

***Behavioral Change and Response to HIV/AIDS Prevention Techniques
among Students of Private Colleges of Addis Ababa***

Biruk Berhanu, Tutor & Assessor St. Mary's University College P.O.Box 1211, Addis Ababa
E-mail birukberhanu99@yahoo.com

Abstract

The extent of damage caused by HIV/AIDS, particularly, in developing countries calls for every one's contribution towards its prevention. The danger is more serious imagining adolescents and adults as primary victims of the disease. Hence, this study is done to identify the level of HIV/AIDS related issues such as knowledge, behavioral change, risk perception, and appraisal of recommended responses among private college students of Addis Ababa, where the most vulnerable age group could be found. Associations of behavioral change with the others are also determined.

230 subjects were randomly selected from two of the private colleges found in Addis Ababa. And data were obtained from the subjects using self administered questionnaire. And then a descriptive analysis of it was done. Correlation analysis was also made to see the association between behavioral changes with the factors mentioned above.

Knowledge about HIV/AIDS was found to be high among the participants. Although the over all behavior/practice was safe by majority, unsafe sexual behaviors were also observed from the result. Subjects' risk perception was found to be in a good position. The same is true for appraisal of recommended responses. Positive correlation was obtained between behavioral change and the rest of factors suggesting their contribution to behavioral change.

Introduction

Background of the Study

Experience has revealed many sudden appearances of strange diseases in different parts of the world. Sars in China, and Ebola in Uganda can be cases in point killing so many productive individuals. Fortunately, scholars seem to manage further devastations that could have been assumed if the disease were to remain for longer period of time and spread all over the world. This is not the case when it comes to AIDS that remained beyond control killing people for years.

It is hard to imagine the damage imposed by AIDS since its emergence on earth. According to the estimation for the end of 2003, approximately 40 million people are estimated to live with HIV/AIDS (UN, 2003). And the epidemic strike hard, predominantly, the less developed world that continued to record the greatest number of HIV infection and deaths. Regional statistics indicates that the number of people living with the virus in Sub-Saharan Africa by the end of 2003 was about 28.2 million, accounting for 70 percent of the total HIV infection (UN, 2003).

Ethiopia, one of the Sub-Saharan countries, suffered a lot from the consequences of AIDS. Since 1984, during which the first evidence of HIV infection was found till 2003, 1.5 million people were infected with the virus (MOH: 2004). Previous report stated the problem being more wide spread in urban than rural areas, with a prevalence rate of 13.7 percent as compared with 3.7 percent for the later (MOH, 2003). HIV prevalence for Addis Ababa was estimated to be 15.6 percent. Adolescents and early adults were the most affected groups from the total population for which the focus of this study in relation to HIV/AIDS is primarily targeting.

Statements of the Problem

Studies conducted in different parts of Ethiopia at different times revealed that there is evidence of increased knowledge about HIV/AIDS. This is the result of efforts

made to prevent the spread of HIV through awareness creation in the public ((Amsale (2002); (UN, (2003)) ;(Pro-Pride (1998)).

However, it is observed that, despite good knowledge about the disease, people manifested risky behavior that could expose them to HIV virus (Emmanuel and Matsuo (2002); SEARCHERS Professional Team (2006); Shiferaw (2004)).

Under such condition, the EPPM model provides additional crucial factors that contribute to effective behavioral change in people. That is, messages about a health threat should impart a sense of being at risk of the disease in an individual.

Consequently, up on responding to the emerging threat, recommended responses in reaction to the threat should get acceptance in the part of the individuals (Witte, 1992).

In this study, an effort was made to investigate the level of knowledge, behavioral change, risk perception, and appraisal of recommended responses among private college students in Addis Ababa. An attempt was also made to see the association between these important variables with the assumption that behavioral change would relate to knowledge, risk perception, and appraisal of recommended responses.

Accordingly, answering the following questions was central to this study:

- What is the level of knowledge among students?
- What is the existing behavior/practice of students in relation to HIV/AIDS?
- What is the level of risk perception about HIV/AIDS among students?
- What is the attitude towards recommended responses in reaction to HIV/AIDS.
- How does behavioral change/practice regarding HIV/AIDS relate with knowledge, risk perception, appraisal of recommended responses?

Significance of the Study

Ethiopia is in trouble because of different societal problems, one among the majors is the prevalence of HIV/AIDS. According to the Ministry of Health (2002) the highest infection rates are concentrated among the group aging 15 to 24 and to slightly lesser extent among the group aging 25 to 34.

Evidently, the disease is a big threat to the society because it is primarily challenging the most productive portion of the population or those who are going to be in the very near future. In line with this, the fight against the disease should give due attention to these age groups so that there could be a remarkable change.

One way to have access to this target group would be visiting private colleges. Thus dealing with the issue of HIV/AIDS in the case of private colleges is a venue for addressing the most vulnerable age cohort from the society.

Studies like this that identify the type of relationship various factors have with behavioral change are expected to serve in directing efforts towards relevant dimensions to bring about behavioral change.

Delimitation of the study

The study considered two of the private colleges from Addis Ababa and 230 subjects. The study is limited to this number of institutions and samples for different resource constraints. Furthermore, behavioral changes due to other than the existing extent of knowledge, risk perception, appraisal of recommended responses were not treated in this study.

Methodology

Sampling Procedure

Two private colleges, namely, St. Mary's University College and Admas College were selected purposely for their ease of accessibility to the researcher.

After determining two of the private colleges, main campuses from each were selected because of the availability of administrative staff for any inconveniences that could happen. Then, a decision was made to take students from two classes of each college in a way that could involve 230 participants. The classes were randomly selected with the help of the registrar offices of the colleges and an arrangement was made with instructors of each class to contact the students. The researcher and research assistants together with instructors of the respective classes contacted the students during their class times. After making the necessary explanations and discussions with the students, the questionnaires were distributed to them.

This way a total of 300 questionnaires were distributed, of which 47 were not returned, and 23 were discarded for their incomplete and inconsistent responses. Finally, responses from 230 students were used as data for the purpose of this study.

Research Instruments

A self-administered questionnaire having a total of 45 items was prepared to collect data from the randomly selected participants. The items were organized into five parts, the first part asked for general information about the participants; and the rest consisted of items that measure: participants' knowledge about HIV/AIDS (12 items), behavioral change crucial to the prevention of HIV/AIDS (11 items), risk perception about susceptibility to HIV/AIDS (8 items), appraisal of recommended responses to the prevention of HIV transmission (10 items).

The items were prepared based on the theoretical and empirical evidences obtained in relation to each of the constructs. The questionnaire was given to four Psychology instructors from whom important comments were added to the items.

Data Analysis

Data from 230 participants was made ready for quantitative analysis. Descriptive statistics was used to see the extent of students' knowledge about HIV/AIDS, behavior/practice related to HIV/AIDS, risk perception of being infected, and subjects' appraisal of recommended responses to HIV prevention.

In order to see the relation between behavior/practice related to HIV/AIDS and knowledge, risk perception, appraisal of recommended responses, first items were given values according to their significance in measuring the stated constructs. The significance of the items was determined based on the emphasis given in the literature. Accordingly, a maximum of 3 was given for positive responses of the variables and a value of 1 was given for negative or neutral responses in the knowledge and behavior items. In items measuring behavior/practice, frequency of using condom was given a value starting from 3 for always, 2 for sometimes and 1 for not at all.

Items measuring risk perception and appraisal of recommended responses were designed in Likert type scale and were given a value of 3 to positive responses to the constructs, a value of 2 was assigned for neutral/undecided responses and 1 was given for those responses that contribute negatively to the variables.

Then, using the scores obtained on each of the variables, a correlation was computed to determine the association between the variables

Review of Related Literatures

Several studies had been made to understand and overcome the problems imposed by HIV/AIDS on the human race. Few of such studies that relate to the issues raised in this study are presented here under.

Knowledge about HIV/AIDS

Knowledge of the correct ways of HIV transmission and prevention are paramount for individuals to protect themselves from contracting the infection and to reduce the prevailing stigmatizing attitudes towards persons living with the virus (Fumento, 1993).

In general, the level of knowledge regarding AIDS is indicated to be high in different parts of the world. Knowledge, belief, practice survey carried out in Tanzania identified that 97 percent of the respondents were aware of AIDS and over 80 percent knew the major routes of transmission.

In addition, study from Zaire showed 99 percent of men and 96 percent of women have knowledge about HIV/AIDS. 95.2 percent of Nigerian adolescents were aware of AIDS (Amsale, 2002).

The same is true in Ethiopia according to the outline in Demographic Health Survey (DHS: 2000) which reported knowledge of HIV/AIDS to be very high among Ethiopians, with women somewhat less likely to have heard of the infection than men which is 85 percent and 96 percent, respectively (CSA, 2001).

Additionally, studies conducted in different parts of Ethiopia at different times revealed that there is evidence of increased knowledge about AIDS. For example, KAPB Survey Result on HIV/AIDS/STD among male and female community members in Woreda 5 of Addis Ababa found out 99 percent of males and 98 percent of female responding correctly on the ways of transmission of HIV infection (Pro-Pride (1998)). Shiferaw (2002) in his study of 'Perceived Sufficiency and Usefulness of IEC Materials and Methods on HIV/AIDS among High School Youth in Addis Ababa' reported subjects response of sexual intercourse to be the main mode of HIV transmission.

Studies on high school and college age population had indicated that respondents were relatively knowledgeable about AIDS (Crooks and Baur, 1990). Tilahun (1997) also found a similar result in that AIDS related knowledge among Gonder Medical College students was generally high.

Behavior/Practice in Relation to HIV/AIDS

Emmanuel and Hisako (2002) reminded individual behavioral change, particularly sexual behavioral change, to be the most effective means of preventing further HIV/AIDS spread under the current circumstance in Africa.

SEARCHERS Professional Team's (2006) study on A.A.U students found 20 percent of the total respondents and 57 percent of the sexually active group to be sexually active in the past 12 months.

The partners with whom these sexually active group was making sex were spouses, regular partners, non regular partners, commercial sex workers, and incidental partners.

Individual's socially important practices to prevent and mitigate HIV/AIDS were also considered in CSA (2001) study as constructive behavior. These practices are related to attitude toward people with the AIDS virus, and the habit of discussion on HIV/ AIDS with spouse or partner.

Widespread stigma and discrimination against people living with HIV/AIDS are being prevalent among students of A.A.U. This is manifested by resisting sharing meal with and providing care and support for persons infected by the AIDS virus (SEARCHERS Professional Team, 2006).

Concerning the habit of discussion on sexual matters, it usually took place between and/or among male students and rarely among female students of A.A.U. However, both female and male students occasionally exchanged ideas on effective HIV/STD prevention measures and on whether condom should be used consistently in all sexual encounters (SEARCHERS Professional Team, 2006).

Knowledge and Behavior/Practice Related to HIV/AIDS

Researches conducted in Ethiopia have indicated that though knowledge is important, it has not been found to be strongly related to behavioral change and the adoption of safer sex practice. For instance, Shiferaw (2002) pinpointed that many students fail to use knowledge as a bases for guiding their behavior. Shiferaw (2004) added the high awareness and knowledge not leading to lowering the risk behavior based on the significant proportion of respondent's report which showed that they did not always use condom with non-regular partners; though they knew that condom use protects from HIV infection.

A study conducted by Tilahun (1997) as cited in Asnake (2001) indicated that AIDS related knowledge was generally adequate among Gonder Medical College students, but their sexual behavior was not consistent with that of their knowledge.

It observed that among the sexually active students of Gonder Medical College, almost all know that using condom is one strategy for minimizing the risk of contracting HIV, but only a third of the students reported using them.

Moreover, most studies show that college students are responsible and well informed about AIDS but are reluctant to change their sexual behavior unless threat of infection is personalized. Subsequently, students' attitude towards the disease and their protective behavior did not match with the relative high knowledge they have (Beyene; et al.,(1997) as cited in Asnake (2001)).

Additionally, participants of SEARCHERS Professional Team's (2006) study reported that there is little behavioral change among A.A.U students despite their knowledge on the mode of transmission of the AIDS virus.

Therefore, under such circumstances, it is natural to look for additional factors operating behind the scene. Here, the Extended Parallel Process Model (EPPM) forwards two important cognitive dimensions resulting from health risk messages that could be responsible for changes in behavior regarding a particular disease. These are appraisal of threat and appraisal of efficacy of recommended responses. Subsequently, according to this model, an individual should consider himself / herself as susceptible to the disease (appraisal of threat) and hence upon responding, recommended responses should be appealing to him / her (appraisal of efficacy of recommended responses).

Risk Perception

In addition to knowledge and attitudes about AIDS, previous literature on health behaviors has focused on the role of individuals' perceived susceptibility to AIDS as a motivator of behavioral change (Aiken; et al., 2001; Fishbein; et al., 2001).

Research focusing on the effects of beliefs of susceptibility to AIDS indicates that adolescents and adults who had reported high perceived risk for AIDS practice safer sexual behaviors, whereas those who perceive low risk for contracting AIDS report practicing unsafe sexual behaviors (Gray & Saracino, 1989; Villarruel et al., 1998).

Concerning this, survey of undergraduate students at Oregon University discovered that most students, while being reasonably well informed about AIDS did not feel at risk for the disease, and were not inclined to communicate with one another about risk of AIDS prior to sexual activity with new partner, and frequently engage in sex without using condom (Crooks and Baur, 1990).

In Ethiopia, study from Pro-Pride(1998) reported majority (85.8 Percent) of the respondents of Woreda 5 Community Members of Addis Ababa considering themselves as they had no chance of being infected by HIV.

College students in North West Ethiopia were found to score low mean result on items measuring perception level of threat because of HIV/AIDS. The belief of threat was lower for females compared to males (Shiferaw, 2004). SEARCHERS Professional Team (2006) reported some of A.A.U students to be indifferent to the risk of contracting HIV virus. Even those who are fully aware of the consequence of having unsafe sex do not feel comfortable to use condoms. Most females believe male students as more risk takers than their female counter parts regarding behaviors that could expose to HIV/AIDS.

Recommended Responses in Reaction to HIV/AIDS

To tackle the spread of HIV, the commonly advocated responses are abstinence from sex before marriage, to be faithful to one partner and the use of condom during sex (CSA, 2001; Asnake, 2001).

Though the above three alternatives are recommended in tackling the transmission of HIV, people differ in their preferences among the three options. Perception about the

capability to take preventive methods and effectiveness of the recommended responses determines the practice of preventive measures (Shiferaw, 2004).

Studies in Utah schools found a modest effect towards greater acceptance of abstinence for older students, but the junior high school non-virgin showed more permissive attitude (Kimmel and Weiner, 1995).

Perceived efficacy levels of college students in North West Ethiopia regarding HIV/AIDS prevention methods indicated that 90 percent agreed that abstinence is effective. Females had preference towards abstinence than males while males were more confident than females in using condom. However, the response about condom use suggested little practice, which was agreed to be used by only 29.5 percent of the respondents (Shiferaw, 2004).

Results

The following section presents percentage analysis of responses for items measuring the stated constructs. The table's present percentage of respondents out of their corresponding sexes and then the total percentage, which is obtained from the total sample, is presented. At the end, co relational analysis is presented to indicate the type and strength of association between behavioral change/practice related to HIV/AIDS and the rest of the variables.

4.1. Knowledge about HIV/AIDS

Knowledge about HIV/AIDS was assessed from subjects' response on the major ways of transmission and preventive mechanisms.

Table 1: Proportion of respondents on knowledge of modes of HIV transmission

ITEMS	RESPONSES								
	Yes			No			I don't Know		
	M	F	Tot.	M	F	Tot.	M	F	Tot.
Multiple sexual partner	88.0	94.0	91.5	7.2	3.4	5.0	4.8	2.6	7
STD increases chance of infection	83.1	86.3	85.0	0.1	0.8	7.5	9.6	6.0	7.5

Blood to blood contact with infected person does not transmit HIV	25.3	34.2	30.5	68.7	61.5	64.5	6.0	4.3	5.0
Sharing Sharp Objects	94.0	96.6	95.5	6.0	3.4	4.5	-	-	-
Transmission during pregnancy	81.9	65.0	72.0	9.6	26.5	19.5	8.4	8.5	8.5
Living with infected person	8.4	1.7	4.5	90.4	93.2	92.0	1.2	5.1	3.5

It can be seen from table 1 that significant majority of the respondents have knowledge about the main ways of HIV transmission.

In this regard, 88 percent of participants from the male group and 94 percent of the females answered “Yes” to an item asking if practicing sex with multiple sexual partners is one route for HIV transmission. From the total respondents 91.5 percent recognized sex with multiple partners as one possible way of transmission of the virus. Similarly, very high proportion from both male and female groups (94 and 96.6 percent respectively) responded that of sharing of sharp objects as one cause of transmission. Other STDs were acknowledged to increase the chance of HIV transmission by 83.1 percent of the males and 86.3 percent of the females. Transmission during pregnancy and mixing of infected blood with the normal was recognized as cause for HIV transmission by 72 and 64.5 percent of the total respondents respectively.

From the results obtained, sharing of sharp objects and practicing sex with multiple partners were widely known HIV transmission routes. On the other hand, many respondents (30.5 percent of the total) did not consider mixing of blood-to-blood contact with infected person as a cause for the transmission of virus.

There were also participants who did not respond correctly to items stating ways of HIV transmission or who did not know about it.

For example, 12 percent of the total participants responded either sex with multiple partners was a not a way of HIV transmission or did not know about it.

Table 2: Proportion of respondents on knowledge of HIV prevention methods

ITEMS	RESPONSES		
	Yes	No	I don't Know

	M	F	Tot.	M	F	Tot.	M	F	Tot.
Condom use	57.8	57.3	57.5	27.7	23.9	25.5	14.5	18.8	17.0
Faithfulness with sexual partner	94.0	88.0	90.5	3.6	6.0	5.0	2.4	6.0	4.5
Abstinence	90.4	90.6	90.5	9.6	8.5	9.0	-	0.9	0.5

Knowledge of respondents about prevention measures against HIV transmission is indicated in table 2 and more than 90 percent from the total respondents considered being faithful with one partner and abstinence as preventive mechanisms. Being faithful with a partner and abstinence from sex were the most widely known preventive techniques of which relatively more males than females acknowledged being faithful with a partner. As compared to these preventive methods, using condom was recognized by only 57.5 percent of the total respondents. The rest did not either consider it as a preventive method or did not know about it.

To see the over all knowledge of respondents' mean result on the knowledge items was computed and found to be 26.8 from a possible score ranging between a minimum of 10 to a maximum of 30. The males scored a mean result of 27.2 on the knowledge scale while the females obtained a mean score of 26.5.

4.2. Behavior/Practice related to HIV/AIDS

The results obtained while investigating the existing behavior/practice that are related to HIV/AIDS are presented in two parts.

After identifying subjects who had sexual experience from those who did not, the first part gives behavior/practice of respondents with sexual experience. Then, responses for items that could be responded by all the participants are presented.

In an attempt to know sexual experience of subjects, 52.2 percent of the total participants were found to be having sexual experience. 48.1 percent of the males and 55.7 percent of the female group had already started making sexual intercourse (Table 4)

Table 3: Proportion of respondents sexual experience

ITEMS	RESPONSES					
	Yes			No		
	M	F	Tot.	M	F	Tot.
Had sexual intercourse	48.1	55.7	52.2	51.9	44.3	47.8

4.2.1. Sexual Behavior/Practice

Table 3, presents responses to items referring to sexual behavior/practice. 39.4 percent of the males and 29.2 percent of the females who had already started having sexual intercourse did not have permanent sexual partners. On the other hand, 24.2 percent of the males and 27.7 percent of the females were sexually active within the last 6 months. This implies that those who were sexually active in the last 6 months were practicing sex with either non-regular sexual partner or more than one sexual partner.

Nearly similar numbers of respondents were not willing to avoid sex with someone who was considered to be practicing sex with multiple sexual partners.

Knowledge results of respondents had indicated that almost more than 90 percent of the participants knew sexual intercourse with multiple partners as one cause for HIV transmission, and being faithful with a partner and abstinence from sex as preventive methods. This would suggest that there were participants who were engaged in unsafe sexual practices even though they knew about HIV transmission and prevention mechanisms.

HIV/AIDS issues were discussed with sexual partner by 80.2 percent of the participants. Relatively, more females had this habit of discussion than the males. Such discussions can overcome the unfavorable attitude generally observed among the Ethiopian society that made people feel ashamed when discussing sexual matters.

But, it is free discussion on the issue that lets partners maximize their potential to prevent the transmission of the virus.

Table 4: Proportion of respondents by sexual behavior/practice

ITEMS	RESPONSES					
	Yes			No		
	M	F	Tot.	M	F	Tot.
Had permanent sexual partner	60.6	70.8	66.7	39.4	29.2	33.3
Sex with casual sexual partner in the last 6 months	24.2	27.7	26.3	75.8	72.3	73.8
Refusing sex with some one who was known to have multiple sexual partners	75.8	77.1	76.5	24.2	22.9	23.5
Discussion about HIV/AIDS with sexual partner	75.8	83.3	80.2	24.2	16.7	19.8

Condom was consistently used during sex by only 37 percent of the total participants. Comparatively, more males (48.5 percent of them) than females (29.2 percent of them) had the habit of using condoms all the time during sexual intercourse. The majority (62.9 percent) of the participants used condom for sexual purpose either some of the times or not at all (Table 6).

Table 5: Proportion of respondents in condom use during sex

ITEM	RESPONSES								
	Always			Sometimes			Not At all		
	M	F	Tot.	M	F	Tot.	M	F	Tot.
How often do you use condom during sex?	48.5	29.2	37.0	18.2	25.0	22.2	33.3	45.8	40.7

The over all manifestation of safe behavior/practice that is related to HIV/AIDS was determined from the mean score which was found to be 25.5 from a minimum score of 10 and a maximum score of 30. The males score was 24.8 while the females scored 25.9 on the items measuring the existing safe behavior/practice which is related to HIV/AIDS.

4.2.2. General Behavior/Practices Related to HIV/AIDS

When we see behavior/practice areas that are common to both sexually experienced and inexperienced participants, standard blood testing was not made by 56 percent of the total sample. As compared to the males, more females had HIV blood testing. The HIV status

of a person can be known through standard blood testing and knowing this status is helpful to take subsequent actions for better adjustment in future life.

More than 85 percent of the total respondents answered “yes” to an item asking whether participants had the habit of discussing about HIV/AIDS with friends or family members. Such discussions were considered as important because it creates the opportunity of having the right idea about the disease. Possibly, associated constructive sexual issues that could be raised during such discussions help individuals to protect themselves from HIV/AIDS.

HIV positive status in the family was preferred to remain secret by 33 percent of the participants. In addition, 11 percent of the total participants were not willing to care for someone who was infected with the virus (Table 7). Such scenario indicated the unfair stigma against the victims which could subsequently lead the victims as well as others in danger.

Table 6: Proportion of respondents in HIV/AIDS related general behavior

ITEMS	RESPONSES					
	Yes			No		
	M	F	Tot.	M	F	Tot.
HIV blood test	33.7	51.3	44.0	66.3	48.7	56.0
Sharing of sharp objects	10.8	9.5	9.5	89.2	89.7	89.5
Keeping secret HIV+ status in the family	31.3	34.2	33.0	68.7	64.1	66.0
Discussion about HIV/AIDS with friends or family	74.7	93.2	85.5	25.3	6.8	14.5
Willingness to care for HIV + in the family	81.9	93.2	88.5	16.9	6.8	11.0

4.3. Risk Perception

Participants thought about HIV/AIDS as a risk to themselves was assessed from their response to statements on the Likert scale. The statements also stated conditions that were thought to be risky in exposing oneself to HIV virus. Table 8 presents the statements and percentage of respondents according to their agreement to the expressed conditions. The

table provides percentage of respondents out of their corresponding sex and the Tot. column gives total percentage of respondents.

Responses to the statements showed that majority of the participants thought of risky conditions that could expose to HIV/AIDS or the sense of vulnerability to the problem. For example, 83.1 percent of the male and 70.1 percent of the female respondents disagreed to a statement expressing no concern for sharing sharp objects. 75 percent or more of the total participants agreed with the idea of feeling fear because of HIV when a thought concerning making sex with multiple partners or sex with a person who is known recently comes to their mind.

Table 7: Proportion of responses on risky conditions

STATEMENTS	RESPONSES								
	A			U			D		
	M	F	Tot.	M	F	Tot.	M	F	Tot.
I am afraid of HIV transmission when thinking of sex with multiple partners	81.9	70.1	75.0	14.5	16.2	15.5	3.6	13.7	9.5
Resistance to peer /partner pressure for sex without condom	60.2	56.4	58.0	26.5	20.5	23.0	13.3	23.1	19.0
I do not mind to share sharp objects with others	3.6	16.2	11.0	13.3	13.7	13.5	83.1	70.1	75.5
Loss of weight, bruise in my body reminds me of HIV/AIDS	21.7	23.1	22.5	22.9	22.2	22.5	55.4	54.7	55.0
HIV/AIDS messages are relevant to others than to me	26.5	27.4	27.0	16.9	17.9	17.5	56.6	54.7	55.5

As can be seen above there were participants who were not sure about or did not consider the risk of dangerous conditions that may increase vulnerability to HIV virus. This was reflected by more than 20 percent of the total participants under each of the conditions expressed in the statements. For instance, 23 percent of the participants did not decide

and 19.0 percent disagreed to a statement expressing resistance to peer/partner pressure to make sex without condom (Table 8 above).

4.4. Appraisal of Recommended Responses

Responses to items checking for participants’ appraisal of recommended responses to HIV prevention is given in table 10. Credibility of the source of recommended responses was agreed by 53 percent of the total respondents and 60 percent of the participants agreed on the messages to be understandable. In addition, 62.0 percent of the participants agreed to a statement expressing the recommended responses not to be difficult to practice.

When it comes to approval of individual recommended responses, abstinence was accepted by more participants (64.3 percent) than being faithful to a partner or using a condom. More females preferred this method than males. Majority of the respondents had indicated their doubt or disagreement on being faithful to a partner (51.5 percent) or using condom (83.5 percent) as a preventive method against HIV transmission (in table 9 below).

As shown in table 9 below, on the other hand, more than 35 percent of the participants were either in doubt or showed unfavorable attitude towards the statements about recommended responses. For instance, a total of 52 percent of the participants agreed to a statement expressing absence of confidence in the recommended HIV prevention techniques or were not sure about their feeling.

Table 8: Proportion of respondents on appraisal of recommended responses

STATEMENTS	RESPONSES								
	Agree			Undecided			Disagree		
	M	F	Tot.	M	F	Tot.	M	F	Tot.
The source of recommended responses are not credible	21.7	26.5	24.5	22.9	22.2	22.5	55.4	51.3	53.0

Recommended HIV prevention techniques are difficult to understand	22.9	23.1	23.0	15.7	17.9	17.0	61.4	59.0	60.0
Recommended HIV prevention techniques are difficult to implement	24.1	18.8	21.0	16.9	17.1	17.0	59.0	64.1	62.0
I think of my own prevention techniques than the already recommended ones	42.2	35.0	38.0	14.5	16.2	15.5	43.4	48.7	46.5
I do not feel confident on the recommended HIV prevention techniques	38.6	21.4	28.5	20.5	24.8	23.0	41.0	53.8	48.5
Show your agreement to the following three recommended HIV prevention techniques									
Abstinence	60.2	68.2	64.3	34.9	32.5	33.5	3.6	4.3	4.0
Being faithful with partner	50.6	47.0	48.5	44.6	47.9	46.5	4.8	5.1	5.0
Using Condom	15.7	17.1	16.5	72.3	72.6	72.5	12.0	10.3	11.0

4.5. Impact of Knowledge, Risk Perception, Appraisal of Recommended Responses on Behavior/Practice Related to HIV/AIDS

Table 10 indicates correlations between subjects' knowledge, risk perception, appraisal of recommended responses with their behavior/practice related to HIV/AIDS.

Knowledge has a positive correlation with behavioral change, which implies, as one knows, more about HIV/AIDS; there will be better behavior/practice in relation to HIV prevention.

The positive correlation between risk perception and behavioral change suggests that when an individual thinks him/her self as vulnerable to HIV transmission under circumstances that could victimize him/her, there will be good behavioral change in protecting oneself from the virus.

Table 9: Correlations among knowledge, risk perception, appraisal of recommended responses and behavioral Change

	Knowledge	Behavioral Change	Risk Perception	Appraisal Of Recommended Responses
Knowledge	1	.228*	.284*	.404**

Behavioral Change	.228*	1	.041	.387**
Risk Perception	.284*	.041	1	.434**
Appraisal of Recommended Responses	.404**	.387**	.434**	1

Behavior/practice is also positively related to subject's appraisal of recommended responses. This result implies that, as subjects' appreciation of recommended response get stronger, there will be better behavioral change because of the increased possibility of using those responses.

The correlation result indicated behavior/practice related to HIV/AIDS to be more strongly related to subjects' appraisal of the recommended responses than knowledge about HIV/AIDS or risk perception about it.

Discussions

The problem imposed by HIV/AIDS had triggered several studies in the area that forwarded a lot of results in the area. This unit attempts to make discussions on the results obtained in this study in reference to some of the results reported by similar previous studies.

Knowledge and Behavior/Practice Related to HIV/AIDS

From this study, it was found out that HIV/ AIDS awareness is almost universal. Ninety five percent of the respondents have heard about HIV/AIDS. This consists 98, and 96 percent of male and female respondents respectively.

This is a bit higher as compared to the national standard, which is 85 percent in 2000 (CSA, 2001). The difference can be because of the subjects' of this study having a better exposure to information.

With regard to knowledge about HIV/AIDS, results from most of previously conducted studies are consistent with the result found in this study, which identified high mean result on knowledge items (Pro-Pride, 1998; Shiferaw, 2002). Tilahun (1997) also found a similar result in that AIDS related knowledge among Gonder Medical College students was generally high.

This could be expected imagining the efforts made by governmental and non-governmental organizations to impart knowledge about the disease through out the country. Addis Ababa being a capital city, where relatively better facilities are present and people who are exposed to information are residing, knowledge dissemination could hardly be a problem to the population.

Behavioral change that is useful to the prevention of HIV/AIDS is mainly determined from the point of safer sexual practice. In this regard, the study found significant proportion of the participants manifesting risky behavior. That is, the habit of practicing sex with casual sexual partners or both permanent and casual partners. This is obtained in a situation where more than half of the respondents used condom either only some times or not at all.

The unsafe sexual practice noticed here is inconsistent with the knowledge they have acquired about HIV transmission and prevention. The struggle against dissemination of the virus is primarily made through imparting knowledge about HIV transmission and prevention, hoping such awareness could result in behavioral change in sexual practice.

The report from Shiferaw (2002) also presented failure in using knowledge to guide behavior. Moreover, Pro Pride (1998) has come up with results showing limited behavioral change despite knowledge about the disease.

Similar results were obtained from studies on college students which witnessed adequate knowledge about HIV/AIDS but unsafe behavior/practice manifestation in relation to it (SEARCHERS Professional Team's, 2006; Beyene; et al., (1997) as cited in Asnake 2001; Tilahun (1997)).

Experiences of this type had forced researchers to look beyond knowledge of HIV/AIDS in order to have effective behavioral change. That is, taking the role of knowledge on behavior as it is; other relevant factors taking part in the issue were also searched. One of the important health models offering an alternative explanation is the Extended Parallel Process Model. This model puts forward the impact of one's perception of the health threat to him/her self as a motivator in making reactions that avoids the threat. It means, if the individual feels being at risk of a disease, it is highly likely to engage in behaviors that could reduce the risk; and the reverse is true (Witte, 1992; Gray & Saracino, 1989; Villarruel et al., 1998).

Risk Perception

The result on the level of risk perception among the participants revealed the state of being aware of risks if they were going to involve in a situations that had high chance of transmitting the virus. This is contrary to previous studies by Crooks and Baur (1990), and Shiferaw (2004) that had reported low level of risk perception among their corresponding subjects.

One possible reason for the feeling of being at risk is the significant level of knowledge about HIV transmission and prevention mechanisms among the participants. Having accurate knowledge influences people's attitude toward AIDS and AIDS patients or beliefs about susceptibility of getting AIDS. Because subjects have the awareness about when the virus has high chance to transmit, they reacted fearfully to such circumstances.

Additionally the difference in the results of this study and particularly that of Crooks and Baur (1990), could also be attributed to differences in their corresponding subjects of study who belong to different cultures.

The report on similar issues from Pro-Pride (1998) was not consistent with this finding. The report indicated adequate knowledge about HIV/AIDS among Woreda 5 (in Addis Ababa, Ethiopia) people but limited risk perception. This could be due to difference in

the time during which the study was conducted. The study was conducted eight years ago when concerned bodies gave emphasis to dissemination of knowledge with fewer attempts of addressing the possibility of infection to everyone. It is reported that HIV/AIDS IEC messages and materials were only able to acquaint students with the disease rather than equipping them with the necessary domains relevant to their day-to-day life (Teshager & Yehualashet (2004).

Appraisal of Recommended Responses

The result of this study showed that relatively large number of respondents approve abstinence from the recommended responses than being faithful to a partner or using condom.

A significant number of respondents doubt or disagree on the strategy of being faithful to partners. Moreover, an important number of respondents are either in doubt or showed unfavorable attitude towards condom use as one of the recommended responses. The choice for abstinence as the vital prevention methods by the respondents would be attributed to its reliability in relation to the other two measures.

Similar result was obtained in Kimmel and Weiner (1995) and Shiferaw (2004) in which subjects were inclined towards abstinence. Shiferaw (2004) added more females prefer abstinence than the males.

Some of the reasons mentioned for reduced preference of condom among researchers were perceived decrease in sexual satisfaction, inability to negotiate condom use with partner, social barriers, and the belief that condoms are needed only for contact with prostitute (Adewale, 1997; Daniel, 1996).

More males were found to be engaged in premarital sex. Among the reasons mentioned for this were males wanting to prove their compatibility with their sexual partner before they get married. In addition, male premarital sex is not only tolerated but also encouraged by the society (SEARCHERS Professional Team, 2006).

Being faithful might be a problem unless each of the partners are sure about the faithfulness of the other. As quoted by Asnake(2001) from Beyne (1997) the inaccurate self –perception of monogamy may lead the students to assume falsely that they are safe from HIV, as they would never be absolutely sure about the compliance of their partner. Being faithful works as long as both partners are faithful to one another all the time (Berer, 1993).

Relations between Behavior/Practice and Knowledge, Risk Perception, Appraisal of Recommended Responses

Previous discussions of this study reported high level of knowledge about HIV/AIDS, beliefs of susceptibility of getting AIDS and appraisal of recommended responses (relatively to a lesser extent).

Further attempt was made to see the relation between AIDS-related concepts, such as knowledge, beliefs about susceptibility, appreciation of recommended responses, and the manifestation of safer behavior. This is important because, it is usually complained about the absence of behavioral change in spite of the prevailing level of awareness regarding the disease (Emmanuel and Matsuo (2002); Asnake (2001); Shiferaw (2004); SEARCHERS Professional Team's, (2006)). Hence it is important to look for additional factors that could facilitate behavioral change.

Generally, the stated variables had contributions in enhancing behavioral change through their presence. The positive correlations between each of the individual variables with behavioral change are implications for this fact.

The weaker relation between behavioral change and knowledge as compared to the other variables is because of the importance of complementing additional components to knowledge, in order to bring about better behavioral change. In other words, knowledge alone might not be effective to result in safe behavior.

Although a providing person with information about AIDS and motivating them to avoid unsafe sexual behavior is a necessary condition for behavioral change, it may not be sufficient for a reduction the risk of AIDS (Witte, 1992).

For instance, Aiken; et al., (2001) pointed out the significance of perceived susceptibility to a disease as a motivator of effective behavioral change against the disease. Witte(1992) also extended after perceiving threat from a health message that the acceptance of recommended responses in reacting to the threat plays a great role resulting in the desired behavior.

6. Conclusions and Recommendations

Conclusions

Based on the results obtained the following conclusions were made:

In general, the students know the major factors of HIV transmission and prevention.

The extent of feeling at risk of being infected with the virus was also found to be in a good position. In this regard, being uncertain about risky conditions was also observed from the respondents.

When it comes to appraisal of recommended responses, many aspects about recommended responses suggested general acceptance of the recommended responses. However, there was more preference to abstinence than being faithful to a partner or using condoms.

Behavioral change that could imply safe sexual practice was demonstrated by most of the participants. On the other hand, there were participants practicing sex with multiple sexual partners.

Finally, it was found out that knowledge of HIV/AIDS alone could not help much in bringing about effective behavioral change.

That is, though its presence takes primary importance, subsequently influential factors like risk perception and appraisal of recommended responses also play a great role in imparting behavioral change.

Recommendations

Based on results obtained from this study the following recommendations were believed to raise points that will be useful in HIV prevention efforts.

- The achieved level of knowledge about HIV/AIDS is encouraging. However, it was observed that condom was not recognized as preventive technique which could have supported the prevention of HIV when the other two (abstinence and being faithful) are not used. Hence, the importance of condom should be advocated for a facilitated behavioral change.
- The habit of practicing sex with more than one partner was one of the major routes for HIV transmission and this practice was observed among a significant portion of participants. Therefore, urgent actions are required through IEC campaigns or any other relevant programs to eliminate such misconceptions.
- Important skills that will enable knowledge of HIV/AIDS into ways of protecting oneself from it seem lacking in some of the participants. It is very crucial to work on developing such skills through assertiveness trainings or similar ones, as it is the way to change knowledge into useful practice.
- Efforts that will be made to bring about effective behavioral change need to consider the importance of other factors like risk perception and appraisal of recommended responses in addition to the mere dissemination of knowledge. It is the combined effect of these factors that makes behavioral change more effective.

- Finally, additional studies involving more number of participants and factors influencing behavioral change are required to remedy or reduce the problem of HIV/AIDS at its best.

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Acronyms

AAU	Addis Ababa University
ABC	Abstinence, Being faithful, Condom use
AIDS	Acquired Immuno Deficiency Syndrome
BSS	Behavioral Surveillance Survey
CSA	Central Statistical Authority
CSW	Commercial Sex Workers
DHS	Demographic Health Survey

EPPM	Extended Parallel Process Model
HIV	Human-Immuno-deficiency Virus
IEC	Information, Education, and Communication
KAPB	Knowledge, Attitude, Behavior, and Practice
PLWHA	Persons/People Living with HIV/AIDS
MOH	Ministry of Health
RH	Reproductive Health
STD	Sexually Transmitted Disease
STI	Sexually Transmitted Infection
UN	United Nations
UNAIDS	United States Agency for International Development