

SEXUAL BEHAVIOR AND KNOWLEDGE OF AIDS & OTHER STDs: A SURVEY OF SENIOR HIGH SCHOOL STUDENTS

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ABSTRACT: The major objective of this study has been to examine the sexual behavior and level of knowledge of AIDS and other STDs of students at a senior high school. 116 students from the 9th to 12th grades provided information. Most of them believe that AIDS is the most serious disease the country faces. On the average, the students have modest knowledge on AIDS, but low level of knowledge on other STDs. The results show that over a third of the students have experienced sex, and most of them never use any protective means to avoid STDs.

INTRODUCTION

Three or four years back, most people in Ethiopia never heard of AIDS. Those few who knew of AIDS felt that it was a problem of western societies where deviant sexual behaviors were practiced. It is now recognized, from a number of sero-surveys conducted since 1984, that HIV infection is also prevalent in Ethiopia. Sero-epidemiological surveys carried out in 23 towns since 1988 indicated that the prevalence rate of HIV infection was 16.9% among prostitutes, 13.0% among long distance truck drivers, 3.7% among blood donors, and 2.4% among scholarship winners (4). A sero-survey conducted in 1989 among prostitutes and long distance truck drivers in 8 towns (Adaitu, Asmara, Bahirdar, Diredawa, Metu, Nazareth, Nekemt, and Addis Ababa) has revealed that the prevalence rate in these towns increased by an average of over 60% in a year's time. Studies on Sill's also show that these are on the rise (1).

The available evidence is clear in that the number of people infected with HIV will continue to grow until a vaccine and/or some other effective therapy for AIDS is discovered.

Until such time, however, the only practical means of halting the spread of HIV infection is through behavioral changes. Behavioral changes can come about with extensive Information, Education and Communication (IEC) programmes. As is the case with many other countries, such is the strategy adopted in Ethiopia to prevent the spread of the disease. The Ministry of Health (MOH) through its National AIDS Control Program (NACP) established four years ago, is entrusted with the responsibility of launching an effective IEC program (5).

Following the creation of NACP, extensive efforts have been made to inform and educate the public on HIV infection and AIDS. It has been sometime now since an educational campaign has been launched. Several conferences and/or workshops have been held to

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inform the public on the extent of the problem of AIDS. In view of the IEC campaign which is still underway, the aim of this study is to assess the level of knowledge of AIDS and other STDs (Sexually Transmitted Diseases) of young people at a senior high school level. The information for the study is drawn from a pilot study carried out in March, 1990.

METHODOLOGY

The objective of the study was to collective information on what students at the senior high school level know about AIDS and other STD's. It involved a total of 116 students from the 9th to the 12th grade, 30 each from grade 9, 10 and II and 26 from grade 12. Their ages ranged from 13 to 19 years, the majority (56.9%) being 15 and 16 (see table I).

The students from the 9th to the 11th grade were randomly selected from Kefitegna (Higher) 12 Senior High School (SHS). It was not possible to include 12th grade students from the same school, because at the time the study was carried out the students had already taken the ESLCE (Ethiopian School Leaving Certificate Exam), and were officially on vacation. Thus, volunteers from any other school were arbitrarily selected to participate in the study. Kefitegna 12 SHS became the study site because of easy access and cooperation of the school authorities.

Information was gathered from the respondents using a standard questionnaire prepared by SBG/GPA in Geneva translated into Amharic. The questionnaire was prepared to cover a wide area of interest including, among other things, background characteristics; sources of information on health disease etc.; knowledge of AIDS and STDs; and sexual behaviors.

Before the administration of the questionnaire, the respondents were told about the importance of the study for the development of IEC progmmes and thus the need to answer the questions honestly. They were assured of the confidentiality of their responses. The information gathered was processed through the Statistical Package for Social Science (SPSS).

There is a reasonable suspicion that there are variations among the background of students at the senior high school level in Addis Ababa. For instance, variations among students attending schools run by the state, religious institutions, and members of the international community .Such variations may have direct or indirect impact on how much knowledge and what attitudes students have on AIDS and STD's and, hence, on their sexual behaviors. As the bulk of the respondents for this study were selected from one government school (although most schools are operated by the state) the findings of this study may not be generalized to others.

Nevertheless, as there is a general lack of such studies that particularly focus on students at the senior high school level, the findings presented in this paper should provide a useful clue about what young people know, think and do in the face of a growing danger of AIDS. It is an attempt to fill a gap in information.

FINDINGS

GENERAL INFORMATION

Roughly an equal number of boys (49.1 %) and girls (50.9%) have provided information. More or less equal numbers of boys and girls were selected from each grade level in order to have a reasonable mix of both sexes.

Table 1. Percent distribution of respondents by age and grade

Age	Grade	All Grades
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	9th	10th	11th	12th	
13	33.3	-	-	-	3.4
14	16.7	3.3	-	-	5.2
15	50.0	46.7	23.3	-	31.3
16	13.3	33.3	43.3	11.5	25.9
17	3.3	3.3	23.5	15.4	11.2
18	3.3	6.7	3.7	42.3	13.8
19	-	6.7	3.3	30.8	9.5
Total	100	100	100	100	100
N	(30)	(30)	(30)	(26)	(116)

89.6% of the respondents were Christians, 5.2% Moslem and 5.2% others. 63% of, them either strongly agree and/or agree that AIDS is the most serious disease facing the; country, while 28.4% are not sure and 7.7% do not agree.

37.9% (44) reported that they were sexually active currently. Of the sexually active respondents, 30 were boys comprising nearly 53% of the total male respondents. 14 girls admitted to be sexually active and these constitute about 24% of the female respondents. Comparing the proportion of sexually active boys with girls, one might raise a question as to why fewer girls than boys reported being sexually active. This might suggest two things: Ethiop.J.Health Dev. Vol.4 No.2,1990 I) that girls perhaps do not normally admit sexual practices for cultural reasons, and 2) that boys at these ages and grades are perhaps more prone and daring to engage in sexual practices than girls.

Table 2. Distribution of respondents who are sexually active by number of sex partner

No. of sex partners	Sex		Both sexes
	Boy	Girl	
1 only	-	7.1	2.3
2 to 3	27.6	35.7	30.0
4 to 5	27.5	35.7	30.2
6 to 7	10.3	14.3	11.6
8 and above	34.4	7.1	25.6
Total	100*	100*	100
N	(29)**	(14)	(43)

* Does not add "" to 100 due to rounding off

** 1 boy did not respond

The ages of the respondents at the time of first sex ranged between 12 and 18 years. Most (70.5%), however, had first sex between the ages of 14 and 16. The number of persons they have had sex with ranges between 1 and 5. Except one girl, all who are sexually active have had sex with more than one person. 60.2% of the respondents (over 70% of the girls and 55% of the boys) have reported to have had sexual relations with 2 to 5 persons. Over a third of the boys had sex with eight and more persons.

The respondents who are sexually active were asked how often they and/or their sexual partners used a protective method, such as condoms, to avoid catching AIDS, getting other Sills, and being pregnant. The responses are given in table 3.

It is interesting to note from table 3 that the majority of the respondents (boys as well as girls) used no protection at all. Most of the girls use protection to avoid pregnancy only sometimes. The table also depicts that down the list of priority is protection against AIDS. About 82% of the respondents (76.7% and 92.9% of the boys and girls respectively) never used protection against AIDS.

SOURCES OF INFORMATION ON AIDS AND OTHER

The respondents were asked whether radio and/or television sets were available at home. All, except one, have a radio set, while only 40.5% have TV ..They were also asked what their major sources of information about AIDS and STDs were. They were given a long list of sources of information among which they were asked to choose the first and second major sources of information. Table 4 depicts the responses obtained.

On the 1st count radio (33.6%), medical institution/personnel (18.9%), and TV (16.4%) followed by newspapers (22.4%), medical institutions/personnel (20.7), and TV (19.8%) were the three most important sources of information about AIDS. Major sources of information about other STDs included radio (14.7%), medical institutions/personnel (14.1%), and teachers/schools (10.3%), followed by medical institutions/personnel (28.5%), teachers/ schools (9.5%), and radio, newspaper, and TV (7.85% each).

The mass media (which constitutes the first five items in the table) has been instrumental in the dissemination of information on AIDS and other STDs. 63.8% and 58.6% of the respondents mentioned the mass media as their 1st and 2nd major sources of information about AIDS respectively. With regard to other STDs, 7.1 % and 30.3% stated the mass media as the 1st and 2nd major information source respectively.

An interesting observation from Table 4 is the relatively marginal role the family (including items 8 to II), religious institutions, and educational institutions play in the dissemination of information about AIDS and other STDs. One would have thought that these social institutions, being the main agents of socialization, will have paramount contribution to the development of the knowledge of young people regarding major concerns such as AIDS.

The findings indicate the contrary. This is perhaps a reflection of the conservative nature

Table 3. Percent distribution of use of protection to avoid catching AIDS, other STD and pregnancy by sex

Response	AIDS			Other STD			Pregnancy		
	1	2	3	1	2	3	1	2	3
Never	76.7	92.9	81.8	53.3	57.1	54.5	56.0	28.0	47.7
Sometimes	16.7	-	11.4	40.0	42.1	40.9	30.0	71.4	43.2
Mostly	3.3	7.1	4.5	3.3	-	2.3	13.3	-	9.1
Always	3.3	-	2.3	3.3	-	2.3	-	-	-

Total	100	100	100	100	100	100	100	100	100
N	(30)	(140)	(440)	(30)	(14)	(44)	(30)	(14)	(44)

- 1 = Boys 2 = Girls 3 = Both sexes

of these institutions in Ethiopia in matters of discussing sex with young people on the one hand and their own lack of general knowledge about AIDS and other STDs.

Table 4. Percent distribution of respondents by 1st and 2nd major sources of information about AIDS other STD

Source of information	AIDS		Other STD	
	1st	2nd	1st	2nd
1. Radio	33.6	9.5	14.7	7.8
2. Newspaper/magazines	6.9	22.4	6.9	7.8
3. Pamphlet/handouts	1.7	2.6	1.7	.9
4. Books/journals	5.2	4.3	8.6	6.0
5. TV	16.4	19.8	5.2	7.8
6. Movies	2.6	.9	.9	.9
7. Videos	-	.9	-	.9
8. Mother	-	-	5.2	.9
9. Father	-	1.7	-	3.4
10. Brothers/Sisters	-	-	1.7	-
11. Other family members	1.7	-	3.4	.9
12. Friends/classmates	1.7	.9	2.6	-
13. teachers/School personnel	2.6	3.4	10.3	9.5
14. Health institutions/health personnel	18.9	20.7	14.1	28.5
15. church/mosque/religious leaders	.9	.9	-	.9
16. Others	-	1.7	5.2	3.4
17. None	5.2	1.9	3.4	3.4
18. Missing	2.6	9.5	6.0	17.2
Total	100	100	100	100
N	(116)	(116)	(116)	(116)

KNOWLEDGE OF AIDS

A total of 22 questions were asked to measure the respondents' knowledge about AIDS. These questions included what the mode of transmission of the disease are, its symptoms, its effects, behaviors that increase the risk of the disease and preventive methods. The full content of the questions is listed in Annex, along with the frequency distribution of the responses to each question. The respondents were given '1' point if they answered a question correctly and '0' if not. A composite score, including the 22 questions, was developed to reflect the over all knowledge of the respondents.

The findings indicate that 32.6% of the respondents could not answer half of the questions correctly, while none of them gave correct answers for over 65% of the questions. Nevertheless, the majority of them (67.3%) have answered more than half of the questions. The overall average knowledge score is 10.85, i.e. , a correct response of slightly less than 50% of the questions. On the whole the result implies that the respondents have a somewhat modest knowledge of AIDS. The mean knowledge of AIDS score by sex and grade is given in table 5.

Table 5 classifies the respondents according to two variables, sex and grade. Such a classification allows us to compare the two variables with respect to the level of knowledge.

Table 5. Mean knowledge score by sex and grade

Sex	Grade				Means
	9th	10th	11th	12th	
Male	10.71 (14)*	11.60 (15)	11.13 (15)	10.15 (13)	10.93 (57)
Female	11.50 (16)	10.53 (15)	11.07 (15)	9.85 (13)	10.78 (59)
Means	11.13 (30)	11.07 (30)	11.10 (30)	10.00 (26)	10.85 (116)

*Figures in parenthesis are number of respondents in each category.

of AIDS. Furthermore, mean scores on knowledge within a given grade can be compared across sexes, and within a given sex can be compared across grades.

Looking at the means in Table 5, one might wonder whether the observed differences can be attributed to chance or whether sex and grade have any effect on the score. One of the statistical procedures commonly used to test whether there is significant difference in means is through the ANOVA (Analysis of Variance) (2). ANOVA was performed taking Knowledge of AIDS score as the dependent variable and sex and grade as the independent variables. The result indicates that the means (for boys and girls as well as for the different grade levels) do not differ in a significant way ($F_{7,108}=0.977$). Other independent variables, such as religion and sexual experiences (whether the respondent is sexually active or not) assumed to affect the dependent variable were added along with sex and grade in the ANOVA, and the result indicates that the means are not significantly different ($F_{7,105}= 1.050$). The finding, therefore, suggests that the respondents have more or less the same level of knowledge irrespective of sex, grade, religion and sex experience.

A further examination of the frequency distribution (see Annex 1) of the responses for each of the knowledge of AIDS questions reveals some of the misconceptions and strong sides of the respondents. A substantial proportion of the respondents have a common misconception that HIV is transmitted by a mosquito carrying infected blood (79.3%) and by wearing clothes used by someone who has the AIDS virus (37.1 %). 49.1 % have the misunderstanding that if a test for AIDS is negative it means that one can not get AIDS in the future, while a good proportion of them believe that AIDS can be cured if diagnosed early (44%) and that a vaccine is discovered which can prevent people from getting AIDS (44%). A large majority of them, nevertheless, quite correctly know that a person can catch AIDS by having sex

with someone who has the AIDS virus (93.1 %), that the chances of becoming infected with the AIDS virus are reduced by having sex with only one faithful partner (86.2%) and that the risk of being infected with HIV is increased by having many sex partners (87.9%).

Table 6 mean STD score by sex and grade

Sex	Grade				Means
	9th	10th	11th	12th	
Male	3.20 (14)*	3.10 (15)	3.04 (15)	3.42 (13)	3.18 (57)
Female	3.26 (16)	3.06 (15)	3.33 (15)	3.02 (13)	3.17 (59)
Means	3.23 (30)	3.08 (30)	3.19 (30)	3.22 (26)	3.18 (116)

* Figures in parenthesis are number of respondents in each category

KNOWLEDGE OF OTHER STD'S

The respondents were asked if they had heard of sexually transmitted diseases (STD) such as gonorrhea, syphilis, and genital herpes. All of them had heard of the first two, while none had heard of the third. In order to measure knowledge of STDs, the respondents were given 7 statements to which they responded. These included how STDs are transmitted, their effects, and methods of prevention. The full list of the statements is given in Annex 2 along with the frequency distributions of the responses to each of the statements. They were given a Likert scale of five fixed alternative responses, ranging from 'definitely true' to 'definitely false', to choose from. If respondents correctly responded 'definitely true' or 'definitely false' to a statement they were given 5 points, 4 points if they correctly responded 'probably true' or 'probably false', 3 points for uncertain, undecided or do not know responses, and 2 points and 1 point respectively if they responded 'definitely true' and 'definitely false' incorrectly. The points for each of the 7 statements were then added up and divided by 7 to establish composite STDs score to reflect the respondents over all knowledge of STDs. A respondent who gave correct answers for the 7 statements scored 5 points, while the vice versa obtained 1 point.

The findings indicate that the majority of the respondents (69%) did not know and/or were uncertain of STDs. Only 20.7% have somewhat adequate knowledge of STD while 10.3% have wrong perception. The overall average STD score is 3.18, a middle position expressing uncertain and/or do not know responses. The distribution of the mean knowledge of STD score is given in Table 6.

The means displayed in Table 6 seem to be similar , both across sex and grade. A mean score of 3 points, expressing uncertain or do not know responses, is more or less evenly distributed in each of the categories. The result implies that on the average the respondents do not have a clear understanding of STDs.

The ANOV A result also shows that there is no statistically significant difference in the means when STD score is taken as the dependent variable and sex and grade are taken as the independent variables. This means that sex and grade do not have statistically significant effect on the

knowledge of STD score ($F_{7,108} = 1.456$). The result was statistically insignificant when additional explanatory variables' religion and sex experience, were included along with sex and grade as the independent variables ($F_{7,105} = 0.673$). The finding, thus, implies that the respondents across the board, i.e., irrespective of whether they are girls or boys, lower or higher grades, Christians or Moslems, did not have adequate knowledge of STDs.

A close observation of the responses furnished by the respondents (see Annex 2) indicates that most of them admitted to having no knowledge with regard to each of the STD questions. 52.6% either do not know and/or do not believe that the use of protective methods such as condoms can help avoid getting STDs. On the other hand, 69% either do not know and/or erroneously believe that people who had STD earlier cannot catch it again. A large majority either do not know (35.3%) and/or have a misconception (42.3%) that gonorrhoea can be transmitted from toilet seats. 71.6% did not know whether or not there is a cure for genital herpes.

DISCUSSION

The results of this study have generated useful information concerning what young people at one senior high school know, think and do at a time when the danger of AIDS is becoming an important agenda of discussion. The major source of information on AIDS, (63.8%) and other STDs (58.8%) for the respondents is the mass media, of which radio is the most important. Most (68%) believe that AIDS is the most serious disease facing the country at present. The finding has revealed that the students on the average have a modest (score of 10.85 out of a maximum of 22 points) knowledge of AIDS. Knowledge of STDs is low (score of 3.18 on the average) in that most (69%) have taken a 'do not know' position.

Across the board, the respondents' knowledge of AIDS and other STDs is more or less similar. The respondents' sex, grade, religion, and current sex experience do not seem to have significant effect on their knowledge of AIDS and other STDs. This is unexpected particularly in view of the assumption that one would expect more knowledge at least with an increase in grade levels, which is also correlated with age. The findings in this study do not confirm this expectation. Although the majority (62.1%) have had no sexual relationship yet, a substantial proportion (37.9%) are sexually active. Almost all of the sexually active have had sex experience with more than one sex partner, the majority (60.2%) having experience with 2 to 5 partners. Moreover, most of them either never and/or only sometimes use protective methods against AIDS, other STDs and pregnancy. The figure is more so against AIDS (76.7% for boys and 92.9% for girls), which is down the list of their priority. It is quite puzzling to learn that almost all of the girls who are sexually active either never and/or only sometimes used protection against pregnancy.

Such type of behavior is detrimental to the young people over time and puts them at risk. The evidence suggests that with such cautionless sexual behaviors (with respect to the already sexually active) and not too adequate knowledge of AIDS and STD, the students most likely to be vulnerable to HIV infections.

In view of this, much more than what is being done is expected of IEC programmes in the way of developing young people's knowledge of AIDS and other STDs, and hence changing their sexual values. The strategy of changing young people's sexual behaviors with a view to creating sexual values that reduce the risk of AIDS and other STDs should not be limited to conveying relevant information through the mass media. The dissemination of information to young people should be

expanded by incorporating other important institutions, such as the family, educational and religious institutions. These institutions, which function as basic socializing agents, need to assume the responsibility of creating desirable sexual values in young people. The evidence in this study has revealed that the role of these institutions has been insignificant so far.

Among other things, the role of the educational institutions in the dissemination of IEC should be strengthened possibly through the introduction of effective sex education at least at the high school level. Moreover, IEC programmes should aim at encouraging parents and/or other older family members to discuss and influence their children and/or younger brothers and sisters sexual behaviors. This should, perhaps, be underscored particularly in view of the conservative nature of most Ethiopian families in matters of sex. The role of religious institutions, where moral values are instilled in the general population, should not be underestimated. The contribution of these institutions, however, will depend on how IEC programmes reach and equip them with the knowledge required to carry out the task.

ANNEX 1. Frequency distribution of respondents for 22 questions of knowledge of AIDS by correct and incorrect responses

Questions	Correct %	Incorrect %
1. Most people with AIDS virus will develop AIDS	76.7	21.5*
2. Can get AIDS by shaking victims hands	83.6	16.4
3. A person can be infected with the AIDS virus and not show signs of disease for many years	69.8	30.2
4. Most people with AIDS will die of the disease.	82.6	12.9
5. Can catch AIDS by sharing needles/syringes with someone who has the AIDS virus.	83.6	16.3
6. A person who looks healthy but has the AIDS virus can pass it onto other people.	73.3	26.8
7. A person can get AIDS by having sex with someone who has the AIDS virus.	93.1	6.9
8. A pregnant woman who has the AIDS virus can pass it onto her baby.	86.2	13.8
9. There is no cure for AIDS	64.7	34.5
10. A person can get AIDS by wearing clothes used by someone who has the AIDS virus.	62.9	37.1
11. AIDS can be cured if diagnosed early.	56.0	44.0
12. The chances of being infected by the AIDS virus are reduced by having sex with only one faithful partner.	86.2	12.9
13. A person can get AIDS by donating blood.	62.9	36.2
14. Doctors have discovered a vaccine which can prevent people from getting AIDS.	56.0	44.0
15. Having many sexual partners increase a persons risk of being infected with the AIDS virus	87.9	12.0
16. There are tests that can show if a person has the AIDS virus.	83.6	16.4
17. A person can get AIDS by being bitten by a mosquito which has already fed on a person with AIDS.	20.7	79.3
18. You can tell if a person has the AIDS virus by his or her looks.	40.5	58.6
19. Use of a condom when having sex can prevent AIDS.	60.3	40.9
20. The chances of becoming infected with the AIDS virus are increased by having sex with someone you do not know very well.	55.2	43.1
21. Once infected with the AIDS virus a person can infect others for the rest of his/her life	78.4	20.3
22. If you take an AIDS test and it is negative it means that you can not get AIDS in the future.	49.1	49.1

*Percent does not add up to 100 due to missing cases.

ANNEX 2. Percent distribution of respondents for 7 statements of knowledge of STD

Statements	Responses				
	5	4	3	2	1
1. You can get syphilis from some one who does not show symptoms of the disease.	27.6	25.9	25.9	7.8	7.8*
2. Gonorrhoea can be prevented by using condom.	12.9	24.1	28.4	10.3	18.1
3. You can get gonorrhoea from toilet seats.	20.7	21.6	35.3	6.0	14.7
4. There is cure for genital herpes	3.4	6.9	17.6	9.5	2.6
5. Untreated syphilis can lead to sterility.	37.9	19.0	26.7	8.6	7.8
6. If a person had STD (like syphilis) he/she cannot catch it again.	18.1	19.0	31.9	10.3	19.8
7. One can avoid getting STD like syphilis by using a condom.	24.1	18.1	29.3	5.2	18.1

*Percent does not add up to 100 due to missing cases.

KEY

5 = Definitely True

4 = Probably True

3 = Uncertain/Do not know

2 = Probably False

1 = Definitely False

REFERENCES

1. Assefa Gemed. Magnitude of STDs Problem in Ethiopia. (Mimeographed). Undated.
2. Bohrnstedt, G W & Knoke D. Statistics for Social Data Analysis. F.E. Peacock Publisher, Illinois, USA. 1982; 197-224.
3. Swanaon, R M. Plagues, History and AIDS, in: Dialogue, 1989; No.83, 1189: 16-22.
4. AIDS Control Program, Ethiopia. AIDS Situation in Ethiopia of as May 1989. 1989; (Mimeographed)
5. Five Year Plan for AIDS Control in Ethiopia. PMOSE, Ministry of Health. 1987.

