HIV/AIDS Education through Secondary and Higher Secondary Institutions in Bangladesh: A Sociological Study

Jasmin Nahar

Registration No: 124

Session: 2009-2010

A thesis submitted in partial fulfillment of the requirement

for the degree of Master of Philosophy

Department of Sociology

University of Dhaka

Bangladesh

Declaration

This thesis is a presentation of my original research work. Wherever contributions of others are involved, every effort is made to the indication this clearly, with due referee to literature, and acknowledgement of collaborative research and discussions. The work was done under the guidance of Professor Dr. ASM Amanullah, at the department of Sociology University of Dhaka, Bangladesh.

24.4.2013

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(Jasmin Nahar)

Date:

In my capacity as supervisor of the candidate's thesis, I certify that the above statements are true to the best of my knowledge.

A S M Amanullah

(Professor Dr. ASM Amanullah)

Date: 24/4/2013

ACKNOWLEDGEMENTS

The success of this thesis has become possible through the assistance from a number of people, all of whom I cannot acknowledge. First I am grateful to my supervisor Professor Dr. ASM Amanullah, an internationally acclaimed AIDS researcher, who has encouraged and guided me by providing several books and papers regarding my study. His support, criticism and intellectual comments helped me accomplishing this study. It was a great contribution from his part of providing plenty of his valuable time without which it would be hard for me to complete the thesis in due time. I feel very fortunate to have learned from him.

I would also like to give special gratitude to some honorable teachers of my department who always gave me ideas and encouraged me to conduct the study. They made a significant input into the development of ideas which the thesis contains.

I am especially thankful to a renowned sociologist, Dr. A.I. Mahbub Uddin Ahmed, for his discussion about postmodern theories of health. In addition, I am grateful for his methodological discussions regarding various quantitative aspects which facilitated the statistical analysis of this thesis.

469942

Most significantly, I am indebted to the officials of sample educational institutions who helped me by providing the total number of students by grades and thus facilitated the sampling procedure.

Finally I owe special thanks to all respondents and teachers who took time to respond to my queries without whose support and patience it was difficult to conduct field work.

Jasmin Nahar

February 2013

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ACRONYMES AND ABBREVIATIONS

AIDS	: Acquired Immune Deficiency Syndrome
AVERT	:AVERTing HIV and AIDS
BDHS	: Bangladesh Demographic and Health Survey
CSWs	: Commercial Sex Workers
EDUCAIDS	: Education and HIV & AIDS
EFA	: Education for All
GFATM	: Global Fund to Fight AIDS, Tuberculosis and Malaria
GoB	: Government of Bangladesh
HAPP	: HIV and AIDS Prevention Project
HIV	: Human Immunodeficiency Virus
IATT	: Inter Agency task team
IoM	: Institute of Medicine
MDG	: Millennium Development Goals
M&E	: Monitoring and Evaluation
MOHFW	: Ministry of Health and Family Welfare
NASP	: National AIDS/STD Program
NCTB	: National Curriculum and Textbook Board
NIPORT	: National Institute of Population Research and Training
NRCS	: Nigerian Red Cross Society
PIACT	: Program for the Introduction and Adaptation of Contraceptive Technology
PTAs	: Parent–Teacher Associations
PLHIV	: People Living with HIV/AIDS
SMC	: School Management Committee
STDs	: Sexually Transmitted diseases
UNAIDS	: United Nations Program on HIV & AIDS
UNESCO	: United Nations Educational Scientific and Cultural Organization
UNICEF	: United Nations Children's Fund
UNGASS	: United Nations General Assembly Special Session
WHO	: World Health Organizations

Abstract

The education sector provides students with facts about HIV/AIDS which have emerged as major health problems affecting students. The purpose of this study was to assess secondary and higher secondary students' knowledge on HIV/AIDS. A total of 600 students in the age group 11-19 were selected using multi-stage cluster sampling technique. A self-administered survey questionnaire was used to collect the required data from the study participants. More than three-fifths of the students (68.3 percent) were selected from urban educational institutions and the rest were from rural educational institutions. Again, a little more than three-fifths percent of the respondents (63.2 percent) were found to be studying in secondary educational institutions and male constituted a little more than half of the respondents (51.5 percent). In terms of religious affiliation, this study found that about 96.2 percent of the respondents were predominantly Muslim and 41.2 percent participants' source of income was business. With regard to monthly household income of the respondents, a considerable number of students' monthly household income is more than 10000 taka. In terms of exposure to mass media, the findings of the study demonstrated that a considerable number of students had exposure to various mass media namely newspaper (89.3 percent), television (97.2 percent), radio (60.2 percent), internet (44.2 percent). The findings of the study also suggest that a good number of students (47.8 percent) were found with high knowledge about HIV/AIDS. The bivariate results indicate that type of institution, level of education, age, religiosity, source of household income, monthly household income were found significant association with level of knowledge. Again, location of educational institutions, type of institutions, level of education, age, religiosity, monthly household income were found to be significantly related to the opinion on whether textbook is best medium of disseminating HIV/AIDS information among the students. Moreover, level of knowledge about HIV/AIDS and teaching of HIV/AIDS in class room are positively associated. Results indicate that students who reported that HIV/AIDS related topics were taught in the classroom were more likely to have higher degree of knowledge about HIV/AIDS in the present study. Furthermore, age and income have been found as the significant predictors of knowledge about HIV/AIDS.

Keywords: HIV, AIDS, secondary school, higher secondary education, knowledge, teachers' training.

CHAPTER ONE
INTRODUCTION

1.1 Background of the study

The existence of HIV/AIDS poses a serious challenge to human kind. HIV/AIDS is a human development problem fueled by poverty, the inequality of certain sectors of society, and the presence of other STDs. The Human Immunodeficiency Virus (HIV) which causes the Acquired Immune Deficiency Syndrome (AIDS) was first discovered in the early 1980s. It has spread more rapidly than most diseases in recent history, having social-cultural, economical and moral repercussions on individuals, families, communities and threatening foundations of entire societies (Amanullah and Huda, 2012). Over the years, the link between HIV/AIDS and impoverishment has grown and even stronger as the disease is infecting and affecting the younger generation who are the productive labor force of every economy. Younger generations are especially vulnerable to HIV and other sexually transmitted diseases (STDs). According to UNAIDS Report (2012), HIV infection has increased among young people aged 15–24 years—people frequently at the highest risk for infection and what happens to them today will determine what becomes of them and their communities in the future (UNAIDS, 2012).

The World Health Organization (WHO) has identified HIV/AIDS as one of the world's first health emergency and an urgent threat to global public health. It reveals that HIV/AIDS is the world's second widely spread communicable disease and the sixth common cause of death globally (WHO, 2004). In international circles in recent years, it has received as much attention as other pressing global questions like war, terrorism, environmental degradation among others. Recent UNAIDS Report on the Global AIDS Epidemic (2012) estimates that globally 34.0 million [31.4 million–35.9 million] people were living with HIV at the end of 2011. An estimated 0.8% of adults aged 15-49 years worldwide are living with HIV, although the burden of the epidemic continues to vary considerably between countries and regions (UNAIDS, 2012).

UNAIDS Report (2012) further reveals that Sub-Saharan Africa remains most severely affected, with nearly 1 in every 20 adults (4.9%) living with HIV and accounting for 69% of the people living with HIV worldwide. Although the regional prevalence of HIV

infection is nearly 25 times higher in sub-Saharan Africa than in Asia, almost 5 million people are living with HIV in South, South-East and East Asia combined. After sub-Saharan Africa, the regions most heavily affected are the Caribbean and Eastern Europe and Central Asia, where 1.0% of adults were living with HIV in 2011.

Asia's epidemic has long been concentrated in specific populations, namely injecting drug users, sex workers and their clients, and men who have sex with men (UNAIDS Outlook Report, 2010). In 2010, an estimated 3.5 million people were living with HIV/AIDS in the South-East Asia Region. The HIV epidemic is declining in the South-East Asia Region; the estimated number of new infections has declined by 34% from 320 000 in 2001 to 210 000 in 2010. Five countries (namely India, Indonesia, Myanmar, Nepal and Thailand) account for the majority (99%) of HIV infections. India ranks second among the highest HIV burden countries in the world. No case of HIV has been reported from the Democratic People's Republic of Korea. Bangladesh, Bhutan, Maldives, Sri Lanka. The overall HIV prevalence among the adult population is very low (0.3%) in the Region. Thailand is the only country having prevalence over 1%. Key populations at higher risk for acquiring HIV, sex workers and their clients, men who have sex with men, transgender populations and people who inject drugs are disproportionately affected by HIV and the key drivers of the epidemic (WHO, 2011).

According to UNAIDS (2012), no disease in history has prompted a comparable mobilization of political, financial and human resources and no development challenge has lead to such a strong leadership by communities and countries most heavily affected. By reducing life expectancy, increasing child mortality and proliferating the number of orphans, HIV/AIDS impoverishes individuals, communities and nations by eroding the capacities of socio-economic systems through losses of human resources which is the most important resource for meaningful and sustainable development. The devastating effect of the HIV/AIDS pandemic especially on the young generation is therefore a major impediment to development. So education can be used as a tool to create awareness regarding HIV/AIDS epidemic among the youths and students across the world (UNAIDS, 2012).

UNICEF contends that the education sector has a central role in the multisectoral response to HIV and AIDS and it is now apparent that it has a key role in reducing stigma, promoting prevention, and providing access to care and treatment. It also

observes that there is reduced vulnerability to HIV among people with secondary or higher education. While schooling increases earning power, self confidence and social status it also allows people to take greater control over their sexual choices. Therefore, countries should invest in schools as HIV prevalence is likely to decrease as education increases (UNICEF, 2011).

In connection to this, policy makers, researchers conducted many studies on comprehensive sex and HIV/AIDS education among the youths and students around the world. Kirby, Laris & Rolleri (2007) reviewed articles on the impact of sex and HIV/AIDS education on sexual behaviors of young people throughout the world. They reviewed 83 articles from both developed and developing countries and found out that although the studies had common characteristics many of them integrated characteristics of programs previously found to be effective. They concluded that there is evidence of positive impact on behavior, of curriculum-based sex and HIV/AIDS education for adolescents and young adults.

A study carried out by Rwenge (2002) revealed that, the young people surveyed were well informed about AIDS, its main modes of transmission and methods of prevention, but they continued to have sexual relations that could expose them to infection. Hyera, Lee, Kwon, Chung & Kim (2005) studied the HIV knowledge, attitudes and related behavior and sources of knowledge among adolescent South Koreans. Their findings showed that the level of HIV/AIDS knowledge among Korean youths was moderate and that they exhibited a fairly negative attitude towards people with HIV.

The first case of HIV/AIDS in Bangladesh was detected in 1989. The prevalence of HIV in Bangladesh is less than 0.1% in the general population (WHO, 2011) and the estimated number of HIV positive cases in the country is around 7500 (UNGASS Report, 2010). Though the overall prevalence of HIV in Bangladesh is less than 1%, however, the HIV prevalence is increasing and high levels of HIV infection have been found among injecting drug users (Amanullah and Huda, 2012; UNAIDS Report 2012; Habib, Amanullah and Hasan, 2001; Amanullah, 2006; Amanullah and Choudhury, 2005). According to the latest Serological Surveillance (Round 9, 2011) of Bangladesh, the HIV prevalence among PWUD, Female Sex Workers, MSW, MSM and Hijras was 0.7%. Although HIV prevalence was below 1% in most groups of female sex workers, in casual sex workers (those who were selling had either one or more other main sources of

income) from Hilli (a small border town in the northwest part of Bangladesh), prevalence was 1.6 (Round 9 surveillance, 2011). The Round 9 surveillance tested 7,529 drug users (PWID, heroin smokers and the combined group of PWID and heroin smokers) from 30 different cities). Overall HIV prevalence was 1.2% (PWID and heroin smokers), with low rates found in drug users from five cities. Prevalence of 5.3% was reported in Dhaka among male PWID. The estimated number of HIV/AIDS remains at 7,500. In 2011 the NASP informed that there were 445 newly reported cases of HIV and 251 new AIDS cases, while 84 people had died. Thus the cumulative number of reported HIV cases till date in Bangladesh stands at 2,533, AIDS cases at 1,101 and deaths at 3258.

The above evidences show that the people of Bangladesh especially young people and students are vulnerable to HIV and other sexually transmitted diseases (STDs). They are also vulnerable as regards drug use (and not just injected drugs). Even if they are not engaging in risk behaviors today, they may soon be exposed to situations that put them at risk. Therefore, this study is conducted to make them aware regarding HIV/AIDS, to assess the students' existing knowledge on HIV/AIDS and STDs, their AIDS education through text books and their attitudes towards AIDS education.

A lot has been researched on comprehensive sex and HIV/AIDS education throughout the world. But AIDS education through secondary and higher secondary institutions in Bangladesh is one of the least researched topics. To fill the gap, it is thus imperative to study AIDS education through secondary and higher secondary institutions in the context of Bangladesh in order to inform the policy makers and planners and to develop more detailed, appropriate and culturally and gender insensitive texts to prevent students from contracting HIV/AIDS since we know youth students are more vulnerable to this serious epidemic.

1.2 Outline of the thesis

The thesis has been divided into seven different chapters so that the reader can identify the parts of the study or see the relationship of the parts to one another. To serve the purpose, the thesis clearly indicates the title of each chapter along with its sections and sub-sections.

In the first chapter, enough background has been given to make clear to the reader why the problem was considered worth-investigating. It also includes the importance, objectives and hypotheses as well as the definitions of the major concepts employed in

the study. In the second chapter, attempt has been made to provide a balanced review of the available existing literatures regarding HIV/AIDS education in different countries of the world. The third chapter is about theoretical framework containing some social learning theories and models which have been used in this study.

The third chapter is followed by a methodological chapter which gives clear explanations regarding the design of the study. Then comes a chapter of empirical presentation where all the results have been presented in a logical sequence and splitted into readily identifiable sections. In chapter six, students' knowledge on HIV/AIDS, and some statistical associations have been explored in bivariate analysis. And the interpretation of the major research findings has been made in the next-coming chapter of discussion. Moreover, this chapter summarizes and recapitulates the main points of the study in addition to some pragmatic recommendations.

1.3 Objectives of the study

1.3.1 General Objective

To examine the HIV/AIDS education among the students of secondary and higher secondary institutions in Bangladesh.

1.3.2 Specific objectives

1. To assess the socio-demographic characteristics of the students
2. Socio-demographic factors would have strong influence upon the level of knowledge on HIV/AIDS of the students
3. To show the association between students' exposure to mass media and their practice of AIDS education
4. To evaluate the students' views regarding the role of textbooks as a medium of information on HIV/AIDS and STDs that vary according to socio-demographic characteristics
5. To determine the association between students' exposure to mass media and their level of knowledge about HIV/AIDS
6. To assess the relationship between level of knowledge about HIV/AIDS and teaching of HIV and AIDS in class room

1.4 Research hypotheses

1. Socio-demographic characteristics are more likely to influence the students' knowledge about HIV/AIDS
2. Students' exposure to mass media and their practice of AIDS education are positively associated with each other
3. Students' views regarding the role of textbooks as a medium of information on HIV/AIDS and STDs vary according to socio-demographic characteristics
4. Students' exposure to mass media and their level of knowledge about HIV/AIDS are correlated
5. Teaching of HIV and AIDS in class room would have strong influence upon the level of knowledge about HIV/AIDS

1.5 Rationale of the study

This study is about to examine the HIV/AIDS education through secondary and higher secondary institutions. Therefore, the results of the study will have its own contribution for those who want to know the demographic, socio-economic factors that shape the knowledge of students towards AIDS education. Many literatures suggest that the AIDS education through formal curriculum have considerable influence on the knowledge on HIV/AIDS that shapes the attitudes of students.

Research on sex and HIV/AIDS education is one of the serious neglected issues in Bangladesh. The few studies which were carried out earlier in Bangladesh focused only on the gender sensitivity of communication materials. The major focus of those studies was to investigate the state of gender sensitivity and the information on reproductive health in the GO and NGO communication materials on HIV/AIDS. Moreover, those studies were carried out based on qualitative methods. Therefore, this study is based on quantitative techniques with a fairly sufficient sample size of students from four divisions of Bangladesh. Thus, it may serve as a reference for other researchers to study such problems in depth in the study area besides filling the literature gap.

1.6 Scope of the study

This is an exploratory type of research. This study has been conducted on the students of secondary, higher secondary institutions in Bangladesh. Primary data were collected from the students of grade six to grade twelve in those institutions. This study does not involve any sort of longitudinal design; rather cross-sectional design has been used. Knowledge

on HIV/AIDS, teachers training would be explained using both quantitative techniques. For this reason, some hypotheses are formulated reviewing literatures and forming theoretical framework. As far as I know, this study is first in its nature in Bangladesh. Therefore, the findings of the study would be helpful not only to the academicians but also to the policy planners and development workers.

1.7 Operational Definitions of the study

Secondary and Higher Secondary Institutions

Secondary and higher secondary institutions include government approved schools and colleges which has received HIV/AIDS intervention programs.

Human Immunodeficiency Virus (HIV)

HIV is the virus that causes the acquired immune deficiency syndrome (AIDS).

AIDS

AIDS stands for Acquired Immune Deficiency Syndrome. AIDS is a health condition that results from the deficiency in the body's immunity following HIV infection. HIV attacks the human body by breaking down its immune system that is meant to fight diseases. Over a period of time, the immune system weakens and the body loses its natural ability to fight diseases. At this stage, various diseases affect the infected person.

Knowledge

Refers to information and skills acquired through experience or education; the theoretical or practical understanding of a subject. In this study, knowledge on HIV/AIDS means the information that is acquired through various sources including text books, radio, television, newspaper, internet, family, friend, seminar etc.

HIV/AIDS education

HIV/AIDS education refers to the broad range of interventions given to a people or to an individual about the characteristics of HIV/AIDS and STIs. It can be through media advocacy, in schools, in communities, in social gatherings and to individuals all in an attempt to create awareness, impact knowledge that can help the target population to make informed choices. In this study AIDS education refers only to those interventions that are provided by the textbooks of NCTB (National Curriculum and Textbook Board).

Textbooks

Textbook is a manual of instruction in any branch of study. Textbooks are produced according to the demands of educational institutions. In this study, textbooks refer to those books that are provided by NCTB in printed format from grade six to grade twelve for Bangla, English Education.

CHAPTER TWO
REVIEW OF LITERATURE

2.1 HIV/AIDS and sex education program

Programmers and curriculum planners have also been faced with problems of terminology within the sex education context. So far, no clear consensus exists regarding a universally acceptable term to describe the educational activities, methodologies and process that constitute school-based 'sex education (UNESCO, 2007). In some settings, the use of terms such as 'sex' or 'sexuality' has been seen as too explicit and making parents, teachers and policy makers uneasy. They add that, programs use terms such as 'family life education', 'life-skills education' or 'population education' which may provide an opportunity to overlook discussions on sex totally. It is for which reason, UNESCO's Global Advisory Group on Sex, Relationships and HIV Education has suggested the term sex, relationships and HIV education be used to describe educational activities in this area (UNESCO, 2007).

2.1.1 Defining HIV/AIDS education

HIV/AIDS education refers to the broad range of interventions given to a people or to an individual about the characteristics of HIV/AIDS and STIs. It can be through media advocacy, in schools, in communities, in social gatherings and to individuals all in an attempt to create awareness, impact knowledge that can help the target population to make informed choices. UNESCO (2007) gives it a broad definition by positing that,

HIV education can be conceptualized as a continuum from risk reduction to risk elimination and vulnerability reduction...At one end of the continuum is 'abstinence only' which seek to eliminate risk through promotion of sexual abstinence until marriage...At the other end of the continuum are approaches that seek to reduce vulnerability through broader changes at the whole school or community level. Between these two ends of the continuum lie the majority of approaches best described as 'risk reduction', which focus on reducing risk to HIV prevention and other STIs... Throughout the continuum, sex, relationships and HIV education can range from didactic learning...through to participatory approaches (exploration of values and attitudes) and acquisition of skills through skills-based approaches.

In addition, specific contents for these different approaches are likely to overlap considerably with major differences at the level of focus on intended out comes. Formal HIV/AIDS education incorporates the above definition as part of a regular school curriculum. According to Tiendrebeogo, Meijer & Engleberg (2003, 27), it is usually delivered in three models.

First model: In the first model, HIV/AIDS is delivered as a topic integrated with another subject such as science.

Second model: It is delivered as a topic integrated with health, environment, population and family life education. This is mostly a cross disciplinary approach where HIV/AIDS is introduced in a variety of subjects including mathematics, science, home economics, health education and language learning.

Third model: The third approach considers HIV/AIDS education as a specialized subject. This study will be concerned with the second model of HIV/AIDS education which is used for HIV/AIDS instructions in schools.

2.1.2 Abstinence-only versus comprehensive sex education program

Denny & Michael (2006) examined the results of an 18 month follow-up evaluation of an abstinence education curriculum with students from 15 school districts. Their results at short and long term indicated that students of the intervention school had more knowledge and greater intent to remain abstinent than students of the comparison school. This study was followed by Underhill, Paul & Don (2007) who assessed the effects of abstinence-only programs for HIV prevention among participants in High income countries. They reviewed articles from 30 electronic data bases and their results revealed that these programs did not have any significant effect on participants' behavior. They concluded that such programs do not seem to affect the risk of HIV infection in high income countries as measured by self-reported and behavioral outcomes (Underhill, Paul and Don, 2007).

In another study, Kohler, Lisa & William (2008) compared the sexual health risk of adolescents who received abstinence-only and comprehensive sex education to those who received no formal sex education. The results showed that adolescents who received comprehensive sex education were significantly less likely to report teen pregnancy and also a lower likelihood of engaging in vaginal intercourse. Abstinence-only education did not reduce the likelihood of engaging in vaginal intercourse. AVERT (2009) concludes that despite generating considerable debate and political support particularly in the United

States, abstinence education represents primarily, a minority moral movement rather than an effective response.

2.1.3 Necessity of comprehensive sex education

Proponents of comprehensive sex education contend that sex education should encourage abstinence but should also provide young people with information about contraception, STIs and HIV. They believe that comprehensive sex education that is appropriate to students' age, developmental level and cultural background should be an important part of education at every age. Over the years, a lot has been researched on comprehensive sex education and its impact on adolescents. Rose & Dickinson (2005) studied the impact of abstinence-only education and comprehensive sex education in the United States and Denmark respectively. They found that Teenagers in the United States had higher rates of unintended pregnancies, STIs and abortions, than the Danish teenagers who received comprehensive sex education.

Studies from African countries have proven that comprehensive sex education has greater positive impact on students. Fawole et al (1999) studied the effectiveness of a school-based HIV education program for secondary school students in Nigeria. Their sample comprised of students who according to the researchers, were more at risk as a result of ignorance, poverty and high prevalence of disease. They studied the knowledge attitudes and sexual behavior of 223 students who received a comprehensive health education program, compared to 217 students of a control group. At post-test, intervention students demonstrated higher knowledge about HIV transmission and prevention. Their attitudes also revealed more tolerance towards PLHIV. After the intervention, the number of reported sexual partners decreased for the intervention group while it increased for the control group. Reported condom use also increased for the intervention group. They concluded that students could benefit from specific education programs that transmit important information necessary to prevent risky behavior and improve knowledge on HIV/AIDS and attitudes towards PLHIV (Fawole et al; 1999).

From other African countries, Bennell, Karen & Nicola (2002) did a comprehensive study on the impact of HIV on the education sector in primary and secondary school in Botswana, Malawi and Uganda. Part of the study was an assessment of the effectiveness of school-based HIV/AIDS prevention programs in these countries. The survey schools were randomly selected in two urban and rural areas, which were among those in each

country with the highest recorded levels of HIV infection. Their results proved that there was significant change in behavior among the Ugandan adolescents and in Malawi it was on the rise in the rural areas. The reverse was true for Botswana where some indicators suggested that more limited changes towards safer sexual behavior were occurring. They concluded that there was little hard evidence to show that school-based HIV/AIDS education and, more generally, sexual reproductive health and life skills education has had a major impact on sexual behavior of school persons in all three countries. However they also observed that the interventions were able to inform students on the causes and consequences of HIV (Bennell, Karen & Nicola, 2002).

2.1.4 Relationship between HIV/AIDS and education

The relationship between HIV/AIDS and education must be made meaningful; much effort is required to make the desired impact on the education system and on development goals as a whole. For this to happen, Coombe (2004, 25), supposes that something must change from the old systems to the new systems of education. She asserts that,

In this new context, education can no longer be 'business as usual'. Learning institutions in an AIDS-infected world cannot be the same as those in an AIDS-free world. Challenged by this pandemic, the paradigm of education is shifting. It is necessary to change education planning and the management principle, curriculum development goals and the way we do education, if the quality and level of education are to be sustained at reasonable levels and hard-worn gains of Education for All era retained.

This implies that program planners must take all these new fields into consideration so that interventions can have a proper focus. The Global Initiative on Education and HIV/AIDS (EDUCAIDS) emphasizes that education in this new context has to seek out learners from HIV/AIDS affected households and acknowledge learners experiences and obstacles. The contents of learning materials should be culturally appropriate, gender-sensitive, age-specific and accurate information on HIV/AIDS. From broader perspective, inclusion should be emphasized with participation and dialogue that address HIV/AIDS-related stigma and discrimination from classmates, teachers, parents and communities. Education policies, procedures and regulations should by and large be reformulated to take into account HIV/AIDS (Kelly, 2004c).

2.2 Learning and teaching HIV/AIDS issues and ABC model

Attitudes have traditionally been shared into affective, behavioral and cognitive (ABC) components. Learning and teaching of HIV/AIDS issues could also be delivered using this classical ABC model. In every learning situation, instructions target one, two or all of these aspects. The affective objectives emphasize the feelings and emotions that learners have towards the subject. It deals with motivation and willingness to participate in a subject and often targets the growth of attitudes. It addresses the importance that learners attribute to a subject and how this is ultimately translated into their way or life. In their study, Meyer, John, Frank, Kirsty & Lynanne (2008, 16) state that there is strong empirical connection between students academic outcomes and self reported motivation beliefs and values. This emphasizes the need of incorporating understandings of student motivation into research to enhance educational outcomes in the behavioral domain.

However, they contend that motivation is influenced by other variables like student's sex, age, class, family background, subject area, career goals and teacher's attitude and beliefs. The affective domain is usually implicit in the learning process and as such it is sometimes difficult to measure students affect in a given situation. From a broader perspective other research has proven that both unpleasant and pleasant mood can influence ones evaluation and that positive affect will always have positive outcomes. Exceedingly strong feelings may have such a powerful influence on ones thoughts and inclinations that they overcome whatever ideals one holds regarding the necessity of fair and objective assessment (Berkowitz, 2000). In the same vein, Gagne (1988) asserts that while many attitudes are naturally acquired outside school, schools are often expected to establish socially approved attitudes towards issues like knowledge and learning and self-efficacy. He adds that if school instructions are able to instill basic positive attitudes in students, it will definitely modify their attitudes in a particular direction. However, the choices that students will have to make towards person, events or things may be stronger in one student than in another. In the context of HIV/AIDS education, students' motivation towards the subject might have an impact on their attitudes toward PLHIV and condom use.

One of the important objectives of this study was to enhance students' level of knowledge about HIV/AIDS. This study was concerned with the ABC Model which is used for HIV/AIDS education to enhance educational outcomes in the behavioral domain.

Behavioral outcome would target specific behavior change of the students through retention and transfer of HIV/AIDS knowledge.

2.2.1 Four elements of behavior

Behavioral outcomes usually target specific behavior change in learners. In the behavioral domain, learning is context specific, behavior-centered and more process oriented because behavior change does not occur at the end of the lesson. According to Fishbein (2000) the definition of any given behavior includes at least four elements; the action, the target, the context and the time period during which the behavior is observed or expected. He furthers that changes in one of these elements also changes the behavior being observed. He elaborates on these elements with typical examples in sex education. He argues that effective health interventions should focus on specific rather than at multiple behaviors, because each behavior is unique, and the substantive factors influencing one behavior are often very different to those influencing behavior (Fishbein, 2002). In the context of HIV/AIDS education, behavior change is usually the target outcome. Therefore interventions could be very specific and given a time frame during which change may or may not occur, and of course there should be monitoring and evaluation to see if learning has had any impact on desired outcome (Fishbein, 2002).

2.2.2 Cognitive domain in the context of HIV/AIDS education

The cognitive domain is directly concerned with actual knowledge, comprehension and intellectual skills like thinking, perceiving, recognizing, judging and reasoning (Berliner & Gage 1988). According to Lorin, David & Benjamin (2001), schooling can be expanded to include a broader range of cognitive processes, making learning more meaningful by enforcing the educational goals of retention (the ability to remember what was learned at some later time) and transfer (the ability to use what was learned to solve new problems, answer new questions), (Lorin et al., 2001). This could well be applied in the context of HIV/AIDS education so that learners' knowledge would influence their ability to change attitudes and behavior. All three objectives are essential because they help teachers focus on what to teach and help students focus on what to learn. Although all three ABC aspects are intertwined, it is often useful to focus on one at a time (Berliner & Gage, 1988).

2.2.3 Defining self-efficacy

Self-efficacy, which refers to one's confidence in being able to carry out a specific

behavior (e.g., resist sexual advances, negotiate condom use with a partner), is associated with a number of health behaviors, including actions to prevent HIV transmission (Basen-Engquist and Parcel, 1992). Research findings have also been mixed regarding the connection between self-efficacy and risky sexual behaviors. Previous research has suggested that low self-efficacy plays an important role in the development and maintenance of sexual behaviors (Joffe and Radius, 1993; Seal *et al.*, 1997). However, Kovacs and his colleagues (1994) found no difference between the average levels of late childhood, early adolescent self-efficacy of the subjects who eventually become pregnant and those who did not. Other researchers have also found that self-efficacy measure was not significant for correlation with risky sexual behavior and concludes that self-efficacy is often related to risky sex through attitudes about having sex (Langer, Warheit, and Mc Donald, 2001).

2.2.4 Studies on Bandura's theory

Studies done in Mongolia on Bandura's social learning theory prove that peer education programs did improve self-efficacy perceptions. In their study Cartagena, Veugelers, Kipp, Magigav & Laing (2006) demonstrated the effectiveness of peer education programs for adolescents. They compared two schools one running a peer education program and the other school with no such intervention. The sample consisted of 720 and 647 students from eight schools with peer education programs and eight schools without, respectively. The results revealed that students of schools with peer education intervention were more knowledgeable than students of the no-intervention schools. Cartagena et al. (2006) concluded that peer education programs particularly those that were managed by small teams appear to be effective and should be implemented broadly.

2.3 Socio-demographic factors and sexual behavior of adolescents

Socio-economic factors have their own contribution to the risky sexual behavior and knowledge of students towards HIV AIDS. The following literatures justify this idea.

2.3.1 Religiosity

Religiosity and sexuality are also closely linked to each other, in that religion potentially influences a range of decisions about sex-related issues such as abstinence, birth control and abortion. Religiosity refers to the frequency of visiting religious service places. Some studies indicated that youths who report higher levels of religiosity are less likely to

engage in sexual intercourse (Mcgill, 2000). Sheeran et al. (2002) asked participants the extent to which religious beliefs influence their decisions about sex. They found that those who reported a stronger reliance on religious beliefs when making sexual decisions tended to engage in sexual intercourse less frequently. Young people who attend religious activities frequently are expected to enter later into sexual intercourse than peers who do not attend regularly (Abraham and Kumar, 1999). Holder et al. (2000) examined nine aspects of religiosity, including attendance and importance, and their association with sexual behavior. They found that feeling spiritually connected with friends and believing that religion is important was associated with lower likelihood of voluntary sexual activity. However, other studies have noted that religiosity is not a reliable predict to sexual risk behavior (Jemmott and Jemmott, 1992; Miller, Forehand and Kotchick, 2000).

2.3.2 Parental education

Parents' education levels have been found to be related to their children's behavior. Youths who have educated parents tend to delay their first intercourse. Even if sexual activity happens; there is a high probability that steps would be taken to reduce the risk of pregnancy by educating youths about safe sex (Bogenschneider *et al*, 1996). Koss (1985) found that children whose parents had less than a 12 grade education were 5.7 times more likely to have initiated sexual intercourse and children whose parents had a high school education or equivalent were 7 times more likely to have initiated sexual intercourse compared to those children whose parents had a college level education. The reason for the connection between parent education level and youths' behaviors are unclear, but it is speculated that expectations for the child's future and parental modeling to likely to play a role (Brooks, 2007).

2.3.3 Parent-adolescent communication about sexual behavior

Communication on sexuality in many Asian countries' culture is defined as a taboo. The difficulties arise from either parents or children alike often are embarrassed to talk about sex. Other parents may not know what to teach their children is associated with lack of knowledge and skills of communication on the subject of sexual and reproductive health. Parental influence has received a great deal of attention regarding its relationship to youth sexual risk-taking. Theory suggests that the quantity and quality of parent-adolescent communication plays a crucial role in the extent that parents influence their children (Neapolitan,1981) and bears great potential for reducing youth risky sexual behavior by

fostering responsible sexual decision-making (Rodgers,1990). In fact, preparing youth for intimate relationships and providing them with an understanding of how to conduct themselves as sexual beings are crucial aspects of socialization and the family, especially in the context of a culture where the risks of engaging in sexual behavior are great for adolescents and youths. There has been an increased interest in the role that parents play in influencing the sexual behaviors of their children. Parents can be viewed as socialization agents who provide direct information to their children during discussions of various sexual topics (Rodgers, 1990).

Parental sexual socialization

Research on parental sexual socialization has focused on the belief that particular parental behaviors such as the discussion of sexual topics will result in certain adolescent behaviors such as delay of the initiation of sexual behaviors (Miller & Fox, 1987). Studies assessing the relationship between parent-adolescent communication about sex and youth sexual behavior have conceptualized communication in a variety of ways, including whether or not it has occurred, its frequency, how much information is conveyed, the content of communication, and the quality or process. The most consistent findings for normally developing youth suggest that the quality of parent-child sexual communication is more relevant to reducing risky sexual behavior than other dimensions of the communication process. Specifically, parent-child communication that is open, receptive, and comfortable is associated with less sexual experience and less risky sexual behavior among youths (Dutra, Miller, and Forehand, 1999). Somers and Paulson (2000) found that parent-adolescent communication about sexuality was related to certain adolescent sexual outcomes, such as more conservative attitudes toward premarital sexual intercourse (Somers and Paulson, 2000).

Some previous research has indicated that parent-adolescent sexual communication has positive influences regarding several sexual risk-taking behaviors. Adolescents who experience parent-adolescent sexual communication are more likely to delay sexual intercourse, use contraceptives more frequently, and report fewer sexual partners. Tannenbaum (2002) found that relationship quality significantly moderated associations between parent-adolescent communication and adolescent sexual behavior such that in the context of a warm, supportive parent-adolescent relationship, an open reciprocal communication process predicted healthier sexual behavior. Leland and Barth (1993) examined characteristics of adolescents who displayed HIV/AIDS avoidance behaviors, such as increasing condom use and decreasing number of sexual partners, and those who

did not. Those adolescents who reported discussing a variety of sexual topics with parents were more likely to report greater condom use and fewer sexual partners. These findings suggest that the amount of parent-adolescent sexual communication may play a positive role in deterring adolescents from engaging in those sexual risk-taking behaviors (e.g., lack of contraceptive use and multiple sexual partners) that increase the chance of contracting STIs.

Parent-adolescent sexual communication

Another area of concern in sexual risk-taking is adolescent pregnancy. Similar to other positive effects of more parent-adolescent sexual communication, research has found that adolescents who experience more parent-adolescent sexual communication are less likely to have been pregnant or gotten a female partner pregnant during their adolescence (Leland & Barth, 1993). In addition, parent-adolescent sexual communication is related to more effective use of contraception. Overall, this research suggests that the amount of parent-adolescent sexual communication may have important influences on the probability of an adolescent becoming pregnant or getting an adolescent partner pregnant. Taken together, the above-mentioned studies suggest that the amount of parent-adolescent communication is important to a number of sexual risk-taking behaviors and outcomes including early initiation of sexual intercourse, lack of condom and contraceptive use, multiple sexual partners, HIV/AIDS, and adolescent pregnancy. However, other studies have found contrasting results. Pistella and Bonati's (1998) examination of the amount of parent-adolescent communication in a sexually active female adolescent population suggested that those female adolescents who had discussed sex-related topics of contraception and STIs with their parents were more likely to report a pregnancy. However, it was not clear when sexual communication occurred in relationship to the adolescent's pregnancy. It is possible that those parents who discussed sex-related topics with their daughters were responding to their daughters' sexual behavior. In addition, this sample is not representative of all adolescents because it only included female family planning patients.

2.3.4 Impact of sex and HIV/AIDS education on sexual behaviors

Many other studies have focused on evaluating comprehensive sex education school based programmes. Kirby, Laris & Rolleri (2007) reviewed articles on the impact of sex and HIV/AIDS education on sexual behaviors of young people through out the world. They reviewed 83 articles from both developed and developing countries and found out

that although the studies had common characteristics many of them integrated characteristics of programs previously found to be effective. They concluded that there is evidence of positive impact on behavior, of curriculum-based sex and HIV/AIDS education for adolescents and young adults. Contrary to fears by some sectors of population, the study revealed that the programs in general did not have negative effects and did not increase sexual behavior. Furthermore, many programs reduced sexual behavior and also increased condom or contraceptive use; therefore they would logically reduce both STIs and pregnancy rates.

Kaaya, Mukoma, Flisher, & Klepp (2002) reviewed articles of sexual behavior of students aged between 12-24 years. They concluded that there was an early onset of sexual activity for both male and female students. Therefore, abstinence or faithfulness alone in interventions did not properly consider the huge number of already sexually active youths. They also identified the absence of information on other sexual practices other than penetrative virginal sex as an important knowledge gap. They recommend that countries should therefore do a proper behavioral risk assessment which will determine the objectives of school-based sexual health interventions. For example, Nigeria Red Cross Society's (NRCS) goal of HIV/AIDS youth peer education program is in creating awareness of HIV infection risks among youth and safer sexual behavior (NRCS, 2003).

2.4 School-based HIV/AIDS education

Kinsler, Carl, Donald & Alphonso (2004) evaluated the impact of a cognitive-behavioral peer-facilitated school-based HIV/AIDS education program on knowledge, attitudes and behavior among primary and secondary school students in Belize. The intervention was guided by constructs of the theory of reasoned action and social cognitive theory. Their findings indicated that the intervention had positive impact on participants. The intervention group showed higher HIV knowledge and had more positive attitudes towards condom use than the control group.

2.4.1 Peer AIDS/STD education program

Caron, Godin, Otis and Lambert (2004) in their study "Evaluation of a theoretically based AIDS/STD Peer Education Program on Postponing Sexual Intercourse and on Condom Use among Adolescents attending High School" presented the evaluation results of a school-based peer education program. Their goal was to determine the extent to which

this peer education program was effective in changing medium-term behavior and its underlying social cognitive determinants among both senior and junior high school students with respect to postponing sexual intercourse and with respect to condom use. The respondents, comprising 698 junior and 306 senior high school students, in the control and experimental groups completed a questionnaire at baseline and 9 months after the program. Compared to junior respondents in the control group, those in the experimental group positively modified their attitude, perceived behavioral control, personal normative beliefs, perceived role beliefs, anticipated regret and intention with respect to postponing sexual intercourse and with respect to condom use, as well as perceived self-efficacy to negotiate both behaviors. Compared to senior respondents in the control group, those in the experimental group showed a significant positive modification of all the above variables except perceived behavioral control (indirect measure), anticipated regret and intention with respect to postponing sexual intercourse. At post-test, seniors in the experimental group were more likely to use condoms on a regular basis than those in the control group. The also results also suggest that this well-designed theory-based, highly structured and supervised AIDS/STD peer education program was effective among adolescents in a high school setting (Caron et al., 2004).

2.4.2 Developing an educational curricula in California

Altschuler et al. (2004) carried out a study in order to develop and implement an educational curricula on older adults (n=249) who were serving in 14 organizations in California. Data collected through purposive sampling reveals that female participants were more likely to attend education programs. They conducted the Wilcoxon Rank Sum W Test that indicates that women were more likely than men (p=0.028) to attend an HIV/AIDS educational program, with respective mean ranks of 99.38 and 117.76. The study also indicates a significant relationship between age and likelihood of attending an HIV/AIDS education program. Specifically, as age increases, the likelihood of attendance decreases. Having a relationship with someone with HIV/AIDS (26%), having a fear of contracting HIV/AIDS (23%), and having a desire for updated information (36%) were found to encourage participation in HIV/AIDS education programs in their study. Participants who were moderate or very religious were found to be more likely to attend an HIV/AIDS prevention education program compared with those who were not religious (χ^2 =7.592, df=2, p=0.023). It also bring outs that older adults prefer learning more about

HIV/AIDS through education programs and in-service trainings (37.3%), physicians (22.2%), and programs led by experts at senior centers (16.2%) (Altschuler et al., 2004).

2.4.3 HIV/AIDS interventions in Korean school

A study done in South Korea did not actually focus on the impact of HIV education in schools, rather Hyera, Lee, Kwon, Chung & Kim (2005) studied the HIV knowledge, attitudes and related behavior and sources of knowledge among adolescent South Koreans. However, their samples were drawn from schools that were conveniently selected and included (N=1077) high school students. Their findings showed that the level of HIV/AIDS knowledge among Korean youths was moderate and that they exhibited a fairly negative attitude towards people with HIV. They observed that parents were a very insignificant source of information on HIV and that school lessons were a fairly important source of information. Knowledge from television was significant. Their recommendations were that HIV/AIDS interventions in schools could not only improve the level of knowledge it would also be consistent as it were.

2.4.4 HIV/AIDS Education in Cameroon

Some studies have been carried out in Cameroon in the domain of HIV/AIDS and education. Some have taken into consideration HIV/AIDS plus STIs while others have focused only on HIV/AIDS among the youth population. Rwenge (2002) revealed that, the young people surveyed were well informed about AIDS, its main modes of transmission and methods of prevention, but they continued to have sexual relations that could expose them to infection. Thus, informing and educating young people about sex and AIDS does not seem to be sufficient to motivate them to change their sexual behavior.

Causes of the spread of HIV: Mekou (2004) in his study identified two major causes of the spread of HIV among youths in Cameroon which he called immediate causes and profound causes. The immediate causes are essentially connected to the willingness and behavior of the individual. Mekou also observed that young teachers had multiple sex partners and engaged in unsafe sex practices. He added that teenage pregnancies were most common among students aged 13-16. At the level of the profound causes of the spread of HIV, Mekou concluded that general vulnerability was related to the lack of education and the fact that a bulk of the population thought that HIV was strictly a medical issue or some concept created and mystified by the Western World to sell

condoms and medications. Therefore, other spheres of society think it is not their concern. He recommended that the government should give priority to health issues instead of other aspects such as defense.

Similarly, Banen (2000) carried out a quantitative study in Government High School Leclerc –Yaoundé among students aged 13-25 years. He hypothesized that the quality of education that students received at home and in schools was inadequate in the fight against STIs and HIV/AIDS. The study however was limited because the researcher did not interview parents. The study confirmed the hypothesis that students did not get appropriate education from family as well as from schools. Banen also identified that there was no formal program to educate students on STIs and HIV/AIDS. She realized that sex education was still a taboo topic in the school arena. In this light, she recommended that social education be instituted as an instrument for sensitization on STIs and HIV/AIDS.

2.4.5 Schools as a medium to impart HIV/AIDS education

UNAIDS/IATT (2008, 23) observes that,

Good quality HIV and AIDS education programs can reduce risk by building knowledge and skills to initiate and sustain behaviors that protect individuals from HIV. These include delaying the age of first sexual encounter, increasing the consistent use of condoms among young people who are sexually active, limiting the number of sexual partners, and addressing the risks associated with alcohol and drug use.

Be it comprehensive sex education or abstinence only education, they all have an impact on the psychosocial behavior of youths and equips the students with skills necessary to decide, negotiate and take actions about the reality of their sexuality. Kirby, Short, Collins, Rugg, Kolbe, Howard, Miller, Sonenstein & Zabin (1994, 341) affirm that many people perceive schools a public institution with a broad opportunity and responsibility for addressing and reducing sexual risk-taking behavior, because young people attend school regularly and nearly 95 % of school-aged children and youths are in elementary or secondary school at some point in time. They further that most youths attend school before they initiate sexual risk-taking behavior and they are mostly enrolled in schools when they initiate sexual activities.

In the same light, Maticka-Tyndale and Gallant (2004) argue that the schools locations are known, they are sustained within the community, their hours and modes of operation

are known, they have established mechanisms for introduction of new programs and accessing students, and the size of the target population is known. Caillods, Michael & Barbara (2008) equally state that although many countries have introduced HIV/AIDS education, the subject often remains on the margins of existing curricula and are not always properly delivered. In spite of all the problems, there is evidence that school-based interventions can reduce unsafe sexual practices especially interventions guided by teachers and other adults have a positive impact on reported sexual behavior. (Caillods et al., 2008)

2.5 Role of education sector in response to HIV/AIDS

The education sector has a special place in the national multi-sectoral response because it not only helps form the thinking of the next generation especially addressing stigma and prevention but also is responsible for the care and support of some 60 percent of the public sector (UNICEF 2007, 2).

UNICEF contends that the education sector has a central role in the multisectoral response to HIV and AIDS and it is now apparent that it has a key role in reducing stigma, promoting prevention, and providing access to care and treatment. It also observes that there is reduced vulnerability to HIV among people with secondary or higher education. While schooling increases earning power, self confidence and social status it also allows people to take greater control over their sexual choices. Therefore, countries should invest in schools as HIV prevalence is likely to decrease as education increases. (UNICEF 2007, 2-3.) Indeed, education is not only important in preventing HIV infection, but preventing HIV is also crucial for education as it affects the demand and supply and quality of education, limiting the ability for countries to meet the EFA and MDG goals (WHO, 2007).

2.5.1 'Education vaccine' as a social cure

Education gives the individual the broad range of choices one can make among which is the abstinence only means of protection. Indeed the 'education vaccine' is the only social cure, at least for the foreseeable future. Since this disease is behavior driven, the spread of education also changes the family and the community in which such behavioral change become socially acceptable (Vandermoortele & Delamonica, 2000). The education sector provides students with facts about the realities of their sexuality, the world around them and of course empowers them to make informed choices. It is only through proper

understanding of the facts about HIV/AIDS that stigmatization and discrimination can be minimized. Schools ensure that students get scientifically accurate facts that will be coherent and systematic in all schools across the nations.

Nevertheless, UNICEF (2007) observes that merely furnishing students with facts about sex and HIV is not even enough to reduce vulnerability or alter risky behavior. Knowledge must be supplemented with life skills so they can better decide among life's opportunities and to act upon these decisions. According to AVERT (2009), young people are likely to be affected by HIV/AIDS than any other age group but then they are also more likely to change their behavior as a result of education than any other group.

2.5.2 Education as an effective and sustainable response to HIV/AIDS

The HIV epidemic can be very devastating to every sector of an economy. Kelly (2000a, 10-11) says that it can handicap the education sector by affecting the demand (fewer children to be educated and fewer can afford to be educated) and supply (quality) of education, the resources it needs, its potential clientele, its process, content, school organization, sector-wide planning and management and even donor support for the system. He adds that it is only education that can mitigate these potential impacts (Kelly 2000b). Though HIV and poverty have a strong connection but studies have shown that education is the key to an effective and sustainable response to HIV/AIDS. Coombe (2004, 20) posits that education and HIV/AIDS thrive on each other and education inherently offers hope, that individuals and communities may rise above their circumstances. Schools can be a primary source of information about prevention modes in the fight against HIV/AIDS (Coombe, 2004).

2.6 HIV/AIDS education in Bangladesh

AIDS have emerged as major public health and socio-economic problems affecting most of the countries of the world. The recent trends and shift of the centre of the epidemic in Asia is of great concern for Bangladesh. Surrounded by high HIV/AIDS prevalent neighboring countries Bangladesh is still in a position of low prevalence. But if the risky behavior of youth for contracting HIV/AIDS continues, it is certain that Bangladesh will soon face the epidemic. So it is important to let youth know regarding the possible threats of HIV/AIDS that our country is facing.

Information is an important component of any effort to change behaviors and the foundation for all HIV prevention, but often youth do not have sufficient access to information related to sexual health and HIV/AIDS. Recognizing this significance, PIACT Bangladesh began introducing an evidence-based curriculum for HIV/AIDS education for government schools of class six to class twelve throughout Bangladesh for the first time in Bangladesh as part of the Government of Bangladesh project entitled 'prevention of HIV/AIDS among young people in Bangladesh' in 2007. This project was funded and assisted by the Global Fund to Fight AIDS, Tuberculosis and Malaria (GFATM) and Save the Children USA respectively. This new curriculum was developed using the results of a needs assessment. Before implementation a process of sensitizing government ministries and other stakeholders was followed and specific teacher training took place. For the teachers training a cascading system was used in which masters trainers were trained first to provide training to core trainers, who in turn trained subject teachers at the school level (PIACT Bangladesh, 2009).

2.6.1 Development of HIV/AIDS curriculum in Bangladesh

Considering the complexity of the HIV curriculum development process and teachers training program on HIV education, PIACT followed a health promotion model, which has been followed by the National Curriculum and Textbook Board (NCTB). Considering the age of students and the sensitivity of information, the curriculum was developed with age appropriate information from lower to upper grades. The steps followed in developing this curriculum are summarized in the following figure:

2.6.2 The HIV/AIDS information currently available in text books

Age appropriate information on HIV/AIDS was incorporated in the curriculum of class six to class twelve. In most of the grades the information was given in general science book. The following table shows the review of existing curriculum and texts on HIV/AIDS of secondary and higher secondary schools, madrasa and technical institutions.

Table 2.1: HIV/AIDS information currently available in text books

Grades	Streams of Education	Name of the Books	Information on HIV/AIDS and STDs

Grade 6	General (School)	General Science	An introduction to AIDS: HIV virus, how does HIV spread, how it does not spread and how we can save ourselves from this disease
	Madrasa		
Grade 7	General (School)	General Science	What are HIV and AIDS, how does HIV spread, how it does not spread (some pictorial presentations), self consciousness to prevent spread of HIV/AIDS, what students should do
	Madrasa		
Grade 8	General (School)	General Science	Structure of HIV, how does it spread, symptoms of AIDS, STDs and HIV, prevention of AIDS, self consciousness of controlling AIDS, HIV/AIDS: global situation (e.g. Cambodia, Indonesia, Vietnam, Nepal, Thailand) and Bangladesh
	Madrasa	General Science	AIDS, bearer of HIV/AIDS, causes, symptoms, prevention, situation of AIDS in Bangladesh
Grade 9 & 10	General (School)	Social Science	What are HIV and AIDS, symptoms of AIDS, AIDS prevention: saying 'No', adolescents are risky in transmitting HIV/AIDS; STDs (Gonorrhea, Syphilis, Chlamydia, Trichomoniasis, Genital Sore, Genital herpes, Hepatitis B etc.); nursing of HIV/AIDS; HIV/AIDS: global situation and Bangladesh
	Technical		
	General (School)	General Science	AIDS prevention: saying 'No', adolescents are risky in transmitting HIV/AIDS; STDs and HIV; nursing of HIV/AIDS; HIV/AIDS: global situation and Bangladesh
Grade 11 & 12	General (college)	Bangla Sankalon	Aporanher Golpo (story of the 'Last Moment of Life') written by Humayun Ahmed : who invented HIV, AIDS day, UNAIDS, statistics of HIV infected people in the whole world specially Bangladesh, three ways of transmitting HIV: through semen, blood and breast feeding, how it does not spread
	Madrasa		

Source: (PIACT Bangladesh, 2009).

2.6.3 Prevalence and knowledge of HIV/AIDS

Although still considered to be a low prevalence country, Bangladesh remains extremely vulnerable to an HIV epidemic. There are several factors that make Bangladesh vulnerable to an HIV epidemic. The country is geographically situated in close proximity to India and Myanmar, which have a high HIV prevalence, and Nepal which has a concentrated HIV epidemic among IDUs. Open borders, sex industry, links between high-risk groups and bridging populations, labor migration, gender inequities, poverty, low literacy levels, gaps in healthcare delivery and low levels of HIV/AIDS awareness have also been identified as important factors in the spread of HIV infection (Amanullah, 2002; 2004).

The national baseline HIV/AIDS survey among young people aged 15-24 years established that the STI disease burden was high among them. Approximately 25 percent of males and 21 percent of females in the surveyed population reported symptoms of sexually transmitted infections (STIs). STIs have significant implications for the vulnerability of young people to HIV. High levels of STIs among them expose the high levels of unprotected sex, which puts them at risk of contracting HIV. The probability of contracting HIV significantly increases in the presence of STIs (Baseline HIV/AIDS Survey, 2005).

The survey revealed that unmarried males who had a history of sexual exposure had a higher prevalence of STI symptoms in the past one year compared to those who were not sexually active (26% and 14% respectively). Similarly, of all married males those who had a history of sexual exposure before marriage and a history of extramarital sex had higher prevalence of STI symptoms (28% as compared to 14%) (Baseline HIV/AIDS Survey, 2005).

The survey showed that 93 percent of males and 85 percent of females were aware of HIV/AIDS. Awareness was found to be higher among urban youth. The main sources of information on HIV/AIDS were TV followed by radio, peer group and print media. The two most common routes of transmission of HIV reported by both urban and rural youth were the use of non-sterile needles/ syringes (37% males and 46% females) followed by receipt of HIV-infected blood (26% males and 32% females). Only 10 percent males and 12 percent females seemed to be aware that unprotected sex with an HIV-infected person could transmit HIV. Only 36 percent males and 41 percent females could identify two or

more of the six correct routes of HIV transmission. As many as 46 percent males and 39 percent females could identify any route of transmission while a third of the young people surveyed did not know of the ways to prevent HIV. A majority of youths harbored several grave misconceptions about transmission and prevention of HIV. More than 50 percent believed that HIV could spread by coughing or sneezing while 63 percent felt that HIV can be transmitted by sharing food and water (Baseline HIV/AIDS Survey, 2005).

According to Bangladesh Demographic and Health Survey (2007) knowledge of AIDS is higher among men than women for all background characteristics. About two-thirds (67 percent) of ever-married women have heard of AIDS, compared with about nine in ten (87 percent) ever-married men. Knowledge of AIDS has increased considerably in the past 10 years, rising from 19 percent of ever-married women in 1996-97 to 67 percent in 2007. Messages on HIV/AIDS broadcast through various electronic and printed media may have contributed to this increase in AIDS knowledge.

2.6.4 HIV and AIDS monitoring and evaluation activities

Reducing – as much as possible – the spread of HIV, largely depends on the extensive delivery of quality interventions. And that achievement depends on how we measure the success, identify gaps and shortfalls and adjust the response in a timely manner. Currently, HIV and AIDS monitoring and evaluation (M&E) activities are conducted in an unsystematic and uncoordinated manner with little appreciation of the data needs, clear guidelines and mechanisms for reporting and feedback (NASP, 2006). The overall goal of the national M&E framework is to guide the gathering of strategic information needed to improve the efficiency, effectiveness and impact of responses to the epidemic as well as ensuring accountability of all partners who are contributing to the national AIDS response.

The rapid situation and needs assessment (commissioned by the NASP in consultation with its M&E technical working group and with support from UNAIDS) aimed to better understand the existing M&E approaches and processes and thus identify gaps and needs for a more comprehensive system (NASP and UNAIDS, 2006).

The assessment also identified areas in need of strengthening: multiskilled technical capacity for coordinating, guiding and supporting the national M&E system, elaborating and operationalsing the M&E framework with its indicators and reporting guidelines,

M&E capacity of implementing organizations, data quality, dissemination of information for use in developing policies and programming, integrating the M&E system within the health sector, support for operations research, M&E training and a better understanding of the value and role of M&E (NASP, 2006).

The rapid assessment noted that the World Bank-led reviews for its HIV and AIDS Prevention Project (HAPP) echoed the desk review analysis and emphasized the critical importance of an M&E plan, including indicators and priority reporting areas. In addition, the Ministry of Health and Family Welfare (MOHFW), in its UNGASS 2006 report, also identified the need for strengthening the M&E capacity of the NASP (MOHFW, 2006).

2.6.5 Gender sensitivity of HIV/AIDS communications materials

In Bangladesh, Haq and Alam (2009) conducted a study named "AIDS Niye Procarona: Ekti Nirmaho Mullayan" where they sampled 36 text books of grade four to grade eight and 35 training modules, manuals and awareness building texts used in GO and NGO programs on HIV/AIDS for content analysis. In this study they said that communication materials for building awareness against HIV/AIDS are more or less gender sensitive. Moreover, the study suggests that the HIV/AIDS discourse, which is propagated through communication materials, is discriminative to class, gender and race. Thus they have portrayed some limitations of communication materials of HIV/AIDS and have suggested some recommendations. Some of the recommendations are in the following:

I. Communication materials should be formulated in such a way that would not put over emphasize on the issue which may limit the prevention campaign
II. Participation of men in the prevention campaign should be emphasized as they are responsible for the disease and the hold power in the society. The communication materials have to highlight that.
III. Women should not project vulnerable to HIV infection for their body structure and sexual organ. Rather her powerlessness, poverty and some other societal causes should be mentioned. Moreover, men should be indicated responsible for the spread of HIV/AIDS.
IV. Describing HIV/AIDS mainly as a sexually transmitted disease should be rethought. Rather all the causes can be described according to the importance. The

idea should be contextualized to Bangladesh where injecting drug using is the prime area of HIV infection

V. Ambiguous and relative terms/sentences should be avoided. The suggestions to abide by social and religious norms are self-contradictory and the statements should be clear. Balanced use of religion would be a better idea

VI. As the vulnerable groups the working class people (i.e. rickshaw puller, truck drivers, sex workers, expatriate labors) should not singled out alone, rather a class balanced approach should be taken. Particular race or region should not be identified for spread of HIV rather attention has to be given how their poverty can be mitigated.

VII. Homosexuals or people practicing sexual behaviors other than heterosexuality should not be blamed indiscriminately. Why and how homosexuality is a risk factor that should be stated. Otherwise it would become a discriminative text which marginalizes them and hatred towards them instead of creating an understanding among different segments of the society (Haq and Alam, 2009).

Haq and Alam (2010) in another study "Communication Materials of HIV/AIDS and Reproductive Health: Gender Perspective" identified some important risk factors for the spread of HIV in Bangladesh.

- Poverty and population density
- Highly affected neighboring countries with HIV/AIDS
- Inadequate awareness among high risk groups and general population
- High external and internal migration
- Unsafe blood transfusion
- Injection drug using practices
- Significant numbers of people have pre or extra marital sex in many cases which is unsafe (Haq and Alam, 2010).

CHAPTER THREE

THEORETICAL FRAMEWORK

Behavior analysis provides various approaches, techniques and tools to induce new behavior. It goes to notify positive consequences with adoption of new behavior avoiding negative outcomes (GoB, 1999:15). In this respect more than 50 years sociologists and other social scientists have developed various models and theories regarding health communication to change human behavior. The models and theories of health behavior that currently prevail in the fields of health communication are the Theory of Reasoned Action, the Theory of Self Efficacy, the Health Belief Model, and the Communication/Persuasion Model, The Precede/Proceed Model, AIDS Risk Reduction Model etc. (Islam, 2000, 2002:144). In the health communication intervention programs- these models and theories provide a framework for identifying the critical factors underlying the roles of health related behavior (IoM, 2002:28). The theory of Reasoned Action (Ajzen & Fishbein, 1980) and social learning theory (Bandura, 1977) guide this study. Both theories assert that attitude impacts behavior.

3.1 The theory of reasoned action

The theory of reasoned action explains how and why attitude impacts behavior, why people's beliefs change the way they act. The theory states that a person's behavior is determined by their attitude towards the outcome of that behavior and by the opinions of the person's social environment. Main constructs of this theory are attitudes, subjective norms and intentions. Attitudes in this case are beliefs that a person accumulates over his life time, formed from direct experiences and outside information, and others inferred or self generated. If a person has positive belief about the outcome of his behavior then he is said to have positive attitude and if a person has negative beliefs about the outcome of his behavior, he is said to have negative attitude. A person's subjective norms are his beliefs about what others will think of the behavior. They are perceptions about how family and friends will perceive the outcome of the behavior and the degree to which this influences whether the behavior is carried out. Intentions are the probability that the individual will perform the behavior. The intention is influenced by the attitude and the subjective norm and the behavior is the transmission of the intention into action (Ajzen & Fishbein 1980, 4-6).

3.2 Theory of self efficacy

Bandura's social learning theory holds that people learn more from one another through observation, imitation and modeling. According to Bandura (1977), people observe others behaviors, attitudes and outcomes of those behaviors. Modeling effects produce learning mainly through their informative function. If people observe positive desired outcomes in the observed behavior, they are more likely to model, imitate, and adopt the behavior themselves. This theory is used in this study to explain how students with no HIV/AIDS education get information about HIV/AIDS and how it impacts their behavior. In this case it assumes that in the application of social learning theory through peer education extra-curricular programs, media-television and radio, and other unsystematic means, the students are encouraged to observe and imitate the behavior of their peer educators and others, see positive behavior modeled and practiced, increase their own capability and confidence and implement new skills with support from the environment.

3.3 AIDS Risk Reduction Model (ARRM)

The AIDS Risk Reduction Model (ARRM), introduced in 1990, provides a framework for explaining and predicting the behavior change efforts of individuals specifically in relationship to the sexual transmission of HIV/AIDS. Developed by J.A. Catania, it posits that change is a process, and that individuals move from one step to the next as a result of a given stimulus. A three-stage model, the ARRM incorporates several variables from other behavior change theories, including the Health Belief Model, "efficacy" theory, emotional influences, and interpersonal processes. The stages, as well as the hypothesized factors that influence the successful completion of each stage are as follows (Catania, Kegeles and Coates, 1990):

Stage 1: Recognition and labeling of one's behavior as high risk

Hypothesized Influences:

- knowledge of sexual activities associated with HIV transmission;
- believing that one is personally susceptible to contracting HIV;
- believing that having AIDS is undesirable;
- social norms and networking.

Stage 2: Making a commitment to reduce high-risk sexual contacts and to increase low-risk activities

Hypothesized Influences:

- cost and benefits;
- enjoyment (e.g., will the changes affect my enjoyment of sex?);
- response efficacy (e.g., will the changes successfully reduce my risk of HIV infection?);
- self-efficacy;
- knowledge of the health utility and enjoyability of a sexual practice, as well as social factors (group norms and social support), are believed to influence an individual's cost and benefit and self-efficacy beliefs.

Stage 3: Taking action

This stage is broken down into three phases: 1) information seeking; 2) obtaining remedies; 3) enacting solutions. Depending on the individual, phases may occur concurrently or phases may be skipped.

Hypothesized Influences:

- social networks and problem-solving choices (self-help, informal and formal help);
- prior experiences with problems and solutions;
- level of self-esteem;
- resource requirements of acquiring help;
- ability to communicate verbally with sexual partner;
- sexual partner's beliefs and behaviors.

In addition to the stages and influences listed above, the authors of the ARRM (Catania et al., 1990) identified other internal and external factors that may motivate individual movement across stages. For instance, aversive emotional states (e.g., high levels of distress over HIV/AIDS or alcohol and drug use that blunt emotional states) may facilitate or hinder the labeling of one's behaviors. External motivators, such as public education campaigns, an image of a person dying from AIDS, or informal support groups, may also cause people to examine and potentially change their sexual activities (Catania et al, 1990).

CHAPTER FOUR

METHODOLOGY

4.1 Study population

This study is about evaluating the knowledge on HIV/AIDS, exposure to HIV/AIDS knowledge, AIDS education through text books. Though the general target population indicates all the students studying in various secondary, higher secondary schools in Bangladesh however, the study specifies the students studying in the Bogra Biam Foundation High School, Mokum Tola High School, Shaheed Abu Taleb High School, Joy Montop High School, Police Line High School, Badsha Faisal High School and College, Uttom School and College and Sammilani High School.

4.2 Study site

The study was conducted in the eight educational institutions, four from urban area and other half from rural area, in Bangladesh. These are Bogra Biam Foundation High School, Mokum Tola High School, Shaheed Abu Taleb High School, Joy Montop High School, Police Line High School, Badsha Faisal High School and College, Uttom School and College and Sammilani High School.

4.3 Sampling procedure and sample size determination

This study utilized multi-stage cluster sampling technique to select students of grade six to grade twelve from four divisions namely Rajshahi, Rangpur, Dhaka and Khulna. These four divisions were chosen out of seven using lottery method. Then equal numbers of educational institutions were taken from rural and urban areas in order to measure the knowledge-gap of the students.

Once a secondary or higher secondary institution is selected required number of sample respondents - both male and female- were proportionately selected using simple random sampling technique. Once the required number of students was selected from the sampled institutions, then the researchers moved to another institution which was also selected randomly. Thus, a total of 600 (males and females) were randomly selected for the present study. Of course there were few difficulties in getting respondents since not all the respondents were agreed to give us time in filling up the self-administered

questionnaire. In addition, they did not provide responses of all questions.

The study was conducted among the students and the individual student was the unit of analysis. The sample size was estimated through an approach based on confidence level and precision rate. For this purpose the general formula of Fisher was used with the following assumptions:

$$n = \frac{Z^2PQ}{d^2} = \frac{(1.96)^2 (0.5) (0.5)}{(0.04)^2} = 600$$

Where:

n = the desired sample size

z = the standard normal deviate, usually set at 1.96 (or more simply at 2.0) which corresponds to the 95 percent confidence level

p = the proportion in the target population estimated to have a particular characteristic (here, the proportion of the population having Knowledge on HIV/AIDS. As there is no reasonable and accurate estimate, we used 50 percent)

q = 1.0-p

d = degree of accuracy desired, set at 0.04 in this study

Using Fisher's formula, we got a sample size of 600. Respondents were selected using simple random technique. To attain the desired sample size, students of both sexes were randomly selected from each division. Accordingly, 600 students were selected to participate in this study. The following table easily depicts the sampling procedures carried out to secure the desired sample size:

Table 4.1: Sample size of students by divisions

Divisions	Obtained sample		
	Male	Female	Total
Rajshahi	87	76	163
Dhaka	93	87	180
Rangpur	82	85	167
Khulna	47	43	90
Total	**309**	**291**	**600**

4.4 Construction of interview schedule

For conducting survey, a semi-structured interview schedule was developed. The interview schedule included six parts with 4 quick response open-ended questions and 60 close-ended questions containing the information on:

- Socio-demographic characteristics
- Exposure to HIV/AIDS knowledge
- Knowledge on HIV/AIDS and STDs
- AIDS education through text books

4.5 Pre-testing and finalization of survey instrument

Pre-testing and finalization of interview schedule adhered to the few procedures. The researcher designed the draft interview schedule and also completed pre-testing. Based on pre-testing findings the translation, consistency and integrity of the interview schedule were checked. Researcher then finalized the interview schedule and showed it to the supervisor for final approval. After getting approval of the supervisor the Bengali interview schedule was printed and translated it later into English. During pre-testing of the survey instruments, the following issues were considered:

- The language necessary to address the sensitive issues
- The sequencing of questions
- The technique or options for documenting responses
- Providing appropriate skips in the interview schedule.

4.6 Non-availability of respondents

Every effort was made to interview all the sample respondents. If the sample respondent was not available at the time of interview, at least two revisits were made to interview the

sample respondent. However, there were cases of non-response from respondents including cases of non-availability of respondents in selected grades. In this situation, the interviewer selected alternative respondent (male and female from the same grade) so that the overall sample size is achieved. Therefore the overall non-response rate in this study is virtually zero.

4.7 Data collection instrument

Administering questionnaire survey requires a literate target population. Besides, it often becomes problematic because participants are likely to stop answering mid-way through the survey. Non-response rate is also high in questionnaire survey. Hence, considering the drawbacks of using self-administered questionnaire, semi-structured interview schedule was used for conducting the survey. The interview schedule included four parts with a series of close- and open-ended questions.

4.8 Administering the fieldwork

The fieldwork for present study was conducted for a period of 12 days during November and December 2012. The researcher herself administered the survey among the respondents according to the sampling plan set out earlier. Before approaching the sample respondents, the researcher took the permission from principal/headmaster and class teacher, informed respondents about the purpose of the study, topics under study and the need for collecting data in front of class teacher in a class room. The researcher then sought their cooperation to administer the survey.

4.9 Computerization and management of data

Data collected through the survey were processed using SPSS windows program (version 16). Quantitative data processing involved the following steps:

- Interview schedule registration and editing
- Edit verification
- Listing of open-ended responses and classification
- Coding and code transfer
- Verification of coding and code transfer
- Development of data entry structure (variable view)
- Data entry and entry verification

- ❖ Entering data as per interview schedule structure in SPSS 16 version
- ❖ Verifying the logic and accuracy of the data as per filled up interview schedule
- ❖ Keeping and maintaining data backups
- ❖ Tabulating as per objective and requirements in Quantum (an upgraded version of SPSS), also tabulating data in SPSS 16 version
- ❖ Development of analysis plan
- ❖ Program development as per the analysis plan
- ❖ Program running and report generation

4.10 Analysis of data

Upon the successful completions of data processing, all the data were analyzed using SPSS. The analysis is done at three stages: descriptive statistics, bivariate analyses. Firstly, students' socio-demographic profiles, knowledge on HIV/AIDS, AIDS education through texts are analyzed with the help of univariate analysis. Since univariate analysis does not give us a relationship or association between variables, the relationships were examined at bivariate level. In the process of analysis, relationships supporting or refusing the pre-formulated hypotheses were subjected to statistical tests of significance. Computer programs using SPSS were run to determine the relationship between variables. Test statistics like Pearson chi-square and Cramer's V were used to measure the magnitude/strength of relationships among the variables.

4.11 Reliability and validity

Reliability and validity are central issues in all scientific measurements. Both concern how concrete measures or indicators are developed for constructs. Reliability tells us about an indicator's dependability and consistency. Validity tells us whether an indicator actually captures the meaning of the construct in which we are interested. Perfect reliability and validity however, are virtually impossible to achieve (Neuman, 1997:138).

Cronbach alpha was used to determine the reliability of the knowledge and attitude measurements. Cronbach's alpha is the most common measure of internal consistency ("reliability"). It is most commonly used when we have multiple Likert questions in a survey/questionnaire that form a scale and we wish to determine if the scale is reliable (George and Mallery, 2003). In this study, we have devised eleven questions of knowledge on HIV/AIDS to measure the level of knowledge on HIV/AIDS. The

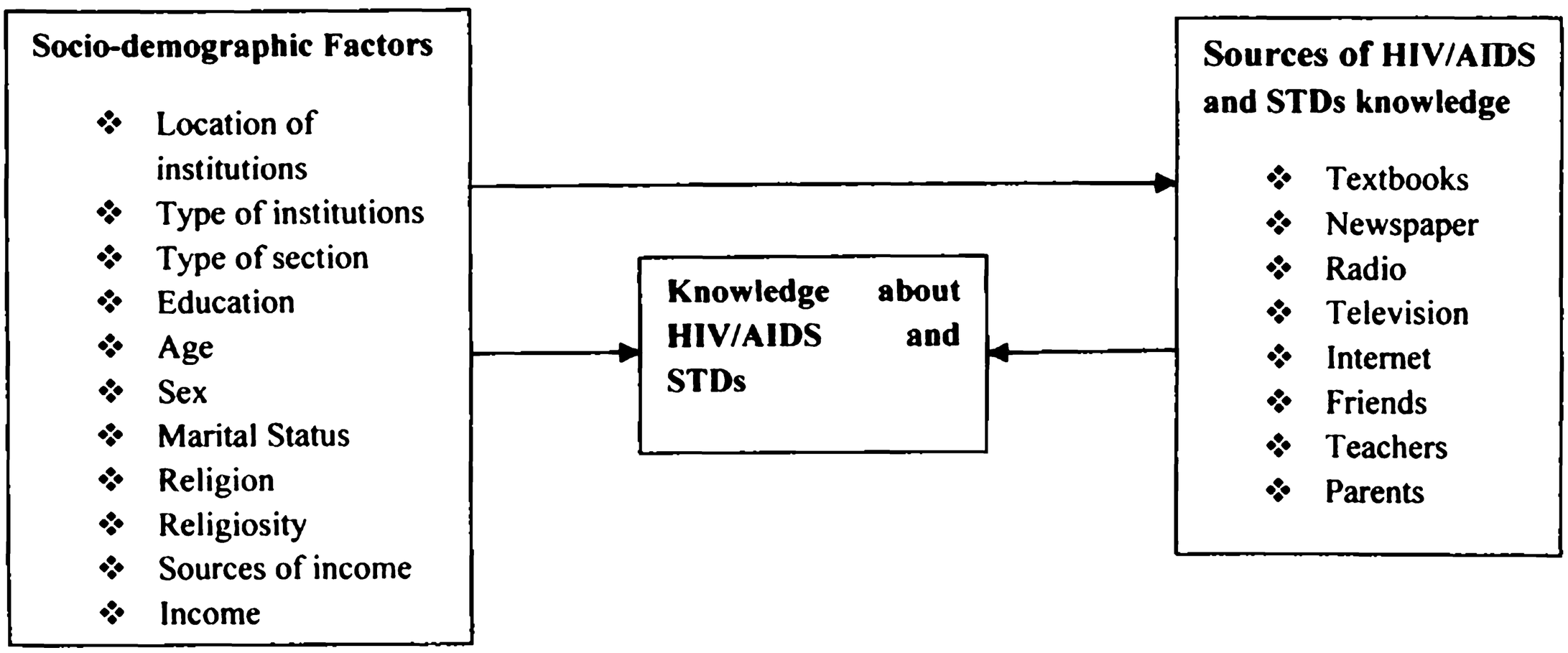
Cronbach's alpha of knowledge is 0.81, which indicates a high level of internal consistency among the eleven questions of knowledge on HIV/AIDS.

Validity of the data was also enhanced through the processes of piloting and by cross-checking of information between different sources and participants. According to Blaxter, Hughes & Tight (2000), "validity has to do with whether your methods, approaches and techniques actually relate to, or measure, the issues you have been exploring". The questionnaire was pilot tested with a group of students in another institution that has similar characteristics like the four sample educational institutions under study. 15 students whose ages range from 11-20 years were randomly selected from seven different grades. The questionnaire was completed after regular school/madrasa hours within approximately 20-30 minutes and the contents were evaluated for proper understanding. This led to the restructuring of a few questions. In addition, in order to improve the reliability and validity of measures for the present study, the following steps were undertaken:

- The constructs were clearly conceptualized so that each measure could indicate one and only one concept. Otherwise, it would be impossible to determine which concept was being indicated.
- Attempts were made to measure constructs at the most precise level possible.

4.12 Conceptual framework

Figure 4.1: Conceptual framework of the study



Source: Self- designed model, 2013

4.13 Ethical consideration

Social researchers must consider the right of the subjects involved in any study (Baker, 1999). Respondents have a right to privacy. It is up to them to decide when and to whom to reveal information. A social researcher must uphold and defend this right. Thus in order to carry out a research project, the researchers must consider the ethical aspects of their studies. In this study ethical standards have been maintained in every stage. While collecting information, the respondents of this study were informed clearly that the information they provided during the survey would be kept in strict confidence. Only the researcher would have access to the questionnaires. The questionnaires would then be destroyed upon completion of the data analysis. The name and address of the respondents were not recorded anywhere in the questionnaire. Also their identity was not linked to the study at any point of time or stage of the study. Besides, participation of the respondents was voluntary. Respondents could agree to answer questions or refuse to participate at any time.

4.14 Limitations of the study

It is perhaps the first study done with HIV/AIDS education in secondary and higher secondary institutions in Bangladesh. Despite all efforts made to obtain relevant information, the findings of the study, the conclusion and recommendations should be considered in the light of the following limitations:

- The study was limited to some educational institutions in four selected educational divisions in Bangladesh. Consequently, the findings cannot be generalized to students of the whole country.
- The sample respondents of the study did not provide all responses to the questions in the questionnaire
- Some of the students stopped answering questions in midway of the questionnaire

CHAPTER FIVE

FINDINGS OF THE STUDY

5.1 Socio-demographic Profile of Students

The distribution of students by selected socio-demographic characteristics include location of educational institution, type of educational institution, type of section management, level of education, age, sex, marital status, religion, religiosity, household's source of income, monthly household income.

5.1.1 Location of educational institution

The location of educational institution is a key determinant of understanding students' knowledge on HIV/AIDS. It affects many aspects of AIDS education, including quality of AIDS education etc. Moreover, knowledge of students differs according to the location of educational institutions. In total, 600 students ranging from age 10 to 19 years were taken into consideration in this study. As it is indicated in the following figure, 31.7 percent of the students were from the schools of rural areas compared to 68.3 percent of those in urban areas. The percentage of respondents from schools of urban area has been more than double in number than those of urban area.

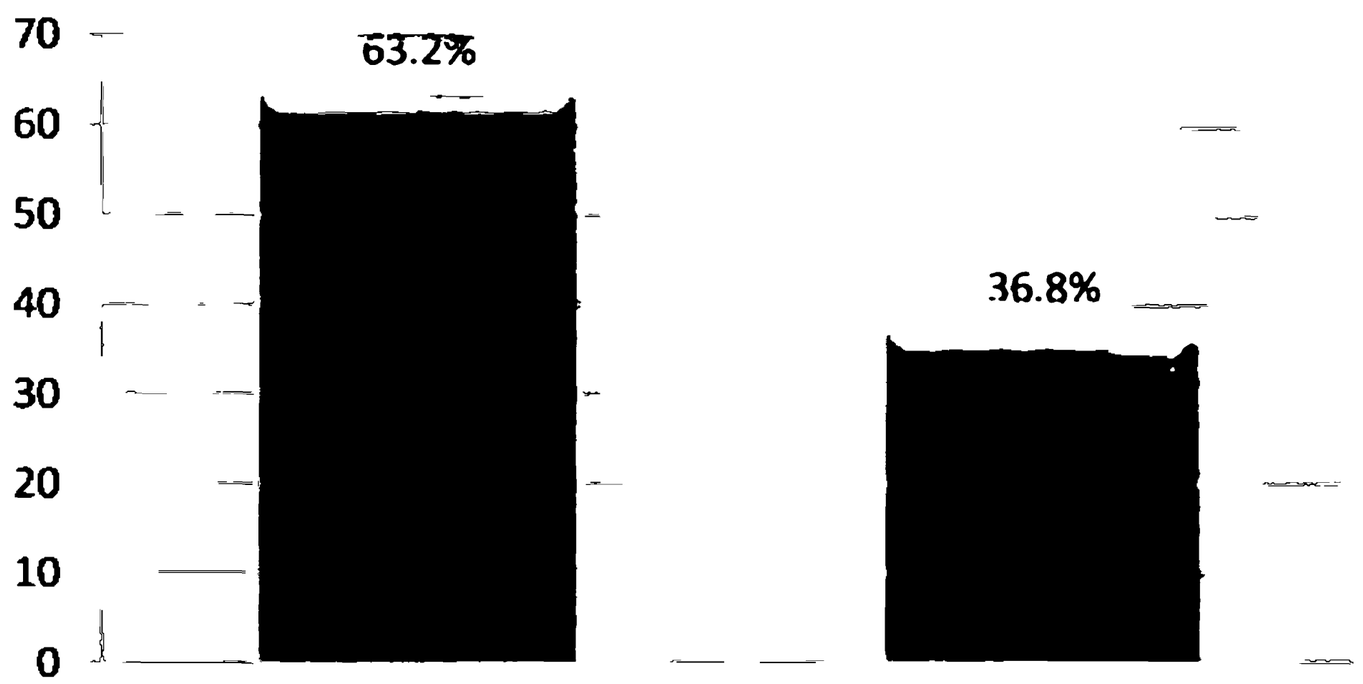
Figure 5.1: Distribution of students by location of educational institution

Source: Field Survey, 2013

5.1.2 Type of institution

In terms of the type of educational institutions, a considerable number of respondents (63.2%) were found to be studying in secondary educational institutions. The percentages of the respondents studying in higher secondary schools were relatively low, 36.8 percent.

Figure 5.2: Distribution of students by type of institution



Source: Field Survey, 2013

5.1.3 Type of section management

Section management is an important characteristic of secondary and higher secondary level education in Bangladesh. The study displayed that a little more than half. 51 percent respondents (51%) said that boys and girls had combined section whereas 49.0 percent reported that boys and girls were in separate section.

Table 5.1: Distribution of students by type of section management

Type of section management	Frequency	Percent
Separate section	294	49.0
Combined section	306	51.0
Total	**600**	**100.0**

Source: Field Survey, 2013

5.1.4 Students' level of education

Education is a key constituent of individuals' life and determines the knowledge about something. It affects many aspects of a person. Studies have shown that educational attainment has strong influence on knowledge about HIV/AIDS. In this study, according to survey findings, an overwhelming number of students (82.67%) were studying in secondary level while only 17.33 percent were in higher secondary level.

Table 5.2: Distribution of students by level of education

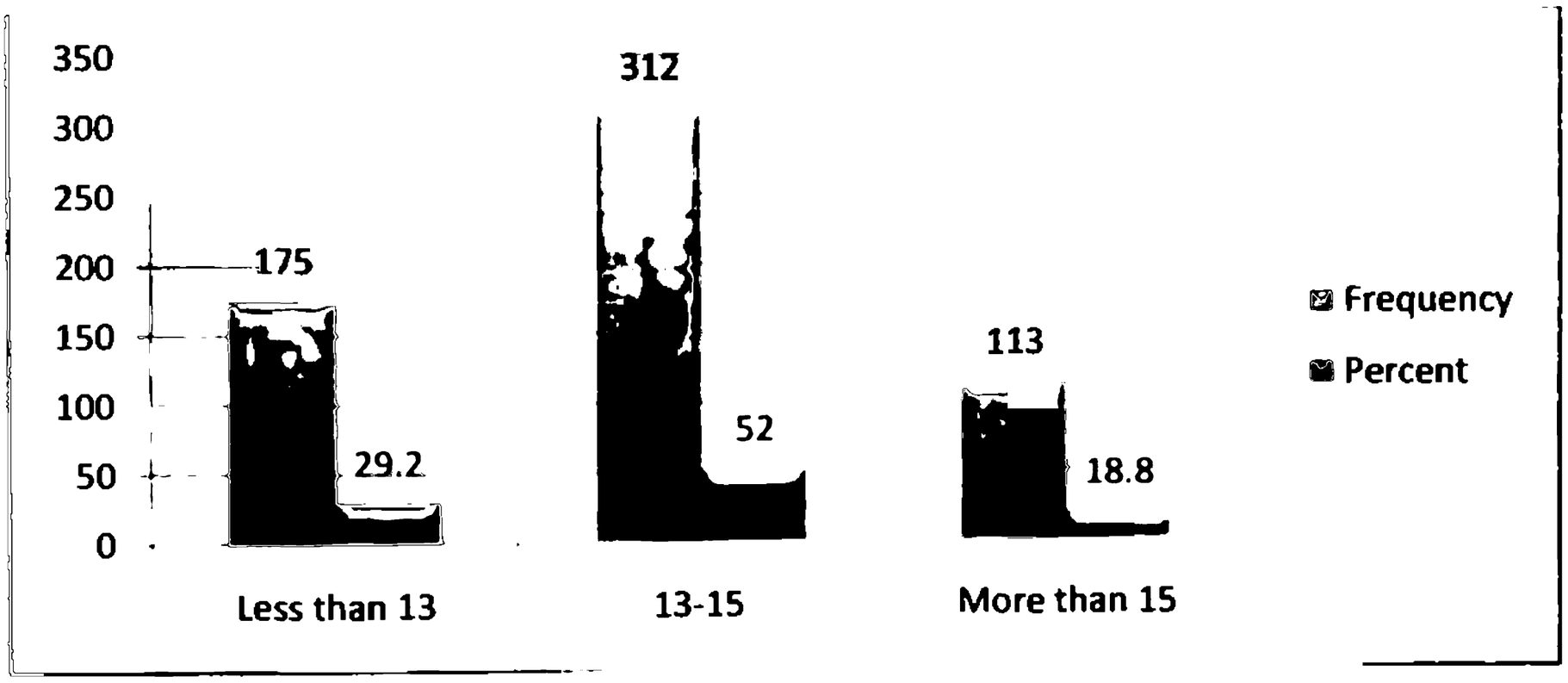
Level of education	Frequency	Percent
Secondary level	496	82.67
Higher secondary level	104	17.33
Total	**600**	**100.00**

Source: Field Survey, 2013

5.1.5 Age distribution of the respondents

Regarding the students' age, more than half, 52 percent, of the students were in the age group of 13-15 years. Again, about 29.2 percent of the respondents belonged to the age group less than 13 years while only 18.8 percent students were in the group of more than 15 years. The mean and standard deviation of the students were 13.73 and 1.79 years respectively.

Figure 5.3: Distribution of students by age

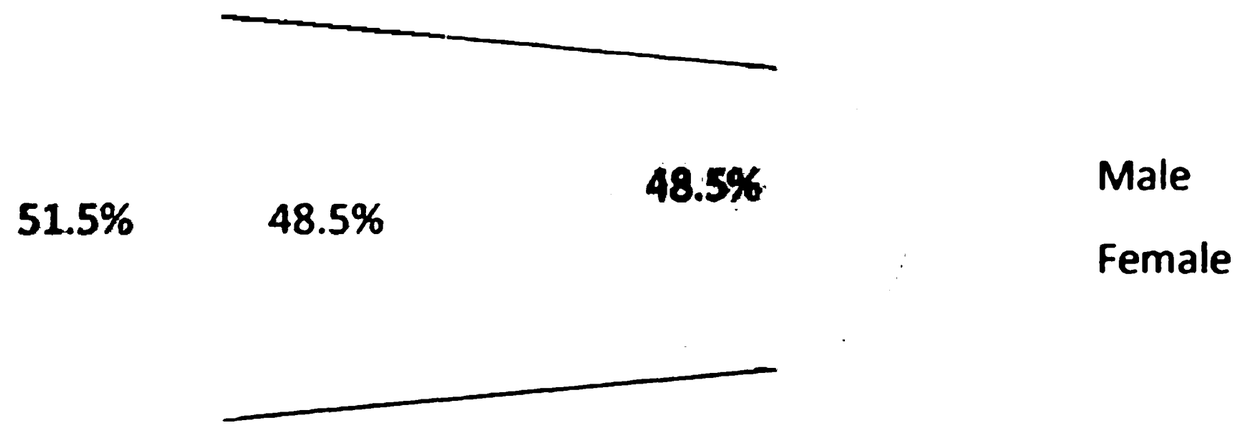


Source: Field Survey, 2013

5.1.6 Gender distribution of the respondents

The study found that male and female participants are almost equal in number: male constituted a little more than half of the respondents (51.5%) while female comprised around half, 48.5 of the total sample with a mean of 13.74 and standard deviation of 1.79 years.

Figure 5.4: Distribution of students by gender



Source: Field Survey, 2013

5.1.7 Marital status of the respondents

Of the respondents surveyed, an overwhelming number of participants (95.2%) were unmarried whereas a negligible number of respondents (2.20%) were married as stated in the following table. The crucial reason of the overwhelming number of unmarried respondents was that most of the sample participants were not in the adult age group. It can be mentioned here that married respondents comprises only the female participants. Other category includes divorced and separated respondents, 2.7 percent.

Table 5.3: Distribution of students by marital status

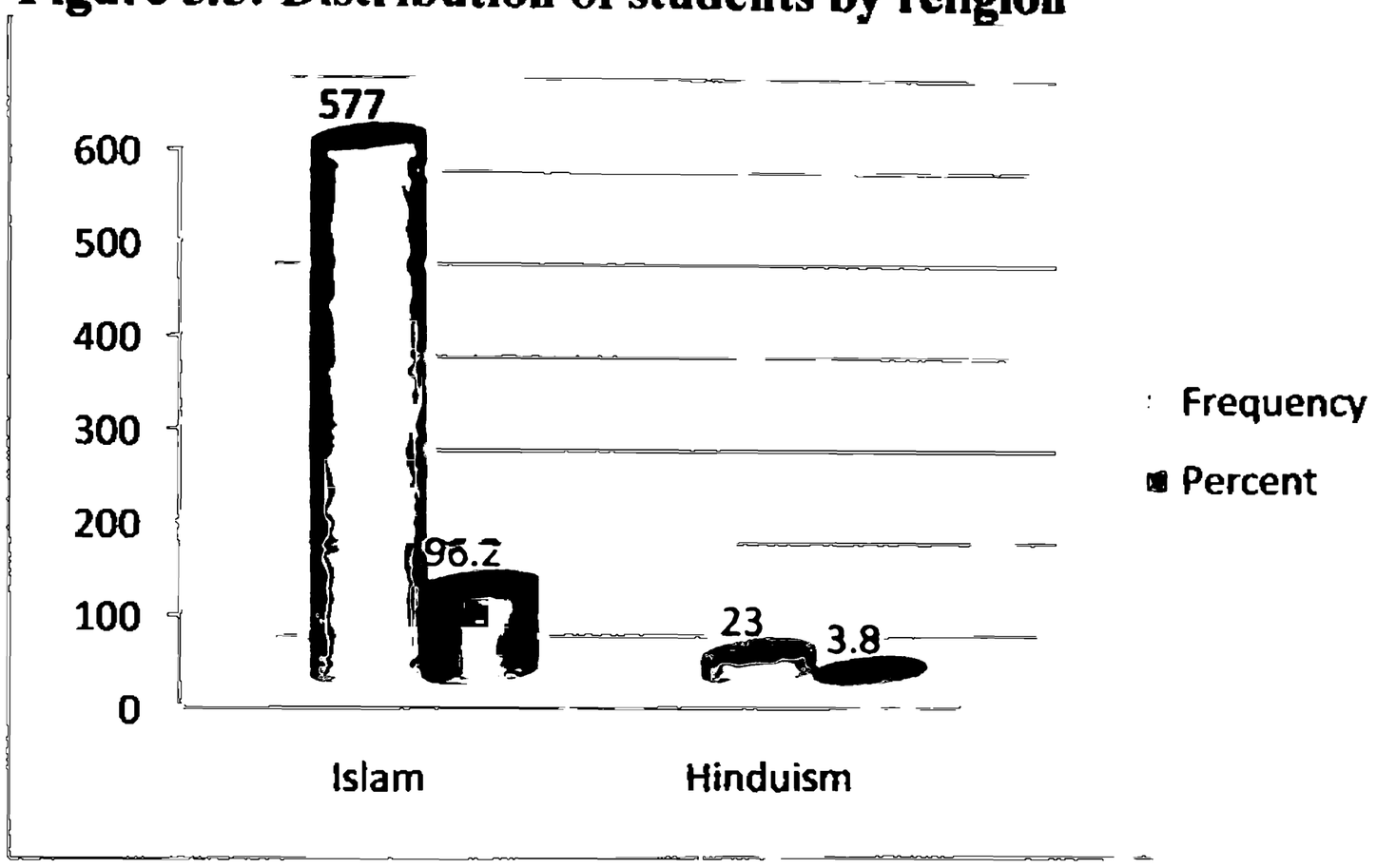
Marital status of the respondents	Frequency	Percent
Married	13	2.2
Unmarried	571	95.2
Others	16	2.7
Total	**600**	**100.0**

Source: Field Survey, 2013

5.1.8 Religious affiliation of the students

About 96.2 percent of the respondents were predominantly Muslim and only a very few number of respondents, 3.8 percent, had identified themselves as the followers of Hinduism. The significant reason is that Bangladesh is predominantly a Muslim country.

Figure 5.5: Distribution of students by religion



Source: Field Survey, 2013

5.1.9 Religiosity of the respondents

The survey findings of the study found that more than half of the respondents (51.8%) were regular in performing religious activities. Again around one-fourths of the study subjects, 26.7 percent, attended religious activities sometimes. In this study 15.8 percent students attended religious activities once or twice a week whereas a trifling number of respondents (5.7%) never performed religious activities.

Table 5.4: Distribution of students by religiosity

How often do students offer religious activities	Frequency	Percent
Everyday	311	51.8
Once or twice in a week	95	15.8
Sometimes	160	26.7
Never	34	5.7
Total	**600**	**100.0**

Source: Field Survey, 2013

5.1.10 Main source of household income of the respondents

The source of income is varied across the respondents. As shown in table 5.5, 41.2 percent participants' source of income was business (large and petty business), 29 percent agriculture, 21.8 percent government job, and 6.2 percent non-government job whereas daily wages and other categories comprised 1.3 and 0.5 percent respectively. All respondents who reported agriculture as their main source of income lived in rural areas. The number of respondents who said private services as their main source mainly lived in urban area.

Table 5.5: Distribution of students by main source of household income

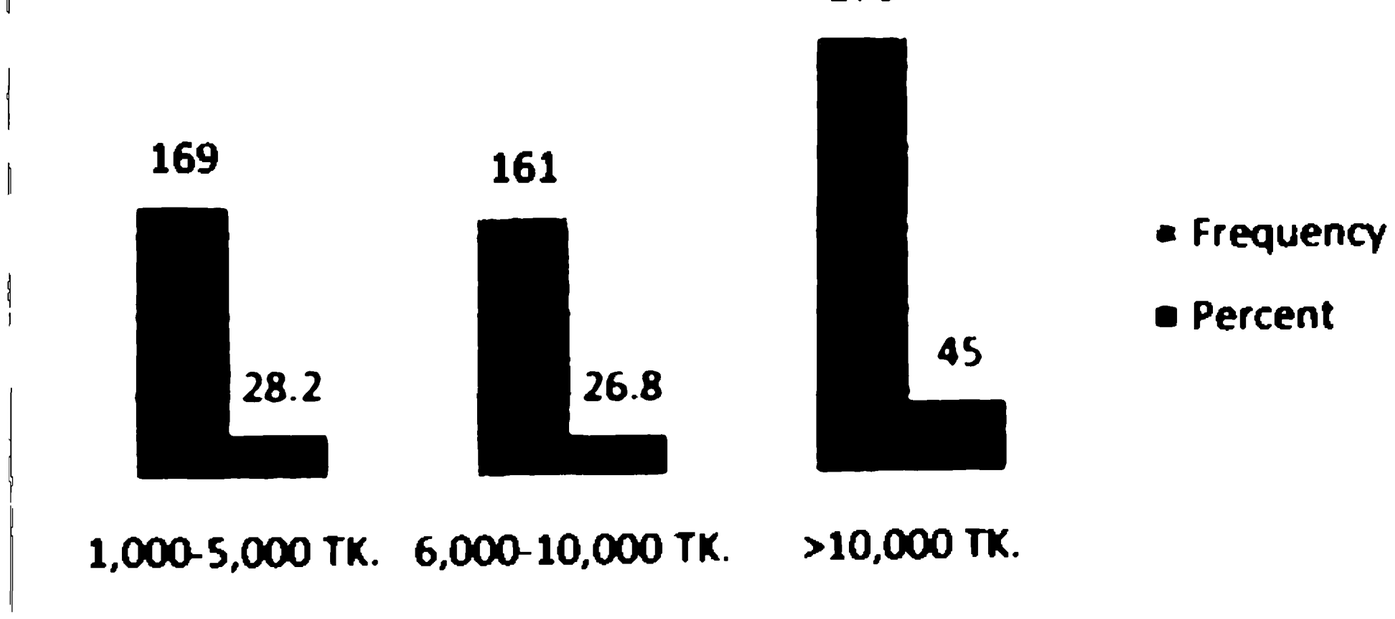
Main source of household income	Frequency	Percent
Agriculture	174	29.0
Business	247	41.2
Government job	131	21.8
Non government job	37	6.2
Daily wages	8	1.3
Others	3	0.5
Total	**600**	**100.0**

Source: Field Survey, 2013

5.1.11 Monthly household income of the respondents

With regard to monthly household income of the respondents, a considerable number of students' monthly household income is more than 10000 taka. Again, out of the total respondents in the sample as many as 28.2 percent of the respondents' families were in the income group of 1000-5000 taka and 26.8 percent of the respondents' families earned taka 6000 to 10000 per month.

Figure 5.6: Distribution of students by monthly household income



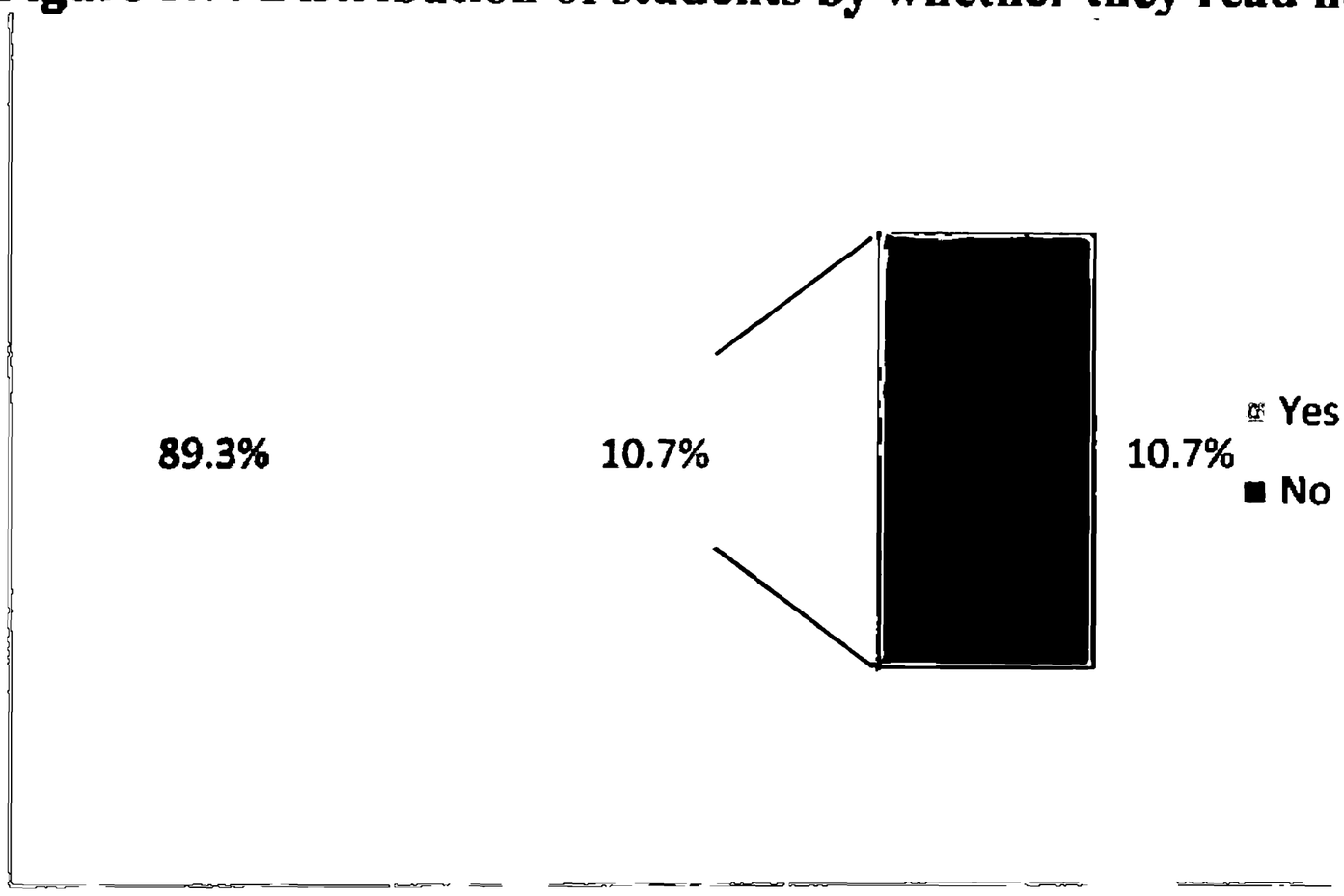
Source: Field Survey, 2013

5.2 Exposure to Mass Media

5.2.1 Exposure to newspaper

Respondents were asked whether they read newspaper or not. The findings of the study demonstrate that an overwhelming number of students (89.3%) read newspaper whereas those who do not read newspaper constitute only 10.7 percent of the respondents.

Figure 5.7: Distribution of students by whether they read newspaper



Source: Field Survey, 2013

5.2.2 Frequency of reading newspaper

The findings of the study also reveal the frequency of reading newspaper of the students. The following table shows that more than half (53.8%) students read newspaper everyday whereas for those who read newspaper at least once or less than once in a week constituted 26.3 and 10 percent of the total participants.

Table 5.6: Distribution of students by frequency of reading newspaper (n=535)

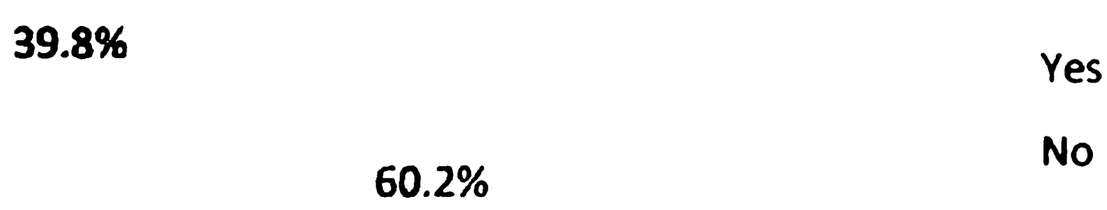
Frequency of reading newspaper	Frequency	Percent
Everyday	317	52.8
At least once in a week	158	26.3
Less than once in a week	60	10.0
Total	**535**	**89.2**

Source: Field Survey, 2013

5.2.3 Exposure to radio

Respondents' exposure to listening to radio is also another determinant of knowledge about HIV/AIDS. The results of the study display that three-fourths of the study subjects had exposure to listening to radio while about 40 percent did not have exposure to listening to radio.

Figure 5.8: Distribution of students by whether they listen to radio



Source: Field Survey, 2013

5.2.4 Frequency of listening to radio

In terms of frequency of listening to radio, this study also reveals that around 47 percent respondents listened to radio almost every day whereas 37.4 and 15.8 percent listened at least once or less than once in a week.

Table 5.7: Distribution of students by frequency of listening to radio (n=361)

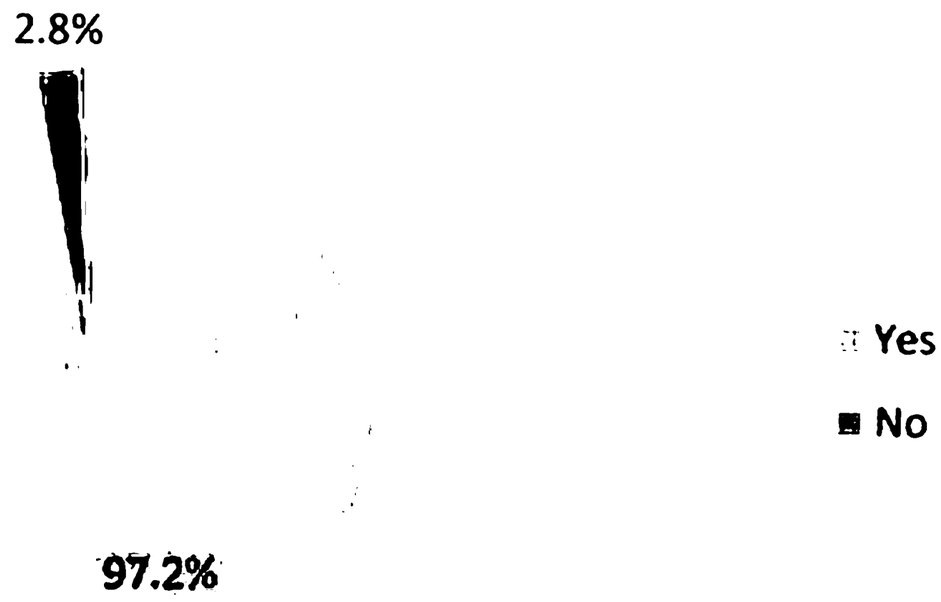
Frequency of listening to radio	Frequency	Valid Percent
Every day	169	46.8
At least once in a week	135	37.4
Less than once in a week	57	15.8
Total	**361**	**100.0**

Source: Field Survey, 2013

5.2.5 Exposure to television

Television is one of the powerful media in the present era. This study also evaluated students' exposure to television. The results of the study show that an overwhelming number of students had exposure to television whereas only 2.8 percent did not have exposure to television.

Figure 5.9: Distribution of students by whether they watch television



Source: Field Survey, 2013

5.2.6 Frequency of watching television

Level of knowledge on HIV/AIDS is also depends on frequency of watching television. The findings of the study display that respondents had higher level of television exposure: 86 percent watched television every day. Again, 10.1 and 3.8 percent students watched television at least once or less than once in a week.

Table 5.8: Distribution of students by frequency of watching television (n=583)

Frequency of watching television	Frequency	Valid Percent
Everyday	502	86.1
At least once in a week	59	10.1
Less than once in a week	22	3.8
Total	**583**	**100.0**

Source: Field Survey, 2013

5.2.7 Exposure to internet

In this study respondents were asked if they had access to internet. Around 56 percent of the students reported that they had access to internet while 44 percent said that they did not have access to internet.

Figure 5.10: Distribution of students by whether they have access to internet

Source: Field Survey, 2013

5.2.8 Frequency of accessing to internet

With regard to frequency of accessing to internet, the results of the study demonstrate that a considerable number of students (45.3%) used internet every day while 38.5 and 16.2 percent students had access to internet once or less than once in a week respectively.

Table 5.9: Distribution of students by frequency of accessing to internet (n=265)

Frequency of accessing to internet	Frequency	Valid Percent
Everyday	120	45.3
At least once in a week	102	38.5
Less than once in a week	43	16.2
Total	**265**	**100.0**

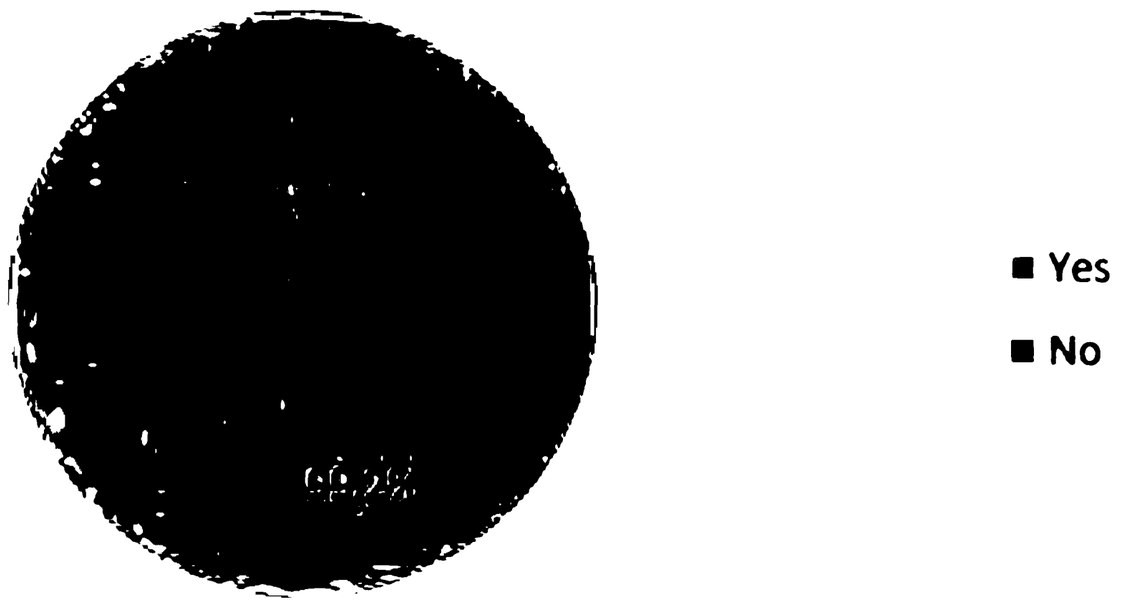
Source: Field Survey, 2013

5.3 Knowledge about HIV/AIDS and STDs

5.3.1 Knowledge about HIV

In this study the information on knowledge about HIV was also collected through survey. The findings of the study show that almost all students (99.2%) had heard of HIV while only 0.8 percent students reported that they did not hear of HIV.

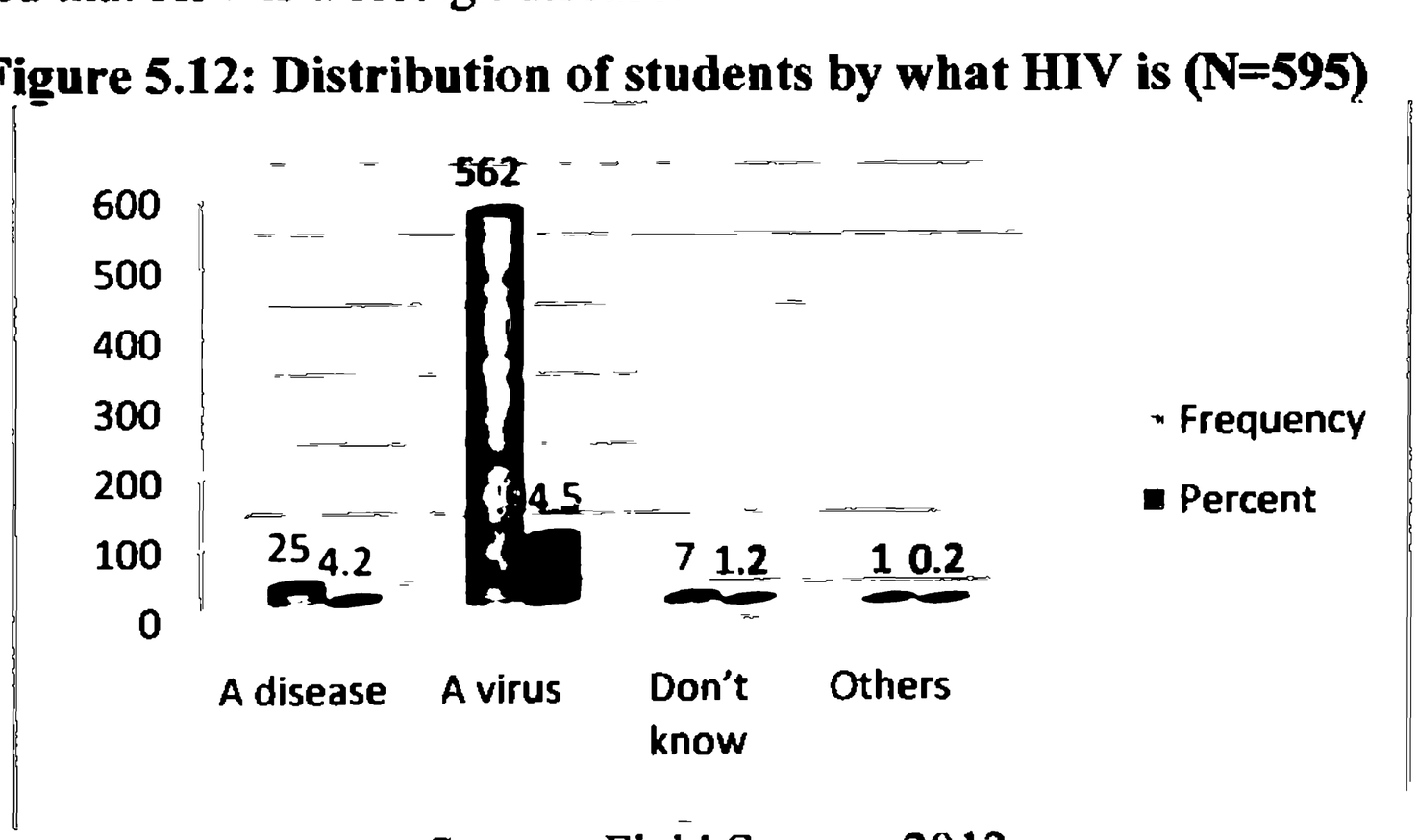
Figure 5.11: Distribution of students by ever heard of HIV



Source: Field Survey, 2013

When respondents were asked regarding what HIV is then an overwhelming number of participants (94.5%) said that HIV is a virus while 4.2 percent replied that HIV is a disease. Only 1.2 percent said that they did not know about the issue. A trifling number of respondents (1 out of 595) answered that HIV is a foreign disease.

Figure 5.12: Distribution of students by what HIV is (N=595)



Source: Field Survey, 2013

The main sign/symptoms of HIV infection reported by participants were unsafe and illegal physical relation (71.2%), sharing of infected needles/syringes (81.3%), mosquito/insect bites (12.2%), blood transfusion (89.3%), mother to child transmission (84.0%), sex with CSWs (61.3%), male sex with male (16.8%), physical relation with HIV infected people (61.7%), saliva (16.8%), etc.

Table 5.13: Distribution of students by ways of preventing HIV infection

Ways of preventing HIV infection (multiple responses)	Number	Percent
Unsafe, illegal physical relation	427	71.2
Sharing of infected needles/syringes	488	81.3
Mosquito/insect bites	73	12.2
Blood transfusion	536	89.3
Mother to child transmission	504	84.0
Sex with CSWs	368	61.3
Male sex with male	101	16.8
Physical relation with HIV infected people	370	61.7
Saliva	101	16.8
Others	25	4.2
Do not know	31	5.2

Source: Field Survey, 2013

As observed from the table 5.14, 71.7 percent respondents said that HIV infection can be protected through safe sexual relation, using germfree needles/syringes (77.7%), receiving germ free blood (83.0%), following religious norms (57.8%), creating mass awareness (66.7%), taking the advice of doctors in terms of having child (71.8%) while more than 5.7 percent said that they do not know about the ways of protecting of HIV infection.

Table 5.14: Distribution of students by ways of preventing HIV infection

Ways of preventing HIV infection (multiple response)	Frequency	Percent
Protected sexual relation	430	71.7
By using germfree needles/syringes	466	77.7
By receiving safe blood	498	83.0
By following religious norms	347	57.8
Creating mass awareness	400	66.7
Taking the advice of doctors in terms of having child	431	71.8
Others	52	8.7
Don't know	34	5.7

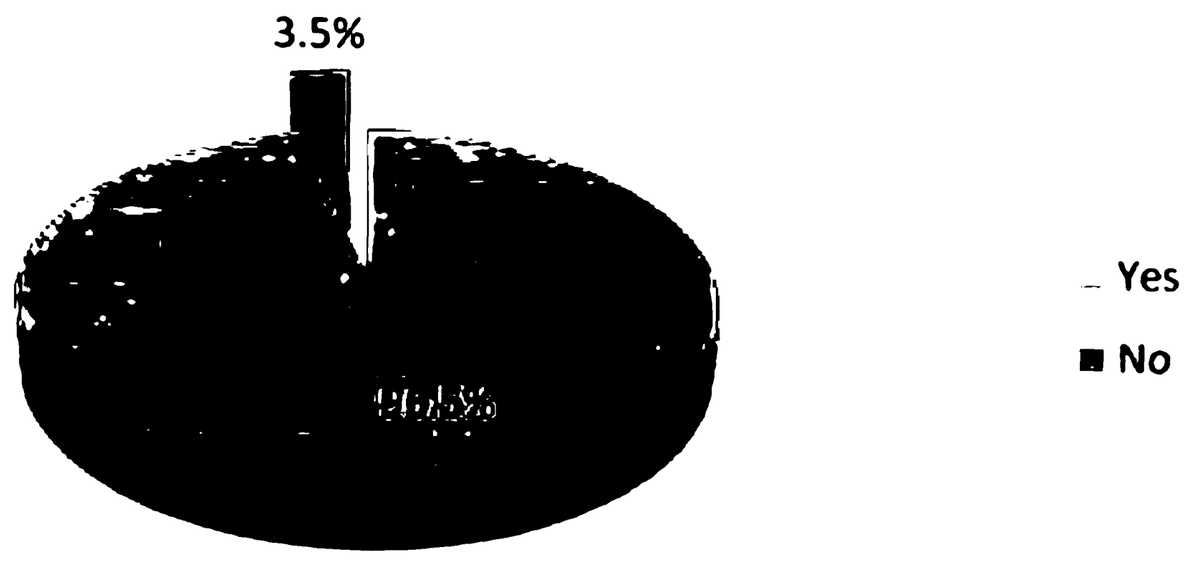
Source: Field Survey, 2013

5.3.2 Knowledge about AIDS

Asked whether they have ever heard about AIDS, 96.5 percent participants replied in the affirmative while only 3.5 percent said that they did not hear about AIDS. It can be mentioned here that students with higher level of education were more likely to respond in the positive

manner.

Figure 5.13: Distribution of students by ever heard of AIDS



Source: Field Survey, 2013

Following figure shows an interesting result that a considerable number of respondents (73.1%) said that AIDS is a virus. They considered synonymously AIDS and HIV as a virus. 21.8 percent students provided right answer- 'AIDS is final stage of HIV infection'. A few students (1%) reported that they do not know about AIDS.

Table 5.15: Distribution of students by ways of preventing HIV infection

What AIDS is	Frequency	Valid Percent
A curse	19	3.3
A virus	423	73.1
Final stage of HIV Infection	126	21.8
Don't know	6	1.0
Others	5	.9
Total	**579**	**100.0**

Source: Field Survey, 2012

5.3.3 Whether textbooks are the best medium of getting AIDS information

Students were asked whether textbooks were the best medium of getting AIDS information for students. An overwhelming number of students (90.2%) replied in the affirmative whereas for those who said no constituted only 10 percent of the total sample.

Table 5.16: Distribution of students by whether textbooks are the best medium of getting AIDS information for students

Whether textbooks are the best medium of getting AIDS information for students	Frequency	Percent
Yes	541	90.2
No	59	9.8
Total	**600**	**100.0**

Source: Field Survey, 2013

5.3.4 Whether they received any AIDS related risk communications

One of the important of objectives of this study was to examine the AIDS related risk communication. The findings of the study reveal that around four-fifths of the study subjects said that they received AIDS related risk communication while a little more than one-fifths said that they did not receive any kind of risk communication.

Table 5.17: Distribution of students by whether they received any AIDS related risk communications

Whether they got any AIDS related risk communications	Frequency	Percent
Yes	475	79.2
No	125	20.8
Total	**600**	**100.0**

Source: Field Survey, 2013

5.3.5 Sources of AIDS related risk communication

This study also evaluated the sources of AIDS related risk communication. The results of the study displayed that a significant number of respondents mentioned textbooks as their main source of risk communication followed by television (60%), newspaper (48.3%), radio (29.7%), and internet (16.7%).

Table 5.18: Distribution of students by sources of AIDS related risk communication

Sources of AIDS related risk communication (multiple responses)	Frequency	Percent
Text books	398	66.3
News paper	290	48.3
Radio	178	29.7
Television	362	60.3
Internet	100	16.7
Others	69	11.5

Source: Field Survey, 2013

5.3.6 Knowledge about STDs

When students were asked whether they have heard about STDs other than HIV/AIDS then roughly 62.2 percent of them answered in the affirmative while around 37.8 percent of students said 'no'.

Figure 5.14: Distribution of students by ever heard of STDs

Source: Field Survey, 2012

STDs have a positive relation with HIV/AIDS. Students gathered knowledge on some types of STDs from some sources. The findings of the study reveal that around 36 percent students have heard of Chlamydia followed by Trichomoniasis (29.7%), Gonorrhea (25.3%), Syphilis (15.2%).

22 percent students did not know the name of these STDs.

Table 5.19: Distribution of students by name of STDs (multiple responses)

Name of STDs	Frequency	Percent
Gonorrhea	152	25.3
Syphilis	91	15.2
Chlamydia	214	35.7
Trichomoniasis	178	29.7
Other	26	4.3
Do not know	132	22.0

Source: Field Survey, 2012

5.3.7 Some statements of knowledge regarding HIV/AIDS

Students had some misconceptions about HIV/AIDS. The findings of the study show that around 82 percent said that AIDS cannot be spread by using someone's personal belongings or eating utensils whereas only 18 percent students said that AIDS can be spread by using someone's personal belongings or eating utensils.

Table 5.20: Distribution of students by AIDS can be spread by using someone's personal belongings or eating utensils

AIDS can be spread by using someone's personal belongings or eating utensils	Frequency	Percent
Yes	107	17.8
No	493	82.2
Total	**600**	**100.0**

Source: Field Survey, 2013

Students were asked whether most people who get HIV usually die from the disease. In response, a significant number of respondents (90%) said 'yes' while 9.7 percent said 'no'.

Table 5.21: Distribution of students by most people who get HIV usually dies from the disease

Most people who get HIV usually die from the disease	Frequency	Percent
Yes	542	90.3
No	58	9.7
Total	**600**	**100.0**

Source: Field Survey, 2013

Table 5.19 illustrates that sharp 65 percent student support the statement that one can get HIV infection having unprotected sex only one time while 35 percent provided negative answer.

Table 5.22: Distribution of students by one can get HIV infection having unprotected sex only one time

One can get HIV infection having unprotected sex only one time	Frequency	Percent
Yes	390	65.0
No	210	35.0
Total	**600**	**100.0**

Source: Field Survey, 2013

Data of the following figure show that a substantial number of students (76.3%) did not think that a person can get HIV by kissing, coughing, sneezing or hugging. A considerable but not overwhelming number of students (23.7%) thought that a person can get HIV by kissing, coughing, sneezing or hugging.

Table 5.23: Distribution of students by a person can get AIDS by kissing someone on the mouth or through coughing and sneezing or hugging

A person can get AIDS by kissing someone on the mouth or through coughing and sneezing or hugging	Frequency	Percent
Yes	142	23.7
No	458	76.3
Total	**600**	**100.0**

Source: Field Survey, 2013

The following figure depicts that 96.2 percent students believe the comment that receiving infected blood transfusion can give a person HIV while only a few respondents (3.8%) said that 'no'.

Table 5.24: Distribution of students by receiving infected blood transfusion can give a person HIV

Receiving infected blood transfusion can give a person HIV	Frequency	Percent
Yes	577	96.2
No	23	3.8
Total	**600**	**100.0**

Source: Field Survey, 2013

Students were asked whether one can get HIV by sharing a needle with a drug user who has the disease or not. In response, 98.2 percent students said that one can get HIV by sharing a needle with a drug user who has the disease while 0nly 1.8 percent said 'no'.

Table 5.25: Distribution of students by you can get HIV by sharing a needle with a drug user who has the disease

You can get HIV by sharing a needle with a drug user who has the disease	Frequency	Percent
Yes	589	98.2
No	11	1.8
Total	**600**	**100.0**

Source: Field Survey, 2013

Respondents were asked whether people with AIDS usually have lots of other diseases as a result of AIDS or not. The findings of the study displays that 89 percent students believe that people with AIDS usually has lots of other diseases as a result of AIDS while only 11 percent said 'no'.

Table 5.26: Distribution of students by people with AIDS usually has lots of other diseases as a result of AIDS

People with AIDS usually have lots of other diseases as a result of AIDS	Frequency	Percent
Yes	534	89.0
No	66	11.0
Total	**600**	**100.0**

Source: Field Survey, 2013

Results on whether AIDS and HIV are same thing reveal that around 47 percent reported that AIDS and HIV are same thing while for those who said that AIDS and HIV are not same thing represented 53 percent of the total.

Table 5.27: Distribution of students by whether AIDS and HIV is same thing

AIDS and HIV are same thing	Frequency	Percent
Yes	280	46.7
No	320	53.3
Total	**600**	**100.0**

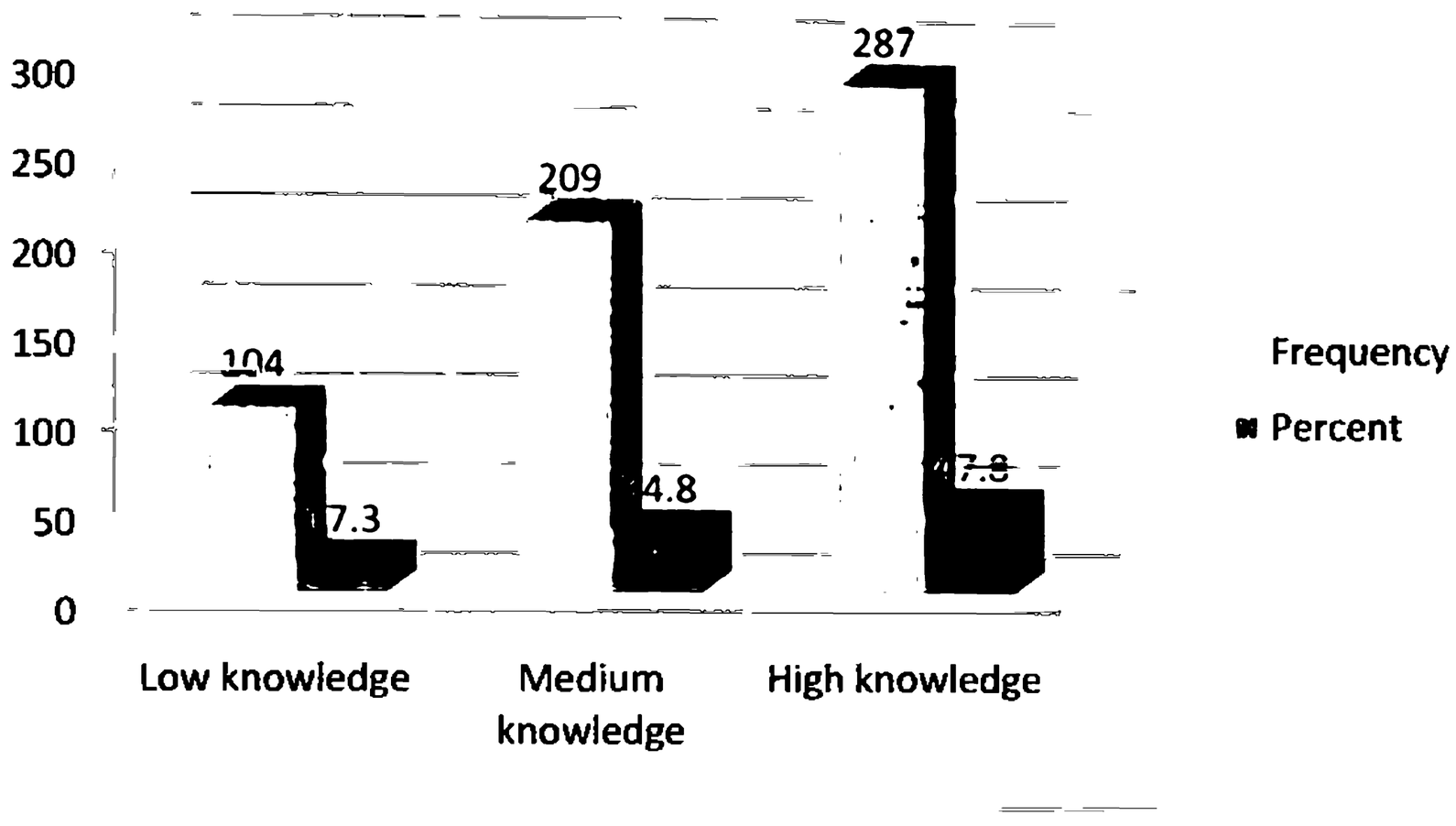
Source: Field Survey, 2013

5.3.8 Students' pooled knowledge on HIV/AIDS

Figure 5.15 demonstrates the pooled knowledge of students about HIV/AIDS and STDs. It also demonstrates that only 17.3 percent students had low knowledge about HIV/AIDS and STDs, 34.8 percent had moderate knowledge. A substantial number of students (47.8%) were found

high knowledge.

Figure 5.15: Distribution of students by pooled knowledge **



Source: Field Survey, 2013

5.4 AIDS Education in Secondary and Higher Secondary Institutions

The government of Bangladesh has incorporated HIV/AIDS information into the textbooks of all streams of education from grade VI to XII in 2007 so that the students of secondary and higher secondary institutions can be conscious and can easily comprehend the serious threat that our country is facing. Not all the subjects contain AIDS related information rather General Science, Social Science, Bangla Literature were the main subjects in which HIV/AIDS related information was incorporated.

Students were asked whether they know government of Bangladesh has included HIV/AIDS related information in their text books or not. The results of the study show that around 96 percent students know it while only about 4 percent do not know about it.

** Knowledge scores were derived from the eleven comments on HIV/AIDS such as whether they heard of HIV, AIDS, and STDs, whether AIDS can be spread by using someone's personal belongings or eating utensils; whether most people who get HIV usually die from the disease; whether one can get HIV infection having unprotected sex only one time, whether a person can get AIDS by kissing someone on the mouth or through coughing and sneezing or hugging; whether Receiving blood transfusion with infected blood can give a person HIV; whether one can get HIV by sharing a needle with a drug user who has the disease; whether people with AIDS usually have lots of other diseases as a result of AIDS; whether AIDS and HIV are same thing.

Table 5.28: Distribution of students by whether government of Bangladesh has included HIV/AIDS related information in your text books

Whether government of Bangladesh has included HIV/AIDS related information in your text books	Frequency	Percent
Yes	578	96.3
No	22	3.7
Total	**600**	**100.0**

Source: Field Survey, 2013

In order to depict the name of those subjects containing HIV/AIDS and STDs related information, a question was asked the sample students. A considerable number of students (78.7%) reported General Science as the subject containing HIV/AIDS related information. A substantial number of students (12.8%) said Social Science while only 7.6 percent responded that HIV/AIDS and STDs related information was incorporated in Bangla Literature. Students who said Home Economics constituted 0.2 percent of the participants. Only 0.7 percent students did not know the name of those subjects in which HIV/AIDS and STDs information was included.

Table 5.29: Distribution of students by Subjects containing HIV and AIDS information

Subjects containing HIV and AIDS information	Frequency	Valid Percent
General science	455	78.7
Social science	74	12.8
Bangla	44	7.6
Home economics	1	.2
Don't know	4	.7
Total	**578**	**100.0**

Source: Field Survey, 2013

Survey findings demonstrate that an overwhelming number of students (91.3%) of the sample institutions reported that AIDS related information are taught in their institutions whereas 8.7 percent students said that they did not know whether AIDS related information are taught or not.

Table 5.30: Distribution of students by whether HIV and AIDS related information are taught in class

Whether HIV and AIDS related information are taught in class	Frequency	Percent
Yes	548	91.3
No	52	8.7
Total	**600**	**100.0**

Source: Field Survey, 2013

Sample students learnt something about HIV/AIDS reported by 96.5 percent of the students while only 3.5 percent said that they did not learn anything about HIV/AIDS.

Table 5.31: Distribution of students by whether they learnt anything about HIV/AIDS (n=548)

Whether they learnt anything about HIV/AIDS	Frequency	Valid Percent
Yes	529	96.5
No	19	3.5
Total	**548**	**100.0**

Source: Field Survey, 2013

Participants were asked whether there is any question in their examination on HIV/AIDS. The results of the study reveal that around four-fifths of the students reported that HIV/AIDS related topics are given in examination while 20.5 percent reported in a negative manner.

Table 5.32: Distribution of students by whether is there any question in your examination on AIDS related topic

Is there any question in your examination on AIDS related topic	Frequency	Percent
Yes	477	79.5
No	123	20.5
Total	**600**	**100.0**

Source: Field Survey, 2013

The finding of the study reveal that around four-fifths of the students said that they felt shy to learn about HIV/AIDS and STDs while only 19 percent reported that they did not feel shy to learn about HIV/AIDS and STDs.

Table 5.33: Distribution of students by whether they feel shy to learn about HIV/AIDS and STDs

Whether they feel shy to learn about HIV/AIDS and STDs	Frequency	Percent
Yes	116	19.3
No	484	80.7
Total	**600**	**100.0**

Source: Field Survey, 2013

AIDS education helps to solve various problems in real life experiences. The results of the study demonstrate that about three-fourths of the students (74.7%) reported that AIDS education contributed to solve various problems in real life experiences whereas 25.3 percent reported in the negative manner.

Table 5.34: Distribution of students by whether AIDS education contributed to solve various problems in real life experiences

Whether AIDS education contributed to solving various problems in real life experiences	Frequency	Percent
Yes	448	74.7
No	152	25.3
Total	600	100.0

Source: Field Survey, 2013

One of the important impacts of AIDS education through secondary and higher secondary institutions is that it encourages students saying 'no' when they get indecent proposals as stated by 74.7 percent of students. One fourths of the participants disagreed with the comment.

Table 5.35: Distribution of students by whether AIDS education encouraged saying 'No'

Whether AIDS education encouraged saying 'No'	Frequency	Percent
Yes	448	74.7
No	152	25.3
Total	**600**	**100.0**

Source: Field Survey, 2013

One of the important objectives of AIDS education through secondary and higher secondary institutions is that students will practice AIDS related education in their real life. The results of the study show that an overwhelming number of participants (92.5%) said that they practiced AIDS related education in their real life while only 7.5 percent said 'no'.

Table 5.36: Distribution of students by whether they practice AIDS education in life experiences

Whether they practice AIDS education in life experiences	Frequency	Percent
Yes	555	92.5
No	45	7.5
Total	**600**	**100.0**

Source: Field Survey, 2013

The following table shows that about 95.2 percent participants reported that more information on HIV/AIDS should be included in text books whereas only 4.8 percent students reported in the negative manner.

Table 5.37: Distribution of students by whether more information on HIV/AIDS should be included in text books

Whether more information on HIV/AIDS should be included in text books	Frequency	Percent
Yes	571	95.2
No	29	4.8
Total	**600**	**100.0**

Source: Field Survey, 2013

One of the key determinants of AIDS education is quality of teaching HIV/AIDS education. It affects many aspects of AIDS education including learning about HIV/AIDS and STDs, discussing with parents, teachers, friends, gaining knowledge regarding AIDS, above all positive changes in the behavior of students. It is found in the study that quality of teaching AIDS education was enriched as reported by 82.5 percent students. Around one-fifths students (17.5%) said that quality of teaching HIV/AIDS was not enriched.

Table 5.38: Distribution of students by quality of teaching HIV/AIDS

Quality of teaching HIV/AIDS	Frequency	Percent
Enriched	495	82.5
Not enriched	105	17.5
Total	**600**	**100.0**

Source: Field Survey, 2013

The results presented in the following table display that 93.2 percent participants said that trained teachers are more competent to teach HIV/AIDS while 6.8 said in the negative manner.

Table 5.39: Distribution of students by whether trained teachers are more competent to teach HIV/AIDS

Whether trained teachers are more competent to teach HIV/AIDS	Frequency	Percent
Yes	559	93.2
No	41	6.8
Total	**600**	**100.0**

Source: Field Survey, 2013

Teachers' training is one of the important constituents of AIDS education. The findings of the study show that 92.5 percent students said that teachers should be trained more while only 7.5 percent disagreed with the statement.

Table 5.40: Distribution of students by whether teachers should be trained more

Whether teachers should be trained more	Frequency	Percent
Yes	555	92.5
No	45	7.5
Total	**600**	**100.0**

Source: Field Survey, 2013

Textbooks play pivotal role as a medium of disseminating HIV/AIDS and STDs information among the students as stated by 92.7 of the respondents. However, only 7.3 percent disagreed with the statement.

Table 5.41: Distribution of students by whether textbooks play pivotal role as a medium of disseminating HIV/AIDS and STDs information among the students

Whether textbooks play pivotal role as a medium of disseminating HIV/AIDS and STDs information among the students	Frequency	Percent
Yes	556	92.7
No	44	7.3
Total	**600**	**100.0**

Source: Field Survey, 2013

Bangladesh is predominantly a Muslim country. Respondents were asked whether the texts on HIV/AIDS are sensitive or not. The results of the study show that around 70 percent said that texts on HIV/AIDS are sensitive while about 30 percent reported in the negative manner.

Table 5.42: Distribution of students by whether texts on HIV/AIDS are sensitive

Whether texts on HIV/AIDS are sensitive	Frequency	Percent
Yes	417	69.5
No	183	30.5
Total	**600**	**100.0**

Source: Field Survey, 2013

The following table indicates that 91 percent students said that AIDS education impacted their behavior while only 9 percent reported 'no'.

Table 5.43: Distribution of students by whether AIDS education impacts behavior positively

Whether AIDS education impacts behavior positively	Frequency	Percent
Yes	546	91.0
No	54	9.0
Total	**600**	**100.0**

Source: Field Survey, 2013

AIDS education contributes to change the negative attitudes of students. Table 5.41 displays that 76 percent students said that AIDS education AIDS education contributed to change their negative attitude whereas a few students (7.8%) said 'no'.

Table 5.44: Distribution of students by whether AIDS education contributes to change negative

Whether AIDS education contributes to change negative attitude	Frequency	Percent
Yes	553	92.2
No	47	7.8
Total	**600**	**100.0**

Source: Field Survey, 2013

CHAPTER SIX

BIVARIATE RESULTS OF THE STUDY

This chapter mainly provides statistical analysis of different variables. All the quantitative findings are presented using both univariate and bivariate techniques. In the case of bivariate analysis, cross tables are formed using SPSS and the statistical relations between variables are tested by using a number of appropriate measures of association. In this regard nature of the variables (e.g. level of measurement), size of the cross-table (e.g. number of rows and columns) and the distribution of cell frequency determine the choice of appropriate test statistic. Chi-square test is applied for nominal level variables. When variables are nominal in nature and the table is larger than 2x2 formats with having any cell frequency less than 5 then V is applied (Bryman, 2004).

6.1Association between socio-demographic characteristics and level of knowledge

The dependent variable considered in the table 6.1 was level of knowledge. Independent variables' gross effect on the dependent was examined by the Pearson Chi-square test.

Table 6.1 shows the statistical association between a set of independent variables and level of knowledge of the students. Type of institution is found to be significantly associated with level of knowledge and the results indicate that students of secondary schools are more likely to have higher degree of knowledge than those of higher secondary institutions. However, a uniform association between level of knowledge and location of institution is not observed in our bivariate results.

Students' level of education is one of the predictor variables that show significant relationship with their level of knowledge. It is evident from this study that students of grade eight tend to have higher degree of knowledge than the students of other grades. The crucial reason is that books of those students contain more information on HIV/AIDS and STDs than the books of students of other grades. Results also show that age cohort is significantly related to level of knowledge that is the students aged between 13-15 years tend to have high knowledge than those of other age groups. An important independent

variable, religion, is not significantly associated with level of knowledge. Level of knowledge and religiosity is inversely correlated. The findings of the study demonstrate that students who never perform religious activity were more likely to have higher degree of knowledge.

Table 6.1: Summary table of chi-square of level of knowledge on HIV/AIDS by socio-demographic factors

Socio-demographic factors	Level of knowledge of the students
	Chi-square and Cramer's V values
Location of institution	χ^2 =2.61 df=2
Type of institution	χ^2 =22.58*** df=2
Level of education	χ^2 =26.46 ** df=12
Age	χ^2 =12.50** df=4
Religion	χ^2 =0.86 df=2
Religiosity	χ^2 =11.45* df=6
Source of household income	χ^2 =20.01* df=10
Monthly household income	χ^2 =15.71**df=4

***p=0.001 **p=0.01 *p=0.05 Source: Field survey, 2013

Another two important independent variables, source of income and monthly household income, are rigorously associated with level of knowledge. Results of these two variables demonstrates that students whose source of household income was business and students whose monthly household income was 1000-5000 Tk. were more likely to have higher degree of knowledge.

6.2 Association between exposure to mass media and practicing AIDS related education

All the independents variables are found to be significantly related to practice of AIDS related education in real life experiences. It has been found that students who read newspaper showed the tendency to practice more AIDS related education in their real life experiences ($p<0.05$) than those who did not read newspaper. Again, exposure to radio is positively associated with practicing AIDS related education in real life experiences ($p<0.01$). The results of the study showed that students having exposure to radio were more likely to practice AIDS related education. With regard to exposure to television and internet, this study also indicates that students who had television ($p<0.01$), and internet exposure ($p<0.05$) were likely to practice AIDS related education in their real life experience.

Table 6.2: Summary table of chi-square and Cramer's V on practicing AIDS education in real life experiences by exposure to mass media

Exposure to mass media	Practicing AIDS related education in real life experiences
	Chi-square and Cramer's V values
Exposure to newspaper	χ^2 =4.45* df=1
Exposure to radio	χ^2 =6.54** df=1
Exposure to television	V=0.172*
Exposure to internet	χ^2 =0.75** df=1

***p=0.001 **p=0.01 *p=0.05 Source: Field survey, 2013

6.3 Association between socio-demographic factors and role of textbook as a best medium

Textbooks play pivotal role in disseminating AIDS related education in Bangladesh. The bivariate results of the study display that student of rural educational institutions said that textbook is best medium of disseminating HIV/AIDS information among the students ($p<0.05$). Again, students of higher grades were likely to report that textbook was best medium of disseminating HIV/AIDS information among the students than those of other grades ($p<0.001$). with regard to type of institution, the results of the study show that students of secondary institution were more likely to say that Textbooks play pivotal role in disseminating AIDS related education in Bangladesh ($p<0.05$).

Table 6.3: Summary table of chi-square and Cramer's V on whether textbook is best medium of disseminating HIV/AIDS information by socio-demographic variables

Socio-demographic factors	Whether textbook is best medium of disseminating HIV/AIDS information
	Chi-square and Cramer's V values
Location of institution	χ^2 =5.45* df=1
Type of institution	χ^2 =1.52** df=1
Level of education	χ^2 =21.60*** df=6
Age	χ^2 =8.14** df=2
Sex	χ^2 =0.43 df=6
Religiosity	χ^2 =6.27* df=3
Monthly household income	χ^2 =1.28 df=2

***p=0.001 **p=0.01 *p=0.05 Source: Field survey, 2013

In terms of age distribution of the respondents, the findings of the study shows that students of older age tended to report that textbook was best medium of disseminating HIV/AIDS information among the students than those of other age cohorts ($p<0.05$).

Religiosity is also positively related to the dependent variable, that is, students who performed religious activity regularly showed greater propensity to say that textbook was best medium of disseminating HIV/AIDS information among the students ($p<0.05$).

6.4 Association between exposure to mass media and level of knowledge of the students

Table 6.4 displays a significant association between a set of independent variables and level of knowledge about HIV/AIDS. Results of the study demonstrate that participants having radio and newspaper exposure were more likely to have higher level of knowledge on HIV/AIDS than those of other students who did not have exposure to newspaper and radio. Similarly, students who had exposure to television and internet tended to have higher degree of knowledge about HIV/AIDS.

Table 6.4: Summary table of chi-square on level of knowledge of the students by exposure to mass media

Exposure to mass media	Level of knowledge of the students
	Chi-square and Cramer's V values
Exposure to newspaper	χ^2 =5.34** df=1
Exposure to radio	χ^2 =4.57** df=1
Exposure to television	χ^2 =7.27* df=2
Exposure to internet	χ^2 =12.45** df=3

***p=0.001 **p=0.01 *p=0.05 Source: Field survey, 2013

6.5 Association between level of knowledge about HIV/AIDS and teaching of HIV and AIDS in class room

Students' level of knowledge about HIV/AIDS largely depends on the teaching of HIV/AIDS in the class room because class room teaching makes them knowledgeable about these sensitive subject matters. One of the important objectives of the present study was to assess the association between level of knowledge about HIV/AIDS and teaching of HIV and AIDS in class room. The bivariate results of the study demonstrate that students who reported that HIV/AIDS related topics were taught in the classroom were more likely to have higher degree of knowledge about HIV/AIDS.

Table 6.5: Association between level of knowledge about HIV/AIDS and teaching of HIV and AIDS in class room

Level of knowledge about HIV/AIDS	Whether HIV and AIDS related information are taught in your class		Total
	Yes	No	
Low knowledge	97 (16.2%)	7 (1.2%)	104 (17.3%)
Medium knowledge	189 (31.5%)	20 (3.3%)	209 (34.8%)
High knowledge	262 (43.7%)	25 (4.2%)	287 (47.8%)
Total	548 (91.3%)	52 (8.7%)	600 (100.0%)

Source: Field survey, 2013 χ^2 =10.41, df = 3, p=0.05

6.6 Predicting knowledge about HIV/AIDS

Logistic regression analysis was conducted to further explore the possible effects of each predictor variable on knowledge about HIV/AIDS. The Enter method of regression was considered for the outcome variable.

The results of the logistic regression analysis on the level of knowledge on HIV/AIDS are presented in the table 6.6 below. The outcome variable considered here is knowledge on HIV/AIDS and coded as dummy; 1(high knowledge) and 0 (low knowledge). Those variables that show significant relationship in bivariate analysis with the dependent are entered into logistic regression. The independent variables included in the model are type of institutions, level of education, age, religiosity, source of household income, income. The results of the analysis are discussed below.

Overall, the regression model is statistically significant in predicting knowledge about HIV/AIDS with Cox & Snell R^2= 0.083. Of the socio-demographic variables, age is found to be significantly associated with level of knowledge, that is, students with older age were 2.344 times more likely to have knowledge on HIV/AIDS than those of other age groups. Similar association was also found between income and level of knowledge on HIV/AIDS. Data indicated that students with more household income had almost two times higher odds ratio than those of other income groups (OR=1.772).

Table 6.6 Results of logistic regression analysis on knowledge about HIV/AIDS

Variables in the model	B	S.E.	P-value	Exp(B)
Type of institutions				
Higher Secondary (RC)				
Secondary	0.246	0.214	0.251	2.671
Level of education				
Grade 10 or above (RC)				
Up to grade 9	0.1123	0.531	0.917	1.191
Age				
>15 years (RC)				
13-15 years	0.617**	0.372	0.01	2.344
<13 years	0.452	0.434	0.241	1.541
Religiosity				
Never (RC)				
Sometimes	-0.547	0.376	0.146	0.579
Every day	0.080	0.080	0.080	0.080
Source of household income				
Agriculture (RC)				
Business	0.374	0.381	0.551	1.152
Government job	-0.153	0.381	0.562	0.331
Others	0.261	0.432	0.871	1.183
Income (in taka)				
>10,000 (RC)				
6,000-10,000	0.319*	0.421	0.041	1.772
1,000-5,000	0.782	0.432	0.073	3.314
Constant	1.526	2.532	0.435	3.562
Cox & Snell R^2=0 .083				
N=600	Hosmer and Lemeshow Test: $\chi 2$=11.54, df=10, p=0.361			

RC stands for Reference Category

** and * are significant levels at 1 and 5 %, respectively

CHAPTER SEVEN

DISCUSSION AND CONCLUSION

In Bangladesh, as in other conservative societies, discussing HIV/AIDS and STDs related issues is defined as a taboo and strongly prohibited by existing societal norms and religious values. AIDS education provides students with facts about the realities of HIV/AIDS education. This chapter is a general summary of the findings on HIV/AIDS education through secondary and higher secondary institutions where relevant information found in this study are discussed.

7.1 Socio-demographic characteristics of students

Students' socio-economic characteristics have their own contribution to understanding the HIV/AIDS education through formal curriculum and texts. This study found that 31.7 percent students were from rural educational institutions and 68.3 percent from urban educational institutions and their average age was 13.74 years with a standard deviation of 1.79. The percentage of urban area's students is largely bigger than those of rural area because of the increasing number of students in urban educational institutions. Most of the students were studying in grades of secondary level. The parentages of grade seven and grade six students were higher than the students of other grades. The only reason was that all the sampled educational institutions had greater number of grade seven and six students. Therefore, the students of those two grades are proportionately high. It also indicates the considerable number of students belonged to the age group 13-15 years.

Again, male constituted a little more than half of the respondents (51.5%) while female comprised around half, 48.5 of the total sample. This study also found that most students were predominantly Muslim (96.2%) and rest of the respondents identified themselves as the followers of Hinduism. In terms of religiosity, more than half of the respondents (51.8%) were regular in performing religious activities. Again, around one-fourths of the study subjects, 26.7 percent, attended religious activities sometimes. In this study 15.8 percent students attended religious activities once or twice a week whereas a trifling number of respondents (5.7%) never performed religious activities.

The source of income is varied across the respondents. This study found that 41.2 percent participants' source of income was business, followed by agriculture (29%), government job (21.8%), and non-government job (6.2%). All respondents who reported agriculture as their main source of income lived in rural areas. The number of respondents who said private services as their main source mainly lived in urban area. With regard to monthly household income of the family, a considerable number of students' monthly household income is more than 10000 taka. Again, out of the total respondents in the sample as many as 28.2 percent of the respondents' families were in the income group of 1000-5000 taka and 26.8 percent of the respondents' families earned taka 6000 to 10000 per month.

Socio-demographic factors showed significant association with the dependent variable. The bivariate results of the study display that student of rural educational institutions said that textbook is best medium of disseminating HIV/AIDS information among the students ($p<0.05$). Again, students of higher grades were likely to report that textbook was best medium of disseminating HIV/AIDS information among the students than those of other grades ($p<0.001$). with regard to type of institution, the results of the study show that students of secondary institution were more likely to say that Textbooks play pivotal role in disseminating AIDS related education in Bangladesh ($p<0.05$). In terms of age distribution of the respondents, the findings of the study shows that students of older age tended to report that textbook was best medium of disseminating HIV/AIDS information among the students than those of other age cohorts ($p<0.05$). Religiosity is also positively related to the dependent variable, that is, students who performed religious activity regularly showed greater propensity to say that textbook was best medium of disseminating HIV/AIDS information among the students ($p<0.05$).

7.2 Exposure to Mass Media

Exposure to mass media is an important determinant which affects respondents HIV/AIDS knowledge. This study evaluated respondents' exposure to various mass media such as radio, television, newspaper and internet. The findings of the study demonstrated that an overwhelming number of students read newspaper whereas those who do not read newspaper constitute only 10.7 percent of the respondents. The findings of the study also reveal the frequency of reading newspaper of the students. The following table shows that more than half (53.8%) students read newspaper everyday whereas for those who read newspaper at least once or less than once in a

week constituted 26.3 and 10 percent of the total participants. Respondents' exposure to listening to radio is also another determinant of knowledge about HIV/AIDS. The results of the study display that three-fourths of the study subjects had exposure to listening to radio. In terms of frequency of listening to radio, this study also reveals that around 47 percent respondents listened to radio almost every day whereas 37.4 and 15.8 percent listened at least once or less than once in a week.

Again, television is one of the powerful media in the present era. This study also evaluated students' exposure to television. The results of the study show that an overwhelming number of students had exposure to television whereas only 2.8 percent did not have exposure to television. Level of knowledge on HIV/AIDS is also depends on frequency of watching television. The findings of the study display that respondents had higher level of television exposure: 86 percent watched television every day. In this study respondents were asked if they had access to internet. Around 56 percent of the students reported that they had access to internet while 44 percent said that they did not have access to internet. With regard to frequency of accessing to internet, the results of the study demonstrate that a considerable number of students (45.3%) used internet every day while 38.5 and 16.2 percent students had access to internet once or less than once in a week respectively.

A significant association was found between respondents 'exposure to mass media and level of knowledge about HIV/AIDS. Results of the study demonstrate that participants having radio ($p=0.01$) and newspaper exposure ($p=0.01$) were more likely to have higher level of knowledge on HIV/AIDS than those of other students who did not have exposure to newspaper and radio. Similarly, students who had exposure to television ($p=0.05$) and internet ($p=0.01$) tended to have higher degree of knowledge about HIV/AIDS.

The bivariate findings of the study demonstrates that all the independents variables are found to be significantly related to practice of AIDS related education in real life experiences. It has been found that students who read newspaper showed the tendency to practice more AIDS related education in their real life experiences ($p<0.05$) than those who did not read newspaper. Again, exposure to radio is positively associated with practicing AIDS related education in real life experiences ($p<0.01$). The results of the study showed that students having exposure to radio were more likely to practice AIDS related education. With regard to exposure to television and

internet, this study also indicates that students who had television ($p<0.01$), and internet exposure ($p<0.05$) were likely to practice AIDS related education in their real life experience.

7.3 Knowledge about HIV/AIDS and STDs

7.3.1 Knowledge about HIV

This study also assessed the knowledge about HIV/AIDS. The findings of the study show that almost all students (99.2%) had heard of HIV while only 0.8 percent students reported that they did not hear of HIV. When respondents were asked regarding what HIV is then an overwhelming number of participants (94.5%) said that HIV is a virus while 4.2 percent replied that HIV is a disease. Only 1.2 percent said that they did not know about the issue. A trifling number of respondents (1 out of 595) answered that HIV is a foreign disease. The main sign/symptoms of HIV infection reported by participants were unsafe and illegal physical relation (71.2%), sharing of infected needles/syringes (81.3%), mosquito/insect bites (12.2%), blood transfusion (89.3%), mother to child transmission (84.0%), sex with CSWs (61.3%), male sex with male (16.8%), physical relation with HIV infected people (61.7%), saliva (16.8%), etc. With regard to the ways of preventing HIV infection, 71.7 percent respondents said that HIV infection can be protected through safe sexual relation, using germfree needles/syringes (77.7%), receiving germ free blood (83.0%), following religious norms (57.8%), creating mass awareness (66.7%), taking the advice of doctors in terms of having child (71.8%) while more than 5.7 percent said that they do not know about the ways of protecting of HIV infection.

Again, a significant number of respondents (90%) said that most people who get HIV usually die from the disease whereas sharp 65 percent student replied that one can get HIV infection having unprotected sex only one time. Moreover, 96.2 percent students believe the comment that receiving infected blood transfusion can give a person HIV while only a few respondents (3.8%) said that 'no'.

7.3.2 Knowledge about AIDS

Similarly, knowledge about AIDS reveals that 96.5 percent participants replied in the affirmative while only 3.5 percent said that they did not hear about AIDS. It can be mentioned here that students with higher level of education were more likely to respond in the positive manner.

Again, a considerable number of respondents (73.1%) said that AIDS is a virus. They considered synonymously AIDS and HIV as a virus. 21.8 percent students provided right answer- 'AIDS is final stage of HIV infection'. A few students (1%) reported that they do not know about AIDS.

Textbooks are the best medium of getting AIDS information for the students. In this study, an overwhelming number of students (90.2%) replied in the affirmative whereas for those who said no constituted only 10 percent of the total sample. With respect to risk communication, around four-fifths of the study subjects said that they received AIDS related risk communication while a little more than one-fifths said that they did not receive any kind of risk communication. Moreover, a significant number of respondents mentioned textbooks as their main source of risk communication followed by television (60%), newspaper (48.3%), radio (29.7%), and internet (16.7%). 89 percent students believe that people with AIDS usually has lots of other diseases as a result of AIDS.

Students' level of knowledge about HIV/AIDS largely depends on the teaching of HIV/AIDS in the class room because class room teaching makes them knowledgeable about these sensitive subject matters. The bivariate results of the study demonstrate that students who reported that HIV/AIDS related topics were taught in the classroom were more likely to have higher degree of knowledge about HIV/AIDS (χ^2=10.41, df = 3, p=0.05).

7.3.3 Knowledge about STDs

Knowledge about STDs displays that roughly 62.2 percent of them answered in the affirmative while around 37.8 percent of students said 'no'. The results of the study indicated that the findings of the study reveal that around 36 percent students have heard of Chlamydia followed by Trichomoniasis (29.7%), Gonorrhea (25.3%), and Syphilis (15.2%). Only 22 percent students did not know the name of these STDs.

With regard to the pooled knowledge of the students, 17.3 percent students had low knowledge about HIV/AIDS and STDs, 34.8 percent had moderate knowledge. A substantial number of students (47.8%) were found high knowledge. The bivariate results of the study demonstrated a significant association between level of knowledge and a set of socio-demographic factors of the students. Type of institution is found to be significantly associated with level of knowledge and

the results indicate that students of secondary schools are more likely to have higher degree of knowledge than those of higher secondary institutions (p=0.001).

Students' level of education is one of the predictor variables that show significant relationship with their level of knowledge (p=0.001). It is evident from this study that students of grade eight tend to have higher degree of knowledge than the students of other grades. The crucial reason is that books of those students contain more information on HIV/AIDS and STDs than the books of students of other grades. Results also show that age cohort is significantly related to level of knowledge that is the students aged between 13-15 years tend to have high knowledge than those of other age groups(p=0.001). An important independent variable, religion, is not significantly associated with level of knowledge. Level of knowledge and religiosity is inversely correlated. The findings of the study demonstrate that students who never perform religious activity were more likely to have higher degree of knowledge (p=0.05). Another two important independent variables, source of income and monthly household income, are rigorously associated with level of knowledge. Results of these two variables demonstrates that students whose source of household income was business (p=0.05) and students whose monthly household income was 1000-5000 Tk. (p=0.01) were more likely to have higher degree of knowledge.

7.4 Misconceptions about HIV/AIDS

Students had some misconceptions about HIV/AIDS. The findings of the study show that around 82 percent said that AIDS cannot be spread by using someone's personal belongings or eating utensils whereas only 18 percent students said that AIDS can be spread by using someone's personal belongings or eating utensils. A considerable but not overwhelming number of students (23.7%) thought that a person can get HIV by kissing, coughing, sneezing or hugging. around 47 percent reported that AIDS and HIV are same thing.

7.5 AIDS Education in Secondary and Higher Secondary Institutions

The government of Bangladesh incorporated HIV/AIDS information into the textbooks namely General Science, Social Science, Bangla Literature of all streams of education from grade VI to XII in 2007 so that the students of secondary and higher secondary institutions can be conscious and can easily comprehend the serious threat that our country is facing.

The results of the study showed that around 96 percent students knew government of Bangladesh has included HIV/AIDS related information in their text books. A considerable number of students (78.7%) reported General Science as the subject containing HIV/AIDS related information. A substantial number of students (12.8%) said Social Science while only 7.6 percent responded that HIV/AIDS and STDs related information was incorporated in Bangla Literature. Students who said Home Economics constituted 0.2 percent of the participants. Only 0.7 percent students did not know the name of those subjects in which HIV/AIDS and STDs information was included. Again, an overwhelming number of students (91.3%) of the sample institutions reported that AIDS related information are taught in their institutions while 96.5 percent of the students said that they learnt something about HIV/AIDS. Around four-fifths of the students said that they felt shy to learn about HIV/AIDS and STDs. In addition, around four-fifths of the students reported that HIV/AIDS related topics are given in examination.

AIDS education helps to solve various problems in real life experiences. The results of the study demonstrate that about three-fourths of the students (74.7%) reported that AIDS education contributed to solve various problems in real life experiences. Around three-fourths of the students said that encouraged students saying 'no' when they get indecent proposals whereas 92.5% percent said that they practiced AIDS related education in their real life. One of the key determinants of AIDS education is quality of teaching HIV/AIDS education. It affects many aspects of AIDS education including learning about HIV/AIDS and STDs, discussing with parents, teachers, friends, gaining knowledge regarding AIDS, above all positive changes in the behavior of students. 82.5 percent students reported that quality of teaching AIDS education was enriched. Around one-fifths students (17.5%) said that quality of teaching HIV/AIDS was not enriched while 93.2 percent participants said that trained teachers are more competent to teach HIV/AIDS. Teachers' training is one of the important constituents of AIDS education. The findings of the study show that 92.5 percent students said that teachers should be trained more. Moreover, 91 percent students said that AIDS education impacted their behavior. 76 percent students said that AIDS education AIDS education contributed to change their negative attitude whereas a few students (7.8%) said 'no'.

7.6 Conclusion

Bangladesh is geographically vulnerable to HIV/AIDS due to its close proximity to parts of India and Myanmar. All the risk factors that give birth to explosive HIV epidemics are present in Bangladesh today. Although with prevalence rate of less than 1% HIV and AIDS in Bangladesh may not look like a major threat, but a country with high population, a mere 1% rise would mean an addition of more than a million numbers. Again, if the risky behavior of youth for contracting HIV/AIDS continues, it is certain that Bangladesh will soon face the epidemic. Recognizing the HIV/AIDS threat, the Government of Bangladesh (GoB) developed and approved a comprehensive "Policy on HIV/AIDS and STD Related Issues" in 1997 to provide guidance and support to respond to the epidemic. Moreover, the GoB has incorporated HIV/AIDS information into the textbooks of secondary and higher secondary educations from grade VI to XII in 2007 so that the students of these streams of education can be conscious and can easily comprehend the serious threat that our country is facing.

In this study, we have tried to assess the knowledge of the students of secondary and higher secondary institutions towards AIDS education. Bivariate results of the current study suggest that students' socio-demographic characteristics such as type of institutions ($p=<0.001$), level of education ($p=<0.001$), age ($p=<0.001$), religiosity ($p=0.05$), source of household income ($p=<0.05$) and income ($p=<0.01$) are significantly associated with their knowledge on HIV/AIDS. The bivariate results of the study also show that students of higher grades ($p<0.001$) and of secondary institution were more likely to say that textbooks play pivotal role in disseminating AIDS related education in Bangladesh ($p<0.05$). Moreover, students who reported that HIV/AIDS related topics were taught in the classroom were more likely to have higher degree of knowledge about HIV/AIDS ($p=0.05$). Furthermore, students with older age (OR=2.344) and those with more household income (OR=1.772) were more likely to have knowledge on HIV/AIDS.

Based on the results obtained and the conclusion drawn, the following recommendations are given:

- Our findings suggest that it is necessary to include more information on HIV/AIDS and STDs related issues for the students of grade six to grade to twelve and provide them with

textbooks in which the information on these sensitive issues should be decent, easy and gender insensitive. Such texts on HIV/AIDS would help students knowing about HIV/AIDS

- Teachers' training has been emerged as an important determining factor of students' knowledge towards AIDS education. Therefore, all teachers should be trained on HIV/AIDS curriculum to ensure the quality of teaching HIV/AIDS. Moreover, teachers should be provided teaching guides containing adequate AIDS related information
- Religion is one of the important tools of preventing risky sexual behavior. More religious norms and values must be incorporated in the text books which may contribute to affect the behavior of students positively. Text curriculum should not highlight the use of condom during intercourse since this may encourage the growing teenagers to be engaged in unethical sexual relation.
- More pictorial information on HIV/AIDS in the formal curriculum and textbooks should be included. Celebrity posters/pictures can also be included in this respect. Besides, more detailed discussion on transmission and prevention of HIV/AIDS and STDs should be included in the textbooks
- Monitoring and evaluation system is needed for the purpose of learning HIV/AIDS, of understanding how it works and of improving teachers' performance. Therefore, the monitoring process of AIDS education should be strengthened and enhanced. School Management Committee (SMC) can play key role in this context.
- Non-MPO schools should also be covered
- All types of educational institutions should be under training
- Refresher training should be arranged.

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Annex 1

Self Administered Questionnaire
On
HIV/AIDS Education through Secondary and Higher Secondary Institutions in Bangladesh: A Sociological Study

সম্মতি পত্র

সালাম/আদাব,

আপনারা সবাই এইচআইভি এবং এইডস এর কথা শুনেছেন। এই গবেষনা কর্মে আমরা এইচআইভি এবং এইডস এর প্রতি আপনার জ্ঞান সম্পর্কে জানতে চাইবো। এই জন্য আমরা বাংলাদেশের বিভিন্ন মাধ্যমিক এবং উচ্চ মাধ্যমিক শিক্ষা প্রতিষ্ঠানের শিক্ষার্থীদের কাছ থেকে এইডস শিক্ষা বিষয়ে নানা ধরনের তথ্য সংগ্রহ করতে এসেছি। এই তথ্য আমার একাডেমিক গবেষণার কাজে সহায়তা প্রদান করবে। দয়া করে প্রশ্নপত্রের কোথাও আপনার নাম লিখবেন না। আপনি আপনার উত্তর কাউকে দেখাবেন না কিংবা আপনিও কারো দ্বারা প্রভাবিত হবেন না। আপনার কাছ থেকে যে তথ্য সংগ্রহ করা হবে তা এ কাজে নিয়োজিত ব্যক্তি ছাড়া অন্য কেউ জানবে না। এই জরিপে অংশগ্রহন করা, না করা সম্পূর্ণ আপনার ইচ্ছার উপর নির্ভরশীল। তবে আমার শিক্ষার উদ্দেশের কথা বিবেচনা করে আমরা আপনাকে অংশগ্রহনের জন্যে অনুরোধ করছি। এ কাজের জন্য ১৫-২০ মিনিট সময় লাগবে। আমাকে সময় দেওয়ার জন্য আপনাকে ধন্যবাদ।

জেসমিন নাহার
সমাজবিজ্ঞান বিভাগ
ঢাকা বিশ্ববিদ্যালয়

Section A: Socio-demographic characteristics

No	Questions	Coding Categories	Skip
101	আপনার শিক্ষা প্রতিষ্ঠানের অবস্থান কোথায়?	গ্রামে----------১ শহরে----------২	
102	আপনার শিক্ষা প্রতিষ্ঠান কোন ধরনের?	মাধ্যমিক ----------১ উচ্চ মাধ্যমিক----------২	
103	আপনার শিক্ষা প্রতিষ্ঠানের শাখা ব্যবস্থাপনা কেমন ধরনের?	ছেলে-মেয়ে আলাদা শাখা----------১ ছেলে-মেয়ে একসাথে----------২	
104	আপনি কোন শ্রেণীতে পড়াশুনা করেন ?	৬ষ্ঠ শ্রেণী ----------১ ৭ম শ্রেণী----------২ ৮ম শ্রেণী----------৩ ৯ম শ্রেণী----------৪ ১০ম শ্রেণী----------৫ একাদশ শ্রেণী----------৬ দ্বাদশ শ্রেণী----------৭	
105	আপনার বয়স কত ?		
106	আপনার লিঙ্গ কি ?	পুরুষ----------১ মহিলা----------২	
107	আপনার বৈবাহিক অবস্থা কি ?	বিবাহিত----------১ অবিবাহিত ----------২ অন্যান্য----------৩	
108	আপনার ধর্ম কি ?	ইসলাম----------১ হিন্দু ----------২ বৌদ্ধ----------৩ খ্রিস্টান----------৪ অন্যান্য (নির্দিষ্ট করে লিখুন) -----৫	
109	আপনি কতবার মসজিদে/মন্দিরে/প্যাগোডায়/গীর্জায় যান কিংবা ধর্মীয় কার্যকলাপ করেন? ?	প্রায় প্রতিদিন----------১ সপ্তাহে একবার কিংবা দুইবার----------২	

		মাঝেমাঝে----------৩ কখনোই না----------৪	
110	আপনার পরিবারের আয়ের প্রধান উৎস কি?	কৃষি----------১ ব্যবসা----------২ সরকারি চাকুরি----------৩ বেসরকারি চাকুরি----------৪ দিন মজুর----------৫ অন্যান্য (নির্দিষ্ট করে লিখুন) -----৬	
111	আপনার পরিবারের মোট মাসিক আয় কত ?		

Section-B: knowledge about HIV/AIDS

কোন প্রশ্নের উত্তর যদি 'না' হয়, তা হলে তীর (⟶) চিহ্নিত প্রশ্ন নং অনুযায়ী উত্তর দিবেন।

201	আপনি কি কখনো এইচআইভি এর কথা শুনেছেন ?	হ্যাঁ----------১ না----------২ ⟶ 202	
201 A	যদি হ্যাঁ হয়, এইচআইভি কি ?	একটি রোগ----------১ একটি ভাইরাস----------২ জানি না----------৩ অন্যান্য (নির্দিষ্ট করে লিখুন) ------৪	
201 B	এইচআইভি কিভাবে ছড়ায় ? (একাধিক উত্তর গ্রহনযোগ্য)		

	হ্যাঁ	না
অনিরাপদ,অনৈতিক দৈহিক সম্পর্ক	১	২
জীবানুযুক্ত সুই/সিরিঞ্জের ব্যবহার	১	২
মশার কামড়ে	১	২
আক্রান্ত ব্যক্তির রক্ত নেয়া	১	২
আক্রান্ত মায়ের দুধ খেলে	১	২
যৌনকর্মীর সাথে যৌন সম্পর্ক	১	২
পুরুষের সাথে পুরুষের যৌন সম্পর্ক	১	২
আক্রান্ত ব্যক্তির সাথে দৈহিক সম্পর্ক	১	২
মুখের লালার মাধ্যমে	১	২
অন্যান্য (নির্দিষ্ট করে লিখুন)	১	২
জানি না	১	২

201 C	এইচআইভি সংক্রমন কিভাবে প্রতিরোধ করা যায় ? (একাধিক উত্তর গ্রহনযোগ্য)		

	হ্যাঁ	না
নিরাপদ দৈহিক সম্পর্কের মাধ্যমে	১	২
জীবানুমুক্ত সুই/সিরিঞ্জের ব্যবহার	১	২
জীবানুমুক্ত রক্ত গ্রহন	১	২
ধর্মীয় অনুশাসন মেনে চলা	১	২
গণসচেতনতা সৃষ্টি	১	২
সংক্রমিত মায়ের সন্তান গ্রহনের ক্ষেত্রে ডাক্তারের পরামর্শ গ্রহন	১	২
অন্যান্য	১	২
জানি না	১	২

202	আপনি কি কখনো এইডস এর কথা শুনেছেন?	হ্যাঁ----------১ না----------২ ⟶ 203	
202 A	যদি হ্যাঁ হয়, এইডস কি ?	একটি অভিশাপ----------১ একটি ভাইরাস----------২ এইচআইভি সংক্রমনের শেষ অবস্থা-----৩ জানি না----------৪ অন্যান্য (নির্দিষ্ট করে লিখুন) ---৫	
203	এইডস ব্যতীত অন্য কোন যৌন রোগের কথা শুনেছেন কি না ?	হ্যাঁ----------১ না----------২ ⟶ 204	
203	হ্যাঁ হলে, এসব উৎস থেকে কি কি রোগের কথা		

A	শুনেছেন ? (একাধিক উত্তর গ্রহনযোগ্য)	গনোরিয়া----------১ ডসফিলিস----------২ ব্যাকটেরিয়াজনিত যৌন রোগ----------৩ যোনিপথে সংক্রমন----------৪ যৌনাঙ্গে ঘা----------৫ অন্যান্য----------৬ জানি না----------৭	
204	আপনি কি মনে করেন,এইডস এ আক্রান্ত রোগীর ব্যাসলপত্র ব্যবহার করলে এইডস ছড়ায় ?	হ্যাঁ----------১ না----------২	
205	সাধারণত এইচআইভি,এইডস এ আক্রান্ত রোগী মারা যায়	হ্যাঁ----------১ না----------২	
206	শুধুমাত্র একবার অনিরাপদ যৌন মিলনের মাধ্যমেই এইচআইভি ভাইরাস ছড়াতে পারে	হ্যাঁ----------১ না----------২	
207	হাঁচি-কাশি, কোলাকুলি কিংবা চুমো খাওয়ার মাধ্যমে এইচআইভি ছড়ায়	হ্যাঁ----------১ না----------২	
208	আক্রান্ত রোগীর রক্তের মাধ্যমে এইচআইভি ভাইরাস ছড়াতে পারে	হ্যাঁ----------১ না----------২	
209	আক্রান্ত রোগীর সুই কিংবা সিরিঞ্জ ব্যবহারের মাধ্যমে এইচআইভি ভাইরাস ছড়াতে পারে	হ্যাঁ----------১ না----------২	
210	এইডস হবার কারনে আক্রান্ত ব্যক্তি অন্যান্য বিভিন্ন রোগে ভূগতে পারে	হ্যাঁ----------১ না----------২	
211	এইডস এবং এইচআইভি একই জিনিস কি না ?	হ্যাঁ----------১ না----------২	

Section C: Exposure to HIV/AIDS and STDs knowledge

301	আপনি কি পত্রিকা পড়েন ?	হ্যাঁ----------১ না----------২	▶302
301 A	হ্যাঁ হলে, কতবার পড়েন ?	প্রায় প্রতিদিন----------১ সপ্তাহে অন্তত একবার----------২ সপ্তাহে একবারের ও কম ----------৩	
302	আপনি কি রেডিও শুনেন ?	হ্যাঁ----------১ না----------২	▶303
302 A	হ্যাঁ হলে, কতবার শুনেন ?	প্রায় প্রতিদিন----------১ সপ্তাহে অন্তত একবার----------২ সপ্তাহে একবারের ও কম ----------৩	
303	আপনি কি টেলিভিশন দেখেন ?	হ্যাঁ----------১ না----------২	▶304
303 A	হ্যাঁ হলে, কতবার দেখেন ?	প্রায় প্রতিদিন----------১ সপ্তাহে অন্তত একবার----------২ সপ্তাহে একবারের ও কম ----------৩	
304	আপনার কি ইন্টারনেট ব্যবহারের সুযোগ আছে ?	হ্যাঁ----------১ না----------২	▶305
304 A	হ্যাঁ হলে, কতবার ব্যবহারের সুযোগ আছে ?	প্রায় প্রতিদিন----------১ সপ্তাহে অন্তত একবার----------২ সপ্তাহে একবারের ও কম ----------৩	
305	আপনি কি মনে করেন যে, পাঠ্যপুস্তক ছাত্র-ছাত্রীদের জন্যে এইচআইভি/এইডস বিষয়ে তথ্য পাবার ক্ষেত্রে সবচেয়ে ভালো মাধ্যম ?	হ্যাঁ----------১ না----------২	▶306
305 A	পাঠ্যপুস্তক কেন এইচআইভি/এইডস বিষয়ে তথ্য পাবার ক্ষেত্রে সবচেয়ে ভালো মাধ্যম ?		
306	আপনি কি এইচআইভি/এইডস বিষয়ে কোন ঝুঁকিপূর্ণ তথ্য পেয়েছেন ? (যেমন : রেডিও, টেলিভিশন,	হ্যাঁ----------১ না----------২	▶401

	পাঠ্যপুস্তক ইত্যাদির মাধ্যমে)		
306 A	হ্যাঁ হলে, কি ধরনের তথ্য পেয়েছেন ?		
306 B	এই তথ্য কোন উৎস থেকে পেয়েছেন ? (একাধিক উত্তর গ্রহনযোগ্য)	পাঠ্যপুস্তক----------১ সংবাদপত্র ----------২ রেডিও----------৩ টেলিভিশন----------৪ ইন্টারনেট----------৫ অন্যান্য----------৬	

Section D: AIDS education through text books

401	আপনি জানেন কি না যে, বাংলাদেশ সরকার আপনার পাঠ্যপুস্তকে এইচআইভি এবং এইডস সম্পর্কিত তথ্যাবলী সংযোজন করেছেন ।	হ্যাঁ----------১ না----------২	▶402
401 A	হ্যাঁ। হলে, আপনার কোন বিষয়ে এইচআইভি এবংএইডস সম্পর্কিত তথ্যাবলী সংযোজন করা হয়েছে?	সাধারণ বিজ্ঞান----------১ সামাজিক বিজ্ঞান----------২ বাংলা----------৩ গার্হস্থ্য অর্থনীতি----------৪ অন্যান্য (নির্দিষ্ট করে লিখুন) ------৫ জানি না----------৬	
402	আপনার শ্রেণীতে এইডস বিষয়ে পড়ানো হয় কি না?	হ্যাঁ----------১ না----------২	▶403
402 A	হ্যাঁ হলে, আপনি কি কিছু শিখেছেন ?	হ্যাঁ----------১ না----------২	
402 B	হ্যাঁ হলে, কি শিখেছেন ?		
403	পরীক্ষায় এইডস বিষয়ে কোনো প্রশ্ন আসে কি না ?	হ্যাঁ----------১ না----------২	
404	এইচআইভি এবং এইডস বিষয়ে শিখতে গিয়ে কোনো লজ্জা/ দ্বিধা বোধ করেন কি না ?	হ্যাঁ----------১ না----------২	
405	আপনার শিক্ষকেরা শ্রেণীকক্ষে এইচআইভি এবং এইডস বিষয়ে বলতে গিয়ে কোনো লজ্জা/ দ্বিধা বোধ করেন কি না ?	হ্যাঁ----------১ না----------২	
406	আপনার জীবনে এইচআইভি এবং এইডস বিষয়ক শিক্ষা, অভিজ্ঞতা বাস্তব জীবনের বিভিন্ন সমস্যা সমাধানে সহায়তা করেছে কিনা ?	হ্যাঁ----------১ না----------২	
407	এইচআইভি এবং এইডস বিষয়ক শিক্ষা কি আপনাকে কেউ যৌন প্রস্তাব/কুপ্রস্তাব দিলে তা 'না' বলতে উদ্বুদ্ধ করে ?	হ্যাঁ----------১ না----------২	
408	আপনি কি এইচআইভি এবং এইডস বিষয়ক শিক্ষা বাস্তব জীবনে কাজে লাগানোর চেষ্টা করেন ?	হ্যাঁ----------১ না----------২	
409	আপনার কি মনে হয় এইচআইভি এবং এইডস বিষয়ে আরো তথ্য অন্তর্ভূক্ত করা উচিত ?	হ্যাঁ----------১ না----------২	▶410
410	আপনার স্কুলে/কলেজে এইডস শিক্ষা কার্যক্রম কেমন মানের?	উন্নত মানের----------১ উন্নত মানের নয়----------২	
411	প্রশিক্ষিত শিক্ষকরা এইচআইভি এবং এইডস বিষয়ে ভালো শিক্ষা দিতে পারেন ?	হ্যাঁ----------১ না----------২	
412	এইচআইভি এবং এইডস বিষয়ে শিক্ষকদের আরো প্রশিক্ষণ দেয়া উচিত কি না ?	হ্যাঁ----------১ না----------২	
413	ছাত্রছাত্রীদের মাঝে এইচআইভি এবং এইডস বিষয়ক তথ্য বিস্তারে পাঠ্যপুস্তক অগ্রনী ভূমিকা পালন করে	হ্যাঁ----------১ না----------২	

414	পাঠ্যপুস্তকে এইচআইভি এবং এইডস সম্পর্কিত তথ্যাবলী স্পর্শ কাতর?	হ্যাঁ----------১ না----------২	
415	আপনি কী করেন এইডস শিক্ষা আপনার আচরণ কে প্রভাবিত করে ?	হ্যাঁ----------১ না----------২	
416	আপনি কী করেন এইডস শিক্ষা আপনার নেতিবাচক দৃষ্টিভঙ্গি পরিবর্তনের সহায়তা করে?	হ্যাঁ----------১ না----------২	

এই জরিপে অংশগ্রহনের জন্য আপনাকে ধন্যবাদ

Annex 2

Self Administered Questionnaire
On
HIV/AIDS Education through Secondary and Higher Secondary Institutions in Bangladesh: A Sociological Study

(For partial fulfillment of the Mphil 2011 degree in
The Department of Sociology University of Dhaka)

Informed Consent

Hello!

I am Jasmin Nahar, a student of Sociology Department at the University of Dhaka. I am currently carrying out a study on HIV/AIDS Education through Secondary and Higher Secondary Institutions in Bangladesh. The study is being conducted as a partial fulfillment of my Mphil degree. The aim of this study is to assess the knowledge of the students on HIV/AIDS. For the present survey, we need to collect data related to AIDS education. Data collected from you would entirely be used only for the above mentioned academic purpose. This questionnaire will be filled anonymously. Do not write your name on the paper! Your personality or identity will not be revealed in anyway during the research process and no individual information will be reported. Only YOUR opinion is important. Do not look at how your friend is possibly answering and do not show anybody your own answers. I would really appreciate if I could take 15-20 minutes of your time. Thanks in advance!

Jasmin Nahar
Department of Sociology
University of Dhaka

Section A: Socio-demographic Characteristics

No.	Questions	Coding Categories	Skip
101	Where is the location of your institution?	Urban----------1 Rural----------2	
102	What type of institution is your?	Secondary----------1 Higher secondary----------2	
103	What type of section management is in your institution?	Boys and girls separate section---1 Boys and girls combined----------2	
104	What is the level of your education? /What class do you read in?	Class 6----------1 Calss7----------2 Class 8----------3 Class 9----------4 Class 10----------5 Class 11----------6 Class 12----------7	
105	Age of the respondent (in year)		
106	Sex of the respondent	Male----------1 Female.----------2	
107	Marital status of the respondents	Married----------1 Unmarried----------2 Others----------3	

108	Religion of the respondent	Islam----------1 Hinduism----------2 Buddism----------3 Christianity----------4 Other----------5	
109	How often do you offer religious activities?	Everyday ----------1 Once or twice in a week----------2 Sometimes----------3 Never----------4	
110	What is the main source of income of your family?	Agriculture----------1 Business----------2 Govt. service----------3 Private service----------4 Daily wages----------5 Others ----------6	
111	How much is your monthly family income?	469942	

Section-B: knowledge about HIV/AIDS

	Questions	Coding Categories	Skip
201	Have you ever heard about HIV?	Yes----------1 No----------2	→202
201 A	If yes, What is HIV?	A disease----------1 A Virus----------2 Don't know----------3 Others(please specify)----------4	
201 B	How does HIV spread? (multiple responses)	Unprotected sexual relation--------1 By using needles/syringes with germ----2 Mosquito bites ----------3 By receiving germ free blood-------4 Having milk of HIV infected mother--5 Having sex with CSWs----------6 Having MSMs----------7 Having physical relation----------8 Through saliva----------9 Others----------10 Don't know----------11	
201 C	How can HIV be prevented? (multiple responses)	Protected sexual relation----------1 By using germfree syringes----------2 By receiving germ free blood---------3 By following religious norms--------4 Creating mass awareness----------5 Taking the advice of doctors in terms of having child----------6 Others----------7 Don't know----------8	
202	Have you ever heard of AIDS?	Yes----------1 No----------2	→203
202 A	If yes, What is AIDS?	A curse----------1 A virus----------2	

		Final stage of HIV infection-------3 Don't know----------4 Others----------5	
203	Have you ever heard about Sexually Transmitted diseases (STDs) other than AIDS?	Yes----------1 No----------2 →	204
203 A	If yes, what is the name of the disease that you heard of these sources? (more than one answer possible)	Gonorrhea----------1 Syphilis----------2 Chlamydia----------3 Trichomoniasis----------4 Genital Sore----------5 Others----------6	
204	Do you think that AIDS can be spread by using someone's personal belongings or eating utensils?	Yes----------1 No----------2	
205	Most people who get HIV usually die from the disease.	Yes----------1 No----------2	
206	One can get HIV infection having unprotected sex only one time	Yes----------1 No----------2	
207	A person can get AIDS by kissing someone on the mouth or through coughing and sneezing or hugging	Yes----------1 No----------2	
208	Receiving blood transfusion with infected blood can give a person HIV	Yes----------1 No----------2	
209	You can get HIV by sharing a needle with a drug user who has the disease.	Yes----------1 No----------2	
210	People with AIDS usually have lots of other diseases as a result of AIDS.	Yes----------1 No----------2	
211	AIDS and HIV are same thing	Yes----------1 No----------2	

Section C: Exposure to Mass Media

301	Do you read newspaper?	Yes----------1 No----------2 →	302
301 A	If yes, how often do you read newspaper?	Everyday----------1 At least once in a week----------2 Less than once in a week----------3	
302	Do you listen to radio?	Yes----------1 No----------2 →	303
302 A	If yes, how often do you listen to radio?	Everyday----------1 At least once in a week----------2 Less than once in a week----------3	
303	Do you watch television?	Yes----------1 No----------2 →	304
303 A	If yes, how often do you watch television?	Everyday----------1 At least once in a week----------2 Less than once in a week----------3	
304	Do you have access to internet?	Yes----------1 No----------2 →	305
304	If yes, how often do you access to	Everyday----------1	

A	internet?	At least once in a week----------2 Less than once in a week----------3	
305	Do you think that textbooks are the best medium of getting AIDS information for students?	Yes----------1 No----------2 →	306
305 A	Why do you think that textbooks are the best medium of getting HIV/AIDS information?		
306	Did you get any AIDS related risk communications? (Such as message/advice through textbooks/TV/radio etc.)	Yes----------1 No----------2 →	401
306 A	If yes, what kind of messages you received?		
306 B	From which sources you received that information? (multiple response)	Text books----------1 Newspaper/magazine----------2 Radio----------3 Television----------4 Internet----------5 Others----------6	

Section D: AIDS education in Secondary and Higher Secondary Institutions

401	Do you know that Government of Bangladesh has included HIV/AIDS related information in your text books	Yes----------1 No----------2 →	402
401 A	If yes, in which subject HIV and AIDS related information has been included?	Social science----------1 Bangla----------2 General science----------3 Home economics----------4 Others (specify) --------5	
402	Is HIV and AIDS related information are taught in your class/institutions?	Yes----------1 No----------2 →	403
402 A	If yes, have you learnt anything about HIV/AIDS?	Yes----------1 No----------2	
402 B	If yes, what have you learnt?		
403	Is there any question in your examination on AIDS related topic?	Yes----------1 No----------2	
404	Do you feel shy to learn about HIV/AIDS and STDs?	Yes----------1 No----------2	
405	Do your teachers feel shy to teach AIDS related topic in the class room?	Yes----------1 No----------2	
406	Has AIDS education contributed to solving various problems in real life experiences?	Yes----------1 No----------2	
407	Has AIDS education encouraged you saying 'No' when you get indecent, unethical proposal?	Yes----------1 No----------2	
408	Do you practice AIDS education in your	Yes----------1	

	life experiences?	No----------2	
409	Do you think that more information on HIV/AIDS should be included in text books?	Yes----------1 No----------2	→407
410	What is the quality of teaching HIV/AIDS in your institution?	Enriched----------1 Not enriched----------2	
411	Are trained teachers more competent to teach HIV/AIDS?	Yes----------1 No----------2	
412	Do you think that teachers should be trained more?	Yes----------1 No----------2	
413	Do you think that the textbooks play pivotal role as a medium of disseminating HIV/AIDS and STDs information among the students?	Yes----------1 No----------2	
414	Do you think that the texts on HIV/AIDS are sensitive?	Yes----------1 No----------2	
415	Do you think that AIDS education impacts your behavior positively?	Yes----------1 No----------2	
416	Do you think that AIDS education contributes to change negative your attitude?	Yes----------1 No----------2	

Thank you for participating in this survey

ANNEX 3

CRONBACH'S ALPHA TEST OF KNOWLEDGE ON HIV/AIDS

Reliability

```
/VARIABLES=q201 q202 q203 q304 q305 q306 q307 q308 q309 q310 q311
/SCALE ('ALL VARIABLES') ALL
/MODEL=ALPHA
/STATISTICS=DESCRIPTIVE SCALE CORR
/SUMMARY=TOTAL.
```

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
0.819	0.813	11

Item Statistics

Q. No.	Knowledge on HIV/AIDS	Mean	Std. Deviation	N
201	Have you ever heard about HIV?	2.2121	0.5432	600
202	Have you ever heard of AIDS?	1.2615	0.7685	600
203	Have you ever heard about Sexually Transmitted diseases (STDs) other than AIDS?	1.1651	0.6157	600
204	Do you think that AIDS can be spread by using someone's personal belongings or eating utensils?	2.3724	0.6712	600
205	Most people who get HIV usually die from the disease.	1.9202	0.7919	600
206	One can get HIV infection having unprotected sex only one time	2.1042	0.6698	600
207	A person can get AIDS by kissing someone on the mouth or through coughing and sneezing or hugging	1.4521	0.7923	600
208	Receiving blood transfusion with infected blood can give a person HIV	1.6082	0.8167	600
209	You can get HIV by sharing a needle with a drug user who has the disease.	2.4562	0.8321	600
210	People with AIDS usually have lots of other diseases as a result of AIDS.	2.3573	0.6321	600
211	AIDS and HIV are same thing	3.9512	0.8178	600

Annex 4
CONSENT LETTER

To Whom It May Concern

This is to inform you that Jasmin Nahar is an MPhil student in the Department of Sociology, University of Dhaka. She is currently undertaking a research entitled *"HIV/AIDS Education through Secondary and Higher Secondary Institutions in Bangladesh: A Sociological Study"* as partial fulfillment of the requirements of MPhil degree. As part of her research, Mrs. Nahar needs to collect data on AIDS Education related issues from your institution. The data that would be collected from your institution would entirely be used only for academic purposes. May, I therefore request to give permission so that she can collect data from your institution. Your cooperation will help facilitate drawing a representative sample across the region.

If you need any further information about this field investigation, please do not hesitate to contact me.

Thank you for your cooperation.

Sincerely

(Prof. Dr. ASM Amanullah)
Department of Sociology
University of Dhaka
Cell: 01819151178

Annex 5
Photos

Photos