABA ADONGO
(Academic Supervisor)

Date.....

DEDICATION

I, dedicate this work to God Almighty for His mercies and grace ever present: to my Parents Mr. and Mrs. Abakah for your love and immense support, for my brother Samuel Fiifi Abakah thank you for everything and for my co-ministers at Project Purity and WHUP, may our dedication to the youth bring glory to God.



LIST OF ABBREVIATIONS

GHS	Ghana Health Service
GSS	Ghana Statistical Service
GOG	Government of Ghana
MOH	Ministry of health
NPC	National Population Council
HIV	Human Immunodeficiency Virus
SHS	Senior High School
SRH	Sexual and Reproductive Health
STI	Sexually Transmitted Infections
UNFPA	United Nations Population Fund
UNICEF	United Nations Children's Fund
USA	United States of America
WHO	World Health Organization
ICPD	International Conference on population Development



DEFINITION OF TERMS

For the purposes of this study the following definitions will be used

- **ADOLESCENT:** a person between the ages of 10-20 years old
- **COMPREHENSIVE SEX EDUCATION:** sexual education module that provide holistic information and education on sexual intercourse, contraceptive use and relationship and dating.
- **ABSTINENCE ONLY SEX EDUCATION:** sex education module which provide information on premarital abstinence only.
- **SEXUAL CHOICES:** the decision that a person makes in relation to his/her sexuality
- **PARENT:** a family member in legal authority in the care of a child or one who functions as the parent of the child.
- **SEXTING:** Sending and receiving media with sexual content.
- **SEX EDUCATION:** Providing adolescents with adequate information, skills and resources to enable them make sound decisions concerning sex and reproductive health.
- **SEXUAL CHOICES:** the decisions that an adolescents makes with regards to his/her sexuality.
- **SEXUAL BEHAVIOR:** involvement in any of the following
 1. sexual intercourse
 2. Age at sexual debut
 3. Recent sexual activity

ACKNOWLEDGEMENT

I wish to thank the Almighty God for His divine protection and strength throughout this program. I would also like to express my profound gratitude to Professor Phillip Baba Adongo, my supervisor for his patience, guidance and understanding throughout this course.

Many thanks goes to the entire staff of the School of Public Health, the Staff and students at the West African Senior High School and the staff of the La Nkwantanang-Madina Municipal Education Office.

Finally I wish to thank my family and my co-ministers at Sword-bearers/ Project Purity especially Michael Antwi- Adjei and Theodora Nana Adwoa Danso you gave me the strength, hope and the faith I needed to see this work through. God bless you all.

TABLE OF CONTENTS

Content	Page
DECLARATION.....	i
DEDICATION.....	ii
LIST OF ABBREVIATIONS	iii
ACKNOWLEDGEMENT.....	v
TABLE OF CONTENTS	vi
LIST OF TABLES	viii
LIST OF FIGURES	ix
ABSTRACT.....	x
CHAPTER ONE	1
INTRODUCTION.....	1
1.1 Background.....	1
1.2 Statement of Problem.....	4
1.3 Justification.....	7
1.4 Research Questions.....	8
1.5 Objectives	9
1.5.1 General.....	9
1.5.2 Specific Objectives	9
CHAPTER TWO	13
LITERATURE REVIEW	13
2.1 Adolescent sexuality.....	13
2.2 Sex education and sexual behavior.....	15
2.3 Age at sexual debut.....	18
2.4 Parental communication.....	20
2.5 Peer pressure	22
2.6 Media	23
2.7 Sex education in schools.....	25
CHAPTER THREE	27
RESEARCH METHODOLOGY	27
3.1 Introduction.....	27
3.1 Study design.....	27
3.2 Study area.....	27
3.3 Study Variables.....	28
3.4. Study population	28
3.4.1 Population structure	29

3.5 Sample size	29
3.5.1 Sample size determination	29
3.6 Sampling method	30
3.7 Data collection instrument	31
3.8.1 Inclusion criteria	32
3.8.2 Exclusion criteria	32
3.9 Ethical consideration.....	33
3.10 Data processing and analysis	34
3.11 Quality control	35
CHAPTER FOUR.....	36
RESULTS	36
4.1 Demographic details of Respondents.....	36
4.2 Parental discussion on sexual and reproductive health.....	37
4.3 In-school sex education.....	39
4.4 Sources of information.....	42
4.6 Sexual behavior.....	47
4.7 Peer pressure	48
CHAPTER FIVE	54
5.1 Discussion	54
5.2 In school sex education.....	54
5.3 Sexual behavior.....	56
5.4 Parental Communication.....	59
5.5 Peer Pressure	63
CHAPTER SIX	66
CONCLUSION AND RECOMMENDATION	66
6.1 Conclusion	66
6.2 Recommendation	67
REFERENCES.....	70
APPENDICES.....	81
Appendix A: Questionnaire	81
Appendix B: Inform Consent Form.....	88
Appendix C: Ethical Approval Letter.....	89
Appendix d: Introductory Letter.....	91

LIST OF TABLES

Table 4. 1. Demographic characteristics of respondents in WASS	37
Table 4. 2: parental communication on sexual and reproductive health.....	39
Table 4. 3: Sex education in the West African senior high school	41
Table 4. 4Media use and Sexting Behavior	46
Table 4. 5. Sexual behavior.....	48
Table 4. 6. Peer pressure among respondents in WASS.....	49
Table 4. 7Association between Sexual Behavior and Exposure Variables	50
Table 4. 8 Logistic table for social media use and sexual behavior	51
Table 4. 9. Association between Peer Pressure and Sexual Behavior	52

LIST OF FIGURES

Figure 1.1 Conceptual Framework	10
Figure 4. 1. Sex Education Topics	42
Figure 4. 2. Sources of sex education	43

ABSTRACT

Comprehensive sex education is an important tool that enables adolescents to make informed choices concerning sex and sexual behavior and gives them the tools needed to grow up into sexually healthy adults. Sex education is non-existent in most Ghanaian schools and homes. Despite the silence that exists concerning sex and reproductive health issues a lot of adolescents are engaging in sexual behavior out of curiosity and the need to conform to peer norms.

A school based cross-sectional study was conducted in April 2015 to identify the influence sex education has on the sexual behavior of senior high school students in the West African Senior High School in the Greater Accra Region. It was also to identify the main sex education programs available to students. A total of 449 adolescents between the ages of 13-20 years in the senior high school were selected. A self-administered questionnaire was used to obtain data on sexual education sources and the sexual behavior of the students. Quantitative data were obtained on their socio-demographic status, family structures, parental communication and source of sex education, history of romantic relationships and sexual behavior as well as sexual reproductive health programs in their schools. The data were processed and analyzed using Microsoft Excel 2013 and STATA software version 12.

The median age at sexual debut was 13.0 years. The prevalence of sexual activity was 27% of the total population, of which 14% of them were recently engaging in sexual activity. Significant association was not observed for parental discussion, sex education and sexual behavior. However, peer pressure was observed to increase sexual behavior among adolescents. Social media use was positively associated with entering into romantic

relationships but not sexual behavior. The main sources of information on sex was teachers and the media. Sexual education programs in the school were few and did not meet the need of students in the school. 93% of students thus called for more sex education programs to be implemented in the school to enable them meet the needs of their sexual and reproductive health.

Appropriate interventions are needed to curb the high proportion of sexual behavior among the students. These findings suggest that sex education both in school and homes is necessary to help adolescents make informed choices concerning sex and reproductive health.

Keywords: Adolescents, Sex education, Sexual behavior, Parental communication.

CHAPTER ONE

INTRODUCTION

1.1 Background

The period of adolescence is an important period of transition that closes the chapter of childhood and opens a new page to adulthood. It is the period in which a child matures from the dependence of childhood to become an independent and mature adult. Adolescence is considered to begin with puberty, a process of physical, psychological and emotional development initiated by a series of hormonal changes that leads to sexual maturation and reproductive ability (Press, 2015). It is a very important period of development that changes the life course of boys and girls, though filled with vulnerabilities and risks as well as opportunities and potentials. Adolescents are a very important and unique group of individuals. The World Health Organization has defined an adolescent as an individual between the ages of 10 to 19 (WHO, 2007).

Globally the number of adolescents are at all-time high (UNICEF, 2011), they have been estimated to make up about a quarter of the world's population a number the World Health Organization puts at 1.2 billion (UN, 2012). In developing regions such as Africa they are estimated to form about 25% of the population, (Sawyer, 2012). Eighteen percent (18%) of the total adolescent population reside in Africa alone and though the adolescent populations worldwide is decreasing it continues to increase in Africa (ILO, 2012).

Ghana as a country has a youthful population with two in every five people being below the age of 15. As reported by the 2010 Ghana population and housing census, the number of young people between the ages of 15-24 make up about 30.2% of the total population. (GSS, 2008). An estimated third of the population are made up of adolescents aged between

10-19 years (GSS, 2008). The population of adolescents in Ghana has grown threefold since 1960 from 1,222,295 to 5,427,300 in 2010, accounting for 18.2% and 22.4% of the total population in these years respectively (GSS, 2010). A large portion of the economic force of the Ghanaian population are young people, who are considered to be the future of the nation.

The period of adolescence is plagued by social, physical, psychological and emotional changes (GHS, 2010). The teenage stage is one that is marked by emotional attachments, curiosity and experimentation (Richter, 2013). This combination lead to a growing desire to know and understand themselves and try to fit in with their peers and social groups.

Sexual experimentation is one of the means used by adolescent to understand their maturity and deal with the changes that plague them (Slater & Robinson, 2014). Most adolescents engage in sexual activity out of curiosity, need for acceptance and due to peer influence. (Jayakody et al., 2011; Meyer, Sneed & Tan, 2015). Most do not have factual information from right sources and thus turn to the sources they believe are readily available such a peers and media for information on sex (Bogani et al., 2014).

Research has indicated increased sexual activity amongst adolescents worldwide. The changes observed in this group is believed to be caused by some modifications in social and economic situations with respect to urbanization, modernization and improvements in health and nutritional status. This has resulted in a reduction in the age at attaining puberty and resultant decrease in the age at sexual debut (Sawyer Afifi, Bearinger, Blankson, Dick, Ezeh & Patton, 2012

Sex education usually refers to the systematic attempts to promote a healthy awareness in individuals on matters that affect the sexual functioning, development, behavior and attitudes through direct teaching (Cronin, Heflin, & Price, 2014). It is the means of imparting young people with the skills, information and the resources to make informed choices concerning their sexuality. Sex education may be given in the formal school environment or in the non-formal home environment. It is a means of ensuring that adolescents make choices concerning their sexuality based on information that is both factual and adequate. The International Conference on Population Development (ICPD) in 1994 indicated that all adolescents should have access to both reproductive health information and services across all member countries at the Cairo conference. It called for countries to put in legislature and measures to ensure that all adolescents whether in school or out of school are provided with information, education and communication on reproductive and sexual health, prevention of early pregnancy, family planning and sexually transmission prevention (UNFPA, 1994). This commitment was further reiterated at the 20 year anniversary summit of the ICPD beyond 20 years (Force, 2014 ;UNFPA,2014).

Discussions on sexuality in Ghanaian homes and schools is still considered a taboo reinforced by the perception that discussing sexuality with children makes them sexually active. Refusing to discuss and include sex education in the Ghanaian curricula is causing children and adolescents to engage in sexual activity with no or limited information. This is not only detrimental but also harmful to their development as they are unable to build values and morals concerning sex and their sexuality from trusted sources like parents, teachers and sometimes even healthcare practitioners.

The silence adults have developed to sexual discussion does not stop adolescents from becoming sexually active nor does it reverse the negative consequences of teenage sexual activity that is facing the world at large (Osaikhuwuomwan & Osemwenkha, 2013).

The traditional Ghanaian home and school believes that children should be brought up with strict discipline and fear and punished for asking questions that are considered to be inappropriate for children to ask (Nyarko, Adentwi, Asumeng, & Ahulu, 2014). Adolescents therefore seek several other options available to them to access information on sex rather than going to their parent, teachers and health worker who can provide factual and correct information.

1.2 Statement of Problem

Sex is a word that is hardly discussed in the Ghanaian society. It is said to be an activity that occurs in private thus all discussions concerning sex must be kept in that arena. Adults in the country usually refrain from and totally avoid the topic of sex or anything related to it (Asampong et al, 2014). Despite the sociological changes, sexual issues essentially remain a taboo in Ghanaian society and thus open discussions within the family are rare. Though the society is becoming more liberal in attitudes and beliefs about sex in recent years, there is still the undenied fact that sex and reproductive health issues are still viewed as a taboo for adults to discuss with adolescents. This is due to the notion that we have been socialized to believe it is a means of promoting “immorality” amongst them. Adolescents and young people are not expected to ask questions related to sex or reproductive health (Kumi-kyereme, Awusabo-asare, Biddlecom & Tanle, 2014).

In Ghana sex education is inadequate in most schools are non-existent in others. Though the national adolescents health policy has indicated that the curriculum of students at all levels must make provisions for comprehensive sex education. Several attempts have been by several institutions such as the Planned Parenthood association and Marie Stopes to encourage the Government and the Ghana education service to incorporate comprehensive sex education into the junior and senior high school curriculum.

Sex education is woefully inadequate in the formal education or even nonexistence in the curricula of some schools (Tanle, Kumi-Kyerme, Biddlecom & Awusubo-Asare, 2007). Parents and teachers are not comfortable discussing the subject of sex based on perceptions and myths that children indulge in sex when they are educated about it. A national survey showed low levels of communication between adolescents and their parents about delaying sex or using family planning methods. Close friends and partners are the most common types of people adolescents spoke with concerning sexual issues. (GSS, 2008; Awusabo-Asare, Darteh & Kumi- Kyereme, 2014).

Despite the silence and secrecy that has engulfed sexual education and discussions, a significant number of adolescents all over the world are sexually active and an increasing proportion of their sexual activity is premarital (Aninanya et al., 2015; Decat et al., 2015; Holloway et al., 2012). Many issues are believed to influence young peoples' choice to experiment with sex. Pleasure seeking, curiosity, use of substances such as alcohol, and an inability to regulate self are some of the things which contribute to the problem (Dingeta et al., 2012). It is believed that adolescents do not have enough knowledge about sexual and reproductive health and are not very well informed about the natural process of puberty

and sex. This lack of information is believed to have very serious consequences not only on adolescents but on the nation as a whole (Fortenberry, 2013).

In the adolescent reproductive health survey done in Ghana in 2004, it was observed that 4 out of 10 females were sexually active by age 15 and 2 out of 10 males by the same age. By age 20, 83% of females had sex as compared to 56% for males (Awusabo-Asare, Abane and Kumi-Kyereme, 2004). More recent studies has shown that by age 15, 8.2% of females and 36% of males have become sexually active. This number increases to 44% and 26% by age 18 (GSS, 2012). This shows that even though sex is not being discussed a lot of adolescents are increasingly engaging in sexual activity. It also indicates an increase in sexual activity between the ages of 15-18. In the 2008 Ghana Demographic health survey the data on sexual activity also showed that 12.6% of females between the ages of 15-19 years had engaged in sexual activity in the last 4 weeks before the survey, most of which are not planned and without protection (GSS et al., 2009).

The purpose of this study is to determine the sex education programs available in the senior high school curriculum using the West African Senior High school as a case study and how it has influenced the type of sexual behavior that exist among students in the high school. This study also seeks to identify the roles that parents, guardians and teachers play in ensuring that adolescents have the right information about sex in order to make the right choices regarding their sexuality. This study is important in the light of increased incidence of teenage pregnancy and high sexual activities recorded amongst in-school adolescents in the country.

1.3 Justification

Information and education on sexuality is limited even in the formal education sector and almost nonexistent in the home environment (Kumi-Kyereme, 2014). In the Ghanaian society it is culturally unwelcome to discuss sex and sexual issues with adolescents (Kwankye, 2007). Parents are handicapped in discussing reproductive health issues and sexuality with their children. School curricula does not have slots for adequate and comprehensive sex education and religious bodies refrain from discussing this all important topic with the youth. Some family planning service providers did not express interest in providing reproductive health services for adolescents. In 2008, the Ghana statistical service reported that in the GDHS about 25% of service providers stated that they would not provide intrauterine device and pills for unmarried adolescents. Thus although there is increased indulgence in sexual activity among adolescents, they are not encouraged to seek adequate information on adolescent reproductive matters.

This study is thus both timely and important as it seeks to find out the importance of sex education in affecting the sexual behavior exhibited by senior high school students. Most of the studies done in relation to adolescent sexuality focuses on knowledge of contraceptive methods, types of sexual behavior amongst adolescents and at risk youth like street children.

Studies on sex education in the formal and informal educational institutions are very scarce and not readily available especially in Ghanaian setting where the concept of sex education in the school is relatively new and still being built on. This work also intends to research into the sex education programs in the senior high school environment and how it influences sexual behavior of the students.

It is expected that the findings from this study will help stakeholders in the field of adolescent education and development to put in measures to improve sex education in the senior high school environment. It will also help in the improvement of the school curriculum and enable sex education to form an integral part of socializing adolescents both in the school environment as well as in homes.

This study is limited in its concentration to the West Africa senior high school as the sample population but the students bears the same characteristics to senior high schools all over the country in terms of socio demographics, level of education and exposure to sex education .

1.4 Research Questions

1. What sex education programs are available in the West Africa senior high school?
2. What are the main sources of knowledge on sexual and reproductive health matters?
3. Who provides students with information on sex and reproductive health issue?
4. What are the factors that encourage sexual activity among the students?
- 5 What are the sexual behaviors that can be identified among the students?

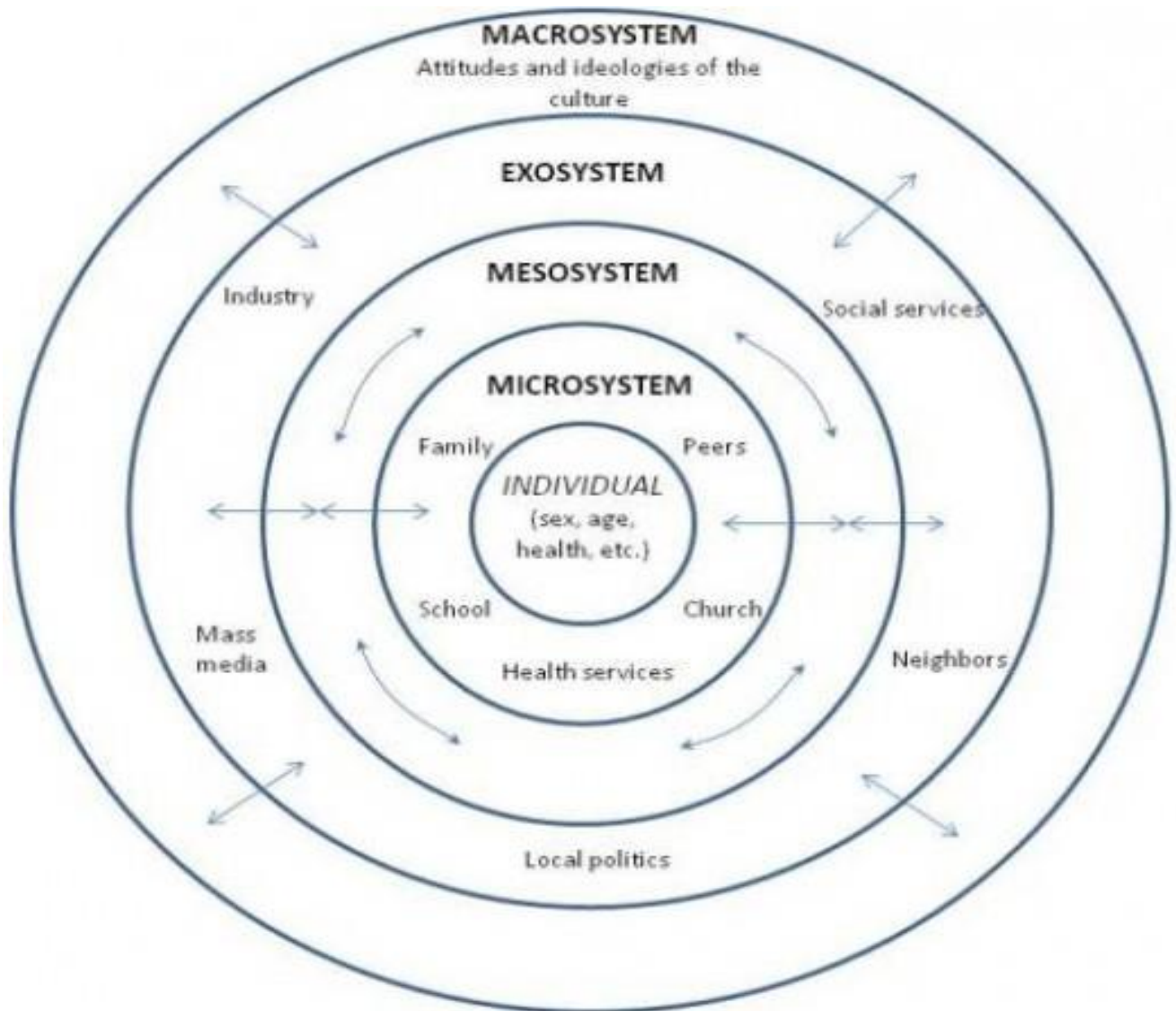
1.5 Objectives

1.5.1 General

To identify the influence that sex education has on the sexual behavior exhibited by students in the West African senior high school.

1.5.2 Specific Objectives

1. To identify the various sex education programs available to students in the West Africa senior high school.
2. To identify factors that lead to risky sexual behaviors exhibited amongst students in the West Africa senior high school.
3. To determine main sources available to students to acquire knowledge on sex and reproductive health.

Figure 1.1 Conceptual Framework

(Mahjabeen & Khan, 2011)

The conceptual framework for this study is adopted from the Bronfenbrenner's Ecological model. It is a framework used in organizing research on the factors associated with adolescent sexual activity (Bronfenbrenner, 1979). It identifies the environmental, social, physical and even the psychological factors that can affect the adolescent's sexual

behavior. All these are put together under systems which are all interrelated and affected by each other.

1. Macro system: Socioeconomic status, ethnicity and government are grouped under the macro system. All these factors indirectly affects the sexual behavior of adolescents by influencing the factors that directly affect the sexual choices and behavior of the adolescent.

2. Exosystem: these are factors that do not directly affect the choices that is made by individual but to a large extent determine the choices made. They include local politics and policies, mass media etcetera as shown in figure 1.1.

3. Mesosystem: This system involves settings with which the developing person (adolescent) interacts directly it involves family, friends, social network and persons who influence key decisions. These include education, family functioning, peers influences and other socialization that influence etcetera.

4. Microsystem: this involves the factors that directly affect the sexual choices and activity of the adolescent

Applying an ecological model in determining the sexual behavior of adolescent helps to identify the various variables that affect the sexual behavior of the adolescents. From the higher perspective the policies that governments make with regard to sexual and adolescent reproductive health and the community and general societal ideologies concerning adolescent reproductive health determines what the adolescent recognizes as permissible and acceptable sexual behavior. It also takes into context the various elements that can determine the sexual behavior of adolescents. Including family dynamics, peers, media,

and school environment. All these components of the individual's environment contribute significantly to the adolescent's decision and sexual choices.

CHAPTER TWO

LITERATURE REVIEW

The adolescent is a unique individual and a product of their own thoughts and beliefs sometimes totally different from the accepted societal norm.

2.1 Adolescent sexuality

Several definitions have been given in an attempt to explain the concept of adolescent sexuality, but Sawyer defines it as sexual feelings and behavior experienced in the period of adolescence (Sawyer, 2012). Sexual behavior is influenced by the norms, principles and values that is incorporated in the individual during the period of socialization. The World Health Organization identified sexuality as one of the most important aspects of humanity. Sexuality is expressed through our thoughts, fantasies, desires, relationships and our roles (WHO, 2013).

Sexual activity among adolescents has over the years been believed to have increased in number whilst the age of sexual debut has reduced (Daka & Shaweno, 2014). Most adolescents are reach puberty earlier due to better healthcare, better nutrition and improvement in living standard. However though menarche and puberty are starting at a more early age, most people marry at a later age due to long periods of education that have to be attained (Sawyer, 2012). This long period between inception of puberty and marriage encourages adolescents to experiment with sex and engage in diverse sexual behavior and exposes them to multiple sexual partners (Rink, Harvey & Tricker,2007; Guiella, Singh, & Zulu, 2014). Sexuality is an essential part of humanity and most adolescents start

experimentation with sex as a means to fit in with their peers and to satisfy peer norms (Kumi-kyereme, A., A. et al., 2014).

It is usually associated with factors such as religiosity, school characteristics and family dynamics. To ignore the adolescent as a sexual person is to forget that they are going through changes due to secondary sexual characteristics with an increase in hormonal activity and urges to experiment with their new found desires (Slater & Robinson, 2014). A number of adolescent begin to discover and investigate their sexual orientations and sexuality. An increasing number of adolescents are sexually active and an increasing number is occurring outside the socially accepted confines of marriage. Several studies in Sub-Saharan African have documented high and increasing premarital sexual activity among the adolescent population (UNFPA, 2005; Ayodele, 2012; Salih, Metaferia, Reda, & Biadgilign, 2015). A study in Ethiopia revealed that almost a third of adolescents in high school were sexually active (Ahmedin, Metaferia, Reda, & Biadgilign, 2015). Whilst in a study done in Ghana, Malawi, Uganda and Burkina Faso by Biddlecom et al (2007), 54 percent of adolescent male student and 32 percent of female reported sexual activity (Bankole, Biddlecom, Guiella, Singh, & Zulu, 2007). In their survey they found out that amongst the young adolescents interviewed none was sexually naïve and almost one third of the adolescents in Uganda and Malawi had ever experienced some form of sexual intimacy which ranged from fondling to sexual intercourse, the numbers found in Burkina Faso were low as compares to the numbers found in their counterpart countries and a total of 1 in every 10 adolescent was found to have some sexual experience as observed in the work of Guiella et al (Guiella et al., 2014). This clearly indicates that though the adult population want to believe that their adolescent children are sexual naïve and ignorant some

percentage are sexual active with parents and other guardians remaining absolutely clueless (Lagus, Bernat, Bearinger, Resnick, & Eisenberg, 2011). Thus the sexuality of the adolescent cannot be in any way be ignored any further. Adolescent engagement in uninformed and unprotected sexual intercourse should be of great worry to parents, guardians and every nation due to the many resultant problem of STI's including HIV/AIDS, unintended pregnancies and emotional and psychological traumas (Iyer & Aggleton, 2014).

2.2 Sex education and sexual behavior

Adolescents have a great need for accurate and reliable information about their sexuality, these include the physical changes that is taking place within them and the changes that take place in human relationships at this stage. Sex education is intended to provide adolescents with the information and skills needed to make informed decisions about their sexuality (Mueller, Gavin & Kulkarni, 2007).

One of the main goals of the International Conference on Population (ICPD) was for governments to create policies to provide adequate access to reproductive and sexual health services which includes providing adequate education and counselling on human sexuality, reproductive health especially to young adults (UNFPA, 1994). It charged on governments to meet the educational and service needs of adolescents to enable them meet their daily reproductive health needs and help the deal positively with the challenges they face with their sexuality (Chandra-mouli et al., 2015). Adolescents who are provided with information and counselling are able to delay the age of sexual debut, prevent early family formation and sexually transmitted infections (Kaye, Suellentrop & Sloup, 2009).

Sex education has been reported to be associated with behavioral changes such as engaging in safer sex practices (Kwan et al, 2015) and with a lowered risk for sexually transmitted disease infection. Strasburger and Brown (2014), in their study found that receiving sex education during the school-aged years had a positive impact to the sexual attitudes and choices of college students. These findings indicate the importance of sex education for adolescents especially those at primary and junior secondary levels (Strasburger & Brown, 2014).

The United States Healthy People goal 2020 which has a component to promote responsible sexual behavior especially among adolescent includes providing information on abstinence, family planning and relationships in its sex education package for the adolescent. This has proved to have been successful as several years after its inception in 2010. The information provided to adolescents were observed to have led to more responsible behavior among the adolescent (Lindberg & Maddow-Zimmet, 2011).

In Tanzania, sex education in schools is provided to help adolescent, who are not yet sexually active, to delay sexual intercourse until they are emotionally and cognitively ready to enter into relationships that has mutual benefits and lead to healthy sexuality (Kirby, Laris & Roller, 2006). Educating adolescents on sex has been associated with an increase in promoting effective and consistent condom as well as contraceptive use for those who are already sexually active (Mueller & Kulkarni, 2008). In a study done in the United States it was observed that 20% of students given sex education, reported delaying onset of vaginal intercourse. It showed from the findings of the study that there is an association between sex education and a delayed onset of sexual intercourse and showed an increased likelihood of contraceptive use (Lindberg & Maddow-Zimmet, 2011). Thus, the provision

of effective school-based sexuality education programs can be an effective strategy for improving on the sexual behavior of adolescents.

In a study done in 2006 to examine the association between sex education before first intercourse and measures of adolescent sexual behaviors. Kohler et al (2006) estimated that receipt of comprehensive sex education was associated with less likelihood of vaginal intercourse and a significantly reduced likelihood of teen pregnancy, but found no association between abstinence-only education and the factors (Kohler, Manhart &Lafferty, 2008). This bring to bear the fact that the method and type of sex education should be suited to the adolescent in terms of their social, economic and cultural situations. In another study done by Shah (2012) which did not distinguish between abstinence and comprehensive sex education, found that adolescents who received sex education were associated with delayed onset of sexual activity among both genders, and an increased likelihood of birth control use (Shah, 2012).

Criticisms against sex education programs is that people believe it has the ability to increase sexual behavior amongst young people. Evidence however indicates the opposite as seen in a review done by the UNAIDS of 52 studies in examining the impact of HIV/AIDS and sexual education on young people's sexual behavior concluded that:

“The majority of reports reviewed, regardless of variations in methodology, countries under investigation, year of publication, found little support for the contention that sexual health education encourages experimentation or increases sexual activity. The impact, of education strategies is in the direction of postponed initiation of sexual intercourse and safer practices, such as the effective use of contraceptives”. (UNAIDS, 1997: 20)

Studies show strong and consistent evidence that school sex education does not promote promiscuity and can both delay sexual debut and increase contraceptive use (James-Traore et al. 2004; Mueller, Gavin, & Kulkarni, 2008; Reis, Ramiro, Matos, & Diniz, 2011; Story, Gorski, & Story, 2014; Tenkorang & Adjei, 2013). This indicates the continued importance of sex education as a means of positively reducing sexual activity among adolescent and also leading to positive protective measures

2.3 Age at sexual debut

The age of initiation into sexual activity is an important determinants of sexual behavior especially amongst adolescents. Those who become sexually active at an early age are at a risk of STI's including HIV and unwanted pregnancy (Makocho, 2012; Bogale & Seme, 2014).

Initiation of sex at an early age especially before age 16 is indicated in sexually risky behavior and can expose adolescents to sexually transmitted infections and teenage pregnancy (Martinez, Copen, & Abma, 2011; Ayodele, 2012)

Adolescent have limited knowledge about their bodies and sexuality, this makes them extremely vulnerable in contracting sexually transmitted diseases and infections, including HIV/AIDS, unplanned pregnancies and unsafe abortions. They do not possess the necessary skills, information and resources needed to adequately prevent these situations (Agyemang, Buor, & Tagoe-darko, 2012)

The age at sexual debut is progressively reducing amongst adolescents, this is believed to the be as a result of the shift toward later marriage due to attainment of higher education as well as early ages of entering puberty for most adolescents (Bearman, Moody, & Stovel,

2014). The longer gap between puberty and entering into the socially accepted institution for engaging in sexual activity (marriage), has made a lot of adolescents begin sexual activity at an earlier age and usually end up having multiple sexual partners before they enter into marriage (Fortenberry, 2013).

Adolescents also perceive that they are not at a risk of STI's they see themselves to be too young to be infected by these diseases and thus engage in sexual activity with little protective measures. Studies have identified that most adolescents who believed that are not at risk of contracting STI's were more likely to initiate sexual activity at an early age (Tenkorang, Maticka-Tyndale, 2008; Rajulton, Tenkorang & Maticka-Tyndale, 2009).

The age of sexual debut varies in many countries due to the societal beliefs of social norms concerning accepted age at sexual debut. In Ghana, the median age of sexual initiation is 18.4 years and 20 years for females and males respectively (GSS, 2008). Some have been known to have initiated sexual activity at younger ages like 10 and sometimes younger. (Boislard & Poulin, 2011). Adolescents who initiate sexual activity at an early age have a high risk of having multiple sexual partners before they finally settle to marry this can cause the development of higher risk sexual orientation and behavior (Guiella et al., 2014). This indicates that adolescents who initiate sexual activity early increasingly have frequent sexual activity and develop an inability to abstain from sexual activity.

A study in Ghana among adolescents showed that 27% of adolescents initiated sexual activity between 15-19years. (GSS et al, 2008). It is indicated that early sexual debut is related to education, late marriage and lack of sex education programs that have the ability encourage young people to increase the age of sexual initiation (Fatusi & Blum, 2008).

Although sexual intercourse among youths is becoming common, most sexually active adolescents wish they had waited longer to have sex (Holloway et al., 2012; Wellings et al., 2006). This suggests that though most adolescents are engaging in sexual activity they are not prepared for the consequences associated with early initiation and would have chosen to wait before engaging in sexual activity if they clearly understood the implications.

Sex education must therefore include accurate information about abstinence, how to obtain and use contraceptives in order to prevent STI's and pregnancy. However, should not occur in a moral vacuum. Young people can still benefit from advice about behaving responsibly, and waiting until they are physically and emotionally mature before having sex and the understand the benefits of abstinence, this has shown to be effective in reducing high-risk sexual behavior among adolescents (Kirby, Laris & Roller, 2007).

2.4 Parental communication

Every individual is born into a family which determines socialization and norms. Family has a great influence on the perceptions as well as initiation into sexual activity. Parental dynamics such as financial status and communication such as the level of supervision and interaction have been known to influence the choices that adolescents make concerning their sexuality (Adu- Mireku, 2003; Asampong, Osafo, Bingenheimer, & Ahiadeke, 2013; Stephenson, Simon, & Finneran, 2014)). The attitudes and values of parents towards sex can influence the choices that adolescents make concerning their sexuality (Awusabo-Asare, Abane & Kumi-Kyereme, 2004; Lefkowitz & Stoppa, 2006). These can include

family religious beliefs, educational status and norms about sex. These values are usually ingrained during the process of socialization.

Most parents believe that their children are too naïve and not matured enough to think about or engage in any form of sexual activity, most of them perceive their children to be “good” and not possibly sexual (Elliot, 2014). This assumption tends to make parents avoid the entire conversation of sex. Relegating that responsibility to peers, and possibly teachers. Involving parents in sex education matters has a very important impact on the sexual health of adolescents as most young people see their parents as the main or most important authority figures in their life. Parents avoid or frown on talking their children about sex due to factors like embarrassment, poor communication skills or even ignorance of its importance or purpose in the development of their adolescents (Nikkens & deGraaf, 2013). Some countries have initiated programs to help parents to better discuss sex with their children. In Uganda, a campaign called the straight talk campaign was started to help parents better discuss sex with materials provided as part of the campaign (Nelson & Kirigu 2007). Kenya also started the Kenya’s Family matters program with the same aim ((Namisi, Aaro, Kaaya, Kajula, Kilonzo & Wubs, 2015). These have been successful in assisting parents to be open in discussing sex and reproductive health with their children to enable them make better choices on sexual matters. (Biddlecom, Awusobo-Asare & Bankole, 2009; Kirigu et al 2007; Kajula, 2014).

When parents discuss sexual matters with their children it can lead to children making better choices concerning their sexuality. Sex education should not be found in the school setting only but must begin from the homes that the children come from.

2.5 Peer pressure

Peer pressure is the ability of individuals in a particular age group to be able to influence the behavior of others in their age group either with force or coercion. Adolescence is a period in which interaction with peers is very important and vital in the development of personality and confidence. Adolescents group together in friendships usually based on their personality characteristics (Selfhout et al., 2010). They form friendships with people they believe to think, behave and even dress like they do. Personality and influences from peers have been recognized to be related to adolescent sexual behavior and the intention to have sex (Baams, Overbeek, Dubas, & van Aken, 2013). Most young people find it easier to discuss sex and matters related to sexual development with their peers than persons they believe to be authority figures. This is mostly common amongst young people who lack communication on sexual matters from family members.

Peer group appears to be able to exert a greater effect on the sexual behavior of adolescents. Adolescents who have a large number of friends of the opposite sex have been seen to have a greater likelihood to be sexually active while adolescents with more friends of the same sex are less likely to be sexually active (Kumi-Kyereme, Awusabo-Asare, Biddlecom & Tanle, 2007).

Perceptions of peer sexual behavior also determine the behavior of individual adolescents. Adolescents who believe that their friends are sexually active are more likely to initiate sex and have more partners compared to those who believe that their friends are abstinent (Nikken & deGraaf, 2013).

Adolescents can change family values and rules in order to be accepted by friends and peers. This is because social acceptance is of great importance to adolescents and to be

“unaccepted” is likened to being an “outcast”. Thus most of them will do all that is needed in order to be part of the group.

Young men in Ghana who believed that their friends are sexually active are twice more likely to engage in sexual activity (Ali & Dwyer, 2011). This clearly shows how important peers are in determining the sexual behavior of adolescents. Adolescents spend a greater part of their time with friends and members of their peers and easily conform to the pressures that is given by friends to accept behaviors and practices.

2.6 Media

Adolescence is a time of exploration and development, physically, psychologically, emotionally and sexually. In this period young people begin to consider which sexual behaviors are morally accepted, gratifying and appropriate (Ybarra, Strasburger & Mitchell, 2014). The most effective tool for circulating information is the media. In the age of technological development adolescents have access to diverse information from all over the world in a very limited time (Wright, 2011). The wide communication potential of the media has made many try to identify the social influence it can have on people especially on children and adolescents who are in the process of forming values and patterns of behavior (Brown & L’Engle, 2009; O’Hara, Gibbons, Li, Gerrard, & Sargent, 2013).

Adolescents are the major patronage of media platforms like television, internet and mobile phones. They are able to access information offered on several media platforms including social media platforms like Facebook, Twitter, WhatsApp, Hashtag to name a few.

Information provided on most of these media platforms are unrestricted and are not for age appropriate audience (Hanewinkel, Sargent, Poelen, Florek & Sweeting, 2012).

Several studies done in the United States have estimated that exposure to sexual content in TV programs, films, video games, magazines and music influences adolescents engaging in sexual activity at a much earlier age (Bleakley et al., 2008, Brown and L'Engle, 2009, Martino et al., 2006 and O'Hara et al., 2012; Hara et al., 2013; Ybarra & Mitchell, 2014).

Adolescents come in contact with sexual media content daily through television, radio, social media and billboards (Wright, Malamuth & Donnerstein, 2012). Sexual media is able to change the values and behavior that affect the choices made adolescents. Sexual media is able to make adolescents view sex in a more appealing and permissive way. It is easier for them to adopt behavior seen on television that are rewarded and not punished. The effortlessness of accessing information on these platforms makes adolescents very vulnerable. They get to access information that is both relevant and useful as well those that are dangerous to their development (Raguz, 2014).

There has been an increase in the exposure to sexually suggestive media such as nude pictures and leaked sex tapes and highly sexual text on most of the media platforms (Lenhart, Purcell, Smith & Zickuhr, 2010). This has been described as “sexting” which is sending and receiving sexually suggestive text messages and images (Ybarra et al., 2014). This phenomena has become more popular due to the ease of sending videos, picture and other to social platforms where videos and images can be shared to others. Most adolescents send and receive sexually expressive images on their phones, over the internet and over social media platforms. The ease of access to pornographic material, nude images and sexual material has been implicated in the increase in sexual activity amongst

adolescents (Hara et al., 2013). In several studies done in senior high schools in it was observed that students who were engaged in sexting had a greater likelihood to be sexually active and in a romantic relationship (Temple, Paul & Van den Berg, 2012; Rice & Winetrobe, 2012; Ybarra et al., 2014).

2.7 Sex education in schools

One of the goals of the International Conference on Population was to ensure that all adolescents have access to comprehensive sexual education especially in the school environment. Through this conference the national policy on adolescent was set up in Ghana to ensure the implementation of these guidelines in the country to ensure availability of knowledge (WHO, 2011).

Several countries have implemented sexual education programs in their school curriculum in their bid to provide education to adolescents. Tanzania is one such country that has incorporated sex education in its mainstream senior secondary school curriculum. In a study done to assess the impact of the program on the student population it was observed that though there was a clear acceptance for sex education by both students and teachers, most students asked that the program should be started at an earlier age (pre-teen years), teacher also demonstrated a clear lack of knowledge on the topic of sex education (Mkumbo, 2009). In a review done the effectiveness of school based sex education programs in both developing and developed countries, it was detected that out of the 83 studies that were reviewed from all over the world, 44% of the reviewed in school curriculum was able to delay the initiation of sexual activity whilst 55% had no significant change in age at sexual debut only 1% actually hastened the age of sexual debut (Kirby,

Laris, & Rolleri, 2007). In-school sex education programs are therefore effective in causing positive change in the sexual choices of students. Adolescents have a right to be able to access accurate information concerning their sexuality and the school environment is a good way to provide students with such information.

In Ghana, there are no specific courses in school curriculums earmarked as sex education tools however students have to make do with subjects with sex education relevance like Reproductive health topic in Reproductive System in biology and a few Family Life subjects in Social Studies (Asiedu et al., 2014). This most students and even teachers have indicated is clearly insufficient and specific topics on comprehensive sex education should be provide. Family Planning methods, STI's, secondary sexual characteristics, and relationships are some of the topics that should be emphasized (Cronin, Colleen & Price 2014; Tenkorang & Adjei, 2014).

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter describes the methodology used in the design of this study. This chapter addresses issues concerned with the research design, the study area and the sampling and data collection used as well as the data analysis method used in the research.

3.1 Study design

A cross-sectional study design was used in this research to establish the relationship between sex education, the sources of sex education present in the school and the sexual behaviors that exists among the students at the West African senior high school.

3.2 Study area

The West African Senior high school is a government assisted, mixed sex and day senior high school located in the La-Nkwantanan Madina Municipality. It is non-denominational institution that provides three year senior high school tuition. The school started in Tudu as the West Africa College of Commerce in 1946. In 1954, the school was absorbed into the public system. The school has moved to three different locations in Accra before the final move to Adentan. First in Tudu, then to Accra New Town and finally to its permanent location in Adentan on October 5, 1988. The school located on the Dodowa- Madina highway close to the Adenta barrier. The school offers courses such as General Arts, General Science, Business, Visual Art, Agricultural Science and recently added Home Economics. These classes are spread out across 29 classrooms. The school is a three tier

school from form one to form three. They have a total population of the school is 1001 with boys being the majority with 51% population and girls being 49%.

The school is run by a headmaster and two assistant headmistresses with a staff strength of about 20 teaching and non-teaching staff.

3.3 Study Variables

The dependent variable for this study is sexual behavior which will be measured using the following independent variables

Independent variable

Age at sexual debut

Sexual education programs and subjects existing in the school

Sources of sex education

Socio-demographic characteristics example. Age, sex, level

Parental communication measured using parental discussions on issues concerning sex and dating.

Peer influence

3.4. Study population

The study population for this study was all adolescents who are currently students of the West African Senior High School. All though the WHO, 2014 defines adolescents within the age bracket of 10-19, the population of the study that was used was between of 13-20 years. Though the West African Senior high school has student from forms one to three only first and second year students were available for the study as the third year class had

completed their West African Senior High School Certificate Examinations before the end of the academic year. The total population of students present was 1001 with first year numbering 551 and second years 450.

3.4.1 Population structure

West Africa Senior High School has a total student population of 1001 of which 49% are girls and 51% are boys. This number is spread out across three levels or forms and further grouped together in six subject classes namely; General Arts, Visual Arts, General Science, Business, Agricultural Science and Home Economics. These classes are spread out across twenty-nine classrooms.

3.5 Sample size

A sample size of 450 students were used for the study. This sample was drawn from the adolescent students' population in the West African Senior High.

3.5.1 Sample size determination

The sample size for this study was determined taking the following factors into consideration.

- Estimated prevalence of sexual activity among students in the Agaro Senior High (Ethiopia) was 25%. (Daka & Shaweno, 2014).
- Desired level of confidence in this study will be 95% (a standard value of 1.96)
- Acceptable margin of error will be 5% with a standard value of 0.05

$$N = \frac{Z^2 \times P \times (1-P)}{}$$

$$d^2$$

Where N=minimum required sample size

D= margin of error at 5%

Z= confidence level at 95%

P= estimated proportion of adolescent engaging in sexual activated.

$$N = \frac{(1.96)^2 \times 0.25 \times 1 - 0.25}{(0.05)^2}$$

$$(0.05)^2$$

$$N = 288.1$$

The calculation above was based on a simple random sampling method of survey. However in this study a proportionate sampling design was used, this could cause the data to suffer from loss of sampling efficiency, known as design effect. This was adjusted to correct for the loss of sampling efficiency in a bid to improve the variance of the parameter estimates and the sampling error. The sample size was adjusted upward as a result of design effect and to make up for nonresponse. The computed sample size of 288 will be multiplied by a default design effect value of D=1.5

Thus $288 \times 1.5 = 432$.

3.6 Sampling method

The West African Senior High School is the largest senior high school in the La Nkwantanang Madina municipality thus it was chosen as the area for the study. The school has a total of 1001 students that are spread out in two different levels Forms one and two. There are six different classes present in each level. General Science, Agricultural science, Business, General Arts, Visual arts and Home Economics. These subject classes has been spread out in 29 classroom with some subjects between two to five classrooms.

Based on the size of the school, allocation of the number of respondents to be enrolled into the study for each level and class was determined proportionately. Calculation of the number of respondents in each class was based on the proportion of the class population in relation to the determined sample size for each level. That is the number per each class divided by the total number in the school and multiplied by the sample size. Then using the sample size determined for each class subject the number of respondent per classroom was then computed. The total number per class ranged from ten to twenty respondents per class depending on the class size. This was then computed to achieve the total sample size of 449.

Finally, the students class register for each individual classroom was used to randomly select the required number of respondent using random number assignment generated with Microsoft excel. This process was repeated to get the number of respondent per individual classroom in all the 29 classroom in the school. Where a selected student was absent or did not accept to be part of the study, the next student of the same sex on the register who agreed to be part of the study was chosen to replace.

3.7 Data collection instrument

A self-administered questionnaire was used to obtain quantitative information from the respondents. Both closed and open ended questions was be used to collect specific and general response to questions. The questionnaire was structured to solicit for information on the areas that answer the questions posed in this research and assist in meeting the objectives of the study. The questions asked solicits answers on socio-demographics, family structure, sexual history, sex education programs, relevant topics on sexuality in the

school curriculum, parental communication, factors that influence sexual decisions or likely to influence sexual behavior (including the media, peer pressure), the respondents source of information on sexuality and availability of adolescent friendly subjects and programs at the school.

Training was done for data collectors and research assistants for two days about the contents of the questionnaire, its administration and issues related to confidentiality of the responses and the rights of the respondents. The data collection was thoroughly coordinated by the principal investigator.

3.8.1 Inclusion criteria

Persons who were included in this study were present students in the West African Senior High school and between the ages of 11 -20 years. Respondents who agreed to be part of the study and acknowledged consent by signing the consent form were included in the study.

3.8.2 Exclusion criteria

Students who were on exchange program to the West African Senior High school and students below and above the ages 11-20 year respectively. Students who refused to be part of the study were also exempted from the study.

Pilot study

The data collection tool was administered to adolescent students of the Kimbu Senior High School in the Greater Accra Region. Ambiguities and difficult questions were identified

and re-constructed. The school was chosen as it bears similar characteristics to the study area.

3.9 Ethical consideration

Letters of approval were sought from the Ghana Health Service Ethical Review Board. Letters from the school of public health introducing the principal investigator and the purpose of the study was sent to the La Nkwantanang Madina Educational office where a letter was forwarded to the headmaster of the West African Senior High school. Permission was further sought from the head teachers of the school. This served as parental consent for the students.

The objectives and details of the study was clearly explained to the participants as well as the benefits of the study. Letters of consent will be given to given to participants had agreed to be part of the study. Participants were informed of their right to withdraw from the study without any coercion and no punishments. Students' identity remained anonymous to ensure confidentiality and identities were not disclosed at any point of the study. Privacy was ensures during the interview; respondents were assures of confidentiality. Subject codes were used to hide respondents' identity. Questionnaires were filled individually by students without interference from colleagues and teachers. Data collected was password protected, stored on the computer and backed on an external hard drive. Hard copies were locked up in cabinets with limited access to only the principal investigator and the supervisor of the study.

The informed consent administered to the respondents explained the confidentiality, voluntary participation, withdrawal and risk/benefits of the study to the respondents (Appendix B).

This research was self-sponsored and there was no form of compensations for participants of the research. This was to ensure that responses from participants would not be bias on account of hope of remuneration. The principal investigator had no conflict of interest in regard to the study.

3.10 Data processing and analysis

The questionnaires at the end of administration was cross checked for completeness. Data collected was entered using Microsoft office Excel 2013. The data entry sheet prepared was designed with appropriate variable definition and codes in place to minimize errors during the data entry process. The data was sorted in the class of respondents, coded and cleaned to ensure accuracy of information. The data was doubly entered which helped to detect errors and corrections were made where appropriate. The final data was then imported into Stata version 12 for the final analysis.

Descriptive statistical analysis was computed using frequency tables, graphs for categorical data like responses on sexual education being present or absent. Means and standard deviation was computed for continuous variables like age at sexual debut and age of respondents. Comparison of variables determining sexual behavior was done between students who have had sexual education and those who have not had using Chi square tests. Logistic regression was performed to examine differences in age at sexual debut for the respondents using various exposure variables such as parental communication, sex

education and school sex education programs. The strength of association between sex behavior and the variables will be computed using crude odds ratios and p values. Multivariate logistic was done to stratify all significant associations.

3.11 Quality control

To ensure quality control Research Assistants were trained before pretest of the questionnaire was carried out. The training was done primarily to ensure that they understood the research topic, objectives and the sensitivity of the topic and the need for confidentiality. The training was also to ensure they are adequately equipped to administer the questionnaires. Supervision was carried out by the principal investigator during the entire period of the field work.

CHAPTER FOUR

RESULTS

This chapter presents the data analysis results for the survey. This is presented in five parts with reference to the main objectives of the study. The first part is about the demographics of the respondent. The second part discusses parental communication on matters related to sex and reproductive health, the third part focuses on the sex education programs available in the school environment the fourth section talks on the sources of sex education available to respondents and the fifth on the sexual behavior prevalent among the respondents.

4.1 Demographic details of Respondents

The calculated sample size for this study was 432, however 449 students participated in the study as more students were willing to be part of the study. The sample population was made up of 238 (53%) males and 211 (47%) females. The age range of the respondents was 13 to 20 years with a majority of respondents between the ages of 15-17 (75.5%). The mean age of respondents was 16.3 with a standard deviation of 1.4. Thirteen percent (13%) of respondents were above 17years and 6.68% below 15years. The respondents were predominantly Christian constituting a total of 82.4%, Muslims formed 15.4% and persons with no religion, Buddhists, Traditionalist and Jehovah's Witnesses comprised a total of 2.23%. More than half of the respondents (55%) were in the first year of senior high school and 45% in the second year. The majority of students (55%) live with both parents, 22% live with a relative, 17% live with only their mothers, 6% live with only their fathers whilst 0.67% live on their own with no guardian.

Table 4. 1. Demographic characteristics of respondents in WASS

Variable	Frequency N=449	
	N	%
Gender		
Male	238	53
Female	211	47
Age		
13-15	118	26.3
16-18	200	66.8
19-20	31	6.9
Class		
SHS 1	247	55
SHS2	202	45
Religion		
Christian	369	82
Islam	69	15
Traditionalist	3	0.67
Buddhist	1	0.22
Jehovah's Witness	3	0.67
None	3	0.67
Living arrangements		
Both parents	241	54
Mother	77	17
Father	25	6
Relative	101	23
Alone	3	0.67

4.2 Parental discussion on sexual and reproductive health

More than half of the respondents reported to being close to their parents (65%), 29% reported being somewhat close and 6% reported not being close to their parents. Majority of respondents (69.5%) had had no parental discussion on issues related to relationship and dating and 30.5% had such discussion. Of these 91% of male respondents had never had any discussion on sex with parents while 86% of female respondents did not have discussion on sex. Of those who had discussion with parents 66% had had such a discussion only once whilst 33% had it every time they had an issue relating to relationship and dating.

When asked on discussions on sexual intercourse, 89% of respondents had not had any discussions with parent concerning sexual intercourse and 11% of respondents had had communication with parents. Of those who had such conversation, only 9% of the males whilst 14% of the females had. For parental discussions on sexually transmitted infections 51% of the total respondents had had such discussions whilst 49% had not, of this number 56% of males and 46% of females responded to not having such discussions whilst 44% of males and 54% of females had ever had a discussion with parents on sexually transmitted. More than half of the respondents (72%) reported not being comfortable discussing issues related to sexual and reproductive health with their parents with 27% being comfortable to discuss such topics with their parents and guardians. Most males were not comfortable discussing sexual and reproductive matters with their parents (53%) as compared to 47% of females who were uncomfortable

When asked of the reasons for not being comfortable communicating with parents on sexual and reproductive health, 43% of respondents indicated they were too shy, 10% said parents were too strict, 20% said they were afraid, 18% said their parents would think they are bad and 9% said their parents would not understand them. More males than females reported to being shy and being uncomfortable, however more females reported to parents being strict and not understanding them.

Table 4. 2: parental communication on sexual and reproductive health

Issues	Male N= 238 N (%)	Female N=211 N (%)	Total N=449 N (%)
Closeness with parent			
Very close	167 (70)	122 (58)	289 (64)
Somewhat close	59 (25)	72 (34)	131 (29)
Not close	11 (4.6)	16 (8)	27 (6)
Issues for parental discussion			
Relationship**	66 (28)	71 (34)	137 (31)
Reproductive health	85 (36)	98 (45)	183 (41)
Sexual intercourse	21 (9)	30 (14)	51 (11)
STI	105(44)	114(54)	219 (49)
Reasons For Non Discussion with parents			
Shy	56 (24)	43 (23)	99 (22)
Too strict	11 (4.6)	12 (5.6)	23 (5)
Afraid	24 (10)	21 (10)	45 (10)
Not understand	11 (4.6)	10 (4.7)	21 (5)
Think am bad	21 (8.8)	19 (9)	37 (8)

** Discussion with parents on matters related to relationships and dating

4.3 In-school sex education

More than half (57%) of the respondents indicated that there is no sex education programs in the school and 43% said there was such programs. Twenty percent (20%) of male and 23% of female said there was sex education programs and 33% of male and 24% females indicated that there was no sex education program in the school. Of the number who indicated that there were sex education program in the school, 8% mentioned “No Yawa” as the sex education program in the school, 4% said Peer Counselling club, 15% adolescent health club and 3% sex education club. Majority (70%), of respondents who had said yes to a sex education programs being present could however not identify the sex education programs that exists in the school.

Respondents were also asked of sex education relevant subjects taught in the school, only 35% of respondents indicated that there was no subject that was sex education relevant whilst 65% said there was such a subject, of the number who reported the existence of a sex education relevant subject, 46% identified social studies, 8% integrated science, 3% management in living, 4% biology and 39% could not identify a particular subject.

More than half (58%) of the respondents attend classes on sex education whilst 42% did not attend these classes and up to 46% of the respondent indicated that the classes and programs had adequately met their need for information on sex education but 54% did not believe it had met their sexual and reproductive health needs. Almost all (92%) the respondents believed that it is important to have more classes on sex education with only 8% believing it is not important to have such classes. Majority of (93%) respondents called for more sex education programs in the school.

Respondents were asked in a multiple response question to identify the topics concerning sex education they have been taught in their sex education class and more than half (58%) of the respondents said they had been taught on puberty, 46% sex, 16% contraceptive use, 36% pregnancy, 27% abortion, 34% sexually transmitted infections and 31% personal hygiene.

Respondents were asked of sex education topics they wanted more information on and 21% of respondents indicated puberty, 44% relationship and dating, 44% sex, 17% contraceptive use, 21% pregnancy, 18% abortion, 23% sexual transmitted infection, 26% personal hygiene and 11% indicated that they wanted all topics mentioned above.

No significant association was observed between having sex education program and subjects and debut into sexual activity and entering into a romantic relationship.

Attendance to the sex education classes was not a significant influence to debut into any of the sex behaviors.

Table 4. 3: Sex education in the West African senior high school

Variable	Total Number N=449 N (%)
Sex education program	
Yes	190(43%)
No	257(57%)
Sex education subjects	
Yes	156(35%)
No	293(65%)
Sex education program existent	
No Yawa	37(8%)
Sex education club	13(3%)
Peer counselling	17(4%)
Adolescent reproductive health	67(15%)
None	315(70%)
Sex education subjects	
Management in living	12(3%)
Biology	18(4%)
Social studies	208(46%)
Integrated science	37(8%)
None	174(39)
Relevance of class on SRH need	
Yes	206(46%)
No	236(54%)
Request for more SRH program	
Yes	416(93%)
No	33(7%)

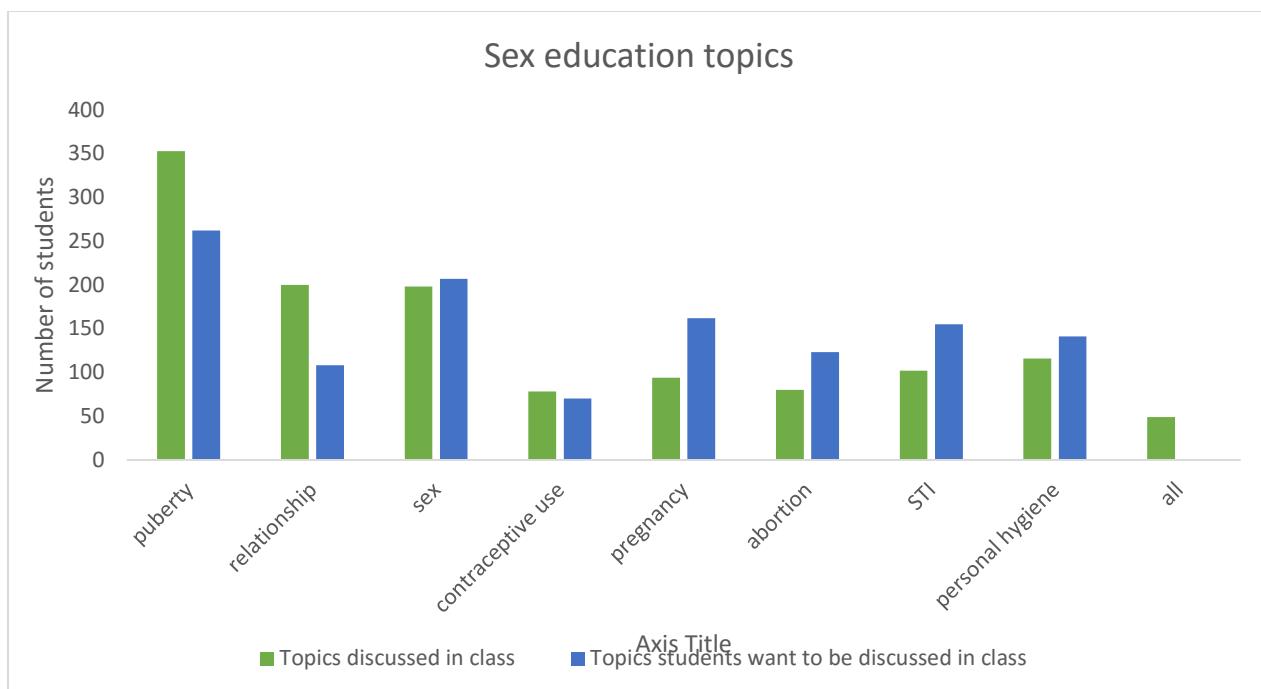


Figure 4. 1. Sex Education Topics

4.4 Sources of information

Ninety one percent of respondent reported of having some information on sex and reproductive health of whom 52% were male. Fifty-six percent (56%) of respondents who had information on sex and reproductive health were between the ages of 16 and 17. The findings indicated that the main sources from which respondents obtain sex education were teachers and social media, the distribution were as follows: 58% of respondents obtain SRH information from teachers, 25% from mothers, 12 % from fathers, 11% siblings, 11% boy/girlfriends, 40% television, 27% radio and 24% internet.

Respondents were also asked to identify the sources they would never go to obtain information on sex and reproductive health and 33% indicated their fathers, mothers (20%), teacher (15%), pastor/ religious leaders (29%), siblings (16%), boy/girlfriend (19%),

internet (25%) and radio (10%). More males (60%) used social media sources such as radio, internet and television than female (40%) to obtain information on sex and reproductive health. Fifty-two percent (52%) of females sought information from their parents as compared to 48% of males.

The finding on the sources of information is as shown in figure 4. 2 below

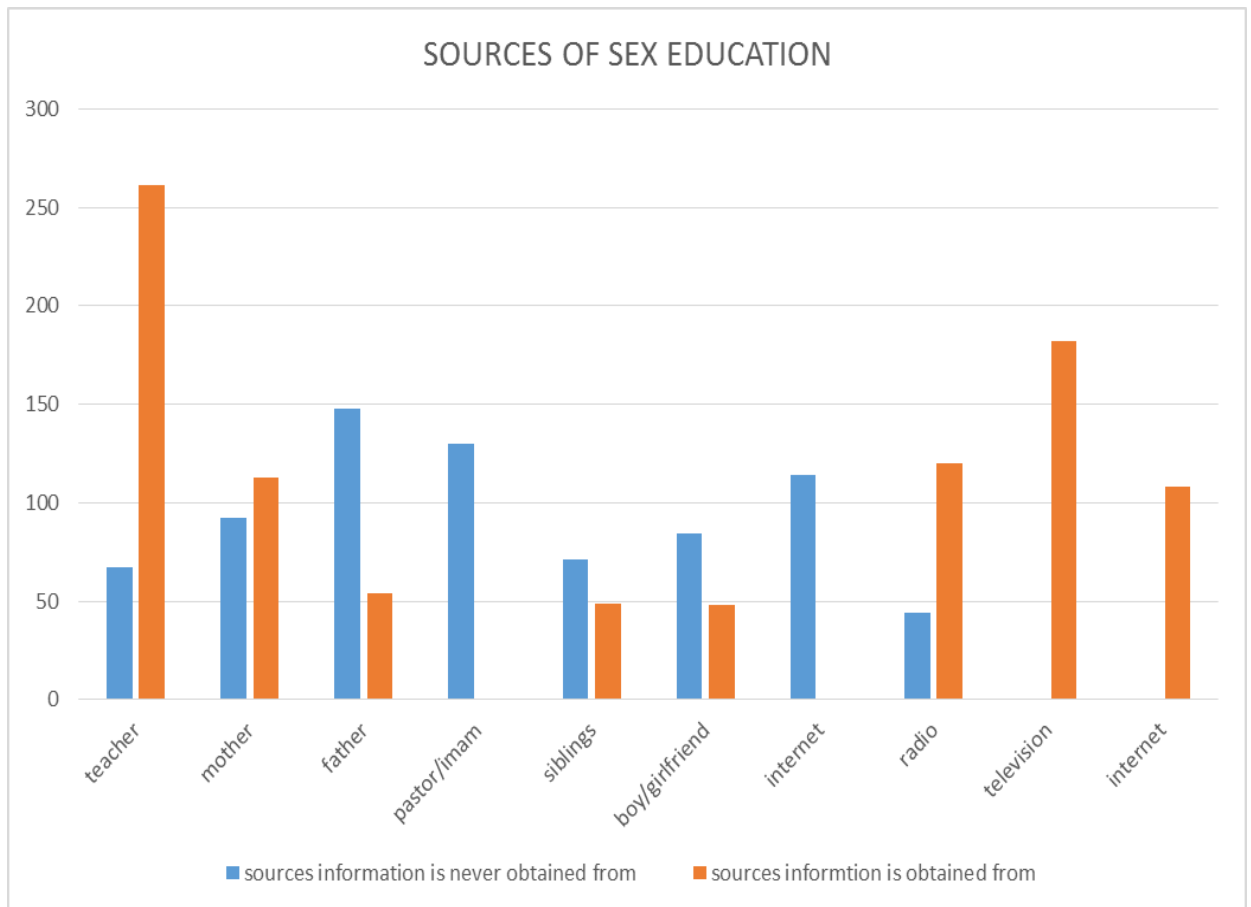


Figure 4. 2. Sources of sex education

4.5 Electronic Media and Sex Communication

This section shows the distribution of electronic media use by respondents and how it affects access to sexually suggestive media. Mobile phone ownership and internet use amongst both male and female respondents was assessed to determine this.

Nearly all respondents (84%) owned a mobile phone. More males (44%) used a mobile phone as compared to 26% of females and all sexually active respondents owned a mobile phone with 50% spending more than 5 hours or more daily on the mobile phone. 85% of mobile phone users had persons they frequently chat with 66% of this number with more than 4 people on their chat list. Of the persons most frequent on their chat list, 64% chat with friends, 18% with boy/girlfriends and 18% classmates. Although only 27% of respondents had ever heard of the term sexting and fewer understood it, more than half of mobile phone users were engaged in sending and receiving sexual images and messages (54%). Forty-nine (49%) of this number had ever viewed or received pornographic material on their mobile phones with 43% ever sending such messages. 17% had ever being asked to send naked pictures of themselves.

Internet use amongst the respondents was very high with 88% of the respondents using the internet very often and most engage largely in social media networking (65%). 40% of this number admitted to using the internet very often whilst 48% use it sometimes. Male respondents used the internet more (49%) as compared to 39% of females.

The popular social media sites used by respondents includes Facebook (79%), WhatsApp (57%) and Twitter (18%) with Hashtag and Tumblr forming 28% of the respondent admitted that receiving sexual images makes them want to engage in sexual intercourse. Seventy-four percent (74%) of respondents who are currently involved in sending and receiving sexual images want to stop the act. More males (39%) reported wanting to stop

sexting as compared to 28% of females. Respondents who had ever sent naked pictures of themselves were 17%, 15% of this number sent it to boy/girlfriends and 2% internet friends. 58% of those who sent nude pictures of themselves were female respondents with 42% of males. Eight percent (8%) of all females had ever sent nude pictures of themselves with 10% of male respondents. Male respondents were seen to be more involve in sending and receiving sexual images and accounted for 65% of current sexters. 24% of sexters received sexts from boyfriends, 36% from friends and school mates, 18% from internet friends and 21% from unknown persons.

Table 4. 4Media use and Sexting Behavior

Media	Male N (%)	Female N (%)	Total N=449 N (%)
Mobile phone use	196(44)	177(26)	373(84)
Internet use	221(49)	177(39)	398 (88.6)
Facebook	201(45)	152(34)	351(78)
WhatsApp	142(32)	115(26)	255 (56.8)
Twitter	50(11)	32(7)	11(2.4)
Instagram	54(12)	28(6)	82 (18.2)
Hashtag	7 (2)	4(0.9)	6(1.3)
Use of Phones			
make calls	134(30)	141(31)	275 (61)
receive calls	101(22)	103(23)	204 (45)
send messages	86 (19)	92(20)	178 (39.6)
receive messages	68(15)	76(17)	144 (32)
send image	47(10)	55(12)	102 (22.7)
browse internet	72(16)	70(16)	142 (31.6)
videos	67(15)	50(11)	117 (26)
radio	53(12)	47(10)	100 (22.3)
all	30(7)	16(4)	46 (10)
Sexting			
Ever sent sexual images	53(12)	32(7)	85 (19)
Ever received sexual media	128(29)	88(20)	216 (48)
Ever been asked to send	41(9)	35(8)	76 (17)
Ever sent nude to boy/girlfriend	47(10)	36(8)	83 (18)
Want to have sex	72(16)	47(10)	119 (27)
Want to stop sexting	154(34)	125(28)	279 (62)
Relationship with frequent sexters			
Boy/girlfriend	33(7)	28(6)	61 (13.5)
Schoolmate	20(4)	16(4)	36 (8)
Friend	30(7)	26(6)	56 (12)
Internet friends	25(6)	23(6)	48 (11)
Unknown	32(7)	20(4)	52 (12)

4.6 Sexual behavior

Factors that influence sexual behavior includes romantic relationship and 65% of respondents have ever been in a romantic relationship with 49% currently in a romantic relationships. Only 16% of respondents had informed parents of current relationship. The age of current boyfriends and girlfriends ranged from 12 – 50 years with a mean age of 18.4. Fifteen percent (15%) of respondents who were currently in relationships had boy/girlfriends who were 18 years old. More females were observed to be involved in romantic relationships with older men than males. Forty-five percent (45%) of respondents have intimate partner between the ages of 12 and 17 with 37% dating partners between 19 to 50 years. Twenty-seven percent (27%) of respondents had ever engaged in sexual intercourse with 14% admitting that they have had sex in the last 6 months. Fifty- seven percent (56%) of those who were sexually active were male. The minimum age at sexual debut was 6years with a maximum age of 20 years. The mean age at sexual debut was 14.4 years and the mean age of their imitate partners being 18.4 years. A majority of respondents begun sexual activity at 15 years (29.3%). Equal numbers of males and females were observed to have initiated sexual activity before age 13 (11%), however 42% of males initiated sexual activity at age 13 and above with 35% of female falling in the same category. Of the respondents who had engaged in sexual activity 44% had consented to the sexual act, 30% had been forced into the act and 26% had been coerced. More than half (56%) of those forced into sexual activity were female whilst 67% of those who consented were male. Only 4% of respondents had ever engaged in sexual activity in exchange for money or gifts.

Table 4. 5. Sexual behavior

Sexual behavior	Male n=238 N (%)	Female n=211 N (%)	Total N=449
Relationship and dating			
Ever been in a relationship	155(65)	135(64)	290 (65.6)
Currently in relationship	117(49)	104(49)	221(49.3)
Parents know of relationship	38(16)	26(12)	64 (16)
Sexual intercourse			
Ever had sexual intercourse	68(29)	52(25)	120 (27.2)
Description of first sexual encounter			
Forced	18(8)	23(11)	41 (30)
Coerced	17(7)	18(9)	35 (25)
consented	40(17)	20(9)	60 (44)
Sexual Activity			
Sex within last 6months	32(13)	29(14)	61 (14)
Sex in exchange for gifts	9(4)	9(4)	18 (4)

4.7 Peer pressure

More than half (56%) of the respondents reported feeling pressured to engage in sexual activity with 23% reporting feeling a great deal of pressure. Majority (53%) of males reported feeling pressure from others to engage in sexual activity with 47% of females reporting same. Of the respondents who reported feeling pressure to engage in sexual activity almost a third (33%) had already engaged in sexual activity. Forty-nine percent (49%) of sexually active respondents in the survey indicated they had experienced pressure to engage in sexual activity. When asked from whom they felt pressure the most, 51% of respondents indicated that they felt pressure from friends and classmates, 40% from boy/girlfriends and 9.75% from family. Fifty-four percent (54%) of respondents who were pressurized to engage in sexual activity were male. More males felt pressure to engage in

sexual activity from all sources. Respondents who reported entering into sexual activity to please friends were 18.7%.

Table 4. 6. Peer pressure among respondents in WASS

External pressure to have sex	Male n=238 N (%)	Female n=211 N (%)	Total N=449 N (%)
Feel pressure to have sex	130(55)	117(55%)	247 (55.8%)
Feel pressure from			
Friends	69(29)	61(29%)	137 (48.7%)
Family	12(5)	11(5.2%)	23 (5%)
Boy/girlfriends	55(23)	51(24%)	106 (39.7%)
Entered relationship to please friends	47(20%)	36(17%)	83 (18.7 %)

Table 4. 7 Association between Sexual Behavior and Exposure Variables

	Age at sexual debut		Recent sexual activity	
	Crude OR (CI)	Adjusted OR (CI)	Crude OR(CI)	Adjusted OR (CI)
Sex education subject	0.81 (0.51-1.29)	0.86 (0.54-1.39)	1.08 (0.63-1.85)	1.01 (0.57-1.81)
Sex education program	0.67 (0.40-1.11)	0.71 (0.42-1.19)	1.09 (0.62-1.95)	0.98 (0.54-1.79)
Parental communication	1.02 (0.56-1.87)	0.97 (0.53-1.79)	0.88 (0.43-1.83)	0.91 (0.50-1.61)
Send and receive sexual media (sexting)	1.37 (0.89-2.09)	1.36 (0.87-2.09)	1.66 (0.95-2.89)	1.62 (0.92-2.86)
Peer pressure	0.69 (0.54-0.88)**	0.60 (0.29-1.23)**	0.67 (0.49-0.91)**	0.66 (0.92-2.86)**
Currently in romantic relationship	9.01 (4.55-17.85)***	8.51 (4.27-16.98)***	7.43 (2.91-18.98)***	7.43 (2.89-19.07)***
Present form	1.62 (1.06-2.47)*	1.38 (0.87-2.21)	1.20 (0.69-2.06)	0.9 (0.5-1.72)

*Significant at p< of 0.02

**Significant at p< of 0.002

*** Significant at p< of 0.000

CI = Confidence Interval

OR= Odds Ratio

Bivariate and multivariate logistic regression was also done to assess the associations that existed between exposure variables and the main outcome variables of the study. Sex education in school, parental communication on sexual and reproductive health had no significant influence on the sexual behavior of respondents. Students who experienced pressure from external sources to engage in sexual activity had a 31% less likelihood of ever being sexually active. But there was a 33% less likelihood of being currently in sexual activity.

Respondents in form two were 1.6 times more likely to have had entered into sexual activity and 1.5 times more likely to be in a romantic relationship.

Respondents who have ever been in a relationship had a 9 times likelihood of ever having had sexual intercourse (CI 4.5-17.8) as compared those who were currently in a relationship having a 3.7 time likelihood of having had sexual intercourse.

Table 4. 8 Logistic table for social media use and sexual behavior

	Sexual activity		Sending +receiving sexual media(sexting)	
	Crude OR(CI)	Adjusted OR(CI)	Crude OR(CI)	Adjusted OR(CI)
Use of mobile phones	1.07 (0.5-1.9)	1.01 (0.45-2.26)	6.4 (1.9-20.7)*	2.9 (1.4-6.05)**
WhatsApp use	1.03 (0.83-1.27)	1.13 (0.86-1.48)	2.2 (1.6-2.9)	0.43 (0.08-2.41)
Internet use	0.9 (0.77-1.11)	0.85 (0.68-1.06)	1.5 (1.26-1.81)**	1.2 (1.05-1.52)**
Facebook	0.87 (0.17-2.2)	0.9 (0.17-4.72)	2.05 (1.1-3.97)*	0.4 (0.08-2.41)

*Significant at p value of 0.01

OR=Odds Ratio

** Significant a p value of 0.0001

CI= Confidence Interval

On doing statistical analysis on the use of social media and other variables, no significant association was observed between sending and receiving sexual media and sexual activity. However, using a mobile was observed to increase the risk of sexting by 7 times (CI 3.8-13.9). Respondents who spend more than 5 hours a day on their mobile phone had a 1.9 times likelihood of receiving sexual images (CI 1.5-2.3).

Respondents who use Facebook were 2 times more likely to have ever sending and receiving sexual media from their social media account (CI 1.05-3.97), 3.5 times more likely to have received a sexual media from their account and 2.3 times likely to view pornographic media on their mobile phone.

Respondents who use WhatsApp had a 2.2 times likelihood of ever sending sexual images (CI 1.6-2.9), 2 times likelihood of ever receiving sexual media (CI 1.6-2.4) and 1.6 times of ever being asked to send naked pictures of themselves to others (CI 1.2-1.1), but there was no significant association between ever sending naked pictures.

Respondents using the internet had a 1.2 times likelihood of sending pornographic images to girl/boyfriend, 1.5 times likelihood of receiving sexual image however but no association was seen between ever sending nude pictures of self to others. Respondents who owned mobile phones were 5 times more likelihood of having sent a sexual image

Table 4. 9. Association between Peer Pressure and Sexual Behavior

	Feel pressure to have sex		Entered into relationship to please friends	
	Crude OR(CI)	Adjusted OR(CI)	Crude OR(CI)	Adjusted OR(CI)
Present class	1.6 (1.07-2.27)	1.77 (1.17-2.69)*	0.7 (0.45-1.19)	0.6 (0.4-1.28)
Sexually active	1.9 (1.19-2.88)**	1.62 (0.9-2.5)	2.9 (1.75-4.74)*	2.33 (1.33-4.03)*
In a relationship	1.2 (0.87-1.91)	1.05 (0.94-2.53)	4.86 (2.43-9.73)*	3.94 (1.76-8.83)*
Sex in exchange for gifts	0.53 (0.2-0.94)	1.6 (0.52-4.74)	2.3 (0.83-6.26)	1.4 (0.49-4.50)
Lack of parental knowledge on relationship	1.7 (1.02-3.2)	1.8 (0.99-2.45)*	1.3 (0.67-2.42)	0.89 (0.45-1.76)
In school sex education program	1.5 (1.0-2.2)*	1.6 (1.1-2.45)*	0.72 (0.44-1.18)	0.63 (0.37-1.08)*

*Significant at p value of 0.002

** Significant at p value of 0.006

Upon doing logistic regression for variable measuring peer pressure it was observed that the odd of a respondents who reported feeling pressure to engage in sexual intercourse to engage in sexual activity was 1.9 times (CI 0.5-0.8). Lack of parental knowledge on romantic relationship increased the odds of feeling pressure to engage in sexual activity to

1.7 times. It was also observed that respondents' sexual activity increased the odds of entering into a relationship to please their friends to 2.9 times. School sex education was observed to increase the odds of peer pressure 1.6 times and entering into relationship to please friends by 63%. All other variables measured were not significantly associated with external pressures.

CHAPTER FIVE

5.1 Discussion

This research seeks to find the relationship between sex education, media use and the sexual behavior amongst students at the West African Senior High School. The study revealed several issues and disproved several theories that had been held at the beginning of the study. The study revealed that some sex education programs exist in the senior high school but were not comprehensive enough and detailed to fully meet the needs of the students for information on sex and reproductive health and to equip them in making sound sexual choices.

The results of the survey showed that the male population in the senior high school was 52% and female 48% with a sex ratio of 1:0.8 which was observed in several studies done in and out of Ghana (Aninanya et al., 2015; Bogani et al., 2014; Nyarko et al., 2014).

5.2 In school sex education

Sex education in schools is a strategy proposed as part of the International Conference on Population Development in 1994 and reiterated in 2014 (Force, 2014; UNFPA, 1994). Though Ghana has ratified as part of this policy, measures have not been put in place by the Ghanaian government to provide comprehensive and adequate sex education packages as part of the senior high school curriculum. The survey revealed this problem and showed the inadequacy of sex education programs in the senior high school. More than half (57%) reported that sex education programs did not exist in the school this was consistent with reports from a study in Malaysian schools where 90% of students reported no sex education present in the school (Talib, Mamat, Ibrahim, & Mohamad, 2012). It showed that though

some subjects had topics that was relevant and addressed some issues needed in sex education there was no laid out curriculum for a more comprehensive sex education as seen in studies conducted in other countries where such programs existed (Bogani et al., 2014; Geugten, Dijkstra, & Meijel, 2015; Giami et al., 2006).

Though some programs existed in the school, 57% of the students could not identify or establish any laid out sex educational program. Sex educational programs that existed in the school were those that were implemented by sex education advocates like the Marie Stoppes “No Yawa” campaign for senior high students and the Planned Parenthood Association’s peer counselling program; these two were largely identified by the students. Though no subject existed specifically for sex education in the senior high school curriculum, several subjects had topics that were relevant in addressing some of the SRH needs of the students. Core subjects such as Social Studies and Integrated Science and Elective Subjects such as Management in Living for Home Economics students and Biology for general science students, were identified as such subjects. This was not enough to meet the need of students and a majority of students thus asked for more programs and subjects to be provided to meet their sexual and reproductive health needs. In a study done in India about 73% of the respondents reported as needing more sex education programs, compared to the 93% of respondents who believed there was a need for more sexual and reproductive health education (Fathima, Ramiah, & Nisarga, 2015). The topics reported to have been taught and understood included puberty, sexually transmitted infections, personal hygiene and conception and pregnancy, though more than a third of students admitted having an understanding of these topics there was a request for more lessons on topics on relationship and dating, contraceptive use, sexually transmitted infections and

abortion. This is consistent with studies done in India, United states and Italy, where students talked of over-focusing by teachers on reproductive health topics but not on topics relevant to the needs of the students (Bogani et al., 2014; Fathima et al., 2015; Price et al., 2014). Sex education should be relevant to the needs of the recipients and should be tailored to the needs of the Ghanaian student (Kumi-kyereme, Awusabo-asare, Kofuor, & Darteh, 2014; Thammaraksa, Powwattana, Lagampan, & Thaingtham, 2014). Most adolescents do not have access to Comprehensive Sexuality Education in schools necessary to guide them to consciously decide when and with whom to become sexually active, to avoid nonconsensual sex, sexual violence and abuse (Thammaraksa et al., 2014). There is therefore the need to provide the tools needed to plan pregnancies and have access to safe abortion, to avoid acquiring or transmitting sexually transmitted infections and HIV/AIDS and to know when they need preventive and curative services for healthy transition into adulthood (Denno, Hoopes & Chandra-mouli, 2015). The 2014 DHS indicated that respondents who were 15-19 were less knowledgeable on the methods of preventing HIV/AIDS than all age groups involved in the survey (Ghana Statistical Service, 2014). Young people must have an important say in the issues affecting their sexual health because they know best the ideas, programs and information that is beneficial in helping them fulfil their sexual and reproductive needs. The best programs in the world will not work if the intended audience is uninterested and under informed.

5.3 Sexual behavior

The survey showed that 27% of respondents were sexually active at the time of the study. This was quite consistent with the 2008 DHS and other studies with reported prevalence

of sexual activity between 20-25% among senior high students (GSS, 2008; Tenkorang & Adjei, 2014). However the prevalence of sexual activity was higher in other researches which reported higher prevalence of sexual activity among adolescents in a study in Ghana. In the Bolgatanga municipality, a sexual prevalence among the adolescents was 37% (Jolien, Dijkstra, Berno & Vries, 2015). According to the American Center for Disease Control (CDC), 47% of adolescents in the United States had ever had sexual intercourse (CDC, 2014). The median age at sexual debut amongst the sexually active was 13, which was inconsistent with the national adolescent data from the 2008 DHS which indicated the median age at sexual debut for girls as 18.4 and the median age for boys as 20 years. However the time lapse may be a factor to account for this inconsistency. The minimum age of sexual debut in this study was 6 years, however, this was observed to be the lowest age of sexual debut as all reviewed literature put the minimum age of sexual debut between 8 and 10 years. Majority of respondents entered into sexual activity at the age of 15 with a mean age of 14.3 which is consistent with researches done in Sri Lanka and Portugal where most adolescents enter into sexual activity during the mid-adolescence period (Rajapaksa-hewageegana, Piercy, Salway, & Samarage, 2015; Reis et al., 2011).

More males were observed to be involved in sexual activity than females several studies support this fact, that male adolescents are more involved in early sexual debut than their female counterparts. In a study done in four Sub-Saharan countries including Ghana more males were involved in sexual activity than females in all four countries (Ayodele, 2012; Bankole et al., 2007). The findings indicated that most males were risk takers and as such experimented earlier with sex out of curiosity. Another study by Ntaganira also mentioned the sexual liberties open to African men over the women. Whilst it is socially more

permissible that a male enters into sexual activity earlier and it is applauded, the female is expected to remain a virgin till marriage and those who do not, in some cultures are punished and labelled (Ntaganira, Hass, Hosner, Brown, & Mock, 2012).

Majority of respondents who were sexually active reported to consenting to the sexual acts even though some indicated that the age at sexual debut was below the age of sexual consent. More females had either been coaxed or forced into sexual activity than males. This clearly showed the inability of female adolescents to effectively negotiate for safe sex. It also shows the vulnerabilities that females especially in Sub-Saharan Africa face in relation to sexual empowerment. Contrary to the findings of other studies that higher levels of education reduces the likelihood of sexual behavior, this study reveals that increased levels of education was associated with the elevated likelihood of engaging in risky sexual behaviors such as early sexual debut; the higher the class a student was in, the more likely they were in having engaged in sexual activity (Karim, Churchyard, Karim, & Lawn, 2009, Sedgh, Finer, Bankole, Eilers, & Singh, 2015). Now more than ever, young people spend more years in school than before, thus engaging in sexual activity much earlier and for a longer period before entering into the socially accepted institution for sexual activity (marriage) at a much later time.

Despite the findings from other studies that adolescents who had had sex education in school were less likely to start sexual activity at an earlier age, no significant association was observed in this study to show the effects that sexual education in school has on the sexual choices and sexual behaviors of students (Adamczyk & Greif, 2011; Ahmedin et al., 2015; Holloway et al., 2012).

5.4 Parental Communication

This is a very vital component of the adolescent's sex education and contributes greatly to the determinants of adolescent sexual behavior and choices. Parents are the first contact every individual has in value acquisition and the making of choices (Olakunbi & G, 2010). In Ghana and most Sub-Saharan countries it is a taboo for parents especially fathers to discuss sex and reproductive health issues. Most of the respondents lived with both parents and more than half of them indicated that they were close to their parents, however in similarity to another study done in Ethiopia most of the respondent had never had discussions with parents on issues concerning sexual and reproductive health (Ayalew, Mengistie, & Semahegn, 2014).

The dynamics of communication are influenced by the cultural norms that exist in a society and in this study, the dynamics that exist between the typical Ghanaian parents and adolescents were seen clearly. Less than a fifth of the students reported to have never discussed issues directly related to sexual intercourse with their parents. This was consistent with other studies done in the African sub region where low prevalence of parental communication on sexual intercourse were reported (Desalegn Gebre Yesus¹, 2010; Iliyasu, Aliyu, Abubakar, & Galadanci, 2012; Namisi, F., Aaro, L.F., Kaaya, S., Kajula J.L., Kilonzo, H. O., Wubs, C. M., 2015).

In a study done in Ghana and in Nigeria, low levels of parental communication on sexual intercourse were reported by respondents (Asampong et al., 2013; Iliyasu et al., 2012). In contrast a study done in the United States showed that only 29% of the respondents had never discussed sexual intercourse with their parents; the inverse was recorded in this study

where 88% of respondents had never had such discussion (Widman, Choukas-Bradley, Helms, Golin, & Prinstein, 2013).

Interestingly though, more females had had sexual communication with their parents than the males. This contrasts studies that had been done in Africa and India which suggested that with the patriarchal system that exists in these countries, the male sex is endowed with power and is esteemed as a more superior gender to the female, and has the opportunity to have discussions with parents especially their fathers (Bingenheimer, Asante, & Ahiadeke, 2015; Fathima et al., 2015; A. Kumi-kyereme et al., 2014; Olakunbi & G, 2010).

Discussions on sexually transmitted infections were however more frequent and more than half of students had ever had such a discussion with parents. Though this discussion probably wasn't detailed and might have been done as a form of fear factor to prevent adolescents from engaging in sexual activity, it was not surprising as a research by Wang et al found in their study that parents were more likely to discuss STI's with adolescents as a preventive measure and to the parents that forms the basis of the sex education needed by the adolescents (Wang et al., 2014).

Most adolescents indicated that they were uncomfortable discussing sex and issues related to reproductive health with their parents. This is commonly seen in researches that have been done on parental communication in the sub region (Asampong et al., 2013; Ayalew et al., 2014; Grossman, Frye, Charmaraman, & Erkut, 2013; Iliyasu et al., 2012; A. A. Kumi-kyereme et al., 2014). They gave several reasons that had been observed in these researches as well. Most of them said they would rather not discuss such issues with parents because they would not understand them. Some feared parents whom they believed were too strict would punish them and others also wanted to avoid the stigmatization that was

associated with adolescents who asked questions on sexual matters. Such adolescents are seen as bad, spoilt or already engaging in sexual activity. In a research done in Ghana by Nyarko et al, they identified that majority of parents interviewed about communication on sexual and reproductive health matters with adolescents were unfavorable to have such discussions with their children. More males did not discuss sex and reproductive matters with parents and were most uncomfortable discussing such issues with parents and guardians. This was rather similar with the findings of a research done in Ethiopia and Nigeria where male adolescents gave similar responses to communication with parents (Daka & Shaweno, 2014; Olusanya, Arijesuyo, & Olusanya, 2013). Parents rather feel females have to be protected and sheltered to enable them maintain their virginity until marriage which is the society's expectation. Men and male adolescents are given some leeway to experiment with sex and gain "experience" which is socially acceptable (Doornwaard, Bogt, Reitz, & Eijnden, 2015). Thus, most parents do not see the need to discuss sexual and reproductive health issues with their male adolescents (Thaker, Patel, Desai, & Parmar, 2015).

The highest source of sexual information was the teacher. This shows that though adolescents spend most of their time at home with parents and are perceived to be closer to them, they would rather obtain information from external sources such as the their teachers and social media than their parents, consistent with finding from work done by Fentahun et al (Fentahun, Assefa, Alemseged, & Ambaw, 2012).

Electronic media and sexual behavior

The media cannot in anyway be dissociated with adolescent sexual behavior and sex education. As seen in the conceptual framework the electronic media is one of the important exposures to adolescent sexual behavior. When respondents were asked about their main sources of information on sexual and reproductive health matters, the television, radio and internet were the main sources of sex education for most of the respondents after their teachers. This shows the great impact that the media has to play in the sex education of adolescents. This has been documented in several studies all over the world, which reports similar findings among adolescents (Onyeonoro et al., 2011; Rajapaksa-hewageegana et al., 2015; Svanemyr et al., 2015). The media is filled with both wrong and right information and though it is readily available to most adolescents it may not be the most adequate source of information.

With the inception of social media pages like Facebook, WhatsApp and Instagram, to name a few, young people send and receive a lot of pornographic material and sexual images. It is not surprising to find out that a large majority of respondents had a Facebook and WhatsApp accounts with some responding on more than 5 social media accounts. Though young people interact, learn and make acquaintances with people from all over the world they are equally exposed to several negative practices such as sending and receiving sexual media (sexting). About half of the students in this study had ever sent or received a sext either on their social media account(s) or through their mobile phones. This was consistently similar to the findings made by Parkes and Ybarra in the studies to determine how sexual media affects adolescent sexual behavior (Parkes, Wight, Hunt, Henderson, & Sargent, 2013; Ybarra et al., 2014).

Sexual media has been known to predict early sexual behavior in young people, adolescence is marked with curiosity and those who are exposed to sexual media have a likelihood to want to experiment. Thus it was not surprising when almost a third of respondents admitted that receiving sexual media made them want to engage in sexual activity as was seen in Ybarra's work as well. Sexual media content is believed to affect attitudes and beliefs about sexual intercourse thus making early sexual initiation more conducive for adolescents. However though several adolescents were engaged in sexting, there was no significant association to increasing the likelihood of early sexual activity as was seen in several works that had positive associations between sexting and sexual behavior (Korchmaros, Ybarra, & Mitchell, 2015; McElwain, Kerpelman, & Pittman, 2015; Parkes et al., 2013).

One of the recent negative effects of social media is child pornography and it was observed that out of the 17% of respondents who had ever sent naked pictures of themselves, some had sent such pictures to romantic partners and about 2% had sent it to friends they had met on the internet and were unknown to them. A third of sexters received sexts from unknown persons and others from internet friends. This is a cause of worry as such young especially females have been exploited for child pornography (Jamal, Farah, Bonell, Chris and Blake, 2015).

5.5 Peer Pressure

Peer pressure has been cited in several studies as one of the causes and the driving factors to sexual experimentation and debut. Peer influence is a microsystem variable as seen in the conceptual framework that directly influences the sexual behavior of adolescents. The

period of adolescence is marked by the desire to fit in and belong. Pressure to engage has been reported by several studies and it was clearly seen in this study, that more than half of the respondents reported they did feel pressure to engage in sexual activity (Force, 2014; Kumi-kyereme et al., 2014; Story & Gorski, 2014). Of the respondents who had reported feeling pressure to have sex, more than a third had already engaged in sexual activity conforming to the qualitative study done by Jones in reporting how pressure from peers affected the sexual decisions and choices of adolescents. The respondents who were pregnant adolescents reported most had entered into sexual activity because of the pressures and constant teasing by friends (King Jones, 2010).

Most of the respondents felt pressure from friends and romantic partners. This was in line with most of the studies done on adolescent sexual behavior and external pressures. More than half of the students in this study reported that they had felt pressure from their friends, with about a third reporting pressure from romantic partners

However about 10% of students reported feeling pressure from family members with 0.75% stating their stepfather as the cause of their pressure to engage in sexual activity. This is new to this area of study, as no article reviewed indicated familial pressure to engage in sexual activity but rather familial pressure to abstain from sexual behavior.

The desire for acceptance has been noted to be strongly influenced by peer favoring and peer norms which greatly affect the choices that adolescents make and it was not surprising to see a strong association between engaging in sexual activity and feeling pressure to have sex. Most of respondents who felt pressure from peers had ever engaged in sexual activity and had ever entered into a romantic relationship to please their friends. This was similar to a study done in Ghana by Bingenheimer et al to assess how peer pressure affects sexual

activity amongst adolescents. It identified that adolescents who perceived that their friends were sexually active were more likely to engage in sexual activity and be in a romantic relationship (Bingenheimer et al., 2015).

CHAPTER SIX

CONCLUSION AND RECOMMENDATION

6.1 Conclusion

The finding of this study establishes the importance of sex education in the sexual choices, norms and behavior of students in the West African senior high school. The findings established the importance of the various variables as identified in the conceptual framework in determining adolescent sexual behavior. Variables like the media was seen to influence the exposure of the students to sexual media content which increase the pressure such students to engage in sexual activity. Family, peers and school environment directly influenced the adolescents' choices and decisions. A third of the sampled population were sexually active with low age of sexual debut observed in the study is extremely worrisome as early sexual debut is a predictor of risky sexual activity and behavior. It is also increases the risk to unintended and unwanted pregnancies, STI and HIV/AIDS and possible school dropouts

The role of the parents in discussing issues with their adolescents on sexual and reproductive health issues was observed to be very low and that is an issue of grave concern as the role of parents in that regard has been replaced by external sources such as teachers and the media. Proper timing of parental communication can influence the choices adolescents make concerning early sexual activity. It can also assist adolescents form norms and values which encourages safer sexual and reproductive choices.

The media is very important in the decisions that young people make and it was observed in this study that most adolescents receive and send sexual media increasing their urge to

engage in sexual activity. Sexting behavior was seen to be a major influence in the sexual behavior of adolescents by making them want to engage in sexual activity.

Sex education should not be regarded as a negative process but as a process that will open the door for adolescents to openly ask questions and seek help to enable them make better decisions concerning their sexuality and the decisions they make whether or not to engage in sexual activity.

6.2 Recommendation

The findings of this study has important implication on the sexual and reproductive of adolescent students. Sex education is vital in providing information and knowledge to enable adolescent be better equipped for the decisions they have to make concerning their sexuality and sexual activity building them up in sexually healthy adults. Recommendation made based on the study include

Government and Ghana Education Service

Several policies concerning the introduction of comprehensive sex education into the school curriculum exists in the national youth policy document. However, there is the need for policies and laws concerning the sexual health of adolescents to be implemented and fully enforced. Ghana has had the adolescent health policy for more than a decade and ratified as part of the ICPD since 1994 however though some attempt has been made to ensure that the dictates of the policy which includes Sex education has been fully enforced much is yet to be achieved. A curriculum review should be done for the senior high school to ensure that pertinent topics on sex education is included and teachers who teach such subjects should be well trained to understand the needs of the students.

School

The school environment should be a place where adolescents will be groomed into all-round confident young adults. They should be given the keys to be able to make sound and right decisions concerning their sexuality. Programs with sex education relevance should be enforced into the school setting and tailored to the needs of the students, measures to curb bullying and peer pressures should be introduced to help students make sexual decisions without the pressure of friends. Counselling units in schools should be resourced to help students who have issues to seek counsel from trained school counsellors.

Family

The family is the first unit of social socialization where values, norms and beliefs are learnt. There is the need the family to socialize adolescents effectively. Parents should discuss issues that concern sex and reproductive health with their children to enable them form right values and norms concerning sex and reproductive health. This will enable them make right and informed choices. Appropriate and timely initiation of communication is key and vital to adolescent sexual and reproductive health choices.

Future research

Further research to be carried out in this area of study should further investigate parents and teachers attitudes towards adolescent sex education. Further qualitative study would help to give an in depth understanding to the association between sex education and sexual behavior, seeking the actual opinions of parents, teachers and adolescents on the issues pertaining to sexual and reproductive health of the adolescent. Research work on parent-child sexual communication initiation in early or pre adolescence would be useful in understanding how early sexual debut may be delayed. A review of the curriculum on

senior and junior high schools on its sexual education would enable stakeholders know how best to improve the current curriculum.

Limitations of the study

Issues relating to sexual behavior are personal and sensitive, as such respondents answered questions especially those pertaining to their sexual behavior to be viewed favorable to others thus there was the over reporting of good behavior.

Also, access to final year students was a problem since they had finished writing their final West African Senior High School Exams (WASSCE) and had left school so the study was limited to first and second years.

REFERENCES

- Adamczyk, A., & Greif, M. (2011). Education and risky sex in Africa: Unraveling the link between women's education and reproductive health behaviors in Kenya. *Social Science Research*, 40(2), 654–666.
- Adu-Mireku, S. (2006). Family communication about HIV/AIDS and sexual behaviour among senior secondary school students in Accra, Ghana. *African Health Sciences*, 3(1), 7–14
- Agyemang, S., Buor, D., & Tagoe-darko, E. (2012). The extent of knowledge about HIV / AIDS among young people in the Ejura-Sekyedumase district of Ghana, 4(December), 241–247.
- Ahmedin, N., Metaferia, H., Reda, A. A., & Biadgilign, S. (2015). Sexual & Reproductive Healthcare Premarital sexual activity among unmarried adolescents in northern Ethiopia : a cross-sectional study. *Sexual & Reproductive Healthcare*, 6(1), 9–13.
- Ali, M. M., & Dwyer, D. S. (2011). Estimating peer effects in sexual behavior among adolescents. *Journal of Adolescence*, 34(1), 183-190.
- Aninanya, G. A., Debpuur, C. Y., Awine, T., Williams, J. E., Hodgson, A., & 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), e0125267. doi:10.1371/journal.pone.0125267
- Asampong, E., Osafo, J., Bingenheimer, J. B., & 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), 1. doi:10.1186/1472-698X-13-40
- Asiedu, S., Blankson, E. J., Abane, A. M., Owusu, S. A., Blankson, E. J., & Abane, A. M. (2014). Women's Health and Action Research Centre (WHARC) Sexual and Reproductive Health Education among Dressmakers and Hairdressers in the Assin South District of Ghana.
- Ayalew, M., Mengistie, B., & Semahegn, A. (2014). Adolescent - parent communication on sexual and reproductive health issues among high school students in Dire Dawa , Eastern Ethiopia : a cross sectional study, 11(1), 1–8. doi:10.1186/1742-4755-11-77
- Ayodele, O. (2012). Prevalence of premarital sex and factors influencing it among students in a private tertiary institution in Nigeria, 4(January), 6–9.

- Baams, L., Overbeek, G., van de Bongardt, D., Reitz, E., Dubas, J. S., & van Aken, M. A. (2015). Adolescents' and their friends' sexual behavior and intention: Selection effects of personality dimensions. *Journal of Research in Personality, 54*, 2-12.
- Bankole, A., Biddlecom, A., Guiella, G., Singh, S., & 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), 28–43.
- Bearman, P. S., Moody, J., & Stovel, K. (2004). Chains of affection: The structure of adolescent romantic and sexual networks¹. *American journal of sociology, 110*(1), 44-91.
- Bingenheimer, J. B., Asante, E., & Ahiadeke, C. (2015). Peer Influences on Sexual Activity among Adolescents in Ghana, *Studies in Family Planning, 46* (1),1–19.
- Bogale, A., & Seme, A. (2014). Premarital sexual practices and its predictors among in-school youths of shendi town , west Gojjam zone , North Western Ethiopia,*Reproductive Health 11*(1), 1–9.
- Bogani, G., Cromi, A., Serati, M., Monti, Z., Apolloni, C., Nardelli, F., ... Ghezzi, F. (2014). Impact of School-Based Educational Programs on Sexual Behaviors Among Adolescents in Northern Italy. *Journal of Sex & Marital Therapy, 41*(2), 121–125..
- Bronfenbrenner, U. (1999). Environments in developmental perspective: Theoretical and operational models. *Measuring environment across the life span: Emerging methods and concepts*, 3-28.
- Brown, J. D., & L'Engle, K. L. (2009). X-rated sexual attitudes and behaviors associated with US early adolescents' exposure to sexually explicit media.*Communication Research, 36*(1), 129-151.
- Chandra-mouli, V., M., Svanemyr, J., Amin, A. (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), S1–S6.
- Daka, D., & Shaweno, D. (2014). Magnitude of risky sexual behavior among high school adolescents in Ethiopia : A cross-sectional study. *Journal of Public Health and Epidemiology, 6*(July), 211–215.
- Decat, P., De Meyer, S., Jaruseviciene, L., Orozco, M., Ibarra, M., Segura, Z., Degomme, O. (2015). Sexual onset and contraceptive use among adolescents from poor neighbourhoods in Managua, Nicaragua. *The European Journal of Contraception and Reproductive Health Care, 20*(2), 88–100.

- Denno, M. D., Hoopes, A. J., Chandra-mouli, V. (2015). Effective Strategies To Provide Adolescent And Reproductive Health Services And To Increase Demand And Community Support. *Journal of Adolescent Health* 56 (2015) S22S41
- Desalegn Gebre Yesus¹, M. F. (2010). Assessing communications on sexual and reproductive health issues among high school students with their parents. *Ethiop. J. Health Dev. January, 24(2)*, 1–7.
- Dingeta, T., Oljira, L., & Assefa, N. (2012). Patterns of sexual risk behavior among undergraduate university students in Ethiopia: a cross-sectional study. *Pan African Medical Journal, 12(1)*.
- Doornwaard, S. M., Bogt, T. F. M., Reitz, E., & Eijnden, R. J. J. M. Van Den. (2015). Sex-Related Online Behaviors , Perceived Peer Norms and Adolescents ' Experience with Sexual Behavior : Testing an Integrative Model, 1–18.
- Elliott, K. J., & Lambourn, A. J. (1999). Sex, drugs and alcohol: two peer-led approaches in Tamaki Makaurau/Auckland, Aotearoa/New Zealand. *Journal of Adolescence, 22(4)*, 503-513.
- Fathima, S., Ramiah, R., & Nisarga, R. (2015). Knowledge, information and need for sexual health education in a rural area of Mandya district. *International Journal of Contemporary Pediatrics, 2(2)*, 131.
- Fatusi, A., & Blum, R. (2008). Predictors of early sexual initiation among a nationally representative sample of Nigerian adolescents. *BMC public health, 8(1)*, 136.
- Fentahun, N., Assefa, T., Alemseged, F., & Ambaw, F. (2012). Parents' perception, students' and teachers' attitude towards school sex education. *Ethiopian Journal of Health Sciences, 22(2)*, 99–106.
- Force, H. T. (2014). Policy Recommendations for the ICPD Beyond 2014 : Sexual and Reproductive Health & Rights for All.
- Fortenberry, J. D. (2013). Hormones and Behavior Puberty and Adolescent Sexuality. *Hormones and Behavior, 64(2)*, 280–287.
- Geugten, J., Van Der, Dijkstra, M., & Meijel, B., Van. (2015). Sex Education : Sexuality , Society and Learning Sexual and reproductive health education : opinions of students and educators in Bolgatanga municipality , Northern Ghana. *Sex Education, 15 (2)*, 37–41.
- GSS, G.H.S., & Macro, I. C. F. (2009). Ghana Demographic and Health Survey 2008. *Accra, Ghana: Ghana Statistical Service, Ghana Health Service, and ICF Macro*.

- Ghana Statistical Service, G. H. S. & Macro, I. C.F. (2015). Ghana Demographic Health Study 2014. *Accra, Ghana: Ghana Statistical Service, Ghana Health Service and ICF Macro.*
- Ghana Statistical Service. (2012). *Ghana Multiple Indicator Cluster Survey with an enhanced Malaria Module and Biomarker, 2011* .Summary report of key findings (p. 21). Accra.
- Ghana statistical service (GSS). (2012, May). 2010 Population and Housing Census. Summary report of final result. Ghana Statistical Service, Accra.
- Giami, A., Ohlrichs, Y., Quilliam, S., Wellings, K., Pacey, S., & Wylie, K. R. (2006). Sex education in schools is insufficient to support adolescents in the 21st century. *Sexual and Relationship Therapy, 21*(4), 485–490.
- Gordon-Messer, D., Bauermeister, J. A., Grodzinski, A., & Zimmerman, M. (2012). Sexting among young adults. *Journal of Adolescent Health, 52* (3), 301-306. Retrieved from <http://www.sciencedirect.com/science/article/pii/S1054139X12002145>
- Grossman, J. M., Frye, A., Charmaraman, L., & Erkut, S. (2013). Family homework and school-based sex education: Delaying early adolescents' sexual behavior. *Journal of School Health, 83*(11), 810–817.
- GSS, G., & Macro, I. C. F. (2009a). Ghana demographic and health survey 2008. *Accra, Ghana: Ghana Statistical Service, Ghana Health Service, and ICF Macro.*
- GSS, G., & Macro, I. C. F. (2009b). Ghana demographic and health survey 2008. *Accra, Ghana: Ghana Statistical Service, Ghana Health Service, and ICF Macro.*
- GSS, GHS, & ICF Macro. (2009). *Ghana demographic and health survey 2008.* Accra, Ghana.
- Guiella, G., Singh, S., & Zulu, E. (2014). Sexual Behavior , and Information Knowledge of Very Young Adolescents Sources in Four African Countries. *African Journal of Reproductive health, 11.*(3),28
- Hanewinkel, R., Sargent, J. D., Poelen, E. A., Scholte, R., Florek, E., Sweeting, H. & Morgenstern, M. (2012). Alcohol consumption in movies and adolescent binge drinking in 6 European countries. *Pediatrics, 129*(4), 709-720.
- Hara, R. E. O., Gibbons, F. X., Li, Z., Gerrard, M., & Sargent, J. D. (2013). Social Science & Medicine Specificity of early movie effects on adolescent sexual behavior and alcohol use. *Social Science & Medicine, 96*, 200–207.

- Holloway, I., Traube, D., Schrage, S., Levine, B., Alicea, S., Watson, J., ... McKay, M. (2012). The Effects of Sexual Expectancies on Early Sexualized Behavior Among Urban Minority Youth. *Journal of the Society for Social Work and Research*, 3(1), 1–12.
- Iliyasu, Z., Aliyu, M. H., Abubakar, I. S., & Galadanci, H. S. (2012). Sexual and Reproductive Health Communication Between Mothers and Their Adolescent Daughters in Northern Nigeria. *Health Care for Women International*, 33(January 2011), 138–152.
- Iyer, P., & Aggleton, P. (2014). “Virginity is a Virtue: Prevent Early Sex” – Teacher perceptions of sex education in a Ugandan secondary school. *British Journal of Sociology of Education*, 35(3), 432–448.
- Jamal, Farah, Bonell, Chris & Blake, S. (2015). Let ’ s talk about sex : gender norms and sexual health in English schools, *Sexual health* 12 (1), 1–3.
- James-Traore, T. A., Finger, W., Ruland, C. D., & Savariaud, S. (2004). Teacher training: Essential for school-based reproductive health and HIV/AIDS education. *Youth Issues Paper*, (3).
- Jayakody, A., Sc, M., Sinha, S., Ph, D., Tyler, K., Khadr, S. N., Viner, R. M. (2011). Early Sexual Risk Among Black and Minority Ethnicity Teenagers : A Mixed Methods Study. *Journal Adolescent Health*, 48(5), 499–506.
- Kaye, K., Suellentrop, K., & Sloup, C. (2009). The fog zone: How misperceptions, magical thinking, and ambivalence put young adults at risk for unplanned pregnancy. *The National Campaign to Prevent Teen and Unplanned Pregnancy: Washington, DC*.
- King Jones, T. C. (2010). “It drives us to do it”: pregnant adolescents identify drivers for sexual risk-taking. *Issues in Comprehensive Pediatric Nursing*, 33(November 2009), 82–100.
- Kirby, D. B., Laris, B. A., & Roller, L. A. (2007). Sex and HIV education programs: their impact on sexual behaviors of young people throughout the world. *The Journal of Adolescent Health : Official Publication of the Society for Adolescent Medicine*, 40, 206–217.
- Kohler, P. K., Manhart, L. E., & 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), 344–351.
- Korchmaros, J. D., Ybarra, M. L., & Mitchell, K. J. (2015). Adolescent online romantic relationship initiation : Differences by sexual and gender identification. *Journal of Adolescence*, 40, 54–64.

- Kumi-kyereme, A. A., Awusabo-asare, K., Biddlecom, Tanle, A., & Ann, A. K. K. (2014). Influence of communication activity on adolescent sexual and monitoring of social in Ghana. *African Journal of Reproductive Health*, 11(1), 133.
- Kumi-kyereme, A., Awusabo-asare, K., Kofuor, E., & Darteh, M. (2014). Attitudes of Gatekeepers Towards Reproductive Health in Ghana Adolescent Sexual and, 18(September), 142–153.
- Kwankye, S. O., Amedoe, J. A., & Cash-Abbey, E. (2014). Adolescent Reproductive Health. *Population Studies: Key Issues and Contemporary Trends in Ghana*, 5, 203.
- Lagus, K. A., Bernat, D. H., Bearinger, L. H., Resnick, M. D., & Eisenberg, M. E. (2011). Parental perspectives on sources of sex information for young people. *Journal of Adolescent Health*, 49(1), 87–89.
- Lefkowitz, E. S., & Stoppa, T. M. (2006). Positive sexual communication and socialization in the parent-adolescent context. *New Directions for Child and Adolescent Development*, 39–55.
- Lenhart, A., Purcell, K., Smith, A., & Zickuhr, K. (2010). Social Media & Mobile Internet Use among Teens and Young Adults. Millennials. *Pew Internet & American Life Project*.
- Luker, K. (2006). *When Sex Goes to School: Warring Views on Sex—And Sex Education—Since the Sixties*. New York: W.W. Norton.
- Mahjabeen, T., & Khan, I. A. (2011). Analyzing Bongaarts model and its applications in the context of Bangladesh, (December), 12–16.
- Makocho, P. (2012). HIV/AIDS Education in selected urban schools of Malawi. A synergy of pupils' needs, policies and practice. Doctoral thesis, Leeds University. page331.
- Martinez, G., Copen, C. E., & Abma, J. C. (2011). Teenagers in the United States: sexual activity, contraceptive use, and childbearing, 2006-2010 national survey of family growth. *Vital and health statistics. Series 23, Data from the National Survey of Family Growth*, (31), 1-35.
- Martino, S. C., Collins, R. L., Elliott, M. N., Strachman, A., Kanouse, D. E., & Berry, S. H. (2006). Exposure to degrading versus nondegrading music lyrics and sexual behavior among youth. *Pediatrics*, 118(2), e430-e441.
- McElwain, A. D., Kerpelman, J. L., & Pittman, J. F. (2015). The role of romantic attachment security and dating identity exploration in understanding adolescents' sexual attitudes and cumulative sexual risk-taking. *Journal of Adolescence*, 39, 70–81.

- Mkumbo, K. A. (2009). Content analysis of the status and place of sexuality education in the national school policy and curriculum in Tanzania, *Educational Research and Reviews*, 4(12), 616-625.
- Mueller, T. E., Gavin, L. E., Ph, D., & Kulkarni, A. (2008). The Association Between Sex Education and Youth ' s Engagement in Sexual Intercourse , Age at First Intercourse , and Birth Control Use at First Sex, 42, 89–96.
- Namisi, F., Aaro, L.F., Kaaya, S., Kajula J.L., Kilonzo, H. O., Wubs, C. M., 2015. (2015). No Adolescents' Communication with Parents, Other Adult Family Members and Teachers on Sexuality: Effects of School-Based Interventions in South Africa and Tanzania. Title. *AIDS and Behavior*, 10(04), 1–9.
- Nelson, Kirigu. K., Watson, C., Muhwezi, M., Kimbombo. R., Akia-Fielder, A., & Juma, M. (2007). Straight Talk campaign in Uganda: parent survey. Parent Survey. *Uganda: Straight Talk Foundation*.
- Nikken, P., & de Graaf, H. (2013). Reciprocal relationships between friends' and parental mediation of adolescents' media use and their sexual attitudes and behavior. *Journal of youth and adolescence*, 42(11), 1696-1707.
- Ntaganira, J., Hass, L. J., Hosner, S., Brown, L., & Mock, N. B. (2012). Sexual risk behaviors among youth heads of household in Gikongoro, south province of Rwanda. *BMC Public Health*, 12(1), 225.
- Nyarko, K., Adentwi, K. I., Asumeng, M., & Ahulu, L. D. (2014). Parental attitude towards sex education at the lower primary in Ghana, *International Journal of Elementary Education*, 3(2), 21–29.
- Olakunbi, O. O., & G, A. A. (2010). Who Breaks the Ice in Parent-Child Sexual Communication – Counselling Implications for Adolescent Health and Development , 1(2), 1–5. *International Journal for Cross-Disciplinary Subjects in Education*, 1(2), 88-92.
- Olusanya, O. O., Arijesuyo, A. E., & Olusanya, O. A. (2013). Parent-Child Communication and Adolescent Sexual Behaviour among the Yoruba Ethno-cultural group of Nigeria, 3(14), 79–84.
- Onyeonoro, U. U., Oshi, D. C., Bds, E. C. N., Mbbs, N. C. C., Mbbs, I. L. O., Mbbs, S. C. E. Mbbs, O. F. E. (2011). Original Study Sources of Sex Information and its Effects on Sexual Practices among In-school Female Adolescents in Osisioma Ngwa LGA , South East Nigeria. *Journal of Pediatric and Adolescent Gynecology*, 24(5), 294–299.

- Osaikhuwuomwan, J. A., & Osemwenkha, A. P. (2013). Adolescents' perspective regarding adolescent pregnancy, sexuality and contraception. *Asian Pacific Journal of Reproduction*, 56(1) S22-S41.
- O'Hara, R. E., Gibbons, F. X., Gerrard, M., Li, Z., & Sargent, J. D. (2012). Greater exposure to sexual content in popular movies predicts earlier sexual debut and increased sexual risk taking. *Psychological science*, 23(9), 984-993. 2(1), 58–62.
- Parkes, A., Wight, D., Hunt, K., Henderson, M., & Sargent, J. (2013). Are sexual media exposure , parental restrictions on media use and co-viewing TV and DVDs with parents and friends associated with teenagers ' early sexual behaviour ? *Journal of Adolescence*, 36(6), 1121–1133.
- Press, D. (2015). Programs to improve adolescent sexual and reproductive health in the US : a review of the evidence, 47–79.
- Poulin, F. (2011). Individual, familial, friends-related and contextual predictors of early sexual intercourse. *Journal of adolescence*, 34(2), 289-300.
- Price, A., Heflin, C., & Cronin, J. (2014). Teaching teens about sex : A fidelity assessment model for Making Proud Choices . *Evaluation and Program Planning*, 46, 94–102.
- Raguz, M. (2014). The President and Fellows of Harvard College Harvard School of Public Health / François-Xavier Bagnoud Center for Health Adolescent Sexual and Reproductive Rights in Latin America, 5(2).
- Rajapaksa-hewageegana, N., Piercy, H., Salway, S., & Samarage, S. (2015). Sexual & Reproductive Healthcare Sexual and reproductive knowledge , attitudes and behaviours in a school going population of Sri Lankan adolescents. *Sexual & Reproductive Healthcare*, 6(1), 3–8.
- Reis, M., Ramiro, L., Matos, M. G. De, & Diniz, J. A. (2011). The effects of sex education in promoting sexual and reproductive health in Portuguese university students. *Procedia - Social and Behavioral Sciences*, 29, 477–485.
- Rice, E., Rhoades, H., Winetrobe, H., Sanchez, M., Montoya, J., Plant, A., & Kordic, T. (2012). Sexually explicit cell phone messaging associated with sexual risk among adolescents. *Pediatrics*, 130(4), 667-673.
- Rink, E., Tricker, R., Harvey, S.M., Onset Of Sexual Intercourse Among Female Adolescents: The Influence Of Perceptions, Depression, And Ecological Factors. *Journal Of Adolescent Health*, 14 (4), 398-406.

- Salih, N. A., Metaferia, H., Reda, A. A., & Biadgilign, S. (2015). Premarital sexual activity among unmarried adolescents in northern Ethiopia: a cross-sectional study. *Sexual & Reproductive Healthcare*.
- Sedgh, G., Finer, L. B., Bankole, A., Eilers, M. a., & Singh, S. (2015). Adolescent Pregnancy, Birth, and Abortion Rates Across Countries: Levels and Recent Trends. *Journal of Adolescent Health, 56*(2), 223–230. doi:10.1016/j.jadohealth.2014.09.007.
- Selfhout, M., Burk, W., Branje, S., Denissen, J., Van Aken, M., & Meeus, W. (2010). Emerging late adolescent friendship networks and Big Five personality traits: A social network approach. *Journal of personality, 78*(2), 509-538.
- Shah, N. (2012). New Standards Aim to Guide Sex Education. *Education Week, 31*(17), 1–13. Retrieved from <http://proxy.lib.utk.edu:90/login?url=http://search.ebscohost.com/login.aspx?direct=true&db=eft&AN=70550412&scope=site>
- Slater, C., & Robinson, A. J. (2014). Sexual health in adolescents. *Clinics in Dermatology, 32*(2), 189–195.
- Sneed, C.D., Tan, H. P., Meyer, J. C. The Influence of Parental Communication and Perception of Peers on Adolescent Sexual Behavior. *Journal Of Health Communication: Internationa Perspectives, 20*(8),888-892.
- Stephenson, R., Simon, C., & Finneran, C. (2014). Community Factors Shaping Early Age at First Sex among Adolescents in Burkina Faso , *32*(2), 161–175.
- Story, C. R., & Gorski, J. (2014). Global Perspectives on Peer Sex Education for College Students, *International Education, 42*(2), 81.
- Strasburger, V. C., & Brown, S. S. (2014). Sex education in the 21st century. *JAMA, 312*(2), 125-126.
- Svanemyr, J., Ph, D., Amin, A., Ph, D., Robles, O. J., H, M. S. P., ... Ph, D. (2015). Creating an Enabling Environment for Adolescent Sexual and Reproductive Health : A Framework and Promising Approaches. *Journal of Adolescent Health, 56*(1), S7–S14.
- Talib, J., Mamat, M., Ibrahim, M., & Mohamad, Z. (2012). Analysis on Sex Education in Schools Across Malaysia. *Procedia - Social and Behavioral Sciences, 59*, 340–348. Retrieved from <http://www.sciencedirect.com/science/article/pii/S1877042812037329>

- Tenkorang, E. Y., & Adjei, J. K. (2014). Sex Education : Sexuality , Society and Learning Household living arrangements and transition to sexual debut among young people in Ghana, (December 2014), 37–41.
- Tenkorang, Eric Yeboah, & Maticka-Tyndale, E. (2008a). Factors influencing the timing of first sexual intercourse among young people in Nyanza, Kenya. *International Family Planning Perspectives*, 177–188.
- Thaker, R., Patel, J., Desai, R., & Parmar, J. (2015). Knowledge and practice regarding contraception and population control among higher secondary school students in Ahmedabad. *International Journal of Medical Science and Public Health*, 4(1), 1.
- Thammaraksa, P., Powwattana, A., Lagampan, S., & Thaingtham, W. (2014). Helping teachers conduct sex education in secondary schools in Thailand: overcoming culturally sensitive barriers to sex education. *Asian Nursing Research*, 8(2), 99–104.
- UNFPA. (1994). *ICPD Programme of Action*. UNFPA
- UNICEF. (2011). *The State of the World's Children 2011 - Executive Summary: Adolescence an Age of Opportunity*. UNICEF. Retrieved from <https://books.google.com/books?hl=en&lr=&id=S94hOBDJFcIC&pgis=1>
- United Nations. Commission on population and development resolution 2012/1 adolescents and youth, report on the forty-fifth session, UN Doc E/2012/25, E/CN.9/2012/8 (15 April 2011 and 23e27 April 2012).
- Wang, B., Stanton, B., Deveaux, L., Li, X., Koci, V., & Lunn, S. (2014). The Impact Of Parent Involvement In An Effective Adolescent Risk Reduction Intervention On Sexual Risk Communication And Adolescent Outcomes, 26(6), 500–520.
- Wellings, K., Collumbien, M., Slaymaker, E., Singh, S., Hodges, Z., Patel, D., & Bajos, N. (2006). Sexual behaviour in context: a global perspective. *Lancet*, 368 (9548), 1708-1728.
- WHO.(2006). *World population Report*. Geneva, Switzerland.
- Who.(2007). *Unsafe Abortion: Global And Regional Estimates Of Incidence Of Unsafe Abortion Associated Mortality In 2003*.5th edition Geneva: WHO
- Widman, L., Choukas-Bradley, S., Helms, S. W., Golin, C. E., & Prinstein, M. J. (2013). Sexual Communication Between Early Adolescents and Their Dating Partners, Parents, and Best Friends. *The Journal of Sex Research*, 51(7), 731–741.
- Wright, P. J., Malamuth, N. M., & Donnerstein, E. (2012). Research on sex in the media: What do we know about effects on children and adolescents.*Handbook of children and the media*, 273-302.

Ybarra, M. L., Ph, D., & Mitchell, K. J. (2014). “ Sexting ” and Its Relation to Sexual Activity and Sexual Risk Behavior in a National Survey of Adolescents. *Journal of Adolescent Health, 55*(6), 757–764.

APPENDICES**Appendix A: Questionnaire**

Interviewer

Code

Date

I am a student from the school of Public Health conducting a research into sexual education and how it influences the sexual behavior of students in the West African Senior High School. The questionnaire seeks to collect information on demographics, sexual behaviors, sexual education exposure and family dynamics. All information provided will be treated with maximum confidentiality. Thanks for your cooperation.				
No.	Questions	Coding Categories	Skip to	
1	Sex	Male female	1 2	
2	How old were you at your last birthday		
3	Which class are you presently	SHS1 SHS2 SHS3	1 2 3	
4	Is your school run by a particular religious institution	Yes No	1 2	
5	What is your religion	None Christianity Islam Traditionalist Others please specify	1 2 3 4 5	
6	How often do you usually attend religious services	At least once a year At least once a month At least once a week Daily Never	1 2 3 4 5	
FAMILY STRUCTURE				
7	Whom do you live with	Both parents Mother Father Other family members Others	1 2 3 4 5	

			
8	Do you talk about relationships with your parents	Never Once Sometimes always	1 2 3 4	
9	Do discuss matter that relate to reproductive health with your parents	Never Once Sometimes always	1 2 3 4	
10	Have you ever discussed sexual intercourse with your parents?	Never Once Sometimes Always	1 2 3 4	
11	Has your parent ever discussed sexually transmitted infections with you?	Never Once Sometimes Always	1 2 3 4	
12	Have your parents/guardians ever spoken to you about sex and reproductive health	Yes all the time Some of the time Never	1 2 3	
	SEX EDUCATION			
13	Who gives you information on sexual and reproductive health matters	Teacher Mother Father Siblings Friends Boyfriend/girlfriend Internet Other Specify.....	1 2 3 4 5 6 7 8	
14	Which of these people would you Never go to for information on sexual and reproductive matters	Teacher Mother Father Pastor Siblings Friends Boyfriend/girlfriend Internet	1 2 3 4 5 6 7 8	

		Other Specify	
15	Does your school have sex education programs	Yes No Not sure	1 2 3	
16	If yes to Question... state the name of the program		
17	Does your school curriculum have subjects that talk about sex and reproductive health	Yes No Not sure	1 2 3	
18	If yes to Question..... State the name of the of the subject		
19	Do you attend these classes on sex and reproductive health?	Yes No	1 2	
20	Do you think these classes have adequately met your need for information on sex and reproductive health?	Yes fully Not at all Maybe Not sure	1 2 3 4	
21	Do you believe it is important to have more classes on sex and reproductive health?	Yes No Maybe Not sure	1 2 3 4	
22	Would you want more sex education programs to be organized in your school?	Yes No Maybe Not sure	1 2 3 4	

24	What are some of these topics discussed in sex education classes	Puberty Sex Contraception Relationship and dating Contraceptive use Pregnancy Abortion STI's Personal hygiene Other Specify.....	1 2 3 4 5 6 7 8	
25	Did you understand the topic/ topics that were discussed fully	Yes No Not sure	1 2 3	
26	What topics would you want your teachers to talk more on in your sex education classes	Puberty Relationship and dating Sex Contraceptive use Pregnancy Abortion STI's Personal hygiene Other Specify.....	1 2 3 4 5 6 7	
	Media			
27	Do you use the internet?	Yes, very often Sometimes not often Only once Never	1 2 3 4	
28	Which social media account do you have?	Facebook Whatsapp Instagram Twitter Tumblr Hashtag Other Specify.....	1 2 3 4 5 6 7	

29	Have you ever heard of the term sexting?	Yes and I understand it Yes but I don't understand it No never		
30	Have you ever sent any image form your account that you believe was sexual in nature?	Yes No Not too sure	1 2 3	
31	Have you ever received any sexual image on your social media account?	Yes No Not sure	1 2 3	
32	Do you own a mobile phone	Yes No	1 2 3	
33	What do you use your mobile phone for?	Make calls Receive calls Send text messages Receive messages Send and receive images Browse the internet Listen to the radio Other Specify.....	1 2 3 4 5 6 7	
34	How long do you spend on your mobile on average in day?	Less than 1 hour 1 to 2 hours More than 2 hours to 5 hours More than 5 hours	1 2 3 4	
35	Have you ever received/viewed pornographic pictures on your mobile phone?	Yes No	1 2 3	
36	Have you ever been asked to send semi-naked or naked picture of yourself?	Yes No	1 2	
37	Have you EVER sent pornographic picture (s) to your boyfriend or girlfriend through mobile phone?	Yes No	1 2 3	

38	Have you ever been sent naked picture by your boyfriend or girlfriend before.	Yes, all the time Once in a while One time Never	1 2 3 4	
39	Do you still receive such messages/picture up till now?	Yes No	1 2	
40	Does it have any influence on your desire to have sex	Yes No	1 2	
41	Does this pictures make you to want to have sex	Yes No	1 2	
42	Are you able to stop receiving such messages	Yes No	1 2	
43	Who sends you such Messages the Most	Boy/ Girl friend School mates Friends Internet friends Don't know the person Others Specify.....	1 2 3 4	
	Relationship/ sexual relationship			
44	Have you EVER been in a relationship with a male or female (boyfriend/girlfriend)?	Yes No	1 2	
45	Are you currently in a relationship with a boy/girl	Yes No	1 2	
46	Have you ever had sex in your present relationship?	Yes No	1 2	
47	How old is your current boy/girlfriend		
	SEXUAL INTERCOURSE			
48	Have you ever had sexual intercourse?	Yes No	1 2	
49	If Yes, what was your age when you first had sexual intercourse?		

50	How will you describe your first sexual relations	Forced Coaxed Consented	1 2 3	
51	Within the last 12 months, have you engage in any sexual activity?	Yes No	1 2	
52	Have you ever had sexual intercourse in exchange for cash, favors or gift?	Yes No	1 2	
53	Do you feel any pressure from others to have sexual intercourse?	Yes, a little Yes, great deal No	1 2 3	
54	From whom do you feel the pressure the most?	Friends Relatives Boy/girlfriend Other Specify.....	1 2 3 4	
55	Have you entered into any relationship because you wanted to please your friend's?	Yes, always Sometimes No, never	1 2 3	

\