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RISKY SEXUAL BEHAVIOURS AMONG SENIOR HIGH SCHOOL STUDENTS IN LA-NKWANTANAG MADINA MUNICIPALITY

BY

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DECLARATION

I, Elizabeth Naa Gogoi Ayettey hereby declare that except for other people's works which have been duly acknowledged, this work is the result of my own original research under supervision. This dissertation has not in part or whole been submitted to any University for any award.

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Date ----------

DEDICATION

I dedicate this piece of work to God Almighty and my wonderful family who have always been there for me and supported me with their prayers, encouragement and love.

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My first and foremost thanks go to God Almighty for without him this would not have been possible.

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ABSTRACT

Background: Adolescence is a period of risk-taking' Adolescents are confronted with decisions concerning their sexual health. However, these decisions may lead to risky sexual behaviours such as early initiation of sex, multiple sexual partners, casual sex, no or inconsistent use of condom. These behaviours increase the probability of negative health outcomes such as STIs including HIV and unwanted pregnancy. This study employed the social cognitive theory by Bandura, 1960 as an approach to assess risky sexual behaviour and its associated factors among senior high school students in the La-Nkwantanag Madina Municipality.

Methods: A school-based cross-sectional survey was conducted using a structured questionnaire. A three stage stratified sampling technique was used to select adolescents between the ages of 15-24 years from three selected schools. A self-administered questionnaire method was used to gather data. Data collected included socio-demographics, parental and peer factors, sexual behaviour and contraception use, knowledge and risk perception and self-efficacy level. Data was analysed using STATA version 13 software.

Results: The mean age of respondents was 17± (1.09) years. The sample comprised 52.5% females and 47.5% males. Predominantly, females were more than males but males were older. 32% of the SHS respondents had ever had sex. Out of those who have ever had sex, 66% were engaged in risky sexual behaviours. Multivariate analysis showed that environmental factors such as parental monitoring, seeking permission and behavioural factors such as condom use first sex were the predictors of risky sexual behaviours in this study with SHS respondents whose parents monitor their movement being eighteen and thirty six times more likely not to engage in risky sexual behaviours (OR=18.30, 95% CI: 1.06-316.22) and (OR=36.22, 95% CI: 1.85-696.15) respectively as compared to those

whose parent never monitor their movements, those who seek permission were more likely not to engage in risky sexual behaviours as compared to those who do not seek permission (OR= 0.29, 95% CI: 0.09-0.97) and those who used condom during first sex were five times more likely not to engage in risky sexual behaviours as compared to those who didn't use condom the first time during sex (OR=4.82, 95% CI: 2.05-11.32).

Conclusions: Risky sexual behaviour is a major problem faced by adolescents. About 66% of them engaged in such behaviours with the associated factors being lack of parental monitoring and supervision, permission seeking from parents before the child goes out and not using condom during first sex.

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LIST OF ABBREVIATIONS

CDC	-	Center for Disease Control and Prevention
FP	-	Family Planning
GDHS	-	Ghana Demographic Health Survey
HIV	-	Human Immunodeficiency Virus
JHS	-	Junior High School
LANMM	-	La-Nkwantanag Madina Municipality
MICS	-	Multiple Indicator Cluster Survey
SCT	-	Social Cognitive Theory
SCT	-	Social Cognitive Theory
SHS	-	Senior High School
SRH	-	Sexual and Reproductive Health
STI	-	Sexually Transmitted Infection
WHO	-	World Health Organization

DEFINITION OF TERMS

Young people: In the context of this study are young women and men age 15 to 24 years.

Parent: Parent refers to biological parent, an adoptive parent, foster parent, aunt or uncle, grandparent, or another responsible friend or relative that the adolescent spends most of their time with.

Sexual activity: Sexual activity refers to oral, anal, and vaginal penetration.

Risky sexual behaviour: Refers to any sexual activity that predisposes the adolescent to dangers of pregnancy and STIs.

CHAPTER ONE

1.0 INTRODUCTION

1.1 Background

Adolescence (10-19 years) is defined as a transitional stage of life during which a child reaches sexual maturity. This is a time of rapid growth, exploration and risk taking because they want to test their skills and abilities to discover who they really are. At this stage hanging out or dating is common among them. (Bailey & Fleming, 2008; Guilamos-Ramos & Jaccard, 2011).

Adolescents are confronted with decisions to initiate sex as they transition into adulthood. However, these decisions may lead to risky sexual behaviours such as early initiation of sex, multiple sexual partners, casual sex, no or inconsistent use of condom, alcohol and drug use, having sexual intercourse with persons 10 years older than them, unprotected sex which increase the probability of negative health outcomes such as Sexually Transmitted Infections (STIs) including HIV and unwanted pregnancy (Copper, 2002).

The adolescent at this stage has an increased decision and the freedom to make their own choices, but the ability to confront these choices into a healthy behaviour is crucial for their development. This stage of adolescence is a challenging phase of life because of their vulnerability, adolescent health issues have become a concern globally (Huebner & Howell, 2003).

According to World Health Organization (WHO), in 2009, adolescents were at high risk of engaging in risky sexual behaviours (WHO, 2009). According to their research, the Centers for Disease Control and Prevention (CDC, 2004) reported that nearly half of the high school students in junior high and senior high school had engaged in sexual intercourse and over 60% reported having had sex by the time they graduated. Rates of

pre-marital sexual activity were found to be higher in urban than in rural areas (Nwankwo & Nwoke, 2009).

In addition to the risk of STIs/HIV, the risk of unplanned pregnancy increases with frequency of unprotected sexual intercourse. Estimates have suggested that approximately 40% of adolescent American women (aged 15 to 19 years) become pregnant before age 20 years, and most of these pregnancies are unintended (Medscape, 2004). Although more recent estimates suggest that rates have dropped to 35%, the rates of teen pregnancy are still substantially higher in Canada and the United States than in other Western industrialized countries like France, Germany, and Sweden (Medscape, 2004).

According to the Centers for Disease Control and prevention (CDC), 46.8% adolescents had ever had sexual intercourse, 34.0% had had sexual intercourse during the previous three month, and, of these, 40.9% did not use condom the last time they had sex and 15.0% had had sex with four or more people during their life (CDC, 2013).

According to Multiple Indicator Cluster Survey (MICS), intergenerational sex is relatively high among young women aged 15-24 years. The survey shows that 12% of young women had sex with men at least 10 years older than them in the last 12 months. This situation may partly account for the high number of new infections such as STIs among the youth and especially young women in Ghana. Young men who had had sex virtually none had sex with a woman 10 or more years older. In Ghana, about 10% of all young women and 5% of all young men had sex before age 15 years (Ghana Statistical Service, 2011).

The mean age of lifetime sexual partners among adolescent females and males between 15-24 years, according to GDHS, 2014 is 1.9 and 3.8 years respectively (GSS, GHS & ICF, 2015)

The same pattern is true of some Sub-Saharan Africa and Asian countries. This demonstrates as in many other countries that many adolescents are confronted at some point during their teen years with choices about whether or not to have sex and if they do, whether or not to use condoms and or other contraceptives more so as complete sexual control of the teens by parents, elders or educators have proved almost impossible. As most acts of premarital sexual intercourse are unprotected or coerced, sexually active adolescents due to gender power imbalances are increasingly at risk of unwanted pregnancy, abortion or contracting and transmitting sexually transmitted diseases (STIs), including HIV.

A recent study in India and Nepal had suggested that a high knowledge about contraception does not always translate into a higher level of contraceptive use. Again, even when adolescent girls know about contraceptives, they are much less likely to use them as compared to older women, indicating a large unmet need for contraceptives among adolescents (Nwankwo & Nwoke, 2009).

Globally, risky behaviours related to sexual practices in adolescents have occupied much of the attention. Studies have reported risky sexual behaviours as a common practice among adolescent in Sub-Saharan Africa (Medscape, 2004).

In most countries over half of new HIV infections are among young people aged 15-24 years. In Ethiopia, it is estimated that 2.1% of the population is HIV positive with increase rate among women (Fatusi & Hindi, 2010; Akinyemi & Okpechi, 2011).

It is clear that risky sexual behaviour such as sexual activity including sexual intercourse at an early age, having multiple sexual partners, and unprotected sexual intercourse is

common among adolescents, and such behaviours put them at risk for contracting STIs including HIV and unwanted pregnancy.

According to the World Health Organisation, family support especially from parents have been viewed as having a primary influence on adolescents sexual behaviour by reducing their risky sexual behaviours, STIs and unplanned pregnancy (WHO, 2009). Researchers consistently report that parent and child connectedness, parental supervision or regulation of children's activities, parents' values against adolescent intercourse and positive peer behaviour decrease the sexual and reproductive health problem (Pearson, Muller & Frisco, 2006). In other words, peers tend to have a negative influence on adolescents when child and parents relationship are overlooked.

In a cross-sectional survey conducted in 2008 on healthy behaviours and lifestyles of school-aged adolescents in 30 randomly selected schools in Ghana, the findings shows that 25% of adolescent girls and boys reported having ever had sexual intercourse. 41.3% had experienced sex before age 15 with a mean of first sexual intercourse 14.8 (14.4 for boys and 15.1 for girls). Among the sexually active, 31% had multiple sexual partners. Half used condom and 31% didn't use condom or any other contraception (Doku, 2012).

According to the 2008 Ghana Demographic and Health Survey (GDHS), Women are likely to experience first sexual intercourse at an earlier age than men (Ghana Statistical Service, Ghana Health Service & ICF International, 2009). The median age at first sexual intercourse for women age 25-49 years is 18.4 years, compared with 20 years for men (GSS, GHS & ICF, 2009). In the same report, eight percent of women and five percent of men reported having sexual intercourse by age 15. By age 18 years, more than two-fifths of women (44%) and 26% of men have had sexual intercourse. Sixty-three percent of

women and 78% of men age 15-19 years have never had sex. Nearly all women and men are sexually active by age 25 years.

Currently, age at first sexual intercourse is rising among women, e.g. the proportion of women aged 20-24 years who were sexually active by age 18 is 41%, compared with 51% among women age 45-49 years. In contrast, the trend among men is towards younger age at first sexual intercourse. Among men aged 20-24 years, 27% were sexually active by age 18 years (GSS, GHS & ICF, 2009).

Adolescents' knowledge about condom is very high but utilization is low. For example among female and male adolescents between the ages of 15-19 years who have knowledge about condom use is 92.5% and 62% respectively and ages 20-24 years is 97.1% and 78.9% respectively. The number of female and male who have ever used condom between the ages of 15-19 is 1.5% and 43.8% respectively and ages 20-24 is 0.8% and 48.8% respectively (GSS, GHS & ICF, 2009).

Currently, female and male adolescents who use condom between ages 15-19 is 0% and 23.3% respectively and ages 20-24 is 0% and 14.9% respectively (GSS, GHS & ICF, 2009). This shows an inconsistence use of female and male condoms. In the same report, there are several cultural barriers that limit the adolescents use of condom. Inconsistent use of condom among adolescents exposes them to unwanted pregnancies, HIV, risks of sexually transmitted illnesses (STIs) and unsafe illegal abortions.

Even though adolescents know that it is risky to engage in unprotected sex and multiple partners, they appear to underestimate the consequences of their action. It is therefore imperative that the risky sexual behaviour among sexually active adolescents be

ascertained with the use of condom. This would help to reduce the incidence of unwanted pregnancies, illegal abortions, and STIs including HIV among this age group.

1.2 Problem statement

Adolescent sexuality continues to be an important subject of social concern because of its connection to negative outcomes like adolescent pregnancy and sexually transmitted infections. The timing of an adolescent's first sexual intercourse is the key variable affecting those negative outcomes. Research has shown that adolescents who initiate sex at younger ages, for example, may be at increased risk for unintended pregnancy because they are less likely to practice effective contraception (Wellings et al. 2001).

The period between the age of 15 and 24 years is very critical and has been regarded as the period of intense sexual drive, alcohol and drug experimentation and therefore puts adolescents at risk (Downing-Mailbag & Geisinger, 2009). Young people experience sexual intimacy without commitment or investing in a relationship which usually involve engaging in risky behaviours that put one's health in jeopardy (Downing-Mailbag & Geisinger, 2009). Also, the exposure to information communication technology (ICT) may also be a factor as people within the group frequently seek health information from the internet.

According to the 2008 GDHS, the average age of first exposure to sex by females is 18.4 years and males is 20.2 years. Females are exposed at an earlier *coitarche, that is;(the age of first sexual intercourse)* than males. Most adolescents are sexually active and engage in risky sexual behaviours by age 15 such as early start of sex, inconsistent use of condoms, no use of condom, multiple sex partners, casual sex, unprotected sexual intercourse, sexual intercourse with men 10 years older (MICS,2011).

Behaviours such as these put them at risk of unwanted pregnancies, abortions, sexually transmitted infections including HIV. This situation may partly account for the high

numbers of new infections among the youth and especially young women in Ghana between ages 15-24 years with the argument that older men have higher HIV prevalence than their adolescent counterparts play critical role in increasing their vulnerabilities (MICS, 2011).

According to the 2014 GDHS, percentage of young women and men between the ages of 15-24 years who have had two or more sexual partners within the last twelve months was 2.2 and 7.9 respectively. Condom use during their last time of sex prior to the study was 14.9% and 34.2% respectively among young women and men age 15-24 years. young people between this ages who have ever tested and received results of their HIV status was 8.6% which indicate that most adolescents were at risk of getting HIV including STIs and unwanted pregnancies (GSS et al, 2015).

La-Nkwantanag Madina is one of the fastest growing districts in Ghana with an HIV prevalence rate of 4.8% (La-Nkwantanag Madina Municipal Assembly, 2013). Anecdotal evidence shows that a lot of sex workers are in Madina with issues on transactional sex going on there. Currently, very little is known about the sexual behaviours among senior high school students in the municipality. This study therefore seeks to find out whether adolescents in the senior high schools students engage in risky sexual behaviours.

1.3 Theoretical framework

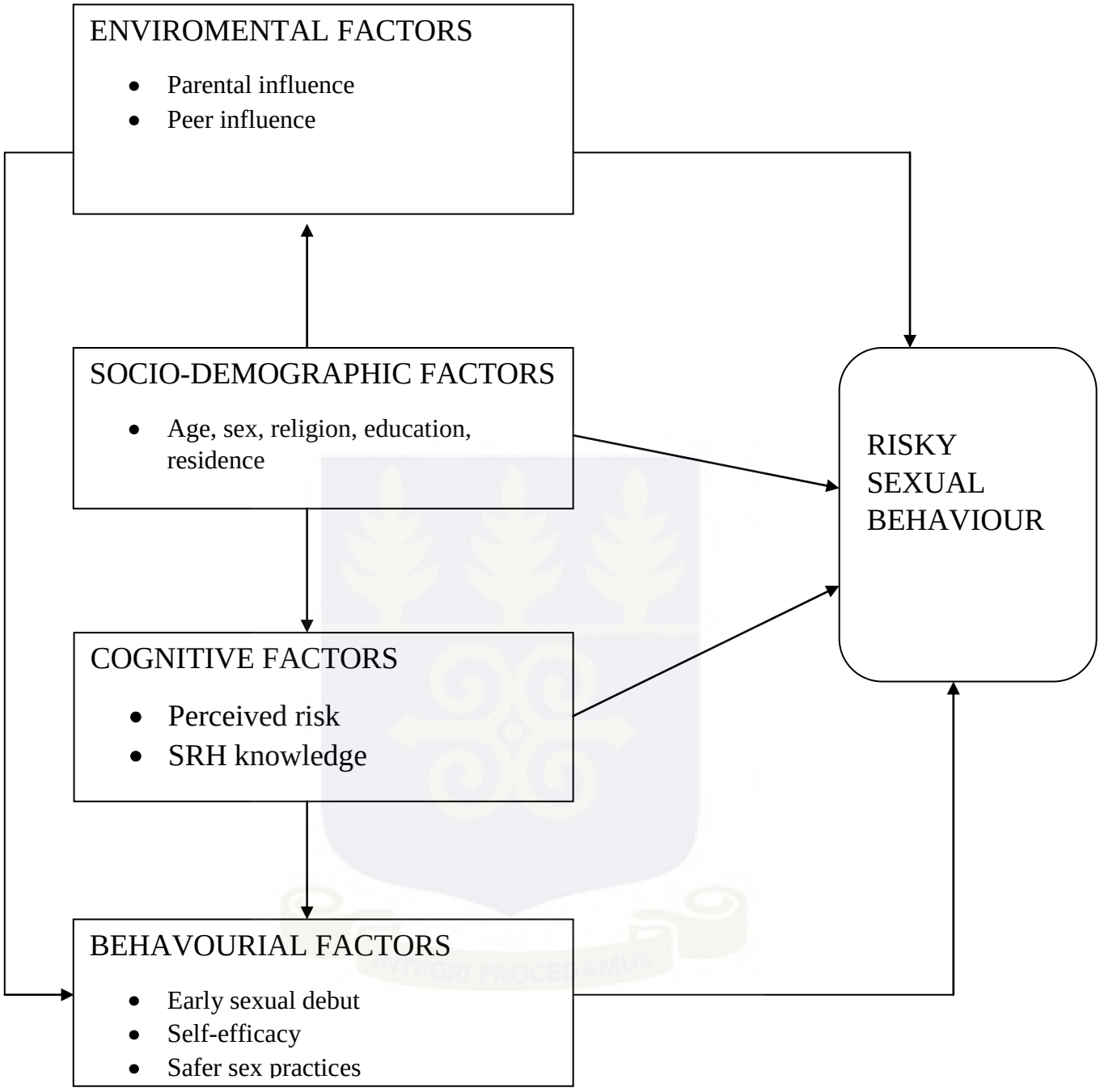
This study applies the Social Cognitive Theory (SCT) propounded by Albert Bandura in 1960. Of all the theories of sexual behaviour, the SCT is one of the most widely used models of study to understand human sexual behaviour as a triadic reciprocal relationship between behaviour, environmental factors and cognitive or personal factors.

It emphasises on social influence and puts emphasis on external and internal social reinforcement. SCT considers the unique way in which individuals acquire and maintain behaviour, while also considering the social environment in which individuals perform the behaviour partly determines what people attend to, perceive and think. This takes into account a person's past experiences, which factor into whether behavioural action will occur (Banbura, 1986).

According to the same source, these past experiences influence reinforcements and expectancies, all of which shape whether a person will engage in a specific behaviour and the reasons why he or she that way. SCT looks at the maintenance of a behaviour that is, to explain how people regulate their behaviour through control and reinforcement to achieve goal-directed behaviour that can be maintained over time.

It explains further that self-efficacy as the extent or strength of one's belief in one's own ability was added to the theory. This has been found to be applicable in various behaviours for primary prevention in problem solving skills and secondary prevention in female condom use promotion programs (Banbura, 1986).

Figure 1: Conceptual framework



Source: Bandura, 1960.

Conceptual framework includes possible factors that influence risky sexual behaviours among students.

This framework explains how environmental, socio-demographic, cognitive and behavioural factors influence risky sexual behaviours. Parental influence in the aspect of lack in communication and monitoring lead to peer influence and an early engagement in risky sexual behaviours among adolescents as they reach sexual maturity. Also socio-demographic factors such as age, sex, religion have influence on the adolescent. Also, peers influence them to engage in risky sexual behaviours at an early age. This is because they get closer to their peers at this stage when parental closeness and bonding is missing.

Further, how their knowledge and risk perception can either increase or decrease such behaviours among them are also explained. These are related and predispose the adolescent to health problems in their early age and future complications when they engage in early sexual relations. Also, how the perception of adolescents about such health problems as in STIs/HIV, unwanted pregnancy, abortions etc influence or affect their engaging in risky sexual behaviours such as early sexual intercourse, multiple sexual partners, inconsistent use of condom, unprotected sex, casual sex, sex with men 10 or more years older etc. The confident level in relation to self-efficacy of the adolescent can positively or negatively influence such acts. It exposes them to low self-esteem, violence among others.

These behaviours affect the adolescent in one way or the other in which effective parental communication about issues of sex and the opposite sex is encouraged and monitoring of the kind of friends their wards keep could also help to prevent peer influence and such problems and complications would be avoided. Also it can help build their self- esteem, self-efficacy and assertive skills.

1.4 Objectives

The objective of the study was to assess the risky sexual behaviour among senior high school students in the La-Nkwantanag Madina Municipality and to determine factors which influence these behaviours.

1.4.1 Specific objectives

- To determine the proportion of students who engage in risky sexual behaviour.
- To identify factors that influence risky sexual behaviours among students.
- To examine students perceived risk of STIs, HIV and pregnancy.
- To determine the level of self-efficacy regarding risky sexual activities among students.

1.4.2 Research questions

- Do students in the senior high schools in La-Nkwantanag engage in risky sexual behaviour?
- To what extent do students in the senior high school know about STIs, HIV and pregnancy?
- What are the factors that influence students to engage in risky sexual behaviour?
- What is the level of self-efficacy regarding safer sex practice among students?
- What do students in the senior high schools know about contraceptives and its use?

1.5 Justification of the study

Young people that would form the major workforce of the nation and take charge of the nation's economy and future developmental project are vulnerable. Therefore as the rate of infections, abortions and unwanted pregnancies increase among this age group, it leads to loses to the nation and the world at large. Therefore, there is the need in finding out the factors that drive young people to engage in risky sexual behaviours that endanger their health.

The La-Nkwantanag Madina was chosen as the geographical area because it is one of the newly established municipalities in the Greater Accra Region comprising people of diverse background with mixed and single sex public and private schools. It is also due to the fact that it has an urban, peri-urban and rural communities with all kinds of activities such as trading, the privileges in education, exposure to ICT among others as compared to people living in the rural communities, young people are more likely to engage in risky behaviours compared with older ones.

This study served as a baseline for future studies on adolescent risky sexual behaviours. Findings of the study will inform policy formulation regarding the health and development of adolescents. More specifically the La-Nkwantanag Madina Municipality (LaNMM) Health and Education Directorates were well informed about risky sexual behavioural patterns of in-school adolescents, and design appropriate interventions to improve on adolescent health.

CHAPTER TWO

2.0 LITERATURE REVIEW

2.1 Introduction

This section reviewed studies done on risky sexual behaviour from journals, database resources, the internet among others and was based on socio-demographic factors (age, sex, religion, education), environmental factors (early sex debut, parental and peer influence), behavioural factors (self-efficacy and safe sex practice, adolescent sexual behaviour and condom use), cognitive factors (perceived risk and knowledge about risky sexual behaviour).

2.2 Adolescent sexual behaviour

Adolescence is a challenging phase of life, within which the individual attains physical, sexual and social maturity (GSS, GHS & ICF, 2009). Adolescent sexual behaviour is a major health problem and concern. It is usually one of the lifestyle behaviours responsible for unprotected sex, unwanted pregnancies, illegal abortions, alcohol abuse and STIs/HIV infections. From literature reviewed and interviews, it is evident that adolescents are engaged in risky sexual behaviours as stated above.

According to the 2014 GDHS report, among adolescent females and males between the ages of 15- 24 years who have had sexual partners within the last 12 months is 2.2% and 7.9% respectively (GSS, GHS & ICF, 2015).

A study done by Nwankwo & Nwoke (2009) on '*Risky sexual behaviours among adolescents in Owerri Municipal: predictors of unmet family health needs*', found that, majority of the respondents, 292 (61.1 %) have had sex when they were in the junior (JSS 1-3) class, many 86 (18.0%) however said they couldn't remember, some 64 (13.4%) had

the sexual experience in their senior secondary class (SSI-3), while few 36 (7.5%) had sexual experience when they were in primary school.

This findings also points out what the Centres for Disease Control and Prevention, (2004), had earlier confirmed that nearly half of students in JHS and SHS have had sexual intercourse and over 60% reported having had sex by the time they graduate (CDC, 2004).

Again rates of premarital sexual activity among adolescents were found to be higher in urban than in rural areas. Religion is said to play a major role in delaying early sexual debut and other risky sexual behaviours among adolescents (Osafo, Asampong, Langmagne & Ahiedeke, 2013)

A study in Zambia among teenagers reported that, affiliation with religious groups that excommunicate members for engaging in premarital sex are more likely to delay the onset of sexual intercourse among young women but less likely to promote the use of condoms during first sex (Agha et al., 2006). Another study in Malawi found that adolescents who attend religious services frequently are less likely to be sexually active than those who do not, and those who attend congregations in which AIDS is discussed frequently are more likely to be virgins (Trinitapoli & Regnerus, 2007).

In Ghana, a study done in Somanya and Adidome by Osafo, Asampong, Langmagne and Ahiedeke (2013), found Ghanaians to be radically religious. With an increase in socialization events and centres, social activities such as clubbing and going to the movies have become very common for young people today. These provide opportunities for young people to experiment with alcohol and drugs which has been identified as social lubricants and influence them to engage in risky behaviours such as casual sex which increases one's risk of teenage pregnancies, abortions, STIs including HIV (Asiimwe, Kibombo, & Neema, 2003).

2.3 Adolescents knowledge on risky sexual behaviour and condom use

Acquiring knowledge about contraceptive methods is an important step towards gaining access to family planning services and then adopting a suitable contraceptive method. The WHO stipulates that, family planning methods is made available and easily accessible through trained health workers for anyone who is sexually active, including adolescents. According to the WHO (2013), contraceptive use has increased in many parts of the world, especially in Asia and Latin America, but continues to be low in sub-Saharan Africa. Globally, use of modern contraception has risen slightly, from 54% in 1990 to 57% in 2012. Regionally, the proportion of women aged 15–49 reporting use of a modern contraceptive method has risen minimally between 2008 and 2012. In Africa it went from 23% to 24%, in Asia it has remained at 62%, and in Latin America and the Caribbean it rose slightly from 64% to 67%.

According to the Ghana Demographic and Health Survey (GSS, GHS & ICF, 2009), knowledge of any contraceptive method is almost universal in Ghana, with 98% of all women and 99% of all men knowing at least one method of contraception. Modern methods also remain more widely known than traditional methods.

Ninety-eight percent of all women know of a modern method, compared with 77% who know of a traditional method. Among women, the male condom is the most commonly known method (94%), followed by the pill (87%), injectables (86%), and the female condom (81%). It was also shown that, emergency contraception is known by 35% of all women. Lactational amenorrhoea method (LAM) is the least known method of about 9%. Among the traditional methods, rhythm is the most commonly known (70%), followed closely by withdrawal (61%).

The GDHS 2008 also showed that, knowledge of contraceptive methods among women age 15-49 years in Ghana has increased over the past two decades, although there has been little or no increase over the past five years. The proportion of all women age 15-49 years who have heard of at least one method of family planning increased from 76% in 1988 to 98% in 2003 and 2008.

Knowledge of specific methods has shown even more dramatic increases over the 20-year period. For example, the proportion of women age 15-49 years who have heard of injectables increased from 43% to 86%, the proportion who have heard of the pill increased from 60% to 87%, and the proportion who has heard of the male condom increased from 49% to 94%. The mean number of methods known among all women, however, decreased slightly from 8.6% in 2003 to 7.8% in 2008.

According to GDHS, 2008 female and male adolescents between the ages of 15-19 who have knowledge about condom use is 92.5% and 62.0% respectively and age 20-24 is also97.1% male and 78.9% females have knowledge about condom use (GSS, GHS & ICF, 2009).

Adolescents have the right to choose any of the contraception methods available in recent time. The use of it by adolescents is low as compared to adults. Contraception is made up of several methods, some of which help prevent the transmission of HIV and other sexually transmitted infections (STIs), reduces the need for unsafe abortion and unwanted pregnancies.

The number of females and males who have ever used condom between the ages of 15-19 is 1.5% and 43.8% respectively and ages 20-24 is 0.8% and 48.8% respectively. Currently, adolescent female and male who use condom between ages 15-19 is 0.0% and 23.3%

respectively and ages 20-24 is 0% and 14.9% respectively (GSS et al, 2009). This shows a gap between knowledge and practice.

According to GDHS, 2014, condom use at last sex among adolescent females and males between the ages of 15-24 years is 14.9% and 34.2% respectively (GSS, GHS & ICF, 2015).

Being an adolescent in an African setting is especially challenging, due to our norms and cultural practices. There are several cultural barriers that limit the adolescent even to know about the contraception methods available to him/her. Thus adolescents are exposed to unwanted pregnancies, HIV, the risks of sexually transmitted infections (STIs), and unsafe abortions.

2.4 Factors that influence adolescents to engage in risky sexual behaviour

2.4.1 Early sexual debut

The age of sexual debut is an important determinant of a person's risk of contracting STIs including HIV. Those who become sexually active at an early age are at higher risk of being infected (Monasch & Mahly, 2006).

Select behaviours such as number of sexual partners a person has, low levels of condom use, age of sexual debut, sexual intercourse with men 10 years or more older, casual sex, alcohol and drugs use prior to sex among this age group also elevates his or her risk of contracting HIV (Dancy, Kaponda, Kachingwe, & Norr, 2006). Although there is no universal trend for these patterns of behaviours, the shift towards late marriage in most countries has led to premarital sex (Wellings et al., 2006). Regardless of the importance of

sexual debut for the risk of STIs/HIV infection, only a few studies have examined postponement of first sex as a strategy to prevent infection (Wellings et al., 2006).

A study among people aged 9 to 17 years in 160 schools in Kenya to understand factors that influenced the timing of first sex indicated that adolescents who felt they were at no risk were most likely to postpone the initiation of first sex. Results of the same study indicated the patterns of associations across gender. The results suggest that males were pressured into early sex to prove their maturity (Tenkorang & Maticka-Tyndale, 2008b). Another research also indicated that female youth perceive themselves to be at a very low risk. Males who had a higher knowledge about sexual and reproductive health issues experienced their sexual debut later. For both sexes, socioeconomic and familial factors also influence the timing of sexual debut (Tenkorang, Rajulton, &Maticka-Tyndale, 2009).

One's socioeconomic status also contributes to his/her risk of being infected with STIs since poverty pushes people to engage in risky sexual behaviours. Evidence from a study on poverty as a driver for risky sexual behaviour in four countries in sub-Saharan Africa shows that although the link between wealth status and sexual behaviour is inconsistent, poor females are vulnerable to infection because of their early sexual debut and not using condom (Madise, Zulu, & Ciera, 2007).

2.4.2 Parental influence

Previous studies attribute variations in adolescent sexual risk behaviours to factors such as cultural, religious influences and migration (Jayakody et al., 2011). In another study adolescent sexual risk behaviours were attributed to social class, future aspiration,

academic and social self-perception, depressed moods, family connection, gender, alcohol, drug abuse and ethnicity (Wellings et al., 2001).

In particular, high scores of parental monitoring, future aspirations, academic self-concept and low scores of depressed moods were found to be protective factors against early sexual debut (Valle et al., 2005). Whereas smoking behaviour, alcohol consumption, peer affiliation and frequency of visiting a discotheque were found to be significantly associated with early sexual debut (Magnusson, 2011).

Several researchers have identified the absence of biological fathers from the home as a major component influencing both early sexual activity and teenage pregnancy (Ellis et al., 2003). It has been shown that changes in family structure, such as divorce, influence early sexual debut; affects young adolescent females more than male (Sturgeon, 2008). Ellis and colleagues (2003) found that "*earlier onset of father absence was associated with a corresponding increase in girls' rates of both early sexual activity and adolescent pregnancy*".

Cultural differences also have varied impact on adolescents. For example, white females are the most affected in deciding to engage in sexual behaviour in adolescence when born to unmarried parents and faced with a variety of changes in their family structure (Albrecht & Teachman, 2003).Adolescents from single-mother families, married stepfamilies, and cohabitating stepfamilies are more likely to participate in risky behaviours compared to adolescents from a biological two-parent family (Brown & Rinelli, 2010).

Researchers found that: female adolescents in communities with higher risky behaviour rates and low social capital; and adolescents in communities with greater crime and

violence were more likely to engage in risky behaviours (Youngblade et al., 2006). DeLisi and colleagues (2009) stated that "if poverty affects behaviour that leads to risk taking, externalizing behaviours and misconduct, can't be said to be neurological. A national longitudinal survey of 12 to 19 year olds reported that 47 percent of youth felt their parents had the most influence on their decisions about sex (Ikramullah, et al., 2009).

Adolescence is the first stage of independence from parental influence due to the increased involvement with peer networks outside of the home. Adolescents may attribute their decisions about sex to parental monitoring, which causes adolescents to either reduce their involvement in sexual behaviours or with sexually active peers because of fear of being reprimanded by parents (Xiamong, Feigelman, & Stanton, 2000).

These factors are only related if the parent takes an active role in adolescent's life. Parera and Suris (2004) have discovered that decreased parental monitoring can lead to adolescents in multiple sexual partnership and STIs. An overall good, positive relationship between parent and child has been found to delay sexual experiences for adolescents (Ikramullah, et al., 2009). These relationships allow both parent and child to develop better lines of communication, which will allow for the likelihood of them having an open dialogue about sex (Pearson, Muller, & Frisco, 2006). It was found that girls were more likely to delay sexual encounters than boys, but the researchers were not sure about why this occurred (Pearson et al., 2006).

Harris (2000) has found that fatherless rearing affects adolescents most when the father has left the home and still is alive rather than one who has died. There is a possible state of void for adolescents who do not have the biological father present in the home.

Baumrind (1991) concluded that fathers who have an authoritarian, permissive, or uninvolved parenting style will have adolescents who are more prone to experiencing

negative outcomes. Higher levels of father involvement are associated with a decreased risk of early adolescents engaging in risky sexual behaviour (Bronte-Tinkew et al. 2006). Biological fathers are more influential than non-biological fathers, such as stepfathers, in an adolescent's choice in the timing (age) of their sexual debut (Sturgeon, 2008).

Asampong et al's (2013) study, among students aged 13 to 18 in Ghana found that non-initiation of sex was associated with having a two-parent family and higher socioeconomic status, residing in a rural area, performing better in school, feeling greater religiosity, not having suicidal thoughts, and believing parents care and hold high expectations for their children (Cohen, Asarnow, Sabb, Bilder, Bookheimer, Knowlton, Poldrack, 2013).

In another study, adolescents who reported being highly satisfied with their relationship with parent were 2.7 times less likely to engage in sex than teens who had little satisfaction with their parental relationships. In that same study, relationship satisfaction with parents was associated with a lower probability of engaging in sex, higher probability of using birth control if sex occurred, and lower probability of pregnancy.

On the other hand, adolescents' perception of maternal opposition toward engaging in sex was associated with a lower probability of engaging in sex and a lower probability of pregnancy. Indeed the notion that parents have significant influence on the sexual and reproductive health of their children cannot be overemphasized (Connolly, Furman, Konarksi, 2000).

2.4.3 Peer influence

The influence of peers on premarital sex as well as other risky sexual related behaviours cannot be underestimated as relationships with their peers is central to their lives and

hence very important in understanding their engagements in various behaviours (Crosnoe & McNeely, 2008; Maluwa-Banda, 2003). This is usually the case especially when there is lack of communication about sexual issues in the family. Peer norms have been found to be strongly related to adolescents who had not discussed sex or the use of condoms with a parent (Whitaker & Miller, 2000).

Sexual norms of peers can influence youth's individual attitudes and behaviours. Young people as a vulnerable group are often left out in the discussion of sexual matters and in their curiosity, they resort to discussions and obtaining distorted information from their peers.

In an exploratory study carried out in a French high school, results from data collected revealed that the perception of peers is associated with higher frequency of sexual initiation and young people whose friends are sexually active are more likely to engage in sexual activities (Mmari & Blum, 2009).

Perceptions of best friends' behaviour were significantly associated with adolescents' own oral sex behaviour, but not intercourse. Adolescents who reported sexual activity had high levels of reputation-based popularity, but not likeability among peers; however, sex with more partners was associated with lower levels of popularity (Prinstein, Meade, & Cohen, 2003).

2.5 Risk perception and sexual behaviour

Perceived risk, is defined as a subjective assessment of the probability of an event and its seriousness (Michaelson, 2003), and comprises of perceived seriousness and perceived severity, both constructs from the health belief model. According to Beck, (2006), risk

presents the anticipation of a catastrophe and HIV is a typical example of a modern day catastrophe. Understanding what risk actually means could provide the necessary data for public health interventions to create conditions that will help reduce risky sexual behaviour (Rhodes, 1997).

Risk has been found to be negatively or positively associated with adolescents' sexual behaviours. Some studies have found that risk perception increases with age and that is expected considering that young adolescents may not have acquired the cognitive maturity that enables them to anticipate long term consequences (Patino et al., 2005). This could also be attributed to optimism bias which can be defined as a positive illusion of invulnerability on the part of the adolescent. When people believe they are not at risk or have low perception (optimism bias), they engage in risky behaviours (Adefuye, Abiona, Balogun, & Lukobo-Durrell, 2009).

Adolescents may appear to control fear by denying the threat because acknowledging one's own risk means putting one's self in a stigmatized group and may avoid this by downplaying their personal risk. this may lead to low risk perception (Macintyre, 2004). Osho and Olayinka (1997) revealed that there is a significant positive relationship between risk perception of HIV and their sexual behaviour because whatever perception they have about the disease will influence how they behave sexually (Olayinka & Osho, 1997).

That is, the way they interpret HIV-related issues is responsible for the behaviours. Studies in some sub-Saharan African countries show that young people often perceive their risk of HIV to be low even if they engage in high risk behaviour and are knowledgeable about HIV (Barden-O'Fallon et al., 2004). However, others have also found high levels of

perceived risk to be associated with low levels of sexual risk taking behaviours (Anderson et al., 2007). Another study found a relationship between HIV risk perception and condom use. About 27% of women and 80% of men who considered themselves not to be vulnerable or at low risk of contracting HIV were actually at moderate or high risk (Prata, Morris, Mazive, Vahidnia, & Stehr, 2006). Others also found significant positive association between perceived risk and risky sexual behaviours among males but not females even though most female adolescents felt at great risk of infection (Kibombo et al., 2007).

A study in Mozambique using the country's 2001 Adolescent and Young Adult Reproductive Health and Behaviour Risk survey compared young adults' assessment of their HIV risk with assessment based on their current and past sexual behaviour. 27% of women and 80% of men who considered themselves to have no risk or small risk of contracting the disease when they were actually at moderate or high risk (Prata, Morris, Mazive, Vahidnia, & Stehr, 2006).

Since knowledge and perceptions about HIV and AIDS have been found to influence people's sexual behaviours, the emphasis on the management and reduction of the rate of infection is laid on education which is a social vaccination against the disease since there is no cure for HIV (Anarfi & Appiah, 2004).

2.6 Self efficacy of safe sex practice

As already mentioned, adolescence is a time marked by experimentation which includes engaging in risky sexual behaviours. Self-efficacy has been defined as the individual's believe in their capability of carrying out a goal directed behaviours within an activity

context and in this case is how confident one feels about tackling certain tasks and challenges (Chilisa et al., 2012).

Perceived self-efficacy has been suggested to be a strong predictor of carrying out a recommended deed (Bandura, 1977). In general, it has been reported that people who have confidence in their ability to carry out these tasks tend to view it as a meaningful challenge whereas others just find it discouraging. Bandura recognized the importance of applying the concept of self-efficacy to the control of sexuality among young people and hypothesized that just providing people with information on the dangers of HIV will not work in the face of sexual decision making. He explained that the weaker the perceived self-efficacy, the more likely it is for one to participate in risky sexual behaviour. It is therefore important that one's belief in the ability to use condoms effectively and to practice safe sex may be an important factor that has to be taken into account in designing HIV interventions (Lescano, Brown, Miller, & Puster, 2007). From literature, it was gathered that not much has been documented on self-efficacy's role on other safe sex practice beside condom use. The current research goes beyond condom efficacy to include other safe sex practices such as abstinence and being faithful to one sexual partner.

Self-efficacy has also been identified among other variables as an important predictor of intended condom use and actual condom use. Researchers such as Outlaw et al, 2010 also came up with similar findings that young people who exhibit higher self-efficacy are more likely to utilize condoms (Outlaw et al., 2010). The degree of self-efficacy in avoiding risky sexual behaviours has a significant predictive value on actual sexual behaviour among Taiwanese adolescents aged 16 to 18 years. Thus the higher the self-efficacy, the

less likely it is that they will engage in risky sexual behaviour (Li, Lee, Thammawijaya, Jiraphongsa, & Rotheram-Borus, 2009).

A meta-analysis involving 134 people estimated self-efficacy and response efficacy of condom use found that self-efficacy was more predictive than response efficacy for reducing intended risk and behaviour such as condom use intention, self-reported condom use and number of sexual partners (Casey, Timmermann, Allen, Krahn, &Turkiewicz, 2009).

In a sample of 399 secondary school students, including students with and without sexual experience, it was found that intended condom use was not sufficient to ensure that adolescents plan and prepare for condom use. Many adolescents fail to use condoms, even when they are motivated to do so. Failure to use condoms was attributed to the fact that they do not prepare themselves for potential sexual encounters. It was found that having the goal of condom use did not necessarily result in preparatory behaviour, such as buying and carrying condom (VanEmpelen & Kok, 2008).

A cross-sectional correlational study among young people aged 18 to 25 years in a University in Seoul, Korea who completed a background and sex behaviour questionnaire conceptualized out of the theory of planned behaviour. Though the components of the theory significantly predicted condom use for men, attitude towards condom and efficacy to use condom significantly predicted condom use among the women (Cha et al., 2008).

A similar study among African-American and White college students, investigating potential differences in terms of current and future sexual behaviours and safer sex

behaviours using a convenience sample of 156 college students from three public universities, of those who were sexually active, more African American reported that they used condoms frequently and also indicated that they would use it regularly in the future (Davis, Sloan, MacMaster, & Kilbourne, 2007).

However, inconsistent condom use was more likely in relationships in which the male partner has ever used threat or force to engage in sex or the use of alcohol (Hoffman, O'Sullivan, Harrison, Dolezal, & Monroe-Wise, 2006). In a study among South African sexually active youth, men and women having talked to a partner about using condoms was the most significant predictor of consistent condom use and those who reported being in their most recent relationship for more than one year and reported having had sex one or more times in the last month were more likely to report inconsistent condom use (Moyo, Levandowski, MacPhail, Rees, & Pettifor, 2008).

CHAPTER THREE

3.0 METHODOLOGY

This section describes the methodological approach to the study. The section covers the measurements of the variables in the research, the study design, sampling, data collection procedures, data entry, data analysis as well as ethical issues.

3.1 Type of study

This study was a descriptive school-based cross-sectional quantitative study.

3.2 Study area

The study was conducted in the La – Nkwantanang Madina Municipality, located at the northern part of Greater Accra Region. It is one of the sixteen (16) Metropolitan/Municipal/Districts in the Greater Accra Region and covers a land area of 166 sq km. It is one of the newly created districts in the Region. Geographically, it is a small municipality boarded on the west by the Ga East Municipality, on the east by the Adentan Municipality the south by Accra Metropolitan Area and the north by the Akwapim South District.

According to the 2010 population and housing census (PHC), the municipality's population was 161,873 with an annual growth rate of 4.2%.

3.2.1 Health system and infrastructure

The Municipality has a total of thirty-nine (39) health facilities, both public and private. Out of this number, two (2) are government polyclinics, one (1) health center and one an autonomous government hospital (Pantang Psychiatrist Hospital).

3.2.2 Education

The Municipal Assembly has 156 schools from early childhood development schools to tertiary. There are 12 Senior High Schools (SHS), two are public and 10 private.

3.3 Study variables

The dependant variable was: Risky sexual behaviour

3.3.1 Description of the created dependent variable

The dependent variable was generated out of five questions, these questions are:

Ever had sexual intercourse in exchange for cash or gift, ever had sex when drunk, ever had sex with a person 10 years or more older, sexual partners had within the last 12 months , condom use during last sexual intercourse.

The five questions were coded as 0 = no and 1 = yes, whiles the last question's code was negatively phrased so was re-coded as 0 = yes and1 = no.

Also the fourth question was in figures, so was re-coded as (0-1) = 0(no) and (2-5) =1(yes).

Therefore anyone who scored 0 was said not to engage in risky sexual behaviours and anyone that scored from 1 to 5 was said to be engaged in risky sexual behaviour.

The independent or explanatory variables were:

- Socio-demographic factors such as age, sex, religion, form, residence.
- Environmental factors such as early sex debut, parental influence, peer influence.
- Cognitive factors such as perceived risk, knowledge.
- Behavioural factors such as self-efficacy, safe sex practice.

3.3.2 Description of the created independent variables

Self-efficacy was measured using four questions, these were:

- Confident to abstain from sexual intercourse until marriage, confident to stay with only one sexual partner, confident to refuse sex with someone if you don't want to and confident to insist on condom use during sexual intercourse even if partner does not want to use one.

The highest value was 12 that is, very confident and 8 is confident and the lowest 4 was not confident. Therefore, a two point scale was used to categorize them into 0 = not confident and 1 = confident. In that, all those who fell within 0-7 were classified as not confident (0), therefore not self-efficacious and all those who fell within 8-12 were classified as being confident (1).

Perceived risk was measured using three questions, these were:

- Risk of getting STIs, risk of getting HIV and risk of becoming pregnant.

The three questions were coded as 0 = no and 1 = yes. Therefore anyone who scored 0 was said not to be at risk and anyone that scored between 1 and 3 was said to be at risk.

3.4 Study population

The study population was a sample composed of female and male Senior High School adolescents between the ages of 15-24 in forms 1, 2 and 3 at La-Nkwantanag Madina.

3.5 Inclusion and exclusion criteria

To qualify into the study,

- Participants in SHS who were between 15-24 years of age, so therefore, any one below or above the stated age did not form part of the study.
- Participants were to be in either SHS form 1, 2 or 3, anyone who was not in the educational level stated were not to be part of the study.

3.6 Sample size determination

Since the prevalence of risky sexual behaviour among senior high school students was unknown, 50% was assumed as used in previous studies (Jones' et al 1997).

The sample size for the study was calculated using the formula proposed by Cochran (1977) as follows:

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

Where,

N= Required sample size

Z= 95% confidence interval (standard value = 1.96)

P= Prevalence of high risk sexual behaviour

d= Margin of error

Using p= 0.5

$$N = \frac{1.96^2 \times 0.5(1-0.5)}{0.05^2} \times 100 = 384.2 \sim 384$$

Using a margin of error of 5%, a sample size of 384 was computed.

The sample size was however increased by 5% to account for contingencies such as non-response (0.05 × 384 = 19.2). The final sample size = 384 + 19 = 403. The figure was rounded up to 406.

3.7 Sampling Procedure

A multi-stage sampling technique was used. The schools were stratified into public and private.

- In the first stage, 3 schools were randomly selected comprising 1 public school and 2 private, out of the 12 senior high schools.
- The second stage involved random selection of classes in each selected school.
- The third stage involved systematic sampling technique used to select students using the class register of the selected classes. A sampling interval was calculated and every *n*th student was selected. The sample size was proportionally distributed among the 3 school[1] as follows:

School A: $\frac{1,796}{3796} \times 406 = 192$

School B: $\frac{1,600}{3796} \times 406 = 171$

School C: $\frac{400}{3796} \times 406 = 43$

Therefore, in school A, B and C respectively; 192 respondents, 171 respondents and 43 respondents respectively.

3.8 Data collection techniques and tools

A structured questionnaire (Appendix 2) which had both opened and closed questions was used to gather quantitative data for the study. The questionnaire had five sections: (A) socio-demographic characteristics (B) parental and peer factors (C) adolescent sexual

[1] For ethical reasons, names of schools were not used.

behavior and contraceptive use (D) knowledge and risk perception (E) self-efficacy. A self-administered technique was used to gather data from students. Questionnaires were thus distributed to students and the trained research assistants and the principal investigator were on standby to provide necessary assistance and support to the students during the data collection period, this prevented students from relying on their fellow colleagues for explanation on the questions. The questionnaires used were extracted from a previous related study by Manu, (2011) which were modified in order to be relevant to SHS adolescents, with a few designed by the principal investigator.

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3.9 Quality control measures

The following quality control measures were adopted to ensure reliability of data:

- Four qualified research assistants were trained before data collection; all four were males with experience about adolescent's issues. They were chosen based on their experience in data collection and familiarity with the context to be able to encourage room for questions due to the sensitive issues on sexual behaviour among SHS adolescents.
- The questionnaires were pretested and feedback and recommendations were incorporated to improve the content.
- Questionnaires were reviewed on the field to check for inconsistencies and completeness.
- Respondents were encouraged to examine the questionnaire for corrections, completeness and accuracy before returning them.
- Anonymity and confidentiality were assured by informing respondents not to write their names and encouraged to give accurate answers.

- Incentives such as pens, was given to each student to use to answer the questions and they were informed not to write their names but indicate their initials and the name of the school.

3.9.1 Training of research assistance

A 2-day session for the research assistants was organized. The aim of the training was to equip them with the requisite skills needed to render assistance to the respondents doing the data collection process.

The first session covered the general overview of the study which included the purpose of the study sample selection procedures, the research process and research ethics.

Training was done specifically because of the sensitivity of the topic and more also because SHS adolescents were vulnerable. Special attention was given to the ethical principles of research involving human subjects. More specifically, the sensitive nature of the study on adolescents with its ethical implications were addressed, especially the confidentiality of the information obtained and the privacy of the research participants.

The second session looks into the technicalities of the research instruments and their implementation. The questionnaire followed description of the different sections and instructions; overview of individual questions and their response option; recommendation for editing questionnaires and clarity and removal of any ambiguity in the question.

3.9.2 Pre-test

The data collecting instruments were pre-tested, students from one SHS that was not selected for the main study was used. The pre-test ensured readability, comprehensive and logical flow of the questions. This was to increase the validity and reliability of the response. Necessary corrections were made before the questionnaire was finalized.

3.9.3 Ethical consideration

The following ethical issues were considered in the study:

- Ethical approval for the study was obtained from the Ethical Review Committee of the Research and Development Division of the Ghana Health Service with the approved ID number GHS-ERC 95/02/15.
- Introductory letter was given from the Department of Population, Family and Reproductive Health at the school of public health and was sent to the District Health Directorate.
- Permission and approval was obtained from the Municipal Education Office and the various school authorities before data collection commenced.
- Anonymity and confidentiality was ensured. Students were not required to write their names on the questionnaire; only identity numbers were used. In addition, data analysis was done at the aggregate level without any record linking individual students.
- Questionnaires were coded and kept safe by the principal investigator. Data collected were coded and entered within 72 hours of collection, and was saved under a password known to only the principal investigator. Soft copy of data was

stored on a pen drive and external hard drive as well. All data collected were kept by the principal investigator.

- Written consent was sought from study participants, after the informed consent form was read and explained to them. Data was collected from them. Respondents were given the opportunity to withdraw from the study anytime they wanted to.

3.9.4 Data entry

Data entry was done using SPSS Version 20. Data cleaning was done by checking the questionnaire manually before entry. After entry the preliminary frequencies were done to check for irregularities and corrections effected. The data was then exported to STATA version 13 for analysis. Data was cleaned further to ensure that there are no irregularities.

3.10 Data analysis

Data were analysed using STATA version 13. Categorical variables were described using frequencies and percentages whiles continuous variables were described by means and standard deviations.

Descriptive statistics using percentages and frequencies were presented in tables such as socio-demographic characteristics, parental and peer factors, adolescent sexual behaviour and contraceptive use, SRH knowledge and self-efficacy were grouped and expressed as percentage over the total number of respondents used for the study. Bivariate analysis using the chi-square test to find out factors that are significantly associated with risky sexual behaviours.

Multivariate analysis which involved a multiple logistic regression was conducted to determine the actual predictors of risky sexual behaviour. All the variables that were significant at bivariate level were put in the logistic regression model. Odds ratio and their 95% confidence interval in the logistic regression model were used to assess the strength of association. In all tests, a p-value less than 0.05 was used to determine statistical significance.

CHAPTER FOUR

4.0 RESULTS

4.1 Socio-demographic characteristics of respondents

A total of 406 SHS students (male=193 and female= 213) aged between 15 and 24 were interviewed using a structured questionnaire. The mean age of the students was 17±1.09 years with males relatively older 17.3±1.9 than female 16.9±1.8 years (p= 0.019, 95% CI= 0.018-0.730). Table 4.1 presents results of the background characteristics categorised by sex of students. Compared to males, female respondents were in the majority (52.5%). About nine in ten 89.9% of the respondents were Christians. Half of the respondents were in SHS one (50.0%), even though SHS two also constituted a relatively large number 183 (45.1%). Majority 376 (92.6%) of the respondents lived with their parents or guardian followed by other relatives 22 (5.4%).

Table 4.1: Socio-demographic characteristics of study participants

Characteristics	Total	Sex of Respondents	
		Female	Male
	N (%)	N (%)	N (%)
Age			
15-19	365(89.9)	193(90.6)	172(89.1)
20-24	41(10.1)	20(9.4)	21(10.9)
Religion			
Christian	365(89.9)	199(93.4)	166(86.0)
Muslim	40(9.9)	14(6.6)	26(13.5)
Traditional	1(0.2)	0(0.0)	1(0.52)
Form			
SHS 1	203(50.0)	115(54.0)	88(45.6)
SHS 2	183(45.1)	95(44.6)	88(45.6)
SHS 3	20(4.9)	3(1.4)	17(8.8)
Live with			
Parent/guardian	376(92.6)	198(93.0)	178(92.2)
Friend	3(0.7)	1(0.47)	2(1.0)
Alone	5(1.2)	1(0.47)	4(2.1)
Other relatives	22(5.4)	13(6.1)	9(4.7)
Total	**406 (100.0)**	**213 (52.5)**	**193 (47.5)**

***SHS**- senior high school*

4.2 Environmental factors

Table 4.2 presents environmental factors that may have potential influence on sexual behaviour.

Majority (55.2%) of the adolescents indicated that they do not discuss their sexual reproductive health issues with their parents. More than half of the respondents reported that their parents know their friends (52.5%). Also, more than half (54.4%) reported that they feel more comfortable discussing their sexual reproductive health issues with their friends as compared to their parents (54.4%). About one third (32.5%) of the respondents said their parents do not restrict their movement. About one twentieth (4.4%) of the respondents indicated that their parents never knew their whereabout while slightly above one third (39.4%) of the respondents said their parents sometimes know their where about and more than half (56.2%) of the respondents said their parents always know their where about. About one seventh (14%) of the respondents said they do not seek permission and more than three quarter (85.96%) said they do.

Table 4.2: Environmental factors stratified by sex of respondents

Variables	Total N (%)	Sex of Students Female N (%)	Male N (%)
Parental knowledge about friends			
No	193(47.5)	102(47.9)	91(47.1)
Yes	213(52.5)	111(52.1)	102(52.9)
Parent-child sexual communication			
No	224(55.2)	101(47.4)	123(63.7)
Yes	182(44.8)	112(52.6)	70(36.3)
Sexual communication with parents			
No response	218(56.7)	97(45.5)	121(62.7)
Mother	163(40.2)	105(49.3)	58(30.1)
Father	25(6.2)	11(5.2)	14(7.2)
Sexual communication with other			
No response	84(20.7)	44(20.7)	40(20.7)
Friends	221(54.4)	119(55.9)	102(52.9)
Relatives	38(9.4)	22(10.3)	16(8.3)
Teacher	19(4.7)	11(5.2)	8(4.2)
Health worker	33(8.1)	13(6.1)	20(10.4)
Others	11(2.7)	4(1.9)	7(3.6)
Parental restriction			
No	132(32.5)	58(27.2)	74(38.3)
Yes	274(67.5)	155(72.8)	119(61.7)
Parental monitoring			
Never	18(4.4)	7(3.3)	11(5.7)
Sometimes	160(39.4)	62(29.1)	98(50.8)
Always	228(56.2)	14467.6)	84(43.5)
Seek permission			
No	57(14.0)	15(7.0)	42(21.8)
Yes	349(86.0)	198(93.0)	151(78.2)
Total	**406 (100.0)**	**213(52.5)**	**193 (47.5)**

***SRH**- sexual reproductive health*

4.3 Behaviourial factors among respondents

Risky sexual behaviour among SHS students was measured against five main variables.

Table 4.3 presents the sexual behaviour and contraceptive use among SHS adolescents stratified by sex of students. Out of the 406, 32% (130) had ever had sex. There was no difference between males and females who have ever had sex (35.2% versus 29.1%, p = 0.186). The median age at first sex was 16%. There was a difference between males and females who had sex willingly. Mostly males initiate sex willingly as compared to females (60.3% versus 35.5%, p = 0.005), in the same way females were mostly sexually coaxed as compared to males (64.5% versus 39.7%). There was also a difference between males and females who have had more than one sexual partner in their lifetime (67.7% versus 50.0%, p = 0.041). More males compared to females have had more than one sexual partner. Overall 27.7% have had sex within the last 12 months with a higher proportion (35.3%) being males and females (19.4%), (p = 0.043).

Table 4.3: Behavioural factors stratified by sex of respondents

Variables	Total N (%)	Sex of Students Female N (%)	Male N (%)	x^2 (df)	p-value
Age at first sex					
7-15	59(14.5)	23(37.4)	36(52.9)	0.15(1)	0.701
16-22	71(17.5)	39(62.9)	32(47.1)		
Current sexual partner					
No	324(79.8)	170(79.8)	154(79.8)	0.00(1)	0.996
Yes	82(20.2)	43(20.2)	39(20.2)		
Ever had sex					
No	276(68.0)	151(70.9)	125(64.8)	1.75(1)	0.186
Yes	130(32.0)	62(29.1)	68(35.2)		
Circumstance of first sex					
Sexual coercion	67(51.5)	40(64.5)	27(39.7)	7.99(1)	0.005
Own will	63(48.5)	22(35.5)	41(60.3)		
Lifetime sexual partner					
One lifetime sexual partner	53(40.8)	31(50.0)	22(32.3)	4.18(1)	0.041
Multiple lifetime partner	77(59.2)	31(50.0)	46(67.7)		
Sex in the last 12months					
One	94(72.3)	50(80.6)	44(64.7)	4.12(1)	0.043
Two or more	36(27.7)	12(19.4)	24(35.3)		
Pressure to have sex					
No	245(60.3)	133(62.3)	112(58.0)	0.82(1)	0.364
Yes	161(39.7)	80(37.6)	81(42.0)		
Sex for cash					
No	114(87.7)	52(45.6)	62(91.2)	1.60(1)	0.205
Yes	16(12.3)	10(62.5)	6(16.1)		
Sex when drunk					
No	119(91.5)	57(91.9)	62(91.2)	0.02(1)	0.877
Yes	11(8.5)	5(8.1)	6(8.8)		
Sex with 10years or more older					
No	101(77.7)	45(72.6)	56(82.4)	1.79(1)	0.181
Yes	29(22.3)	17(27.4)	12(17.6)		
Use of condom at first sex					
No	65(50.0)	33(53.2)	32(47.1)	0.49(1)	0.482
Yes	65(50.0)	29(46.8)	36(52.9)		
Condom use last sex					
No	52(40.0)	21(33.9)	31(45.6)	1.86(1)	0.173
Yes	78(60.0)	41(66.1)	37(54.4)		
Confident to abstain from sex before marriage					
Not confident	72 (17.7)	24 (11.3)	48 (24.9)	27.62(2)	0.001
Confident	99 (24.4)	40 (18.8)	59 (30.6)		
Very confident	235 (57.9)	149 (70.0)	86 (44.6)		
Confident to stay with only one sexual partner					
Not confident	65 (16.0)	23 (10.8)	42 (21.8)	15.39(2)	0.001

Confident	94 (23.2)	42 (19.7)	52 (26.9)		
Very confident	247 (60.8)	148 (69.5)	99 (51.3)		
Confident to refuse sex with someone if you don't want to					
Not confident	64 (15.8)	19 (8.9)	45(23.3)	26.68(2)	0.001
Confident	81 (20.0)	33(15.5)	48 (24.9)		
Very confident	261 (64.3)	161 (75.6)	100(51.8)		
Confident to insist on condom use during sex even if partner does not want to					
Not confident	94 (23.2)	45(21.1)	49 (25.4)	3.83(2)	0.147
Confident	102 (25.1)	48 (22.5)	54 (28.0)		
Very confident	210 (51.7)	120 (56.3)	90 (46.6)		

p-value from fisher's exact. *Non response was mainly due to some of the respondents not giving answers to some of the questions although they have ever had sex or is having sexual partners.*

4.4 Cognitive factors among SHS respondents

Table 4.4 presents information on SRH knowledge among the respondent. About nine in ten of the respondents reported that they have heard about family planning 92.8% (377/406). The main source of family planning information was school (47.0%), which was followed by the media (18.7%). More than half of the respondents indicated that they have heard of all the family planning methods available 68.0% (276/406).The family planning method identified by the respondent to have used were mostly the male condom, female condom, the pills and emergency pills. Only a few admitted to have used the injectables, implants and IUD. Majority of the respondents indicated that family planning was meant for married couples 56.2% (228/406), with only a few indicating that it was meant for all sexually active people 18.7% (76/406).

A little above one sixth of the respondents indicated that they have ever used modern methods. Method of contraceptives such as male, condom, female condom. injectables, implant, IUD, pill and emergency pills were used to prevent pregnancy. About one tenth (9.8%) of the respondents admitted that they are currently using a modern method of contraception which includes male condom, female condom, implants, IUD, injectable, pill and emergency pills to prevent getting pregnant. About 11.1% (45/130) indicated that they purchase these commodities from the pharmacy or drug store, with a few 3.2% (13/130) of the respondents mentioned hospital or clinic as their main source of supply. Over half 66.5% (270/406) of the respondent indicated that they were aware that one could become pregnant from only one sexual intercourse with less than one fifth (18.7%) indicating correctly that all sexually active persons are those supposed to do family planning . Exactly half of the respondents 50.0% (203/406) reported that they had no idea about when one can get pregnant in the menstrual cycle with less than one tenth (8.8%) knowing when one can become pregnant during the menstrual cycle.

Table 4.4: Cognitive factors stratified by sex among SHS respondents

Variables	Total (%)	Sex of Students Female (%)	Male (%)
Heard of family planning			
No	29(7.1)	18(8.4)	11(5.7)
Yes	377(92.9)	195(91.6)	182(94.3)
Source of information about family planning			
No response	29(7.1)	18(8.5)	11(5.7)
School	191(47.0)	95(44.6)	96(49.7)
Peers	21(5.2)	9(4.2)	12(6.2)
Media	76(18.7)	58(30.1)	58(27.2)
Health center	49(12.0)	33(15.5)	16(8.3)
Should do family planning			
Married couples	228(56.2)	123(57.7)	105(54.4)
All sexually active persons	76(18.7)	36(16.9)	40(20.7)
Don't know	102(25.1)	54(25.4)	48(24.9)
A girl can become pregnant after one unprotected sex			
No	31(7.6)	13(6.1)	18(9.3)
Yes	270(66.5)	137(64.3)	133(68.9)
Don't know	105(25.9)	63(29.6)	42(21.8)
Pregnant in the menstrual cycle			
One week before her period	91(22.4)	54(25.4)	37(19.2)
During her period	76(18.7)	26(12.2)	50(25.9)
Halfway between her period	36(8.8)	29(13.6)	7(3.6)
Don't know	203(50.0)	104(48.8)	99(51.3)

***SRH**- Sexual Reproductive Health, **FP**- Family Planning, **SHS**- senior high school. Non response was mainly due to some of the respondents haven ever had sex or not having sexual partners.*

4.5 Risky sexual behaviours

Table 4.5 shows the various risky sexual behaviours that adolescents engage themselves in. More males (35.3%) than females (19.3%) engaged in sexual intercourse within the last 12 months. More females than males were engaged in sexual intercourse in exchange for money (16.1% vs 8.8%). Majority of the females than the male respondents were engaged in sexual intercourse with men 10 or more years older than them (27.4% vs 17.7%). Most of the females (66.1%) used condom during last sex.

Table 4.5: Risky sexual behaviours stratified by sex of respondents

Variables	Total (%)	Sex of Students	
		Female (%)	Male (%)
Sex in the last 12 months			
No	94(72.3)	50(80.7)	44(64.7)
Yes	36(27.7)	12(19.3)	24(35.3)
Sex for cash			
No	114(87.7)	52(83.9)	62(91.2)
Yes	16(12.3)	10(16.1)	6(8.8)
Sex when drunk			
No	119(91.5)	57(91.9)	62(91.2)
Yes	11(8.5)	5(8.1)	6(8.8)
Sex with one 10 years or more			
No	101(77.7)	45(72.6)	56(82.3)
Yes	29(22.3)	17(27.4)	12(17.7)
Condom use last sex			
No	52(40.0)	21(33.9)	31(45.6)
Yes	78(60.0)	41(66.1)	37(54.4)

4.6 Factors associated with risky sexual behaviours among SHS respondents

A bivariate analysis (Table 4.7) show that socio-demographics, parental and peer factors significantly associated with risky sexual behaviour, parental monitoring ($p<0.036$) and seeking permission ($p<0.051$). Other sexual behaviours and history characteristics significantly associated with risky sexual behaviour included condom use at first sex ($p<0.001$) among SHS adolescents who participated (Table 4.8). SRH knowledge was not significantly associated with risky sexual behaviours among SHS respondents.

In the multivariate analysis (Table 4.10), SHS adolescent whose parents sometimes and always monitor their movement were 11 times more likely not to engage in risky sexual behaviours as compared to those whose parents never monitored their movements (OR=11.0, 95% CI: 1.21-100.39) and (OR=10.79, 95% CI: 1.18-98.83) respectively. Respondents who had between six to ten sexual partners were more likely to engage in risky sexual behaviours compared to those who had between one to five lifetime sexual partners (OR=6.97, 95% CI: 0.88-55.50). Those who used condom the first time were 5 times more likely not to engage in risky sexual behaviour as compared to those who did not use condom the first time (OR=5.06, 95% CI: 2.25-11.39).

In the adjusted multivariate model, parents monitoring the movements of the respondent sometimes and always (OR=19.70, 95% CI: 1.51-257.51) and (OR=28.05, 95% CI: 1.99-395.85), seeking permission (OR= 0.29, 95% CI: 0.09-0.97) and condom use at first sex (OR=4.82, 95% CI: 2.05-11.32) continued to be significantly associated with risky sexual behaviours**.**

Table 4.6: Socio-demographic factors associated with risky sexual behaviours among SHS respondents

Variable	Risky Sexual Behaviours		x^2 (df)	P-value
	No (n = %)	Yes (n = %)		
Sex				
Male	22(50.0)	46(53.5)	0.14 (1)	0.706
Female	22(50.0)	40(46.5)		
Religion				
Christian	40(90.9)	73(84.9)		0.418*
Muslim	4(0.1)	13915.1)		
Age				
15-19	39(88.6)	69(80.2)	1.46 (1)	0.227
20-24	5(11.4)	17(19.8)		
Live with				
Parent/guardian	38(86.4)	77(89.5)		0.604*
Friends	0(0.0)	2(2.3)		
Alone	2(4.6)	2(2.3)		
Other relatives	4(9.1)	5(5.8)		
Form				
SHS 1	24(54.6)	39(45.3)		0.593*
SHS 2	17(38.6)	41(47.7)		
SHS 3	3(6.8)	6(7.0)		

***p-values from fisher's exact test, *df**- *difference of freedom,* ***SRH**- *sexual reproductive health*

Table 4.7: Environmental factors associated with risky sexual behaviours among SHS respondents

Variable	Risky Sexual Behaviours		x^2 (df)	P-value
	No (n = %)	Yes (n = %)		
Parental knowledge about friends				
No	21(47.7)	36(41.9)	0.41 (1)	0.524
Yes	23(52.3)	50(58.1)		
Parent-child sexual communication				
No	22(50.0)	48(55.8)	0.40 (1)	0.529
Yes	22(50.0)	38(44.2)		
Sexual communication with parent				
No response	22(50.0)	47(54.6)	0.78 (2)	0.677
Mother	17(38.6)	33(38.4)		
Father	5(11.4)	6(7.0)		
Sexual communication with others				
No response	7(15.9)	11(12.8)		0.666*
Friends	26(59.1)	49(57.0)		
Relatives	4(9.1)	10(11.6)		
Teacher	3(6.8)	2(2.3)		
Health worker	3(6.8)	12(14.0)		
Others	1(2.3)	2(2.3)		
Parental restriction				
No	16(36.4)	30(34.9)	0.03 (1)	0.867
Yes	28(63.6)	56(65.1)		
Parental monitoring				
Never	5(11.4)	1(1.2)		0.039*
Sometimes	20(45.4)	44(51.2)		
Always	19(43.2)	41(47.7)		
Seek permission				
No	6(13.6)	25(29.1)	3.82 (1)	0.051
Yes	38(86.4)	61(70.9)		

Table 4.8: Behavioural factors associated with risky sexual behaviours among SHS respondents

Variables	Risky Sexual Behaviours		x^2 (df)	p-value
	No (%)	Yes (%)		
Age at first sex				
7-15	21(47.7)	38(44.2)	0.15(1)	0.701
16-22	23(52.3)	48(55.8)		
Current sexual partner				
No	21 (47.7)	27(31.4)	3.33 (1)	0.068
Yes	23(52.3)	59(68.6)		
Circumstance of first sex				
Sexual coercion	23(52.3)	44(51.2)	0.01(1)	0.905
Own will	21(47.7)	42(48.8)		
Lifetime sexual partner				
One lifetime sexual partner	21(47.7)	32(37.2)	1.33(1)	0.248
Multiple lifetime sexual partners	23(52.3)	54(62.8)		
Pressure to have sex				
No	21(47.7)	32(37.2)	1.33(1)	0.248
Yes	23(52.3)	54(62.8)		
Use of condom at first sex				
No	33(75.0)	32(37.2)	16.63(1)	0.000
Yes	11(25.0)	54(62.8)		
Self efficacy				
Not confident	9(20.4)	30(34.9)	2.89 (1)	0.089
Confident	35(79.6)	56(65.1)		

df**-difference of freedom, STI**-sexually transmitted infection*

Table 4.9: Cognitive factors associated with risky sexual behaviours among SHS respondents

Variables	Risky Sexual Behaviours No (%)	Yes (%)	x^2 (df)	p-value
Heard of family planning				
No	2(4.5)	3(3.5)		*1.000
Yes	42(95.5)	83(96.5)		
Source of information about family planning				
No response	2(4.5)	3(3.5)		*0.713
School	23(52.3)	37(43.0)		
Peers	2(4.5)	7(8.1)		
Media	11(25.0)	29(33.7)		
Health center	6(13.6)	10(11.6)		
Who should do family planning				
Married couples	25(56.8)	41(47.7)	0.98(2)	0.612
All sexually active persons	12(27.3)	29(33.7)		
Don't know	7(15.9)	16(18.6)		
A girl can become pregnant after one unprotected sex				
No	5(11.4)	10(11.6)	1.84(2)	0.398
Yes	30(68.2)	66(76.7)		
Don't know	9(20.4)	10(11.6)		
Become pregnant in the menstrual cycle				
One week before her period	17(38.6)	23(26.7)	3.22(3)	0.360
During her period	10(22.7)	19(22.1)		
Halfway between her period	6(13.6)	10(11.6)		
Don't know	11(25.0)	34(35.9)		
Risk perception of STI, HIV and pregnancy				
Not at risk	23(52.3)	49(57.0)	0.26(1)	0.610
At risk	21(47.7)	37(43.0)		

***p-value from fisher's exact test,*df-** *difference of freedom*

Table 4.10: Multivariate logistic regression models predicting relative odds of risky sexual behaviours among SHS students

Variables	Risky Sexual Behaviour		Unadjusted	p-value	Adjusted	p-value
	No (%)	Yes (%)	OR(95% CI)		OR(95% CI)	
Parental monitoring						
Never	5(11.4)	1(1.2)	1(ref)		1(ref)	
Sometimes	20(45.4)	44(51.6)	11.0(1.21-100.39)	0.034	18.30(1.06-316.22)	0.023
Always	19(43.2)	41(47.7)	10.79(1.18-98.83)	0.035	36.22(1.88-696.15)	0.000
Seek permission						
No	6(13.6)	25(29.1)	1(ref)		1(ref)	
Yes	38(86.4)	61(70.9)	0.39 (0.14-1.03)	0.056	0.29(0.09-0.97)	0.045
Use of condom at first sex						
No	33(75.0)	32(37.2)	1(ref)		1(ref)	
Yes	11(25.0)	54(62.8)	5.06(2.25-11.39)	0.000	4.82(2.05-11.32)	0.000

***OR**- odds ratio, **CI**- cumulative incidence*

4.7 Risk perception of STI, HIV and pregnancy among SHS respondents

Table 4.11 presents risk perception of STI and sex of student ($p<0.015$), and association between risk perception of HIV and sex of respondents ($p<0.022$).

In the bivariate analysis, SHS respondents who indicated to be at risk of STI compared to those who have ever had sex without condom use first time (OR=0.37, 95% CI: 0.16-0.84) and last time (OR=0.32, 95% CI: 0.12-0.88) were more likely not to be at risk of HIV compared to those who never did.

In-school adolescents who indicated that they were at risk of getting pregnant or someone pregnant (males=60.3% and female=39.7%) with a few (23.5%) said they would abort the pregnancy and most (76.5%) indicating that they would keep it with reasons that *"It's an innocent child, killing is a sin and one will not go to heaven, it is not right, the child has the right to live, the child hasn't done anything, the child is not to be blamed, I brought it upon myself "*.

CHAPTER FIVE

5.0 DISCUSSION

This study was undertaken to assess risky sexual behaviours among senior high school students and to determine factors which influence these behaviours.

5.1 Adolescents risky sexual behaviours

The study found that 93% of SHS students were aware of about family planning. However student knowledge about SRH issues such as who should practice FP, the menstrual cycle and its related issues were poor. This finding is similar to other studies (CDC, 2004 & CDC, 2013). Contraceptive use was found to be low among the respondent although a high proportion (66%) was found to engage in risky sexual behaviours with the majority (54%) of them being males. Adolescents at this stage engage themselves in such behaviours as a result of lack of knowledge, economic problems and peer influence because although they are physically developed their intellectual ability is poor to really understand and get to know the risk involved in what they do. This was similar in a study which suggested that a high knowledge about contraception does not always translate into a higher level of contraceptive use and also even when adolescent girls know about contraceptives they are less likely to use them. This indicates a large unmet need for contraceptives among adolescents (Nwankwo & Nwoke, 2009).

About one third (32%) of the senior high school adolescents prior to the study had ever had sex with a median age at first sex of 16 years. This finding is similar to other studies (GSS et al, 2015). Sixty three percent of those who had ever had sex currently had sexual partners. More than one quarter (28%) of the respondents (females= 19.3, males= 35.3) in

this study revealed that they have had sex in the last 12 months prior to the study. Report from GDHS, 2014 indicated women and men between the ages of 15-24 years have had sexual partners in the last 12 months (2.2 vs 7.9). This finding is consistent with findings from a study in Ghana that most adolescents engage in sex before age 15 years (GSS et al, 2009).

According to MICS, 2011, more than half of the respondent (59%) engaged in sexual intercourse before age 15 years, with a little below two third (61%) being males (Multiple Indicated Cluster Survey, 2011). This results was higher than that of a study done in Ghana, with about 10% of all young women and 5% of all young men haven had sex before age 15 years (GSS et al, 2009) and the same source reported about 8% women and 5% men (GSS, GHS & ICF, 2015). This study showed that males rather than female engage in sexual intercourse earlier. This happens to be the opposite of what the 2008 Ghana Demographic and Health Survey (GDHS) found that women are likely to experience first sexual intercourse at an earlier age than men (GSS, GHS & ICF, 2009).

More than one fifth (22.3%) of the respondents between ages 15-24 years reported that they have had sex with persons 10 years or older. More females than male engage in this activity. This confirmed a study done from the Multiple Indicator Cluster Survey (MICS, 2011) which reported that intergenerational sex was relatively high among young women aged 15-24 years. In that survey, 12% of young women had sex with men at least 10 years older than them in the last 12 months. This study revealed a higher percentage than the study by MICS, (2011).

Also, this study found that the mean number of sexual partners in a lifetime for females and males were 1.9 and 3.2 respectively. This is similar to the GDHS, 2014 which reported a mean number of partner as 1.9 and 3.9 (females and males) respectively. This

implies that adolescents during this phase of life engage in behaviours without knowing its future outcomes.

5.2 Factors that influence risky sexual behaviours among in-school adolescents

This study found that some environmental and behavioural factors such as parental monitoring (OR=19.70, 95% CI: 1.51-257.51) and (OR=28.05, 95% CI: 1.99-395.85) and seeking permission (OR= 0.29, 95% CI: 0.09-0.97) and condom use at first sex (OR=4.82, 95% CI: 2.05-11.32) were found to influence risky sexual behaviours among SHS students in La-Nkwantanag Madina. This showed that adolescents whose parents monitor their movements were more not likely to engage in risky sexual behaviours. Additionally, those who sought permission from parents before going out were more likely not to engage in such behaviours. Also, those who used condom the first time were five times more likely not to engage in such behaviours.

Different studies globally have brought out the fact that adolescents in general but most especially those in senior high school engage in risky sexual behaviours such as early sexual initiation, unprotected sex, sex under the influence of alcohol or drugs, multiple sexual partnership, sex with a person 10 years or more older and incorrect or inconsistent use of condoms which puts them at risk of STIs, HIV and unwanted pregnancies (Copper, 2002). This present study revealed similar sexual behaviours among senior high school students in La-Nkwantanag Madina, in Accra- Ghana using a cross-sectional study in June 2015.

This is similar with the findings of other studies which indicated that lack of parental monitoring contribute to early sexual debut, multiple sexual partnerships and STIs (Valle et al., 2005 & Parera and Suris., 2004). In addition, an overall good and positive relationship between parent and children has been found to delay sexual experiences for

adolescents and allows both parent and child to develop better line of communication allow the likelihood of an open dialogue about sex (Ikramullah et al., 2009; Pearson, Muller, & Frisco, 2006). In addition, a study done in Ghana came up with findings that 25% of adolescent girls and boys reported having ever had sexual intercourse. 41% had experienced sex before age 15, among the sexually active 31% had multiple sexual partners. Half used condom and 31% didn't use condom or any other contraception (Doku, 2012).

5.3 Perceived risk of STIs, HIV and pregnancy

The perceived risk of STIs, HIV and pregnancy among SHS adolescents was found in this study to be 43% with a risk perception of STI (OR=0.37, 95% CI: 0.16-0.84, p<0.015) and HIV (OR=0.32, 95% CI: 0.12-0.88, p<0.022) (Table 4.11). This indicates that adolescents who had ever had sex and did not use condom the first time were more likely to be at risk compared to those who used. This could be the result of poor knowledge and low contraceptive use. This puts them at risk of STIs including HIV, unwanted pregnancy, school dropout and abortions. This shows why about 24% of SHS students said they would abort the pregnancy which may lead to their untimely death and 76% indicated they would keep it because it was their fault to get pregnant and not the child's as found by this study.

This is similar to what some studies have found that risk perception increases with age considering that young adolescents may not have acquired the cognitive maturity that enables them to anticipate long term consequences. This attributed to positive illusion of invulnerability on the part of the adolescent when people believe they are not at risk or

have low perception to engage in risky behaviours (Patino et al., 2005; Adefuye, Abiona, Balogun, & Lukobo-Durrell, 2009).

This study also found out that more than half of the respondents reported that they have ever had STI (52%) 68/130, with the majority being females (26%) 34/130. This situation may partly account for the high number of STIs among the youth and especially young women in Ghana (MICS, 2011).

5.4 Self-efficacy level regarding risky sexual engagement

In this study, more males than females indicated that they were not confident (35% vs 20%). This explains the findings that the weaker the perceived self-efficacy, the more likely it is for one to participate in risky sexual behaviour. It was therefore important that one beliefs in the ability to use condoms effectively and to practice safe sex (Lescano, Brown, Miller, & Puster, 2007).

Self-efficacy has also been identified among other variables as an important predictor of intended condom use and actual condom use. Outlaw et al, (2010) also came up with similar findings that young people who exhibit higher self-efficacy are more likely to use condoms (Outlaw et al., 2010). This study found that condom use at last sex was higher as compared to first use due to a high proportion of sexual coercion (51%) among adolescents.

5.5 Limitation of the study

- This was a district-based study conducted in an urban area. Therefore, the findings from this study cannot be generalized to Ghana as a country because a rural area study probably may find different results.

CHAPTER SIX

6.0 CONCLUSIONS AND RECOMMENDATIONS

6.1 Conclusions

The following conclusions were made based on the findings of the study:

- Risky sexual behaviour is a major problem among SHS students in La-Nkwantanag Madina Municipality.
- Factors influencing risky sexual behaviours include parental monitoring, seeking permission and condom use at first sex.
- SHS students are sexually active but have poor contraceptive behaviour inspite of the high contraceptive awareness.
- Adolescents who have low confidence in themselves are not able to refuse sex, insist on condom use, to stay with one partner and abstain from sex. Males were more self-efficacious than females.

6.2 Recommendation

Based on the findings from this study the following recommendations are made:

- Sex education in school should pay more attention to adolescent sexuality issues such as risky sexual behaviours to help increase their knowledge on SRH information and the risk involved in such practices.
- The National Media Commission should make sure the right information on SRH are broadcast with the correct content since most adolescent derive information from there.
- The Ministry of Health should strengthen the adolescent sexual and reproductive health services to make it more friendly by providing logistics and materials. Also

they should collaborate with other stakeholders to design information, education and communication programmes that focus on adolescents' risky sexual behaviours to enlighten them about it.

- Youth friendly centres with trained personnel of both sexes should be available at the community level; in order to bring health and counselling services and screening programmes to the doorstep of young people. These counsellors should attend refresher courses not just to keep them updated on current developments in the HIV front, and also come up with more creative ways of guiding tyoung people to address their sexual and reproductive needs.

REFERENCES

Adefuye, A. S., Abiona, T. C., Balogun, J. A., &Lukobo-Durrell, M. (2009b). HIV sexual risk behaviors and perception of risk among college students: implications for planning interventions. *BMC Public Health*, *9*(1), 281.

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* , 13:40 retrieved from http://www.biomedcentral.com/1472-698X/13/40

Bandura, A. (1977). Self-efficacy: toward a unifying theory of behavioural change. *Psychological review*, *84*(2), 191.

Bailey JA, Fleming CB, Henson JN, Catalano RF, Haggerty KP.(2008) Sexual risk behavior 6 months post-high school: Associations with college attendance, living with a parent, and prior risk behavior. *Journal of Adolescent Health*,42:573–579

Baumrind, D. (1991). The influence of parenting style on adolescent competent and substance use.*Journal of Early Adolescence*, *11*(1), 56-95.

Barden-O'Fallon, J. L., DeGraft-Johnson, J., Bisika, T., Sulzbach, S., Benson, A., &Tsui, A. O. (2004). Factors associated with HIV/AIDS knowledge and risk perception in rural Malawi. *AIDS and Behavior*, *8*(2), 131–140.

Bronte-Tinkew, J., Moore, K., Capps, R., &Zaff, J. (2006).The influence of father involvement on youth risk behaviors among behaviors among adolescents: a comparison of native- born and immigrant families. *Social Science Research, 35*, 181-209.

Brown, S.L, &Rinelli, L.N. (2010). Family structure, family processes, and adolescent smoking and drinking. *Journal of Research on Adolescence*, *20*(2), 259-273.

Casey, M. K., Timmermann, L., Allen, M., Krahn, S., &Turkiewicz, K. L. (2009). Response and self-efficacy of condom use: A meta-analysis of this important element of AIDS education and prevention. *Southern Communication Journal*, *74*(1), 57–78.

Centers for Disease Control and Prevention.(2004).Sexual behaviours – Adolescent and School Health. Retrieved from http://www.cdc.gov/sexualbehavior/

Cha, E.-S., Kim, K. H., & Patrick, T. E. (2008).Predictors of intention to practice safer sex among Korean college students.*Archives of sexual behaviour*, *37*(4), 641–651.

Child Trends. (2009). Facts at a glance: a fact sheet reporting national, state, and city trends in teen childbearing. *Child Trends.*Retrieved from http://www.childtrends.org/Files//Child_Trends-2009_08_31_FG_Edition.pdf

Chilisa, R., Tlhabano, K., Vista, C., Pheko, M., Losike, N., Mosime, S.,Balogun, S. K. (2012). Self efficacy, self-esteem and the intention to practice safe sex among Botswana adolescents.*International Journal Of Psychology* (Vol. 47, pp. 700–701). Retrieved from http://iosrjournals.org/iosr-jhss/papers/Vol9-issue2/L0928795.pdf

Coulter, A. (2007) *Sexual Sensation Seeking and Self-Efficacy's Relationship to Sexual Risk Taking Behavior*.Humboldt State University.Retrieved from http://humboldt-dspace.calstate.edu/handle/2148/199

Crosnoe, R., & McNeely, C. (2008). Peer relations, adolescent behavior, and public health research and practice. *Family & Community Health*, *31*, S71–S80.

DeLisi, M., Wright, J. P., Vaughn, M. G., & Beaver, K. M. (2009). Nature and nurture by definition means both: a response to males. *Journal of Adolescent Research, 25*(1), 24-30.

Doku D. (2012). Substance abuse and risky sexual behaviour among sexually experienced Ghanaian youth. *BMC Public Health* 12:571 doi: 10.1186/1471-2458-12-571

Ellis, B. J., Bates, J. E., Dodge, K.A., Fergusson, D.M., Horwood, J.L., Pettit, G.S.,&Woodward, L.(2003). Does father absence place daughters at special risk for early sexual activity and teenage pregnancy? *Child Development, 74*(3), 801-821.

Ghana Statistical Service(2009).*Ghana Demographic Health Survey*, Final Report (2008). Accra, Ghana: Ghana Statistical Service.

Ghana Statistical Service(2015).*Ghana Demographic Health Survey*, Final Report (2014). Accra, Ghana: Ghana Statistical Service.

Ghana Statistical Service (2011).*Ghana Multiple Indicator Cluster Survey with an Enhanced Malaria Module and Biomarker*, Final Report(2011). Accra, Ghana: Ghana Statistical Service.

Guilamo-Ramos, V., Bouris, A., Jaccard, J., Gonzalez, B., McCoy, W., & Aranda, D. (2011). A parent-based intervention to reduce sexual risk behavior in early adolescence: Building alliances between physicians, social workers, and parents. *Journal of Adolescent Health*, 48(2), 159-163.

Hall, A. P., Holmqvist, M., Sherry, B.S. (2004). Risky adolescent behaviour: A Psychological Perspective for Primary Care Clinicians. *Advanced Practice Nursing eJournal*,4(1) Retrieved from http://www.medscape.com/public/social

Hoffman, S., O'Sullivan, L. F., Harrison, A., Dolezal, C., & Monroe-Wise, A. (2006). HIV risk behaviors and the context of sexual coercion in young adults' sexual interactions: results from a diary study in rural South Africa. *Sexually transmitted diseases, 33*(1), 52–58.

Hueber, A.J. and Howell, L.W., (2003) Examining the relationship between adolescents sexual risk taking and perceptions of monitoring, communication and parenting styles.*Journal of Adolescent Health*, 3:71-78.

Ikramullah, E., Manlove, J., Cui, C., & Moore, K. A. (2009). Parents matter: the role of parentsin teens' decisions about sex. *Child Trends.* Retrieved from http://www.childtrends.org/Files//Child_Trends-2009_11_11_RB_Parents&TeenSex.pdf

Li, L., Lee, S.-J., Thammawijaya, P., Jiraphongsa, C., &Rotheram-Borus, M. J. (2009).Stigma, social support, and depression among people living with HIV in Thailand.*AIDS care*, *21*(8), 1007–1013.

Madise, N., Zulu, E., &Ciera, J. (2007). Is poverty a driver for risky sexual behaviour? Evidence from national surveys of adolescents in four African countries.*African Journal of Reproductive Health*, 83–98.

Nwankwo, B. O., &Nwoke, E. A. (2009). Risky sexual behaviours among adolescents in Oweri Municipal: predictors of unmet family health needs. *African Journal of Reproductive Health*, *13*, 135–145.

Orbea, Theresa B. (2010). Adolescent sexual behavior and sexual education in the United States'.*CMC Senior Thesis*, paper 5. Retrieved from http://scholarship.claremont.edu/cmc_theses/5

Osafo, J., Asampong, E., Langmagne, S., &Ahiedeke,C. (2013)Perceptions of parents on how religion influences adolescents' sexual behaviours in two Ghanaian communities: implications for HIV and AIDS prevention.*Journal of Religion and HealthISSN* 0022-4197 J Relig Health doi 10.1007/s10943-013-9689-y

Pearson, J., Muller, C., & Frisco, M.L. (2006).Parental involvement, family structure, and adolescent sexual decision making.*Sociological Perspectives, 49*(1), 67-90.

Prata, N., Morris, L., Mazive, E., Vahidnia, F., &Stehr, M. (2006b). Relationship between HIV risk perception and condom use: evidence from a population-based survey in Mozambique. *International Family Planning Perspectives*, 192–200.

Prinstein, M. J., Meade, C. S., & Cohen, G. L. (2003). Adolescent oral sex, peer popularity, and perceptions of best friends' sexual behavior. *Journal of Pediatric Psychology*, *28*(4), 243–249.

Rhodes, T. (1997). Risk theory in epidemic times: sex, drugs and the social organisation of "risk behaviour." *Sociology of Health & Illness*, *19*(2), 208–227.

Richard, R., & Van der Pligt, J. (2006).Factors affecting condom use among adolescents.*Journal of Community & Applied Social Psychology*, *1*(2), 105–116.

Sturgeon, S. W. (2008).The relationship between family structure and adolescent sexual activity.Retrieved from http://www.familyfacts.org/featuredfinding/ff_01.pdf

The Composite Budget(2013). *La-Nkwantanag Madina Municipal Assembly*, Fiscal Report (2013).Accra, Ghana: Greater Accra Region.

Tenkorang, Eric Y., Rajulton, F., &Maticka-Tyndale, E. (2009).Perceived risks of HIV/AIDS and first sexual intercourse among youth in Cape Town, South Africa.*AIDS and Behavior*, *13*(2), 234–245.

Tenkorang, Yeboah, E. &Maticka-Tyndale, E. (2008b).Factors influencing the timing of first sexual intercourse among young people in Nyanza, Kenya.*International Family Planning Perspectives*, 177–188.

Wellings, K., Collumbien, M., Slaymaker, E., Singh, S., Hodges, Z., Patel, D., &Bajos, N. (2006). Sexual behaviour in context: a global perspective. *The Lancet*, *368*(9548), 1706–1728.

Whitaker, D. J., & Miller, K. S. (2000). Parent-Adolescent Discussions about Sex and Condoms Impact on Peer Influences of Sexual Risk Behavior. *Journal of Adolescent Research*, *15*(2), 251–273.

Xiamong, L., Feigelman, S., & Stanton, B. (2000). Perceived parental monitoring and health risk behaviors among urban low-income African-American children and adolescents. *Journal of Adolescent Health, 27*, 43-48.

Youngblade, L. M., Curry, L. A., Novak, M., Vogel, B., &Shenkman, E. A. (2006).The impact of community risks and resources on adolescent risky behavior and health care expenditures.*Journal of Adolescent Health, 38,* 486-494.

APPENDICES

APPENDIX 1: INFORMED CONSENT FORM

Project Title: Risky Sexual Behaviour Among Senior High School Adolescents in the La-Nkantanag Madina Municipality.

Principal Investigator:
Elizabeth Naa Gogoi Ayettey, Department of Population, Family and Reproductive Health, School of Public Health, College of Health Sciences, University of Ghana, P. O. Box LG 73, Legon
Contact: Mobile 024 342 9171; Email abettey@yahoo.com or ayettey9171@gmail.com

General information about the study
This is a research study being undertaken as a requirement in the University of Ghana, School of Public Health, Legon to attain a masters degree in public health. This study is to help gain a better understanding of adolescent risky sexual behaviour by finding out the factors and reasons for their engaging in such behaviours in the La-Nkwantanag Madina Municipality. Despite a lot of studies done on adolescent risky sexual behaviour globally and in Ghana, much of such behaviours are not known among adolescents in the municipality although adolescent who engage in such behaviours are at high risk of STIs including HIV and unwanted pregnancy. This study is being done because of the increase risk of STI/HIV infections, unwanted pregnancy and abortion among adolescents between 15-24 years of age. The purpose of this study is to assess the risky sexual behaviours among senior high school adolescents in La-Nkwantanag Madina Municipality. Also, to determine the factors which influence these behaviours. The duration of the study will be for 9 months. Findings during this period will enable us to identify important factors that contribute to risky sexual behaviour and to address gaps in knowledge of the processes that lead to STIs including HIV and unintended pregnancy and its consequences among adolescents in the municipality.

Procedures
Young women and men aged 15-24 from selected Senior High Schools in La-Nkwantanag Madina Municipality will be used in this study. If you are eligible and agree to participate, you will be required to complete structured questionnaire. We will ask you questions about your background, health and social wellbeing, contraception knowledge, confidence level, and reproductive health. In addition, we will ask for information on contraceptive use and experiences, relation with friend. Each respondent is expected to use about 30 minutes each to complete the questionnaire.

Possible Risks and Discomforts
The study may involve some risks. Anticipated risk such as some discomfort during the process due to the sensitive, intimate nature of the topic. We will ask you questions about your background, health and social wellbeing, contraception knowledge and use, confidence level, sexual and reproductive health. Some of the questions focus directly on your personal life, and you may feel uncomfortable answering those questions or you may not know the answer to a particular question. You are free to skip any questions you are not comfortable answering.

Possible Benefits

There is no direct benefit to the participants of this study. This information will help us in identifying the factors that influence and lead adolescents in the municipality to engaging in risky sexual behaviour which puts them at risk of STIs including HIV and unwanted pregnancies. The findings of this study will help us to suggest improved ways of intervention to reduce risky sexual behaviours and its risk among adolescents in the municipality. The study will not only deepen our understanding on adolescent risky sexual behaviour, but ultimately help improve the general health and wellbeing for young women and men in Africa.

Voluntary Participation and Right to Refuse

Your participation in this study is absolutely voluntary. During the filling of the questionnaire, you can choose not to answer any questions that you do not want to answer. Additionally, you are at liberty to withdraw from the study at any time. However, we will encourage you to participate and complete the questions since your opinions are very important in helping us to assess the risky sexual behavior and perceptive risk among adolescents.

Confidentiality

We would like to assure you that whatever information you provide will be handled with strict confidentiality and used purely for research purposes which will never be used against you. Data analysis will be done at the aggregate level to ensure anonymity. Your name or personally identifying information will not be published in any report. Some staff of the research team may sometimes review the research records, but no unauthorized individual(s) will be able to access your information.

Compensation

There is no compensation for participating in this study. However, souvenirs such as pens will be given to students for participating in this research to show appreciation for their time and also helping us learn more about how to improve adolescent health in Ghana.

Contact for Additional Information

If you have questions later, you may contact:

Elizabeth Naa Gogoi Ayettey
Department of Population, Family and Reproductive Health
University of Ghana School of Public Health
College of Health Sciences
P. O. Box LG 73, Legon
Mobile 024 342 9171
Email abettey@yahoo.comor ayettey9171@gmail.com

Your rights as a Participant

If you have any questions about your rights as a research participant, you can contact the Administrator of the GHS Ethical Review Committee at the following address:

Hannah Frimpong
GHS-Ethical Review Committee
Research and Development Division
Ghana Health Service
P. O. Box MB 190
Accra
Office: 0302 681 109
Mobile: 024 451 6482
Email: Hannah.Frimpong@ghsmail.org

VOLUNTARY CONSENT

I _____, declare that the above document describing the purpose, procedures as well as risks and benefits of the research titled "(TITLE OF YOUR RESEARCH)" has been thoroughly explained to me in English language. I have been given the opportunity to have any questions about the research answered to my satisfaction. I hereby voluntarily agree to participate as a subject in this study.

_____
_____/_____/_____
Signature or Mark of Participant Date

Interviewer's statement:

I, _____, certify that the nature and purpose, the potential benefits and possible risks associated with participating in the study have been explained to the above individual in the English language. The participant has freely agreed to participate in the study.

_____
_____/_____/_____
Signature of person who obtained consent Date

APPENDIX 2: QUESTIONNAIRE

University of Ghana, School of Public Health
Project Title: Risky Sexual Behaviours Among Senior High School Adolescents in the La-Nkwantanag Madina.

YOUNG PEOPLE QUESTIONNAIRE

Respondent ID: ☐☐☐ Date of interview: (dd/mm/yy) _____/_____/_____	Name of research assistant:…….. School :…….

SECTION A: SOCIO-DEMOGRAPIC DATA

NO	QUESTIONS	CATEGORY ANSWERS		SKIP TO
A1	Sex of respondent	Male Female	1 2	
A2	Religion	Christian Muslim Traditional Others ……	1 2 3 4	
A3	How old were you on your last birthday?	……years		
A4	Whom do you live with?	Parent/Guardian Friend Alone Other relatives	1 2 3 4	
A5	Form	SHS 1 SHS2 SHS3	1 2 3	

SECTION B: PARENTAL AND PEER FACTORS

NO	QUESTIONS	CATEGORY	CODE	SKIP
B1	Do your parents know your close friends?	Yes No	1 2	
B2	Do you talk to your parents about your sexual reproductive health issues?	Yes No	1 0	
B3	If YES, which of your parents are you more comfortable discussing your sexual reproductive health issues with?	Mother Father	1 2	
B4	Apart from your parents which other person are you more comfortable discussing your SRH issues with?	Friends Relatives Teacher Health worker Others	1 2 3 4 5	

B5	Do your parent(s) guardians enforce restrictions on your movements?	Yes No	1 0	**B6**
B6	How often do your parent(s)/guardian(s) know your where about?	Never Sometimes Always	0 1 2	
B7	Do you seek permission before going out?	Yes No	1 0	

SECTION C: ADOLESCENT SEXUAL BEHAVIOUR AND CONTRACEPTIVE USE

NO.	QUESTION	CODING CATEGORY	SKIP TO
C1	Do you currently have a sexual partner *(boyfriend/girlfriend)*?	Yes 1 No 0	
C2	Have you ever had sexual intercourse?	Yes 1 No 0 → **C20**	
C3	If YES, what was your **age** when you first had sexual intercourse?	*(Age in completed years)* ☐☐	
C4	How will you describe your first sexual intercourse?	Own will 1 coaxed 2 Forced 3	
C5	How many sexual partners *(boyfriend/girlfriend)* have you had in your lifetime?	☐☐	
C6	Within the last 12 months, how many sexual partners have you had?	☐☐	
C7	Do you feel any pressure from others to have sexual intercourse?	Yes 1 No 0	
C8	From whom do you feel the pressure?	Friends 1 Relatives 2 Partner 3 Other _____ 4	
C9	Have you ever had sexual intercourse in exchange for cash or gift?	Yes 1 No 0	
C10	Have you ever had sex when drunk?	Yes 1 No 0	
C11	Have you ever had sex with someone 10 or more years older than you?	Don't know 2 Yes 1 No 0	
	Contraceptive Use		
C12	The first time you had sexual intercourse, did you use a condom?	Yes 1 No 0	
C13	Who suggested the use of a condom during sex?	Myself 1 My partner 2	

		Joint decision 3	
C14	Why did you use a condom?	To prevent pregnancy….. 1 To prevent STIs …… 2 To prevent HIV……..…...3 To prevent all the above…..4 No particular reason …. 5 Other_____ 6	
C15	If NO to C12, what prevented you and your partner from using a condom?	Not available 1 Didn't think of it 2 Too expensive 3 Partner objected 4	Don't like them 5 It was not necessary 6 Prevents enjoyment 7 Other _____ 8
C16	Did you use a condom the last time you had sexual intercourse?	Yes 1 No 0	
C17	Who suggested the use of a condom during sex?	Myself 1 My partner 2 Joint decision 3	
C18	Why did you use a condom?	To prevent pregnancy.....1 To prevent STIs ……. 2 To prevent HIV…….. .3 To prevent all the above…4 No particular reason…..... 5 Other_____ 6	
C19	If NO to C16, what prevented you and your partner from using a condom?	Not available 1 Didn't think of it 2 Too expensive 3 Partner objected 4	Don't like them 5 It was not necessary 6 Prevents enjoyment 7 Other _____ 8
C20	Have you heard about family planning?	Yes 1 No 0	**→C29**
C21	If yes, where did you hear about it	School 1 Peers 2 Media 3 Health center 4 Social media 5 Specify_____ 6	
C22	Which modern methods have you heard of or used*?* (***Circle as many as apply.)***	**Heard of** Male Condom 1 Female Condom 2 Emergency pill 3 Injectables 4 Implants 5 IUD 6	**Used** Male Condom 1 Female Condom 2 Emergency pill 3 Injectables 4 Implants 5 IUD 6

		Pill 7 Sterilization 8	Pill 7 Sterilization 8
C23	Who in your opinion should do family planning?	Married couples only 1 All sexually active persons 2 Don't know 3	
	For those who have NEVER HAD SEX, skip to C30; otherwise continue		
C24	Have you ever used any modern method to prevent getting pregnant?	Yes 1 No 0	
C25	If YES, which method did you use? (***State it).***	……	
C26	Are you currently using any modern method to prevent getting pregnant?	Yes 1 No 0	
C27	If YES, which method are you using?	……	
C28	Where do you get this commodity? *(Mention the item you recorded in C25)*	Pharmacy/Drug store 1 Hospital /Clinic 2 Health provider 3 Family Planning/PPAG Clinic 4 Other_____	
C29	Which factors do you think prevent teenagers from using condoms (***circle as many as apply***)	Cultural values 1 Religious values 2 Parents not giving sex education 3 Media not promoting contraceptive use 4 Shyness to purchase condoms 5 Lack of access to condoms 6 Lack of sex education 7 Other_____ 8	
C30	Can one become pregnant from just one unprotected sex?	Don't know 2 Yes 1 No 0	
C31	When in the menstrual cycle can a woman become pregnant?	A week before her period 1 During her period 2 Half-way between periods 3 Don't know 4	

SECTION D: KNOWLEDGE AND RISK PERCEPTION

NO	QUESTION	CATEGORY	CODE	SKIP
D1	Have you heard of Sexually Transmitted infections (STI)?	Yes No	1 0	
D2	Have you heard of Human Immunodeficiency Virus (HIV)?	Yes No	1 0	
D3	Where did you hear of STIs from?	Never heard School Friends Parents Media Hospital	0 1 2 3 4 5	
D4	Where did you hear of HIV/AIDS from?	Never heard School Friends Parents Media Hospital	0 1 2 3 4 5	
D5	What are the STIs you have heard of? *Choose as many as applicable.*	Syphilis Gonorrhoea Trichomonas vaginalis Chlamydia Genital warts Genital herps Others……..	1 2 3 4 5 6 7	
D6	Do you think you are at risk of STI?	Yes No	1 0	
D7	Do you think you are at risk of HIV?	Yes No	1 0	
D8	What are the STIs you think you are at risk of? *Mention them.*			
D9	Do you know of someone who has STI?	Yes No	1 0	
D10	Do you know of someone who has HIV?	Yes No	1 0	
D11	Have you ever had STI before?	Yes No	1 0	
D12	Have your friends complained of having contracted STIs before?	Yes No	1 0	
D13	Do you think you are at risk of becoming pregnant?	Yes No	1 0	
D14	If yes, what will you do? *Give a reason for your answer.*	Keep it Abort it *Reason:* …… …… ……	1 2	

SECTION E: SELF-EFFICACY

NO	QUESTIONS	CATEGORY	CODE	SKIP
E1	How confident are you that you abstain from sexual intercourse until marriage?	Not confident Confident Very confident	1 2 3	
E2	How confident are you that you can stay with only one sexual partner?	Not confident Confident Very confident	1 2 3	
E3	How confident are you that you can refuse to have sex with someone if you don't want to?	Not confident Confident Very confident	1 2 3	
E4	How confident are you that you can insist on condom use during sexual intercourse even if your partner does not want to use one?	Not confident Confident Very confident	1 2 3	

Thank you very much for your time.

APPENDIX 3: ETHICAL APPROVAL

GHANA HEALTH SERVICE ETHICAL REVIEW COMMITTEE

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

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

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

8th April, 2015

Ayettey Elizabeth N. G.
School of Public Health
University of Ghana
Legon, Accra

ETHICAL APPROVAL - ID NO: GHS-ERC: 95/02/15

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

"Risky Sexual Behaviours among Senior High School Adolescents in the La-Nkwantanang Madina Municipality"

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

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

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

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

1

Please note that this approval is given for a period of 12 months, beginning April 8th 2015 to April 7th 2016.

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

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

SIGNED.....

DR. CYNTHIA BANNERMAN
(GHS-ERC CHAIRPERSON)

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

APPENDIX 4: LETTERS

DEPARTMENT OF POPULATION, FAMILY & REPRODUCTIVE HEALTH
SCHOOL OF PUBLIC HEALTH
COLLEGE OF HEALTH SCIENCES
UNIVERSITY OF GHANA

Tel: +233-28-9109021/22
Cable: UNIVGhana
E-mail: pfrh@ug.edu.gh

P O Box LG 13
Legon-Accra
GHANA

27/10/2014

The Director
The Education Directorate
La – Nkwantanag
Madina

Dear Madam,

LETTER OF INTRODUCTION: ELIZABETH NAA GOGOI AYETTEY

I write to introduce to you **Elizabeth Naa Gogoi Ayettey**, a Master of Public Health student of School of Public Health, College of Health Sciences, University of Ghana, Legon.

As part of her academic requirement, she is undertaking a Research on the topic: **"Risky Sexual behavior and STIs/HIV Risk Perception among Senior High School Adolescent in La- Nkwantanag District "**and would therefore need your assistance on the following:

- The number of SHS students in the District.
- The population and age range of SHS students in the District.
- Any other document.

Your cooperation with her would be very much appreciated.

Thank you.

Yours faithfully,

Augustine Ankomah, PhD
(Head of Department)

GHANA EDUCATION SERVICE

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

MUNICIPAL EDUCATION OFFICE
LA-NKWANTANANG MADINA
P. O. BOX MD 545
MADINA

My Ref. No GES/LaNMM/35/Vol. 1/44
Your Ref. No.....

REPUBLIC OF GHANA

6TH NOVEMBER, 2014

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LA-NKWANTANANG MADINA EDUCATION DIRECTORATE

INTRODUCTORY LETTER
RE: ELIZABETH NAA GOGOI AYETTEY- STUDENT'S I.D 10277085