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CONDOM USE BY SENIOR HIGH TECHNICAL SCHOOL STUDENTS IN SANDEMA, UPPER EAST REGION, GHANA

BY

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DECLARATION

I, Emmanuel Toruka Kona, declare that except for other people's investigations which have been duly acknowledged, this dissertation is the result of my own original work carried out under supervision, and that this dissertation, neither in whole nor in part been presented either in soft or hard copy anywhere for another degree.

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Emmanuel Toruka Kona   Date

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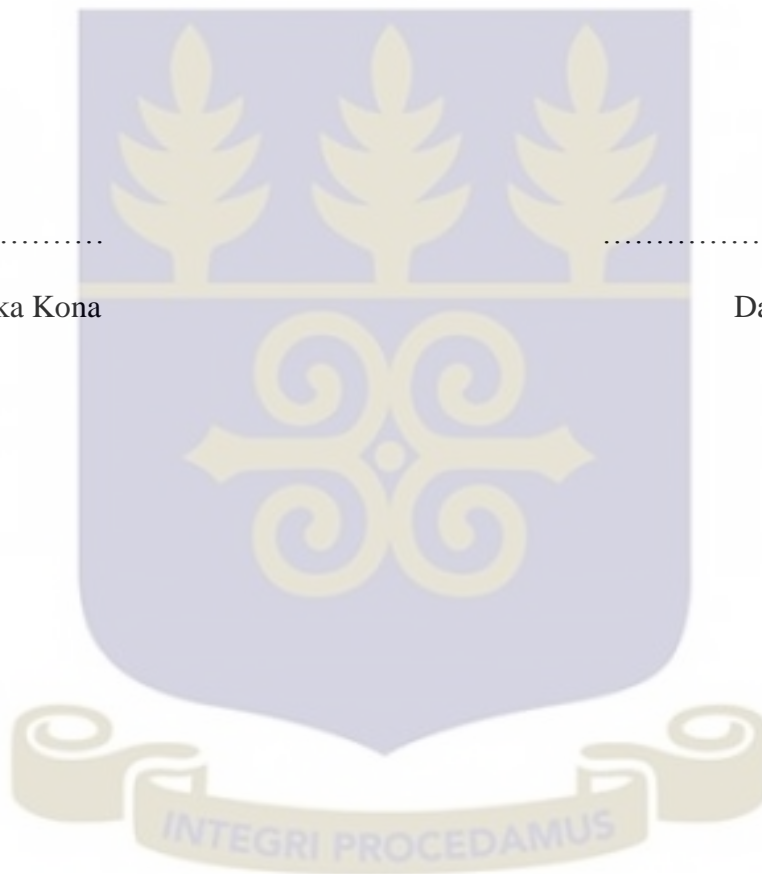
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Prof. Richard M. K. Adanu   Date

(Academic Supervisor)

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DEDICATION

I dedicate this work to God Almighty for His abundant mercies that are renewed every morning for me. I also dedicate this work to my lovely wife Mathilda Abugri and my daughter Audrey Yennupiini Kona for their love, patience and support. To my Dad and Mum (Mr. & Mrs. Barman Kona) who gave value to my life.

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ABSTRACT

For over a decade now, adolescent sexual and reproductive health and more especially condom use, has increasingly been on national agendas. In many countries especially in Sub-Saharan Africa, this concern has been driven by the high prevalence of HIV and AIDS among young people. Other driving forces of comparable magnitude have been the following;

- 800 women died every day in 2013 due to pregnancy related causes. A chunk of it occurred in Sub – Saharan Africa (SSA).

- One in 5 women has a child by age 18. Again, the worse scenario is in SSA.

- One million STIs occur every day. The developing world is still the worse affected.
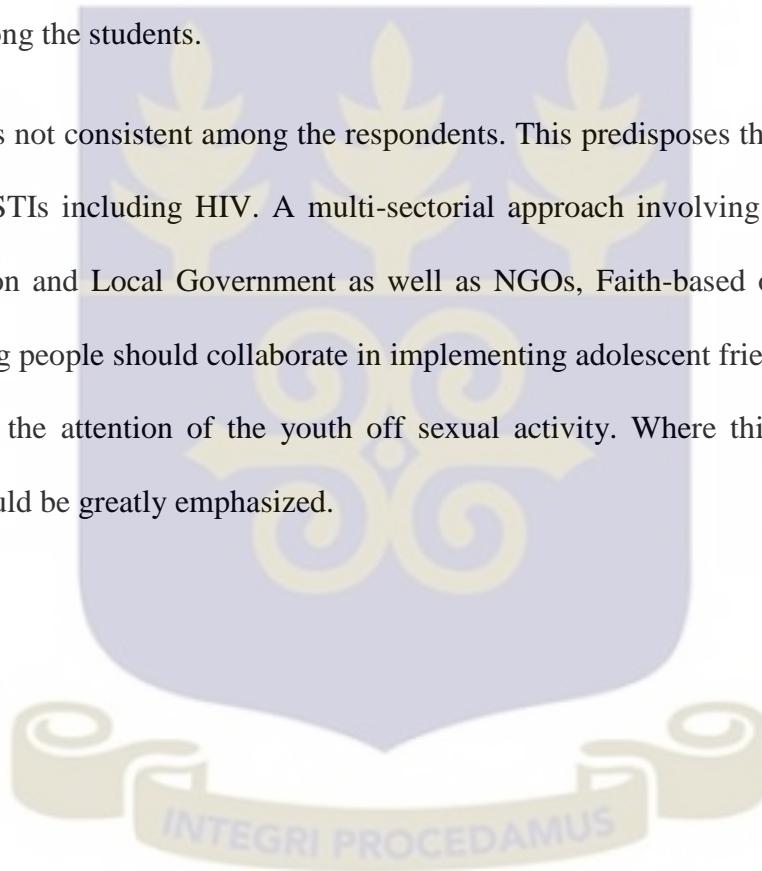
In Ghana, both government and non – governmental organisations have made frantic efforts at improving adolescent sexual and reproductive health. Unfortunately, however, many adolescents still do not use condom or use it wrongly during sex. This thus predisposes them to unplanned / unwanted pregnancy, unsafe abortion, sexually transmitted diseases including HIV and AIDS among others.

This study assessed the level of condom use among Sandema Senior High Technical School students in Sandema to inform evidence based adolescent health programming. The study was a cross – sectional design and it employed quantitative data collection approaches. A sample size of 427 SSHTS students was selected using multi – stage sampling technique.

A structured questionnaire was used to collect the data and Stata (version 12) used to analyse the data. The findings revealed that 71.2% of the students use condom (69.3% for females and 72.2% for males).

A bivariate analysis indicated that age group of the students, having received training on condom use, condom use at first and last sex, fear of the consequences of not using a condom (pregnancy, STIs, etc), partner/friends influence, source of condoms to students, ability to afford, and ethnicity were significant determinants of condom use ($p<0.0001$). Multiple logistic regression however, revealed that only age group of respondents, condom use at sexual debut, last sexual encounter, having received training on condom use and fear of the consequences of not using a condom (pregnancy, STIs, etc) were the main correlates of condom use among the students.

Condom use was not consistent among the respondents. This predisposes them to unintended pregnancy and STIs including HIV. A multi-sectorial approach involving the ministries of Health, Education and Local Government as well as NGOs, Faith-based organizations and families of young people should collaborate in implementing adolescent friendly programmes aimed at taking the attention of the youth off sexual activity. Where this is not feasible, condom use should be greatly emphasized.

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LIST OF ABBREVIATIONS

GDHS : Ghana Demographic and Health Survey

GHS :   Ghana Health Service

HIV and AIDS : Human immunodeficiency virus and acquired immune deficiency

syndrome

STD :   Sexually transmitted disease

STI :   Sexually transmitted infection

SHTS : Senior high technical school

GSS :   Ghana Statistical Service

UNAIDS: United Nations Agency for International Development

UNFPA : United Nations Fund for Population Activities

WHO : World Health Organization

DEFINITION OF TERMS

Condom use: This refers to wearing of male condom on an erect penis or inserting female condom into the vagina for heterosexual intercourse.

Sexually Transmitted Infection: Infections acquired through sexual intercourse
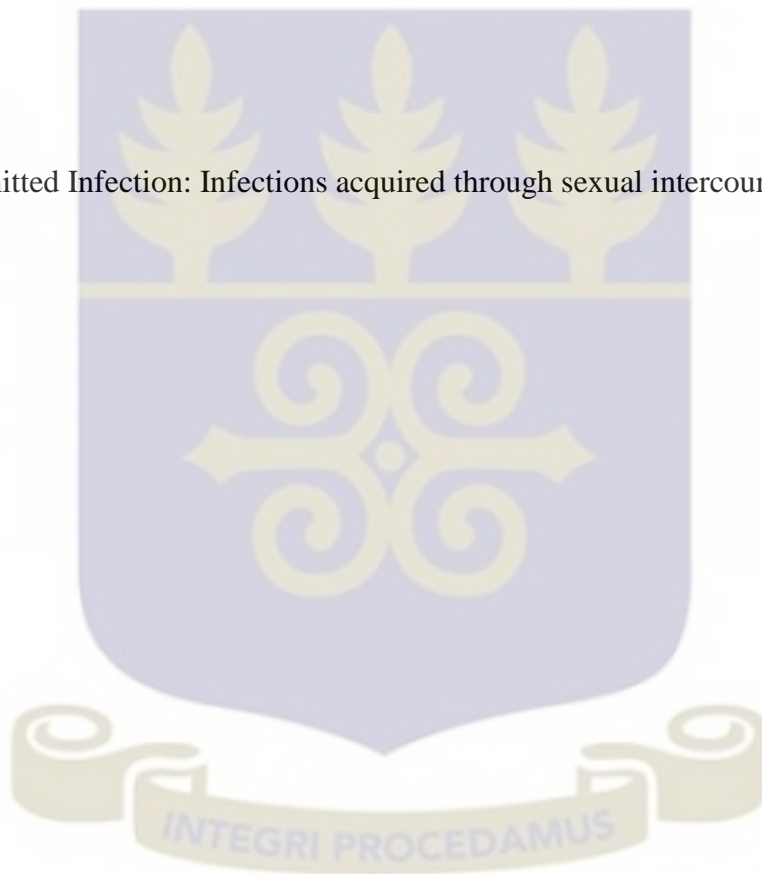
1.0 INTRODUCTION

1.1 BACKGROUND INFORMATION

Condom use is believed to have started several years before the advent of Christ. There was however, no documented evidence except for some paintings found by archaeologist in France. Condom was initially made from oiled silk paper, lamb intestines, linen and special animal horns. Condom use was the preserve of the middle and upper class persons of the ancient world. An ordinary sex worker could not afford condom even with her three months wage (Youssef, 1993). It was not until 1855 that condoms were first made from rubber and in the early 1900s, latex condoms were also produced. Currently, there are several different brands of condoms in the market.

Besides the traditional uses of condom like wearing of male condoms on erect penis or inserting female condom into the vagina for contraception, condoms were used for other purposes. For instance, it was used as a penis protector in pre-historic times in order to protect a wearer during combat, or against insect bites, tropical disease, or evil spirits, or in assorted colours as badges of rank, or as charms to promote fertility, or as decorations. Also worth noting is the fact that ancient condoms were virtually inelastic. Therefore, people who wanted condoms had to first go to a doctor for his penis to be measured so that the exact size could be manufactured for him (Youssef, 1993). This statement depicts the fewer number of people who used condom in the ancient world. There is no documented evidence of condom use (for sexual intercourse) among teenagers of the ancient world.

The world's population is growing at a relatively fast rate especially in Sub − Saharan Africa and some parts of Asia (UNAIDS, 2009). It is known that about half of the world's population is under age 25 and these youth are fast reaching adulthood. The decisions they take and the choice they make have significant implications for their lives today as well as

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their future (Bankole, Ahmed, Neema, Ouedraogo, & Konyani, 2007; UNAIDS, 2010; UNAIDS, 2013a; Vedhara et al., 2014). It is therefore imperative to consider the challenges confronting the youth especially in matters that border on reproductive health and more so, condom use. This is particularly crucial because of the culture of silence that is given to reproductive health issues in Sub − Saharan Africa (Darteh & Nnorom, 2012b; Moore, Awusabo-Asare, Madise, John-Langba, & Kumi-Kyereme, 2007). Of greater concern is that, of the world's adolescent population, about 85% reside in developing countries. Sexual debut is also linked to poverty and low level of education which these nations are challenged with (Adanu et al., 2008; Stanton. C, Hobcraft. J, 2005).

According to WHO/UNFPA (2006), in the early 1990s, reproductive health conditions alone accounted for a quarter of the overall disease burden for women of reproductive age in developing countries, which ranged from 8% in China to 40% in sub - Saharan Africa (SSA). It was therefore timely when in 1994, The International Conference on Population Development (ICPD) in Egypt, called for a comprehensive reproductive health services by all nations. This has indeed, helped almost all the countries to prioritise policies that are aimed at preventing and treating reproductive health problems.

Of all the options available for controlling and containing all the sexually transmitted diseases (STDs) including HIV and AIDS, prevention is said to be the best option (UNAIDS, 2013). The same reports states that 'The male latex condom is the single, most efficient, available technology to reduce the sexual transmission of HIV and other sexually transmitted infections'. Again, laboratory studies on the male latex condom has proven that it is impervious to infectious agents contained in genital secretions (UNAIDS, 2013).

In Ghana today, we are still confronted with issues of adolescent reproductive health either because of the lack of sex education, or poor mode of delivering it. Worst still is the culture

of silence on issues regarding sex, particularly in northern Ghana, were this research was carried out (Darteh & Nnorom, 2012a). In addition, many people are also of the opinion that, when sex education is introduced, the curiosity of the youth concerning sex will be aroused leading to sexual experimentation and promiscuous sexual behaviour (Darteh & Nnorom, 2012b). Other factors that contribute to poor adolescent reproductive health and for that matter condom use are inaccessible and unavailable condoms, cost of the condoms and the general poor attitude of the adolescents regarding condom use (Adih & Alexander, 1999; Awusabo-Asare, Kofi, Abane AM, 1998; Kirby & Brown, n.d.; Lawrence & Darroch, 2014).

It is known that most sexually experienced girls start coitus 1-2 years after attaining menarche (Mlunde et al., 2012). This makes them vulnerable to contracting STIs and unintended pregnancy because of their inadequate knowledge in reproductive health or perhaps, they could have been pressured by their peers.

In Ghana, studies conducted also reveal that by age 18, 48 percent of girls and 25 percent of boys are sexually active. Because of the culture of silence on issues concerning condom use and even more so on reproductive health, community members, parents and teachers may not even be aware of the extent of sexual activity (Sonenstein et al 1999). It must however be noted that adolescents have the right to sex education. This will particularly help them to avoid unintended pregnancies, abuse, and STIs including HIV and AIDS.

Unemployment is another major problem that confronts the youth in Ghana. The Ghana Human Development Report (2003) indicates that many economically active Ghanaians particularly the youth have neither regular nor steady employment. Unemployment is high and increasing faster especially among the youth aged 18-24 years who have either completed Junior High School (JHS), are at Senior High School (SHS) or have completed

SHS. It should be noted that the inability of most young people to earn a living and be economically independent tends to increase their vulnerability to STI including HIV and AIDS and other sexual and reproductive health (SRH) problems. The worst part of it is that, many of them end up on the street struggling to fend for themselves (Darteh & Nnorom, 2012). Most adolescents are unable to negotiate for safe sex because of high poverty levels amongst them (The Alan Guttmacher Institute, 2004).

Most often, these young people do not possess any employable skill and consequently engage in all kinds of practices just to survive. While some of these activities may be quite descent like shoe shining, head porterage (popularly called "Kayayee" in Ga), truck pushing, street hawking and engaging in part-time domestic service, others, in extreme situation, engage in transactional sex, pick pocketing (stealing) just to make ends meet. The males, in particular, tend to indulge in practices such as drug and alcohol abuse. The females on the other hand, owing to their vulnerability, are always at the receiving end: being exposed to rape, sexual harassment and advances, and other violent practices perpetrated against young women. Unfortunately, however, in this era of HIV and AIDS, engaging in such practices is extremely risky and makes them even more vulnerable to the pandemic (Darteh & Nnorom, 2012).

This study is intended to assess the general level of condom use among the Senior High Technical School students in Sandema in the Upper East Region of Ghana. This could greatly inform policy decisions regarding condom use and adolescents reproductive health in general.

1.2 STATEMENT OF PROBLEM

Adolescents are saddled with several reproductive health related problems which usually emanate from their historical roots. Some of these predisposing historical antecedents to the problems facing adolescents are worth mentioning so as to give a better understanding of the happenings in recent times.

Traditions in most African societies among others are handed down from generations to generations and behaviour change could only be possible through evidence based approaches. For instance, most societies would insist on only abstinence as a preventive measure for adolescent reproductive health problems (Dehne & Riedner, 2001). Unfortunately, however, while these advocates of abstinence maintain their stance in some societies, reports have continually indicated a rise in the adolescent reproductive health problems (Moore et al., 2007; Mushoriwa, 2013) This gives further credence to the general notion in the research community that abstinence alone has never been a successful preventive programme. It is in this light (amongst others) that this research work was carried out to assess the magnitude of the problem at hand.

Adolescents are particularly vulnerable to issues that affect their sexuality either because of lack of adequate knowledge, peer pressure, and perhaps the availability and accessibility of reproductive health services.

The number of teenage pregnancies has significantly increased over the past few years in the Builsa District. The Ante Natal Care (ANC) registrants aged 14-19 was 14.9% and 16.2% in 2012 and 2013 respectively (DHMT Report, 2013). This, according to the report, is just a small fraction of the adolescents who get pregnant. Unfortunately, however, most of these pregnancies end up with complications. Many more of the pregnant adolescents who do not attend ANC, opt for unsafe abortion while a few seek for comprehensive abortion care at the

Sandema District Hospital (SDH). The rest who choose to carry the pregnancies to term sometimes end up with detrimental outcomes of the pregnancy, while others develop postpartum complications. This increases the maternal morbidity and mortality burden which the health system is already struggling to contain.

In 2012, documented evidence show that 220 girls aged 15-24 came to the SDH for manual vacuum aspiration of pregnancies. This number increased to 262 in 2013. In 2014, the number further increased to 325. Almost all of them are said to be senior high school students (source: SDH biostatistics staff).

Records at the SDH indicate that the number of students reporting to the Hospital for treatment of STIs like genital wart, bacterial vaginosis, Chlamydia infections, vaginal candidiasis, genital herpes, and the like, are on the increase.

According to the Ghana Demographic Health Survey (GDHS) report for 2008, 8 percent of women and 5 percent of men initiate sex at age 15. The study also further indicates that 69 percent of never married women aged 15 – 19 and 24 percent of those aged 20 – 24 had never had sex. The respective percentages for the males were 79 and 32. However, 23 percent of never married women in the 15 – 19 age category and 59 percent in the 20 – 24 age category had had sexual intercourse in the 12 months preceding the survey. For the men, it was 15 percent and 52 percent respectively. Altogether, 60 percent and 55 percent of never married men and women respectively had never had sex but 34 percent of females and 30 percent of males had had sex in the twelve months preceding the survey (GSS, Darteh & Nnorom, 2012).

In spite of this high level of sexual activity, condom use is still generally low in Ghana. In the GDHS survey 2008, condom use at first sex was found to be uncommon as only 25 percent of females and 32 percent of males used condom the first time they had sex. Among those who

had sex in the 12 months before the survey, only 29 percent of the females and 45 percent of the males made use of condom. In addition, most young men (87%) in the age group 15 – 24 are more likely to be involved in higher risk sex than females (52%) and also used condom more than their female counterparts (46 and 28 percent respectively). Seventy four percent of women aged 15 – 19 indulged in higher risk sex in the 12 months preceding the survey and only 24 percent used condom. For the men, 96 percent in the age category were involved in higher risk sex with only 40 percent using condom. For those in the 20 – 24 age category, 83 percent of men indulged in higher risk sex compared with 43 percent of women and 49 percent and 31 percent respectively used condom.

1.3 JUSTIFICATION

This study assessed the level of condom use among the SHTS students in Sandema. The results, I believe, will tremendously help informed decision making and to tailor the most suitable kinds of reproductive health services that are needed by the students. Besides, there has never been a similar research conducted in that School and the community as a whole thus making the reproductive health programmes that are implemented (for adolescents) not being evidence based.

In addition, the age distribution of the target population makes them prone to experiment with sex due to curiosity and peer influence. Also, the large number of students in the boarding house with relatively few teachers may also make it impossible for the teachers to closely monitor each student. Worse still, the school has no fenced wall and the students could escape to town at any time. This relative freedom the students enjoy compared with strict parental guidance at home, may predispose them to risky sexual behaviours. This research provides the baseline information for informed decision making on adolescent sex education, healthy sexual practices and condom use. The results that is obtained from this study will

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serve as evidence based report to guide the District Assembly, District Health Directorate and educational authorities as well as all institutions concerned to improve on their laid down structures and policies on adolescent reproductive health.

1.4 STUDY OBJECTIVES

1.4.1 General Objective

- To assess the level of condom use by Senior High Technical School Students in Sandema.

1.4.2 Specific Objectives

- To assess the number of students who use condom during sex

- To assess the level of their knowledge on condom use.

- To assess the factors that influence their choice to use a condom.

- To assess the effects of failing to use a condom.
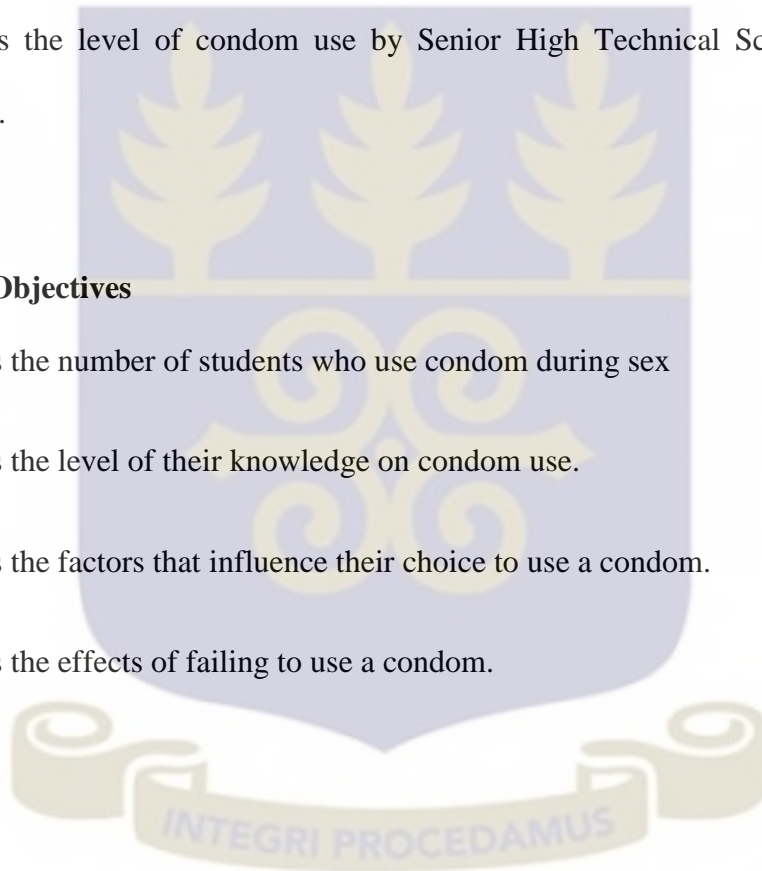
CONCEPTUAL FRAMEWORK
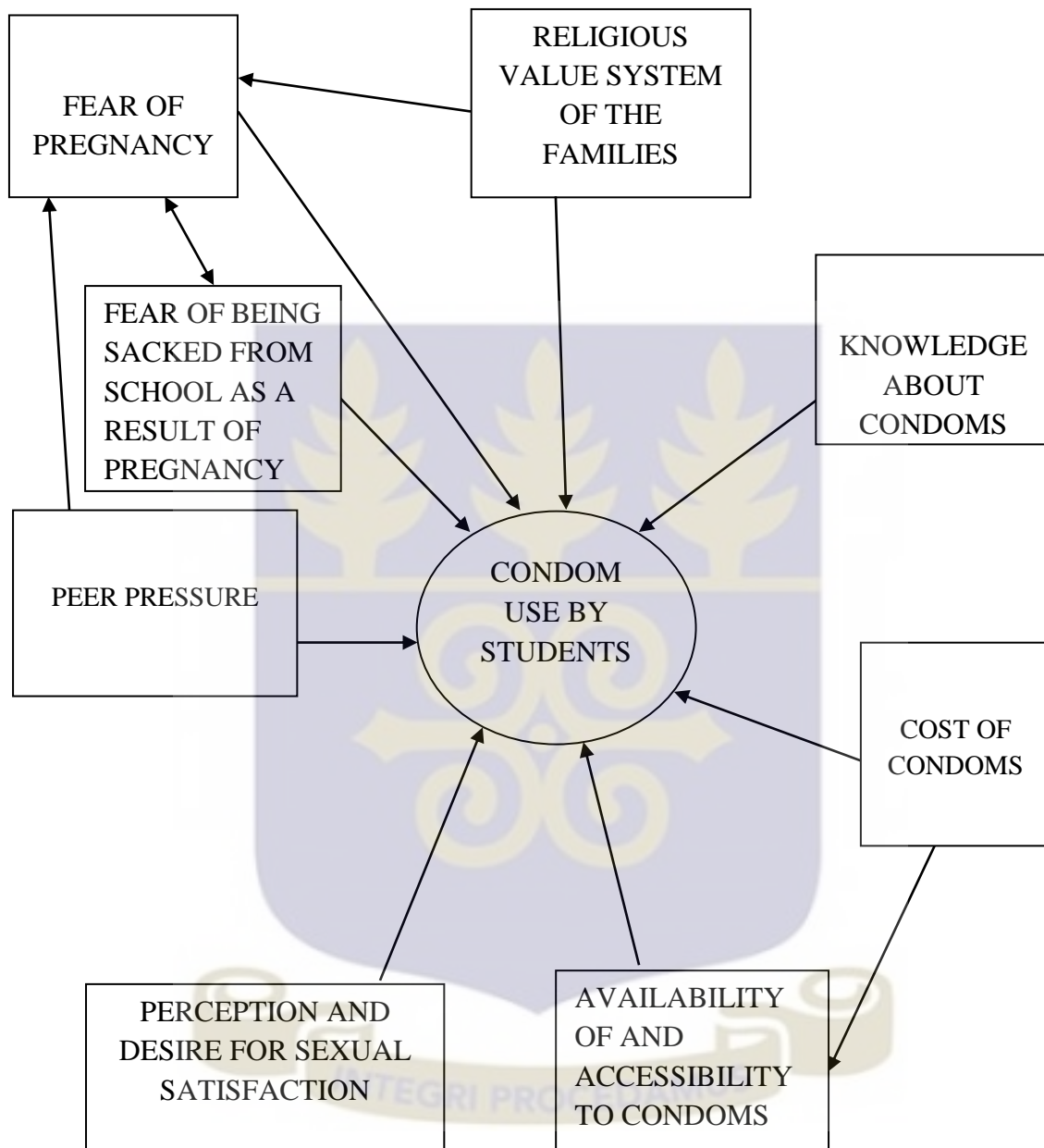
From the framework, the middle portion captioned condom use by students is the dependent variable. It is surrounded by the independent variables which influence the dependent variable differently.

The students' fear of getting pregnant promotes condom use. Peer pressure can influence the fear of getting pregnant and condom use either positively or negatively depending on the prevalent behaviour among the peers. Strong religious value systems of their families, negatively affect condom use but rather encourages abstinence.

Availability of condoms could either negatively or positively affect condom use. When condoms are in abundant supply, it will result in increased access to condoms as well as a reduction in cost of condoms and will most likely, influence condom use positively. The population under study are almost all unemployed adolescents. A little increase in the prise of condom will negatively influence condom use.

The students' perception about condom could either negatively or positively influence condom use. Those who perceive condoms to interfere with their desire for sexual satisfaction will most likely, not use condom during sexual intercourse.

Fear of becoming pregnant has both direct and indirect influence on condom use. This is because, fear of becoming pregnant could be influenced either positively or negatively by peer pressure and religious value system of their families as well as the fear of being sacked from school.

2.0 LITERATURE REVIEW

2.1 GLOBAL OVERVIEW OF ADOLESCENT REPRODUCTIVE HEALTH

The World Health Organisation (WHO) defines adolescence as the period in human growth and development that occurs after childhood and before adulthood, from ages 10 to19. It represents one of the critical transitions in the life span and is characterized by a tremendous pace in growth and change that is second only to that of infancy. Many biological and psychosocial changes occur with the biological changes being fairly universal in nature. The latter is affected largely by the cultural setting and the socioeconomic status of the families (Payn, Tanfer, Billy, & Grady, 2014)

Developing countries is the home to greater percentage of the world's adolescents. They are faced with poverty, high illiterate societies and sometimes, bad cultural norms. Most research works conducted the world over indicates very low percentages of condom use at sexual debut and at last sexual encounter before the surveys were done (Asrat, 2014; Findings, 2003; Jeffrey A Kelly, Yuri A Amirkhanian, Elena Kabakchieva, Sylvia Vassileva, Timothy L McAuliffe, Wayne J DiFranceisco, Radostina Antonova, Elena Petrova, Boyan Vassilev, 2014; Larson, Clark, Robinson, & Utter, 2012).

According to global health organisations, 'The male latex condom is the single, most efficient, available technology to reduce the sexual transmission of HIV and other sexually transmitted infections'. Globally, condom use is said to have increased significantly with attendant decrease in sexually transmitted infections including human immunodeficiency virus (HIV)(Krogsgaard et al., 2014; Larson et al., 2012). With the recent increase in new cases of HIV infections in Eastern Europe, Central Asia, the Middle East and North Africa (UNAIDS, 2013b), this assertion cannot be entirely true. Besides, according to WHO (2014), HIV and AIDS is now the world's second leading cause of death among adolescents.

Globally, five of the curable sexually transmitted infections (STDs) - gonorrhoea, chlamydial infections, syphilis, chancroid, and trichomoniasis – are said to have caused 350 million new infections annually in the mid-1990s. About half of all women of reproductive age in developing countries have bacterial vaginosis (arguably acquired sexually). All six of these curable infections have been linked to increased risk of HIV transmission or acquisition (Kasper, Dennis l; Braunwald, Eugene; Fauci, Anthony s.; Hauser, Stephen l; Ameson, J. Larry; Longo, 2005)

In the developed world, however, fear of HIV infection since the mid-1980s, coupled with widespread behavioural interventions and better - organized systems of care for the curable STDs, have helped to tremendously reduce the transmission of the latter diseases. It is worthwhile to note that, foci of hyperendemic transmission still persist in the southeastern United States and in most big United States (U.S) cities. The rates of gonorrhoea and syphilis are still much high in the United States than in any other western developed country (A Bankole, Darroch, & Singh, 2014).

That apart, the remarkable resurgence of gonorrhoea and syphilis among bisexual and homosexual men in many parts of the US and Europe since the 1990s is enough evidence of decreased condom use (Kasper, Dennis L; Braunwald, Eugene; Fauci, Anthony S.; Hauser, Stephen L; Ameson, J. Larry; Longo, 2005). These definitely, are pointers to either the lack of use of condoms, inconsistent use or errors in the use.

It is important to also to note that global shipments of male condoms increased steadily from 2003 to 2008 but since then, have levelled off. In contrast, shipments of female condoms have also increased markedly throughout the decade, although there are still more than 40

male condoms shipped for every female condom (UNAIDS, 2013c). The stalling in the shipment of male condom with corresponding population rise has a tendency to negatively influence condom availability, accessibility and affordability.

The UNAIDS (2013) reports that globally, the median percentage of adolescents aged 15 – 19 who correctly identify ways of preventing sexual transmission of HIV and also reject major misconceptions about HIV transmission was static for women (28%) and decreased (from 34% to 32.6%) for men from 2009 to 2011.

2.2. ADOLESCENT REPRODUCTIVE HEALTH IN SUB - SAHARAN AFRICA

A number of research works conducted in Sub – Saharan Africa indicates there is increase in the awareness of condom use (Adu-Oppong & Grimes, 2007; Asrat, 2014; Teye, 2005). According to WHO (2013), the rate of new HIV infections which is attributed to heterosexual intercourse (over 80%), globally, is falling. However, Sub – Saharan Africa is still heavily burdened with people living with HIV and AIDS (22.5 million in 2009). This accounts for about 68 percent of the global AIDS burden. Approximately five million people worldwide between the ages of 15 – 24 in 2008 were infected with HIV and AIDS, of this number, 76 percent were in Sub – Saharan Africa (Namisi et al., 2013).

It is however clear that there are some regional variations. For instance, in 2009, southern Africa had about 11.3 million people living with HIV (PLHIV). South Africa alone accounted for about 50% of the entire population of PLHIV in southern Africa (Namisi et al., 2013). There is therefore ample evidence that though many might be aware of condom use in Sub – Saharan Africa, a gap still remains between utilisation and awareness (knowledge).

Also, in Cameroon for instance, because contraceptive use is poor among adolescents, it is estimated that about one third of youth aged 15 – 19 become pregnant or already have children (Meekers & Klein, 2002).

In Nigeria, though the rate of seroprevalence of HIV is relatively low. Studies conducted in southern Nigeria indicates relatively high prevalence of other STIs among female youth aged 17 -19 (Temin et al., 1999). It specifically indicated that 11 percent had trichomoniasis and 11 percent had a chlamydial infection, while 82 percent had vaginal discharge and 26 percent had clinical evidence of candidiasis. Even though these STDs are usually not deadly, they could lead to major pregnancy complications, secondary infertility and severe discomfort as well as predisposing the youth to the acquisition of HIV(Cohen et al., 2012; Temin et al., 1999; Ward & Rönn, 2010; Zhu et al., 2009). This further buttresses the low usage of condom among adolescents.

2.3 OVERVIEW OF ADOLESCENT REPRODUCTIVE HEALTH IN GHANA

Adolescent reproductive health is a major public health concern particularly because of their large population size and also due to their early sexuality and fecundity and its consequences.

The Ghana Health Service started adolescent health programmes in 1996 following recommendations from International Conference on Population and Development (ICPD, 1994) among others. This was a giant step in the right direction considering the fact that major problems encountered by the youth was adolescent reproductive health related (Tenkorang, Gyimah, Maticka-Tyndale, & Adjei, 2011). These programmes were to improve adolescent reproductive health service by ensuring cost effectiveness and health promotion (Odoi-Agyarko, 2003).

According to Ghana Demographic and Health Survey reports for 1998, 2003 and 2008, the level of contraceptive use among women between the ages of 15-49 was 13 percent, 19 percent and 17 percent respectively. Also, women aged 15 – 19 who are currently mothers or pregnant was 13 percent (Ghana Statisical Service (GSS), Ghana Health Service (GHS), & ICF Macro, 2009). Besides government, other Non-governmental Organisations (NGO) like the Planned Parenthood Association of Ghana (PPAG) are also actively involved in reproductive health service delivery. Unfortunately, however, the statistic above indicates a decrease in the level of contraceptive use.

2.4 FIRST SEXUAL INTERCOURSE AND CONDOM USE AMONG ADOLESCENTS

According to the Ghana Demographic and Health Survey (2008), 44 percent of all females aged 15 – 19 years have their first sexual intercourse by age 18 while 26% of boys have their first sexual encounter at the same age group. It was however 59% for females and 33% for males in the in 1993 (Singh, Wulf, Samara, & Cuca, 2000). This suggests a downward trend over time and could negatively affect the sexual and reproductive of young people both now and in the future.

It is estimated that 14 million unwanted pregnancies occur annually in Sub – Saharan Africa among youth aged 15 - 24 (Darteh & Nnorom, 2012). This suggests a low condom use among the youth. Moreover, it is known in other research works that only 25 percent of females and 32 percent of males used condom the first time they had sex (Ghana Statisical Service (GSS) et al., 2009). This indicates the high level of risky sexual behaviours exhibited by the youth.

Studies done at the national and local levels in Ghana indicate that well educated youth initiate sex at a later age than those who are less educated. Available evidence also show that young girls on average experience sex 2 years before marriage (Ghana Statisical Service (GSS) et al., 2009). The gap is even wider for males, about 7 years in 1993 and 5 years in 1998 on average between first sex and first marriage. This long period between sexual debut and marriage coupled with low condom use, poses a set of risk factors including STIs, unplanned pregnancies and HIV and AIDS.

Other research works done indicates that 73 percent of male adolescents used condom during their first sex whilst 66 percent of female adolescents used condom at their first sex. Surprisingly, in the same study, only 26.8 percent of the males used condoms always while 25.7 percent of the females used condom always (Darteh & Nnorom, 2012b)

2.5 SEXUALLY TRANSMITTED INFECTIONS AMONG ADOLESCENTS.

Unsafe sex is the second leading risk factor of health in developing countries. Worst still, it is estimated that 70,000 women die annually of unsafe abortion and of this figure, 40 percent are among women aged 15 – 24. Also about 80 million unintended or unwanted pregnancies occur every year and the majority is said to occur in Sub – Saharan Africa (UNAIDS, 2013c). The World Health Organisation states that there are 30 different types of sexually transmitted infections (STIs) that affect man. In the developed countries (specifically North America and Europe), about 30million curable cases of STIs (gonorrhoea, syphilis, Chlamydia and trichomoniasis) are transmitted annually. Additionally, 18 million new infections affect people in Eastern Europe, and Central Asia (UNAIDS, 2013a). Over the years, the number of STIs have declined in the in the developed nations. Some eastern European countries have recently however, experienced rise in these infections.

Studies done in Ghana (Accra) linked high levels of STI prevalence among females with low levels of education and poverty (Adanu et al., 2008). If this finding is consistent in the entire country, then there is no doubt that northern Ghana will have the worse of findings since it has low levels of education and high levels of poverty.

It is also known that in many countries of Africa including Ghana, young people aged between 10-24 years are most at risk of early child-bearing, unintended pregnancies, unsafe abortion, sexually transmitted diseases (STDs) including HIV infection, as well as sexual exploitation and violence (Darteh & Nnorom, 2012b; Moore et al., 2007). These are some of the factors that account for the poor status of reproductive health among the youth. Moreover, poor reproductive health status is further worsened by the early onset of sexual activity, limited knowledge and understanding of contraception including condom use and low access and utilization of quality health service. The advent of the dreaded HIV and AIDS has added a new and lethal dimension to the Sexual and Reproductive Health (SRH) challenges faced by the adolescents. Even though the youth constitute a part of the population with high level vulnerability and intense problems facing them, they are however, often marginalised especially when it comes to providing quality information and services to meet their specific SRH needs. This is further worsened by the culture of silence when it comes to SRH information / services for adolescents. Again, emphasis on SRH programmes have always been placed on women with very little attention given to men (Darteh & Nnorom, 2012b). The presumption has always been that young people will automatically be taken care of by these programmes. Besides, young people do not have the right to influence adult decision making, neither are they involved in identifying challenges facing them, let alone planning and implementing programmes aimed at addressing these challenges (Moore et al., 2007).

2.6 FACTORS AFFECTING CONDOM USE AMONG ADOLESCENTS

In developing countries, with three-quarters of the world's population and 90% of the world's STDs, such factors as population growth (especially in adolescent and young-adult age groups), rural to-urban migration, wars, and poverty create exceptional vulnerability to disease resulting from risky sexual behaviours (A Bankole et al., 2014; Richwald, Wamsley, Coulson, & Morisky, 1988; Tarkang, 2013).

In general, the product of three factors determines the initial rate of spread of any sexually transmitted infection (STI) within a population. These are the rate of exposure of susceptible persons to infectious agents, efficiency of transmission per exposure, and duration of infectivity of those infected.

Another way of classifying factors that influence condom use among adolescents is by first identifying risk factors and risk markers, such as environmental factors, demographic characteristics, and psychosocial elements. For example, unsafe sexual behaviour frequently has been associated with peer affiliations, personality trait, and family dysfunction (Bonda & Dover, 1997; Vedhara et al., 2014). Male students are more likely than female students to have used cocaine, smokeless tobacco, alcohol, and marijuana. Adolescents who smoke are more likely to be sexually active. These adolescents more often than not, do not use condom during sexual intercourse. (Adih & Alexander, 1999; Department of Maternal Newborn Child and Adolescent Health, 2012; Topolski et al., 2001; UNAIDS, 2010)

The second approach examines the progression of unsafe sexual behaviour, suggesting that engagement in one health - risk behaviour can lead to other health compromising behaviours

like failure to use condom. Thus, it is believed that early intervention may reduce the likelihood of involvement in future risky sexual behaviours (Topolski et al., 2001).

The third approach focuses on the interrelationship or the co-occurrence of multiple risk behaviours. Adolescents who smoke are more likely to use illicit drugs and alcohol, to be sexually active, to engage in fights, and to carry a weapon. Sexually active teenagers report higher rates of alcohol use and misuse than teenagers who are not sexually active (Adih & Alexander, 1999; Topolski et al., 2001).

Besides, high cost of condoms, perception and desire for sexual satisfaction unavailable and inaccessible condoms to adolescents have been known to negatively influence the use of condoms. On the contrarily, strong religious value systems of families, fear of pregnancy, fear of being sacked from school and inadequate knowledge about condoms have improved the level of condom use among adolescents (Sanders et al., 2012; Darteh & Nnorom, 2012; Egbewale, 2008; Magombedze, Mukandavire, & Chiyaka, 2009)
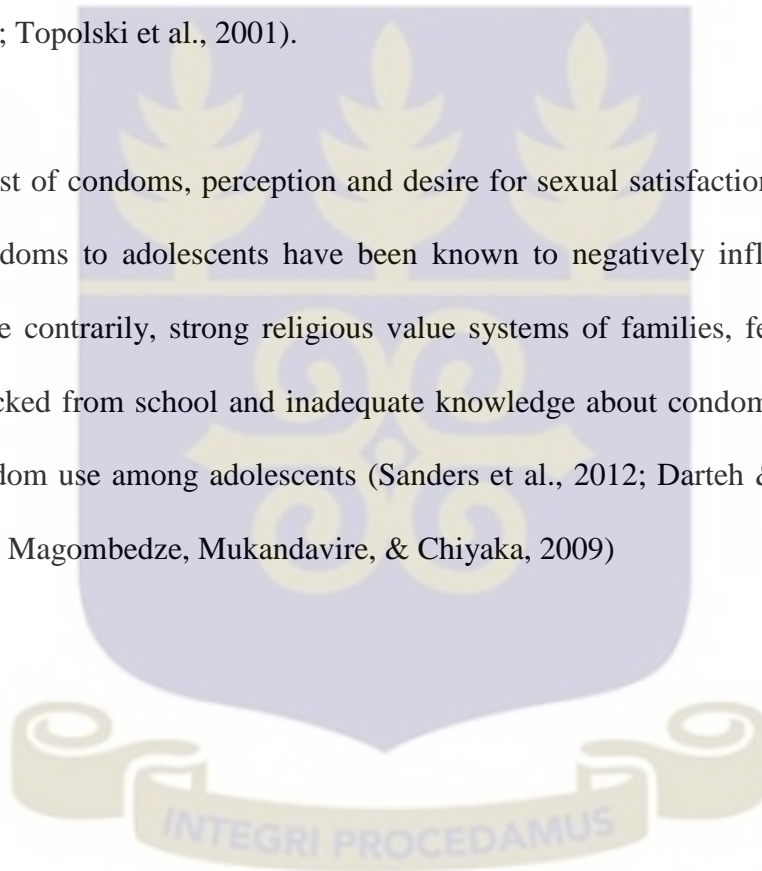
3.0 METHODOLOGY

3.1 STUDY DESIGN

This is a descriptive cross sectional study and it was used to assess the level of condom use among students of the Senior High Technical School in Sandema.

3.2 STUDY LOCATION

The study was carried out in Sandema Senior High Technical School (SSHTS) in the Upper East Region of Ghana. Sandema is the district capital of the Builsa North District. The school is located at the outskirts of Sandema along the Sandema – Navrongo road. The SSHTS is one of the grade B schools in Ghana. Due to the computerized placement system (for students) currently being employed by the Ghana Education Service, the school admits students from all over the country.

3.3 TARGET POPULATION

The study population included the entire student body. The total population of the students was 2,300. The female students were 800 while the males were 1,500.

3.4 VARIABLES

3.4.1 Background Variables

- Age

- Sex

- Religion

- Place of residence

- Others are: Pleasure using a condom and peer norms.

3.4.2 Dependent Variable

- Condom use by students

3.4.3 Independent Variables

- Fear of being sacked from school as a result of pregnancy

- Peer pressure

- Cost of condoms

- Availability of and accessibility to condoms

- Perception and desire for sexual satisfaction

- Fear of pregnancy

- Religious value system of the families

3.5 SAMPLING

3.5.1 Sample Size Determination

A sample size of 328 was obtained using the Piface calculator (www.stat.uiowa.edu/~rlenth/Power). 30 percent non-respondent rate was envisaged and 99 students were added giving a total number (sample size) of 427. The sample size for the study was determined considering the following factors;

- Student population =   2,300

- Confidence interval of 95%

- Margin of error   5% (0.05)

- Current level of condom use in the District = 13%

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According to the World Bank, (the estimated proportion of variable of interest, based on previous study, states that) condom use in Ghana among males aged 15-24 was 40.10% in 2008. Condom use here refers to the percentage of the student population who have ever used condom during sexual intercourse prior to the study. Another findings gave the value as 47% (Akinrinola Bankole et al., 2007).

The values were typed into Piface calculator and it generated the sample size of 328 + 99 = 427.

3.5.2 Sampling Method

To be able to sample the students, the total number of students for each form (that is; form 1, 2 and 3) was obtained from the teachers. The sample size of 427 was then shared proportionately among the various forms.

Also, at the form level, the number of students per class was obtained from the class registers so that the samples could be shared proportionately. At the form level, the proportion of males and females was obtained to ensure adequate and proportionate sampling of both sexes.

The total population size of 2,300 was divided by the sample size of 427. The figure obtained (5) was used as the sampling interval for sampling the students randomly. To limit bias, a random number (i.e. 3) was generated between one and five (the sampling interval) so that it served as the starting point for the sampling interval.

When the sampling was being done, with the ultimate aim of sampling only sexually experienced students, a student who was selected but declined to participate, was replaced by the next person on the row (if not already selected). Also, students who were not sexually experienced were not selected for the study.

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3.6 DATA COLLECTION TECHNIQUE

Structured questionnaire on the research topic was designed and administered to respondents from the student body. Close and open ended questions were employed to collect specific and general responses to the questions. Eight research assistants were trained and they helped in the administration of the questionnaire and the entire data collection process.

Data Collection Tool: Structured Questionnaires were used to explore the relationship between the variables of interest (like age, sex, religion, etc indicated above by soliciting appropriate responses from the students) and condom use.

Starting from the third student, every fifth person among the students was selected for the study. The female research assistants spoke to the female students to first of all solicit their consent and willingness to partake in the study, and then to confirm if they were sexually experienced. The next person was chosen if the first either declined to participate in the study or was not sexually experienced. The male research assistants also did same to the male students. All this was done under the close supervision of the researcher.

3.7 TRAINING AND PRE-TESTING

A three day training was organised for the research assistants. The training sessions covered the purpose of the study, study objectives, method of sampling, data collection technique, ethical considerations and remuneration. The structured questionnaire was tested on students of Sandema Senior High School which is also a grade (category) B school and about seven kilometres away from SSHTS.

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3.8 DATA PROCESSING AND ANALYSIS

The data obtained from the field was entered in an Excel spread sheet. Statistical analysis of the data collected was done using Stata (version 12). Appropriate measures of centrality (mean for age) and dispersion (standard deviation) was calculated and summarised in a tabular form. Categorical data were summarised and tabulated. Also, test of association and correlation between explanatory variables and outcome of interest was done using Chi square tests. Simple and Multiple logistic regressions were performed and associations were measured using odds ratios to adjust for confounding variables.

3.9 ETHICAL CONSIDERATION

Ethical clearance was obtained from the Ghana Health Service Ethical Clearance Committee and the Headmaster of the SSHTS. Verbal and written consent was obtained from all respondents. The individual student had the right to choose to participate or not to participate in the study. Data collected was kept under lock and key in cabinets and in computers with a password and updated antivirus software to ensure maximum confidentiality and privacy of all the respondents.
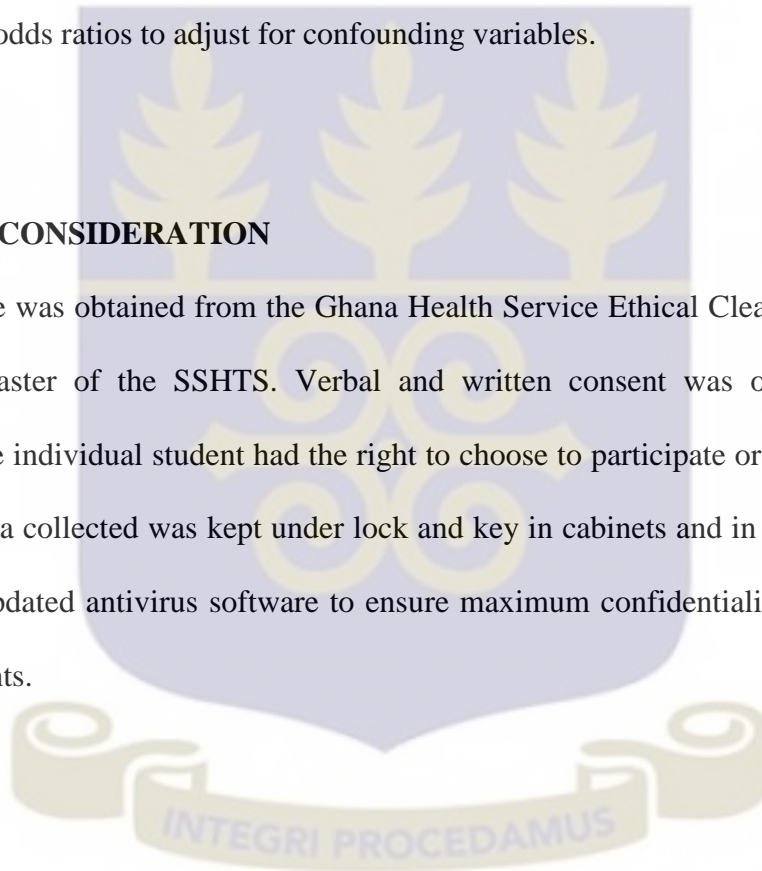
CHAPTER FOUR

4.0 RESULTS

This chapter presents results of findings of the study received from questionnaires administered and the statistical analysis presented using tables. Data collected from the study were entered into Microsoft Excel spread sheet (Version10) and quantitatively analysed using Stata (version12).

4.1 SOCIO-DEMOGRAPHIC CHARACTERISTICS OF RESPONDENTS

A total of 427 (150 females and 277 males) respondents aged between 14-30 years were interviewed for the study. More than 64 percent of the respondents were aged 18-21 years. The mean age of the respondents was 18.8 years (SD=2.1) for both males and females. Of all the respondents, 96.7 percent were single, 2.6 percent married, 0.2 divorced and 0.5 cohabiting. Majority of the respondents, (36.3%) were Builsas, 28.8 percent Kasenas, 21.1percent Frafra, 5.9 percent Kusasi, 0.9 percent Akan, 0.2 percent Ewe and 6.8 percent making up for all the other tribes from both northern and southern extractions. Almost 80 percent of the respondents professed Christianity and about 16.6 percent were Moslems (more females than males). Close to 35 percent of the respondents were form 3 students, 38.4 percent were form 2 students and the rest (26.9%) were form one students. Again, slightly over 55 percent of the respondents had their education solely funded by their parents, 28.8 funded by parents and guardians only, 8.2% were funded by parents, guardians and scholarship schemes whilst the rest (0.9%) were married girls whose education was funded by their husbands. Table 1 below shows the socio - demographic characteristics of the respondents.

Table 1: Socio-demographic characteristics of respondents

Variables	Females N = 150	Males N = 277	Total N = 427
Age	n (%)	n (%)	n (%)
14-17	41 (27.3)	66 (23.8)	107 (25.1)
18-21	97 (64.7)	178 (64.3)	275 (64.4)
22-26	12 (8.0)	32 (11.6)	44 (10.3)
27-30	0 (0.0)	1 (0.4)	1 (0.23)
Marital status	n (%)	n (%)	n (%)
Single	139 (92.7)	274 (98.9)	413 (96.7)
Married	10 (6.7)	1 (0.4)	11 (2.6)
Divorced	0 (0.0)	1 (0.4)	1 (0.2)
Cohabitation	1 (0.7)	1 (0.4)	2 (0.5)
Religion			
Christianity	122 (81.3)	219 (79.1)	341 (79.9)
Traditionalist	2 (1.3)	12 (4.3)	14 (3.3)
Moslem	26 (17.3)	45 (16.3)	71 (16.6)
Other	0 (0.0)	1 (0.4)	1 (0.2)
Ethnicity			
Builsa	71 (47.3)	84 (30.3)	155 (36.3)
Kasena	34 (22.7)	89 (32.1)	123 (28.8)
Frafra	31 (20.7)	59 (21.3)	90 (21.1)
Kusasi	2 (1.3)	23 (8.3)	25 (5.9)
Akan	1 (0.7)	3 (1.1)	4 (0.9)

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Ewe	1 (0.7)	0 (0.0)	1 (0.2)
Other (Mamprusi, Dagomba, Gonja, etc)	10 (6.7)	19 (6.9)	29 (6.8)
Form			
Form 1	27 (18)	88 (31.8)	115 (26.9)
Form 2	45 (30)	119 (43.0)	164 (38.4)
Form 3	78 (52)	70 (25.3)	148 (34.7)
Educational financing			
Parents / guardian / scholarship	11 (7.3)	24 (8.7)	35 (8.2)
Parents / guardian only	42 (28)	81 (29.2)	123 (28.8)
Parents only	90 (60)	146 (52.7)	236 (55.3)
Self - sponsored	5 (3.3)	24 (8.7)	29 (6.8)
Other (specify)	2 (1.3)	2 (0.7)	4 (0.9)

4.2 KNOWLEDGE LEVEL AND PREVALENCE OF CONDOM USE

Out of the total number of respondents, only one male student alleged he had never heard about condom. With regards to respondents sources of information on condom, majority (73.3%) affirmed to have accessed information from multiple sources including parents, television(tv)/radio, friends, film/drama, newspapers, textbooks/books, internet, sex education on campus and family planning centres/hospitals/clinics. Of all these, the least sources of information for both sexes were parents, film/drama, newspapers, internet and family planning centre/hospital/clinic. The males' major source of information was from tv/radio whilst the female depended largely on sex education on campus for information on condom use.

It is worth noting that close to 67% of the students (68.7% females and 65.3% males) knew of more than one use of condom. A few indicated knowledge in condom's ability to prevent the transmission of STIs only and pregnancy only (21.78% and 7.73% respectively) with very few being aware that condom could be used to space children (4% females and 3.97% males). Again, many (42.2%) of the students (52% females and 68% males) knew about only latex condoms while close to 29% knew more than one types of condoms. Very few students knew about condoms made from polyurethane and lambskin (8.90% respectively).

About 70% of the respondents (74% females and 67.15% males) knew more than one advantages of using a condom with a relatively fewer students (29.04%) being aware of the disadvantages (that is 28% females and 29.60% males) of using a condom (Table 2 below).

84.1% of the respondents (83.33% females and 84.48% males) said a woman could become pregnant after first sexual intercourse. Similar responses were obtained when the respondents were asked if a man could impregnate a woman after first sexual intercourse. About 91% of the respondents said yes when they were asked if someone could get STI after first sexual intercourse with more females (93.3%) saying so than the males (90.3%). About 87 percent of respondents said they have had some training on condom use with fewer females (86%) saying so than their male (88.1%) counterparts. On the issue of where the respondents got their training (basic information on condom use) from, many (32.3%) said from the school while many more (39.11%) mentioned multiple sources including family members, youth groups, markets, schools, NGOs, churches and social / health workers.

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Of all the respondents interviewed, 71.2 percent said they have used condoms before with slightly fewer females (69.3%) than males (72.2%) reporting to have used condom.

Mean age at first sex was 17.5 years (SD=2.1) among the respondents. Consistent with the mean age at first sex, 5.9 percent of the respondents (8% females and 4.0% males) had first sex when they were aged 9-14 years while 90.9 percent of them (92% females and 90.3% males) had first sex when they were aged 15-20 years. The rest (who were only males) initiated sex at ages between 22-26 years (constituting 3.8%).

More than 7 in 10 respondents had ever used condoms with more males (72%) than females (69%) indicating that they had ever used condoms. More than 55 percent of the respondents used condoms at their first sex. This also varied by sex with more males (58.1%) reporting to have used condom than the females (50.7%) at first sex. Condom use at the last sexual intercourse before the interview was 64.2 percent of all respondent. Again, slightly fewer females (58.7%) than males (67.2) used condom at the last sex. When asked about frequency of condom use, about 17.8 percent of the students indicated that they used condoms once in a while with more females (26%) than males (13.4%) indicating that they used condoms once in a while. About 46.14 percent of the adolescents used condoms always with slightly more males (50.9%) than females (37.3%) reporting that they used condoms always.

The major source of condoms among the adolescents was drug store (51.5%). Another 31.6 percent of the respondents indicated that they obtained condoms from multiple sources including drug stores, Sandema hospital, reproductive and child health unit, private clinic and health workers among others. About 66 percent of the students bought their condoms whilst about 14 percent said it was freely given to them. Another group of students (19.9%) said they were sometimes given freely and at other times, they had to buy. On the issue of

proximity to source of condoms, 68.4% said they stayed far away. Many males (72.6%) said they stayed far away from sources of condoms than the females (60.7%). The price of condom varied among the respondents and ranged from 2 pesewas to GH₵ 20.0. Most of the students (62.8%) said they are unable to afford condom all the time. 54.7% of the female students said they are unable to afford condoms all the time while 67.1% of the males also said same. Majority of the students (68.6%) said the attitude of health workers towards them when they go to get condom was friendly and professional.

Table 2: Knowledge level and prevalence of condom use

Variable	Females N = 150	Males N = 277	Total N = 427
Ever heard about condom	n (%)	n (%)	n (%)
Yes	150 (100)	276 (99.6)	426 (99.8)
No	0 (0.0)	1 (0.4)	1 (0.2)
Source of information about condom			
Parents	3 (2)	2 (0.7)	5 (1.2)
TV/Radio	13 (8.7)	32 (11.6)	45 (10.5)
Friends	2 (1.3)	11 (4.0)	13 (3.0)
Film/drama	3 (2)	3 (1.1)	6 (1.4)
Newspapers	0 (0.0)	1 (0.4)	1 (0.2)
Textbooks/books	1 (0.7)	10 (3.6)	11 (2.6)
Internet	0 (0)	1 (0.4)	1 (0.2)
Sex education on campus	15 (10)	12 (4.3)	27 (6.3)
Family planning centre/hospital/clinic	2 (1.3)	3 (1.2)	5 (1.2)
More than one of the above or any other	111 (74)	202 (72.9)	313 (73.3)

Table 3: Knowledge level and prevalence of condom use (continued)

Variable	Females N = 150	Males N = 277	Total N = 427
Types of condoms			
Latex	78 (52)	102 (36.8)	180 (42.2)
Polyurethane	5 (3.3)	33 (11.9)	38 (8.9)
Polyisoprene	23 (15.3)	25 (9.0)	48 (11.2)
Lambskin	7 (4.7)	31 (11.2)	38 (8.9)
More than one of above or any other	37 (24.7)	86 (31.1)	123 (28.8)
Merits of using a condom			
Safe. No hormonal side effects	3 (2)	2 (0.7)	5 (1.2)
To prevent unwanted pregnancy	16 (10.7)	25 (9.0)	41 (9.6)
To prevent STIs including HIV	20 (13.3)	60 (21.7)	80 (18.7)
Easy to obtain	0 (0.0)	3 (1.1)	3 (0.7)
Helps to prevent premature ejaculation	0 (0.0)	1 (0.4)	1 (0.2)
More than one of above or any other	111 (74)	186 (67.2)	297 (69.6)
Demerits of using a condom			
Skin irritation (itching)	42 (28)	46 (16.6)	88 (20.6)
Delayed ejaculation	39 (26)	52 (18.8)	91 (21.3)
Loss in sensation	27 (18)	97 (35.0)	124 (29.0)
More than one of above or any other	42 (28)	82 (29.6)	124 (29.0)
Become pregnant after first sex			
No	25 (16.7)	43 (15.5)	64 (15.9)
Yes	125 (83.3)	234 (84.5)	359 (84.1)

Table 4: Knowledge level and prevalence of condom use (continued)

Variable	Females N = 150	Males N = 277	Total N = 427
Infection with STI after first sex			
No	10 (6.7)	27 (9.8)	37 (8.7)
Yes	140 (93.3)	250 (90.3)	390 (91.3)
Received training on condom use			
No	21 (14)	33 (11.9)	54 (12.6)
Yes	129 (86)	244 (88.1)	373 (87.3)
Place of training on condom use			
Family member	7 (4.7)	5 (1.8)	12 (2.8)
Youth group	6 (4)	30 (10.8)	36 (8.4)
School	45 (30)	93 (33.6)	138 (32.3)
Market	3 (2)	11 (4.0)	14 (3.3)
Church	6 (4)	13 (4.7)	19 (4.4)
Social/health worker	6 (4)	7 (2.5)	13 (3.0)
NGO	1 (0.7)	27 (9.7)	28 (6.6)
More than one of above or any other	76 (50.7)	91 (32.8)	167 (39.1)
Ever use of condom			
No	46 (30.7)	77 (27.8)	123 (28.8)
Yes	104 (69.3)	200 (72.2)	304 (71.2)

Table 5: Knowledge level and prevalence of condom use (continued)

Variable	Females N = 150	Males N = 277	Total N = 427
Frequency of condom use			
Everyday	6 (4)	11 (4.0)	17 (4.0)
Weekly	5 (3.3)	11 (4.0)	16 (3.7)
Once every two weeks	4 (2.7)	8 (2.9)	12 (2.8)
Any time i have sex	56 (37.3)	141 (50.9)	197 (46.1)
Occasionally	39 (26)	37 (13.6)	76 (17.8)
I do not use it at all	40 (26.7)	69 (24.9)	109 (25.5)
Used condom at first sex			
No	74 (49.3)	116 (41.9)	190 (44.5)
Yes	76 (50.7)	161 (58.1)	237 (55.5)
Used condom at last sex			
No	62 (41.3)	91 (32.8)	153 (35.8)
Yes	88 (58.7)	186 (67.1)	274 (64.2)
Reason(s) for using condom			
To prevent pregnancy	44 (29.3)	39 (14.1)	83 (19.4)
Partner insisted/requested/influenced	2 (1.3)	4 (1.4)	6 (1.4)
To prevent STI	15 (10)	57 (20.6)	72 (16.9)
Did not trust partner	6 (4)	8 (2.9)	14 (3.3)
More than one of above or any other	83 (55.3)	169 (61.0)	252 (59.0)

Table 6: Knowledge level and prevalence of condom use (continued)

Variable	Females N = 150	Males N = 277	Total N = 427
Source of condoms			
Sandema Hospital	9.33	5.05	6.56
Sandema RCH	2.67	2.17	2.34
Private Doctor/Nurse/Midwife	6.67	5.77	6.09
Drug store	41.33	57.04	51.52
Private clinic	2	1.81	1.87
More than one of above or any other	38	28.16	31.62
Access to condom			
Buy	89 (59.3)	194 (70.0)	283 (66.3)
Given free	22 (14.7)	37 (13.5)	59 (13.8)
Both	39 (26)	46 (16.6)	85 (19.9)
Proximity to source of condom			
No, near	59 (39.3)	76 (27.4)	135 (31.6)
Yes, far away	91 (60.7)	201 (72.6)	292 (68.4)
Cost of condom			
0.2-1.0	39 (26)	68 (24.5)	107 (25.1)
1.5-5	98 (65.3)	186 (67.2)	284 (66.5)
6-10	12 (8)	16 (5.8)	28 (6.6)
11-15	1 (0.7)	4 (1.4)	5 (1.2)
16-20	0 (0.0)	3 (1.1)	3 (0.7)

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Table 7: Knowledge level and prevalence of condom use (continued)

Variable	Females N = 150	Males N = 277	Total N = 427
Health workers attitude towards adolescent condom buyers			
Friendly and professional	121 (80.7)	172 (62.1)	293 (68.6)
Unfriendly and non - professional	8 (5.3)	17 (6.1)	25 (5.8)
Unfriendly but professional	9 (6)	22 (7.9)	31 (7.3)
Friendly but not professional	12 (8)	66 (23.8)	78 (18.3)
Ability to afford condom all the time			
No	82 (54.7)	186 (67.2)	268 (62.8)
Yes	68 (45.3)	91 (32.8)	159 (37.2)
Age at first condom use			
9 – 14	11 (10.6)	11 (5.5)	22 (7.2)
15 – 20	93 (89.4)	179 (89.5)	272 (89.5)
21 – 25	0 (0.0)	9 (4.5)	9 (3.0)
26 – 30	0 (0.0)	1 (0.5)	1 (0.3)
Uses of condom			
To prevent sexually transmitted infection	31 (20.7)	62 (22.4)	93 (21.8)
To space children	6 (4)	11 (4.0)	17 (4.0)
To prevent pregnancy	10 (6.7)	23 (8.3)	33 (7.7)
More than one of above and any other	103 (68.7)	181 (65.3)	284 (66.5)

4.3. PREDICTORS OF CONDOM USE

Chi Square testing (bivariate analysis) was carried out to ascertain determinants of condom use among respondents and the results revealed that younger adolescents (<18 years) were less likely to use condom than older ones aged 18-20 years and above (see table 3 below). Also, minimal level of training on condom use by respondents significantly offered protection against risky sexual behaviour among the respondents. For those who had training on condom use, 276 (90.8%) used condom during sex as against 97 (78.9%) for those who never received training on condom use. When respondents were asked reasons for using condom during sex, 206 (67.8%) gave multiple reasons demonstrating their higher level of knowledge on condom use. It was also observed that the next highest in frequency among their reasons for using condom was to prevent pregnancy 49 (16.1%) and also to prevent STIs, 44 (14.5%). Among these sexually experienced adolescents, 189 (62.2%) used condom any time they had sex while 100 (81.3%) never used condom during sex (p<0.001).

Respondents who used condom during the first sex were 229 (75.3%) while condom use at last sex was 259 (85.2%) and were respectively significant (p<0.0001) in determining subsequent condom use. All the students said they had never contracted STI in spite of the risky sexual behaviour demonstrated in the results obtained.

Table 8: Predictors of condom use among Sandema Senior High Technical School students in the Upper East Region of Ghana.

Variable	Never used condom (n, %)	Used condom (n, %)	Chi Square	P - value
Age group				
<18	46 (37.40)	61 (20.07)		
18-21	72 (58.54)	203 (66.78)	18.2917	<0.0001
22-30	5 (4.07)	30 (13.16)		
Training on condom use				
No	26 (21.14)	97 (78.86)		
Yes	28 (9.21)	276 (90.79)	11.2776	0.001

Table 9: Predictors of condom use among Sandema Senior High Technical School students in the Upper East Region of Ghana (continued)

Variable	Never used condom (n, %)	Used condom (n, %)	Chi Square	P - value
Ability to afford				
No	97 (78.86)	26 (21.14)	19.1577	<0.0001
Yes	171 (56.25)	133 (43.75)		
Ethnicity				
Builsa	59 (47.97)	96 (31.58)		
Kasena	20 (16.26)	103 (33.88)		
Frafra	23 (18.70)	67 (22.04)	19.2030	0.001
Kusasi	11 (8.94)	14 (4.61)		
Other	10 (8.13)	24 (7.89)		
Health workers attitude				
Friendly and professional	75 (60.98)	218 (71.71)		
Unfriendly and non - professional	15 (12.20)	10 (3.29)	13.5308	0.004
	10 (8.13)	21 (6.91)		
Unfriendly but professional	23 (18.70)	55 (18.09)		
Friendly but not professional				

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Table 10: Predictors of condom use among Sandema Senior High Technical School students in the Upper East Region of Ghana (continued)

Variable	Never used condom (n, %)	Used condom (n, %)	Chi Square	P - value
Demerits of using a condom				
Skin irritation (itching)	34 (27.64)	54 (17.76)		
Delayed ejaculation	25 (20.33)	66 (21.71)	8.1449	0.043
Loss in sensation	38 (30.89)	86 (28.29)		
More than one of above or any other	26 (21.14)	98 (32.24)		

4.4 Logistic regression on correlates of condom use among Sandema SHTS students

Multivariate regression (logistic regression) was run to determine the predictors of condom use. The age of the respondents played a key role in determining condom use. For instance, age range 18-21, there was 113% odds of using a condom during sex. This, however increased for ages 22-26 years to 488% odds of using condom during sex (p= 0.002). When the adjusted odds ratio was obtained, there was 82% of using condom during sex for ages 18-21 but tremendously increased to 567% in the odds of using a condom during sex for the ages 22-26 (p=0.004). Older age was therefore a protective factor for risky sexual behaviour. Age at first condom use was however not statistically significant in predicting subsequent condom use.

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The crude odds ratio for having had training on condom use indicated a respondent who has had training on condom use had 2.6 times the odds of using a condom compared with those without training (p=0.001). However, the adjusted odds ratio gave 1.46 odds of using a condom (p=0.423).

Condom use at sexual debut and last sexual encounter were respectively very significant (p<0.0001) at determining the odds of using condom during sexual intercourse (Table 4 below).

Table 11: Logistic regression on correlates of condom use among Sandema

SHTS students

Variable	Crude OR (95% CI)	Adjusted OR (95% CI)	P - value
Age group			
<18	Ref.		
18 - 21	2.126138 (1.33-3.39)	1.817773 (0.86-3.83)	0.125
22 - 26	5.881967 (2.15-16.09)	6.665239 (1.68-26.42)	0.004
27 - 30	1 -	- -	-
Training on condom use			
No	Ref.		
Yes	2.642121 (1.48-4.73)	1.462087 (0.58-3.70)	0.423
Condom use at first sex			
No	Ref.		
Yes	43.892 (20.47-94.10)	15.836 (6.62-37.90)	<0.001
Condom use at last sex			
No	Ref.		
Yes	41.44 (22.16-77.50)	15.88039 (7.63-33.07)	<0.001
Why did you use condom			
To prevent pregnancy	Ref.		
Partner or peer insisted / requested / influenced	.3469388 (0.06-2.00)	.0710227 (0.01-0,90)	0.041
To prevent STIs	1.090379 (0.57-2.08)	.9181728 (0.31-2.70)	0.845
Did not trust partner	.1892393 (0.05-0.73)	.3307487 (0.04-3.04)	0.290
More than one of above or any other	3.107365 (1.81-5.34)	1.122288 (0.43-2.91)	0.849

CHAPTER FIVE

DISCUSSIONS

5.0 INTRODUCTION

This study examined condom use by students of Sandema Senior High Technical School in Upper East Region of Ghana.

5.1 PROFILE OF RESPONDENTS

Two hundred and eighty eight (67.45%) of the respondents were between the ages of 14-19 years and 139 (32.55%) were aged 20 years and above. These findings which are consistent with general knowledge indicate that, marginally, older adolescents are in the Senior High Schools. However, ages 22-26 years and older (p<0.0001), were more likely to use condom during sex compared with the younger ages and is consistent with other research findings in Ghana and elsewhere (Adanu et al., 2008; Akinrinola Bankole et al., 2007). This partly explains why globally, and more so in Sub Saharan Africa, new HIV infections are heavily concentrated among young people between the ages of 15-24 years (UNAIDS, 2013b).

Of all the ethnic groups that participated in the study, Akans (50%) were the least condom users followed by Kusasis (56%) and Builsas (61.94%). Condom use was high among Kasenas (83.74%) and Ewe (100%). The relatively high condom use among the Kasenas and the Ewes could be due to the Health Research centres situated in Upper East and Volta Regions where most Kasenas and Ewes respectively live. These research centres are likely to embark on extensive educational programmes and that could influence the level of condom use among respondents.

The form or grade of respondent was also a cause for concern with regards to the level of condom use. Condom use among form (grade) 1 respondents was 64% and increased to 73.17% among form two students and 74.32% among form three students. Higher grades offered some protection against risky sexual behaviour as more of the respondents used condom in the higher grades. This was however, not significant (p=0.161) for generalizations to be made.

These findings have serious consequences on the human resource development in the Upper East Region of Ghana and therefore require urgent interventions by the National AIDS Commission (NAC) in collaboration with the Ghana Health Service, Ghana Education Service and Parent Teacher Associations of the schools to encourage sex education in elementary and second cycle schools and more specifically, condom use during risky sexual intercourse.

5.2 KNOWLEDGE ON STIs INCLUDING HIV

The study gathered data on the knowledge of the students regarding sexually transmitted infections (STIs) including human immunodeficiency virus infection. Emphasis was particularly on the modes of transmission and prevention. The results revealed that 390 (91.3%) of the respondents indicated they knew about STIs including HIV and that condom use was an effective way of preventing transmission as compared to 37 (8.7%) who did not know anything about it. It was worrying to note that this high level of knowledge did not wholly translate in to condom use. The values obtained as indicated above are however, higher than those in the general population on knowledge of STIs and the need for condom use. This is quite protective for risky sexual behavior and translates into the relatively higher

levels of condom use which conforms with some research done in Ghana and elsewhere (Darteh & Nnorom, 2012b; Ghana Statistical Service, 2010).

5.3 CONDOM USE AMONG RESPONDENTS

The results of the study indicate that 304 (71.2%) of the respondents have ever used condom during sexual intercourse however, only 189 (62.2%) used condom always during sex. Seventy one (23.4%) of the respondents used condoms occasionally with others using condom only weekly or every two weeks but not during every coital act. The relatively low regular condom use during sex could partly be explained by the element of trust developed from men's length of sexual relationship with their partners (Amenudzi-darku, 2013; Teye, 2005). Overall, levels of condom use tend to decrease as the degree of intimacy or regularity of the partner increases. Also, this could be due to the desire for fashion especially among adolescent girls resulting in the exchange of sex for luxury items from older boys or men. In such relationship, the girls are virtually unable to negotiate for condom use during sex (Katz et al., 2013).

Moreover, it was obvious in the findings that parents were the least (1.17%) source of information for respondent thus further affirming the ''culture of silence,'' that leaves youth without an opportunity to discuss sexuality resulting in risky sexual behaviours (Adu-Oppong & Grimes, 2007; A Bankole, Darroch, & Singh, n.d.; Katz et al., 2013). The reluctance to talk about sexual matters (particularly condom use) and embarrassment in doing so from gatekeepers in the home, schools and elsewhere, reinforce negative messages of unacceptability and prohibition by the society. Worse still is the fact that, abstinence proponents have challenged government policies, arguing that more openness leads to earlier sexual experimentation without any evidence backing their stance (Stone & Ingham, 2014).

The respondents knowledge about contracting STIs (91.33%) and becoming pregnant (84.07) if they failed to use condom, offered some protection against risky sexual behaviour (Ghana Statisical Service (GSS), 2014; Katz et al., 2013).

The study further showed that condom use was largely associated with preventing pregnancy (19.4% chose pregnancy only) first, then also STI (16.9% for STI only). The influence of peers (IP) on condom use was the least (1.41% for IP only) and it is similar the research findings of Teye (2005).

Many respondents complained of loss in sensation (124, 29%) when using condom for sex with more males saying so (35%) than the females (18%). Even more so is the fact that most of the adolescents (220, 51.5%) preferred obtaining condom from drug stores only rather than the traditional institutional centres for reproductive health services. This could also partly explain why among the ethnic groups of respondents, Builsas were the least who used condom during sex (table 3 above). This is partly because, the school is situated in their home town (Builsa land) and the workers either at the drug stores or traditional institutional centres for reproductive health services know the students. The tendency of the Builsa students to think they may be stigmatized if the go for condoms might therefore, be high. These findings are also consistent with some research work done in Ghana on reproductive health (Adanu et al., 2008).

One of the ways of ensuring that young people who are sexually active use condom regularly is to educate personnel who operate drug stores (pharmacy shops) on the best ways of using condoms effectively and regularly. The personnel should also be trained to offer counselling services on condom use and reproductive health in general since most young people are comfortable in seeking medical consultation from them (Adanu et al., 2008).

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5.4 CORRELATES OF CONDOM USE

The logistic regression results shows that age had a direct and significant relationship with the students' condom use. For instance, there was 567% increase in the odds of adolescents aged 22-26 years and above to use condom during sexual intercourse (see table 4 above) compared to those less than 18 years. This could be attributed to respondents emotional maturity (at that age) and therefore have a better perception about life and the consequences of their actions. Also, the respondents would have been exposed to more information on reproductive health and thus take informed decisions about their reproductive health.

Also, a direct and significant relationship was found between condom use at first and last sex and subsequent condom use. There was so much statistical significance (p<0.0001) for condom use at sexual debut and last sexual intercourse such that for a respondent who used condom during the first or last sex, had about 14.9 odds of using condom during the next sexual act compared with their counterparts who never used condom.

The influence of friends/partners/peers on condom use was only minimally significant (p=0.041). For instance, a unit use of condom by respondents had 0.1 odds of using a condom during the next sexual intercourse than their counterparts who were never influenced to use a condom.

The research findings emphasise the need for interventions to increase awareness about the role of condoms in preventing STIs including HIV and unintended pregnancies among young people in Ghana, and the need to reach them with health education messages before they become sexually experienced. Findings also stress the importance of encouraging adolescents to delay their sexual debut since early initiation of sex predisposes young people to STIs, unintended pregnancy among others. Most young women who get pregnant in Ghana are

unable to continue their education after delivery. A multi sectorial collaboration involving the ministries of Gender and Social Protection, Education, Health and the Local Government and Non-governmental organisations as well as social marketing organisation, in rolling out health educational programmes (with emphasis on condom use) that are attractive and acceptable to the youth to help preserve their lives and future. It must be noted however, that, condom availability does not necessarily translate into increase condom use (Amenudzi-darku, 2013). Innovative approaches will have to be adopted to increase condom use among students.

5.5 LIMITATIONS OF THE STUDY

It is most likely that there was underreporting of condom use by the students in the overall study as condom use, particularly among young unmarried students, remains socially stigmatized where the study was carried out. The tendency of students, especially boys, to pretend to be sexually experienced even if they are not, for the purpose of also participating in the study cannot be entirely ruled out. Therefore, there is most likely a selection bias, over reporting the sexual experiences and particularly condom use of those who willingly participated in the study as sexually active students. There is also the likelihood of respondents' inability to recollect their condom use history. This could predispose the findings to recall bias. Just as with any study, relying on respondents' renditions of their own sexual behaviour, the results should be interpreted with these cautions in mind.

CHAPTER SIX

CONCLUSION AND RECOMMENDATIONS

6.0 INTRODUCTION

This chapter focuses on the general overview of the research and recommendations for future research in this field of study. The purpose of the study was to assess condom use by Sandema Senior High Technical School students in Sandema, Upper East Region, Ghana.

6.1 CONCLUSION

The study established that there is high risk heterosexual activity among Sandema SHTS students which is devoid of regular condom use thereby exposing them to reproductive health problems such as unintended pregnancies and STIs including HIV and AIDS. . The main findings of the study have been summarized as follows:

1. The proportion of condom use was lower among the younger students aged 14 – 17 years but high among older students 18 years and above.

2. The fear of becoming pregnant (females) and contracting STIs (both sexes) was a significant determinant of condom use.

3. Condom use at sexual debut and last sexual intercourse resulted in higher chances of using condom during the subsequent sexual encounters.

4. Influence of partners or peers was very minimal in determining condom use.

6.2 RECOMMENDATIONS

Based on the findings, it is recommended that;

1. The Ministry of Health and the Ghana Health Service in collaboration with the Ghana Education Service should provide adequate reproductive health services particularly condom use, to the students. The services should be delivered in adolescent friendly manner to attract and retain young people.

2. Multi – media sources of information dissemination on condom use to young people should be employed with particular emphasis on TV / Radio and health education on the campus. This should particularly emphasize the dangers of failing to use a condom during sex.

3. Parents, families and other stakeholders involved in adolescent reproductive health should focus their educational campaign on younger adolescents particularly, those who have not had sexual intercourse before.

4. Senior High Schools should consider allocating time for topics that address basic sexual and reproductive health needs of adolescents particularly, condom use. Such periods should be interactive; it should be a forum where young people are at liberty to ask questions that bother on their SRH needs with little or no inhibition by the educators.

5. All educational programmes rolled out for young people on their SRH needs should emphasize the need for condom use especially at sexual debut.

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APPENDICES

APPENDIX A: QUESTIONNAIRE

SECTION A

INFORMED CONSENT FORM

PROJECT TITLE

Condom use by Senior High Technical School Students in Sandema, Upper East Region, Ghana.

Principal Investigator: Emmanuel Toruka Kona

AFFILIATED INSTITUTION

Department of Population, Family and Reproductive Health, School of Public Health, University of Ghana**.**

BACKGROUND INFORMATION

Dear participant, my name is Emmanuel Toruka Kona. I am a student of the school of Public Health, University of Ghana. The purpose of this study is to assess the level of condom use among Sandema Senior High Technical School students.

PROCEDURES

The study will involve answering questions from a questionnaire

RISK AND BENEFITS

The procedure will be non – invasive and will not cause any discomfort to the participants. The results of the study will be used by the Ghana Health Service and Ghana Education Service to re-orient reproductive health needs of the students.

RIGHT TO REFUSE

Participation is voluntary and you have the right to decline to participate in the study. Eligible students who consent to participate will not benefit from any monetary gains.
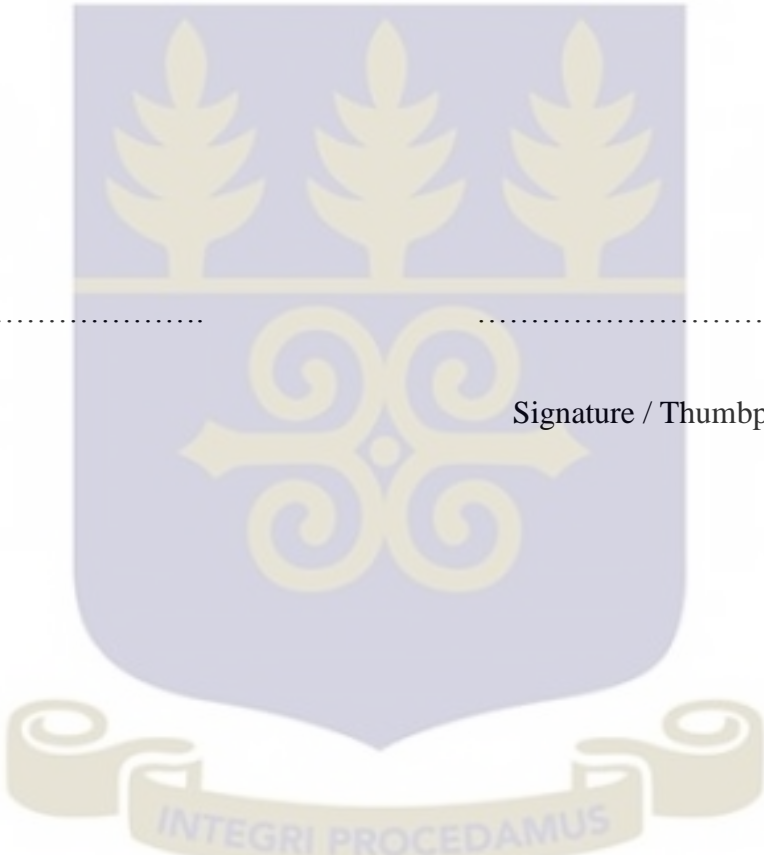
ANONYMITY AND CONFIDENTIALITY

All information provided by you in this survey will be handled with strict confidentiality and will be used purely for research purposes. No external bodies or individuals will have access to your responses. Data analysis will be done at the aggregate level to ensure sufficient anonymity. Electronic data will be entered into stata (version 12) and will be made accessible only by the research team. The computer will be protected with a password and activated antivirus software. All study materials and data (questionnaires, informed consent forms) will be stored in a locked cabinet by the principal investigator.

CONTACT FOR ADDITIONAL INFORMATION

You could contact the principal investigator for additional information. Emmanuel Toruka Kona: +233 206 442 450. You could also contact the GHS-ERC Administrator: Hannah Frimpong – 0243235225 / 0507041223.

VOLUNTARY AGREEMENT

Information above which describes the benefits, risks and procedures for the research 'CONDOM USE BY SENIOR HIGH TECHNICAL SCHOOL STUDENTS IN SANDEMA, UPPER EAST REGION, GHANA' has been read and explained to me. I have been given an opportunity to have any questions about the research answered to my satisfaction. I agree to participate as a volunteer.

…………………………….   …………………………………….

Date   Signature / Thumbprint of volunteer

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Consent Form (cont.)

PERMISSION

You have been selected to be part of this study but your permission is required to do so. I am assessing the level of Condom use among senior high technical school students (SHTSS) in Sandema. You have the right to refuse or withdraw from this study.

CONFIDENTIALITY

All information collected from this study will be kept confidential.

BENEFITS

The study seeks to find out the level condom use among SHTSS in the Builsa District. The outcome is expected to inform decisions on adolescent reproductive health (in general and more specifically on condom use) by the various stakeholders.
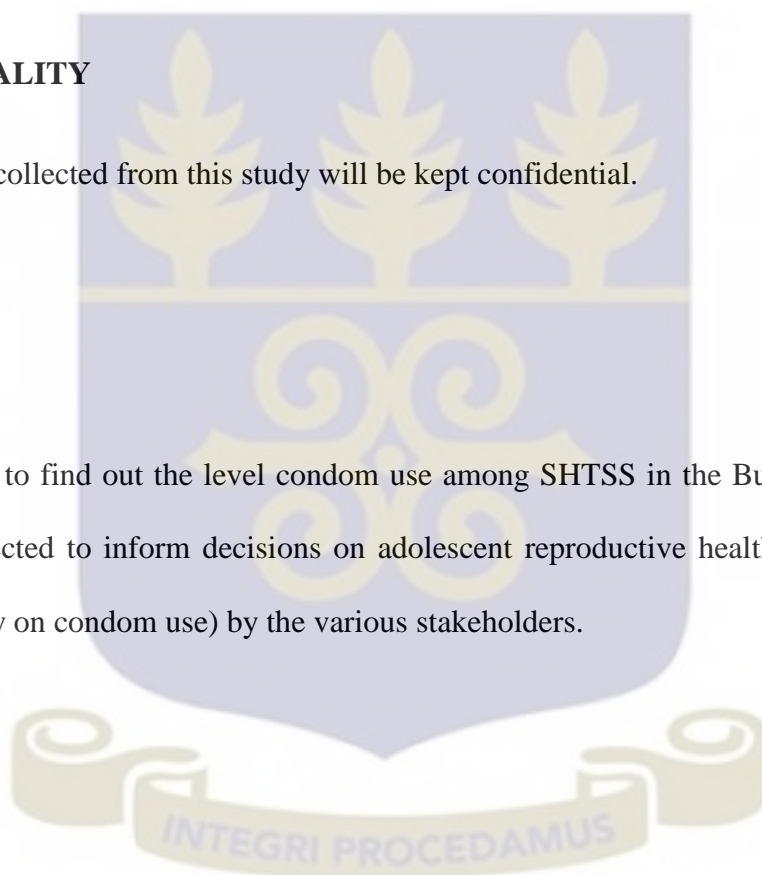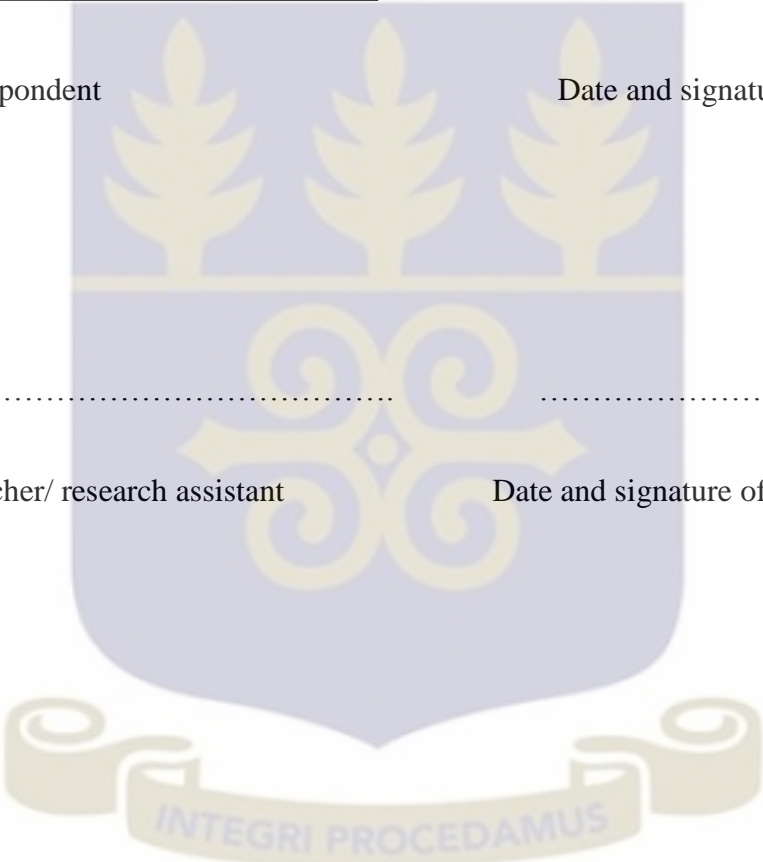
UNDERTAKING

I have read the above information. I am satisfied and therefore consent voluntarily to participate in this study.

_____   _____

        Name of respondent   Date and signature of respondent

………………………………………………..   ………………………………………

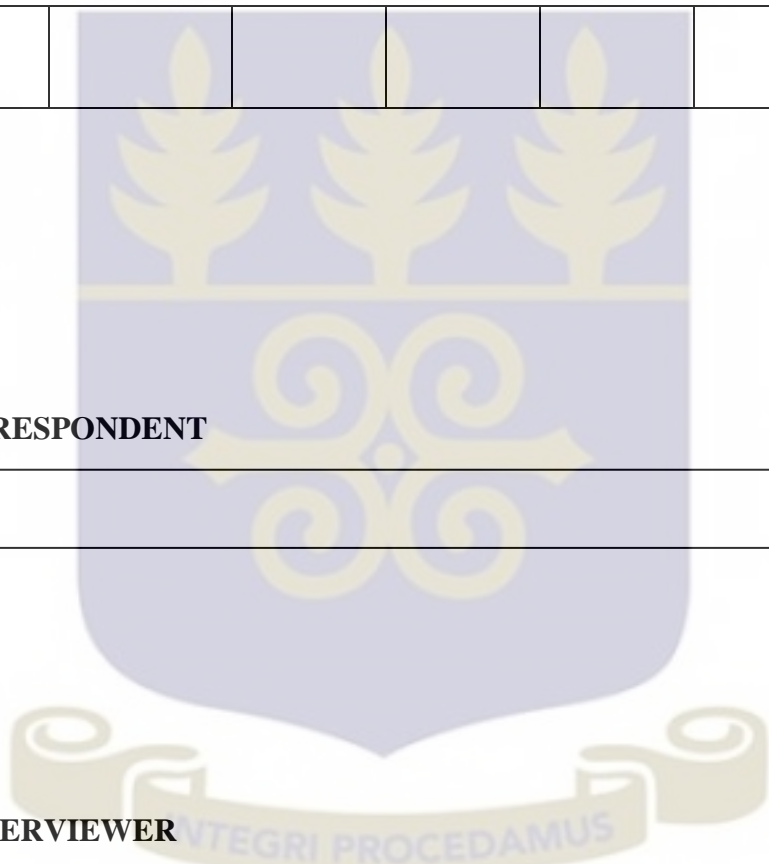   Name of researcher/ research assistant   Date and signature of researcher/Asst.

FORM NUMBER

DATE OF INTERVIEW   e.g. dd/mm/yyyy

INITIALS OF RESPONDENT

NAME OF INTERVIEWER

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QUESTION	RESPONSE	VARIABLE
Sex of respondent 1. Male **2.** Female		**Q1 SEX**
How old were you on your last birthday (please provide age in completed years)		**Q2 AGE**
Marital Status 1. Single 2. Married 3. Divorced 4. Separated 5. Cohabitation 6. Other (Specify)		**Q3 MSTATE**
Which religion do you belong to? 1. Christian 2. Traditionalist 3. Moslem 4. Other (specify)		**Q4 RELIGION**
Which ethnic group do you belong to? 1. Builsa 2. Kasena 3. Frafra 4. Kusasi 5. Akan 6. Ewe 7. Other (specify)		**Q5 ETHNIC**

Which form are you now? 1. Form 1 2. Form 2 3. Form 3		**Q6 STUDY**
How are you financing your education? 1. Parent/guardian/scholarship 2. Parents/guardian only 3. Parents only 4. Self sponsored 5. Other (specify)		**Q7** **SPONSORSHIP**

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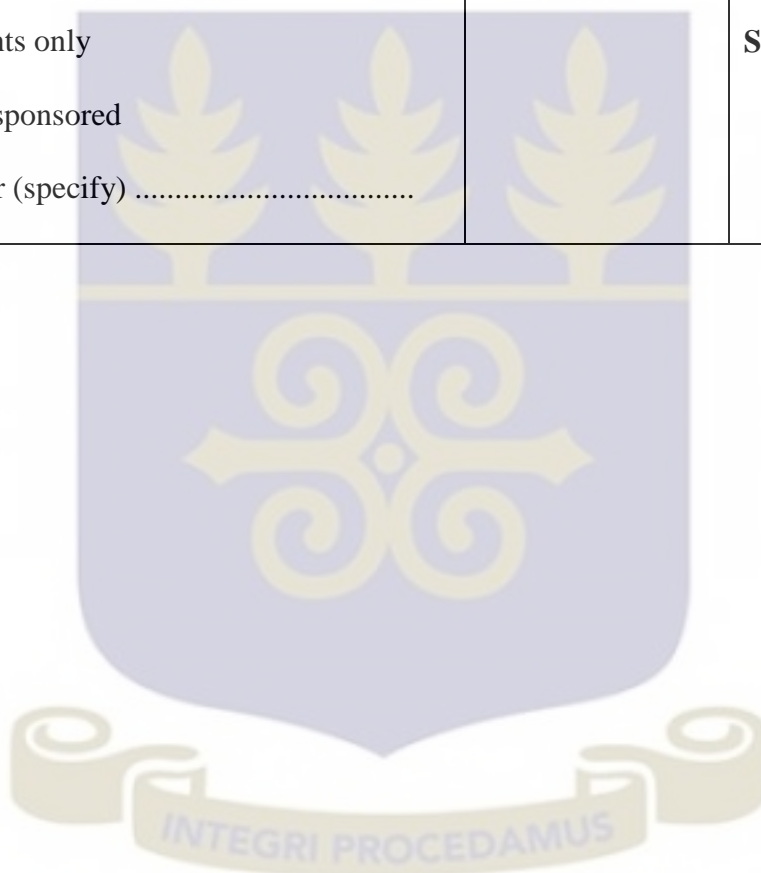
QUESTIONNAIRE ON THE PREVALENCE OF CONDOM USE AMONG SANDEMA SENIOR HIGH TECHNICAL SCHOOL STUDENTS

1.Have you ever heard about Condom?

1   YES   ☐

2   NO   ☐

2.If YES, which is your main source of information about condoms (Tick all that apply)

1. Parents   ☐   6. Textbooks / books   ☐

2. TV / Radio   ☐   7. Internet   ☐

☐

3. Friends   8. Sex education on campus   ☐

4. Films / drama   ☐   9. Family planning centre / hospital / clinic   ☐

5. Newspapers   ☐   10. Other (specify) ....

3.IF YES, what is it used for (Tick all that apply)

    1. To prevent sexually transmitted infections ☐

    2. To space children ☐

    3. To prevent pregnancy ☐

    4. Other (specify) ....

4.   **What type of condoms do you know? (Tick all that apply)**

1. Latex ☐   3. Polyisoprene ☐   5. Other (specify) ....

2. Polyurethane ☐   4. Lambskin ☐

5. What are the advantages of using a condom? (Tick all that apply)

1. Safe. No hormonal side effects ☐

2. To prevent unwanted pregnancy ☐

3. Prevent STIs including HIV ☐

4. Easy to obtain ☐

5. Helps to prevent premature ejaculation ☐

6. Other (specify) ....

6. What are the side effects of using a condom?

1. Skin irritation (itching) ☐

2. Delayed ejaculation ☐

3. Loss in sensation ☐

4. Others (specify) ....

7. Can a woman become pregnant after first sexual intercourse?

1. Yes ☐

2. No ☐

8. Can a man make a woman pregnant after first sexual intercourse?

1. Yes

2. No

9. Can a woman or man get infected with sexually transmitted infection including HIV after first sexual intercourse?

1. Yes

2. No

10. Have you received training on condom use?

1. Yes

2. No

11. If yes, from where?

1. Family member

2. Youth group

3. School

4. Market

5. Church

6. Social / Health worker

7. NGO

8. Other (specify) ....

12. Have you and your partner used a condom before?

1. Yes

2. No

13. If yes, at what age did you first use a condom?   ....years

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14. How often did you and your partner use a condom?

1. Everyday

2. Weekly

3. Once every two weeks

4. Any time I have sex

5. Occationally

6. I do not use it at all

15. Did you and your partner use a condom the first time you had sexual intercourse?

1. Yes

2. No

16. Did you use a condom the last time you had sexual intercourse?

1. Yes

2. No

17. If yes, what are the reasons for using a condom? (Tick all that apply)

1. To prevent pregnancy ☐

2. Partner or peer insisted / requested / influenced ☐

3. To prevent STIs ☐

4. Did not trust partner ☐

5. Other (specify) ....

18. Have ever been pressured by your peers to have sex?

1. Yes ☐

2. No ☐

19. Do your friends use condom?

1. Yes ☐

2. No ☐

3. Sometimes ☐

4. I don't know ☐

19. Has your best friend experienced sex?

1. Yes ☐

2. No ☐

20. **How many of your friends have had sex?**

    1. Most of them   ☐

    2.Half of them   ☐

    3.Few of them   ☐

    4 .None of them   ☐

21. Where do you usually get your condoms from? (tick all that apply)

    1. Sandema Hospital   ☐

    2. Sandema RCH   ☐

    3. Private Doctor / Nurse / Midwife   ☐

    4. Drug store   ☐

    5. Private clinic   ☐

    6. Others (specify)   ....

22. Do you buy the condoms or it is given to you for free?

    1. Buy   ☐

    2. Given free   ☐

    3. Both   ☐

23. Is the distance from where you stay to where you usually get condom to buy far?

1. Yes

2. No

24. How much is a pack of condoms? GH₵ ....

25. Are you able to afford all the time?

1. Yes

2. No

26. How will you describe the health personnel who attend to you when you go to buy condom?

1. Friendly and professional

2. Unfriendly and non professional

3. Unfriendly but professional

4. Friendly but not professional

27. Have ever suffered from sexually transmitted disease before?

   1. Yes

   2. No