

**KWAME NKRUMAH UNIVERSITY OF SCIENCE AND TECHNOLOGY  
KUMASI, GHANA  
COLLEGE OF HEALTH SCIENCES, SCHOOL OF MEDICAL SCIENCES  
DEPARTMENT OF COMMUNITY HEALTH**



**HIV/STIs HEALTH-SEEKING BEHAVIOUR AMONG IN- AND  
OUT-OF-SCHOOL URBAN MALE ADOLESCENTS IN THE  
BOLGATANGA MUNICIPALITY OF UPPER EAST REGION, GHANA**

**SUMAILA SEIDU SAAKA**

**A Dissertation Submitted to the School of Graduate Studies,  
Kwame Nkrumah University of Science and Technology, in Partial  
Fulfilment of the Requirements for the Degree of Master of Science  
in Population and Reproductive Health**

**SEPTEMBER, 2005**

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**KNUST**



**BY**

**SUMAILA SEIDU SAAKA**

**A DISSERTATION SUBMITTED TO THE SCHOOL OF GRADUATE STUDIES,  
KWAME NKRUMAH UNIVERSITY OF SCIENCE AND TECHNOLOGY, IN PARTIAL  
FULFILMENT OF THE REQUIREMENTS FOR THE DEGREE OF MASTER OF  
SCIENCE IN POPULATION AND REPRODUCTIVE HEALTH**

**SEPTEMBER, 2005**

## **Declaration**

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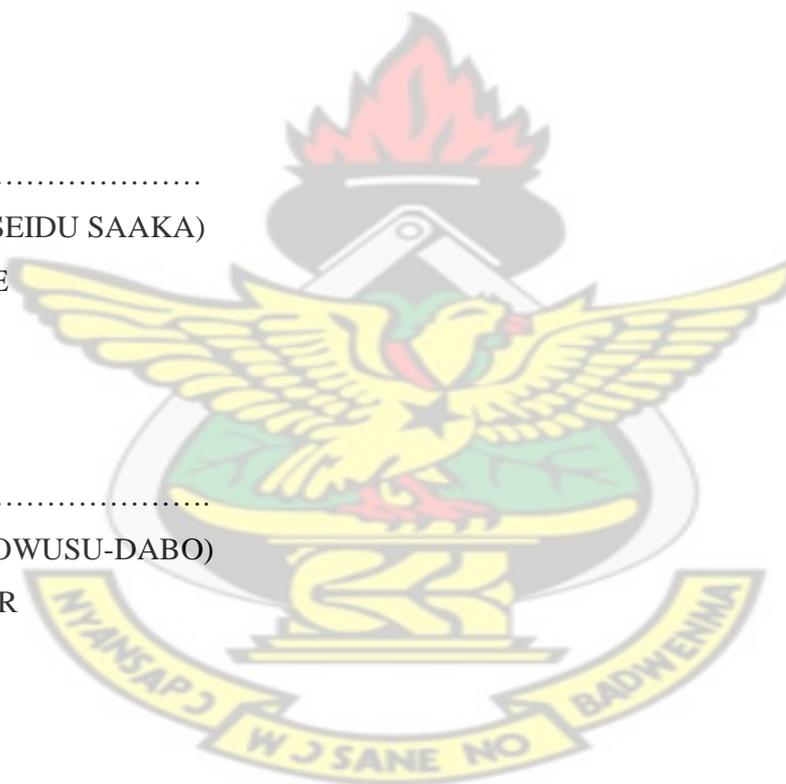
I, Sumaila Seidu Saaka, declare that the findings as presented in this dissertation are based on my original work conducted in the Bolgatanga Municipality of the Upper East Region, except where duly acknowledged references have been made to previous studies. I also declare that this work has neither been submitted to any other University or Institution for any degree, nor being submitted concurrently in candidature for any other degree. Consequently, I accept sole responsibility for the views expressed herein as well as the factual errors and inaccuracies that may be found in the content.

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## Dedication

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This work is dedicated to my mother, Madam Fanmara Yakubu, my wife, Mavis, my children, Ramatu and Abdul-Waheed, and my extended family.

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## **Acknowledgements**

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First, I express my sincere gratitude to Dr. Ellis Owusu-Dabo, my academic supervisor, of the Department of Community Health, School of Medical Sciences (SMS) for your warm humour, understanding, encouragement, expert advice and support throughout the project. Your contribution from day one to the smooth completion of this dissertation meant a lot to me and highly appreciated.

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## Abbreviations and Acronyms

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|        |  |
|--------|--|
| AIDS   | Acquired Immunodeficiency Syndrome         |
| AGI    | Alan Guttmacher Institute                  |
| ASRH   | Adolescent Sexual & Reproductive Health    |
| BCC    | Behaviour Change Communication             |
| FHI    | Family Health International                |
| GDHS   | Ghana Demographic and Health Survey        |
| GHC    | Global Health Council                      |
| GHS    | Ghana Health Service                       |
| GSS    | Ghana Statistical Service                  |
| HIV    | Human Immunodeficiency Syndrome            |
| HSS    | HIV Sentinel Survey                        |
| IEC    | Information Education and Communication    |
| MHA    | Municipal Health Administration            |
| MOH    | Ministry of Health                         |
| NPC    | National Population Council                |
| RCH    | Reproductive & Child Health                |
| STI    | Sexually Transmitted Infections            |
| STD    | Sexually Transmitted Diseases              |
| WHO    | World Health Organization                  |
| UNAIDS | Joint United Nations Programme on HIV/AIDS |
| VCT    | Voluntary Counselling and Testing          |

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## Definition of Terms

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- ⇒ **Adolescent** - an adolescent is defined by WHO as a person between aged 10-19 years; but for this study an adolescent refers to a young person between 16 and 20 years.
- ⇒ **Attitude** – subjective judgments held by individuals and/or groups, good or bad, about particular objects, issues, persons or any other identifiable aspect of an environment.
- ⇒ **Belief** – People reported knowledge of HIV/AIDS/STIs which deviates from biomedical concepts about these infections and diseases.
- ⇒ **Municipality** - administrative part of a region composed of sub-Municipalities.
- ⇒ **Knowledge of HIV/STIs** - the ability to understand the ways in which HIV/STIs can be transmitted and prevented.
- ⇒ The three known ways of transmission are;
- Unprotected sexual intercourse with an infected person,
  - from infected mother-to-child and,
  - through blood transfusion from infected donor
- ⇒ **Prevention** - refers to any measures undertaken by individuals or groups to protect themselves from being exposed to the HIV virus and other STIs.
- ⇒ **Perception** - the beliefs, insight and awareness a person holds towards something, e.g. his beliefs about the consequences of HIV/AIDS or the efficacy of condom
- ⇒ **Prevalence** - the proportion of a population that has a certain condition at a specific time
- ⇒ **Sexual intercourse** – vaginal sexual intercourse

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## Abstract

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The adolescent period is marked by the emergence of sexual behaviours that may lead to sexually transmitted infections (STIs), including HIV/AIDS and their attendant consequences. Studies conducted across the globe indicate that majority of young people are sexually experienced by the age of 20, and premarital sex is not uncommon among 15-19 year-olds. This partly explains why the control of sexually transmitted infections among adolescents has been recognized as a major concern globally, especially with the onset of the HIV/AIDS pandemic in the 1980s. Regrettably, little is documented on Male adolescents' HIV/STIs health-seeking behaviour in Ghana to inform policy and programme decisions within specific socio-cultural context.

The main objective of the study was to examine and compare the health-seeking behaviour for HIV/STIs among in- and out-of-school adolescents (16-20 years) in urban Bolgatanga Municipality with a view to improving Adolescent Reproductive Health (ARH).

A descriptive current cross sectional study that sought to compare the HIV/STIs health-seeking behaviour among in-school and out-of-school urban male adolescents (16-20 years) was used. The study adopted a quantitative method of data collection, using a structured interviewer questionnaire.

The study was conducted in three second cycle schools and among selected artisanal training workshops in Bolgatanga, the Upper East Regional capital. A sample of 205 (115 in-school and 90 out-of- school adolescents) were selected using multi-stage sampling method. Survey data was entered using Epi Info 6, exported to Excel for cleaning and merging, and analyzed using the Statistical Package for the Social Sciences (SPSS - 11) and STATA 7. Chi-square p-values derived from bivariate cross analysis were used to compare selected exposure variables with the outcome variables.

The results indicate that respondents have a high knowledge (100% for students versus 97% for apprentices) of HIV/AIDS, but knew little about other specific STIs. There was, however, no difference in ability to recognize correct symptoms of STIs between the two adolescent groups.

In-school adolescents were less likely to have initiated sexual intercourse, compared with their out-of-school counterparts. Almost half (46%) of out-of-school adolescents were sexually active as compared with participants in school (22%).

Generally, there was high use of condoms among sexually active adolescents in both groups [currently using condoms: in school 17/26 (65%), out of school 34/41 (83%)]. Majority of respondents in both groups also wanted to be screened and tested for HIV/STIs [in-school (97%), out of school (57%)]. Ever had sexual intercourse was strongly associated with having received screening and testing for HIV/AIDS/STIs among out-of-school respondents ( $p < 0.01$ ), compared with students. There was no significant difference between in-school (36%) and out-of-school (33%), with regard to their risk perception for HIV/AIDS/STIs infection. In-school adolescents had better knowledge of the causes of STIs than their out-of-school counterparts. Out-of-school adolescents more frequently practiced risky sexual behaviours that could lead to acquisition of HIV/STIs than in-school adolescents (22.6% of sexually active students versus 46% of sexually active apprentices). More students were willing to undergo VCT (77%), compared with their out-of-school counterparts (57%).

There is the need for comprehensive adolescent friendly services where counseling, education and treatment of STIs are provided in the Municipality, targeting especially the out of school youth. Schools could also be good entry points where health workers can make reproductive health services more accessible and friendly to students.

## **CHAPTER ONE**

### **INTRODUCTION**

#### **1.1 Background**

Adolescents, defined as persons between 10 and 19 years of age, make up about one-fifth of the world's population, of whom 85 % live in developing countries (World Health Organization [WHO], 1998). The adolescent period is marked by the emergence of sexual behaviours that could lead to sexually transmitted infections (STIs), including HIV/AIDS and the attendant consequences (McKee et al., 2004). Bankole et al., (2004), reported elsewhere that the majority of young people worldwide are sexually experienced by the age of 20, and that premarital sex is not uncommon among 15-19 year-olds.

Perhaps, this explains why in recent years, the control of sexually transmitted infections among adolescents has been recognized as a global priority, especially due to the HIV/AIDS pandemic (Dehne & Riedner, 2005). Above all, the onset of the HIV/AIDS pandemic in the 1980s drew public attention to the negative consequences of adolescent fertility and sexual behaviour (Awusabo-Asare et al., 2004; Mensch et al., 2005). HIV has become a major cause of premature deaths, and the other sexually transmitted infections cause considerable morbidity, particularly in relations to the reproductive health of adolescents (Joint United Nations Programme on HIV/AIDS [UNAIDS], 2004; WHO, 2002).

Evidence from both developed and developing countries showed that millions of adolescents are increasingly contracting sexually transmitted infections, including HIV/AIDS each year (Bankole et al., 2004; Global Health Council [GHC], 2004).

While more than 10 million young people between the ages of 15 and 24 are already infected with HIV, nearly half of all new infections and about 60 % of all newly sexually transmitted infections (STIs) occurred to people below age 25 years (UNAIDS, 2003; Dehne & Riedner, 2005). Again, evidence indicates that the youth of sub-Saharan Africa are more at risk of these infections, with nearly half of the 3.0 - 3.4 million new cases of HIV infections on the Continent in 2003, occurring among young people 15-24 years, as a result of their varied risk taking tendencies, including risky sexual behaviours (Bankole et al., 2004).

In Ghana, 2003 estimates revealed that the HIV/AIDS prevalence rate among 15-19 year-olds was 1.9 %, while the median prevalence rate for the adult population increased from 2.3 % in 2000 to 3.6 % in 2003 (Ministry of Health [MoH]/Ghana Health Service [GHS], 2004). Adolescents form a sizeable and an important proportion of the population of many developing countries, as four out of five live in the developing world (WHO, 2002). In Ghana, a little more than 40 % of the population in 2000 was under 15 years, and those in the age group 15-24 formed another 20 % (National Population Council [NPC], 2000).

## **1.2 Problem Statement**

Following the 1994 Cairo International Conference on Population and Development (ICPD), reproductive health programmes now pay more attention to male's roles and concerns, though research continues to overlook the male adolescent subpopulation. Accordingly, any attempt to identify and examine the health-seeking behaviour associated with HIV/STIs among this subgroup is long overdue. At present, little information is available in this area to guarantee effective health system strategies and policies aim at improving adolescents' access to and demand for reproductive health information and services (Awusabo-Asare et al., 2004).

This is no more obvious than in Ghana, where adolescent reproductive health issues have gained greater visibility in recent years (NPC, 2000). The Ghana government and its development partners are concerned about the dangers and consequences of increased pre-marital sexual activity, unintended pregnancies, unsafe abortions, sexually transmitted infections and HIV/AIDS among adolescents (Senderowitz, 1997a; Moreland & Logan, 2000).

The 2003 HIV Sentinel Survey, for instance, reported that while the prevalence of syphilis is declining among the general population in Ghana (national mean of 0.4 %), there is a disturbing trend of high infections among the youth (MOH/GHS, 2004). In an effort to tackle these problems, Ghana adopted a comprehensive national reproductive health policy in 2000 (NPC, 2000). However, little progress has been made in terms of policy implementation, perhaps, partly due to the dearth of information on key concerns of adolescent sexual and reproductive health.

Again, the 2003 Ghana Demographic and Health Survey (GDHS) reported that the median age at first sexual intercourse is 18.2 years among women aged 25-49 years and 20.2 years for men age 25-59 years. The Survey further revealed that 9 percent of women and four percent of men reported having had sex by age 15. Besides, by age 18, almost half of women (48 %) and one-fourth of men (25 %) have had sexual intercourse.

Within the last fifteen years, there has been little change over time in the median age at first sexual intercourse among women. However, the age at first sexual intercourse among men has decreased from 21.8 years for men in the age cohort 55-59 to 19.6 years for those aged 20-24 years (GSS, Noguchi Memorial Institute for Medical Research [NMIMR] & ORC Macro, 2004).

Accordingly, research interests on adolescent sexual and reproductive behaviour have been growing in Ghana since the 1990s. For instance, several studies have examined at length the extent to which such behaviours may be changing over time (Adomako, 1991; Nabila & Fayorsey, 1996; Tweedie & Witte, 2000; Henry & Fayorsey, 2002; Doe, 2003; Karim et al., 2003). Most of these studies are unanimous that Ghanaian adolescents are increasingly exposed to risky sexual behaviours than previous generations, partly due to the widening gap between the early onset of menarche and delayed age at marriage.

Some experts even point out that while high value is placed on female fidelity, strict gender roles for males and females in many African societies tend to encourage male sexual permissiveness (Nukunya, 1992; Bankole et al., 2004). Thus, in some settings, male adolescents may be more vulnerable to STIs, including HIV than their female counterparts partly due to behavioural and socio-cultural factors. Perhaps, it is less often recognized that cultural beliefs and expectations heighten male adolescent's vulnerability.

There is evidence that males generally are less likely to seek health care than females, and are also much more likely to engage in behaviours such as drinking or the use of drugs that put their health at risk. Furthermore, males are less likely to pay attention to their sexual health and safety (Family Health International [FHI], 2000; UNAIDS, 2000a). Yet, policy makers and health professionals are slow in acknowledging unmarried male adolescents' risky sexual activities. Consequently, they tend not to address the sexual and reproductive health needs of this group, more so from specific socio-cultural and behavioural context (Awusabo-Asare et al., 2004).

Notwithstanding the existence of a considerable number of studies on young people's knowledge, attitudes and patterns of reproductive health risks and coping measures (Nabila & Fayorsey, 1996; Anarfi, 1997; Mensch et al., 1998; Henry & Fayorsey, 2002), at present little empirical evidence is available on how to formulate effective male adolescent specific HIV/STIs prevention strategies.

In a comprehensive review of studies on adolescent sexual and reproductive health in Ghana, Awusabo-Asare et al. (2004) acknowledged that while much is known about adolescents' sexual and reproductive health knowledge and behaviour, "a lot remains unclear". Thus, the authors concluded that adolescents in general still remain vulnerable to HIV/AIDS in particular; perhaps because of perceived low risk, which may serve as a disincentive for protective action. This observation seems plausible within the context of traditional sexual expectations for male adolescents.

Despite this overwhelming evidence, the focus of many previous studies on adolescent sexual and reproductive health in Ghana had been on females, to the neglect of male adolescents' specific information and service needs (Tweedie & Witte, 2000).

Hence, male adolescent sexual and reproductive health concerns have gone unnoticed for quite sometime now, though male involvement in the prevention of sexually transmitted infections (STIs), including HIV, has long been widely recognised (Alan Guttmacher Institute [AGI], 2003). As sexual partners, males are expected to play a central role for correct and consistent condom use. Furthermore, they must remain faithful to enable couples guarantee protection through a mutually monogamous relationship (FHI, 1998).

As adolescents do not form a homogeneous population in any society, it is important to recognise that addressing male adolescent specific sexual and reproductive health problems will yield dividends for them, their partners and the larger public. In Ghana, as in many other parts of sub-Saharan Africa, urbanization with its attendant socio-cultural disruptions has been identified as a major cause of risky sexual practices among urban young men (AGI, 2003). For instance, it has been documented that urban male adolescents are likely to be at a higher risk of sexual exploitation, STIs and HIV/AIDS, partly because of adventurism, peer pressure, relaxed socio-cultural values, urban poverty and streetism (Senderowitz, 1997a; AGI, 2003).

Accordingly, it is of interest to know more about male adolescents' HIV/STIs health-seeking behaviour in an urban context in order to formulate effective programmes and policies that will make it easier for them to obtain appropriate reproductive health services. The present study seeks to examine and compare the health-seeking behaviour for HIV/STIs among in and out-of-school urban male adolescents (16-20 years), with a view to making recommendations for improved reproductive health services for adolescents.

### **1.3 Rationale for the Study**

The 2003 GDHS found that 97 % of sexually active male adolescents age 15 to 19 reported having engaged in higher-risk sexual intercourse during the preceding 12 months, with a little more than half of them not using contraceptives (GSS, NMIMR & ORC Macro, 2004). According to the Survey, urban adolescents are also more likely than those in the rural areas to engage in higher-risk sexual behaviours. This is worrisome, in view of the increasing prevalence of HIV/STIs among the adolescent population.

Besides, existing literature shows that Ghanaian adolescents tend not to take measures to protect themselves from the consequences of risky sexual behaviours (Nabila et al., 1996; GSS & Macro International [MI], 1999). As noted earlier, previous studies on adolescent sexual and reproductive health concerns tended to concentrate on females to the exclusion of male specific information and service needs. This apparent lack of focus on male adolescent needs provides enough justification for this study in the Bolgatanga Municipality.

With increasing concern about HIV/STIs among young people, there is the need for more comprehensive information on their reproductive health-seeking behaviour within specific disaggregated subgroups to facilitate interventions tailored to meet their needs. In view of this, findings of the study will assist programme planners in the development of more accessible and effective services. Besides, this study will provide the basis for further research to understand the factors associated with male adolescents' HIV/STIs health-seeking behaviour for appropriate policy and decision-making.

Clearly, managing the incidence of HIV/STIs among male adolescents is a major public health priority in urban Bolgatanga. More empirical evidence is thus required to assess how HIV/STIs risks are perceived, symptoms recognized and decisions made to seek health care (Nangbeifubah, personal communication, 13<sup>th</sup> January, 2005).

Care and risk reduction strategies for HIV/STIs among subgroups of the target population should, therefore, be informed by research-based evidence as this study sought to do. Findings of the present study will be used to facilitate the development of strategies required to improve HIV/STIs health care delivery to the target population. Besides, relevant information from the

study could be useful for the designing of Behaviour Change Communication (BCC) programmes to improve preventive and patient-provider communication. Furthermore, the study will complement existing knowledge on adolescent sexual and reproductive health-seeking behaviour.

#### **1.4 Research Questions**

1. What knowledge, attitudes and beliefs do in and out-of-school urban male adolescents have about HIV/AIDS and Sexually Transmitted Infections?
2. How do the respondents perceive their risk of HIV and other Sexually Transmitted Infections?
3. What are the risky sexual behaviours that urban male adolescents are likely to engage in?
4. What are the health-seeking behaviours for HIV/STIs among urban in and out-of-school male adolescents?
5. Are there differences in HIV/STIs health-seeking behaviour among in-school and out-of-school male adolescents in Urban Bolgatanga Municipality?

#### **1.5 Study Objectives**

##### **1.5.1 Main Objective**

The main objective of the study was to examine and compare the health-seeking behaviour for HIV/AIDS and Sexually Transmitted Infections among in and out-of-school urban male adolescents (15-20 years) in the Bolgatanga Municipality.

### **1.5.2 The specific objectives sought to:**

1. Assess the knowledge, attitudes and beliefs of in-school and out-of-school urban male adolescents about HIV and other sexually transmitted infections
2. Assess urban male adolescents' risk perceptions for HIV/STIs infection.
3. Identify risky sexual behaviours and protective measures among in-school and out-of-school urban male adolescents for HIV/STIs infection.
4. Determine the HIV/STIs health-seeking behaviour of urban in and out-of-school male adolescents.
5. Compare the health-seeking behaviour for HIV/STIs between in-school and out-of-school respondents.

### **1.6 Conceptual Framework**

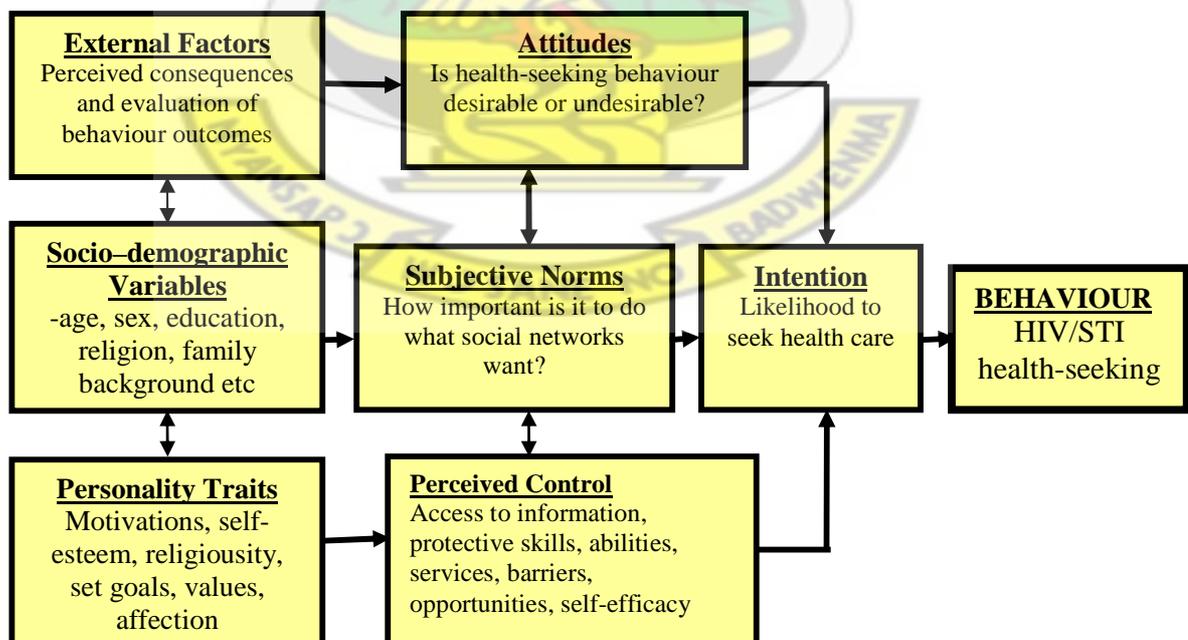
Empirical studies have recognized the influence of a wide range of individual and contextual factors on young people's reproductive health-related behavioural intentions (Adamchak et al., 2000). As noted by Mann and Tarantola (1996), the prevention of sexually transmitted infections (STIs), including HIV and other reproductive health consequences among adolescents require a fair understanding of the interplay of these factors as a guide for designing appropriate policy and programmatic interventions.

Thus, several theoretical models, mainly from the behavioural sciences, have been used to predict human behaviours. Most of these theories attempt to provide explanations of why people behave as they do (Sheeran et al., 1995; Bertrand & Kincaid, 1996:15).

In recent years, four of these theories have become dominant in studies of health-related behaviours in both developed and developing countries. These are the Health Belief Model (HBM), Transtheoretical/Stages of Change Theory, the Theories of Reasoned Action and Planned Behaviour, and the Social Cognitive/Social Learning Theories (DeBarr, 2004; Denison, 2004).

The Theory of Planned Behaviour (TPB), revised version of the Theory of Reasoned Action (TRA) has been adapted for this study to explain male adolescent's health-related behavioural intentions for HIV/STIs (Fishbein & Ajzen, 1981). Fishbein and Ajzen (1981) drew attention to factors, which may lead to a specific intention to act, or Behavioural Intention, which the TPB situates between the attitudes and behaviour (see Figure 1).

**Figure 1:** The Theory of Planned Behaviour (TPB) Model adapted for HIV/STIs adolescents' health-seeking behaviour in Urban Bolgatanga (Conner & Sparks, 1995)



According to the theory, the proximal determinant of behaviour is the individual's intention to perform the behaviour. Intention is in turn determined by three constructs. (1) The individual's overall positive or negative evaluation of the behaviour (i.e. attitude), which is determined by behavioural beliefs focusing on the perceived likelihood that the behaviour will lead to salient outcomes weighted by an evaluation of the outcomes. (2) The perceived social pressure from important others to perform or not perform the behaviour (i.e. subjective norm). Subjective norms are determined by the perceived social pressure from significant referents to perform the behaviour weighted by the individual's motivation to comply with the referents. (3) The individual's perception of the ease or difficulty of performing the behaviour (i.e. perceived behavioural control).

Perceptions of control are based on a consideration of the perceived power of key control factors to inhibit or facilitate performance of the behaviour and their perceived frequency of occurrence. It is based on the belief about access to the resources needed in order to act successfully, and the perceived success of these resources (information, abilities, skills, dependence or independence from others, barriers, opportunities etc.)

According to the TPB, adolescents who decide to engage in relatively risky sexual behaviours are more likely to evaluate such behaviour in a positive light, if they believe that important others would approve of the behaviour and perceive the behaviour to be easy to perform. The model has been extensively applied on a wide range of public health-related behaviours, including HIV/AIDS in different settings (Evans & Norman, 2003; Hausmann-Muela et al., 2003).

Unlike other theories, a unique feature of the TPB is the recognition of social network support systems and peer influences on behaviour. For instance, Campbell & Mzaidume (2001), in a study based on the model found that health promotion among sex workers, through committed sex workers who were trained to distribute information and offer support to their colleagues, provided positive results in a South African mining community.

Meyer-Weitz *et al.* (2000a) cited in Hausmann-Muela *et al.* (2003), also found that the support of friends and partners has been central for South African adolescents' willingness to attend STD clinics. Another key factor emphasized in the TPB is the encouragement of feelings of self-control. To promote HIV/AIDS preventive measures, Meyer-Weitz and her colleagues (2000b), again cited in Hausmann-Muela *et al.* (2003) used a TPB approach as a means to stimulate feelings of control and self-efficacy in negotiating with partners or clients to use condoms.

The advantages of the model are clearly the taking into account of motivational aspects of personal disease control and the influence of social networks and peer pressure. From the examples cited above, projects can take advantage of these factors, rather than limiting themselves to the transmission of knowledge messages (Hausmann-Muela *et al.*, 2003). The limitations of the framework are a potential overemphasis on these psychological factors, while under-valuing structural factors like limited access or availability of resources.

### **1.7 Scope of the Study**

Health-seeking behaviour is a broad and complex field of study. Thus various approaches have been used to study aspects of this vast field. In view of this, the focus of this study is limited to the health-seeking behaviour for HIV/STIs as reported by respondents.

The study does not cover the structural, physical, economic and health system factors that may influence some aspects of HIV/STIs health-seeking behaviour. The study does not also cover all adolescent subgroups such unaffiliated or street adolescents, who may have different health-seeking patterns and behaviours. Again, the study derives its conceptual basis from psychological theories and not biomedical views of health-seeking behaviour.

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## **CHAPTER TWO**

### **LITERATURE REVIEW**

#### **2.1 Introduction**

The purpose of this study was to examine and compare the health-seeking behaviour with regard to HIV/STIs among in-school and out-of-school male adolescents in the Bolgatanga Municipality. This chapter thus reviewed existing literature (published and unpublished) based on the specific objectives of the study. Though publication date was not a strong factor for inclusion in the literature, peer-reviewed journal articles published within the last five years were given priority attention. The review included; the definition and context of health-seeking behaviour; male adolescents' HIV/STIs health-seeking behaviour; HIV/AIDS and STIs knowledge, beliefs and attitudes; male risks perceptions; male risky behaviours; prevalence of HIV/STIs among male adolescents and a conclusion.

#### **2.2 Definitions and Context of Health-seeking behaviour**

##### **2.2.1 Definition**

According to Ward et al. (1997), health-seeking behaviour is “any activity undertaken by individuals who perceived themselves to have a health problem or to be ill for the purpose of finding an appropriate remedy”. Ward and colleagues pointed out that health-seeking behaviour should to be distinguished from the broader concept of ‘health behaviour’, defined by Kasl and Cobb (1966) as “any activity undertaken by individuals who see themselves as healthy for the purpose of preventing disease or detecting it in an asymptomatic stage”. However, for the purpose of this study, the scope of health-seeking behaviour will be widened to cover health behaviours generally for HIV/AIDS/STIs.

Thus, the authors concluded that health behaviour may lead to health-seeking behaviour when an individual, based on an enabling environment for positive health behaviour outcomes, decides to seek care for a symptomatic health problem.

### **2.2.2 Health-seeking Behaviour in Context**

Again, Ward et al. (1997:20) noted that STD health-seeking behaviour studies are significant for the reason that findings can be used to reduce the time between the onset of infection and cure through improved service utilization and education about symptom recognition. They indicated that for most curable STDs, delays in “symptom recognition and care seeking can increase the incidence of disease burden and effective control efforts. Ward et al., however, cautioned against implanting simplistic western “sociological and socio-psychological models of health-seeking behaviour into developing country cultural context on the assumption that symptoms of disease or risky behaviours are always identified and/or defined in health terms; or that recognition of symptoms will necessarily result in health-seeking behaviour.

*“ if it is erroneous to make such assumptions in relations to industrial societies with highly developed and accessible health care systems then, as anthropologists warn us, particular care needs to be taken to avoid transferring simplistic models of health-seeking behaviour to developing countries with very diverse cultural, political and economic characteristics” ( Ward et al. 1997: 21) .*

Ward et al. (1997) thus maintained that, even though illness symptoms recognition is a prerequisite for health-seeking behaviour, this is only one part of the picture since, “prompts for screening for symptomatic infection following potentially risky contacts are equally important”. According to Ward and Colleagues, in any cultural context, the way in which illness symptoms are interpreted by affected individuals and those around them, particularly the meaning they

attached to symptoms, explanation of cause and the beliefs held about appropriate and effective treatment are of key importance in decisions to adopt appropriate health-seeking behaviour.

Studies in both the developed and developing countries have identified a number of factors responsible for health-seeking behaviour patterns in relations to the type of illness. Those commonly cited are the type and severity of symptoms, the course of illness, sick role, and perceptions about cause of illness. Others include; the age, educational level, economic status, perceived vulnerability, social costs, social networking and availability of treatment options (Msiska et al., 1997; Hausmann-Muela et al., 2003; MacKian 2003). According to Uzma et al. (1999), the process of responding to 'illness' or the decision to adopt correct health-seeking behaviour involves multiple and intricate steps, that cannot easily be translated into a simple one off choice or explained by a single model of health-seeking behaviour. It is not surprising therefore that; researchers from diverse research traditions have used different models and approaches to study the predictors of health-seeking and related behaviours [see MacKian (2003) for a comprehensive review of health-seeking behaviour].

In the view of Ward et al. (1997), besides factors associated with culturally based systems of lay knowledge, beliefs and practices, there are many other factors that determine health-seeking behaviours. The authors identified some of these determinants to include the social and monetary cost of health care, problems with access to facilities and stigmatization, with particular reference to sexually transmitted infections (Ward et al., 1997).

### **2.3 Male adolescents HIV/AIDS/STI Health-seeking Behaviour**

Even though most STIs are easily cured with antibiotics, many male adolescents who contract these infections are likely to go untreated, delay treatment or use home medication (UNAIDS,

2000a). Besides, the mere fact that in many societies, such infections are regarded as taboo subjects may discourage male adolescents from discussing them with health care providers and other social networks (FHI, 2000).

In contrast, studies elsewhere, have found that more boys than girls may go for STI treatment, thereby reducing the prevalence of infection, but not necessarily the incidence of new infections and episodes (Agyei et al., 1992, cited in Dehne & Riedner, 2005; Nzyoko et al., 1997). A possible explanation offered is that men easily get clinical symptoms for STIs that include offensive discharge and burning urination.

#### **2.4 HIV/AIDS and STIs Knowledge and Attitudes “Male Adolescents”**

There is nearly universal awareness about HIV/AIDS among Ghanaian male adolescents, with 97% of them aged 15–19 reporting in 2003 that they had heard of HIV/AIDS. Besides HIV/AIDS, gonorrhoea is the most commonly known STI among adolescents in Ghana, of which 46% of 15–19-year-old males were aware in 1998, followed by syphilis, which about one in 10 of adolescents reported being aware of it. (GSS & MI, 1999).

Glover et al. (2003), studying the sexual health experiences of adolescents in three Ghanaian towns, reported that 98 % of the 704 respondents have heard of at least one STI. In a similar study, Doe (2003) found among 15-19 year-olds in the Keta District of the Volta Region that 88.1 % of in-school adolescents had fairly good knowledge about the existence and transmission of STIs and HIV/AIDS. Likewise, Tweedie and Witte (2000) reported that 95 % of young men aged 12-24 years have ever heard of HIV/AIDS, even though their knowledge about other STIs was generally poor, apart from the few common ones, such as gonorrhoea and syphilis.

Again, Awusabo-Asare and Anarfi (1995) in a 1993 study, found that 90 % of males aged 15–24 had heard of an STI. Evidence from elsewhere on the Continent show adolescents are largely aware of the existence of HIV/AIDS and other STIs. For instance, more than 9 out of 10 young men knew about HIV/AIDS, gonorrhoea and syphilis in Zimbabwe and Ethiopia (Mbizvo et al., 1997; Govindasamy et al., 2002). Unfortunately, the high level of awareness and knowledge about HIV/AIDS and other STIs does not seem to translate into healthy sexual behaviour among adolescents as reported by other previous studies. [See Awusabo-Asare et al., (2004) for a comprehensive review]. In an earlier study, McCauley and Salter (1995) found that most sexually active male adolescents knew “little about STDs and prevention measures”.

### **2.5 Male Risk Perception for HIV/STIs**

Behaviour theories used in public health studies and related fields have underscored the importance of “perceptions about the seriousness of an illness threat, and perceptions about one’s perceived ability to reduce risk”, as key determinants of health-seeking behaviour (Eaton et al., 2003:157; DeBarr, 2004). Eaton et al. (2003), for example, maintained that, “low perceived personal vulnerability is a risk factor”, because it reduces the motivation for individuals or groups to take the necessary protective measures. Kalichman et al. (2001) had earlier reported that one out of three people living with HIV/AIDS in the US was likely to engage in unprotected intercourse subsequent to knowing that they have HIV, and that continued risk behaviour often occurs with uninfected partners.

For male adolescents in developing countries, perceived vulnerability to STIs, including HIV/AIDS is likely to be very low because of incorrect knowledge about these infections, socio-cultural barriers, and lack of formal adolescent reproductive health programmes, health care

provider attitudes and lack of access to correct information. As a result, adolescents are unlikely to take protective measures to reduce their risk of infection.

Studies have found that many male adolescents in Ghana and elsewhere on the Continent do not consider themselves to be at risk for contracting HIV and other STIs (Gardner et al., 1999; GSS, NMIMR and ORC Macro, 2004; Ugandan Ministry of Economic Planning & Macro International Inc., 1996; YouthNet, 2003). For instance, the 1998 GDHS reported that fewer than 10 % of 15-19 year-olds indicated they had a moderate to great chance of getting HIV, while more than half (60.2%) perceived no risk at all (GSS & MI, 1999). Again, Doe (2003) found that while 63.8 % of adolescents knew that their peers were engaging in risky behaviours that predispose them to HIV/AIDS/STIs, most of them do not perceive themselves to be at risk.

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, unsafe abortions 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 desired results in the long run.

Commenting on the barriers to adopting protective behaviours, Gardner et al. (1999) pointed out that social and cultural norms, especially male dominance in sexual relations, may play a part in discouraging men to use condoms “even when they risk contracting an STI”. During the heat of the Ugandan HIV/AIDS crisis in the early 1990s, fewer than 20.9 % of 15-19 year-olds thought

they had “moderate to great risk” of contracting HIV/AIDS as against 78.8 % reporting small or no risk at all (Ugandan Ministry of Economic Planning & Macro International Inc., 1996). Similarly, in Tanzania only 26% of male students surveyed reported that they were at “high risk” for HIV/AIDS, even though 48% of participants thought their friends were at high risks (Maswanya et al., 1999, cited in Kiragu, 2001).

A recent 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 (PRB, 2001). Thus, Awusabo-Asare et al. (2004) aptly 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).

## **2.6 Male Risky Sexual Behaviour**

There is a growing body of literature on risky behaviours among male adolescents, including unsafe sexual practices. In a study of street children in Accra, it was found that 68% of males stated that their friends were sexually active (Anarfi, 1997). In contrast, the 2003 GDHS reported that fewer adolescent males (27%) than females (46%) first had sex by age 18 years. As this may show a positive trend, the Survey also revealed that 97.9 % of 15-19 year-old male adolescents were engaging in higher risk sex in the past 12 months.

Accordingly, Sutherland and Curtis (2004) in a review of sexual behaviour data collected in Demographic and Health Surveys (DHS) and other similar national surveys indicated that men are more likely than women to report higher risk sex in all the surveys. The data was based on two indicators of premarital and higher risk sexual behaviour drawn from 31 surveys in 10 countries in sub-Saharan Africa, Latin America and the Caribbean.

In the US, analysis of a National Survey of Youth Knowledge and Attitudes on Sexual Health Issues indicated that male youth who use alcohol were seven times more likely than youth who do not drink alcohol to be sexually active (Prevention Highlights, 2003). These figures were significant even after adjusting for age, race, gender and parental educational level.

Another recent report indicated that among sexually active high school students, 39% of those who report ever using alcohol have had sex with four or more partners, compared with only 29% of non-drinkers (Kaiser Family Foundation, 2002). Urban adolescents are increasingly likely to indulge in risky sexual behaviours for varied reasons; including poverty, streetyism, the breakdown of extended family values, peer pressure and the influence of mass media.

### **2.7 Prevalence of HIV/STIs among Male Adolescents**

There are no reliable nationally representative data on the incidence of HIV and other sexually transmitted infections among the adolescent age group. While it is estimated that the prevalence of syphilis in particular is declining among the general population in Ghana (national mean of 0.4 %), a trend of high infections among the youth has been found (MOH/GHS, 2004). The 2003 GDHS reported the prevalence of STIs among the 15-19 year-old cohort of male adolescents to

be 2.2 %, while the presence of specific STI symptoms such as abnormal genital discharge and genital sores/ulcers were 6.4% and 3.0% respectively (GSS/NMIMR and ORC Macro, 2004).

A retrospective study in Uganda, found that more than 21% of adolescent boys (as compared to 8% of girls) admitted having ever contracted an STI (Agyei et al, 1992, cited in Dehne & Riedner, 2005). Similarly, Nzyoko et al. (1997) found at truck stops in Kenya, that slightly less than a third (30%) of male respondents reported having experienced an STI. In Zambia, 3.3% of 15-19 year-old adolescent boys and 8% aged 20-24 reported having had an STI during the previous 12 months. Penile discharge, which is the main symptom of both chlamydia and gonorrhoea, was the most frequent symptom mentioned (ZDHS, 1996; cited in Dehne & Riedner, 2005). On the other hand, in a study on 800 men in Tanzania, Klouman et al. (2000) found the rate of asymptomatic chlamydia and gonorrhoea to be higher than expected, raising doubts about the generally assumed gender differences in the importance of asymptomatic infections and resulting care-seeking behaviours.

## **2.8 Summary/Conclusions**

This review looked at published and unpublished literature relating to the specific objectives of the study and some conceptual issues. According to Hausmann Muela et al (2003), health-seeking behaviour studies are essential for understanding human behaviour as an essential part for behavioural change to improve health services.

Despite the acknowledged benefits of health-seeking behavioural studies, this researcher is inclined to support the views expressed by Hausmann-Muela and her Colleagues that a thorough appreciation of health-seeking behaviour for HIV/STIs among adolescents might not be a panacea to long-term behavioural change and improved health service delivery. This is because,

apart from knowledge, a multitude of other factors such as inadequate health facilities, poverty, deeply held beliefs and practices, provider attitudes, lack of drugs and equipment may serve as barriers to desire behavioural change. Obviously, this might explain why despite high knowledge and awareness about HIV and related health problems, efforts to find lasting behaviour change is still elusive.

A close scrutiny of the literature revealed that few HIV/STIs health-seeking behaviour studies have been carried out in Ghana. There is generally high level of awareness and knowledge about HIV/AIDS as revealed in the literature, thus further health-seeking behaviour studies need to pay more attention to the other STIs, where little information is available.

As noted by Awusabo-Asare et al., (2004), the need for more research on adolescent health-seeking behaviours on reproductive health problems is compelling as evidence by the absence of literature in this area. Majority of the studies reviewed were concentrated on both sexes, with very little on male adolescent perspectives on HIV/STIs. Those that dealt with specific male concerns (Youth Net 2003) were likely to be American bias. These may not reflect the socio-demographic, political, economic and cultural realities in developing countries, including Ghana.

## **CHAPTER THREE**

### **METHODOLOGY**

#### **3.1 Study Area**

The study was conducted in three selected second cycle schools and among out-of-school male adolescents undertaking various apprenticeship training programmes in urban Bolgatanga Municipality. The Municipality, which is centrally and strategically situated in the Upper East region, is one of eight local government administrative authorities in the Region. It shares boundaries to the North by the Bongo District, East and South by the newly created Talensi/Nabdam District and the West by Kassena-Nankana District. Bolgatanga is a melting pot of many ethnic groups because of its cosmopolitan nature, but the indigenes are the gurune-speaking people. At the time of the 2000 Population and Housing census, the combined population of the Municipality and the newly carved out Talensi/Nabdam District was put at 228,815, with an intercensal growth rate of 1.7% (GSS, 2002). The mid-year population of the Municipality alone for 2005 was estimated at 146,122.

Bolgatanga Township, doubling as the Municipal as well as the Regional capital, has recorded rapid population growth since 1960, partly as a result of rural-urban migration. The town's population grew from 5,515 in 1960 to 18,896 in 1970, representing a raise of 13,381. Between 1984 and 2000, the population again increased from 32,495 to 49,162, a difference of 16, 667. The rapid population growth rate of the town puts a lot of stress on health care facilities, other social services and public utilities.

### **3.1.1 Settlement Pattern**

The population of the Municipality is predominantly rural with a majority of the people living in dispersed subsistence farming communities. The inhabitants are engaged in formal and informal sector employment, mainly in public service, trading, subsistence crop farming, livestock rearing and handicrafts weaving.

### **3.1.2 Education**

Literacy level in the Municipality is relatively high and data from the Municipal Directorate of Education indicated an almost equal enrolment of girls and boys at the basic school level. Perhaps, because of widespread poverty coupled with some socio-cultural practices, dropout rate progressively increases, particularly among girls by the time they enter secondary school. The Municipality has 35 Junior Secondary Schools, four Senior Secondary Schools, and one Technical Institute, mostly concentrated in the Bolgatanga Township. There are also many informal entrepreneurial and vocational establishments in the Municipality that recruit out-of-school adolescents for training.

### **3.1.3 Health**

The Bolgatanga Municipality has nine sub-Municipalities for the efficient and effective delivery of health services. There is one regional hospital, three health centres (one private) and nine clinics. Reproductive health concerns identified among adolescents in the Municipality include; teenage pregnancy; unsafe abortions and related complications; and sexually transmitted infections (STIs), including HIV/AIDS. According to data from the Municipal Health Directorate, Reproductive and Child Health (RCH) fieldworkers had been trained to make their facilities adolescent friendly.

Furthermore, the Health Directorate in collaboration with the Ghana Education Service (GES), the Municipal Assembly, Community-Based Organizations (CBOs), and some Non-Governmental Organizations (NGOs) has been running school health programmes for junior and senior secondary schools in the Municipality.

The prevention of sexually transmitted infections, including HIV/AIDS is a top priority of adolescent reproductive health topics covered under the outreach programmes. In 2000, the District HIV/AIDS Response Initiative (DRI) drew a three-year strategic planning framework (2000-2002) to ensure a coordinated approach towards addressing the socio-cultural, economic and biomedical dimensions of the epidemic.

As part of the initiative, various strategies were used to sensitize and broaden community participation on HIV/AIDS awareness creation and prevention, with many activities focusing on adolescent groups. All these efforts notwithstanding, very little baseline data is available to provide basis for evaluation of existing programmes or guide future programmes. The nationwide adolescent reproductive health programme under the auspices of the Ghana Health Service is yet to take off in the Municipality.

This study will, therefore, provide useful information on the health-seeking behaviour for HIV/AIDS and other sexually transmitted infections in the Bolgatanga Municipality, especially at a time when the Municipal Health Authorities are preparing to begin the training of health workers for the take-off of the adolescent reproductive health programme. Furthermore, the results would provide specific information needs on male adolescent's reproductive health problems for future programmes and policy direction.

### **3.2 Study Population**

The study population consisted of male adolescents in the age group 16-20 years, who were at the time of the study enrolled in senior secondary schools or in organized apprenticeship training in urban Bolgatanga. The in-school study population was made up of a total of 2,724 male students enrolled for the 2004/2005 academic year in the four mixed second cycle schools in Urban Bolgatanga Municipality (see **Appendix A**). Though an adolescent is defined as a person between aged 10-19 years, adolescents in this study were young people between 16 and 20 years.

### **3.3 Study Method and Design**

The study design was a descriptive current cross-sectional survey that sought to compare the HIV/STIs health-seeking behaviour among in-school and out-of-school urban male adolescents (16-20 years) in the Bolgatanga Municipality. Fieldwork was carried out in July - August, 2005. A quantitative method of data collection, using a structured interviewer questionnaire was adopted for the study.

### **3.4 Data Collection Instrument**

The survey instrument was adapted from a core questionnaire developed by the World Health Organization (Ingham & Stone, N.D), and modified to suit local circumstances. With the exception of the background characteristics, which were tailored towards the specific needs of the two subpopulations, all other sections of the questionnaires were the same for both study populations (in-school and out-of-school). The instruments were designed to collect quantitative data on respondents' socio-demographic characteristics; sexual behaviours; knowledge, attitudes and beliefs about HIV/STIs; risk perceptions as well as their health-seeking behaviour (see **appendix B**).

Most questions on both instruments were close-ended. The questionnaires had three modules; socio-demographic background of respondents (13 items for out-of-school and 14 for in-school), sexual history and behaviour (15 items), and HIV/STIs and health-seeking behaviour (54 items).

The first module of the questionnaires elicited socio-demographic data on age, literacy, education, motivations for higher education, religion and religious commitment of participants. Furthermore, four questions were used to assess respondents' biological parents living status and education background. The second module of the instruments sought information on respondents' sexual history, age of sexual initiation, recent sexual activity, risky sexual behaviours and protective measures. The final module asked questions on HIV/STIs knowledge, beliefs and attitudes, HIV stigmatization, risk perceptions and behaviour change. Information was also elicited on participants' willingness to seek HIV/STIs screening and VCT services, self efficacy for seeking VCT services, knowledge of available services, and discussion of protective measures with social networks. Additionally, the module collected information on respondents' self-reported experiences of STIs and health-seeking behaviour.

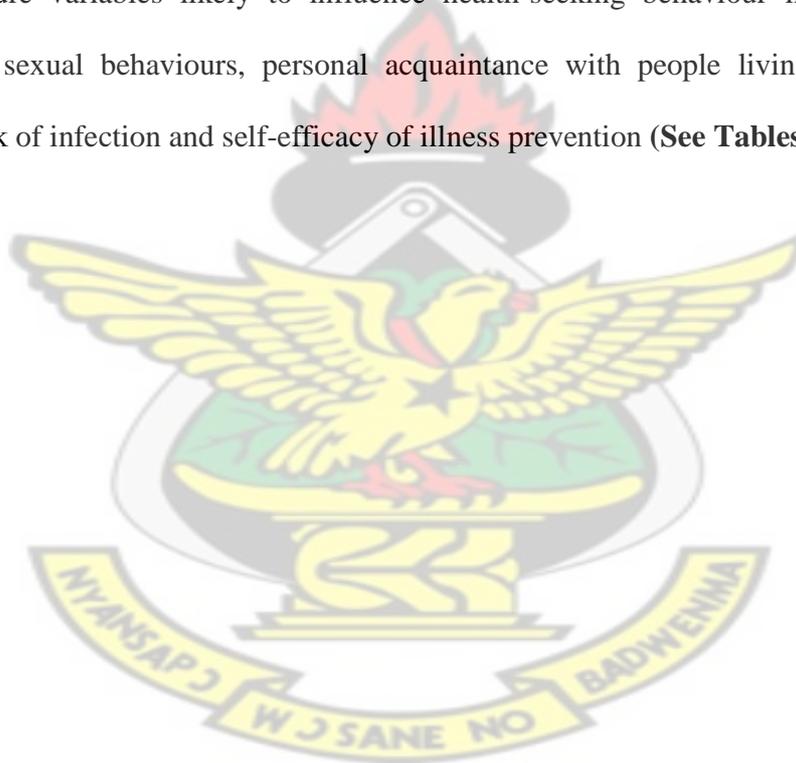
As has been noted elsewhere, a multi-instrument survey tends to yield more comprehensive results for this type of study, (Awusabo-Asare et al. 1995). However, the questionnaire format was adopted for convenience and its cost-effectiveness in data collection due to logistical constraints and the short duration of fieldwork.

### 3.5 Study Variables

#### 3.5.1 Exposure Variables

The exposure variables were selected on the basis of the conceptual framework, which is an adaptation of the Theory of Planned Behaviour (Fishbein & Ajzen, 1981). Although knowledge, attitudes and beliefs about HIV/AIDS/STIs may not necessarily be precondition for health-seeking behaviour, they are likely to influence people's behavioural intentions.

Other exposure variables likely to influence health-seeking behaviour include; religiosity, motivations, sexual behaviours, personal acquaintance with people living with the disease, perceived risk of infection and self-efficacy of illness prevention (See Tables 1A & 1B).



**Table 1A: The Exposure Variables for this Study include the following Types of Data:**

| <b>Variable</b>                     | <b>Operational Definition/Indicator</b>   | <b>Measurement</b> | <b>Objective Addressed</b> |
|-------------------------------------|---|--------------------|----------------------------|
| Age                                 | Age at last birthday, varying from 16-20 years  | Continuous         | Background                 |
| Schooling                           | Level of education attained by respondent   | Ordinal            | Background                 |
| Literacy                            | Respondents ability to read a letter or newspaper with ease, difficulty or not at all                             | Ordinal            | Background                 |
| Religion                            | As reported by respondents  | Nominal            | Background                 |
| Religiosity                         | Frequency at which respondents say they attend to their religious services  | Ordinal            | Background                 |
|                                     | Commitment to religion as reported by respondent  | Ordinal            | Background                 |
| Living status of parents            | As reported by respondents  | Nominal            | Background                 |
| Parents educational attainment      | Last grade of parents' educational attainment as reported by respondent   | Ordinal            | Background                 |
| Median age at first sex             | Age by which respondents have had penetrative sex (median age)  | Ratio              | Objective 3                |
| Condom use at first sex             | The proportion of respondents who used a condom the first time they ever had sex, of those who have ever had sex. | Continuous         | Objective 3                |
| Condom use at last sex              | Percentage of respondents who used a condom at last sexual intercourse  | Continuous         | Objective 3                |
| Ever used condom to avoid HIV/STIs  | Proportion of sexually active respondents who ever used a condom to avoid HIV/AIDS                                | Continuous         | Objective 3                |
| Ever had sex with multiple partners | Proportion of sexually active respondents who have had sex with more than one partner in the last 12 months.      | Continuous         | Objective 3                |
| Commercial sex in last year         | Proportion of sexually active respondents reporting sex with a sex worker in the last 12 months                   | Continuous         | Objective3                 |

**Table 1B Continuation (Exposure Variables)**

|                                      |  |            |             |
|--------------------------------------|--|------------|-------------|
| <b>Sexual behaviour</b>              |  |            |             |
| Knowledge of HIV/STIs                | Percentage of respondents who have ever heard of HIV   | Continuous | Objective 1 |
|                                      | Percentage of respondents who have ever heard of other STIs  | Continuous | Objective 1 |
|                                      | Percentage of respondents who correctly know that HIV/STIs can be transmitted through unprotected sexual intercourse                                   | Continuous | Objective 1 |
|                                      | Percentage of respondents who correctly know that that HIV/STIs can be transmitted cannot be cured   | Continuous | Objective 1 |
| Attitudes and beliefs about HIV/STIs | Percentage of respondents who agree that traditional healers can cure HIV/AIDS   | Continuous | Objective 1 |
|                                      | Percentage of respondents who agree or disagree that people are infected with HIV/AIDS/STIs due to their own carelessness                              | Continuous | Objective 1 |
| Knowledge of HIV/STIs prevention     | Percentage of respondents who believe there is no way to avoid HIV/AIDS/STIs   | Continuous | Objective 1 |
|                                      | Percentage of respondents who say that a person can reduce their risk of contracting HIV/STIs by having sex only with one faithful, uninfected partner | Continuous | Objective 1 |
|                                      | Percentage of respondents who say that a person can reduce their risk of contracting HIV/STIs by using condom  | Continuous | Objective 1 |
| No incorrect beliefs about HIV/AIDS  | Percentage of respondents who correctly know that a healthy-looking person can transmit HIV/AIDS   | Continuous | Objective 1 |
|                                      | Percentage of respondents who correctly know that HIV/AIDS cannot be transmitted by mosquito bites   | continuous | Objective 1 |
| Risk perception                      | Proportion of respondents reporting self assessment of HIV/STIs risk   | Ordinal    | Objective 3 |

Source: Author (2005)

**Table 2: Outcome Variables**

| Variable   | Operational definition/Indicator   | Measurement | Objective addressed |
|--|--|-------------|---------------------|
| Use of HIV/STIs Services                         | Percentage of respondents who have ever voluntarily gone for HIV/STIs screening and test in the last 12months            | Continuous  | Objective 4         |
| Willingness to go for VCT                        | Percentage of sexually active respondents reporting willingness to undergo VCT   | Continuous  | Objective 4         |
| Knowledge of VCT Sites                           | Proportion of respondents correctly identifying a Site for VCT   | Ordinal     | Objective 4         |
| Easiness or difficulty of accessing VCT Services | Percentage of respondents who reported they could access VCT services easily   | Nominal     | Objective 4         |
| STI experience                                   | Proportion of sexually active respondents, who have had a sexually transmitted infection in the last 12months            | Continuous  | Objective 4         |
| Had symptom (s) of STIs                          | Percentage of sexually active respondents, who have had a symptom of sexually transmitted infection in the last 12months | Continuous  | Objective 4         |
| Seek advice or treatment for STI                 | Percentage of sexually active respondents who seek some form of advice for STI infection                                 | Continuous  | Objective 4         |
| Sources of STI treatment                         | Proportion of respondents identifying one source of STI treatment  | ordinal     | Objective 4         |

Source: Author (2005)

### 3.6 Sampling

The sample size was derived using a sample size calculator (software) developed by US-based Creative Research Systems (CRS). An assumed prevalence of 50% was adopted for the outcome variable, “ever been screened or tested for an STI or the AIDS virus”, as a proxy measure of HIV/STIs health-seeking behaviour.

While the prevalence of other STIs in the general population in Ghana is reported to be very low (0.4%), there is little information about the level of prevalence among the adolescent population.

Thus, it was not possible to reliably estimate the proportion of the study population possessing that attribute. A final sample size of 205 (115 in-school adolescents and 90 out-of-school respondents) was obtained.

### **3.6.1 In -School Sample Size**

Systematic random sampling technique was used to select the in-school study participants. First, the researcher used the lottery method (simple randomization) to select three out of the four mixed second cycle schools in Urban Bolgatanga, and then the sample size for each school chosen proportional to the total male student enrolment (see **appendix A** ). Another lottery method was used to select the classes, from which subjects were again randomly chosen from the class registers. Subjects were drawn mainly from the first and second year classes because at the time of data collection, the final year students were writing the Senior Secondary School Certificate Examination (SSSCE).

### **3.6.2 Out-of-school Sample Size**

The out-of-school participants, on the other hand, were purposively selected from identified apprenticeship training institutions in the municipality. Principally, study participants were drawn from adolescents engaged in wayside fitting, small-scale carpentry, basketry, weaving, leather works and tailoring.

### **3.7 Training of Research Assistants and Pre-testing of Questionnaires**

Two research assistants, both experienced in survey interviewing, were recruited to assist in data collection. Four days were used during the first week of July 2005, to review and pre-test the study instruments.

Topics discussed during the review and training included how to seek informed consent; conduct an interview, build rapport with respondents, the art of probing and how to obtain valid answers. The training materials were adapted from the UNAIDS/MEASURE Evaluation “HIV/AIDS Prevention Indicator Survey”, Interviewer Training Manual (UNAIDS/ MEASURE Evaluation, 2000).

The questionnaires were then pre-tested in Zuarungu Secondary Technical School and in three selected apprenticeship workshops, which were not part of the study sites. A total of 22 adolescents (12 in-school and 10 out-of-schools) were interviewed during the pre-testing. After the pre-testing, the researcher and research assistants discussed the questions according to the responses, and some modifications were made to the wording, content and coding of responses before they were sent to the field. Pre-testing of the questionnaire in the pilot study to detect inconsistencies was to ensure reliability of the instrument.

### **3.8 Fieldwork**

Data collection took place from July 12 – 24, 2005. The researcher and research assistants administered the questionnaires in private during classes and training sessions to ensure confidentiality. The purpose of the exercise was explained to participants. It was made clear to them that, while their answers would remain anonymous and confidential, they can decide not to answer any specific question. Earlier, the researcher had sought informed consent, permission and assistance from the heads of the various institutions through an introductory letter signed by the Municipal Director of Health Services (see **appendix C**). Completed questionnaires were checked for errors and mistakes in the field immediately after collection to ensure completeness. Since the exercise was a learning situation, the researcher also took part in the data collection.

### **3.9 Data Analysis**

The survey data was entered using Epi Info 6, exported to Excel for cleaning and merging, and analyzed using the Statistical Package for the Social Sciences (SPSS) and STATA. Chi-square probability values derived from bivariate cross analysis were used to compare selected exposure variables with the outcome variables.

### **3.10 Ethical Considerations**

The researcher sought clearance from the Municipal Health Administration, Headmasters of the various schools and apprenticeship institutions. The purpose of the study was made clear to these various stakeholders, especially the school authorities to minimize potential opposition. However, details of the research instruments were not discussed. The interviewers also told participants during data collection that they were free to decline participation in the study, as well as to refrain from answering any particular question. Moreover, they could terminate their participation whenever they felt it was in their best interest to do so. Respondents were informed before the interviews that they would be asked sensitive questions on their sexual and reproductive health during the interview.

### **3.11 Assumptions**

The findings of the study are based on the assumption that the responses obtained from the participants were a true reflection of their views about the variables under study. It is also assumed that adolescents as well provided accurate information about their background characteristics, as key exposure variables in the study. Interviewers were instructed not to offer explanations of questions and to report exactly what the respondents said in order not to bias

reported behaviours. Thereby, the researcher again assumed that the reported behaviours are valid and reliable indicators of actual behaviour.

### **3.12 Study Limitations**

Some limitations of the study are worth noting. First, the current cross-sectional design adopted for the study, though convenient and efficient, had the following shortcomings.

(i) Information reported on the socio-demographic variables could have changed over time, and thus not reflecting the true situation.

(ii) There was also the possibility of recall bias or incorrect statements on certain demographic and background characteristics such as age at first sexual intercourse, sexual activity, number of sexual partners, exact age, parent's educational level and similar variables.

(iii) To minimize these limitations checks were built into the questionnaire to validate responses obtained.

To improve the quality of data collected, confidentiality and anonymity of information gathered were ensured throughout the duration of the research.

The views of service providers, school authorities and trainers of apprentices on study participants' sexual and reproductive health-related behaviour could have enriched the findings. But time, logistical and budgetary constraints could not permit the researcher to include these other stakeholders in the survey. Furthermore, third year students were excluded from the study as they had begun their Senior Secondary School Certificate Examinations (SSSCE) at the time of data collection, hence a true representative sample of each school was difficult to achieve.

Another limitation of the study was the absence of relevant and current secondary information on prevalence of HIV/STIs in the Municipality. Hence, the interpretations from the study could not be triangulated with available records or figures.

# KNUST



## **CHAPTER FOUR**

### **RESULTS**

#### **4.1 Introduction**

This chapter presents the results for the study on selected socio-demographic characteristics of survey respondents' and their parents (i.e. age, education, literacy, religion, religiosity and parents' educational level). The chapter also considered the relationships among some key variables relating to respondents' knowledge, beliefs and attitudes about HIV/STIs; as well as their sexual history and behaviour. Selected exposure variables were used to examine and compare the health-seeking behaviour of in and out-of-school participants, using "willingness to undergo VCT" and 'ever been screened or tested for HIV/STIs" as proxy outcome variables.

#### **4.2 Respondents' Background Characteristics**

A little over half (56%) of study participants were in school, and 44 % were in apprenticeship (out-of-school). As illustrated in table 4.2 below, the ages of in-school adolescents were spread evenly in the age range of 17 to 20 years, while most respondents in apprenticeship were mainly 19 years or older (64.5%). The average age of all respondents was 18.6 years (16–20 years old, SD=1.33). A little more than half (54%) of in-school participants were in SSS form two (2), with the remaining were in SSS form one (1). Majority of the out-of-school respondents (79%) have not had formal schooling.

Among those who had some form of education, 40% of them reached junior secondary school and nearly a tenth (9%) attaining secondary/technical/vocational education. Again, among out-of-school adolescents who have had some formal schooling, about 19% reported that they could easily read a letter or newspaper; while slightly more than a fifth (37.8%) could read with

difficulty. Twenty-eight percent of the apprentice participants had only a primary school education.

**Table 4.2 Background Characteristics of Respondents**

**Percentage distribution of respondents according to selected background characteristics**

| Characteristics                   | In-school   |              | Out-of-school |              | Total      |              |
|-----------------------------------|-------------|--------------|---------------|--------------|------------|--------------|
|                                   | N=115       | %            | N=90          | %            | N=205      | %            |
| <b>Mean age (yrs)</b>             | <b>18.4</b> |              | <b>18.8</b>   |              |            |              |
| <b>Age:</b>                       |             |              |               |              |            |              |
| 16                                | 7           | 6.1          | 8             | 8.9          | 15         | 7.3          |
| 17-18                             | 49          | 42.6         | 24            | 26.6         | 73         | 35.6         |
| 19-20                             | 59          | 51.3         | 58            | 64.5         | 117        | 57.1         |
| <b>Total</b>                      | <b>115</b>  | <b>100.0</b> | <b>90</b>     | <b>100.0</b> | <b>205</b> | <b>100.0</b> |
| <b>Religion:</b>                  |             |              |               |              |            |              |
| Christian                         | 88          | 76.5         | 45            | 50.0         | 133        | 64.9         |
| Muslim                            | 25          | 21.7         | 38            | 42.2         | 63         | 30.7         |
| Traditional                       | 2           | 1.7          | 4             | 4.4          | 6          | 3.0          |
| None                              | ----        | -----        | 3             | 3.3          | 3          | 1.4          |
| <b>Total</b>                      | <b>115</b>  | <b>100.0</b> | <b>90</b>     | <b>100.0</b> | <b>205</b> | <b>100.0</b> |
| <b>Literacy (out-of-school)</b>   |             |              |               |              |            |              |
| Could easily read                 |             |              | 17            | 18.9         |            |              |
| Read with difficulty              |             |              | 34            | 37.8         |            |              |
| Could not read at all             |             |              | 20            | 22.2         |            |              |
| <b>Total</b>                      |             |              | <b>71</b>     | <b>78.9</b>  |            |              |
| <b>Parents Education (mother)</b> |             |              |               |              |            |              |
| None                              | 72          | 62.6         | 56            | 62.2         | 128        | 62.4         |
| Primary/middle                    | 19          | 16.5         | 12            | 13.3         | 31         | 15.1         |
| Secondary                         | 11          | 9.6          | 4             | 4.4          | 15         | 7.3          |
| Postsecondary                     | 9           | 7.8          | 2             | 2.2          | 11         | 5.4          |
| Don't know                        | 4           | 3.5          | 16            | 17.8         | 20         | 9.8          |
| <b>Total</b>                      | <b>115</b>  | <b>100.0</b> | <b>90</b>     | <b>100.0</b> | <b>205</b> | <b>100.0</b> |
| <b>Ever attended school</b>       |             |              |               |              |            |              |
| Yes                               |             |              | 19            | 21.1         |            |              |
| No                                |             |              | 71            | 78.9         |            |              |
| <b>Total</b>                      |             |              | <b>90</b>     | <b>100.0</b> |            |              |

**Source: Fieldwork (July 2005)**

In terms of religious affiliation, about two-thirds of respondents (65%) were Christian; close to one-third (31%) were Muslim and the rest members of other religions. Other variables considered under respondents' background were whether their biological parents were alive and their educational attainment.

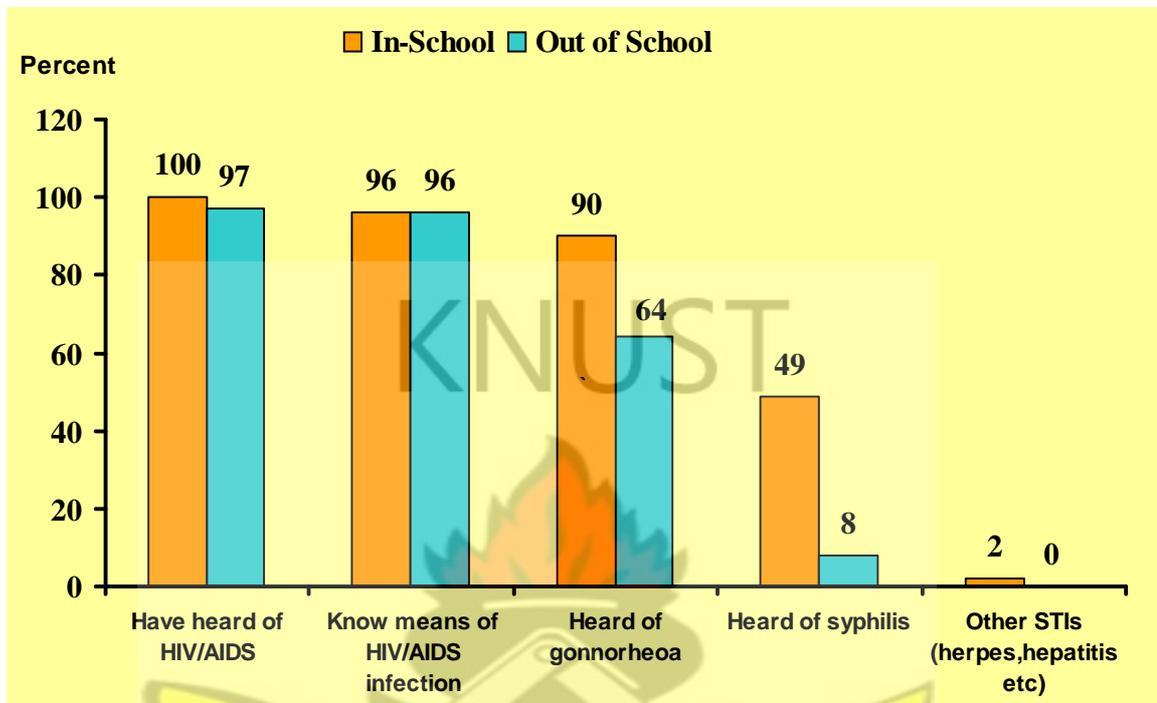
While almost all (92%) of out-of-school adolescents reported that their biological mothers were alive, about two-thirds (67%) reported that their fathers were living. Most student respondents (92%) indicated that both parents were alive.

#### **4.3 HIV/AIDS/STIs Knowledge**

The effectiveness of programmes designed to improve health-seeking behaviour for HIV/AIDS/STIs among adolescent subpopulations depends to a large extent on an accurate assessment of their level of knowledge, beliefs and attitudes about these infections. Consequently, a number of questions were included in the survey to assess respondents' level of knowledge, beliefs and attitudes about HIV/AIDS/ STIs. Adolescents were asked to specify if they have ever heard of HIV/AIDS, and if so whether they know how a person can be infected with the disease. They were further asked to mention all known ways that a person can get HIV/AIDS infection (unprompted).

On knowledge of transmission prevention, respondents were asked to indicate whether people can take any measures to avoid HIV/AIDS or other STIs, and if so, what can a person do. Apart from HIV/AIDS, participants were again asked if they have heard of other infections that can be transmitted through sexual contact.

**Figure 4.3: Awareness and Knowledge of HIV/AIDS and Other STIs**



Source: Fieldwork, (July, 2005)

Figure 4.3 shows the percentage distribution of respondents who have heard of HIV/AIDS and specific STIs. Awareness and knowledge of HIV/AIDS was high among both groups. All in-school adolescents surveyed reported that they have heard of HIV/AIDS. Similarly, almost all (97%) of those in apprenticeship have heard about the disease. Overall knowledge of other sexually transmitted infections (STIs) seems to be very high among students than their apprentice counterparts. For instance, only 7.8% of students, compared with 31.8% of apprenticed respondents reported they have not heard of any other STI (data not shown). Majority of school participants have heard of gonorrhoea (90%), followed by syphilis (49%). In contrast, their counterparts in apprenticeship appear to have relatively low knowledge of both gonorrhoea and syphilis. About two-third (64%) of them reported having heard of gonorrhoea, while only eight percent have heard of syphilis.

Unfortunately, knowledge of specific STIs like herpes, hepatitis and genital warts was very low among both groups. As regards the symptoms of STIs, both groups knew very little about specific symptoms (data not shown).

**Table 4.3.1: HIV/AIDS-Related Knowledge, Beliefs and Attitudes**

| <b>Percentage Distribution of In-School and Apprenticeship Adolescents by their Responses to selected HIV Knowledge related Variables</b> |                  |              |                      |              |
|---|------------------|--------------|----------------------|--------------|
| <b>Characteristic</b>   | <b>In-school</b> |              | <b>Out-of-school</b> |              |
|   | <b>(N=115)</b>   | <b>%</b>     | <b>(N=90)</b>        | <b>%</b>     |
| <b>Acquisition of HIV/AIDS at first sexual intercourse</b>  |                  |              |                      |              |
| Agree   | 94               | 81.7         | 70                   | 77.8         |
| Disagree  | 20               | 17.4         | 9                    | 10.0         |
| Don't know  | 1                | .9           | 11                   | 12.2         |
| <b>Total</b>  | <b>115</b>       | <b>100.0</b> | <b>90</b>            | <b>100.0</b> |
| <b>No cure for HIV/AIDS</b>   |                  |              |                      |              |
| Agree   | 110              | 95.7         | 68                   | 75.6         |
| Disagree  | 4                | 3.5          | 19                   | 21.1         |
| Don't know  | 1                | .9           | 3                    | 3.3          |
| <b>Total</b>  | <b>115</b>       | <b>100.0</b> | <b>90</b>            | <b>100.0</b> |
| <b>HIV/AIDS acquired through individual carelessness</b>  |                  |              |                      |              |
| Agree   | 82               | 71.3         | 58                   | 64.4         |
| Disagree  | 31               | 27.0         | 29                   | 32.2         |
| Don't know/missing  | 2                | 1.7          | 3                    | 3.3          |
| <b>Total</b>  | <b>115</b>       | <b>100.0</b> | <b>90</b>            | <b>100.0</b> |
| <b>Willingness to care for PLWHA's</b>  |                  |              |                      |              |
| Agree   | 95               | 82.6         | 53                   | 58.9         |
| Disagree  | 16               | 13.9         | 28                   | 31.1         |
| Don't know /missing   | 4                | 2.6          | 9                    | 10.0         |
| <b>Total</b>  | <b>115</b>       | <b>100.0</b> | <b>90</b>            | <b>100.0</b> |
| <b>Traditional healers can cure HIV/AIDS</b>  |                  |              |                      |              |
| Agree   | 6                | 5.2          | 60                   | 66.7         |
| Disagree  | 102              | 88.7         | 13                   | 14.4         |
| Don't know/missing  | 7                | 6.1          | 17                   | 18.9         |
| <b>Total</b>  | <b>115</b>       | <b>100.0</b> | <b>90</b>            | <b>100.0</b> |
| <b>HIV/AIDS risk depends on number of sexual partners</b>   |                  |              |                      |              |
| Yes   |                  |              |                      |              |
| No  | 87               | 75.5         | 60                   | 66.7         |
| Don't know/missing  | 21               | 18.3         | 13                   | 14.4         |
| <b>Total</b>  | <b>115</b>       | <b>100.0</b> | <b>90</b>            | <b>100.0</b> |
| <b>Condoms use prevents HIV/AIDS</b>  |                  |              |                      |              |
| Yes   | 83               | 72.7         | 62                   | 68.9         |
| No  | 24               | 20.9         | 17                   | 18.9         |
| Don't know  | 7                | 6.1          | 11                   | 12.2         |
| <b>Total</b>  | <b>115</b>       | <b>100.0</b> | <b>90</b>            | <b>100.0</b> |
| <b>Healthy individuals could harbour the virus</b>  |                  |              |                      |              |
| Yes   | 95               | 82.6         | 71                   | 78.9         |
| No  | 18               | 15.7         | 14                   | 15.6         |
| Don't know  | 2                | 1.7          | 5                    | 5.5          |
| <b>Total</b>  | <b>115</b>       | <b>100.0</b> | <b>90</b>            | <b>100.0</b> |

### 4.3.1 Knowledge on HIV/AIDS-Related Issues

Beyond assessing participants' general knowledge regarding HIV/STIs, specific questions were also included in the survey to assess beliefs, attitudes, and knowledge of prevention and no incorrect knowledge. These included five items designed on a three-point scale with choices such as; agree, disagree and don't know. Three other questions require a "yes, no or don't know responses". Table 4.3.1 presents percentage distribution of in-school and apprenticeship adolescents by their responses to these specific questions.

Four-fifth (81.7%) of students agreed that acquisition of HIV/STIs was possible at first unprotected sexual intercourse. Likewise, majority (77.8%) of out-of-school participants reported that one can be infected with STIs, including HIV/AIDS during first sexual intercourse (see Table 4.3.1). Nearly all respondents were aware that HIV/AIDS has no cure. Practically all (95%) students and three-quarters (76%) of out-of-school adolescents knew that is no cure for HI/AIDS. There is the tendency for people with incorrect knowledge of HIV/STIs modes of infection to believe that only careless individuals are at high risk of getting infected.

Thus, survey respondents were required to indicate whether they *agree, disagree or don't know*, to the statement that "most people who are infected with HIV became infected out of their own carelessness". As expected, fewer (27%) in-school adolescents disagreed with the statement, correspondingly about a third (32%) of apprentice participants agreed with the statement. Study participants were again asked to either agree or disagree with the statement that traditional healers can cure HIV/AIDS. A fairly high proportion of apprentice adolescents (66.7%) agreed with the statement. In contrast, close to nine out of ten (88.7%) of in-school participants did not agree with the statement.

With regard to knowledge of HIV/AIDS prevention, three-quarters (75.5%) of school adolescents reported that people can reduce their chances of HIV/STIs infection by having just one uninfected sex partner who has no other partners, whereas 67% of out-of-school participants indicated that having an uninfected sexual partner, who has no other sexual partners can reduce individuals' chances of contracting HIV/STIs.

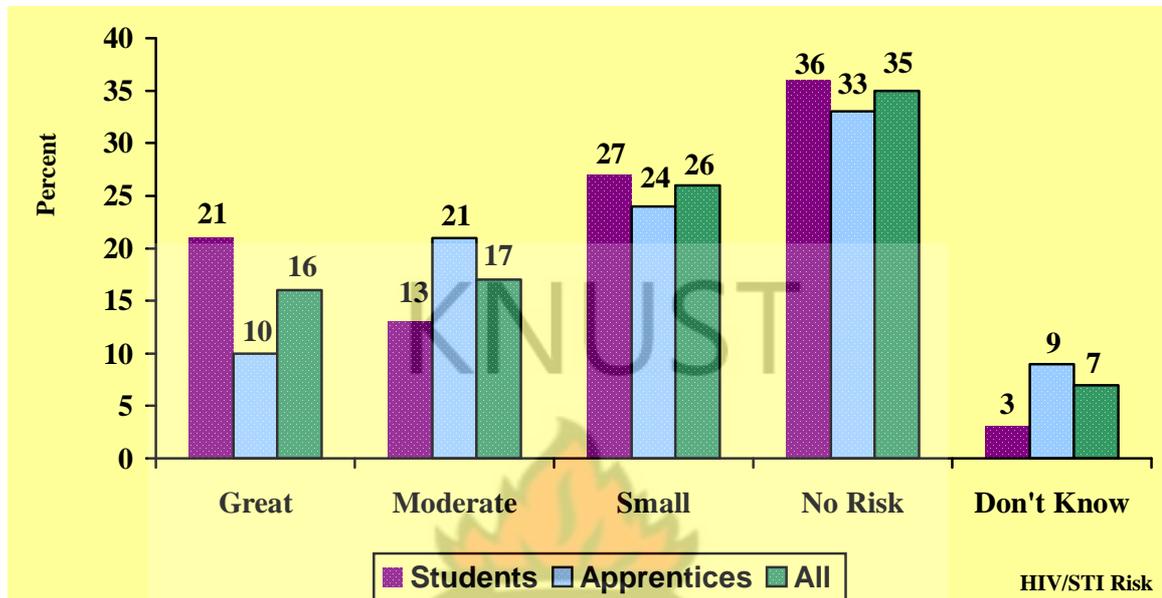
On the effectiveness of condom use to reduce HIV/STIs transmission, again about three-quarters of all respondents, (72.7% of students versus 68.9% of apprentices), reported that people can use condoms to reduce the risk of HIV/STIs infection. Encouragingly, only fewer participants did not know that it is possible for a healthy-looking person to have the AIDS virus (16% of respondents in each group).

A small proportion of respondents may not be aware of specific modes of HIV/STIs transmission and means of prevention. For example, fewer than one in five of students and a little over 10% of out-of-school participants have incomplete knowledge of prevention, i.e., that consistent condom use and one faithful uninfected sexual partner are a means of preventing HIV/STIs.

#### **4.4 HIV/AIDS Risk Perception**

Respondents in both groups, who have heard of HIV/STIs, were asked what they perceive to be their personal risk of contracting these infections. They were required to classify their threat of getting the disease on a four point likert scale of “no risk at all, small risk, moderate risk, or great risk. Figure 4.4 presents the percentage distribution of respondents who have heard about HIV/AIDS by their perception of risk

**Figure 4.4: HIV/AIDS/STI Risk Perceptions between In-school and Apprenticeship Male Adolescents in Urban Bolgatanga**



Source: Fieldwork (July, 2005)

The data (figure 4.4) show that more than a third (35%) of male adolescents surveyed believe they have no risk at all of contracting HIV or other STIs, and about a quarter (26%) reported having a small risk. Those who perceive themselves to have moderate to great risk were within the range of 17% to 16 percent.

Almost two-thirds (63%) of students and close to the same proportion (58%) of apprenticeship participants reported no risk at all to a small chance of getting HIV/AIDS/STIs. Nearly a third in each group (34% of in-school versus 31% of out-of-school), were likely to believe that they have a moderate to great chance of contracting HIV/STIs. There were marked differences in the proportions of students and apprentices who perceive themselves to have a great risk of contracting HIV/AIDS/STIs (21% for students versus 10% apprentices).

Again, the proportion of all respondents who thought they had no risk of getting HIV/STIs was relatively higher among not sexually active adolescents (39% for not sexually active and 25% for sexually active).

#### **4.5 Sexual Activity and Risky Behaviours**

It is important to understand adolescents' risky sexual behaviours in order to make a fair assessment of their susceptibility to STIs, including HIV/AIDS. Thus, respondents were asked whether they have ever had sexual intercourse, and if so at what age. They were also expected to report on the background of their sexual partners. Sexually active participants were further asked to indicate their history of condom use and recent sexual activity.

Table 4.5 indicates that approximately a third of all respondents (32.7%) were sexually active at the time of the survey. Whereas fewer (22.6%) of in-school participants were sexually active, almost half (45.6%) of apprentice respondents reported having had sex at the time of the survey. The lowest age of sexual debut among in-school respondents was 13 years, while that of the out-of-school adolescents was ten (10) years. The median age at first sexual intercourse among all sexually active participants was 17 years.

Of the participants that were sexually active, slightly more than half (53.8%) of in-student participants reported having had sex in the 12 months preceding the survey, correspondingly about two-thirds (68%) of those in apprenticeship reported having had sex during the same period. Concerning their last sexual partners, majority of participants (83.6%) indicated that their last sexual partner was a girlfriend.

About one out of ten (7.4%) of all respondents were likely to mention a casual acquaintance as his last sexual partner. The remaining reported that their last sexual partners were either a sex worker, or someone just met.

**Table 4.5: Adolescents Sexual History and Behaviour**

| <b>Percent distribution of respondents by their history and selected sexual behaviours (N=205)</b> |                               |              |                               |              |                               |              |
|--|-------------------------------|--------------|-------------------------------|--------------|-------------------------------|--------------|
| <b>Characteristics</b>   | <b>All</b>                    |              | <b>In-school</b>              |              | <b>Out-of-school</b>          |              |
| <b>Age at first sex/mean</b>   | <b>10yrs<br/>(mean 17yrs)</b> |              | <b>13yrs<br/>(mean 17yrs)</b> |              | <b>10yrs<br/>(mean 17yrs)</b> |              |
| <b>Sexual history</b>  | <b>(N=205)</b>                | <b>%</b>     | <b>(N=115)</b>                | <b>%</b>     | <b>(N=90)</b>                 | <b>%</b>     |
| Ever had sexual intercourse  | 67                            | 32.7         | 26                            | 22.6         | 41                            | 45.6         |
| Never had sexual intercourse   | 138                           | 67.3         | 89                            | 77.4         | 49                            | 54.4         |
| <b>Total</b>   | <b>205</b>                    | <b>100.0</b> | <b>115</b>                    | <b>100.0</b> | <b>90</b>                     | <b>100.0</b> |
| <b>Last sexual partner</b>   |                               |              |                               |              |                               |              |
| Girlfriend   | 56                            | 83.6         | 19                            | 73.1         | 37                            | 90.3         |
| Casual acquaintance  | 5                             | 7.4          | 2                             | 7.7          | 3                             | 7.3          |
| Others   | 6                             | 9.0          | 5                             | 19.2         | 1                             | 2.4          |
| <b>Total</b>   | <b>(67)</b>                   | <b>100.0</b> | <b>(26)</b>                   | <b>100.0</b> | <b>(41)</b>                   | <b>100.0</b> |
| <b>Condom use during last sexual intercourse</b>   |                               |              |                               |              |                               |              |
| Used   | 51                            | 76.1         | 17                            | 65.0         | 34                            | 83.0         |
| Not used   | 14                            | 20.9         | 7                             | 27.0         | 7                             | 17.0         |
| Don't know/missing   | 2                             | 3.0          | 2                             | 8.0          | ---                           | -----        |
| <b>Total (ever had sex)</b>  | <b>(67)</b>                   | <b>100.0</b> | <b>(26)</b>                   | <b>100.0</b> | <b>(41)</b>                   | <b>100.0</b> |
| <b>Reasons for condom use during last sex</b>  |                               |              |                               |              |                               |              |
| Pregnancy prevention   | 13                            | 25.5         | 3                             | 17.6         | 10                            | 29.4         |
| HIV/AIDS/STI prevention  | 38                            | 74.5         | 13                            | 76.5         | 24                            | 70.6         |
| Others   | --                            | ---          | 1                             | 5.9          | --                            | -----        |
| <b>Total</b>   | <b>51</b>                     | <b>100.0</b> | <b>17</b>                     | <b>100.0</b> | <b>(34)</b>                   | <b>100.0</b> |

Source: Fieldwork (July 2005)

As illustrated in table 4.5, approximately two-thirds (65%). of in-school participants indicated that they had use a condom during their last sexual intercourse, while about four out of five (83%) apprenticeship adolescents reported they had use a condom during their last sexual encounter.

Respondents who have ever used condoms during their last sexual intercourse were also asked to indicate why they did so on that occasion. The results show that more than two-thirds (70%) of both school and out-of-school participants had used condoms to prevent HIV/AIDS/STIs.

#### 4.5.1 Behaviour Change and Protective Measures

Survey participants who have heard of HIV/AIDS were asked whether that had influenced or changed their decisions about having sex or their sexual behaviour. If they responded positively, they were asked to indicate in what way. Table 4.5.1 present the percentage of in-school and out-of-school respondents, who reported specific changes in decisions about having sex or sexual behaviour.

**Table 4.5.1 Behaviour Change in Response to Knowledge of HIV/AIDS**

| <b>Percentage Distribution of Respondents, Who Reported Specific, Changes in Decisions about Having Sex or Sexual Behaviour.</b> |                |              |                  |              |                      |              |
|--|----------------|--------------|------------------|--------------|----------------------|--------------|
| <b>Characteristics</b>   | <b>All</b>     |              | <b>In-School</b> |              | <b>Out-of-School</b> |              |
|  | <b>(N=205)</b> | <b>%</b>     | <b>(N=115)</b>   | <b>%</b>     | <b>(N=90)</b>        | <b>%</b>     |
| Modified behaviour from knowledge  | 180            | 87.8         | 100              | 87.0         | 80                   | 88.9         |
| Not modified behaviour   | 16             | 7.8          | 13               | 11.3         | 3                    | 3.3          |
| Don't know/others  | 9              | 4.4          | 2                | 1.7          | 7                    | 7.8          |
| <b>Total</b>   | <b>205</b>     | <b>100.0</b> | <b>115</b>       | <b>100.0</b> | <b>90</b>            | <b>100.0</b> |
| <b>Ways modified behaviour</b>   |                |              |                  |              |                      |              |
| Did not start sex (sexually inactive)  |                |              | 76               | 85.4         | 39                   | 80.1         |
| Abstinence (sexually active)   |                |              | 15               | 57.7         | 12                   | 24.5         |
| Condom use (sexually active)   |                |              | 12               | -----        | 27                   | -----        |
| Faithfulness (sexually active)   |                |              | 5                |              | 16                   |              |

**Source: Fieldwork (July 2005)**

Four of five sexually not sexually active participants, (85% students versus 80% apprentices), reported having decided to abstain from sex altogether since they became aware of HIV/AIDS.

On the other hand, majority of sexually active respondents have reported various behavioural changes, including secondary abstinence, initiation of condom use and faithfulness to one uninfected sexual partner. The data further revealed that slightly more out-of-school adolescents (88%) reported having used condoms for protection against HIV/AIDS/STIs, than their in school colleagues (data not shown).

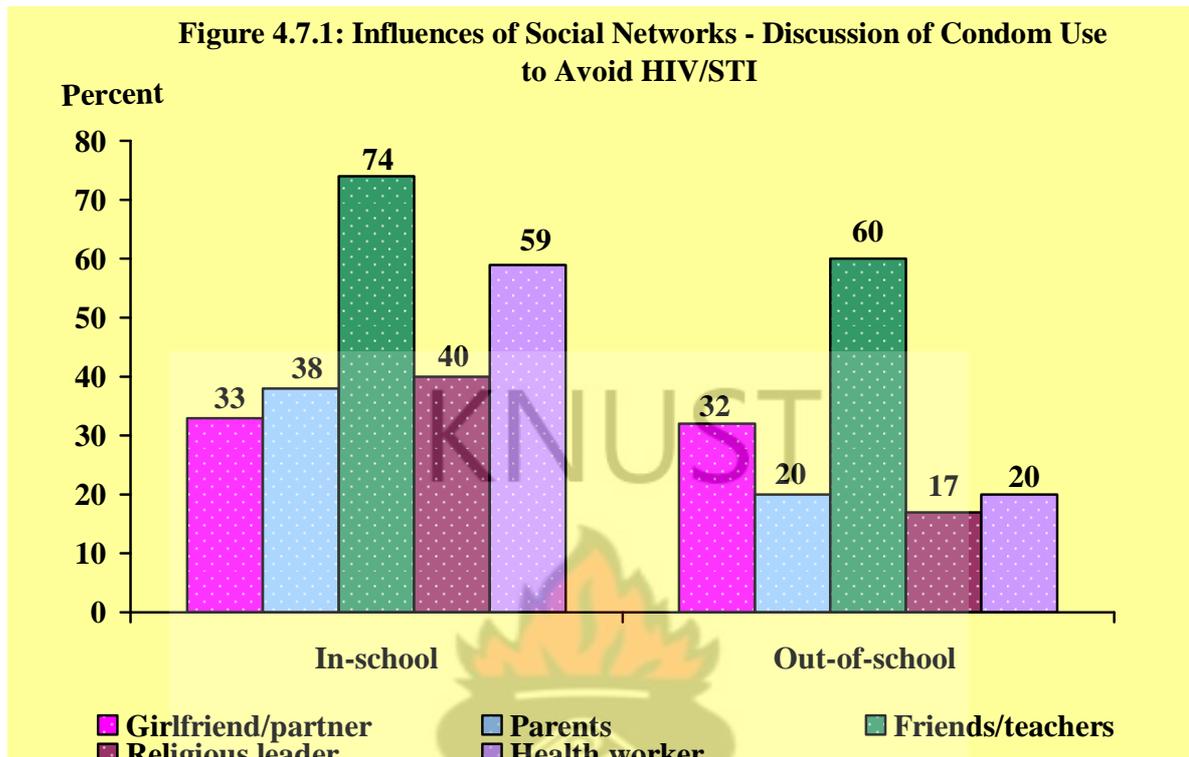
Similarly, there was a strong statistical association between condom use at last sex and ever use condoms to avoid HIV/AIDS/STIs among in-school participants ( $p < 0.001$ , 95% CI), compared to out-of-school adolescents, where no association was established.

#### **4.6 Prevalence of Sexually Transmitted Infections**

To assess HIV/STIs health-seeking behaviour, respondents were asked whether they had had any sexually transmitted infections in the preceding 12 months, and if so, what measures (if any) was taken to seek treatment. All respondents reported never having had an STI in the 12 months preceding the survey.

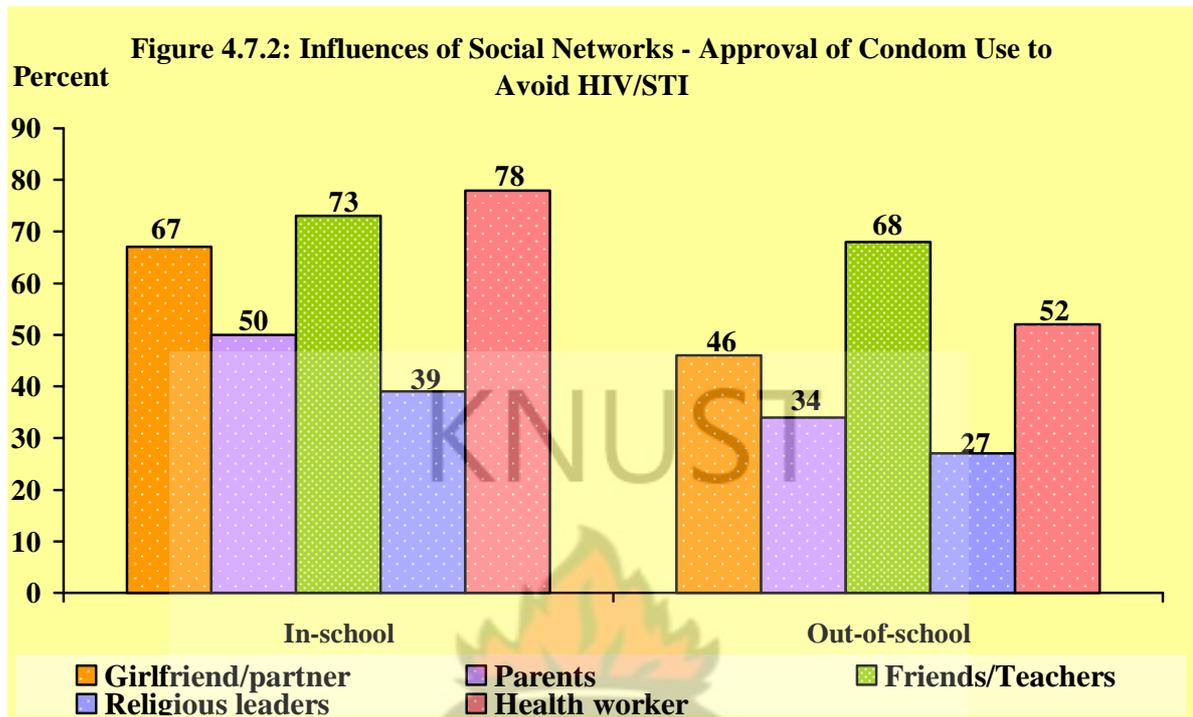
#### **4.7 Influences of Social Networks on Health-Seeking Behaviour**

Two variables were used to examine the influence of social networks on adolescents HIV/STIs health-seeking behaviour. For each type of social referent group, respondents were asked whether in the last 12 months, they had discussed with each of them about the use of condoms to avoid HIV/STIs, and the respondents' perception of social referents' approval or disapproval of their use of condom to avoid HIV/STIs.



Source: fieldwork, August, 2005

As shown in figure 4.7, more students were likely to talk about the use of condom as a protective measure against HIV/STIs with their friends/teachers (74%), and a health worker (59%), as compared with apprentice participants (60% versus 20% respectively). Parents and religious do not seem to be the favourites of respondents in both groups when it comes to discussion of the use of condom against HIV/STIs. Fewer (17%) out-of-school adolescents were willing to talk to their religious leaders about the use of condoms, than students (40%). Almost the same proportions of participants in the two groups (33% versus 32%), would like to discuss condom use with their girlfriends/ sexual partners.



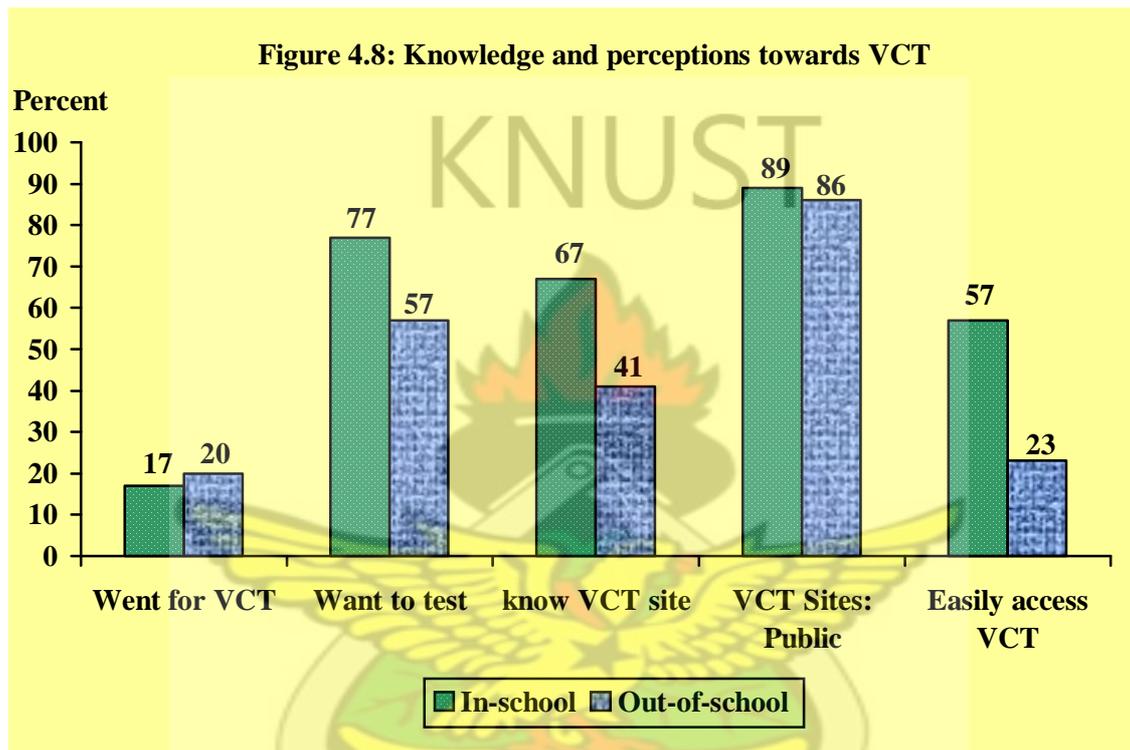
Source: fieldwork, July, 2005

Again, data from figure 4.7.2 showed that a high proportion of all respondents reported that their friends/teachers (73% versus 68%), and health workers (78% versus 52%) would approve of them using condoms to avoid HIV/STIs, relative to the other social networks. Two-thirds of students (67%) reported that their girlfriends/partners would disapprove of them using condoms for HIV/STIs protection, followed by parents (50%). On the other hand, a little less than half (46%) of apprenticed participants indicated girlfriend/partner approval of condom use, followed by parents (34%).

Again, religious leaders were not popular among adolescents when they intend soliciting approval for condom use for HIV/STIs protection. There was little difference between the two groups in terms of the kind of social network group that respondents were likely to discuss protective measures with.

#### 4.8 Knowledge and Perception towards HIV/STIs Screening and Testing

The study also sought to assess the knowledge and perceptions of respondents towards HIV/STIs screening and testing, as a potential measure of health-seeking behaviour.



Source: Fieldwork, July, 2005

The data, as illustrated in figure 4.8 show that fewer respondents of groups, (17% of students and 20% of apprentices), indicated that they have ever been screened or tested for HIV/AIDS or other sexually transmitted infections. However, almost four of five (77%) in-school adolescents reported readiness to seek screening and testing for HIV/STIs, correspondingly more than fifty percent (57%) of out-of-school participants indicated willingness to go for VCT. Two-thirds (67%) of in-school respondents knew where to go for VCT services, unlike their apprentice counterparts where only two of five knew where to access VCT.

Majority of all respondents know that VCT services were available in only government hospitals and health centres (89% versus 86%). Asked whether it would be easy or difficult to undergo for VCT, more than half (57%) of school respondents reported that it would be easy to go for HIV/STIs screening and testing, as compared to fewer out-of-school adolescents (23%) who indicated that it was easy to go for VCT services.

**Table 4.9 Health-Seeking Behaviour and VCT Services**

| <b>Percentage Distribution of Respondents' Potential Health-Seeking Behaviour (Willingness to Undergo HIV/STIs) by Selected Characteristics</b> |  |          |                |                      |          |                |
|---|--|----------|----------------|----------------------|----------|----------------|
| <b>Characteristic</b>   | <b>Willingness to be screened or tested for HIV/STIs</b> |          |                |                      |          |                |
|   | <b>In-school</b>   |          |                | <b>Out-of-school</b> |          |                |
|   | <b>No</b>  | <b>%</b> | <b>p-value</b> | <b>No</b>            | <b>%</b> | <b>p-value</b> |
| <b>Age</b>  |  |          |                |                      |          |                |
| 16-18   | 44   | 50.0     | 0.65           | 17                   | 33.3     | 0.24           |
| 19-20   | 44   | 50.0     |                | 34                   | 66.7     |                |
| <b>Religion</b>   |  |          |                |                      |          |                |
| Christian   | 68   | 77.3     | 0.13           | 27                   | 60.0     | 0.86           |
| Muslim  | 19   | 76.3     |                | 19                   | 50.0     |                |
| Traditional   | ---  | ----     |                | 3                    | 75.0     |                |
| <b>Religiosity</b>  |  |          |                |                      |          |                |
| Committed   | 52   | 75.4     | 0.92           | 34                   | 54.8     | 0.24           |
| Very committed  | 32   | 78.0     |                | 8                    | 47.1     |                |
| Other/not committed   | 3  | 75.0     |                | 7                    | 87.5     |                |
| <b>Sexual history</b>   |  |          |                |                      |          |                |
| Sexually active   | 21   | 80.8     | 0.31           | 22                   | 53.7     | 0.11           |
| Not sexually active   | 67   | 75.3     |                | 29                   | 59.2     |                |
| <b>Condom use during last sex</b>   |  |          |                |                      |          |                |
| Used  | 13   | 76.5     | 0.35           | 19                   | 55.9     | 0.42           |
| Not used  | 6  | 85.7     |                | 3                    | 42.9     |                |
| <b>Risk of HIV/STIs infection</b>   |  |          |                |                      |          |                |
| No risk   | 29   | 70.7     | 0.50           | 17                   | 56.7     | 0.60           |
| Small risk  | 29   | 93.5     |                | 12                   | 54.5     |                |
| Moderate risk   | 11   | 73.3     |                | 9                    | 47.4     |                |
| Great risk  | 16   | 66.7     |                | 7                    | 77.8     |                |
| <b>Sexual relations</b>   |  |          |                |                      |          |                |
| Regular sexual partner  | 6  | 66.7     | 0.68           | 11                   | 52.4     | 0.79           |
| Occasional sexual partner   | 4  | 100.0    |                | 6                    | 50.0     |                |
| No sexual partner   | 37   | 78.7     |                | 9                    | 56.3     |                |

Source: Fieldwork (July 2005)

statistically significant at  $p < 0.05$

#### 4.9 Willingness to Seek HIV/STIs VCT Services

Since, there was no reported incidence of HIV/STIs among survey participants within the preceding 12 months, willingness to seek HIV/STIs VCT services, and “ever received screening or test for HIV/STIs,” were used as measures of potential health-seeking behaviour.

Table 4.9 presents percentage distribution of respondents’ potential health-seeking behaviour (willingness to undergo HIV/STIs) by selected characteristics. As indicated in the table, there was no association between age of respondent and willingness to be screened or tested for HIV/STIs. While half (50%) of in-school participants were willing to be screened, correspondingly a third (33.3%) of apprentice adolescents reported readiness to undergo VCT.

No statistical association was also established between religious affiliation and willingness to be screened or tested for HIV/STIs ( $p < 0.13$  for students versus  $p < 0.86$  for apprentice). However, the results show that more Christian and Muslim students (77% versus 76%) reported willing to undergo VCT, compared with their apprentice counterparts (60% versus 50%).

Furthermore, about the same proportions of in-school adolescents of different levels of religiosity reported high willingness to seek VCT. Though there was no association between religiosity and willingness to be screened or tested in the two groups, fewer out-of-school participants (47%), who indicated they were very committed religiously were prepared to undergo VCT, compared with the four-fifths (78%) of students. More in-school adolescents who were sexually active (80.8%) said they were willing to go for VCT services compared to sexually active apprenticeship participants (53.7%).

Fewer students (66.6%), who perceive they have a great risk of HIV/STIs infection, indicated their willingness to be screened or tested for HIV/STIs, as compared to those in apprenticeship with the same level of risk perception (77.8%). Overall, more in-school adolescents were willing to seek VCT than the out-of-school participants. The results did not find any association between the selected exposure variables and willingness to seek VCT services.

#### **4.10 Health-Seeking Behaviour (Received Screening or Test for HIV/STIs)**

Whether participants have ever been screened or tested for HIV/STIs was the second outcome variable used as a proxy measure of HIV/STIs health-seeking behaviour. Table 4.10 illustrates respondents' health-seeking behaviour (received screening or test for HIV/STIs in the past 1 year) by selected characteristics. More adolescents in the age range 19-20 years in both groups reported ever been screened or tested for HIV/STIs (52% versus 89% for students and out-of-school adolescents respectively). Fewer participants between the ages of 16-18 reported ever been screened or tested for sexually transmitted infections. However, there was no association between age and ever screened or tested for HIV/STIs.

**Table 4.10 HIV/STIs Health-Seeking Behaviour among Male adolescents in Urban Bolgatanga**

| <b>Health-seeking behaviour (received screening or test for HIV/STIs in the past 1 year) by selected characteristics</b> |  |          |                |                                  |          |                |
|--|--|----------|----------------|----------------------------------|----------|----------------|
| <b>Characteristics</b>   | <b>Received screening or test for HIV/STIs</b> |          |                |                                  |          |                |
|  | <b>In-school adolescents</b>                   |          |                | <b>Out-of-school adolescents</b> |          |                |
|  | <b>N</b>                                       | <b>%</b> | <b>p-value</b> | <b>N</b>                         | <b>%</b> | <b>p-value</b> |
| <b>Age</b>   |  |          |                |                                  |          |                |
| 16-18  | 9  | 47.3     | 0.86           | 2                                | 11.1     | 0.08           |
| 19-20  | 10   | 52.7     |                | 16                               | 88.9     |                |
| <b>Religion</b>  |  |          |                |                                  |          |                |
| Christian  | 14   | 16.1     | 0.45           | 7                                | 15.9     | 0.38           |
| Muslim   | 4  | 16.7     |                | 8                                | 21.6     |                |
| Traditional  | --   | ----     |                | 2                                | 50.0     |                |
| <b>Religiosity</b>   |  |          |                |                                  |          |                |
| Committed  | 12   | 17.6     | 0.27           | 10                               | 16.4     | 0.38           |
| Very committed   | 5  | 12.5     |                | 5                                | 31.1     |                |
| Not committed  | ---  | -----    |                | 2                                | 25.0     |                |
| Other  | ---  | -----    |                | ---                              | -----    |                |
| <b>Sexual relations</b>  |  |          |                |                                  |          |                |
| Regular sexual partner   | 2  | 17.0     | 0.60           | 7                                | 33.3     | 0.83           |
| Occasional sexual partner  | -  | --       |                | 4                                | 33.3     |                |
| No sexual partner  | 8  | 22.2     |                | 4                                | 25.0     |                |
| <b>Sexual history</b>  |  |          |                |                                  |          |                |
| Sexually active  | 4  | 15.4     | 0.82           | 13                               | 31.7     | <b>0.01</b>    |
| Not sexually active  | 15   | 17.2     |                | 5                                | 10.6     |                |
| <b>Condom use during last sex</b>  |  |          |                |                                  |          |                |
| Used   | 4  | 23.5     | 0.32           | 11                               | 20.5     | 0.85           |
| Not used   | --   | ----     |                | 2                                | 28.6     |                |
| <b>At risk of HIV infection</b>  |  |          |                |                                  |          |                |
| No risk  | 10   | 24.4     | 0.15           | 4                                | 13.3     | <b>0.02</b>    |
| Small risk   | 1  | 3.1      |                | 4                                | 18.2     |                |
| Moderate risk  |  | 14.3     |                | 9                                | 47.4     |                |
| Great risk   | 5  | 20.8     |                | 1                                | 11.1     |                |

Source: Fieldwork (July 2005)

Statistically significant at  $p < 0.05$

The data in table 4.10 further revealed that fewer proportions of both groups of different religions have ever gone for HIV/STIs screening and testing (VCT), though there is no association between religion and ever received screening or test for HIV/STIs. Christians in both groups reported similar levels of ever been screened or tested for HIV/STIs within the preceding 12 months (16.1% versus 15.9%). Overall, more apprentice respondents (21.6%) reported ever been screened or tested for the AIDS virus and other STIs, compared with in-school respondents (16.7%).

The results show a strong association between ever had sexual intercourse and ever received screening or test for HIV/STIs within the preceding 12 months among apprentice adolescents ( $p < 0.01$ , 95% CI), compared with students where no association was established. More sexually active apprentice adolescents (31.7%) reported having received HIV/STIs screening and testing as against 15% for their in-school counterparts. Of those who reported ever use of condom for protection against HIV/AIDS/STIs, less than a quarter of both groups indicated that they have had HIV/STIs screening or testing in the 12 months preceding the survey (23.5% versus 20.5% for in-school and apprentice participants respectively).

The variable “risk perception of HIV infection” was also significantly associated with ever received HIV/STIs screening among apprentice adolescents ( $p < 0.02$ , 95% CI), unlike in-school respondents where no association has been established. Approximately half (47.4%) of out-of-school adolescents who perceive themselves to be moderately at risk for HIV/STIs reported having been tested for these infections, compared with less than a quarter of those in school. Relatively, more students (24.4%), compared with out-of-school participants (13%), who perceive themselves to have no risk of HIV/STI infection have received HIV/STIs screening and testing in the 12 months following the survey.

#### **4.11 HIV/STIs Stigma/Discrimination-related Attitudes and Health-Seeking Behaviour**

Three questions were included in the questionnaire to measure participants’ perceptions of HIV/STIs stigmatization and discrimination. Respondents were first asked whether they know someone personally who has the HIV/AIDS (to assess fear of the disease).

Again, respondents were required to indicate whether they would want a family members' HIV positive status to remain a secret or not (assessing accepting attitudes). Also, participants were asked whether they think a colleague who has the AIDS virus should be allowed or not to continue in school/apprenticeship (assessing accepting attitudes).

**Table 4.11 Respondents' Perception of HIV/STIs Stigma and potential Health-Seeking Behaviour**

| <b>Potential Health-seeking behaviour (willingness to be screened or tested for HIV/STIs) by perceptions of stigma</b> |  |          |                |                      |          |                |
|--|--|----------|----------------|----------------------|----------|----------------|
| <b>Characteristic</b>  | <b>Willingness to be screened or tested for HIV/STIs</b> |          |                |                      |          |                |
|  | <b>In-school</b>   |          |                | <b>Out-of-school</b> |          |                |
|  | <b>No</b>  | <b>%</b> | <b>p-value</b> | <b>No</b>            | <b>%</b> | <b>p-value</b> |
| <b>Know person living with HIV/AIDS.</b>   |  |          |                |                      |          |                |
| Yes  | 29   | 76.3     | 0.72           | 16                   | 48.5     | 0.06           |
| No   | 55   | 76.4     |                | 34                   | 63.0     |                |
| Don't know/not sure  | 4  | 100.0    |                | ---                  | ---      |                |
| <b>Family members' HIV+ status to remain a secret</b>  |  |          |                |                      |          |                |
| Remain secret  | 24   | 80.0     | 0.45           | 22                   | 66.7     | <b>0.03</b>    |
| Not remain secret  | 63   | 75.9     |                | 28                   | 52.8     |                |
| <b>Should a colleague with HIV remain in school/training</b>   |  |          |                |                      |          |                |
| Can continue   | 68   | 79.1     | <b>0.01</b>    | 30                   | 58.8     | 0.67           |
| Should not continue  | 16   | 66.7     |                | 17                   | 58.6     |                |
| Don't know/not sure  | 4  | 100.0    |                | 4                    | 50.0     |                |

Source: Fieldwork (July 2005)

Statistically significant at  $p < 0.05$

As shown in Table 4.11, more students (76.3%) who knew someone personally living HIV/AIDS reported having been screened or tested for HIV/STIs, compared with participants who were out-of-schools (48.5%). Though, there was no association between knowing someone personally who has the AIDS virus and willingness to be screened or tested. Again, majority of in-school adolescents (80.0%) who reported they would want a family member's HIV positive status to remain secret, were likely to seek VCT services.

The results show statistical association between willingness to disclose the HIV positive status of a family member and willingness to be screened or tested for HIV/STIs among out-of-school adolescents ( $p < 0.03$ ), while no association has been found among school adolescents.

Also, there was a strong association between the variables “should a colleague remain in school or in apprenticeship’ and willingness to go for HIV/STIs screening or testing” ( $p < 0.01$ , 95% confidence level) among in-school respondents. Almost all students (80%) who reported that a colleague living with HIV/AIDS can stay in school/apprenticeship were also willing to be screened or tested. In contrast, slightly less than half of out-of-school participants (48%) who indicated readiness to undergo screening were also ready to accept a colleague living with HIV/AIDS in school.



## **CHAPTER FIVE**

### **DISCUSSIONS**

#### **5.1 Introduction**

The main objective of the study was to examine and compare the health-seeking behaviour for HIV/AIDS and other Sexually Transmitted Infections among in and out-of-school urban male adolescents (15-20 years) in the Bolgatanga Municipality. The researcher adapted the Theory of Planned Behaviour (TPB) as a conceptual model to determine exposure and outcome variables that were likely to influence male adolescents' intentions to adopt HIV/STIs health-seeking behaviours. In discussing and interpreting the results, several factors have been taken into consideration. First, the study did not record any incidence of sexually transmitted infections among the participants in the 12 months preceding the survey, which could have provided a better assessment of respondents' HIV/STIs health-seeking behaviour. Second, the study subjects were limited to students in Senior Secondary Schools and those in Apprenticeships, unaffiliated youth were excluded. Third, the fact that an interviewer administered questionnaire was used for data collection might have led to under-reporting of sexual behaviour and a tendency for respondents to provide "socially acceptable" responses. These limitations notwithstanding, steps were taken to ensure participants' privacy and confidentiality of responses.

#### **5.2 Knowledge about HIV/AIDS/STIs**

Though knowledge about HIV/STIs may be insufficient for safer sexual behaviour and desire health-seeking behaviour, it is still an important precondition for behaviour change, especially in the case of the heterosexual transmission of HIV/STIs in Ghana.

Generally, there was universal awareness and knowledge about HIV/AIDS among both in-school and out-of-school male adolescents in Urban Bolgatanga. This finding supports those of previous studies that Ghanaian adolescents have a fairly high knowledge of HIV/AIDS, (Awusabo-Asare et al., 2004; Glover et al., 2003; Doe, 2003; Tweedie and Witte, 2000). Respondents also showed an appreciable level of awareness and knowledge about the modes of HIV/AIDS/STI transmission and related issues.

Similarly, findings elsewhere indicate that awareness about HIV/AIDS and STIs has increased in most parts of Africa in the last decade, and that at least 90 percent of young men aged 15-19 have heard of HIV/AIDS (Bankole et al. 2004). Despite the high level of awareness, misconceptions about preventive behaviours, including condom use, and the disease itself still exist (Awusabo-Asare et al. 2004; [Harrison, Xaba and Kunene 2001, cited in Barker and Ricardo, 2005]).

Regrettably, male adolescents' knowledge about specific sexually transmitted infections was very poor. This is consistent with findings of Nabila and Fayorsey's (1996) Accra and Kumasi study on adolescent fertility and sexual behaviour in Ghana and other previous studies. The most widely known sexually transmitted infection, apart from HIV/AIDS, among both groups was gonorrhoea. For syphilis, the second STI participants were likely to mention, in-school adolescents reported the highest knowledge (49%), compared with a small percentage of apprentice adolescents (8%). Nearly all respondents have never heard of specific STIs such as herpes, hepatitis and genital warts. A few respondents mentioned malaria, tuberculosis, and bilharzia as STIs (data not shown).

Respondents' limited knowledge of specific STIs will heighten their vulnerability, since they will not be able to take protective measures. Clearly, there is the need to step up educational campaigns on the other STIs in the Municipality, particularly targeting male adolescents. In effect, the finding supports the literature that, "young people are ill-informed about STDs, their symptoms, and the need for treatment and where to obtain treatment", (Senderowitz, 1997). Awareness and knowledge of specific STIs may be limited due to lack of information. This should be a major concern to policy-makers and programme managers of adolescent reproductive health services in view of the fact that concurrent infection with an STI greatly increases the risk of HIV transmission.

### **5.3 HIV/AIDS-related Knowledge**

As regards respondents' level of knowledge, beliefs and attitudes about HIV/STIs, familiarity with the predominantly heterosexual transmission was generally high. Besides, majority of students and out-of-school adolescents did accurately indicate that traditional healers cannot cure HIV/AIDS/STIs. This suggests that male adolescents were likely to use health care facilities for STIs prevention and management, if the necessary environment is created to accommodate their needs. This finding also highlights the need for educating male adolescents to understand that traditional healers can play pivotal role in treating some opportunistic infections associated HIV/AIDS and some STIs, but that no cure has yet been found for HIV/AIDS.

As previously mentioned, knowledge is an insufficient predictor of attitudinal and behavioural change. In focus group discussions in Kenya, young men reported experiencing conflicting pressures, between their knowledge (about HIV/AIDS and safer sex behaviour) and their behaviour, or between what they know they should do and what they actually do (Nzioka 2001,

cited in Barker and Ricardo, 2005). Consistent with the above, the study found that attitudes towards people infected with HIV/STIs remain negative among all participants, despite the high level of knowledge and awareness. While almost three-quarters (71%) of students were likely to blame people living with HIV/AIDS/STIs, approximately two-thirds (65%) of their apprenticeship counterparts were likely to indicate that people contract HIV/STIs out of their own carelessness. The finding supports the view that knowledge might not necessarily lead to behavioural change. This also suggests an incomplete understanding of the modes of HIV/STIs transmission among respondents or perhaps respondents were involuntarily conforming to societal attitudes and perceptions about persons living with HIV/AIDS/STIs.

It has been acknowledged that one key way of reducing new infections and re-infections of HIV and other STIs among adolescents is to ensure that they adopt effective preventive measures. Lending credence to this view, Maharaj and Cleland (2005), noted that prevention programmes have a key role to play in awareness creation on the risk of HIV/STIs infection. The results of the study confirmed that male adolescents in urban Bolgatanga, like their counterparts elsewhere, are aware that by keeping to one uninfected sexual partner, who has no other partner, they can reduce their risk of infection. Again, majority of sexually active respondents in both groups were likely to use condoms in their sexual relations in order to reduce their chances of contracting HIV/STIs.

As pointed out in the literature, a small proportion of respondents may not be aware of specific aspects of HIV and STIs, such as the modes of transmission and means of prevention. For example, fewer than one in five of students and a little over 10% of out-of-school participants have incomplete knowledge of prevention, i.e., that consistent condom use and one faithful

uninfected sexual partner are a means of preventing HIV/AIDS. Similarly, about 15% of students and out-of school participants may not know that a healthy looking person can harbour AIDS virus.

#### **5.4 Risk Perceptions for HIV/STIs**

Knowledge about HIV/AIDS/STIs, though important, is not the only factor influencing behavioural change towards seeking care with symptomatic conditions. Individuals must make an assessment about their own behaviour to verify whether they indulge in activities that may place them at risk of contracting these infections. According to the Theory of Planned Behaviour (TPB), the conceptual model adapted for this study, the perceived consequences and evaluation of behaviour outcomes for a health condition to a large extent may sway attitudes desirably or undesirably towards health-seeking intentions and ultimately behaviour. Hence, for HIV and other sexually transmitted infections, an individuals' perception of illness consequences and evaluative behavioural outcomes could be used to assess their risk perception.

Risk perception was measured by personal risk. Personal risk asked the degree to which each respondent believed that he would be personally at risk of getting infected with HIV/STIs as a result of certain sexual behaviours. This variable was measured on a 4-point scale (1= no risk at all to 4= at great risk). Majority of both students and participants in apprenticeship perceived themselves to have either no risk at all or small risk of HIV/STIs infections. While almost two-thirds (63%) of in-school adolescents reported that they have small to no risk of getting infected, about the same proportion (57%) of adolescents in apprenticeship were likely to hold the same view.

The finding is consistent with the literature that adolescents in Ghana may not adopt protective measures against HIV/STIs because of low perceived risk (Awusabo-Asare et al., 2004). This finding suggests that because the consequences of HIV and other STIs seems remote, adolescents may not rationalize the long term effects of STIs such as death, infertility and transmission to future partners and offspring's.

It also appears that adolescents surveyed were likely to believe that HIV/STIs were for people who indulge in high risk sexual behaviours such as commercial sex. As Mbizvo et al. (1997) have pointed out, as an individual determination; perceived risk may be based on a genuine identification of real danger. On the other hand, it could also be shaped by people's "inaccurate interpretation of reality, personal fears, and biases". Fear theories posit that behavioural changes may be adopted by people who perceive themselves to be at risk, when actually they are not in danger (Wiite, 1992).

### **5.5 Sexual Activity and Behaviours**

Items used for sexual history and behaviour included whether respondents have ever had sexual intercourse, age at first sexual intercourse, condom use at first and last sex, ever had sex with commercial sex workers and sex with multiple partners in the preceding 12 months. A key finding of the study is the very young age at first sex among the respondents.

The mean age at first sex for all adolescents surveyed was 17 years. By age 17 years, approximately 50 percent of respondents have had sex. Generally, out-of-school adolescents were found to have been sexually active at younger ages than their in-school counterparts. While the minimum age at first sex among out-of-school participants was as low as 10 years, the figure

for their in-school counterparts was 13 years. This is consistent with an analysis of survey data among 15- to 19- year-olds in Brazil, Gabon, Haiti, Hungary, Kenya, Latvia, Malawi, Mozambique, and Nicaragua that indicated that more than 25 percent of boys reported having had sex before they were 15 years. Supporting this finding, sexual debut among a small minority of adolescents also occurred as early as age 10 in some of these countries (UNICEF, 2000).

Similarly, in a review of studies among young people in India, Jejeebhoy and Sebastian (2003), found that between 15-30 per cent of young men reported premarital sexual experiences. They authors also indicated that sexual relations among young men tend to be characterised by early debut, multiple partnering and casual sexual relations. Possibly, the observed trend of adolescent sexuality in the Bolgatanga Municipality is a reflection of trends being experienced in other developing countries.

Early sexual debut can place male adolescents at increased risk of HIV and other sexually transmitted infections (STIs). One study found that adolescents who begin sexual activity early appear more likely to have sex with high-risk partners or multiple partners and are less likely to use condoms (HRP, 2000).

Furthermore, the study found that more out-of-school adolescents were sexually active (45%), compared with their school counterparts. Perhaps, better access to information and education among in-school adolescents could have contributed to the delay in sexual initiation, as compared to their out-of-school counterparts who may have limited access to accurate reproductive health information. On the other hand, students may be motivated to delay sex, than

colleagues who were not in school because of the importance they attached to educational goals and future job prospects.

Again, of the participants that were sexually active, slightly more than half (53.8%) of students reported having had sex in the 12 months preceding the survey, correspondingly about two-thirds (68%) of those in apprenticeship reported having had sex during the same period. Thus, these findings suggest that educational programmes should be stepped up to encourage male adolescents to delay early sexual intercourse that might predispose them to HIV/STIs. Perhaps, ensuring that all adolescents have access to education up to the senior secondary school level could motivate them to delay the onset of premarital sexual activity, thus reducing the resultant reproductive health consequences. As all currently sexually active respondents were engaging in premarital sex, condom promotion should be stepped up to encourage them to practice safer sex.

### **5.6 Prevalence of Sexually Transmitted Infections**

As indicated in the results, none of the respondents in the survey reported ever having had an STI in the 12 months preceding the survey. No reported incidence of STIs in the study participants may be due to various reasons as noted in the literature. Many STIs may go unrecognized because they produce no obvious symptoms, or no health care was sought. On the other hand, male adolescents may fail to report a recent STI because of social stigma, thus encouraging underreporting of true incidence. According to the literature, STI incidence also tends to be higher among the 25-35 year groups. It could also be because the sexually active adolescents in the survey were actually practicing safer sex as the results indicates.

## 5.7 Behaviour Change

Behaviour change is critical for reducing new HIV/STIs infections among specific subpopulations and adolescents in particular. Hence, it is expected that the high awareness and knowledge about HIV/STIs among the youth should translate into desired behaviour change. The findings suggest that knowledge of HIV in particular may be having a positive impact on the sexual behaviours of respondents.

Majority of not sexually active adolescents (85% for in-school versus 80% for out-of-school participants) reported that knowledge of HIV/AIDS has influenced them to abstain from sex.

For those who were sexually active, a high proportion of both groups indicated that they have adopted various protective measures including secondary abstinence, use of condom, faithfulness to one partner and avoiding commercial sex in view of their knowledge of HIV/AIDS. According to Ahmed et al. (2001), consistent condom use has been found to significantly reduce the incidence of HIV as well as the prevalence of syphilis, gonorrhoea and Chlamydia in rural Uganda, even though condom use might not be consistent with regular sexual partners.

In an environment where the predominant mode of HIV/STIs transmission is heterosexual, consistent and correct condom use remains highly important in terms of prevention. But as the literature suggests, male adolescents' reported level of condom use may still be much lower than actual level of usage (Bankole et al. 2004). While 20-80 percent of young men in most African countries have ever used a condom, fewer than 40 percent of young men aged 15-19 in several countries had used a condom the last time they had sex (Bankole et al. 2004).

This dichotomy between knowledge and behaviour suggests lack of consistent condom use, explained in part by how young men view sexual activity and also how they perceive their risk of infection and the effectiveness of and access to condoms. Thus, it is encouraging that majority of the respondents reported high level of condom use, it is expected that they do so correctly and consistently. If that is the case, then, this could offer a possible explanation why no incidence of HIV/STIs has been reported among respondents of both groups. Besides, this finding is very important because it may be that prevention measures that promote change in sexual behaviour are making the desire impart on adolescents.

### **5.8 Knowledge and Perception towards HIV/STIs Screening and Testing**

Interestingly, the study found that while many respondents were prepared to go for VCT services, only a few of them had been screened or tested for HIV/STIs (16.6% of in-school respondents and 20% of out-of-school adolescents). It was also encouraging to find that four out of five (77%) in-school adolescents and more than half (57%) of out-of-school participants were eager to go for VCT services. This result, which is consistent with findings in Kenya and Uganda show that male adolescent respondents have a strong interest in knowing about their HIV/STIs status.

In an exploratory study of HIV voluntary counseling and testing (VCT) among youth ages 14 to 21 years in Kenya and Uganda, it was found that 75% of untested youth in Kenya and about 90% in Uganda indicated they would like to be tested in the future (Population Council, 2001). These findings are important for the fact that respondents knew of where to access available VCT services, even though they may not know that these services are also provided by private health care providers and some non-governmental organizations. Consequently, it is important for

service providers to step up their educational activities to popularize the available mix of adolescent reproductive health services, including VCT services.

Besides, respondents' high willingness to seek VCT services points to the need for expansion of VCT services beyond the traditional facility-based service points. Perhaps, more adolescents were willing to go for VCT services because programmes aimed at reducing HIV/STIs stigmatization and discrimination are achieving the right results. It could also be that adolescents do not fully appreciate the implications of going for the test. The analysis shows no statistically significant association between the exposure variables and willingness to seek VCT services (see Table 4.8 in chapter 4).

### **5.9 Influences of Social Networks on Health-Seeking Behaviour**

The conceptual framework for this study, [The Theory of Planned Behaviour (TPB)], posits that perceived social pressure from important social networks to perform or not perform certain behaviours (i.e. subjective norm) is a key determinant of behavioural intentions. According to Bühler and Kohler (2002), male's risk perception for HIV/AIDS/STIs depends more on the number of risk-perceivers in their communication networks. They found that "perceived risks, as well as preferred methods of protection against HIV-infection, depend in general on the prevailing perceptions and favored protective methods within personal communication networks" (ibid:2).

Consequently, adolescents' personal communication networks usually include their friends, sexual partners, parents, teachers, religious leaders and health care providers. Close friends and sexual partners play an important role in the process of adolescents' socialization, and thereby

constitute a trusted source of information on sexual issues. Again, parents, teachers and the others also influence adolescents through their daily interactions with them.

Two variables were used to examine the influence of social networks on adolescents' HIV/STIs health-seeking behaviour. For each social network group, respondents were asked whether in the last 12 months, they had discussed condom use to avoid HIV/STIs with any of them. Another question solicited information on respondents' perception of social referents' approval or disapproval of they (adolescents) using condoms to avoid HIV/STIs. The study found that religious leaders were least likely group that respondents' would like to discuss condom use to avoid HIV/AIDS/STIs.

A similar pattern emerged when respondents were asked to indicate those social referents that were likely to approve or disapprove of their use of condoms to avoid HIV/STIs. Religious leaders again received the lowest ranking. On the other hand, all respondents were likely to discuss use of condoms to protect themselves against HIV/STIs with their friends/teachers and health workers. Friends/teachers and health workers were perceived by respondents as people who approved of the use of condoms to protect against STIs. This finding suggests that peer education programmes should be encouraged and strengthened to provide information and services to male adolescent. Teachers, as role models and confidant of students, should be provided the knowledge and skills to be able to accurately educate and guide adolescents on HIV/STIs and related issues.

The consistent and regular use of condoms among sexually active adolescents may provide an effective check against HIV/AIDS. However, they need the support of social referents to adopt

positive attitudes towards condom use, if they cannot abstain. This finding suggests that religious leaders may have to come to terms with the reality that male adolescents are engaging in risky sexual behaviours and therefore need to use condoms during premarital sex, if they cannot abstain.

#### **5.10 HIV/STIs health-seeking Behaviour and willingness to seek VCT.**

Two variables, not secretive about family member's HIV positive status and should a colleague who is HIV positive but not yet sick be allowed to stay in school or continue apprenticeship, were statistically associated with willingness to seek HIV/STIs screening and testing among apprentice adolescents and students respectively. Even though, overall knowledge of available VCT centres was generally very high, very few respondents of both groups knew of the availability of services in the private and non-governmental sectors. Majority of survey participants were likely to identify only government hospitals and health centres as avenues for VCT services. Specifically, knowledge of available services was higher among in-school respondents, compared to their out-of-school colleagues. As expected, out-of-school adolescents reported a higher likelihood of finding it difficult to access VCT services, than their in-school counterparts (apprentices 32%, students 20%).

#### **5.11 Health-Seeking Behaviour (Received Screening or Test for HIV/STIs)**

Two variables had a statistically significant association at 95% confidence level with ever having screened or tested for HIV/STIs among out-of-school adolescents. These are ever had sexual intercourse and perception of risk of HIV/STIs infection.

The data revealed that more school adolescents in the younger ages of 16-18 were more likely to have received HIV/STIs screening and testing than their age mates in apprenticeship. Younger students who perceive they have no risk of HIV/STIs infection were also more likely to have received screening and testing for these infections than out-of-school adolescents of the same age group. Overall, fewer proportion of all sexually active adolescents had received HIV/STIs screening and testing in the 12 months preceding the survey, though more sexually active out-of-school participants had received the test than those in school. This finding supports the results of the 2003 GDHS, which found that fewer (2.8%) of male adolescents 15-19 years had ever received VCT. Providing safe, accessible and convenient VCT services has been identified as an important component of a comprehensive HIV/STIs prevention and control strategy.

#### **5.12 Perception of HIV/STIs Stigma/Discrimination and Health-Seeking Behaviour**

Perceptions of HIV/STIs stigmatization could have a positive or negative influence on adolescents' health-seeking behaviours. Persons with HIV/AIDS/STIs may experience what has been described elsewhere as 'anticipated discrimination' or 'felt stigma' as well as actual arbitrary discrimination (UNAIDS, 2000b). Consequently, they may limit their own health-seeking behaviour because they fear or suspect discrimination.

As the data indicated, there was weakly significant association ( $p < 0.03$ ) between not secretive about family member's HIV positive status and willingness to seek HIV/AIDS/STI counseling among out-of-school youth, compared to in-school response. On the other hand, a strong association was established between "should a colleague with HIV but not yet develop AIDS remain in school" and willingness to go for HIV/STIs screening or testing ( $p < 0.01$ ) among in-

school participants. Perhaps, out-of-school adolescents were more likely to accept those colleagues living with HIV/AIDS than their in-school participants.

From the analysis, stigma may not pose a major obstacle in addressing HIV/STIs among adolescents in the Municipality. For example, three quarters (75%) of in-school adolescents and over half of their out-of-school counterparts (57%) do believe that HIV-positive colleagues should be allowed to stay in school or in training.



## **CHAPTER SIX**

### **CONCLUSIONS AND RECOMMENDATIONS**

#### **6.1 Introduction**

Adolescents and young people, between the ages of 15-24, form an important part of the Ghanaian population. With the advent of HIV/AIDS and the resurgence of other sexually transmitted infections as co-factors of transmission among the youth, policy and programmatic interest on adolescent reproductive health issues are increasingly attracting much attention. Evidence elsewhere highlights the disproportionate vulnerability and susceptibility of adolescents to HIV/STIs due to multiplicity of factors. These may include biological, socio-economic and more importantly risky behavioural factors. Hence, it was on the basis of the need to find evidence-based solutions to these problems, especially in the Bolgatanga Municipality, that this study was carried out.

The study specifically sought to; assess the knowledge, attitudes and beliefs of in-school and out-of-school urban male adolescents about HIV/STIs; assess urban male respondents' risk perceptions for HIV/STIs infection; identify HIV/AIDS risky sexual behaviours and protective measures among in-school and out-of-school urban male adolescents; determine the HIV/STIs health-seeking behaviour of respondents; and compare the health-seeking behaviour for HIV/STIs between the in-school and out-of-school respondents.

## 6.2 Conclusions

- **Knowledge about HIV/AIDS/STIs**

Both in-school and out-of-school male adolescents reported high awareness and knowledge about HIV/AIDS, even though they knew very little about the other STIs. In-school respondents were more likely to know of some specific STIs than their apprentice counterparts.

Majority of respondents also knew that unprotected sexual intercourse is the predominant mode of STIs, including HIV transmission.

It is, however, worrisome, as evidenced from the findings that many respondents tend to believe that people infected with the AIDS virus were careless with their lives. Young people's limited knowledge of STIs has serious implications for their risk of contracting both STIs and HIV. It seems the high awareness and knowledge was not translating into behaviour change.

- **Risk Perceptions for HIV/STIs**

Among both in-school and out-of-school participants, the majority did not perceive themselves to be at risk of HIV/AIDS/STIs. More than half of both groups reported that they have small to no risk at all for HIV/STIs infection. Respondents who were not sexually active at the time of the survey were more likely to indicate high perceived low risk. Perceived low risk is also higher among in-school participants than those engaged in apprenticeship.

- **Behaviour Change and Protective Measures**

A key finding of the study is that most male adolescents intend to practice safer sex. Among respondents who were sexually active, most indicated they would adopt protective sexual

behaviours such as secondary abstinence, using condoms, or reducing the number of sexual partners. Students and apprentices reported similar intentions.

The study revealed that in-school participants were more likely to have changed their sexual behaviours and decisions in response to increased knowledge about HIV/STIs, compared to those in apprenticeship. It is also encouraging to find that majority of sexually active respondents reported increased use of condoms as a protective measure against HIV/AIDS/STIs. However, for condom use to be effective, it must be used consistently and correctly, and with regular premarital sexual partners.

Awareness and knowledge of young people seems not linked to behavioural change. The responses to the survey questions appear to reflect “socially acceptable” behaviour, but actions may be completely different.

- **Sexual Activity and Risky Behaviours**

Another key finding of the study is that sexual debut was likely to take place much earlier among out-of-school respondents, compared to those that were in school. While the lowest age at first sex among out-of-school respondents was 10 years, it was 13 years among the students. It is also significant to find that the median age at first sexual intercourse (17 years) for the study sample was lower than that reported by the 2003 GDHS (19.6 years) for the 20-24 age cohort of men. Fewer (22%) of in-school respondents reported they were sexually active, compare with the almost half (46%) of out-of-school adolescents. Much difference was not found in respondents' risky sexual behaviours. Generally, all participants seem not to be engaging in risky sexual behaviours such as multiple sex, casual sex and sex with commercial sex workers.

- **Knowledge and Perception towards HIV/STIs Screening and Testing**

A main finding of the study is that male adolescents have a strong desire to know about their HIV/STIs status, even though a few of them had received the test. Fewer (57%) out-of-school participants were, however, eager to undergo VCT, compared to students (77%).

A possible interpretation could be that educational programmes to reduce stigmatization are making impact. In-school respondents were also more likely to know where to find VCT services, than their apprentice colleagues. In contrast, high proportions of both groups did not know that services are available in the private and mission health facilities. More awareness is needed in this direction.

- **Influences of Social Networks on Health-Seeking Behaviour**

Respondents were more likely to feel comfortable discussing condom use to avoid HIV/STIs with friends/teachers and health workers than with religious leaders and parents. Religious leaders are least likely to be consulted by adolescents for advice on condom use.

- **Prevalence of HIV/STIs**

The study did not record any incidence of HIV/STIs among either students or apprentices. Could this finding be a reflection of the fact that participants were not engaging in risky sexual behaviours? Another possible interpretation could be that study population seems not to be high risk group.

- **Health-Seeking Behaviour (Received Screening or Test for HIV/STIs)**

Two variables, ever had sexual intercourse and perceived risk for HIV/AIDS/STIs were statistically associated with ever received HIV/STIs screening and testing among out-of-school

adolescents, in contrast no association was established between these and other selected variables among in-school adolescents. Generally, fewer respondents had ever been screened or tested for HIV/AIDS/STIs.

- **Perception of HIV/STIs Stigma/Discrimination and Health-Seeking Behaviour**

The study found an association between willingness to disclose the HIV positive status of a family member and willingness to be screened or tested for HIV/STIs among out-of-school adolescents ( $p < 0.03$ ). Likewise, the variables, “should a colleague remain in school or in apprenticeship’ and willingness to go for HIV/STIs screening or testing” were statistically associated ( $p < 0.01$ ) among in-school respondents.

### **6.3 Recommendations**

It is now established that male adolescents in the Bolgatanga Municipality may be engaging in early sexual intercourse, and thereby at risk of HIV/STIs. Nevertheless, it is encouraging to find that male adolescents may be willing to go for HIV/STIs related health services. Thus, to ensure that male adolescents in the Municipality grow into responsible adults, free from preventable reproductive health infections, the following are hereby recommended based on the findings of this study.

- **Municipal Assembly**

1. Develop Municipal specific HIV/STIs policies and programmes for adolescents, especially those who are out-of-school.

2. Allocate resources to community-based organizations (CBOs) involved in youth HIV/STIs activities to expand their coverage to reach male adolescents, with emphasis on educating adolescents on the other sexually transmitted infections.

3. Monitor and supervise the activities of NGOs and CBOs that are implementing donor funded adolescent reproductive health programmes to ensure that they are using evidence-based best practices to achieve results through culturally sensitive programming.

4. Create employable skills training avenues for out-of-school male adolescents to give them hope and motivation to adopt protective behaviours against HIV/STIs.

5. Collaborate with traditional leaders to eliminate negative traditional practices, for instance, early sexual initiation among male adolescents, and sex with multiple partners, which may increase male adolescent's risk to HIV/STIs.

• **Regional and Municipal Health Authorities**

1. The current system for surveillance of STIs nationwide and in the Bolgatanga Municipality does not provide a complete picture of the incidence/prevalence of these infections or trends over time. STI surveillance activities among adolescent subpopulations need to be improved, since reports indicate that adolescents are increasingly susceptible to these infections disproportionately.

2. Shift emphasis of educational programmes from awareness creation to behaviour change communication, (for example, by promoting the ABC strategy among male adolescents). Efforts

redirected on other STIs that respondents have lower knowledge, and on out-of school adolescents who are more sexually active.

3. Educational campaigns should give attention to changing male adolescents' risk perceptions for HIV/STIs. The study revealed that, majority of respondents did not perceive themselves to be at risk.

4. As they study has shown, there is goodwill for condom use among male adolescents to avoid HIV/STIs. In view of this, condom promotion activities should be expanded, using innovative and male adolescent friendly service points, such apprenticeship workshops. Improve skills of service providers in working with adolescents and counseling about effective condom use.

5. HIV/STIs pre-test and post-test counselling sites should be increased in the Municipality, using non-traditional sites such as the schools, community centres and other places that male adolescents' may feel safe and comfortable. For many adolescents a single pre-test or post-test counselling may not be enough. It may be useful to provide ongoing HIV/STIs counselling for adolescents to help them adopt and maintain behaviour change.

6. Establish and train more adolescent outreach HIV/STIs counsellors, making services more adolescent-friendly, and providing more information, education, and communication.

7. Sexually active male adolescents' should be provided with skills on the correct and consistent use of condoms and made to understand that trust should not be the basis for non-condom use within premarital sexual relations.

8. Policy prescriptions for integrating adolescent reproductive health concerns, especially STI management, with basic health services at the primary health care level have been clearly outlined. However, the capacity of the primary health care system remains inadequate. Hence, there is a need to strengthen the basic infrastructure, ensure the availability of trained manpower at different levels of health care as well as delivery of high quality and friendly services to adolescents.

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- **Other Stakeholders**

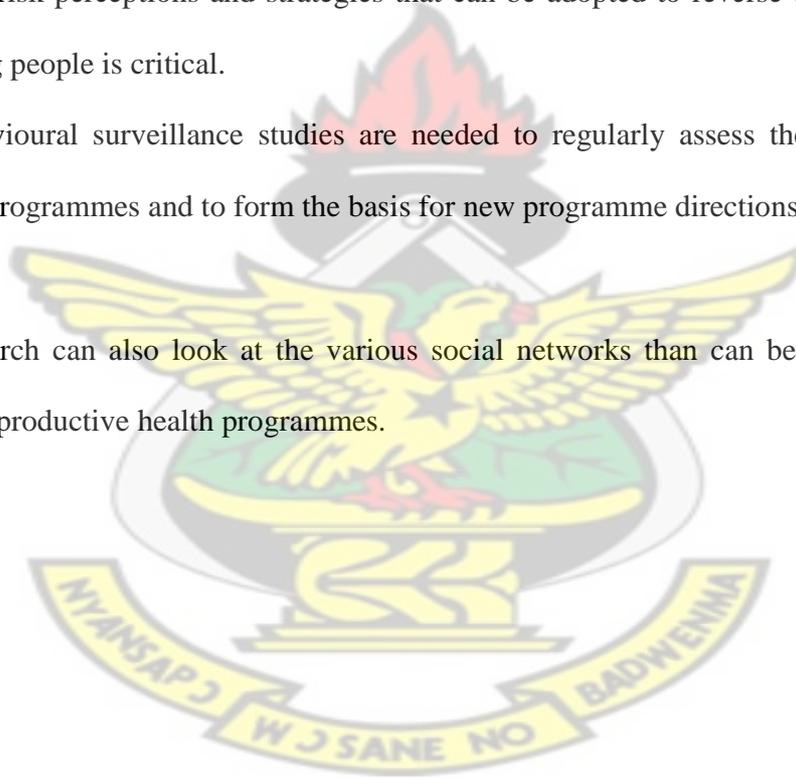
1. Educational authorities should introduce Family Life Education (FLE) into curriculum to complement other sources of information available on adolescent reproductive health issues to students.

2. Educational authorities should collaborate with health service providers to regularly screen students for STIs, including HIV. Adolescent reproductive health programmes for both students and out-of-school youth ought to promote abstinence as the best means of avoiding HIV/STIs.

3. Many young people still do not feel that they are at risk of HIV/STIs. Perhaps, they externalize the risk and do not think they are vulnerable themselves. Thus, parents, teachers, health workers, religious leaders and programme managers need to help youth appreciate their risk so that they would take protective measures and adopt positive health-seeking behaviours' such as the use of VCT services.

- **Further Research**

1. Research is needed to highlight prevailing socio-cultural norms predisposing male adolescents to early sexual practices and HIV/STIs.
2. Despite extensive educational campaigns, and high knowledge and awareness about HIV/AIDS in particular, its causes, modes of transmission and prevention measures, risk perception among adolescents remains low. Social science research to understand male adolescents' risk perceptions and strategies that can be adopted to reverse this dangerous trend among young people is critical.
3. Behavioural surveillance studies are needed to regularly assess the impact of various educational programmes and to form the basis for new programme directions.
4. Research can also look at the various social networks that can be supportive of male adolescent reproductive health programmes.



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### Appendix “A”: Sample Size Determination

#### MALE STUDENT ENROLMENT IN FOUR SECOND CYCLE SCHOOLS IN URBAN BOLGATANGA DURING THE 2004/2005 ACADEMIC YEAR

| NO                 | SCHOOL                         | 1 <sup>ST</sup> YEAR | 2 <sup>ND</sup> YEAR | 3 <sup>RD</sup> YEAR | TOTAL        |
|--------------------|--------------------------------|----------------------|----------------------|----------------------|--------------|
| 1                  | BOLGATANGA TECHNICAL INSTITUTE | 356                  | 473                  | 355                  | 1184         |
| 2                  | BOLGATANGA SECONDARY ZAMSE     | 340                  | 319                  | 285                  | 944          |
| 3                  | SECONDARY/TECHNICAL ZUARUNGU   | 175                  | 132                  | 89                   | 396          |
| 4                  | SECONDARY/TECHNICAL            | 75                   | 58                   | 67                   | 200          |
| <b>GRAND TOTAL</b> |                                | <b>946</b>           | <b>982</b>           | <b>796</b>           | <b>2,724</b> |

Source: Upper East Regional Directorate of Education

#### SAMPLE SIZES FOR THREE SELECTED SCHOOLS FOR THE STUDY

1. BOLGATANGA TECHNICAL INSTITUTE = 1184
  2. BOLGATANGA SECONDARY SCHOOL = 944
  3. ZAMSE SECONDARY/TECHNICAL = 396
- TOTAL ENROLMENT = 2524

#### A: BOLGATANGA TECHNICAL INSTITUTE

$$1184/2524 * 115 = 54$$

#### B: BOLGATANGA SECONDARY SCHOOL

$$944/2524 * 112 = 43$$

#### C: ZAMSE SECONDARY/TECHNICAL

$$396/2524 * 112 = 18$$

#### **D: TOTAL IN-SCHOOL SAMPLE SIZE = 115**

### **SAMPLE SIZE DETERMINATION (OUT-OF-SCHOOL ADOLESCENTS)**

Based on the average number of about 14 trainees engaged in many of the apprenticeship programmes in the Municipality (i.e. carpentry, masonry, wayside mechanics, tailoring, blacksmiths, welding, leather works, handicrafts and smock weaving); the out-of-school study population was estimated at 1200. The actual population size of this group in the Municipality is unknown. Thus, the total study population was put at 3,924 for purposes of sample size determination.

