UNIVERSITY OF EDUCATION, WINNEBA

ADOLESCENT STUDENTS' KNOWLEDGE ON SEXUALLY TRANSMITTED INFECTIONS AND SEXUAL BEHAVIOURS IN EASTERN REGION SCHOOLS FOR THE DEAF, GHANA

FRANK WISDOM KWASI KLOH

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DECLARATION

STUDENT'S DECLARATION

I, Frank Wisdom Kwasi Kloh, declare that this dissertation, with the exception of quotations and references contained in published works which have all been identified and acknowledged, is entirely my original work, and it has not been submitted, either in part or whole, for another degree elsewhere.

Signature: ……

Date: ……..

SUPERVISOR'S DECLARATION

We hereby declare that the preparation and presentation of this work were supervised in accordance with the guidelines for supervision of thesis as laid down by the University of Education, Winneba.

NAME OF SUPERVISOR: DR. SAMUEL KWASI AMOAKO - GYIMAH

SIGNATURE: .....

DATE: .....

DEDICATION

I dedicate this dissertation to my entire family.

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I would also like to acknowledge my supervisor; Dr. Samuel Kwasi Amoako- Gyimah without whom I wouldn't be undertaking this work. Your in-depth knowledge and your unparalleled guidance and suggestions ensured the completion of this programme. I am indebted to you for your supervisory efforts.

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Finally, to my Family, loved ones and to all those whose immense contribution made this work a success.

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ABSTRACT

This study investigated adolescent students" knowledge of sexually transmitted infections and sexual behaviours in eastern region schools for the deaf in Ghana. Descriptive survey design was used for the study. The researcher used HIV- Knowledge Questionnaire (Carey & Schroder, 2002) to assess the knowledge of respondents on types, mode, prevention, signs and symptoms of sexually transmitted infections and sexual behaviours. Five research questions and three hypotheses were formulated to guide the study. Stratified sampling technique and simple random sampling technique were employed. Proportional representation was used to select a sample of ninety-five (95) adolescent students with deafness from JHS2 and JHS3 between the ages of 13 and 24 years. Data were analyzed descriptively into frequencies and percentages using SSPS software version 23.0. The t- test with 95% confidence level was used to test the three hypotheses. The results of the study indicated that the students had knowledge on some of the types of sexually transmitted infections such as Gonorrhea, Syphilis and HIV/AIDS. They however, had inadequate knowledge on sexually transmitted infections such as Hepatitis B and Chlamydia. Majority of the students were conversant with the mode of transmission of sexually transmitted infections, its preventions and signs and symptoms of sexually transmitted infections. Most of the students engaged in risky sexual behaviours which increases their potential of acquiring sexually transmitted infections. The study found no significant difference in the knowledge of adolescent boys and girls in Koforidua school for the deaf, Kibi School for the Deaf and Demonstration school for the deaf, Mampong Akwapim on the types, mode, prevention, diagnosis, signs and symptoms of sexually transmitted infections. The provision of education on sexually transmitted infections in Koforidua, Kibi and Demonstration School for the Deaf, Mampong Akwapim should center on both the common STIs such as HIV/AIDS, gonorrhea and syphilis and the uncommon ones such as cancroids, genital herpes, Chlamydia.The teachers of the schools for the deaf in the Eastern Region should help equip adolescent students with the skills that will enable them to put knowledge into practice.

CHAPTER ONE

INTRODUCTION

1.1 Background to the Study

Adolescent students with deafness are confronted with decisions concerning their sexual health which lead them to sexual behaviours such as early initiation of sex, multiple sexual partnersand casual sex (Issaka, 2015). These sexual behaviours increase their probability of negative outcomes such as sexually transmitted infections.

Sexually transmitted infections are among the common diseases in the world with yearly incidence only exceeded by malaria and diarrhea. It is estimated that about 499 million new cases of curable sexually transmitted infections across the world, and averagely, a little over a million people get infected with sexually transmitted infections (STIs) every day, (World Health Organisation, 2018). Sexually transmitted infections could be a co-factor for HIV acquisition and transmission especially for specific sexually transmitted infections such as syphilis, chancroid and genital herpes (Lusti-Narasimhan et al., 2011). If not detected on time or left untreated, it can lead to complications such as pelvic inflammatory diseases, ectopic pregnancies or infertility in women, or epididymitis in men.

According to World Health Organisation (2010) although, 50% of sexually transmitted infections including HIV occur among adolescents aged 15 – 24 years, such adolescents lack knowledge about STIs. This situation needs to be changed to actively involved adolescents in the fight to prevent the spread of sexually transmitted infections. Adequate knowledge of sexually transmitted infections among adolescent students with deafness will help reduce its prevalence rate. However, individuals with deafness

encounter difficulties when accessing information from formal sources such as health professionals and the media. For this reason, adolescent students with deafness often seek information from friends and family members which are usually not authentic. Mprah (2013). This has dire consequences when it comes to knowledge about issues concerning sexually transmitted infections (STI).

The malfunction of the ear isolates adolescent students with deafness from the public due to communication gap that exist between them and the rest of the society. Despite this gap, the educative programmes telecast on television and on radio by institutions such as Ghana AIDS Commission to educate the youth on the modes of transmission and prevention of sexually transmitted infections (STI_S) do not take the adolescents with deafness into consideration as no attempt is made to interpret in Sign Language to their benefit. The communication gap between parents and their wards also denies them the opportunity to discuss matters concerning reproductive health, Isaiah and Ola (2016),

These adolescents who are the future leaders and potential human resource end up as school dropouts‟ due to health complications. Additionally, a good number of adolescents who indulge in early unprotected sex contract sexually transmitted infections which can require lifelong medical care and social support from their individual families and the society as a whole (Idele et al., 2014).

As any other school and members of the society, adolescents with deafness have the right to be effectively educated on reproductive health in order to protect themselves against sexually transmitted infections as they learn to socialize like any other and may be tempted to indulge in sexual activities. It is against this background, that this study is deemed necessary to investigate the knowledge of adolescent students with deafness on sexually transmitted infections as well as explore their sexual behaviours.

1.2 Statement of the Problem

In Ghana, Eastern Region is reported to be among the Regions with high prevalence rate of sexually transmitted infections among adolescents (Ghana AIDS Commission, 2015). The researcher‟s informal interaction with adolescent students in the schools for the deaf in the Eastern Region of Ghana reveal that these adolescent students engage in sexual behaviours that may result in acquiring sexually transmitted infections.

Despite this threat, a few studies have been done in schools for the deaf regarding this topic. For instance, Mprah, (2013) and Isaaka, (2015) explored HIV/AIDS knowledge and sexual behaviuors respectively among deaf students in the cities of Tamale and Accra and some selected schools for the deaf in Ghana revealed that deaf students have inadequate knowledge on HIV/AIDS. Dinko (2018) conducted study on HIV/AIDS knowledge and sexual behaviours of adolescents in schools for the deaf in Ahafo and Ashanti Regions of Ghana revealed that adolescents with deafness have inadequate knowledge on the basic facts of HIV/AIDS. The researcher did not find any study that specifically focused on knowledge of sexually transmitted infections and sexual behaviours of adolescent students with deafness in the Eastern Region of Ghana. This has prompted the study to fill the gap by investigating Adolescent students‟ knowledge of sexually transmitted infections and sexual behaviours in Eastern Region schools for the deaf in Ghana.

1.3 Purpose of the Study

The purpose of the study was to investigate adolescent students‟ knowledge of sexually transmitted infections and sexual behaviours in Eastern Region schools for the deaf in Ghana.

1.4 Objectives

The objectives of the study were to:

1. Investigate the knowledge of adolescent students with deafness on the types of sexually transmitted infections
2. Find out the knowledge of adolescent students with deafness on the mode of transmission of sexually transmitted infections
3. Find out the knowledge of adolescent students with deafness on how to prevent sexually transmitted infections
4. Find out the knowledge of adolescent students on diagnosis/signs and symptoms of sexually transmitted infections
5. Explore the sexual behaviours of adolescent students with deafness in schools for the deaf in the Eastern region of Ghana
6. Find out the level of knowledge on STIs between boys and girls students who are deaf

1.5 Research Questions

The study was guided by the following research questions:

1. What knowledge do adolescent students with deafness have on the types of sexually transmitted infections?
2. What knowledge do adolescent students who are deaf have about transmission of sexually transmitted infections?
3. What is the knowledge of adolescent students with deafness in Koforidua, Kibi and Demonstration schools for the deaf, Mampong Akwapim about prevention of sexually transmitted infections?
4. How knowledgeable are adolescent students with deafness in Koforidua, Kibi and Demonstration schools for the deaf, Mampong Akwapim in the Eastern

Region of Ghana on diagnosis/signs and symptoms of sexually transmitted infections?

5. Which type of sexual behaviour do adolescent students with deafness in the schools for the deaf in the Eastern Region of Ghana exhibit?

1.6 Hypotheses

The study also tested the following hypotheses:

Ho_1: There will be no statistically significant difference in the level of knowledge on sexually transmitted infections between boys and girls with deafness in Koforidua School for the Deaf.

Ho_2: There will be no statistically significant difference in the level of knowledge on sexually transmitted infections between adolescent boys and girls with deafness in Kibi School for the Deaf

Ho_3: There will be no statistically significant difference in the level of knowledge on sexually transmitted infections between boys and girls with deafness in Demonstration School for the Deaf, Mampong Akwapim

1.6 Significance of the Study

The results of this study would inform stakeholders of the level of knowledge of sexually transmitted infections among adolescents with deafness which will influence the adoption and implementation of adolescent health policies in the country. The study would also facilitate the development of strategies by the teachers of the deaf to assist adolescents with deafness to have better understanding on basic facts of sexually transmitted infections.

The study would draw the attention of stakeholders of the nature of adolescent students" sexual behaviours in the schools for the deaf in the Eastern region of Ghana

The study would also add to the knowledge and serve as a source of reference for future researchers.

1.7 Delimitation of the Study

The study covered schools for the deaf in the Eastern region of Ghana namely Koforidua School for the Deaf, Kibi School for the Deaf and Demonstration School for the Deaf, Mampong Akwapim. The study focused on JHS 2 and JHS 3 students of Koforidua, Kibi and Demonstration School for the Deaf, Mampong Akwapim because they had stayed long enough in their respective schools to gain the experience necessary in providing information required for the study. The study only focused on knowledge of sexually transmitted infections and sexual behaviours of adolescents in Schools for the Deaf in Eastern Region of Ghana.

1.8 Limitations of the Study

The data were taken from adolescent students with deafness in the Schools for the Deaf in the Eastern Region of Ghana which makes it difficult to generalise the results to all adolescent students in Ghana as a whole. Also, the use of sign language by the teachers appointed to interpret issues for the respondents for better understanding of the questionnaire items might have some influence in the responses provided by the adolescent students. However, such influence was minimised because the respondents did not answer the items at the time of interpretation. The questions were given to the respondents to answer after the interpretation. More so, the prevalence of Covid 19 delayed the process of having access to the respondents.

1.9 Operational Definition of Terms

The following are the operational definition of some terms used in the study:

***Adolescents*:** Adolescents referred to young people between 13 and 24 years and are students of Junior High Schools JHS 2 and JHS 3 in the schools for the deaf in Kofridua, Kibi and Demonstration School for the Deaf, Mampong Akwapim.

***Deafness**:* damage cause to the ear which brings a level of incapacitation in the function of the ear.

Schools for the Deaf: Schools for the deaf is defined as the special Junior High Schools established in Koforidua, Kibi and Mampong Akwapim in the Eastern Region of Ghana to educate students who are deaf.

***Sexually transmitted infections**:* diseases that are contracted mainly through sexual intercourse. They include gonorrhea, syphilis, Chlamydia, HIV, hepatitis B.

***Knowledge*:** having awareness and understanding of a particular issue

Sexual behaviour: individuals" engagement in sexual activities such as early sexual debut, use or non-use of condoms as well as number of sexual partners one has.

1.10 Organization of the Study

The study was organized and presented in six chapters. Chapter one focused on the introduction which involved the background to the study, statement of the problem, purpose of the study, objectives of the study, research questions, hypothesis, delimitations, limitations, operational definitions of terms as well as organization of the study. Chapter two dealt with literature review. That is the review of relevant literature on the topics related to the subject under study. Chapter three outlined the methodology employed for the study. The sub-headings include research design, population, sample size and sampling technique and instruments used for the study. The chapter four focused on data presentation and analysis where data collected were analyzed based on responses provided for each research question. Chapter five dealt with the discussion of

findings. The last chapter, chapter six presented a summary of findings, conclusions and recommendations based on the findings of the study.

CHAPTER TWO

REVIEW OF RELATED LITERATURE

2.0 Introduction

This chapter presents a review of relevant literature related to the study. The literature review was categorized into theoretical and empirical review. The theoretical review focused on the theoretical framework while the empirical review considered studies conducted in Ghana and other parts of the world that was related to the study and was reviewed under the following sub-headings:

1. Types of sexually transmitted infections among adolescents with deafness
2. Mode of transmission of sexually transmitted infections.
3. Prevention of sexually transmitted infections.
4. Signs, symptoms and diagnosis of sexually transmitted infections Sexual behaviours of adolescents with deafness

2.1 Theoretical Framework of the Study

The study is driven by theory of Reasoned Action (Ajzen & Fishbein, 1980). The researcher aligned this theory to the reproductive health behaviour change model (SBC) which sought to explain how students‟ knowledge and interest in reproductive health influence their sexual behaviour or attitudes.

2.1.1 Theory of Reasoned Action

The theory of reasoned action explains how and why attitude impacts behaviour, why people‟s beliefs change the way they act. The theory states that a person‟s behaviour is determined by their attitude towards the outcome of that behaviour and by the opinions of the person‟s social environment. Main constructs of this theory are attitudes, subjective norms and intentions. Attitudes in this case are beliefs that a person accumulates over his life time, formed from direct experiences and outside information, and others inferred or self-generated. If a person has positive beliefs about the outcome of his behaviour, then he or she is said to have positive attitude and if a person has negative beliefs about the outcome of his or her behaviour, he or she is said to have negative attitude. A person‟s subjective norms are his or her beliefs about what others will think of the behaviour. They are perceptions about how family and friends will perceive the outcome of the behaviour and the degree to this influence whether the behaviour is carried out. Intentions are the probability that the individual will perform the behaviour. The intention is influenced by the attitude and the subjective norm and the behaviour is the transmission of the intention into action (Ajzen & Fishbein, 1980).

Adolescents with deafness need to have knowledge on sexually transmitted infections which is the focus of this study. Thus, addressing the reproductive health needs of adolescents with deafness through provision of knowledge in sexually transmitted infections. Perceived benefits of providing knowledge on sexually transmitted infections to adolescents with deafness included outcomes such as improved levels of education of such individuals and avoiding sexually transmitted infections.

2.2 Empirical Review

This section reviewed literature on knowledge of sexually transmitted infections and sexual behaviours in relation to the research questions that guided the study. The review

was categorized into two thematic areas. These areas included knowledge about the types of sexually transmitted infections, the modes of transmission of sexually transmitted infections, diagnosis, signs and symptoms as well as the prevention strategies and sexual behaviours of adolescents with deafness.

2.2.1 Types of Sexually Transmitted Infections

Sexually transmitted infections are infections which are mainly transmitted from one person to another through intimate contact (Centre for Disease Control, 2017; World Health Organisation, 2011). The term describes infections caused by more than 30 different bacteria, viruses and parasites which are transmitted through sexual intercourse. The common feature of these infections is their mode of transmission and not their cause, origin, clinical features or consequences (World Health Organisation, 2011). The most common sexually transmitted infections are the bacterial infections: Chlamydia, syphilis, gonorrhea and the viral infections: human papillomavirus (HPV), HIV and hepatitis B (CDC, 2017).

Sexually transmitted infections refer to a range of clinical manifestations or syndromes that are produced by pathogens and can be transmitted and acquired through an act of having sexual intercourse. According to World Health Organisation (2016), more than thirty different pathogens, for example, protozoa, viruses, bacteria, fungus and quite a lot of others cause STIs. STIs can likewise be transmitted through direct contact with body parts of tissues or body liquids of infected persons. The irony is that, some STIs normally exist devoid of symptoms, especially in women. Different mechanisms for example screening and case-finding are critical for early recognition and management of these asymptomatic infections (Taderera, 2012).

The classification of STIs seems to be based on the classes of causative organism and the widely recognized causative organisms are bacteria, protozoa, fungi, virus and parasites. There are, however, over 30 bacterial, viral and parasitic pathogens that have been identified to be transmitted sexually (World Health Education, 2012).

The most common types of STIs are the bacterial infections: Chancroid, chlamydia, syphilis, gonorrhea, Mycoplasma Genitalium (which is associated with Pelvic Inflammatory diseases bacterial vaginosis) causes non-gonococcal urethritis in men and Lymphogranuloma Venereum (LGV), the viral infections: human papillomavirus (HPV) which is viral and has about seventy variants, Hepatitis B, HIV, Genital Herpes, Cytomegalovirus, Mononucleosis, and moll scum contagious.

Trichomoniasis is a protozoa disease and Candidacies (yeast infection) is a fungal infection (Samkange-Zeeb, Mikolajczyk and Zeeb, 2013). On the basis of types, STIs are further seen as including those that can be cured like syphilis, Chlamydia and gonorrhea as well as incurable but modifiable ones like herpes simplex, human papilloma virus (HPV), HIV and hepatitis B infections (Samkange-Zeeb, Mikolajczyk and Zeeb, 2013).

A study conducted by Awang, Wong, Jani and Low (2013), investigated the knowledge of sexually transmitted infections and sexual behaviors among Malaysian male adolescents. The results showed that 92% of the respondents had heard of at least one of the listed STIs, which included syphilis, gonorrhea, chlamydia, yeast infection, herpes, genital warts, trichomoniasis and HIV/AIDS. The disease that most people knew of was HIV/AIDS (90%) and syphilis (59%). The least known diseases were chlamydia and trichomoniasis, only 13 % of the respondents were aware of those diseases.

Weinstein, Walsh, and Ward (2008) conducted a study and used a sample of 347 college students ranging in age from 18 to 23 and found that majority of college

students displayed a lack of knowledge and understanding of sexual health issues, indicated by the low percent of correctly answered questions in the knowledge of the types of sexually transmitted infections section of their survey. They also found that females appeared to be more knowledgeable than males, especially involving the subjects of STIs (Weinstein, Walsh, and Ward, 2008).

Johnson-Silver and Bauman (2006) conducted a study among 14 – 17 years old African -American and Hispanic adolescents in the Bronx, NY to examine differences in HIV/AIDS knowledge and attitudes between those who were sexually experienced and sexually non – experienced. The results revealed that sexually experienced adolescents had higher levels of HIV/AIDS knowledge than the non – experienced group. Similarly, Davis and Niebes-Davis (2010) in their study examining individual perception of future success and its relationship to sexual knowledge and attitudes, the research results indicated that Hispanic youth had higher levels of knowledge on the types of sexually transmitted infections than Caucasian and African-American youth

A study carried out in the United States by Clark, Jackson and Allen-Taylor (2002) showed that despite having received relevant education from school, home and friends, a high percentage of adolescents were lacking in knowledge regarding various STIs. The adolescents who had been educated by parents, school, other relatives and friends performed better than those educated by other sources. Nearly all adolescents had good knowledge of HIV/AIDS, but they knew far less about other STIs.

A study based in Northern Thailand by Paz-Bailey, Klimarx, Supawitklul, Chaowanachan, Jeeypant, Sternberg, and Griensven (2003) showed that Thai adolescents‟ knowledge on HIV was high. Among the sample, which consisted of students aged 15-21, 99.5% had heard of HIV. More than 90 % could identify three main routes of contracting the infection. The same study also showed that knowledge of

other STIs was lower than the knowledge on HIV, and that some of the students did not know that STIs could cause infertility. The study showed no significant difference in gender concerning knowledge of STIs.

A similar study in Rio de Janeiro by Trajman, Belo, Teixeira, Dantas and Salomão (2003) showed that all participants had heard of HIV, but far less knew of other STIs such as cancroid, syphilis and genital herpes. Sixteen percent of the adolescents thought that AIDS was curable, which shows great lack of knowledge in the seriousness of STIs. Many adolescents (90%) stated that they felt that their knowledge on STIs was too low and wanted to know more. Seventy-eight percent wanted to get this information through school.

Fagbamigbe (2019) stated that adequate knowledge of sexually transmitted infections (STIs) is critical for effective control of disease. There is no study from Nigeria that investigates association between sources of previous point of care of STI and quality of knowledge of people on STI. Fagbamigbe undertook a study which he hypothesized that previous treatment of STI will be associated with better knowledge of STI and HIV infection. Three consecutive nationally representative cross-sectional surveys on HIV and AIDS Reproductive Health in Nigeria, conducted in 2005, 2007, and 2012 were analysed. Outcome measures were knowledge of STI only, and a combined knowledge of STI and HIV transmission and prevention. Knowledge scale of 14-item questions for STI and 41-item questions for STIs and HIV was designed. Logistic regression was used to identify risk factors at 5% significance level. The findings revealed that Knowledge of STI increased from 13.4% in 2005 to 15.0% in 2007 to 26.5% in 2012.

To determine the awareness and knowledge of sexually transmitted infections among adolescents in Ado, South Western Nigeria, a descriptive cross-sectional design study was carried out. Five hundred and fifty adolescents selected from public and private

secondary schools in Ado Local Government Area of Ekiti State were recruited using a multistage sampling technique. Four hundred and ninety-nine (92.4%) respondents had heard about sexually transmitted infections before. The three most important sources of information being electronic media (68.7%); teachers (68.1%); and print media (44.9%). Eighty percent of the respondents knew only one STI and the two most commonly mentioned ones were HIV/AIDS (78.0%) and gonorrhea (23.0%). More than 75% of the respondents knew the modes of transmission of STIs whiles some of them equally had misconceptions. The most important symptoms mentioned were weight loss (77.4%), painful micturition (68.9%), and genital ulcer (54.1%). On the whole, only 6.9% of the respondents had good knowledge of STIs; the rest had fair and poor knowledge.

Another study in Sicily, Italy found that high school adolescents had minimal knowledge about STIs (Visalli, Picerno, Vita, Spataro, & Bertuccio, 2014). A review of 15 studies to determine awareness and knowledge of STIs among adolescents revealed that those aged 13 to 20 years showed awareness and knowledge that varied among the subjects depending on gender (Sankange-Zeeb, Spallek & Zeeb, 2011). In general, the studies reported low levels of awareness and knowledge of STIs with the exception of HIV/AIDS and recommended that attention be paid to infections such as Chlamydia, gonorrhea, and syphilis.

A similar study in India by Mehra, Sogarwal and Chandra (2013) on awareness of females about STIs, HIV/AIDS and condom use in 29 major states in India, revealed that awareness of females in the age group of 15-49 years about STIs excluding HIV was as low as three and a half percent whereas HIV/AIDS awareness was seven percent.

Lan, Lundborg and Chuc, (2009) conducted a study in rural North Vietnam using cross-sectional population-based study. Females (15 to 49 years) were examined. The results found out that majority of the women were lacking knowledge of STIs. In this, about three-quarters of respondents did not know any symptom of STIs. Only one-third said that condom could be used to protect against STIs. The researchers concluded that the respondents have low levels of knowledge of STIs.

With reference to Ghana, Amankwa (2018) conducted a cross-sectional study with a sample of 295 adolescents in Amasaman Senior Technical High School. Participants were sampled using simple random technique to select SHS 1 and SHS 2 students between the ages of 14-17 years. The study sought to assess the knowledge level, sources and availability of services on sexually transmitted infections and its association with reproductive health behavior among adolescents. Data collected were analysed using Stata IC 15. The study found that participants had inadequate knowledge on types of STIs.

In a similar study, Amoah (2017) conducted a cross-sectional quantitative study using structured questionnaire. A multi-stage proportional sampling was adopted. A sample of 424 students was randomly selected for the study. An interviewer-administered questionnaire was used to obtain data on demographics, sexual behaviours and STIs. The data were processed and analyzed using Stata (version 14.1) software. Frequencies, chi-square test and logistic regression were used for the final analyses. The study found that out of the total sample, 242 (56.9%) were sexually active with females forming the majority (60%). Overall knowledge on STIs was very low and 78.1% perceive STIs not to be dangerous.

Ali (2018) in his study looked at the scope of the school health education programme, knowledge level of in-school female adolescents on sexual and reproductive health

issues and their health seeking behaviour of female adolescents in selected Junior High Schools in the Adansi South District, Ashanti Region. The study was a descriptive cross-sectional design which employed quantitative and qualitative data collection methods on the health seeking behaviour of four hundred and ten (410) female basic school adolescents and five (5) Community Health Workers in the Adansi South District in the Ashanti Region of the Republic of Ghana. Semi-structured interview guides and a structured questionnaire were used for the data collection. Thematic analysis of the data from the interviews was done by coding and categorizing the data into themes for easy interpretation while quantitative data obtained from the questionnaire were analyzed using Stata 15. The study showed that the School Health Education Programme offered varied information on health ranging from personal hygiene to sexual and reproductive health. The result showed that; in-school female adolescents were generally knowledgeable on sexual and reproductive health issues such as menstrual hygiene, teenage pregnancy, family planning, and types of sexually transmitted infections (STIs).

2.2.2 Mode of transmission of sexually transmitted infections

Sexually transmitted infection continues to be a significant health issue even in developed countries such as the United States and other developing countries. Nearly, nineteen million new cases of STIs are detected yearly in the United States, and more than sixty-five million Americans live with incurable STIs such as human papillomavirus (HPV) and herpes (Samkange-Zeeb, Mikolajczyk. and Zeeb, 2013).

It is estimated that young people specifically are predispose to STIs and that those between the ages of fifteen and twenty-four account for about one-half of the new STIs detected yearly, although this age group form part of only one-quarter of the sexually active population with prevalence rates for some subgroups.

Sexually transmitted infections can be spread through oral, vaginal, or anal sex, or through contact with blood during sexual activity (Centre for Disease Control, 2017). Although uncommon, transmission can also occur through direct contact with affected body parts, tissue, or body fluids of infected persons.(CDC, 2017).

Some sexually transmitted infections such as hepatitis B can also be transmitted through sharing or using unsterilized needles (Centre for Disease Control, 2017). Vertical transmission, where the mother passes the infection to her child in uterus or during childbirth is also possible. HIV, hepatitis B and syphilis are infections which can be transmitted in this way (CDC, 2017)

According to Khangelani, Geofrey, Thabile, Thembile, Ntombizodwa, and Khangelani (2019), adolescents who engaged in sex for the first time do not use a condom. This is because most adolescents usually engage in sex at a time that they are not ready. This exposed them to risk of unplanned pregnancy and sexually transmitted infections. More female adolescents have early sex compared to their male counterparts (Bwalya, 2018). The researcher further indicates that more female adolescents did not use a condom as compared to their male counterparts because sex is usually initiated by boys. Girls are forced into sex through money and gifts, inducements, flattery words, pestering and threats by their male partners to go after other girls (June, Yode & Legrand 2019).

Hickey and Cleland (2013) stated that, one of the main modes of transmission of sexually transmitted infections among adolescents is as a result of risky and unprotected sexual behaviors. Engagement in unsafe sexual behavior among this age group is often speculated to stem from lack of knowledge on the subject of sexually transmitted infections. Negligent condom use among adolescents is an alarming trend that could contribute to the rising rates of sexually transmitted infections

Ghana Demographic and Health Survey, (2014) revealed that, heightened sexual activity of adolescents facilitates the acquisition of sexually transmitted infections such as HIV, as they are less knowledgeable when it comes to HIV prevention methods. The report further indicated that knowledge on HIV prevention increases with increase in age, educational level and income status

According to Adogu, Udigwe, Udigwe, Nwabueze and Onwasigwe (2014), many adolescents are aware that protected sexual intercourse decreases one chance of experiencing unplanned pregnancy and sexually transmitted infections They are however challenged with society perceiving them as being promiscuous if they take up preventive measures such as condom use and other contraceptive methods.

A study conducted in Tanzania by Ghebremichael and Finkelman, (2013) found the duration between first sex and first marriage to be significantly higher for women who tested positive for HIV. Thus, a year's increase in premarital sex (time between first sex and marriage) increases the odds of contracting STI by 7%, with that of having multiple sexual partnerships doubling with a unit increase in premarital sex. Early sex exposes the individual to a pool of sexual partners before they get married. Early sexual exposure may be as a result of peer pressure, rape or coercion. Among females, most first sexual encounters are with older people who have had multiple sexual partners and may be carriers of the sexually transmitted infections (STIs). However, other studies have found rather early marriage contributes to the spread of STIs as most young girls are married early to older, experienced men, who might be carriers of the sexually transmitted infection (Bongaarts, 2007).

A study in the US found adolescents not enrolled in high school were likely to initiate sex early and have unprotected sex, whereas increase in education up to tertiary level protects against vulnerability to STI (Annang, Walsemann, Maitra, and Kerr, 2010).

A study by Bingenheimer, (2011), found that a strong association between higher levels of education and STI diminished over time. Other studies in the US have found higher levels of education puts especially women at higher risk of HIV infection due to the high prevalence in tertiary institutions (Annang et al., 2010).

Jones and Haynes (2006) conducted a survey that used true and false questions to assess students‟ basic knowledge about the mode of transmission of some of the most common sexually transmitted infections. The study found that less than half of the students believed that a person could acquire STIs from intimate body contact with an infected person without having sexual intercourse.

A study conducted by Gyimah, Gyamfi, Anokye, Peprah, Acheampong, Acheampong, Mprah, Essien and Tsiboe (2020), explored the level of knowledge and attitude of persons with physical disabilities toward sexually transmitted infections in the Jachie Community in Ashanti region of Ghana. A descriptive study using a qualitative approach and conducting in-depth interview among 17 participants who were purposively selected. The data were transcribed, analysed, and presented in themes that emerged. The results revealed that, most of the participants mentioned that STIs are transmitted mainly through unprotected sex, kissing, blood transfusion, from mother to the child through breastfeeding and cuts from an infected blade or razor. The participants knew STIs such as HIV/AIDS, gonorrhoea, syphilis and candidacies. Also, participants also resorted to using the internet as a source to get information about STIs. They intermittently visit the hospital for check-up when they see any abnormalities with their reproductive health. The use of condoms as a way of preventing STIs was low among the participants. This was as a result of the belief that one gets STI only if he/she has multiple sexual partners. It‟s imperative to make information about STI more

accessible to the disabled community. This will reduce the risk of STIs among persons with disability.

World Health Organization, (2018), indicated that persons with disabilities are prone to adverse situation that can lead them to increased vulnerability of contracting sexually transmitted disease This misrepresentation about the sexuality of people who are physically impaired, besides contributing to the discrimination process, increases their vulnerability to situations related to STIs. Regarding the sexuality of individuals with disabilities, they usually face social prejudices and discrimination based on the wrong notion that they are asexual, cannot produce healthy offspring and do not have and cannot enjoy sexual rights. (Ferreira, 2008). This falsification about the sexuality of people with disabilities not only makes them susceptible to discrimination but also heighten their vulnerability in relation to situations related to STIs (Aragão, França, Coura, Medeiros & Enders, 2016). Matson, Beguy, Kabinu, and Cleland, (2013) also indicated that three out of five adolescents who initiated sex did not use any form of protection. It was also revealed in this Kenya study that older siblings who engaged in sex also had a strong influence on sex debut among adolescents. The same study revealed that those who had early sex debut are likely to have multiple partners thereby increasing their risk of contracting STIs.

A study conducted in Jamaica revealed that, 54% of adolescents had sex debut at 14 years and had partners who were at least five years older than them (Noel, Waszak, Tucker, Baumgartner, Waszak and Wedderburn, 2009). A study which analyzed a survey in 24 African countries, revealed that in West Africa, a significant proportion of adolescents-initiated sex before age 15 (Doyle, Mavedzenge, Plummer, & Ross, 2012). The study further stated that child birth among adolescents was also more common in West Africa compared to East and Southern Africa. The authors concluded that many

adolescents aged 15 to 19 years were sexually active and therefore at risk of contracting HIV, other STIs due to low condom use and low uptake of contraceptives.

2.2.3 Prevention of sexually transmitted infections

According to Adaji, Warenus, Ong"any, (2010), abstinence from sex, being faithful to one sexual partner, and correct and consistent use of condoms constitute the „ABC" approaches to sexually transmitted infection prevention. They are recommended as effective methods to prevent sexually transmitted infections among adolescents.

Efforts have been made by governments and the global community to curb the situation and create awareness of the dangers associated with risky sexual behaviours, such as multiple sexual partners and unprotected sex which leads to sexually transmitted infections.

The awareness of sexually transmitted infections particularly HIV/AIDS is almost universal, and is highest among the population (Ghana Demographic and Health Survey, 2014). Though there is increased awareness of the likelihood of acquiring sexually transmitted infections through risky sexual behaviours, multiple sexual partners and unprotected sex, the mere awareness of it however, does not mean people are comprehensively informed about the dangers of multiple sexual partnerships and sexually transmitted infections (Ghana AIDS Commission, 2015).To protect adolescents from these infections, there is a need to educate them on sexually transmitted infection prevention by providing them with relevant information and equipping them with the life skills that will enable them to put knowledge into practice. Early detection and taking precautions once sexually active are two ways to prevent permanent damage; however, one must be educated on steps to take and specific preventative measures to abide by it in order to successfully avoid the lifelong consequences of acquiring an STIs. Measures for women include regular pelvic exams

and gynecological checkups, testing for HIV before having sexual intercourse with a new partner, asking sexual history of new partners, and using condoms during sexual activities. (GAC, 2015)

Condoms have been acknowledged to prevent transmission and acquisition of sexually transmitted infection among heterosexual partners (Exavery, Lutambi, Mubyazi, Khadija, Mbaruku, and Masanja (2011)). Effective usage prevents an uninfected person from acquiring (primary prevention) and an already infected person from spreading the infection (secondary prevention) as long as the condom covers the infected area (Ramjee, Abbai and Naidoo (2015). Studies conducted by others have proven that failure of condom usage despite the high awareness in most African countries is rather behavioral than mechanical (Ramjee et al., 2015). Some reasons advanced for failing to use condoms included the perception that it is a sin to waste sperms, condoms cause sores on the penis, and raises issues of trust and suspicion of infidelity of one party (Exavery et al., 2011).

Other studies have found that there is high knowledge of condom use among adolescents, but also found however that the consistent usage of condoms is a problem. In Africa and most parts of the world, people use condoms at their first sexual encounter only to stop using them after a period of time (Exavery et al., 2011). This happens especially when relationships have moved from casual sexual intercourse to established ones where intimacy and trust rises and the perceived risk of STI transmission greatly reduces Mevissen, Ruiter, Meertens, Zimbile, and Schaalma, (2011).

A study in Tanzania found out that condom usage was high among people who have knowledge of sexually transmitted infections compared to people who have little knowledge of STI. Couples use hormonal or oral contraception to avoid unwanted

pregnancies, which makes the use of condoms redundant if the perceived risk of contracting STI is low (Mevissen, et al., 2011).

A Russian study reported that the importance of condom use for women was pregnancy prevention, but for men, condom use was associated with STIs prevention Castro-Vázquez and Kishi, (2007). Among a Japanese sample of men aged 24-26 years, it was found that condom use was primarily used for pregnancy prevention rather than STI prevention Castro-Vázquez and Kishi, (2007). Likewise, Flood‟s (2003) Australian qualitative study examining condom use among male heterosexuals aged between 18-26 years, found that condom use was associated with the prevention of pregnancy rather than the prevention of STIs. Therefore, it could be posited that if young men are willing to negate condom use through penetrative intercourse that carries the risk of pregnancy, refusal of condom use within other sexual practices that carry high STI risk (but low pregnancy risk) such as anal intercourse is highly probable. These places young women in a position that requires condom assertiveness to protect against STIs, a position that may pose difficulties for some women East, Peters, Obrien and Jackson (2007).

Although the introduction of female contraception has empowered women to have greater control over the reproductive aspects of their bodies, the contraception most effective in preventing STIs, that is the male condom is controlled by men Weller and Davis-Beaty, (2002). Sexual behaviour within a relationship is determined by the characteristics of the involved individuals and the existing relationship dynamics (Luke, 2005). Further, it has been reported that young women feel more positive towards condoms, and are more committed to their use than men. However, women‟s use of condoms is hindered by repressive relationship dynamics and it may be for these reasons that research has suggested that accessibility (such as carrying condoms) does not necessarily predict condom use among adolescent women Luke, 2005).

Ford, Jaccard, Millstein, Bardsley, & Miller (2004) examined the perceived risk of contracting chlamydia and gonorrhoea among sexually experienced (experienced in vaginal intercourse) individuals aged between 18-26 years (N=11,821). The results of the study showed that almost 85% of the sample perceived themselves at no risk of STIs, although 78% of the sample denied use of, or were inconsistent condom users. During the study period, 500 individuals (mostly females), tested positive for Chlamydia or gonorrhoea. Of these individuals, 75% reported no or inconsistent condom use, and 49% declared only one sexual partner within the previous 12 months (Ford, et al., 2004). These results demonstrate that young sexually experienced adults perceive themselves at a low risk for contracting an STIs, despite the high prevalence of inconsistent condom use among this group (Ford, et al., 2004).

Similarly, in a sample of young women (n=93) and their male sexual partners (n=82), the majority (94.9%) perceived themselves to be at little or no risk of STIs, despite the women‟s erroneous knowledge and reporting of their partners sexual history Likewise, of a sample of adolescent females (N=209) almost 89% believed themselves to be at little or no risk of contracting an STI, despite some being previously diagnosed with an STI and some participants engaging in risk behaviours including unprotected sex and having multiple sexual partners (Ethier, Kershaw, Niccolai, Lewis, & Ickovics, 2003).

Among a sample of 300 female adolescents, just under 25% perceived themselves at no risk of STIs, although 63% were inconsistent condom users, and 38% had a history of an STIs with a further 16% acquiring an STIs during the study period (Kershaw, et al., 2005). Although between 17-20% of this sample felt susceptible to either an STI or pregnancy, or all the two, this relatively high perceived risk did not negate sexual risk behaviour including inconsistent condom use and having multiple sexual partners (Kershaw, Ethier, Milan, Lewis, Niccolai, Meade & Ickovics (2005)). This finding

resonates with past research, which concluded that previous diagnosis of an STIs does not alter sexual risk behaviour including condom inconsistency, among female adolescents.

The perceived low risk of contracting an STI among adolescents may be attributed to the lack of knowledge concerning STIs and associated sexual health issues. A qualitative study focused on determining the perceived and actual knowledge of STIs among young women found that the majority of women were confident in their knowledge in reference to STIs, primarily HIV/AIDS, although they demonstrated little knowledge in reference to symptoms of these infections (Rouner & Lindsey, 2006). The study recognised that although most of the women perceived their STIs knowledge to be high, it was essentially limited to naming a few STIs with HIV/AIDS being the most commonly named. This finding suggests that these women were possibly unaware of the nature and possible health consequences of other STIs (Rouner & Lindsey, 2006).

Similar to the preceding example, a British study which examined the knowledge and attitudes of adolescents in reference to STIs, found that although HIV was most commonly recognised as an STI, other STIs such as chlamydia were not (Garside, et al., 2001). The participants had little knowledge about possible symptoms of STIs and often associated condoms with pregnancy prevention rather than protection against STIs (Garside, et al., 2001). Another study also revealed that although women may have heard of HPV, many were unaware of the associated risk factors and the long-term consequences of the infection (Giles & Garland, 2006); a finding that was also evident among a USA sample (Friendman & Shepeard, 2007).

In contrast, Gorman & Bohan (2001) examined condom use in relation to perceived AIDS risk and HIV testing. Their findings demonstrated that women who had undergone an HIV test (having a perceived risk of infection) were more likely to use

condoms than those who had not been tested. However, of the women who perceived that their partner may be at a high risk of infection, almost one third of the women did not use condoms. Further, of the women who perceived themselves as having a high risk of being HIV positive, only 60% used condoms in comparison to 67% of women who perceived themselves at a low risk (Gorman & Bohon, 2001).

These authors suggested that women suspecting themselves to be HIV positive may not be as concerned about transmission because of their belief that they may have already contracted the virus from their current partner (Gorman & Bohon, 2001). (Trani, Gnisci, Nobile, & Angelillo, 2005) examined knowledge of STIs among young people (15-21 years). Their findings indicated that although a majority of the samples were aware that condom use and monogamy were effective in preventing transmission of STIs, condom use was inconsistent. Similarly, as previously discussed (and likely due to the high media coverage and public health programmes surrounding HIV/AIDS), young people are more knowledgeable about HIV/AIDS rather than the more prevalent conditions such as chlamydia. However, despite this knowledge, consistent condom may still be infrequent (Trani, Gnisci, Nobile, & Angelillo, 2005).

In contrast to the aforementioned studies, a longitudinal study, which described the knowledge, attitudes and sexual behaviour of young women found that although knowledge of STIs may be high, this did not positively influence protective sexual behaviour (Andersson-Ellstrom & Milsom, 2002). Likewise, Skidmore and Hayter (2000) found comprehensive and accurate knowledge of STIs among their young sample, however unprotected sexual encounters were frequent among the group despite some participants believing they had acquired an STI in the past. These studies demonstrate that although young people may have some knowledge about STIs, this

knowledge does not necessarily equate to behavioural changes or influence young people‟s risk perception of STIs.

Research conducted by Tarkang (2009) cited in Olarniran, Person &Oyekanmi (2013) on sexually transmitted infections including HIV/AIDS knowledge, attitude and sexual behaviours of adolescents in Kumba. A qualitative, non-experimental descriptive, explorative and correlation research design was adopted. The researcher used self-designed questions to solicit for information about HIV/AIDS and other related STIs prevention from 480 respondents. The respondents were sampled form grade 10 to grade 12 in two senior high schools in Kumba, Cameroun. SPSS version 12 was used to analyse the data descriptively. The results revealed that about 31% of the respondents disagree with the statement that correct and consistent use of condoms during sexual intercourse could prevent STIS infection. Also, 18.5% did not believe that STIs including HIV/AIDS can be prevented by being faithful to one sexual partner while 9% disagree with the assertion that STIs could be prevented by abstaining from sexual intercourse.

In another study conducted by Agyemang, Bour & Tagoe- Darko (2012) on the knowledge of prevention of HIV/AIDS and other STIs among adolescents in Ghana. The results revealed that 78% of the participants agreed that abstinence from sex is a means of preventing STIs. Again 65% of the respondents believe that avoid sharing of sharp objects with another person can prevent STIs. 58% of the adolescents identified regular condom use as a means of preventing STIs. Researchers therefore established that 33.6% of the respondents had good knowledge about STIs prevention. 52.2% of the respondents had moderate knowledge while 42% had low knowledge on STIs prevention. The researchers therefore concluded that majority of the adolescents had moderate knowledge on prevention of sexually transmitted infections.

Rahman & Chowdhury (2017) conducted a study on sexually transmitted infections including HIV/AIDS among adolescents in Bangladish. Cross sectional study design was adopted using face to face interview with adolescents. The results show that the participants do not have adequate knowledge on STIs prevention.

A research conducted by Mprah (2013) among adolescents with deafness in Accra and Tamale cities of Ghana on knowledge about prevention of STIs including HIV/AIDS stated that respondents do not have sufficient knowledge on prevention of STIs. The researcher indicated that the respondents are not aware that using condom during sex can help prevent sexually transmitted infections.

A study conducted by Yaw (2011) on HIV/AIDS education in Ashanti school for the deaf, Jamasi and Nsutaman Catholic Senior High school in Ashanti region of Ghana. 283 respondents aged between 12 and 25 were involved in study using questionnaire to seek for information from the respondents. The results revealed that three quarters (3/4) of the respondents had good knowledge on issues relating to HIV/AIDS while one quarter (1/4) had low knowledge. The results also indicated that respondent‟s knowledge on the mode of prevention was good.

Similarly, Andrade and Blaloyi (2011) conducted a study of STIs including HIV/AIDS knowledge among adolescents with deafness in South Africa. The results indicated that the respondents have basic knowledge on sexually transmitted infection prevention particularly through condom use.

Abroso (2013) researched into health literacy and STIs among University of Ghana female students with a sample of 430 females. The study adopted a cross-sectional design using a survey approach to sample views from the female students from various academic levels and across the humanities and Science disciplines. The study found that female students had appreciable knowledge on the mode of Prevention of STIs but

exhibited less knowledge on signs and symptoms of STIs. Abstinence was noted as the commonest mode of prevention.

Ghana Demographic and Health Survey (2014) revealed that, heightened sexual activity of adolescents facilitates the acquisition of sexually transmitted infections such as HIV, as they were less knowledgeable when it comes to HIV prevention methods. The report further indicated, knowledge on HIV prevention increases with increase in age, educational level and income status.

A study conducted in the United States found that most of the teens aged between 15 and 19 had received some formal instruction on saying no to sex before the age of 18years (Gebhart and Coy, 2007). However, the incidence of sexually transmitted infections among the age group, remained high despite this education. The use of contraceptive methods increases with increasing level of education. For instance, 30% of married women with secondary or higher level of education were using a method of contraception compared to 14% of married women with no education (Ghana Statistical Service, 2009). Two out of every three adolescents with STIs refused seeking medical care, and about 50% of sexually active adolescent females had ever had unprotected sex (Aninanya. Debpuur, Hodgson and Howard 2015)). Cultural and religious beliefs, coupled with personal experiences, have made adolescents have negative perceptions about modern contraceptives (Okereke, 2010).

According to Abajobi and Seme, (2014), about 50.6% of adolescents with reproductive health problems have never thought of seeking formal care, and that 34.4% did not see the need to seek care in the first place. The study also revealed that 24.3% lacked knowledge on formal care for STIs, while 17.4% considered themselves to be healthy and too young to seek care even if they have a problem. It has also been revealed that provision of adolescent friendly services does not necessarily translate to improving

health seeking behaviour of adolescents, hence the need for policy makers and programmers to factor in needs assessments before initiating AFHSs in order to know their current interest and preferences (Abajobi and Seme, (2014).

Among a Japanese sample of men aged 24-26 years, it was found that condom use was primarily used for pregnancy prevention rather than STI prevention (Castro-Vázquez and Kishi, 2007). Likewise, Flood‟s (2003) Australian qualitative study examining condom use among male heterosexuals aged between 18-26 years, found that condom use was associated with the prevention of pregnancy rather than the prevention of STIs. with a sample of 119 heterosexual college couples (N=238) approximately 67% reported negating condom use by choice, primarily attributed to the use of other contraceptives such as the OCP. Therefore, it could be posited that if young men are willing to negate condom use through penetrative intercourse that carries the risk of pregnancy, refusal of condom use within other sexual practices that carry high STI risk (but low pregnancy risk) such as anal intercourse is highly probable. This place young women in a position that requires condom assertiveness to protect against STIs, a position that may pose difficulties for some women (East, Peters, Obrien, and Jackson 2007).

However, women‟s use of condoms is hindered by repressive relationship dynamics and gender attitudes, meaning that women who are positioned and considered subordinate in their heterosexual relationships may lack the power to assert condom use. It may be for these reasons that research has suggested that accessibility (such as carrying condoms) does not necessarily predict condom use among adolescent women (DiClemente, Wingood and Crosby, (2008)). This confirmed the conclusion by Glover et al. (2003) that the nearly universal awareness of HIV and other STIs seems to have little influence

on Ghanaian male adolescents‟ readiness to adopt safer sexual practices to protect themselves from unwanted pregnancies and STIs. Similarly, in a review of qualitative studies among adolescents in four sub-Saharan African countries, YouthNet (2003) concluded that, “youth, even when aware of HIV risk, often do not consider this risk with steady partners”. This observation sounds worrisome, because in situations of serial sexual networking and mixing, condom promotion as a strategy to reduce new infections among male adolescents may not achieve the desire results in the long run.

A review of adolescent experiences and needs in 11 sub-Saharan African countries revealed that more than half of respondents believe they have little or no risk of getting AIDS, though in many of these countries, HIV prevalence levels were high among young people (Awusabo-asare, Abane, and Kumi-Kyereme, 2004). The researchers concluded that Ghanaian adolescents, like their counterparts elsewhere, might not fully appreciate the implications of risky sexual behaviours vis-à-vis their exposure to negative reproductive health outcomes, especially STIs and HIV/AIDS. The researchers recommended the need for further investigation to establish explanations for the high levels and patterns in risky sexual behaviours and negative health outcomes among adolescents for effective sexual and reproductive health programmes (Awusabo-Asare et al., 2004).

De Coninck and Marrone (2012) have studied usage of condoms in Uganda during 2001-2006 and saw that the number of females using condoms was lower than during 1995-2000. The authors believe that this might be because of the influx of anti-retroviral (starting 2004), which might have lowered the anxiety associated with HIV/AIDS. Therefore, the authors state that it was again important to intensify condom use campaigns in order to stop the spreading of HIV and other STIs.

2.2. Diagnosis, signs and symptoms of sexually transmitted infections:

2.2.4.1 Diagnosis of sexually transmitted infections

Sexually transmitted infections that have no symptoms or present as urethral or vaginal discharge, genital ulcers, and abdominal pain and are associated with infertility, disability, gestational complications, and death (Borhart and Birnbaumer, 2011).

A study in Addis Ababa among high school students on knowledge on STIs and barriers to seeking health services revealed that 17.9% of them knew a minimum of two symptoms. Most of them were unaware of symptoms and did not seek treatment (Cherie and Berhane, 2012).

A similar study by Abajobir and Seme, (2014), in Nigeria showed that 67% of adolescents knew about reproductive health services and 38.3% had not heard of such services. Knowledge regarding diagnosis of STIs was inadequate. From these studies above, there is evidence that there are services available for adolescents and some adolescents know where to find these services on STIs and other sexual and reproductive health issues.

A study conducted by Bharati and Bharati (2014), using descriptive cross-sectional study used self-administered questionnaires in three higher secondary schools in the Jarjarkot district of Nepal. Simple random technique was used to select 150 respondents aged between 15 and 19 years. The information obtained were analysed using SPPS version 16. The result revealed that higher secondary school students in Jarjarkot district of Nepal had adequate knowledge on HIV/AIDS and other related STIs. Out of the total respondents, 96% were aware that HIV/AIDS and other STIs could be diagnosed by testing blood.

A review of 15 studies to assess knowledge on diagnosis of STIs among young people revealed that those aged thirteen to twenty years showed knowledge and awareness that

differed among the subjects depending on gender (Samkange-zeeb, Spallek and Zeeb 2011). In general, the studies reported low levels of knowledge on diagnosis of STIs with the exception of HIV/AIDS and recommended that attention be paid to infections such as gonorrhoea, chlamydia and syphilis

Studies on the awareness and knowledge of chlamydia and HPV among adolescents in two German cities, Bonn and Berlin, also found low levels of knowledge: in Bonn, 15% of respondents were aware of Chlamydia and lacked adequate knowledge on its diagnosis and in Berlin, less than one third were aware of the fact that sexually transmitted infections could be diagnosed (Lengen, Jäger and Kistemann, 2010).

In different research also done in Berlin however, relatively higher levels of HPV awareness were observed, with more than fifty percent of adolescent respondents properly reporting that HPV infection could lead to premalignant lesions and cancer of the penis and cervix and need to be diagnosed at the early stage (Samkange-zeeb, Spallek and Zeeb 2011).

According to Awusabo-Asare and Annim (2008), two in every three adolescent girls and 4 in every five adolescent boys with sexually transmitted infections had inadequate knowledge on diagnosis of STIs and did not seek treatment. Even though adolescents did not want to experience early pregnancies and sexually transmitted infections, they did not use reproductive health services regularly (Fitzpatrick and Walton-Moss, 2011).

A study conducted in the United States found that most of the teens aged between 15 and 19 had received some formal instruction on saying no to sex before the age of 18years (Gebhart & Coy, 2007) However, the incidence of sexually transmitted infections among the age group, remains high despite this education. The use of contraceptive methods increases with increasing level of education. For instance, 30% of married women with secondary or higher level of education are using a method of

contraception compared to 14% of married women with no education (GSS, 2009). 2 out of every 3 adolescents with STIs refuse seeking medical care, and about 50% of sexually active adolescent females have ever had unprotected sex (Aninanya, Debpuur, Awine, Williams, Hodgson & Howard (2015).; Hessburg et al., 2007). Cultural and religious beliefs, coupled with personal experiences, have made adolescents have negative perceptions about modern contraceptives (Okereke, 2010).

A study was conducted by Shweta, Mundkur and Chaitanya (2011) on the level of awareness of HIV/AIDS among adolescent students in the Udupi district of Kamataka – India. Across sectional survey was adopted using a sample of 800 students from standard 8 and 9 in five English medium schools in the district. Questionnaires were used to gather students‟ knowledge and awareness of HIV/AIDS regarding the causes, modes of transmission, diagnosis, treatment and their sources of information among others. The result of the study indicated that participants‟ knowledge regarding diagnosis of HIV/AIDS was inadequate.

2.2.4.2 Signs and symptoms of sexually transmitted infections

Tengia-Kessy and Kamugisha., (2007) argued that the information that adolescents have about STIs has been shown to be inadequate and inaccurate in many studies, especially from Africa. The researchers reported that in Burkina Faso, a large proportion of adolescent boys and girls did not have adequate knowledge on symptoms of STIs or did not recognize them as STI symptoms. There were also inaccurate beliefs, including one held that one could contract gonorrhoea from urinating on the same spot where someone who was infected had urinated. In Uganda, while 98% of teenagers reported some knowledge of different STIs, very few could recognize their symptoms.

A study was conducted by Kumassah (2017) to determine the factors associated with STIs transmission among young women in the Old Ningo sub-district of the Greater

Accra Region. A cross-sectional study design using quantitative study tools was employed in the study. Two hundred and thirty-two participants were recruited for the study. Structured questionnaires were administered to collect data for the study. The data collected was analyzed using STATA version 14. The results found widespread awareness of sexually transmitted infections of 87.1% among the young women. However, there was low knowledge which is 63.4% of respondents on the signs and symptoms of STI among the young women.

Shwetta, Mundkur and Chaitanya, (2011) observed from their study that, knowledge on symptoms of HIV/AIDS and other STIs was inadequate. Only 371 (46.4%) of students were aware that a person infected with sexually transmitted infections might look and feel healthy.

Awulenaa (2016) conducted a study to explore the knowledge of female students on sexual and reproductive health issues, their health- seeking behaviour and the factors that hinder adolescents from seeking formal health care in selected Junior High Schools in the Bawku West District. The study adopted a qualitative method, using criterion, convenient and purposive sampling approaches to recruit fifty-nine Junior High School females and four community health officers for six focus group discussions (FGDs) and four in-depth interviews (IDIs) respectively. Semi-structured interview guides, a note book and an audio tape recorder were used for the data collection. Thematic analysis of the data was done by coding and categorizing the data into themes for easy interpretation. The result showed that, junior high school females were generally knowledgeable on sexual and reproductive health issues such as menstrual hygiene management, teenage pregnancy, signs and symptoms of sexually transmitted infections (STIs) and ways to prevent them.

A study carried out in some secondary schools in Ghana by Rondini and Krugu (2009) showed that 70.9 % of the males and 75 % of the female students were worried about and thought about HIV/AIDS. The students could mention gonorrhea and syphilis as common sexually transmitted infections besides HIV/AIDS, but showed very little knowledge of sexually transmitted infections and their symptoms when being asked more detailed questions about symptoms of the diseases. Regarding the students‟ attitudes towards protecting themselves from STIs, they showed a significant barrier towards condom-use. The female students would not purchase condoms out of fear of being judged as “bad girls” and the male students claimed that they wouldn‟t accept a condom from a girl, because such girl was not to be trusted.

A study was conducted in rural North Vietnam, by Lan, Lundborg, Mogren, Phuc, and Chuc, (2009), A cross-sectional population-based study, about three-quarters of respondents did not know any symptom of STIs, one-half could not identify any cause of STIs and another one-half did not know that STIs could be prevented. Only one-third said that condom could be used to protect against STIs. The researchers indicated that respondents were young unmarried and married women and concluded that low levels of knowledge of STIs were found among women of reproductive age in a rural district of Vietnam.

2.2.5 Sexual Behaviours of Adolescent Students with Deafness

Sexual behaviour is explained as the various behaviours that intensifies an individual‟s risk of contracting a sexually transmitted infection or unplanned pregnancy (Centre for Disease Control and Prevention, 2004). In lieu of this study, sexual behavior was elucidated as behaviours that could predispose an individual into acquiring an STIs. Such behaviours were further explained using three characteristics: early sexual

initiation, multiple sexual partners and having sexual intercourse without using a condom.

2.2.5.1 Early sexual initiation

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 lifestyles behaviours responsible for unprotected sex, unwanted pregnancies, illegal abortions, alcohol abuse and sexually transmitted infections. 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 and ICF, 2009).

A study conducted by Nwankwo and 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 High School. As many as 86 (29.4%) however said they couldn't remember, some 64 (13.4%) had the sexual experience in their Senior High School while few 36 (7.5%) had sexual experience when they were in primary school. These findings also point out what the Centre for Disease Control and Prevention, (2004) had earlier confirmed that nearly half of students in JHS and SHS had had sexual intercourse and over 60% reported having had sex by the time they graduated (Centre for Disease Control, 2004).

A study conducted in Indonesia by Rokhmah (2015), among adolescents in coastal areas found that the behaviour of adolescents and its potential to transmit HIV is made possible from sexual intercourse with their partners; the proportion of HIV cases mostly occurring among the youth accounted for 81.8%. This indication posits that the youth is a high-risk group and must be targeted for HIV/AIDS prevention programmes.

However, programmes targeting sexual and reproductive health for the youth still remains inadequate (Rokhmah, 2015).

A study was conducted by Mugi (2012) to assess secondary school student"s HIV/AIDS awareness, their perceived vulnerability and sexual behaviour in Githunguri District Kenya. The study adapted correlation study design. Stratified sampling technique was used to select 500 students as respondent"s questionnaires tools were used for the required data. The data was analysed using Statistical Package for Social Sciences (SPSS Version 17). The study found that students were only aware of some aspects of HIV/AIDS. The study also found that students held positive attitudes towards abstinence, HIV testing and condom use. The study concluded that sexual behaviours among the students began even before entering secondary school.

Similarly, Moura (2013) conducted a study among teenagers in the city of Vespatiano in Greater Metropolitan Bello Horizonte, capital of Minas Gerais state Brazil. Cross sectional design was employed to investigate gaps between knowledge about sexually transmitted infections and sexual behaviors among teenagers. The study included nine public secondary schools in the city. The researchers adopted the stratified sampling technique to determine study sample. The random sampling technique was used to select 1,158 teenagers from the schools in the city for the study. Validated questionnaires were used to gather the needed data from the teenagers. Data was analysed descriptively into means, standard deviations, medians and ranges using Epi Info 6.04 and SPSS version 15.0. The chi square was used to test hypothesis. The results of the study revealed that over 60% of the boys had already experienced sexual intercourse as against 40.5% of the girls at the time of the study. This shows a significant difference of ($p < 0.001$). The mean age of first sexual act was found to be 14.8 years (SD = 1.5). On the average, the male students started sex six months earlier

than the females, thus giving a significance difference ($p < 0.001$) between the age at which the male students started sex (15.1) years and the age female students started (14. 5 years). The average age of first sexual intercourse among the males was 17 years and that of the females was 16 years. Twenty five percent of the respondents reported having had their sexual experience before the age of 15 years.

Sangowawa (2009) conducted a cross sectional study among hearing impaired and non-hearing-impaired students admitted into a government-owned Junior and Secondary school in Ibadan, Oyo state. The purpose was to compare sexual practices of hearing-impaired students with their non-hearing impaired counterparts. One hundred and fifty-six (156) students were used for the study, made up of 78 deaf students conveniently sampled and another seventy eight hearing students who were selected through stratified and the simple random techniques. Seventy four of the hearing students completed the survey questionnaire. The deaf students consisted of 48 (61.5%) males and 30 (38.5%) females with mean age of 17.1. Questionnaire was used to collect data for the study. The Statistical Package for the Social Sciences (SPPS) version11.0 was used to analyse the data into frequencies. Chi-square test was used to test associations between categorical variable with $p < 0.005$ level of significance. The results showed that 48.6 % of the hearing students had ever had sexual intercourse as against 33.3% of the deaf students ($p = 0.055$). The indulgence of deaf students in sex is not a mere suspicion as some may think that adolescents who are deaf do not indulge in sexual acts. The deaf who reported being sexually active, the researcher found that as much as 47.8% were 17 years or above when they first experienced sex and their median age at first sex at 14 years. Based on these revelations, the researcher debunked the misconception that the deaf are sexually inactive. However, the age of sex is slightly lower for the deaf

compared to the hearing students. This means that the hearing students engage in sexual activities earlier in the life than their non-hearing counterparts.

A study conducted by Tenkorang & Maticka-Tyndale, (2009). among adolescents 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 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 familiar factors also influence the timing of sexual debut (Tenkorang, Rajulton, &Maticka-Tyndale, 2008). 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.

Most studies have been conducted all around the world and has presented with different ages at sexual debut, for example in the U.S.A, Adefuye, Abiona, Balogun and Lukobo-Durrell, (2009) undertook a study in U.S.A among college students with a sample (n=390) found out that out of 87% of the total sample being sexually exposed, 27.1% had their exposure to first sex before the age of 15 or even younger. Exactly 57.8% initiated sex amid ages 15 and 18 years while 10.6% got introduced to sex at age 19 years or older.

Similarly, the Youth risk behaviour surveillance-United States, found that 5.6% of adolescents got introduced to sexual intercourse before age 13. It further revealed that sexual initiating prior to age 13 years was higher among males (8.3%) compared to (3.1%) female students (Kann, et al. 2014).

A study conducted by Rydholm (2009) revealed that significant difference exists regarding the occurrence of sexual relationship between adolescents in private school and those in the public sector. The researcher established that there were riskier sexual behaviours among adolescents in the private school than in the public school.

A study conducted by (Bayissa, Mebrahtu and Mekuanint (2016) among Ambo university undergraduate students in Ethiopia, found that the occurrence of early sexual initiation was 20.4%. This is further affirmed by findings from a previous study conducted in Ghana that found early sexual initiation to be 25%. However, this revelation is lower than another study done among Gonder university students which was 56.1%, north-east Ethiopia 51% and among Haramaya university students, 39.6%. Augmenting the assertion that early sexual initiation is significantly associated with increased risk of being infected with an STI; young people aged 15–24 years who indulge in early sexual relations are known to have more lifetime sexual partners compared to their counterparts with a later sexual initiation. This observation was revealed in a similar finding from a study in rural Zimbabwe which revealed that women who initiated sex at earlier stages of life were more predisposed to HIV infection than their peers who initiated sex at later ages (Hallet, 2007).

In Ghana, sexual debut is relatively high especially among adolescents. Doku (2012), in his study among sexually experienced Ghanaian youth found that 41% of teenagers engage in sexual intercourse before age 15. Although previous Ghanaian study among men age (20-24) years established that the mean age of sexual initiation was 19.6. The figure reduced significantly in spite of the age differences between the study subjects. The study further indicated that the age at sexual initiation increases with age signifying that adolescent are initiating sex at earlier age (Doku, 2012).

Culturally, sexual intercourse is reserved for marriage; however, issues of delay in marriage due to education and career increase the probability for premarital sex. In a study to explore the relationship between age at first sexual intercourse and some indicators of sexual behavior among adolescents aged 14 to 19 years in Burkina Faso, Malawi and Uganda, the initiation of sexual activity before age 14years was associated with having a casual sex partner, (Yode and Legrand, 2012).

In a study of males and females aged 10–19 years on sexual risk-taking when HIV/AIDS was highly prevalent, the median ages for first sexual intercourse in Ketu South, Upper Denkyira, and Offinso was 10-19 years. The mean ages in these three areas in Ghana were 16 years (Sallar, 2001). Similarly, the findings of Oljira, Berhane, and Worku, (2012) in Ethiopia showed that the age at first sexual intercourse was 13 to 19 years, with the mean age of 15.6 years. Males had lower; 15.5 years mean age as compared with females 16.0 years. Scanty or no difference was observed on the average age at sexual intercourse from the 2008 GDHS. For example, among 15-19years females, about 8.5% had first sexual intercourse at age 15years compared with 3.6% of males of the same age (15years). However, equally important and unavailable was data on the other ages 10 -14 years for both sexes in the survey.

2.2.5.2 Multiple sexual partners

Multiple sexual partnerships conform to risky sexual behaviours due to their propensity to increase the transmission of STIs through sexual interactions (Shelton, 2009). The prospect of having multiple sexual partners (though not necessarily concurrent partners) indeed, many people realize the risk in it, and, could therefore face the dire consequence of an STI including HIV (Shelton, 2009). It is then imperative to recognize the magnitude in which the youths are indulging in multiple sexual partnerships. Sexually transmitted infections are frequently associated with sexually active youths. With

multiple sexual partners; males are mostly expected to have multiple partners and practice early sexual initiation than females, and hence are at a greater risk of acquiring and transmitting STIs from one partner to another (Dekeke and Sandy, 2014). Different kinds of psychosocial indicators are taunted to be associated with the identification of STIs or self-reporting of STIs especially among young people with multiple sexual partnerships being seen as one of the main factors (Edelman, Visser, Mercer, Mccabe, and Cassell, 2015). Further, a systematic review and results from meta-analysis of the relationship between bacterial vaginosis (an STI) and sexual activity found a significant association between sexual contact with new and multiple sexual partners in both sexes; reducing the number of sexual associates and practicing safer sex reduces the incident and recurrent infection (Edelman et al. 2015).

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, and Ciera, 2019). In the developing world like Africa, adolescents or young people‟s risky sexual behavior has been recognized as an important health, social and demographic concern. Adolescent and the youth are vulnerable to many health problems. This is because they often have multiple sexual relationships and inconsistent use of condoms (Madise et al., 2019). Many young men may have their first sexual experiences with prostitutes. Young females on the other hand may have their first sexual experiences with older men. These acts of both female and male adolescents increase the chance of getting Sexually Transmitted Infections (STIs) including Human Immunodeficiency Virus (HIV). The abuse of substance by a user exposes him or her to risky sexual behaviors such as having unprotected sex which

can have economic, social, physical, psychological, and health problems (Madise et al., 2019).

A study conducted in Ghana by Darteh, (2012) to examine adolescents in urban poor areas in two towns in the Brong Ahafo region showed that 29% of the adolescents were involved in multiple sexual relations. More males (57.6%) than females (14.9%) reported having multiple sexual partners. It further revealed that adolescents in the two communities recorded high sexual activity. In spite of their personal and social life, condom use is lacking thereby increasing their likelihood of having an STI

A study conducted by Songawawa, Owoale and Adenkule (2009) investigated the number of sexual partners in the life time of his respondents. Responses ranged from one and eight for the deaf students as against one and six for the hearing students. Slightly, more than half of the students (both the deaf and hearing) reported they had more than one sexual partner since they became sexually active. In a similar study conducted by Tokuo et al (2010) found among the sexually active interviewees, 53% of the males and 54.3% of the females said they were into multiple concurrent sexual relationships in the 12 months preceding the study.

Boamah-kaali, Asante, Manu, Adeniji, Mahama, Ayipah, and Owusu-agyei (2016) researched into the sexual behaviours and contraceptive use among Adolescents (15 - 19) in Kintampo. The study employed the cross-sectional survey using qualitative and quantitative methods. Seven hundred and ninety-three (793) adolescents made up of male (43.1%) and female (56.9%) participated in the study. Interview and questionnaire were used to collect data for the study. More than 8% of the adolescents who said they have been in a relationship also reported being in concurrent relationships. Thus, 6% of the females and 15% of male respondents were in sexual relationship with more than one partner at the same time.

Similarly, Issaka (2015) found from her study among adolescents with hearing impairment from selected special schools in Ghana that (125) 52.3% of the respondents indicated that they had had experiences of sexual intercourse with other people aside their regular sexual partners.

According to Afenyadu and Goparaju (2003), adolescent males have twice the probability of keeping multiple sex counterparts than females i.e. 55% and 26% respectively with a higher proportion of male in-school adolescents having multiple sex partners than male out-of- school adolescents. The assertion is that, though the periods and samples for the various studies are different, Ghanaian young men have a fairly high level of having more than one sexual partner. The available evidence also indicated that some of the first sexual experiences of female adolescents were unplanned and they were unable to protect themselves from pregnancy and STIs.

2.2.5.3 Non-condom use

The surge in premarital sexual activity and increase prevalence of STIs among the youth are crucial as they can be associated to risky sexual behaviours for example unprotected sex. Unsafe sex occurs when a vulnerable individual engages in sexual activity or have sex with at least one person or more who have an STI without the use of condom that could prevent infection. Unprotected sexual intercourse is connected to an increased potential of contracting an STI (Kost, and Henshaw, 2014).

Low condom usage among younger Ghanaian populace is consistent with the trend among young people in Sub-Saharan Africa (SSA) (Mthembu, and Ndateba, 2012). This pattern, even with high knowledge level of condoms and HIV, proposes that additional factors may impact young people‟s judgments to use or not to use a condom during sexual intercourse (Masa, and Chowa, 2014).

Conforming to these factors, a study conducted among undergraduate students in Jigjiga University in Ethiopia found the majority 42% (n=21) in males and 50% (n=4) females amongst the respondents did not utilize condom for the period of their last sexual act because they "never thought about it". Moreover, fear of telling their sexual partners to use condom accounted for 16% (n=8) of males and 12.5% (n=1) of females. Being in a hurry to have sex also recorded 14% (n=7) males and 12.5% (n=1) females were also quoted as other reasons for not using condoms (Mavhandu-Mudzusi and Asgedom, 2016). Further, complexity of condom uses for the inexperienced during the act, embarrassment to suggest condoms, the cost and difficulty to purchase are all some of the reasons that have been cited as reasons for non-condom usage among the youth (Kirby, Van der Sluis and Currie 2010: Ramjee et al., 2015). Some reasons advanced for failing to use condoms included the perception that it is a sin to waste sperms, condoms cause sores on the penis, and raises issues of trust and suspicion of infidelity of one party (Exavery et al., 2011). Condoms have been acknowledged to prevent transmission and acquisition of sexually transmitted infection among heterosexual partners (Exavery et al., 2011). Effective usage prevents an uninfected person from acquiring (primary prevention) and an already infected person from spreading the infection (secondary prevention) as long as the condom covers the infected area (Ramjee et al., 2015). Nevertheless, consistent usage does not necessarily prevent infections. Studies conducted by others have proven that failure of condom usage despite the high awareness in most African countries is rather behavioral than mechanical

A study conducted by Rusinga (2012), explored the perceptions of deaf adolescents regarding their vulnerability to sexual and reproductive health problems in Masvingo District of Zimbabwe. A quasi-survey was employed to conduct the research. The

researcher employed the snowball sampling technique to identify the respondents for the study. The sample size was fifty (50) deaf students aged between 15 – 24 years. The respondents were made of 63% males and 37% females who were conveniently selected. Quantitative and qualitative methods were employed to collect data for the study. Thus, in addition to the questionnaires that were administered to all the fifty respondents to gather quantitative data, the researcher conducted in-depth face-to-face interviews with ten (10) of the deaf youth in order to qualify the magnitude of deaf adolescents" perceptions regarding their vulnerability to sexual and reproductive health challenges. The study found that, about 67% of the respondents had not used condom the last time they had sex. However, 33% of the respondents reported that they had used condom during their last sexual act. It was also found out that condom use was more common among males (37%) than among females who are deaf (25%). The study also revealed that out of the 87% of the respondents who said they knew of contraceptives, more than half (59%) knew of condoms. Furthermore, majority (83%) of the adolescents with deafness said they had received some education from school, newspapers/magazines, televisions among others.

Boamah-kaali, et al., (2016) conducted a research on consistent use of contraceptives (including condom use) among sexually active adolescents in Ghana. The study revealed that sexually experienced adolescents practice unsafe sex. Sexual behaviours that result in pregnancies have an equally high potential of resulting in sexually transmitted infections if the male sexual partner was already infected. Despite the fact that, majority (85.9%) of the adolescents with deafness knew of condoms, there is low patronage of condom usage among the sexually active adolescents.

Tokuo, Mboua, Tohmuntain and Perrot, (2010) examine the sexual behaviours of hearing impaired adolescents in Yaoundé, the capital city of the Republic

Cameroon.The purpose was to gain better understanding of the sexual behaviour and determine HIV sero-prevalence among the deaf in Yaounde. The study was done using the quantitative cross-sectional design. One hundred and twenty-five (125) participants between 15 and 34 years were recruited for the study through the snowball sampling procedure. Data were gathered using interviews and questionnaires. An anonymous pre-coded questionnaire was used to collect data on adolescents‟ knowledge, attitudes, and practices on sexuality and HIV/AIDS.The French sign language was used as the means for data collection through interview. Of the 125 interview forms, 118 (94.4%) were validated. This was made up of 50.8 males and 49.2% females. The behaviours of the one hundred and eighteen (118) deaf participants recruited for the study were explored through interview. One hundred and one (101) of the interviewees underwent HIV serology testing voluntarily. Data on participants bahaviour was analysed descriptively with Epi info software, whiles era were tested by health personnel, using rapid and confirmation test reagents.

The study from Touko, et al. (2010) revealed that, although majority (85%) of the sexually active respondents said they use condom, a substantial portion (15%) of them reported never using a condom in their sexual escapades. While 53% of the respondents failed to use condom during their most recent sexual act due to the confidence they had in their partners. A significant difference was found between males and females regarding non-condom use; 80% females and 20%males. (chi = 7.9, p=0.007). The difference could result from the fact that most females are unable to assert their rights when it comes to sex and as such the decision to use condom or not rest on the males. When females are not assertive, the men have the final say even when the woman has the condom for use.

For respondents who are deaf and used condom during their most recent sexual intercourse,54% did so because they wanted to prevent HIV/AIDS. More than 10.5% aimed at preventing other STIs while 28% used the condom to prevent pregnancy. This revelation is heart-warming in that majority (64.6%) of the deaf students not only knew HIV/AIDS and other STIs can be prevented through condom use but took practical steps to prevent infection .When adolescents including the deaf are able to translate their knowledge of sexually transmitted infections to positive behaviours such as safer sexual acts , the incidence of prevalence of HIV/AIDS and other sexually transmitted infections among them and their sex partners can be controlled without much difficulty.

CHAPTER THREE

METHODOLOGY

3.0 Introduction

This chapter dealt with the method adopted for the study. The research methodology comprised with the population for the study, type of research and design, method used in selection of the sample size and sampling techniques, research instruments, data collection procedure, data analysis method, reliability and validity and ethical considerations.

3.1 Research Design

The design for this study was descriptive survey using quantitative approach. Descriptive survey is a design which portrays accurately the characteristics of particular individuals, situations or groups (Creswell, 2012).Descriptive survey design was used because it is used to identify characteristics, frequencies, trends and categories. It is useful in diagnosing a situation since it involves describing, recording, analyzing, interpreting conditions that exist. Besides, descriptive survey design enabled the researcher to make use of questionnaires to obtain information from respondents for the study (Creswell, 2012).

Quantitative research involves the collection and use of numerical data. It is carried out to describe or explain phenomenon numerically. It deals with questions of relationship, cause and effect or current status that researchers can answer by collecting and statistically analysing data (Ary, Jacob, & Razaviel, 2002)).

3.2 Population

The population for the study was all adolescents with deafness in Junior High Schools (JHS) in the schools for the deaf in the Eastern region of Ghana. The population

included in this study refers to all the adolescent students in JHS two and JHS three in Koforidua, Kibi and Demonstration Schools for the Deaf, Mampong Akwapim who were between the ages of 13 and 24 years and who are deaf. There were 125 students in this category. The category of students from these classes were chosen because they had stayed long enough in their respective schools and might have had adequate information from the School Health Educational Program (SHEP) in the Basic schools in the country which could enable them to provide information required for the study.

Table 1: Enrolment of the schools for the deaf in the Eastern Region.

School	*Form / Class*	*Enrolment*		
		Boys	**Girls**	**Total**
Koforidua School for the deaf	JHS 2	4	6	10
Koforidua School for the deaf	JHS 3	11	5	16
Kibi School for the deaf	JHS 2	17	9	26
Kibi School for the deaf	JHS 3	11	5	16
Demonstration school for the deaf (Mampong Akwapim)	JHS 2	14	9	23
Demonstration school for the deaf (Mampong Akwapim)	JHS 3	11	23	34
		68	57	125

3.3 Sample size

A sample is a part drawn from a larger whole. Sampling is the method of selecting a part of a group with the aim of collecting complete information from the representative part (Khan, 2012). The sample size used for this study was drawn from a list of adolescent students with deafness in the three schools for the deaf. The sample size was determined using Slovin (1960) formula for sample size determination. Respondents for the study were selected from adolescent students with deafness in the Junior High Schools of Koforidua, Kibi and Demonstration Schools for the Deaf, Mampong Akwapim. Slovin (1960) formula was used such that sufficient sample size could be obtained to warrant generalization of the findings. The total number of students in JHS2

and JHS3 for the three schools was 125 within the period of the study that is 2019/2020 academic year.

Slovin (1960) formula for sample size determination is given as: $n = \frac{N}{1+N(a^2)}$

In determining the sample size, this formula was used. With a confidence level of 95% and a margin of error (a) of 5%, the result for the sample size was as follows:

$n = \frac{N}{1+N(a^2)}$

Where; n = sample size; N = Sampling Frame; 1 = Constant; and a = Margin of error

$n = \frac{125}{1+125(0.05)^2}$ $n = \frac{125}{1+0.3125}$ $n = \frac{125}{1.3125}$ $= 95$

The sample for this study was 95 adolescent students with deafness from the three schools for the deaf. Aggyedu, Donkor and Obeng (2013) asserted that the sample size should neither be exclusively large nor too small and it must be adequate enough to make meaningful conclusions. The authors indicated that a sample size larger than 30 and less than 500 is appropriate for most studies; especially studies that have to do with human behavior. Therefore, the 95 respondents representing 76% of the target population of 125 was very appropriate.

The sampling size was proportionally distributed among the schools as follows:

Koforidua School for the Deaf: $\frac{26}{125} \times 95 = 20$

Kibi School for the Deaf: $\frac{42}{125} \times 95 = 32$

Demonstration School for the Deaf: $\frac{57}{125} \times 95 = 43$

20 adolescent students were selected from Koforidua School for the Deaf, 32 adolescent students from Kibi School for the Deaf and 43 adolescent students from Demonstration School for the Deaf, Mampong Akwapim.

The sample size of each school into boys and girls was proportionally distributed as follows:

Koforidua School for the Deaf: Boys $\frac{15}{26} \times 20 = 12$ boys

$\frac{11}{26} \times 20 = 8$ girls

Kibi School for the Deaf: Boys $\frac{28}{42} \times 32 = 21$ boys

$\frac{14}{42} \times 32 = 11$ girls

Demonstration School for the Deaf: Boys $\frac{25}{57} \times 43 = 19$ boys

$\frac{32}{57} \times 43 = 24$ girls

3.3.1 Sampling Techniques

Stratified sampling technique and simple random sampling were employed because it is a technique that identifies and groups members of a population into homogenous sub-groups so that each stratum will contain subjects with similar characteristics (Sarantakos, 2005). The technique was employed in order to represent all sub-groups in the sample proportionally (Sarantakos, 2005). Proportional representation was adopted to select the sample size from JHS2 and JHS3 of each special school. This gave a reflection of each school population in the sample size. The researcher stratified the sample size of each school into boys and girls such that each group will be represented in the study. Proportional representation was used to select 12 boys and 8 girls from Koforidua School for the Deaf, 21 boys and 11 girls from Kibi School for the Deaf and selected 19 boys and 24 girls from Demonstration School for the Deaf, Mampong Akwapim. This was based on the number of boys and girls in these schools. The researcher then used simple random technique to select respondents from each study group. The simple random technique was chosen because it gave all the elements in the targeted population an equal chance of being selected. The sampling technique provides each and every member of the sample an equal and independent opportunity to be part of the study, which helped to eliminate selection bias (Sarantakos, 2005).

To give equal chance to all eligible respondents, numbers were written on pieces of papers according to the sample size of each group including blank papers folded and placed in a basket for all students to pick one, after a thorough shake. The required number of students was picked. All those who picked the required numbers formed part of the study.

3.4 Data Collection Instrument

The researcher used HIV- Knowledge Questionnaire (Carey and Schroder, 2002) to assess the knowledge of respondents on types, mode, prevention, signs and symptoms of sexually transmitted infections and sexual behaviours. Questionnaire was the most suitable instrument for the study because it allowed the collection of information within a short period of time from several respondents. Also confidentiality on the part of the respondents in the questionnaire was ensured, since respondents were not feeling intimidated or embarrassed by the person issuing the instrument especially when it comes to questions that border on personal or sensitive issues. Again, it allowed respondents to express their opinions freely. The questionnaire was made up of close-ended items which were carefully used to generate the needed information (Appendix C). According to Cohen, Marrion and Morrison (2012), close ended questions are quick to complete and straight forward to code and do not discriminate unduly on the basis of how articulate the respondents are. The five likert-type scale ranging from 1. Strongly Disagree (SD), 2. Disagree (D), 3. Neutral (N), 4. Agree (A) and 5. Strongly Agree (SA). Likert scale is one of the most widely used techniques to measure attitudes. McMillan and Schumacher (2010) state that it allows fairly accurate assessment of opinions.

The questionnaire had six different sections. Section A was made up of the background information. Section B comprised information on the knowledge of the types of sexually transmitted infections. Section C captured information on the knowledge on the modes of transmission of sexually transmitted infections. Section D emphasized the knowledge on prevention of sexually transmitted infections. Section E dealt with diagnosis, signs and symptoms of sexually transmitted infections. The last section, (Section F) focused on the sexual behaviour of adolescent students with deafness. The research objectives and review of related literature were used as the basis to develop the questionnaire.

3.5 Validity of instrument

Content validity was used to determine the validity of the instrument. Content validity entails checking to see if the items on the instrument are enough to cover the objectives and research questions of the study. Expert judgement was used to check the adequacy of the items (Ary et al, 2002). The questionnaire was given to the researcher‟s supervisor, other lecturers from the Department of Special Education from the University of Education as well as colleagues from the Department of Special Education with adequate knowledge in the subject area for their scrutiny and necessary comments. The consultation focused on the construction of the questionnaire as well as the coverage. They also judged whether the questions were precise enough to elicit the right responses and finally to see if the questions covered the entire research objectives and answer the research questions.

3.6 Reliability of instrument

Reliability is an effective means of evaluating quantitative research instruments (Creswell, 2014). Atindanbila (2013) explained reliability as the consistency with which a research instrument measures the target attribute in the study. Thus, if the same

instrument was administered by various researchers under similar conditions, it will provide similar results. In this study, the reliability of the questionnaire was determined by using internal consistency and test - retest method.

Internal consistency test was run on the questionnaires by using five factors of ten (10) items for each to assess student knowledge on types of sexually transmitted infections, mode of transmission of sexually transmitted infections, preventions of sexually transmitted infections, diagnosis/signs and symptoms of sexually transmitted infections and sexual behaviours of adolescent students with deafness. The reliability Cronbach"s alpha value for all the test items with respect to their construct they sought to determine are shown in Table 2 after pretesting with seven (7) adolescent girls and eight (8) adolescent boys with deafness in Ashanti School for the Deaf, Jamasi to assess the reliability of the questionnaire. The Cronbach"s alphas of all items are greater than 0.7 indicating their internal consistency. According to Battaliga (2011), a reliability value of 0.70 and above is reliable and hence acceptable.

Table 2: Reliability of questionnaire items leading to their construct

Construct	Number of Items	Cronbach's alpha (α)
Types of Sexually transmitted Infection	10	0.761
Mode of transmission of STIs	10	0.806
Prevention of Sexually Transmitted Infections	10	0.825
Diagnosis/Signs and Symptoms of STIs	10	0.716
Sexual behaviours of adolescents with deafness	10	0.852

Source: Field Survey (2020)

In addition, the test –retest method was used to test the reliability of the questionnaire. Thus, a group of 15 adolescent students with deafness in Ashanti School for the Deaf. The questionnaire was administered to the same group of students twice within a week using the same procedure. The set of scores were generated and reliability coefficient

index was calculated. The result yielded 0.98. This indicates that the reliability of 0.98 obtained in this study is very strong.

The reliability results indicate that the research instrument was suitable for investigating knowledge of sexually transmitted infections and sexual behaviours among adolescent students with deafness in schools for the deaf in the Eastern Region of Ghana.

3.6.1 Pre-testing

The data collecting instruments were pre-tested on 15 Adolescent students with deafness in Ashanti School for the Deaf, Jamasi who did not form part of the sample size but were of similar ages and from JHS two and three. The pre–testing ensured readability, comprehension and logical flow of the questions. The necessary corrections were made before the questionnaire was finalized.

3.7 Procedure for Data Collection

3.7.1 Procedure for data collection at Koforidua School for the Deaf

An introductory letter was obtained from the Department of Special Education, University of Education, Winneba, stating the purpose of the study. The letter was sent to Eastern Regional Education Directorate in order to gain access to the schools. A copy of the letter was given to the Headmistress of the Koforidua School for the Deaf. The researcher explained the nature of the research, those were to be involved and the reasons why the school was chosen and the benefit it may bring to the school. The researcher was introduced to the teachers by the Headmistress. The researcher took the opportunity to interact with the teachers and solicit their support in the conduct of the research. Agreement was reached between the researcher and the Headmistress on a date for interaction with the students and the administration of the questionnaires.

Upon arrival in the school on the agreed date, the researcher was introduced to the teachers and students by the Headmistress in order to establish rapport with them through personal interactions. The researcher took the opportunity during the interactions to explain the motive for the research, the nature it will take and those who will be involved in the research to the teachers and students. The researcher sought support from some of the teachers to assist in interpreting the questionnaire items to the students which the Headmistress obliged and chose some teachers to give the researcher the necessary support.

The teachers appointed by the Headmistress helped the researcher in organising the students in the classroom to enable the researcher to select eligible respondents among them using the sampling procedures described in the study. The researcher sought the consent of the participants and assured them of their privacy and confidentiality. A teacher was chosen to help the students understand the questionnaire items through interpretation using the sign language. The questionnaires were administered to the students by the researcher after the interpretation. It took the respondents 50 minutes to complete the questionnaires which were retrieved the same day after making sure that every item was responded to.

3.7.2 Procedure for data collection at Kibi School for the Deaf

The researcher collected an introductory letter from the Department of special education (see Appendix A) and permission letter from the Eastern Regional Educational Directorate to have access to the school (see Appendix B) The researcher submitted the letters to the Headmaster after exchange of pleasantries and explained why the researcher was in the school. The Headmaster introduced the researcher to the staff and students. The researcher had interactions with the staff and students and explained how

the whole exercise will be done. A date was discussed and agreed upon by the researcher, headmaster and staff of the school.

On my second visit to Kibi School for the Deaf, the researcher interacted with the staff and students and explain to them the form the activity would take and those who would be involved in the exercise. The Headmaster asked the Assistant Headmaster to appoint some of the teachers to assist the researcher to organise the students for the administration of the questionnaire. The researcher selected the eligible respondents among them using the sampling procedures described in the study. The researcher sought the consent of the respondents and assured them of their privacy and confidentiality. A teacher was chosen to help the students understand the questionnaire items through a sign language interpretation. The questionnaires were administered to the students by the researcher after the interpretation. Each participant answered the questionnaire independently. It took the students 50 to 60 minutes to complete. All the questionnaires were retrieved after making sure that every item was responded to.

3.7.3 Procedure for data collection at Demonstration School for the Deaf, Mampong Akwapim

The researcher collected introductory letter from the Department of Special Education (see Appendix A) and permission letter from the Eastern Regional Educational Directorate to gain access to the school (see Appendix B) The researcher submitted the letters to the Headmaster after exchange of pleasantries and explained the purpose of the research, the reason why the school was chosen and the nature the research would take. The Headmaster introduced the researcher to the staff and students. The researcher had interactions with the staff and students and explained how the whole exercise would be

done. A date was discussed and agreed upon by the researcher, head master and staff of the school for the administration of the questionnaire.

Before my second visit, the researcher called the headmaster on phone to remind him of the agreed date for the exercise.

The researcher then visited the school on the agreed date. The researcher called on the headmaster in his office and had interaction with him on some modalities in conducting the exercise. The researcher also sought for the support of some teachers to assist in interpreting the questionnaire items to the students. The headmaster gave me permission to interact with the staff and students and also asked the Assistant headmaster to appoint some of the teachers to assist the researcher to organise the students for the administration of the questionnaire. The assistant headteacher and other two teachers supported me in organising the students for the administration of the questionnaire.

The researcher again explained to teachers the form the research would take and those who will be involved in the exercise. The researcher also explained to the students the .form the exercise would take and those who would be involved. The researcher selected the eligible respondents among the students using the sampling procedures described in the study. The researcher sought the consent of the respondents and assured them of their privacy and confidentiality. A teacher was chosen to help the students understand the questionnaire items through interpretation using the sign language. The questionnaires were administered to the students by the researcher after the interpretation. Each participant answered the questionnaire independently. It took the respondents 50 to 60 minutes to complete the exercise. All the questionnaires were retrieved after making sure that it has been completed.

3.8 Data Analysis

The data were analyzed using the Statistical Package for Social Scientists (SPSS). The data collected were computed, edited and coded to minimize errors. The data were cleaned and cross-checked for consistency and completeness of responses. The items were categorised into different tables in line with the research objectives and questions. The data were tabulated, analysed and interpreted using Statistical Package for Social Sciences (SPSS) version 23.0. Frequencies and percentages were used to analyse bio-data of respondents. The independent t-test with 0.05 level of significance was used to test differences and relationships.

3.9 Ethical Considerations

In an effort to ensure that research ethics are adhered to, the researcher took a letter of introduction from Special Education Department of University of Education. The researcher also sought permission from Eastern Regional Education Office before the commencement of the research. The headmasters and headmistress were also contacted by the researcher to use their schools. All the respondents were fully briefed about the nature of the research project, what was expected of them and the objectives of the study. Consent of the respondents was sought before the questionnaires were administered. The data collected were held in confidence and personal identities of respondents were not disclosed.

CHAPTER FOUR

RESULTS AND DISCUSSION

4.0 Introduction

This chapter presents the results of the findings and discusses them in the light of the research questions and the hypothesis that guided this study. The findings from the study identified the types of sexually transmitted infections, mode of transmission of sexually transmitted infections, prevention of sexually transmitted infections, diagnosis/signs and symptoms of sexually transmitted infections and sexual behaviours of adolescent students with deafness. The data used in the research were obtained through the administering of structured questionnaire to ninety-five (95) Adolescent students sampled from Koforidua School for the Deaf, Kibi School for the Deaf and Demonstration School for the Deaf, Mampong Akwapim.

This chapter then begins with the bio-demographic data of the respondents and followed by the section that answered the research questions and testing of hypothesis of the study. The findings have been presented in frequencies, percentages, descriptive statistics (means and standard deviations).

4.1 Socio-Demographic Characteristics of Respondents

This section discusses the socio-demographic characteristics or the bio-data of the respondents. This bio-data discussed here include the following: gender, age, school and forms/classes of respondents.

Table 3: Gender Distribution of Respondents

Gender	Frequencies	Percentages
Boys	52	55.8
Girls	43	44.2
Total	**95**	**100**

Source: Field survey, 2020 n= 95

Table 3 shows the gender distribution of the respondents. The study revealed that 52 representing 55.8% of the respondents were boys and 43 (44.2%) were girls. This shows that the participation rate of girls was low. The percentage response rate of boys and girls implied that there was difference between the number of boys and girls in the schools.

Table 4: Age Distribution of Respondents

Age	Frequencies	Percentages
13 – 15	5	4.2
16 – 19	68	72.6
Above 19	22	23.2
Total	**95**	**100**

Source: Field survey, 2020 n= 95

Table 4 indicated the age distribution of respondents. The results as shown on the table indicated that 5 (4.2%) respondents were aged between 13 – 15 years. Respondents whose ages range between 16 – 19 years constituted 68 (72.6%). Finally, respondents who were 19 years and above represented 22 (23.2%). The study revealed that more of the respondents were within the 16-19 age group, followed by 19 years and above age group and lastly 13-15 years‟ group. The implication of the findings is that, students

used for the study were relatively young. This will impact positively on the students" eagerness to search for more information on sexually transmitted infections.

Table 5:

Schools	Frequencies	Percentages
Mampong	43	45.3
Koforidua	20	21.0
Kibi	32	33.7
Total	**95**	**100**

Source: Field survey, 2020 n= 95

Schools used for the study were Demonstration School for the Deaf 43(45.3%) students, Koforidua School for the Deaf 20 (21.0%) students and Kibi School for the Deaf 32 (33.7%) students. These schools were chosen for the study because they are the special schools for the deaf located in the Eastern Region of Ghana where high prevalence rate of sexually transmitted infections among adolescents has been identified (GAC, 2015).

Table 6: Forms/Classes of Respondents

Forms/Class	Frequencies	Percentages
Two	35	37
Three	60	63
Total	**95**	**100**

Source: Field survey, 2020 n= 95

Table 6 shows that basic eight 35 (37%) and basic nine 60 (63%) students were used. These forms or classes were used for the study because they had stayed long enough in their respective schools and might have had adequate information from the School Health Educational Program (SHEP) which exists in the basic schools in the country.

4.2.1. Research Question One

What knowledge do adolescent students with deafness have on the types of sexually transmitted infections?

To identify the knowledge of students on the types of sexually transmitted infections, respondents were asked to rate their levels of agreement and disagreement using a Likert scale questions of 5 items, from strongly agree (SA = 5), agree (A = 4), neutral (N = 3), Disagree (D = 2) and strongly disagree (SD = 1). For analysis purposes, the strongly agree responses were merged with that of agree while strongly disagree responses were also merged with disagree responses. The results of their responses are shown in table 7.

Table 7: Knowledge on the types of Sexually Transmitted Infections

Statement	Agree	Neutral	Disagree	Mean	SD
There are different types of STI's	85(89.05%)	4(4.1%)	6(6.4%)	4.25	0.92
Gonorrhea is a type of STIs	84(88.5%)	6(6.2%)	5(5.3%)	4.28	0.88
Genital warts is a type of STIs	24(25.5%)	34(36.1%)	36(38.3%)	2.68	1.28
Syphilis is a type of STIs	80(84.2%)	6(6.3%)	9(9.5%)	4.21	1.28
Trichomoniasis is a type of STIs	4(4.2%)	26(27.7%)	65(68.5%)	1.94	0.97
Cancroid is a type of STI's	31(32.6%)	32(33.7%)	32(33.7%)	3.00	1.40
Chlamydia is a type of STIs	29(30.9%)	11(11.6%)	54(57.5%)	2.56	1.40
Hepatitis B is a type of STIs	6(6.5%)	23(24.6%)	64(68.9%)	1.92	1.11
HIV/AIDS is a type of STIs	82(89.1%)	6(6.5%)	4(4.4%)	4.08	0.82
Genital Herpes is a type of STIs	37(38.9)	17(17.9%)	41(43.2%)	2.99	1.39
Grand mean				3.19	1.12

Source: Field Survey 2020

Results as shown in Table 7 indicate that a greater number of the adolescent students with deafness 85(89.5%) agree with the statement that there are different types of

sexually transmitted infection. However, 6(4.1%) of the respondents disagreed with the statement whereas, 4(4.1%) of the respondents did not indicate their opinion on the statement.

Results as shown in table 7 indicate that Gonorrhea is a type of sexually transmitted infections. Majority of the students with 84(88.5%) agreed with the statement. On the other contrary, 5(5.3%) of the respondents disagreed with the statement whereas 4(4.1%) did not indicate their opinion on the statement.

Table 7 indicates that less than half 24(25.5%) of the respondents agreed with the statement that Genital warts is a type of sexually transmitted infections whereas 36(38.3%) of the students disagreed with the statement that Genital warts is a type of STIs. However, 34(36.1%) of the respondents were not sure whether Genital warts forms part of the STIs.

From Table 7 majority of the adolescent students with deafness 80(84.2%) shared with the opinion that syphilis is a type of sexually transmitted infections. On the hand, 9(9.5%) of the respondents disagreed with the statement whereas 6(6.3%) of the students did not indicate their opinion on the statement.

Table 7 indicates that a greater number of the respondents 65(68.5%) disagreed with the statement trichomoniasis is a type of sexually transmitted infections whereas 4(4.3%) agreed with the statement. However, 26(27.3%) of adolescent students with deafness could not share their opinion on the statement.

Results as shown on Table 7 indicate that one third of the respondents 31(32.6%) agreed with the statement that cancroids is a type of STIs whereas 32(33.7%) of the students disagreed with the statement. However, 32(33.7%) of the adolescent students with deafness could not indicate their opinion whether cancroids are a type of sexually transmitted infections.

From Table 7, it shows that majority of the respondents 54(57.5%) disagreed with the statement that Chlamydia is a type of STIs whereas 29(30.9%) of the respondents agreed with the statement. However, 11(116%) of the students did not indicate their opinion on the statement.

Table 7 indicates that majority of the adolescent students with deafness 64(68.9%) disagreed with the statement that Hepatitis B is a type of sexually transmitted infections whereas 6(6.5%) of the respondents agreed with the statement. However, 23(24.6%) of the students were not sure whether Hepatitis B is a type of STIs.

Results as shown on Table 7 indicate that a greater number of the respondents 82(89.1%) agreed with the statement that HIV/AIDS is a type of sexually transmitted infections. On the contrary, 4(4.4%) of the students disagreed with the statement whereas 6(6.5%) of the respondents could not indicate their opinion on the statement.

Table 7 shows that less than half of the respondents 37(38.9%) agreed with the statement that Genital herpes is a type of sexually transmitted infections whereas 41(43.2%) of the students disagreed with the statement that genital herpes is a type of STIs. However, 17(17.9%) of the respondents did not indicate their opinion on the statement.

Results as shown in table 7 indicate that a greater number of the respondents 80(84.2%) agreed with the statement that syphilis is a type of sexually transmitted infections. On the contrary, 9(9.5%) of the respondents disagreed with the statement whereas 6(6.3%) did not indicate their opinion on the statement.

4.2.2. Research Question Two

What Knowledge do adolescent students who are deaf have about transmission of sexually transmitted Infections?

In order to assess the knowledge of students on the mode of transmission of sexually transmitted infections, respondents were asked to rate their levels of agreement and disagreement using a likert scale questions of 10 items, from strongly agree (SA = 5), agree (A = 4), neutral (N = 3), Disagree (D = 2) and strongly disagree (SD = 1) on mode of transmission of sexually transmitted infections using the items as shown in the Table 8. For analysis purposes, the strongly agree responses were merged with that of agree while strongly disagree responses were also merged with disagree responses. The results of the respondents" responses are shown in Table 8.

Table 8: Knowledge on the mode of transmission of Sexually Transmitted Infections

Items	Agree	Neutral	Disagree	Mean	S. D.
Mosquito bite can cause STIs	11(11.7%)	18(19.1%)	65(69.2%)	2.10	1.15
Sharing toothbrush with an individual can STIs	35(36.8%)	31(32.6%)	29(30.6%)	3.15	1.32
One can get STIs by sharing sharp objects with an infected person	52(54.7%)	18(19.0%)	25 (26.3%)	2.22	1.25
One can get STIs by sharing food with an infected person	16(16.9%)	23(24.2%)	56(58.9%)	2.23	1.29
A pregnant woman can transmit STIs to an unborn child	53(55.8%)	14(14.7%)	28(29.5%)	3.13	1.27
STIs can be transmitted to child through breastfeeding	48(51.1%)	24(25.5%)	22(23.4%)	3.45	1.04
Kissing an infected person can result in transmission of STIs	60(63.1%)	14(14.6%)	21(22.3%)	3.17	1.14
STIs are mainly acquired through unprotected sex	89(93.7%)	2(2.0%)	4(4.3%)	4.42	0.86
Engaging in casual sex can result in contracting STIs	91(95.8%)	1(1.0%)	3(3.2%)	4.33	0.66
STIs are acquired through witchcrafts or supernatural means	24(25.3%)	10(10.5%)	61(64.2%)	2.60	1.21
Grand mean				3.18	1.11

Source: Field Survey 2020

Knowledge on the mode of transmission of sexually transmitted infections among adolescent students with deafness

Results as shown on Table 8 indicates that more than half of the respondents 52(54.7%) agreed with the statement that one can get sexually transmitted infections by sharing sharp objects with an infected person whereas 25(26.3%) of the students disagreed with the statement that one can get sexually transmitted infections by sharing sharp objects with an infected person. However, 18(19.0%) could not indicate their opinion on the statement.

Table 8 indicates that a greater number of the adolescent students with deafness 53(55.8%) agreed with the statement that pregnant mother can transmit sexually transmitted infection to an unborn child whereas 28(29.5%) disagreed with the statement. However, 14(14.7%) of the respondents were not sure whether pregnant mother can transmit STIs to an unborn child.

Table 8 also shows that more than half of the respondents 48(51.1%) agreed with the statement that sexually transmitted infection can be transmitted to a child through breastfeeding whereas 22(23.4%) of the students disagreed with the statement. However, 24(25.5%) of the respondents did not indicate their opinion on the statement.

From Table 8 it is evident that majority of the respondents 60(63.1%) agreed with the statement that kissing an infected person can result in transmission of STIs whereas 21(22.3%) of the respondents disagreed with the statement. However, 14(14.6%) of the students could not indicate their opinion on the statement.

Results as shown on Table 8 revealed that a greater number of the respondents 89(93.7%) agreed with the statement that sexually transmitted infections are mainly acquired through unprotected sex whereas 4(4.3%) of the students disagreed with the statement. However, 2(2.0%) did not indicate their opinion on the statement.

Table 8 indicates that majority of the respondents 91(95.8%) shared the view that engaging in casual sex can result in contracting STIs whereas 3(3.2%) of the respondents disagreed with the statement. However, 1(1.0%) of the students could not declare their opinion on the statement.

From Table 8, it is evident that majority of the respondents 61(64.2%) disagreed with the statement that sexually transmitted infection are acquired through witchcraft or supernatural means. However, 24(25.3%) of the respondents agreed with the statement that STIs can be acquired through witchcraft or supernatural means whereas 10(10.5%) could not indicate their opinion on the statement.

Results shown in Table 8 indicate that majority of the adolescent students with deafness 65(69.2%) disagreed with the statement that mosquito bite can cause sexually transmitted infections whereas 11(11.7%) of the respondents agreed with the statement that mosquito bite can cause STIs. However, 18(19.1%) of the students did not indicate their opinion on the statement.

From Table 8, it was evident that less than half of the respondents 35(36.8%) agreed with the statement that sharing of tooth brush can transmit sexually transmitted infections whereas 29(30.6%) of the students disagreed with the statement. However, 31(32,6%) of the respondents were not sure whether sharing of tooth brush can transmit STIs.

Table 8 indicates that majority of the respondents 56(58.9%) disagreed with the statement that one can get sexually transmitted infection by sharing food with an infected person whereas 16(16.9%) of the students agreed with the statement. However, 23(24.2%) of the students could not declare their opinion on the statement.

4.2.3. Research Question Three

What is the knowledge of adolescent students with deafness in Koforidua, Kibi and Demonstration schools for the deaf, Mampong Akwapim about prevention of sexually transmitted infections?

In order to examine students‟ knowledge on preventions of sexually transmitted infections, respondents were asked to rate their levels of agreement and disagreement using a Likert scale questions of 10 items, from strongly agree (SA = 5), agree (A = 4), neutral (N = 3), Disagree (D = 2) and strongly disagree (SD = 1) on the prevention of sexually transmitted infections using the following items. For analysis purposes, the strongly agree responses were merged with that of agree responses while strongly disagree responses were also merged with disagree response. The results of their responses are shown in Table 9.

Table 9: Knowledge on Prevention of Sexually Transmitted Infections

Items	Agree	Neutral	Disagree	Mean	S. D
One can protect oneself from STIs by having one uninfected faithful partner	88(92.7%)	0(0.0%)	7(7.3%)	4.32	0.93
One can avoid contracting STIs by not indulging in sexual intercourse	53(55.8%)	10(10.5%)	32(33.7%)	3.19	1.54
One can avoid contracting STIs by using condom anytime one has sex	91(97.8%)	1(1.1%)	1(1.1%)	4.55	0.58
Regular washing of hands can reduce contracting STIs	34(35.8%)	27(28.4%)	34(35.8%)	2.95	1.20
Condom can only be used by married partners	34(35.7%)	10(10.5%)	51(53.6%)	2.79	1.20
STIs can be prevented by washing the genital organs	24 (25.8%)	39(41.0%)	32(33.7%)	2.89	1.26
Avoiding sharing contaminated needles and blades can reduce the risk of contracting STIs	92.(96.8%)	1(1.1%)	3(2.1%)	4.47	0.73
I don‟t have symptoms of STIs so I don‟t need to use condom	36(38.3%)	18(19.1%)	40(42.6%)	2.84	1.23
You don‟t need to use condom if you are in committed relation	40(43.0%)	26(28.0%)	27(29.0%)	3.11	1.41
Unprotected sex increases the risk of getting an STIs	85(89.4%)	0(0.0%)	10(10.6%)	4.31	1.08
Grand mean				3.54	1.14

Source: Field Survey 2020

Results as shown in Table 9 indicate that majority of the adolescent students with deafness 88(92.7%) agreed with the statement that one can protect oneself from sexually transmitted infections by having one uninfected faithful partner. However, 7(7.3%) of the respondents disagreed with the statement.

Table 9 indicates that greater number of the respondents 53(55.8%) agreed with the statement that one can avoid contracting sexually transmitted infections by not indulging in sexual intercourse whereas 32(33.7%) of the students disagreed with the

statement. However, 10(10.5%) of the respondents did not declare their stand on the statement.

Results shown in Table 9 indicate that majority of the adolescent students with deafness 91(97.8%) share the opinion that one can avoid contracting sexually transmitted infection by using condom anytime they have sex. However, 1(1.1%) of the respondents disagreed with the statement whereas 1(1.1%) of the students did not declare his/her opinion on the statement.

Table 9 shows that less than half of the respondents 34(35.8%) disagreed with the statement that regular washing of hands can reduce contracting sexually transmitted infection. On the other hand, 34(35.8%) of the students agreed with the statement whereas 27(28.4%) could not declare their opinion on the statement.

From Table 9, indicates that greater number of the students 51(53.6%) disagreed with the statement that condom can only be used by marriage partners. However, 34(35.7%) of the adolescent students agreed with the statement whereas 10(10.5%) could not indicate their opinion on the statement.

Table 9 indicates that less than half of the respondents 32(33.7%) disagreed with the statement that sexually transmitted infection can be prevented by washing the genital organs. On the contrary, 24(25.3%) of the students agreed with the statement. However, 39(41.0%) of the students were not sure whether sexually transmitted infection can be prevented by washing genital organs regularly.

From Table 9, it is evident that majority of the respondents 92(96.8%) agreed with the statement that avoid sharing of contaminated needles and blades can reduce the risk of contracting sexually transmitted infections whereas 3(2.1%) of the students disagreed with the statement. However, 1(1.1%) of the students could not indicate the opinion on the statement.

Table 9 indicates that less than half 40(42.6%) of the respondents disagreed with the statement that if you don‟t have symptoms of sexually transmitted infections you don‟t need to use condoms. On the other hand, 36(38.3%) of the students agreed with the statement whereas 18(19.1%) could not declare their stand on the statement.

From Table 9, it is indicated that less than half 40(42. 6%) agreed with the statement that you don‟t need to use condom if you are in committed relation whereas 27(29.0%) of the respondents disagreed with the statement. However, 26(28.0%) of the students did not indicate their opinion on the statement.

The table also shows that greater number of the respondents 85(89.4%) agreed with the statement that unprotected sex increases the risk of getting sexually transmitted infections. However, 10(10.6%) of the respondents disagreed with the statement.

4.2.4. Research Question Four

How knowledgeable are adolescent students with deaf in Koforidua, Kibi and Demonstration schools for the deaf, Mampong Akwapim on the diagnosis/signs and symptoms of sexually transmitted infections?

In order to examine students‟ knowledge on diagnosis/signs and symptoms of sexually transmitted infections, respondents were asked to rate their levels of agreement and disagreement using a likert scale questions of 10 items, from strongly agree (SA = 5), agree (A = 4), neutral (N = 3), Disagree (D = 2) and strongly disagree (SD = 1) on diagnosis/sign and symptoms of sexually transmitted infections using the following items. For analysis purposes, the strongly agree responses were merged with that of agree responses while strongly disagree responses were also merged with disagree responses. The results of their responses are shown in Table 10.

Table 10: Knowledge on diagnosis / signs and symptoms of sexually transmitted infections

Item	Agree	Neutral	Disagree	Mean	S. D
STIs can be diagnosed when detected	84(88.4%)	2(2.1%)	9(9.5%)	4.20	0.98
It is very difficult to diagnose STIs	37(39.8%)	34(36.5%)	22.(23.7%)	3.20	1.23
There are various test to detect STIs in persons who are infected	53(58.3%)	21(23.0%)	17(18.7%)	3.65	1.24
STIs can be diagnosed by testing blood and seminal fluids	90(94.7%)	2(2.1%)	3(3.2%)	4.32	0.67
Testing of saliva can be used to diagnose STIs	31(32.6%)	37(38.9%)	27(28.5%)	2.89	1.19
Painful or burning urination is a symptom of STIs	91(97.8%)	1(1.1%)	1(1.1%)	4.6	0.56
Persistence cough is a sign / symptom of STIs	45(47.8%)	11(11.7%)	38(40.5%)	3.04	1.46
Rashes over the trunk, hands or feet is a symptom of STIs	24(25.3%)	28(29.5%)	43(45.3%)	2.60	1.26
Unusual odd smelling of vaginal discharge is a symptom of STIs	93(97.9%)	0(0.0%)	2(2.1%)	4.39	0.70
Persistence fever is a sign / symptom of STIs	53(55.8%)	6(6.3%)	36(37.9%)	3.15	1.48
Grand mean				3.61	1.08

Source: Field Survey 2020

Results shown in Table 10 indicated that majority of the respondents 84(88.4%) agreed with the statement that sexually transmitted infection can be diagnosed when detected. However, 9(9.5%) of the respondents disagreed with the statement whereas 2(2.1%) did not indicate their opinion on the statement.

Table 10 shows that less than half of the respondents 37(39.8%) agreed with the statement that it is very difficult to diagnose sexually transmitted infections whereas 22(23.7%) of the students disagreed with the statement. However, 34(39.8%) of the respondents did not declare their opinion on the statement.

Table 10, indicates that greater number of the respondents 53(58.3%) agreed with the statement that there are various tests to detect sexually transmitted infections when one is infected whereas 17(18.7%) of the students disagreed with the statement. However, 21(22.7%) did not declare their stand on the statement.

Results in the Table 10 indicates that majority of the respondents 90(94.7%) agreed with the statement that sexually transmitted infections can be diagnosed by testing blood and seminal fluids. On the other hand, 3(3.2%) of the respondents disagreed with the statement. However, 2(2.1%) of the students were not sure whether sexually transmitted infections can be diagnosed by testing blood and seminal fluids.

Table 10 indicates that less than half of the respondents 31(32.6%) agreed with the statement that testing of saliva can be used to diagnose sexually transmitted infections whereas 27(28.5%) of the respondents disagreed with the statement. However, 37(38.9%) of the students did not indicate their opinion on the statement.

Table 10, it shows that majority of the respondents 91(97.8%) agreed with the statement that painful or burning urination is a symptom of sexually transmitted infection. On the other hand, only 1(1.0%) of the students disagreed with the statement where as1(1.0%) of the respondents did not indicate opinion on the statement.

Table 10 indicates that half of the respondents 45 (47.8%) agreed with the statement that persistent cough is a symptom sexually transmitted infections whereas 38(40.5%) of the students disagreed with the statement. However, 11(11.7%) of the respondents could not indicate their opinion on the statement.

From Table 10, it can be seen that almost half of the respondents 43 (45.3%) disagreed with the statement that rushes over the trunk, hands or feet is a symptom of sexually transmitted infection whereas 24(25.3%) of the students agreed with the statement.

However, 28(29.5%) of the respondents could not indicate their opinion on the statement.

Table 10 shows that greater number of the respondents 93(97.9%) agreed with the statement that unusual odd smelling of vaginal discharge is a symptom of sexually transmitted infection. On the other hand, 2(2.1%) of the students disagreed with the statement.

Table 10, indicates that almost half of the respondents 53(55.8%) agreed with the statement that persistent fever is a symptom of sexually transmitted infections. On the other hand, 36(37.9%) of the students disagreed with the statement whereas 6(6.3%) of the respondents could not indicate their opinion on the statement.

4.2.5. Research Question Five

Which types of sexual behaviours do adolescent students with deafness in the special schools for the deaf in the Eastern Region of Ghana exhibit?

In order to examine adolescent students‟ with deafness sexual behaviour, respondents were asked to rate their levels of agreement and disagreement using a likert scale questions of 10 items, from strongly agree (SA = 5), agree (A = 4), neutral (N = 3), Disagree (D = 2) and strongly disagree (SD = 1) on sexual behaviours they exhibit using the following items.. For analysis purposes, the strongly agree responses were merged with that of agree responses while strongly disagree responses were also merged with disagree responses. The results of their responses are shown in Table 11.

Table 11: Sexual behaviour of adolescent students with deafness

Item	Agree	Neutral	Disagree	Mean	S. D
I have ever had sexual intercourse	83(87.3%)	0(0.0%)	12(12.6%)	4.47	0.61
I have had sex before I turned fifteen years	21(22.1%)	1(1.1%)	73(76.8%)	2.22	1.23
I have ever had sex with someone ten years older than me	22 (23.2%)	0(0.0%)	73(76.8%)	2.18	1.38
I have sex with more than one regular partner	62(65.2%)	0(0.0%)	33(34.7%)	3.85	1.14
I have had sex with different sex partners because I trust them	67(70.5%)	0(0.0%)	28(29.5%)	3.90	1.62
I have ever had sex for cash or gift before	81(85.3%)	0(0.0%)	14(14.7%)	4.04	1.20
I have ever engaged in anal sex	0(0.0%)	0(0.0%)	95(100%)	1.94	0.24
I have ever engaged in oral sex	0(0.0%)	0(0.0%)	95(100%)	1.82	0.38
I have had unprotected sexual intercourse in the last 12 months	68(71.5%)	0(0.0%)	27(28.5%)	3.87	1.05
I always use condom when having sex	17(17.9%)	0(0.0%)	78(82.1%)	2.01	1.30
Grand mean				3.17	0.85

Source: Field Survey 2020

Results shown in Table 11 indicates that greater number of the respondents 83(87.3) agreed with the statement that they have ever had sexual intercourse. However, 12(12.6%) of the students disagreed with the statement.

From Table 11 it is evident that majority of the respondents 73(76.8%) disagreed with the statement that they have had sex before attaining the age 15 whereas 21(22.1%) of the students agreed with the statement. However, 1(1.1%) of the respondents did not indicate opinion on the statement.

Table 11 shows that majority of the respondents 73(76.8%) disagreed with the statement that they have ever had sex with someone ten years older than them whereas 22(23.2%) of the students agreed with the statement.

From Table 11, it is evident that greater number of the respondents 62(65.2%) agreed with the statement that they have ever had sex with more than one regular partner. On the contrary, 33(34.7%) of the respondents disagreed with the statement that they have ever had sex with more than one regular partner.

Table 11, shows that majority of the respondents 67(70.5%) agreed with the statement that they have had sex with different sex partners because they trust them. However, 28(29.5%) of the students disagreed with the statement.

Table 11 indicates that greater number of the respondents 81(85.3%) agreed with the statement that they have ever had sex for cash or gift before. Whereas 14(14.7%) of the students disagreed with the statement.

Table 11, shows that all the respondents 95(100%) disagreed with the statement they have engaged in anal sex. The Table also indicates that all the adolescent students with deafness 95(100%) disagreed with the statement that they have ever engaged in oral sex.

From Table 11, it is evident that majority of the respondents 68(71.5%) agreed with the statement that they have had unprotected sexual intercourse in the last 12 months. However, 27(28.5%) of the students disagreed with the statement that they have had unprotected sexual intercourse in the last 12 months. Finally, the table shows that greater number of the respondents 78(82.1%) disagreed with the statement that they always use condom when having sex whereas 17(17.9%) of the students disagreed with the statement.

4.3.0. Hypothesis Testing

An independent sample t-test was used to test the hypothesis of equality of means in the sense that the groups have gender differences, that is respondents included boys and girls. The respondents‟ average responses were computed for the types of infections,

mode of transmission of infections, preventions of infections and diagnosis of infections to obtain continuous data for the test.

4.3.1

Hypothesis 1

H_0: There is no statistically significant difference in level of knowledge on sexually transmitted infections among adolescent *boys and girls with deafness in Koforidua School for the Deaf*

H_1: There is statistically significant difference in level of knowledge on sexually transmitted infections among adolescent *boys and girls with deafness in Koforidua School for the Deaf*

Table 12: Overall Means of Sexually Transmitted Infections between Adolescent Boys and Girls in Koforidua School for the Deaf

	Means			
Gender (Koforidua)	**Types**	**Transmission**	**Prevention**	**Diagnosis**
Boys	3.26	3.28	3.50	3.51
Girls	3.53	3.25	3.34	3.43

Source: Field Survey 2020

Table 13: Levene's and Independent-Sample t test on Knowledge of Sexually transmitted Infections

	Equal Variance Assumed/not			**t-test for Equality of Means**		
Knowledge	**F**	**P-value**	**Assumed/Not**	**t**	**Df**	**P-value**
Types	4.704	0.044	Not Assumed	-1.424	10.25	0.184
Causes	0.081	0.779	Assumed	0.264	418	0.795
Prevention	1.204	0.287	Assumed	0.937	18	0.361
Diagnosis	0.065	0.802	Assumed	0.764	18	0.720

Source: Field Survey 2020

The descriptive statistics output from Table 13 shows that the mean knowledge of adolescent boys in Koforidua School for the Deaf on the types, causes, prevention and diagnosis of sexually transmitted infections are 3.26, 3.28, 3.50 and 3.51 respectively. Also, the mean knowledge of adolescent girls in Koforidua School for the Deaf on the type, causes, preventions and diagnosis of sexually transmitted infections are 3.53, 3.25, 3.34 and 3.43 respectively.

The independent sample test from Table 13 indicated that in testing for equality of variance of two groups (such as boys and girls in Koforidua School for the Deaf) for types, causes, preventions and diagnosis of sexually transmitted infections. The F-statistics and p-values were recorded as follows: [4.702 and 0.044, 0.081 and 0.779, 1.206 and 0.287, 0.065 and 0.802] respectively. It indicated that only types of sexually transmitted infections were tested under equal variance not assumed because p-value < 0.05 [0.044]. The independent t-test for equality of means on knowledge of sexually transmitted infections for all adolescent boys and girls in Koforidua School for the Deaf on the types, mode of transmission, prevention, and diagnosis indicates the following t-statistics and p-values [-1.424 and 0.184, 0.264 and 0.795, 0.937 and 0.361, 0.364 and 0.720] respectively. Since p-values > 0.05 the study failed to reject the null hypothesis for all and conclude that there is no significant difference in the knowledge of adolescent boys and girls in Koforidua School for the Deaf on the types, modes, preventions and diagnosis of sexually transmitted infection.

Hypothesis 2

H_0: There is no statistically significant difference in level of knowledge on sexually transmitted infections between adolescent *boys and girls with deafness in Kibi School for the Deaf*

H_1: There is statistically significant difference in level of knowledge on sexually transmitted infections between adolescent *boys and girls with deafness in Kibi School for the Deaf*

Table 14: Overall Means Knowledge of Sexually Transmitted Infections between Boys and Girls in Kibi School for the Deaf

	Means			
Gender (Kibi) Types		**Transmission**	**Preventions**	**Diagnosis**
Boys	3.08	3.23	3.65	3.66
Girls	2.92	3.43	3.61	3.84

Source: Field Survey 2020

Table 15: Levene's and Independent-Sample t test on Knowledge of Sexually transmitted Infections among Boys and Girls in Kibi School for the Deaf

	Equal Variance Assumed/not			t-test for Equality of Means		
Knowledge	**F**	**P-value**	**Assumed/Not**	**t**	**Df**	**P-value**
Types	4.543	0.041	Not Assumed	1.080	28.67	0.289
Causes	0.238	0.629	Assumed	-1.153	30	0.258
Prevention	0.402	0.531	Assumed	0.236	30	0.815
Diagnosis	1.593	0.217	Assumed	-1.218	30	0.233

Source: Field Survey 2020

The descriptive statistics output from Table 15 shows that the mean knowledge of adolescent boys from Kibi School for the Deaf on the type, causes, preventions and diagnosis of sexually transmitted infections are 3.08, 3.23, 3.65 and 3.66 respectively. Also, the mean knowledge of adolescent girls from Kibi School for the Deaf on the type, causes, preventions and diagnosis of sexually transmitted infections are 2.92, 3.43, 3.61 and 3.84 respectively.

The independent sample t-test from Table 15 indicates that in testing for equality of variance of two groups (such as boys and girls from Kibi School for the deaf) for types, causes, preventions and diagnosis of sexually transmitted infections. The following F-statistics and p-values were recorded [4.543 and 0.041, 0.238 and 0.629, 0.402 and 0.531, 1.593 and 0.217] respectively. It indicates that only types of sexually transmitted infections were tested under equal variance not assumed due to p-value < 0.05 [0.041]. The independent t-test for equality of means on knowledge of sexually transmitted infections for all adolescent boys and girls in Kibi school for deaf on the types, mode of transmission, prevention, and diagnosis indicates the following t-statistics and p-values [1.080 and 0.289, -1.153 and 0.258, 0.236 and 0.815, -1.218 and 0.233] respectively. Because all p-vales > 0.05 the study failed to reject the null hypothesis for all and conclude that there is no significant difference in the knowledge of adolescent boys and girls in Kibi School for the deaf on the types, modes, preventions and diagnosis of sexually transmitted infection.

Hypothesis 3

H_0: There is no statistically significant difference in level of knowledge on sexually transmitted infections among adolescent *boys and girls with deafness in Demonstration School for the Deaf, Mampong*

H_1: There is statistically significant difference in level of knowledge on sexually transmitted infections among adolescent boys and girls with deafness in Demonstration School for the Deaf, Mampong Akwapim.

Table 16: Overall Means Knowledge of Sexually Transmitted Infections between Boys and Girls in Demonstration School for the Deaf, Mampong Akwapim.

	Means			
Gender (Mampong Akwapim)	**Types**	**Transmission**	**Preventions**	**Diagnosis**
Boys	3.13	3.08	3.53	3.85
Girls	3.33	3.04	3.51	3.37

Source: Field Survey 2020 **N = 95**

Table 17: Levene's and Independent-Sample t test on Knowledge of Sexually transmitted Infections between Boys and Girls in Mampong School for the Deaf

	Equal Variance Assumed/not			**t-test for Equality of Means**		
Knowledge	**F**	**P-value**	**Assumed/Not**	**t**	**Df**	**P-value**
Types	4.486	0.040	Not Assumed	-1.034	30.11	0.331
Causes	2.181	0.147	Assumed	0.30	41	0.764
Prevention	5.257	0.027	Not Assumed	0.121	28.89	0.905
Diagnosis	0.032	0.839	Assumed	3.861	41	0.000

Source: Field Survey 2020

The descriptive statistics output from Table 17 shows that the mean knowledge of adolescent boys in Demonstration School for the Deaf, Mampong Akwapim on the types, causes, preventions and diagnosis of sexually transmitted infections are 3.13, 3.08, 3.53 and 3.85 respectively. Also, the mean knowledge of adolescent girls in Demonstration School for the Deaf, Mampong Akwapim on the types, causes, preventions and diagnosis of sexually transmitted infections are 3.33, 3.04, 3.51 and 3.37 respectively.

The independent sample t test from Table 17 indicates that in testing for equality of variance of two groups (such as boys and girls in Demonstration School for the Deaf, Mampong Akwapim) for types, causes, preventions and diagnosis of sexually transmitted infections. The F-statistics and p-values were recorded as follows:

[4.486and 0.040, 2.181 and 0.147, 5.257 and 0.027, 0.032 and 0.839] respectively. It indicates that types and preventions of sexually transmitted infections were tested under equal variance not assumed due to their p-values< 0.05 [0.040 and 0.027]. The independent t-test for equality of means on knowledge of sexually transmitted infections for all adolescent boys and girls in Demonstration School for the Deaf, Mampong Akwapim on the types, mode of transmission, preventions, and diagnosis indicates the following t-statistics and p-values [-1.034 and 0.331, 0.302 and 0.764, 0.121and 0.905, 3.861 and 0.000] respectively. The study failed to reject the null hypothesis for types, causes and preventions, and conclude that there is no significant difference in the knowledge of adolescent boys and girls in Demonstration School for the Deaf, Mampong Akwapim on the types, modes and preventions of sexually transmitted infection. It can however, be concluded that there is significant difference on the knowledge of diagnosis of sexual transmitted infections among boys and girls in Mampong School for the Deaf, hence the results conclude that boys in Demonstration School for the Deaf, Mampong Akwapim have more knowledge on diagnosis of sexually transmitted infections than girls in the school. Therefore, the null hypothesis is rejected and the alternative accepted that there is significant difference on the knowledge on diagnosis of sexually transmitted infections among adolescent boys and girls in Demonstration School for the Deaf, Mampong Akwapim.

CHAPTER FIVE

DISCUSSION OF FINDINGS

5.0 Introduction

This chapter presents the discussion of results of the study. These discussions are organized based on the research questions. This study investigated knowledge of sexually transmitted infections and sexual behaviours of adolescent students with deafness in the schools for the deaf in the Eastern Region of Ghana.

5.1 Discussion of Findings

Findings on Research Question One: What knowledge do adolescent students with deafness in Koforidua, Kibi and Demonstration school for the Deaf, Mampong Akwapim have on the types of sexually transmitted infections?

Analysis of data on the knowledge of adolescent students with deafness in Koforidua, Kibi and Demonstration schools for the Deaf, Mampong Akwapim revealed that majority (89.5%) of the students are aware that there are different types of sexually transmitted infections. This shows that adolescent students will be circumspect in involving themselves in sexual activities since they are aware that various types of sexually transmitted infections exist that they need to avoid from being infected. This study is consistent with WHO (2016) that majority of adolescents from India were aware that there are different types of sexually transmitted infections.

The results of the study also revealed that a greater number (88.5%) of the adolescent students indicated that Gonorrhea is one of the types of sexually transmitted infections. This finding agreed with Awang et al (2013) who investigated knowledge of sexually transmitted infection and sexual behaviours among Malaysian male adolescents which revealed that 92% of the respondents had heard of at least one of the listed sexually transmitted infections which included syphilis, gonorrhea, Chlamydia, yeast infection,

herpes, genital warts etc. Similarly, Ali Tanfi (2018) found out form his study conducted among adolescents in the selected Junior High Schools in the Adansi District in the Ashanti Region of Ghana that adolescents were generally knowledgeable on sexual and reproductive health issues such as menstrual hygiene and types of sexually transmitted infections. On the other hand, the findings contradicted the finding of Amankwa (2018) who conducted a cross sectional study with a sample of 295 adolescents in Amasaman Senior Technical High School to assess the knowledge level, sources and availability of services on sexually transmitted infections and found out that the adolescents had inadequate knowledge on the types of sexually transmitted infections.

From the findings, adolescent students with deafness who have adequate knowledge on the various types of sexually transmitted infections are likely to be careful in indulging in sexual acts that can result in contracting any form of sexually transmitted infections.

On the other hand, adolescent students with deafness who do not have adequate knowledge on the types of sexually transmitted infections may be exposed to all kinds of sexually transmitted infections as they indulge in unprotected sexual acts.

The findings of the study also revealed that only 37 (38.9%) of the adolescent students indicated that Genital herpes is a type of sexually transmitted infections. This is worrying, as it suggests that adolescent students lack knowledge about some of the types of sexually transmitted infections. This confirms a study conducted by Trajman et al, (2003) in Rio de Janerio which revealed that all the participants had heard of HIV, but far less knew of other sexually transmitted infections such as cancroids, syphilis and genital herpes.

Again, the findings revealed that majority 80 (84.2%) of the students demonstrated that syphilis is a type of sexually transmitted infections. This finding agrees with Awang,

Wong, Jani and Low (2013) in their study revealed that 92% of the respondents had heard of at least one of the listed sexually transmitted infections which included syphilis, gonorrhea and Chlamydia On the other hand, the results of the study do not agree with the findings of Clark, Jackson and Allen-Taylor (2002) who found from their study in Philadelphia that despite the fact that adolescent students receive relevant education from home and friends, a high percentage of adolescents were lacking knowledge regarding various types of sexually transmitted infections

The study further revealed that a greater number of adolescent students with deafness 64 (68.9%) is of the opinion that hepatitis B is not one of the types of sexually transmitted infections. This inadequate knowledge may cause adolescent students to continue to engage in actions that may spread the infection

The study also revealed that greater number of the adolescent students 54 (57.5%) indicated that Chlamydia is not a type of sexually transmitted infections. This exposes adolescent students‟ inadequate knowledge on the various types of STIs. This finding agrees with Sankange-Zeeb, Mikolajezyk and Zeeb (2011). Their study revealed that adolescents aged 13 to 20 years showed low levels of knowledge of sexually transmitted infections with the exception of HIV/AIDS.

The study also revealed that a greater number (89.1%) of the adolescent students indicated that HIV/AIDS is a type of sexually transmitted infection. This agrees with a study conducted by Paz-Bailley et al. (2003) in Northern Thailand that 99.5% of adolescents had knowledge of HIV/AIDS. Similarly, Clark, Jackson and Allen-Taylor (2002) found out from their studies that nearly all the respondents had good knowledge of HIV/AIDS. In line with theory of reasoned action, when adolescent students with deafness have positive beliefs about the outcome of their behaviour, their conduct will be influenced positively. They are likely to avoid sexual activities that will result in

contracting sexually transmitted infections. Even where students are unable to avoid sex, they may use condom in the process. Knowledge of the types of STIs will help reduce students‟ risk of contracting the infection and thereby reduce the prevalence rate among adolescents. On the other hand, adolescent students who do not have adequate knowledge on the types of sexually transmitted infections may get involved in unprotected sexual behaviours which may expose them to contracting sexually transmitted infections thereby increasing the prevalence rate.

Research Question Two: What knowledge do adolescent students who are deaf in Koforidua, Kibi and Mampong Demonstration schools for the deaf have about transmission of sexually transmitted infections?

Analysis of data on the knowledge of adolescents in Koforidua, Kibi and Mampong Demonstration Schools for the Deaf know about the mode of transmission of sexually transmitted infection revealed that majority of the adolescent students with deafness 52 (54.7%) share the view that sexually transmitted infections can be transmitted through sharing of sharp objects. This shows that the adolescent students with deafness are aware that sharing of sharp objects such as knife, blade, and needles can result in transmitting sexually transmitted infections. This is consistent with the findings of (CDC, 2017) which stated that sexually transmitted infections such as hepatitis B can be transmitted through sharing or using unsterilized needles.. Similarly, Agyemang, Bour & Tagoe-Darko (2012) established from their study that (65%) of the respondents from Ghana believe that avoid sharing of sharp objects with another person can prevent sexually transmitted infection including HIV/AIDS. Such adequate knowledge will enable the adolescent students to avoid the use of sharp objects that have been used by others. Adolescent students with deafness will also help to educate their colleagues and family members on the need to avoid sharing sharp objects with others.

The results of the study also indicated that greater number of the respondents (55.8%) shared the opinion that a pregnant mother can transmit sexually transmitted infections to the unborn baby during pregnancy and vaginal delivery. This is consistent with the findings of (CDC, 2017) which stated that vertical transmission, where the mother passes the infection to the child in the uterus or during child birth is possible.

The results of the study also indicated that more than half of the respondents (51.1%) were of the view that sexually transmitted infections can be transmitted by infected mothers to their babies through breastfeeding. This is an indication that students are well informed about the modes of transmission of sexually transmitted infections. This adequate knowledge will help adolescent mothers to avoid breastfeeding their babies when they know that they are infected with sexually transmitted infections. This knowledge will help to decrease the infection rate among the new babies of adolescents with deafness. However, the adolescent students with deafness who are of the view that sexually transmitted infection cannot be transmitted through breastfeeding of an infected mother are likely to breastfeed their babies even though they are infected. This may result in the increase of the sexually transmitted rate in children. This finding agreed with Gyimah, et al (2020) who explored the level of knowledge and attitude of persons with physical disabilities towards sexually transmitted infections in the Jachie community in the Ashanti Region of Ghana and found out that a greater number of participants are aware that sexually transmitted infections can be transmitted through sucking the breast milk of an infected mother.

Again, the findings revealed that greater number of the respondents (63.1%) indicated that kissing a partner can result in the transmission of sexually transmitted infection. This finding confirms Gyimah et al (2020) who found out from their study that majority of participants were aware that kissing a partner can result in contracting sexually

transmitted infections. From the findings, students who know that kissing a partner can cause one to contract sexually transmitted infections are therefore likely to avoid kissing. Those that may indulge in such act may be very careful in their sexual activities to avoid contracting sexually transmitted infections.

Analysis of data on the knowledge of adolescents in Koforidua, Kibi and Demonstration Schools for the Deaf about the mode of transmission of sexually transmitted infection also revealed that majority of the respondents 89 (93.7%) were of the view that unprotected sex is a mode of contracting sexually transmitted infections. This finding agreed with Hickey and Cleland (2013) who found that main mode of transmission of sexually transmitted infections among adolescents is as a result of risky and unprotected sexual behaviours. Similarly, Gyimah et al (2020) who explored the level of knowledge and attitude of persons with physical disabilities towards sexually transmitted infections in the Jachie community in the Ashanti Region of Ghana found out that majority of the participants stated that sexually transmitted infections are transmitted mainly through unprotected sex. From the findings, the students who were aware that sexually transmitted infections are mainly caused by unprotected sex are likely to avoid risky and unsafe behaviours that will result in contracting sexually transmitted infections. On the other hand, adolescent students who do not have adequate knowledge on the consequences of unprotected sex may expose themselves to sexually transmitted infections. In line with the theory of reasoned action, if adolescent students with deafness have positive beliefs about the outcome of their behaviour, their conduct will be influenced positively. The adolescent students may avoid unprotected sex that may lead them to acquisition of sexually transmitted infections. Even where adolescent students are unable to avoid sex, they may protect themselves to reduce contracting sexually transmitted infections.

The study further revealed that majority of the respondents (95.8%) were with the view that engaging in casual sex can result in contracting sexually transmitted infections. This means that adolescent students with deafness may avoid engaging in casual sex to avoid contracting sexual transmitted infections and also avoid teenage pregnancy that may take them out of school. However, adolescent students who lack knowledge on this and therefore indulge in casual sex can lead to teenage pregnancy and other sexual infections. This finding agreed with Khangelani et al (2019) who found out from their study that adolescents who engaged in sex for the first time do not use condom because they usually engage in sex at the time that they are not ready. Similarly, Ghebremichael and Finkelman (2013) conducted a study in Tanzania and found out that a year"s increase in premarital sex increases the odds of contracting sexually transmitted infections

The findings also revealed that majority of the adolescent students with deafness (64.2%) disagree with the statement that sexually transmitted infections can be acquired through witchcraft or supernatural means. This shows that majority of the respondents have adequate knowledge on the mode of transmission of sexually transmitted infections. Only a small percentage of respondents (25.3%) agreed that sexually transmitted infections can be acquired through witchcraft or supernatural means. This finding agrees with Agyemang, Bour and Tagoe-Darko (2012) who found from their study that only one-third of the adolescent in Ejura – Sekyeredumasi in the Ashanti Region of Ghana believed that HIV/AIDS could be transmitted through witchcraft. On the other hand, the result disagrees with Issaka (2015) who revealed that adolescents with hearing impairment in some selected special schools in Ghana believed that a person can acquire HIV and AIDS from being bewitched.

Research Question.Three: What do adolescent students with deafness in Koforidua, Kibi and Mampong Demonstration schools for the deaf know about prevention of sexually transmitted infections?

Analysis of data on the knowledge of adolescents in Koforidua, Kibi and Mampong Demonstration schools for the deaf about the prevention of sexually transmitted infection revealed that majority of the adolescent students with deafness 88 (92.7%) agreed with the statement that being faithful to only one uninfected partner may prevent sexually transmitted infections. This result shows that adolescent students with deafness have adequate knowledge on the prevention of sexually transmitted infections. This knowledge is likely to encourage adolescent students to avoid indulging in sexual activities with multiple sexual partners which can reduce the spread of sexually transmitted infections. On the other hand, adolescent students who are not preview to this knowledge are likely to indulge in sexual activities with multiple partners which will expose them to sexually transmitted infections. This study agrees with the findings of Gorman and Bohon, (2001). Trani, Gnisci, Nobile, and Angelillo, (2005) examined knowledge of STIs among young people (15-21 years) in United States of America and found out that majority of the respondents were aware that having sex with one uninfected faithful partner is an effective means of preventing STIs.

Again, the results indicated that majority of the adolescent students (55.8%) share the view that one can reduce the chances of contracting sexually transmitted infections by abstaining from sexual intercourse. This revelation is very encouraging in that adolescent students may abstain from sex which will prevent them from acquiring sexually transmitted infections through sexual intercourse and promote their peaceful stay in school to learn and achieve their goals in life. On the contrary, the adolescent students who lack this important information are likely to indulge in casual sex which can put them at risk of acquiring sexually transmitted infections. This findings in the

study is consistent with Adaji et al., (2010) who established that abstinence from sex, being faithful to one sexual partner, and correct and consistent use of condoms constitute the „ABC" approaches to sexually transmitted infection prevention.

The result of the findings further revealed that majority of the respondents (97.8%) shared the view that consistent use of condom during sex can prevent an individual from contracting sexually transmitted infections. This is an indication that adolescent students with deafness have adequate knowledge on prevention of sexually transmitted infections through consistent use of condoms. This finding agreed with Agyemang, Bour & Tagoe-Darko (2012) on the knowledge of prevention of STIs among adolescents in Ghana which revealed that majority of the participants agreed that condom use is an effective means of preventing STIs.

On the contrary, this study does not agree with Rahman and Chowdhury (2017). In their study on sexually transmitted infections including HIV/AIDS among adolescents in Bangladesh revealed that adolescents do not have adequate knowledge on STIs prevention. In similar vein, a research conducted by Mprah (2013) among adolescents with deafness in Accra and Tamale cities of Ghana on knowledge about prevention of STIs including HIV/AIDS stated that respondents do not have sufficient knowledge on prevention of STIs. The researcher indicated that the respondents were not aware that using condom during sex can help prevent sexually transmitted infections. This revelation shows that the adolescent students who do not have adequate knowledge on the use of condoms are likely to indulge in sexual act without the use of condoms which can result in acquiring sexually transmitted infections and teenage pregnancy which can result in school dropout.

Again, the findings revealed that a greater number of adolescent students with deafness (96.8%)) share the view that avoiding sharing of contaminated sharp objects such as

blades and needles can prevent sexually transmitted infections including HIV/AIDS. This knowledge on avoiding sharp objects used by other people will help reduce the spread of sexually transmitted infections among adolescent students with deafness as they are likely to use their own sharp objects. On the contrary, inadequate knowledge on the sharing of sharp objects such as needles, and blades with other people can result in the spread of sexually transmitted infections. This finding is in agreement with the findings of Agyemang, Bour, and Tagoe- Darko (2012) which revealed that majority of respondents agreed that avoiding sharing of sharp objects with another person may prevent sexually transmitted infections.

The result of the findings further revealed that majority of the respondents (89.4%) indicated that unprotected sex increases the risk of contracting STIs. This study agrees with Hickey and Cleland (2013) who found out from their study in United States of America that sexually transmitted infections among adolescents is as a result of risky and unprotected sexual behaviors. Engagement in unsafe sexual behavior among this age group and non-use of condom among adolescents is an alarming trend that could contribute to the rising rates of sexually transmitted infections.

Research Question Four: How knowledgeable are adolescent students with deafness in Koforidua, Kibi and Mampong Demonstration schools for the deaf on diagnosis and symptoms of sexually transmitted infections?

Diagnosis of sexually transmitted infections

Analysis of the data on adolescent students‟ knowledge on diagnosis of sexually transmitted infections revealed that a greater number of the respondents (88.4%) indicated that sexually transmitted infections can be diagnosed when detected. This finding agrees with that of Abajobir and Seme, (2014) who found out from their studies in Nigeria that 67% of adolescents knew about reproductive health services and that

there are services available for adolescents and some adolescents know where to find these services on STIs and other sexual and reproductive health issues.

The findings of the study revealed that majority of the respondents (94.7%) are aware that sexually transmitted infections can be diagnosed by testing blood and seminal fluids. This demonstrates adolescent students‟ adequate knowledge of availability of tests for diagnosing sexually transmitted infections. This knowledge will help adolescent students with deafness to check for their STI status through such tests. Adolescent students are also likely to encourage their peers, sexual partners and family members to regularly check and know their STI status to prevent them from spreading the disease if they are already infected. This knowledge will also help adolescent students with deafness to insist on knowing the STI status of their sexual partners before indulging in any sexual act that may result in acquiring sexually transmitted infections. This finding agrees with Bharati and Bharati (2014) which revealed that students in Jarjarkot District of Nepal have adequate knowledge on HIV/AIDS and other related STIs as 96% of the total respondents, are aware that HIV/AIDS and other STIs can be diagnosed by testing blood. On the hand, the results of this study do not agree with Awusabo-Asare and Annim (2008), who found out from their study that two in every three adolescent girls and four in every five adolescent boys with sexually transmitted infections have inadequate knowledge on diagnosis of STIs and did not seek treatment. Similarly, Abajobir et al. (2014) found out from their study that majority of adolescents with reproductive health problems lacked knowledge on formal care for STI‟s.

Signs and symptoms of sexually transmitted infections

The findings of the study indicated that majority of the adolescent students with deafness (97.8%) are aware that painful or burning urination is a symptom of sexually transmitted infections. This demonstrates adolescent students‟ knowledge on the signs

and symptoms of sexually transmitted infections and may easily identify individuals who exhibit such signs and symptoms. This adequate knowledge will help adolescent students to be cautious in sexual relations with their colleagues and other individuals in their communities. On the contrary, adolescent students with deafness who lack this knowledge may continue to engage in sexual acts with individuals thereby acquiring and spreading the disease. This finding is consistent with Kumassah (2017) study to determine the factors associated with STIs transmission among young women in the Old Ningo sub-district of the Greater Accra Region which revealed that there is widespread awareness of sexually transmitted infections among the respondents and majority have knowledge on the signs and symptoms of STIs.

The study also revealed that majority of the adolescent students with deafness (97.9%) agreed to the statement that unusual odd smelling of vaginal discharge is a symptom of sexually transmitted infections. This shows that adolescent students with deafness are conversant with the signs and symptoms of sexually transmitted infections and can therefore easily detect if they are infected. This adequate knowledge will help adolescent students to seek for medical care only when they detect such signs and symptoms. It will also help adolescent students with deafness to educate their colleagues and family members to seek for medical treatment to avoid complications and also reduce the spread of the infection. This finding agreed with Awulenaa (2016) who conducted a study to explore the knowledge of female students on sexual and reproductive health issues, their health-seeking behaviour and the factors that hinder adolescents from seeking formal health care in selected Junior High Schools in the Bawku West District. The result showed that, Junior high school females were generally knowledgeable on sexual and reproductive health issues such as menstrual hygiene

management, teenage pregnancy, signs and symptoms of sexually transmitted infections and ways to prevent them.

The study also indicated that more than half of the adolescent students (55.8%) stated that persistent fever is a sign of sexually transmitted infections. This suggests that adolescent students are knowledgeable about the signs and symptoms of sexually transmitted infections and this will help them to seek for medical care when they experience fever for a longer period. However, adolescent students with deafness who are not aware about this fact are likely to be providing self-medication to cure the fever symptoms instead of seeking for appropriate test and diagnosis. This can result in the spread of the diseases since they may continue to indulge in sexual activities with their partners. The finding in this study disagrees with Tengia-Kessy and Kamugisha (2006) who established in their study in Burkina Faso that a large proportion of adolescent boys and girls did not have adequate knowledge on symptoms of STIs.

Research Question 5: Which types of sexual behaviour do adolescent students with deafness in the schools for the deaf in the Eastern Region of Ghana exhibit?

Results from this study indicated that, a greater number of the adolescent students with deafness (87.3%) stated that they have ever had sexual intercourse before. This finding is consistent with the finding of Nwanuno and Nuoke (2009) who found out from their study on risky sexual behaviours among adolescents in Owere Municipalility that majority of the respondents, 292 (66.1%) have had sex when they were in the Junior High school. Similarly, Centre for Disease Control and Prevention (2004) in United States of America confirmed that nearly half of students in the JHS and SHS have had sexual intercourse and 60% reported having had sex by the time they graduated. It would have been expected that adolescent students with deafness knowledge on mode

of transmission and prevention of sexually transmitted infection would influence their sexual behaviour positively, but this did not reflect in the study concerning their sexual experiences. This is evident that knowledge on sexually transmitted infections does not guarantee positive sexual behaviours among adolescent students with deafness.

The result further revealed that a greater number of the adolescent students with deafness (76.8%) have not had sex before attaining 15 years. This confirms a study conducted by Mugi (2012) to assess secondary school student"s HIV/AIDS awareness, their perceived vulnerability and sexual behaviour in Githunguri District, Kenya which indicated that the average age of first sexual intercourse among the males was 17 years and that of the females was 16 years. On the contrary, this study does not agree with Doyle, Mavedzenge, Plummer, and Ross, (2012) in their study which analyzed a national survey in 24 African countries, and found that in West Africa a significant proportion of adolescents initiated sex before age 15.

The result that emerged from this study also indicated that a greater number of the adolescent students with deafness (65.2%) who indicated that they had ever engaged in sexual intercourse revealed that they have had sex with more than one regular partner. This revelation is worrying since such behaviour exposes adolescent students in acquiring and spreading sexually transmitted infections. This finding conforms to the study conducted by Sangowawa (2009) who investigated the number of sexual partners in the life of his respondents. More than half of the students (both deaf and hearing) reported having more than one sexual partner. Similarly, Tokuo et al. (2010) found among the sexually active interviewees that more than half of both males and females stated that they were into multiple concurrent sexual relationships. Again, Issaka (2015) found out from her study among adolescents with hearing impairment from selected special schools in Ghana that (52.3%) of the respondents indicated that they had had

experiences of sexual intercourse with other partners aside their regular sexual partners. Having sex with more than one regular partner is high risk behaviour that has the capability of spreading the sexually transmitted infections among the adolescent students with deafness.

Finding of the study further revealed that majority of the adolescent students with deafness (89.5%) agreed with the statement that they have had unprotected sexual intercourse in the last twelve months. This implies that most of the respondents engaged in sexual activities without using condoms. This revelation is disturbing as adolescents with deafness expose themselves to high-risk behaviour that has the tendency of increasing sexually transmitted infections. Adolescent students who are sexually active and indulge in multiple sexual debuts with different partners but fail to protect themselves are likely to increase the spread of sexually transmitted infections. The finding in this study is consiste nt with the study conducted by Rusinga (2012) who explored the perceptions of deaf students regarding their vulnerability to sexual and reproductive health problems in Mosvingo District of Zimbanwe and found that majority (67%) of the respondents have not used condom the last time they had sex. Similarly, a study conducted by Boamah-kali et al. (2016) on consistent use of contraceptives including condom among sexually active adolescents in Ghana revealed that adolescents practice unsafe sex.

Findings of the study further revealed that a greater number of the respondents (85.3%) indicated that they have ever had sex for cash or gift. This finding is consistent with Madise, Zulu & Ciera (2007) who found out from their study that although, the link between wealth status and sexual behaviour is inconsistent, poor females are vulnerable to infection because of their early sexual debut.

5.2 Discussion of Hypotheses

Hypothesis 1

Hypothesis 1 focused on finding out if there was statistically significant difference in knowledge of basic facts of sexually transmitted infections between adolescent boys and girls in Koforidua School for the Deaf. An independent t-test to determine if there was a difference in the mean score on knowledge of sexually transmitted infections. The independent t-test for equality of means on knowledge of sexually transmitted infections for boys and girls in Koforidua School for the Deaf on the types, mode of transmission, preventions, and diagnosis indicates the following t-statistics and p-values [-1.424 and 0.184, 0.264 and 0.795, 0.937 and 0.361, 0.364 and 0.720] respectively. Because p-values > 0.05, the study failed to reject the null hypothesis for all and conclude that there is no significant difference in the knowledge of adolescent boys and girls in Koforidua School for the Deaf. This finding disagrees with Weinstein, Walsh, and Ward, (2008), who found in their study that females appeared to be more knowledgeable than males, especially involving the subject of STIs. This revelation could be due to the fact that both boys and girls actively participate in School Health Education Programmes which provide students with basic facts about sexually transmitted infections.

Hypothesis 2

The hypothesis 2 was to find out if there was statistically significant difference between adolescent boys and girls in Kibi School for the Deaf in knowledge on basic facts of sexually transmitted infections. An independent t- test to determine if there is a difference in the mean score on knowledge of sexually transmitted infections exist. The independent t-test for equality of means on knowledge of sexually transmitted infections

for all adolescent boys and girls in Kibi school for deaf on the types, mode of transmission, preventions, and diagnosis indicates the following t-statistics and p-values [1.080 and 0.289, -1.153 and 0.258, 0.236 and 0.815, -1.218 and 0.233] respectively. Because all p-vales > 0.05 the study failed to reject the null hypothesis for all and conclude that there is no significant difference in the knowledge of adolescent boys and girls in Kibi School for the Deaf.

Hypothesis 3

Hypothesis 3 sought to find out if there was statistically significant difference between adolescent boys and girls in Demonstration School for the Deaf, Mampong Akwapim in knowledge on basic facts of sexually transmitted infections. An independent t- test to determine if there is a gender difference in the mean score on knowledge of sexually transmitted infections. The independent t-test for equality of means on knowledge of sexually transmitted infections for all adolescent boys and girls in Demonstration School for the Deaf, Mampong Akwapim on the types, mode of transmission, preventions, and diagnosis indicates the following t-statistics and p-values [-1.034 and 0.331, 0.302 and 0.764, 0.121and 0.905, 3.861 and 0.000] respectively. The study failed to reject the null hypothesis for types, causes and preventions, and conclude that there is no significant difference in the knowledge of adolescent boys and girls in Demonstration School for the Deaf, Mampong Akwapim on the types, modes and preventions of sexually transmitted infection. But conclude that there is significant difference on the knowledge of diagnosis of sexually transmitted infections among boys and girls in Mampong School for the Deaf, hence the results conclude that boys in Demonstration School for the Deaf, Mampong Akwapim have more knowledge on diagnosis of sexually transmitted infections than girls in the school.

This finding disagrees with Weinstein, Walsh, and Ward, (2008) who found in their study that females appeared to be more knowledgeable than males, especially involving the subjects of sexually transmitted infections.

CHAPTER SIX

SUMMARY, CONCLUSION AND RECOMMENDATIONS

6.0 Introduction

This chapter provides the summary of findings, conclusion and recommendations.

6.1 Summary of Findings

The study was conducted in the Eastern Region of Ghana. The study sought to investigate the knowledge of sexually transmitted infections and sexual behaviours among adolescent students with deafness in the schools for the deaf in the Eastern Region of Ghana. The study adopted descriptive survey design using quantitative approach. The population for the study included all the adolescent students with deafness in the JHS2 and JHS3 in the schools for the deaf in the Eastern region. A sample size of Ninety-five (N=95) was selected through the proportional sampling technique. HIV-Knowledge Questionnaires (Carey and Schroder, (2002) was used to assess knowledge of sexually transmitted infections and sexual behaviours of the adolescent students. The SSPS version 23.0 was used for the analysis.

The study specifically investigated the following:

6.2 Research Question One:

What knowledge do adolescent students with deafness in Koforidua, Kibi and Demonstration schools for the deaf, Mampong Akwapim have on the types of sexually transmitted infections?

The analysis of the questionnaire data on the knowledge of adolescent students on the types of sexually transmitted infections revealed that majority of the adolescent students have adequate knowledge on some of the types of sexually transmitted infections such as gonorrhea,(88.5%), syphilis (84.2%), HIV/AIDS (89.1%). However, some students have inadequate knowledge on sexually transmitted infections such as

cancroids (32.6%), genital herpes (38.9%), Chlamydia (30.0%), genital warts (25.5%) and hepatitis B (6.5%)

6.3 Research Question Two:

What knowledge do adolescent students with deafness in Koforidua, Kibi and Demonstration school for the deaf, Mampong Akwapim have about mode of transmission of sexually transmitted infections?

It was evident from the analysis of questionnaire data on the knowledge of adolescent students on the modes of transmission of sexually transmitted infections that, majority of the adolescent students were aware that sexually transmitted infections can be transmitted through unprotected sex (93.7%), engaging in casual sex (95.8%), sharing of sharp objects (54.7%), pregnant mother transmitting to her baby during pregnancy(55.8%), delivery or through breastfeeding (51.1%) and deep kiss of partner (63.1%). However, (25.3%) of the adolescent students had misconceptions that sexually transmitted infections could be acquired through witchcraft or supernatural means.

6.4 Research Question Three:

What do adolescent students with deafness in Koforidua, Kibi and Demonstration school for the deaf, Mampong Akwapim know about prevention of sexually transmitted infections?

It was concluded from the analysis of questionnaire data on the prevention of sexually transmitted infections that majority of the adolescent students (97.8%) knew that regular use of condom, avoid sharing of contaminated sharp objects (96.8%) and abstaining from casual sex and being faithful to one uninfected partner (92.7%) could prevent sexually transmitted infections

6.5 Research Question Four:

How knowledgeable are adolescent students with deafness in Koforidua, Kibi and Demonstration school for the deaf, Mampong Akwapim on diagnosis, signs and symptoms of sexually transmitted infections?

The analysis of the questionnaire data on diagnosis, signs and symptoms of sexually transmitted infections indicated that adolescent students (88.4%) were aware that there are various tests that can detect sexually transmitted infections when one is infected. Respondents (94.7%) knew that sexually transmitted infections can be diagnosed by testing blood and seminal fluids

Respondents (97.9%) were also aware that odd smelling of vaginal discharge is a symptom of sexually transmitted infections. Also, persistent fever is a sign and symptom of sexually transmitted infections (55.8%). However, respondents were not aware that persistent cough and skin rashes could be symptoms of sexually transmitted infections.

6.6 Research Question Five:

Which type of sexual behavior does adolescent students with deafness in the schools for the deaf in the Eastern Region of Ghana exhibit?

A number of adolescent students with deafness (87.3%) indicated that they are sexually active. Majority of the respondents (65.2%) indicated that they have had sex with more than one regular partner. Also, majority (70.5%) indicated that they had sex with multiple partners because they trust them. More so, majority (85.3%) who are sexually active had sex for cash or gift. Majority (82.1%) of the respondents denied using condom during sex.

Hypotheses

There is no significant difference in the knowledge of adolescent boys and girls in Koforidua School for the Deaf on the types, modes, prevention and diagnosis, signs and symptoms of sexually transmitted infections.

Again, there is no significant difference on the knowledge of adolescent boys and girls in Kibi School for the Deaf on the types, modes, prevention, diagnosis, signs and symptoms of sexually transmitted infections.

Moreso, no significance difference was found regarding knowledge of adolescent boys and girls in Demonstration School for the Deaf, Mampong Akwapim on types, modes and prevention of sexually transmitted infections. However, significant difference was found in the knowledge of adolescent boys and girls on diagnosis, signs and symptoms of sexually transmitted infections.

6.7 Conclusions

The study concluded that knowledge of adolescent students with deafness on the various types of sexually transmitted infections were insufficient; this is because the respondents could identify five out of the ten questionnaire items regarding the types of sexually transmitted infections.

The adolescent student with deafness demonstrated good knowledge on the mode of transmission of sexually transmitted infections. This is because students rightly answered nine out of ten questionnaire items regarding modes of transmission of sexually transmitted infections

Adolescents have adequate knowledge on prevention of sexually transmitted infections.

Respondents have adequate knowledge with reference to the diagnosis and symptoms of sexually transmitted infections.

Adolescent students with deafness in the schools for the deaf in the Eastern Region of Ghana engage in risky sexual behaviours which increase their potential of acquiring sexually transmitted infections.

6.8 Recommendations

Based on the findings of the study, the following recommendations were made:

1. The authorities of the Schools for the Deaf in the Eastern Region of Ghana should ensure that provision of education on sexually transmitted infections is centered on both the common STIs such as HIV/AIDS, gonorrhea and syphilis and the uncommon ones such as cancroids, genital herpes, Chlamydia, genital warts and hepatitis B.
2. The teachers of the schools for the deaf in the Eastern Region of Ghana should continue to sensitize adolescent students with deafness on the modes of transmission of sexually transmitted infections to help all students to be conversant with the modes of transmission of sexually transmitted infections.
3. The head teachers of the schools for the deaf in the Eastern Region of Ghana should collaborate with the Ghana Health Service to organize programmes to create awareness on prevention of sexually transmitted infections to assist students who do not have adequate knowledge on the prevention of sexually transmitted infections.
4. The school authorities should enlighten adolescent students on signs and symptoms of sexually transmitted infections to promote adequate knowledge among all students.
5. The head teachers of Kofridua, Kibi and Demonstration Schools for the Deaf, Mampong Akwapim should encourage the teachers to sensitize adolescent

students on safer practices to help reduce the risk of acquiring sexually transmitted infections.

6. The school authorities should collaborate with the Ghana Education Service in the Municipality to provide counseling services in the schools to help reduce adolescent students‟ risky sexual behaviours.
7. The teachers of the schools for the deaf in the Eastern Region should equip adolescent students with the skills that will enable them to put knowledge into practice

6.9 Area of Further Research

Future researchers should consider the approaches in providing education on sexually transmitted infections to adolescent students with deafness in the schools for the deaf in Ghana.

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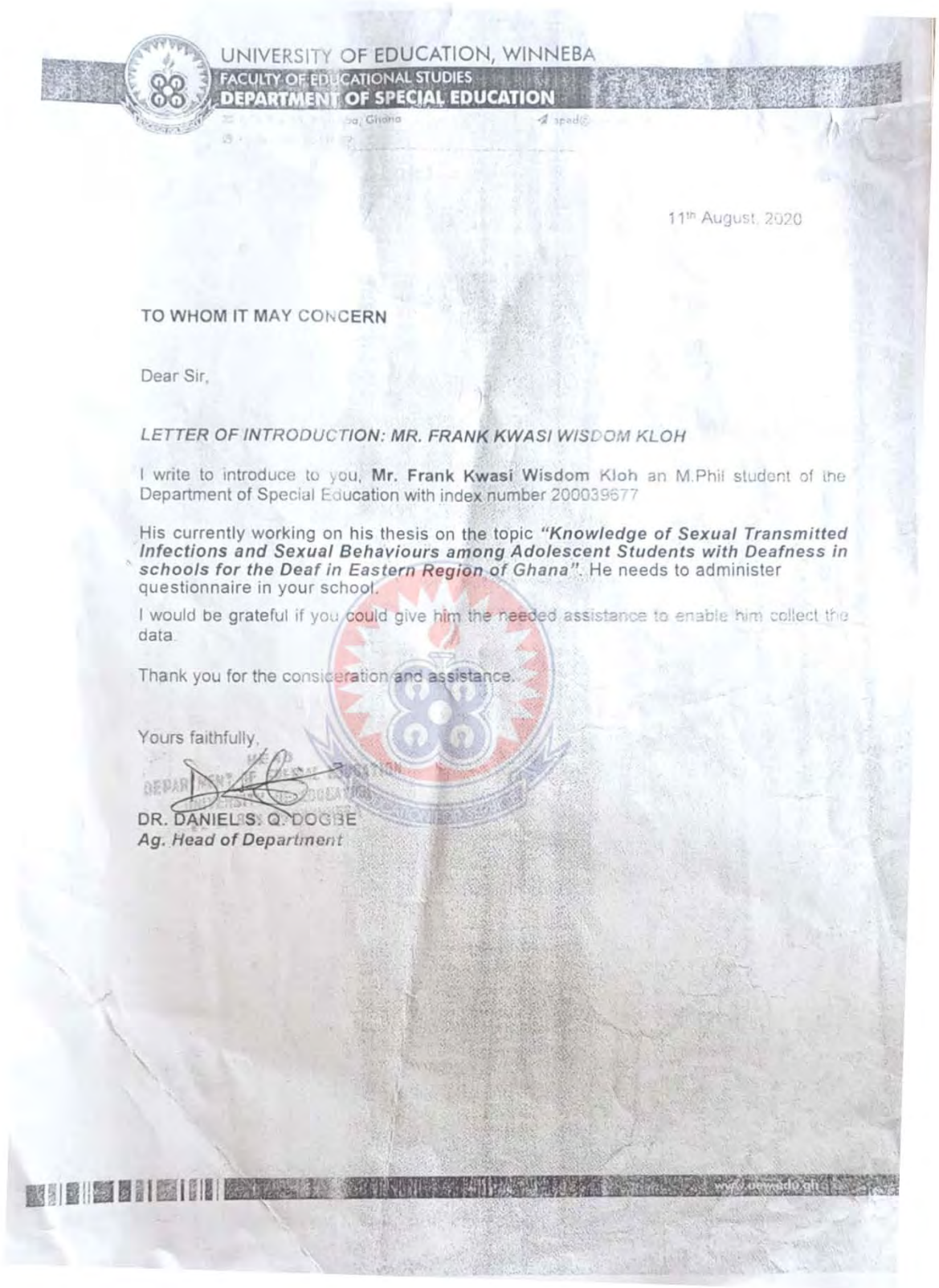
APPENDIX A



UNIVERSITY OF EDUCATION, WINNEBA
FACULTY OF EDUCATIONAL STUDIES
DEPARTMENT OF SPECIAL EDUCATION

11th August, 2020

TO WHOM IT MAY CONCERN

Dear Sir,

LETTER OF INTRODUCTION: MR. FRANK KWASI WISDOM KLOH

I write to introduce to you, **Mr. Frank Kwasi Wisdom** Kloh an M.Phil student of the Department of Special Education with index number 200039677

His currently working on his thesis on the topic ***"Knowledge of Sexual Transmitted Infections and Sexual Behaviours among Adolescent Students with Deafness in schools for the Deaf in Eastern Region of Ghana"***. He needs to administer questionnaire in your school.

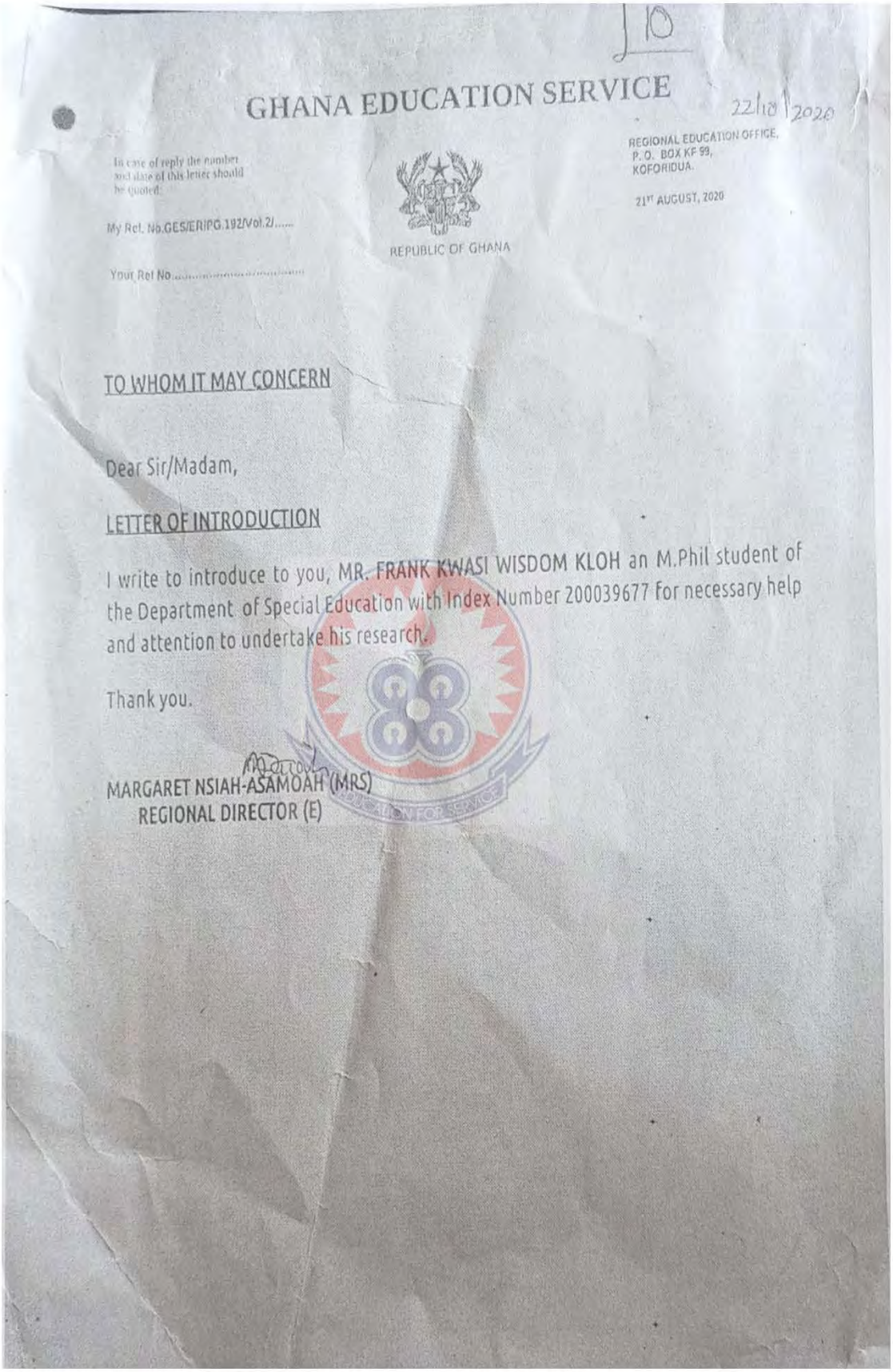
I would be grateful if you could give him the needed assistance to enable him collect the data.

Thank you for the consideration and assistance.

Yours faithfully,

DR. DANIEL S. Q. DOGBE
Ag. Head of Department

APPENDIX B



GHANA EDUCATION SERVICE

22/10/2020

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

My Ref. No.GES/ERIPG.192/Vol.2/.....

Your Ref No.....

REPUBLIC OF GHANA

REGIONAL EDUCATION OFFICE,
P.O. BOX KF 99,
KOFORIDUA.

21ST AUGUST, 2020

TO WHOM IT MAY CONCERN

Dear Sir/Madam,

LETTER OF INTRODUCTION

I write to introduce to you, MR. FRANK KWASI WISDOM KLOH an M.Phil student of the Department of Special Education with Index Number 200039677 For necessary help and attention to undertake his research.

Thank you.

MARGARET NSIAH-ASAMOAH (MRS)
REGIONAL DIRECTOR (E)

APPENDIX C

Department of Special Education

University of Education, Winneba

QUESTIONNAIRE FOR STUDENTS WITH DEAFNESS IN SPECIAL SCHOOLS FOR THE DEAF

Dear respondent,

I am currently carrying out a study for the purpose of writing a thesis as a requirement for the award of MPhil in Special Education at University of Education, Winneba. The topic for the study is Adolescent students" knowledge of sexually transmitted infections and sexual behaviours in Eastern Region schools for the deaf in Ghana. You have been selected to participate in this study due to the importance of your information. The information you supply will remain strictly confidential. Please feel free and answer all the questions truthfully. Thank you very much.

Section A

Background Information

Please tick the appropriate response in the table below

1. Sex: Male [ ] Female [ ]
2. Age: 13 - 15 { } 16 - 19 { }
3. School……
4. Form: 2 [ ] 3 [ ]

Section B: Level of knowledge on the types of sexually transmitted infections

To what extent do you agree with the following as the types of sexually transmitted infections? Please tick ( ) as appropriate.

	1	2	3	4	5
Indicator	Strongly disagree	Disagree	Not sure	agree	Strongly agree
1. There are different types of Sexually Transmitted Infections (STIs)					
2. Gonorrhea is a type of sexually transmitted infections					
3. Genital warts is a type of sexually transmitted infections					
4. Syphilis is a type of sexually transmitted infection					
5. Trichomoniasis is a type of sexually transmitted infections					
6. Cancroids forms part of sexually transmitted infections					
7. Chlamydia is a type of sexually transmitted infections					
8. Hepatitis B is a type of sexually transmitted infection					
9. HIV/AIDS is a type of sexually transmitted infections					
10. Genital herpes is a type of sexually transmitted infection					

Section C: Knowledge on the modes of sexually transmitted infections

To what extent do you agree with the following as a means of contracting sexually transmitted infections? Please tick ( ) as appropriate.

	1	2	3	4	5
Indicator	Strongly disagree	Disagree	Not sure	agree	Strongly agree
11. Mosquito bite can cause STIs					
12. A person can be infected by sharing a toothbrush with someone who is infected					
13. One can get STI by sharing sharp objects with an infected person					
14. One can get STI by sharing food with an infected person					
15. A pregnant woman can transmit STIs to unborn child					
16. STIs can be transmitted to child through breastfeeding					
17. Kissing an infected person can result in transmission of STIs					
18. STIs are mainly acquired through unprotected sex					
19. Engaging in casual sex can result in contracting STIs					
20. STIs are acquired through witchcrafts or other supernatural means					

Section D: Knowledge on the prevention of sexually transmitted infections

To what extent do you agree with the following as constituting ways of preventing sexually transmitted infections? Please tick ( ) as appropriate

	1	2	3	4	5
Indicator	Strongly disagree	Disagree	Not sure	agree	Strongly agree
21. One can protect him/ herself from STI's by having one uninfected faithful partner					
22. One can avoid contracting STIs by not indulging in sexual intercourse					
23. One can avoid contracting STIs by using condom anytime they have sex					
24. Regular washing of hands can reduce the chances of contracting STIs					
25. Condom can only be used by marriage partners					
26. STIs can be prevented by washing the genital organs					
27. Avoiding sharing of contaminated needles and blades can reduce the risk of contracting STIs					
28. I don't have symptoms of STIs so I don't need to use condoms					
29. You don't need to use condom if you are in committed relationship					
30. Unprotected sex increases the risk of getting an STIs					

SECTION E: Knowledge on diagnosis / Signs and Symptoms of sexually transmitted infections

To what extent do you agree with the following as constituting ways of preventing sexually transmitted infections? Please tick ( ) as appropriate

	1	2	3	4	5
Indicator	Strongly disagree	Disagree	Not sure	agree	Strongly agree
31. STIs can be diagnosed when detected					
32. It is very difficult to diagnose STIs					
33. There are various tests to detect STIs in persons who are infected					
34. STIs can be diagnosed by testing blood and seminal fluids					
35. Testing of saliva can be used to diagnose STIs					
Signs/Symptoms					
36. Painful or burning urination is a symptom of STIs					
37. Persistent cough is a sign/ symptom of STIs					
38. Rashes over the trunk, hands or feet is a symptom of STIs					
39. Unusual odd smelling of vaginal discharge is a symptom of STIs					
40. Persistent fever is a sign/ symptom of STIs					

Section F: Sexual behaviours of Adolescent Students with Deafness

To what extent do you agree that you exhibit the following sexual behaviours?

Please tick ( ) as appropriate.

	1	2	3	4	5
Indicator	Strongly disagree	Disagree	Not sure	agree	Strongly agree
41. I have ever had sexual intercourse					
42. I have had sex before I turned 15 years					
43. I have ever had sex with someone 10 years older than me;					
44. I have had sex with more than one regular partner					
45. I have had sex with different sexual partners because I trust them					
46. I have ever had sex for cash or gift before					
47. I have ever engaged in anal sex					
48. I have ever engaged in oral sex					
49. I have had unprotected sexual intercourse in the last 12 months					
50. I always use condom when having sex					