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Full Length Research Paper

Knowledge, attitude and practice regarding HIV/AIDS among secondary school students in Mekelle City, Ethiopia

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HIV/AIDS is one of the most serious health problems in the world which infects economically productive young adults. The objective of this study is to assess the level of knowledge, attitude and practice regarding HIV/AIDS amongst secondary school students in Makelle city, Northern Ethiopia. A cross–sectional survey was conducted among students enrolled in secondary schools of Mekelle city. 240 students were taken from different secondary schools in the city. Data was collected using a validated self-administered standardized questionnaire on knowledge, attitude and practice regarding HIV/AIDS. Data were analyzed using STATA software. Our study found that 85.5% respondents have good knowledge about HIV/AIDS, but a negative attitude towards it. 75% of the respondents point out that they had used condom during sexual intercourse, 66.6% of them use regularly condom and have habit of using it and none of the respondents had sex with commercial sex workers. HIV/AIDS health education efforts should be intensified to improve the attitude and practice among secondary school students in Mekelle city.

Key words: HIV/AIDS, adolescents, knowledge, attitude, practice.

INTRODUCTION

Acquired Immunodeficiency Syndrome (AIDS) was first recognized among homosexuals in the USA in 1981 (Marianne, 2011). HIV/AIDS has emerged as the most formidable challenge to public health, human rights and development in the new millennium. It is the most serious health problems of the 21st century which affects all body systems as well as the mental health and social relationships of carriers and asymptomatic patients (Karl and Supa, *2005)*. Globally, it is known that there is a lack of HIV/AIDS knowledge among youths between the ages of 15-24. In many parts of the world, young people in this age-group are at particularly high risk of HIV/AIDS infection from unprotected sex, sex between men and IV drug-use because of the very high prevalence rates often found amongst people who engage in these behaviors (Abbas, Sang-arun and Jeranoun, *2010;* Yusuf, 2007). Adolescents are the most at risk population for HIV/AIDS infection. Adolescence is a transitional phase between childhood and adulthood characterized by physiological, cognitive and emotional changes. The most common changes include developed sexual characteristics, abstract thought, fantasized role in different situations, increased sexual interests and peer influences (Ogbuji and Okafor, *2010;* Yitayal, Agersew, Amanuel, Afera, Andarge, Alemayehu, Abebe, Takele and Baye, *2011)*.

Statistics from the Joint United Nations Programme on HIV/AIDS (UNAIDS) and the World Health Organization (WHO) in 2006 reported the number of people living with HIV/AIDS at the end of 2005 were 38.6 million. An estimated 4.1 million were newly infected with HIV/AIDS and 2.8 million lost their lives due to HIV/AIDS (Orisatoki and Oguntibeju, *2008)*. A study which was conducted on secondary school students of South Africa showed that, there was considerable misconception regarding the spread of HIV/AIDS via mosquito bites or other insects while more than 90% of all students reported that one could get HIV/AIDS from sexual intercourse (Anahita, Azadeh, Anahita, Parvin and Zahra, 2004).

The first documented case of HIV/ AIDS in Sub-Saharan Africa was in 1982 (Oyo-Ita, Ikpeme, Etokidem, Offor, Okokon and Etuk, (2005). The disease has had its toll on every part of Africa and developing countries are grappling at the primary level of prevention. Compared to other regions of the world, Sub-Saharan Africa has remained the most affected region with HIV/AIDS. In Ethiopia in 2005, an estimated 1.32 million people were

living with HIV/AIDS. Addis Ababa has reported to have one of the highest concentrations of HIV/AIDS cases with 12.4 % rate of prevalence. Given the fact that the most prevailing mode of HIV transmission is heterosexual behavior, which accounts for more than 87% of new HIV/AIDS infections in Ethiopia, Avoiding risk behaviors by limiting the number of sexual partners, delaying individual sexual debuts and having protected sex are crucial in the prevention and control of the HIV/AIDS pandemic (Jaiswal, Magar, Thakali, Pradhan and Gurubacharya, 2005). In the global scale, Ethiopia hosts the third largest number of people living with HIV/AIDS, and ranks 16th in terms of prevalence. A study in Ethiopia has indicated a transmission rate ranging from 29-47% (Zahra and Narges, 2008; Shitaye, Nuru, Getu, Yared and Solomon, *2004)*. A survey conducted on sexual activity in secondary school youths in Awassa, Ethiopia indicated that among 375 youths, HIV/AIDS was known by more than 90% of respondents. However, few of those who were sexually active uses condom during sexual intercourse. The study also showed that of the 19% sexually active, 36% admitted more than one sex partner within six months (Namaitijiang, 2010).

Knowledge is very important in acquiring and practicing health knowledge which also is important in the development of optimum health. Attitude formation is not essentially a function of amount of information one receives but a function of how that information was acquired (Xiaodong, Jingju, Dong, Chunhong and Chaojun, 2007).

The knowledge, attitude and practice of Mekelle City secondary school students towards the risk of HIV/AIDS has not been studied. Secondary school students' KAP on HIV/AIDS can be an indicator of the magnitude of the problem among youths in Mekelle. So it is prudent to conduct this study among secondary school students in this region in order to ascertain their knowledge, attitude and practice (KAP) regarding HIV/AIDS and its determinants. The study is also used to identify the extent of risk behavior and practice exposed to HIV/AIDS among students and to describe the relationship between the socio-demographic and economical characteristics with risk behavior related to HIV/AIDS.

MATERIAL AND METHODS

Study Design

Cross-sectional study was conducted to assess the knowledge, attitude and practice of Mekelle city secondary school students towards the risk of HIV/AIDS and its determinants.

Study Area

Ethical Consideration

This study was conducted in secondary schools in the capital city of Tigray region, Mekelle city, northern Ethiopia which is located in the north of Addis Ababa at about 783 Km.

Sample Procedure

The stratified sampling technique was used. 240 students were taken from different secondary schools in the city.

Data Collection Procedures

Before the research group collects the data, the participants were asked for their willingness to participate in the study and the research group checked the data for accuracy and consistency. In the processes of the study, a number of measures have been taken to observe basic ethical standards. The students were informed about the general objectives of the research and were advised not to write their names on the questionnaire in order to ensure the confidentiality of the information provided.

Questionnaire Administrations

Data was collected using pre-tested self administrated questionnaires. This close-ended questionnaire had questions on social demographic characteristics, sexual behavior, knowledge, attitudes and practice regarding HIV/AIDS. The questions in the questionnaire were easy and were provided with instruction to help the respondents to understand them easily.

The researchers have prepared questionnaire for secondary school student in English language. The English questionnaire was translated into simple Tigrigna language and back translated into English. Prior to the survey, the questionnaires were pre-tested to assess its clarity, sequencing and time needed to complete. Pre-test of questionnaire was done on ten respondents who were chosen to ensure that the questions are easily understood. Questionnaires were administered to 240 Knowledge students from different secondary schools in city.

Table 1. Socio-demographic characteristics of respondents

Characteristics	Frequency	Percent (%)
Age Group		
15-19	207	90.8%
20-24	15	6.6%
≥ 25	6	2.6%
Total	**228**	**100%**
Sex		
Male	144	63.2%
Female	84	36.8%
Total	**228**	**100%**
Marital status		
Single	213	93.4%
Married	15	6.6%
Total	**228**	**100%**
Family income		
< 200 ETB	42	18.4%
201-500 ETB	84	36.8%
501-1000 ETB	81	35.5%
≥1000 ETB	21	9.3%
Total	**228**	**100%**

Data processing and Analysis

The data were processed and analyzed by using STATA 11 software. The relationship between the variables was assessed using appropriate statistical test. The statistical significance level 0.05 and confidence interval of 95% was considered.

RESULTS

Socio-demography

Out of 240 questionnaires, 228 were filled, showing a response rate of 95%. From the result, one hundred and forty four (63.16%) respondents were male and 84 (36.84%) were females. A majority of the respondents (90.8%) were between the ages 15-19 years. The respondents' monthly family income in Ethiopian birr(ETB) is summarized in Table 1 below.

Summary result of the knowledge revealed that, of the total 228 respondents, 195 (85.5%) respondents were able to answer the knowledge questions about HIV/AIDS which indicates they were aware of at least one type of sexually transmitted disease.

Further investigation on frequency distribution of response of knowledge questions related to HIV/AIDS showed that a great number of respondents were able to list at least one mode of transmission for HIV/AIDS. Despite the high level of knowledge, there were also misconception and speculation. Among these; kissing and mosquito bites were speculated to transmit HIV/AIDS by 17.1% and 11.8% of the respondents respectively as shown in Table 3 below.

Attitude

The finding on the assessment of attitude of the respondents on HIV/AIDS is indicated in Table 4 below. The study revealed that over all risks perception was low. 93.42 % of students believed that HIV/AIDS affects more youths. 68.42% of the respondents believe that condom is one of the mechanisms to prevent the transmission of HIV/AIDS but 14.04% of the respondents were neutral and 17.54% of the respondents disagree on the preventability of condom. 46% of the students have no fear of getting HIV/AIDS. 73.7% of the respondents

Table 2: The influence of socio-demographic characteristics in the knowledge status of respondents

Characteristics	Knowledgeable	Ignorant	Total
Age group			
15-19	171(75%)	30(13.16%)	201(88.16%)
20-24	21(9.2%)	3(1.32%)	24(10.52%)
≥ 25	3(1.32%)	-	3(1.32%)
Total	**195(85.5%)**	**33(14.5%)**	**228(100%)**
Sex			
Male	114(50%)	18(7.9%)	132(57.8%)
Female	81(35.5%)	15(6.6%)	96(42.2%)
Total	**195(85.5%)**	**33(14.5%)**	**228(100%)**
Family income			
<200 ETB	39(17.1%)	3(1.3%)	42(18.4%)
201-500 ETB	72(31.6%)	12(5.3%)	84(36.9%)
501-1000 ETB	66(28.9%)	15(6.6%)	81(35.5%)
≥1000 ETB	18(7.9%)	3(1.3%)	21(9.2%)
Total	**195(85.5%)**	**33(14.5%)**	**228(100%)**

Table 3. Knowledge questions related to HIV/AIDS

Characteristics	Distribution	Frequency	
		Yes	No
Mode of Transmission of HIV/AIDS	Unprotected sexual contact	201(88.15%)	27(11.8%)
	Sharing unsterilized equipment, blood and blood product	207(90.8%)	21(9.2%)
	Mother to child	162(71%)	66(28.9%)
	Breast feeding	144(63.2%)	84(36.8%)
	Students who at least mention two modes of transmission	207(90.7%)	21(9.2%)
Misconceptions	By kissing	39(17.1%)	189(82.9%)
	Mosquito bite	27(11.8%)	201(88.2%)

believe that alcohol and chewing chat expose to HIV/AIDS, 11.8% were neutral and 14.5% don't believe it as indicated below.

Practice

The result of this study identified that 26.3% students have

Table 4. Attitude of the respondents and risk perception towards HIV/AIDS

Risk behavior	Strongly agree	Agree	Neural	Disagree	Strongly disagree
HIV/AIDS affects youths more than any other age group	171(75%)	42(18.5%)	3 (1.3%)	6 (2.6 %)	6(2.6%)
Condom can prevent HIV/AIDS	59(25.88%)	97(42.54%)	32(14%)	21(9.2%)	19(8.3 %)
Taking 'chat' and alcohol expose to HIV/AIDS	114(50%)	54(23.7%)	27(11.8%)	18(7.9%)	15(6.6%)
I am not afraid of acquiring HIV/AIDS	66(28.95%)	39(17.1%)	27(11.8%)	39(17%)	57(25%)

Table 5. Distribution of the respondents by their condom use

Questions	Distribution	Frequency		Total
		Male	Female	
Have you started sexual intercourse?	Yes	39 (17.1%)	21(9.2%)	60(26.3%)
	No	105(46%)	63(27.6%)	168(73.6%)
	Total	**144 (63.2%)**	**84(36.8%)**	**228(100%)**
With whom did you commit sexual intercourse in the last one year?	Fixed friend	18 (30%)	21(35%)	39(65%)
	Casual friend	13 (21%)	8(13.3%)	21(35.3%)
	With commercial sex workers	0	0	0
	Total	**31(51.7%)**	**29(48.3%)**	**60(100%)**
Do you use condom?	Yes	30 (50%)	15(25%)	45(75%)
	No	9 (15%)	6(10%)	15(25%)
	Total	**39(65%)**	**21(35%)**	**60(100%)**
Condom use habit	Regular (always)	17(37.8%)	8(17.7%)	25(55.5%)
	During sex other than fixed friend	8(17.7%)	4(8.9%)	12(26.6%)
	During sex with commercial sex workers	0	0	0
	Person with whom I suspect and some time in some occasion	5(11.1%)	3(6.7%)	8(17.8%)
	Total	**30(66.7%)**	**15(33%)**	**45(100%)**

started sexual activity which are 17.1% males and 9.2% of females. In these sexual active groups, 65% have fixed friends, 35% casual friends and 75% point out that they had used condom during sexual intercourse, 66.6% of them use regularly condom and have habit of using it and none of the respondents had sex with commercial sex worker.

As indicated in Table 6 below, twelve students (20%) within the age group of 15-29 years agreed that they use condoms during sexual intercourse. The third age groups, whose age is ≥25, are well experienced in using condom during sexual intercourse. Out 60 students who chew chat and drink alcohol, 39 (65%) students use condom at the time of sexual intercourse while 21 (35%) students do

Table 6. Influence of socio-demographic characteristics, knowledge, attitude and some behaviors on condom use

Characteristics	Distribution	Condom use		
		Yes	No	Total
Age Group	15-19	12(20%)	6(10%)	18(30%)
	20-24	24 (40%)	9(15%)	33(55%)
	≥ 25	9 (15%)	0	9 (15%)
	Total	**45(75%)**	**15(25%)**	**60(100%)**
Sex	Male	30 (50%)	6(10%)	36(60%)
	Female	15 (25%)	9 (15%)	24(40%)
	Total	**45(75%)**	**15(25%)**	**60(100%)**
Knowledge	Knowledgeable	33 (55%)	9(15%)	42(70%)
	Not knowledgeable	12 (20%)	6(10%)	18(30%)
	Total	**45(75%)**	**15(25%)**	**60(100%)**
Attitude	Favorable	30(50%)	12(20%)	42(70%)
	Unfavorable	15 (25%)	3(5%)	18(30%)
	Total	**45(75%)**	**15(25%)**	**60(100%)**
Drink alcohol	Yes	18 (30%)	12(20%)	30(50%)
	No	27 (45%)	3(5%)	30(50%)
	Total	**45 (75%)**	**15(25%)**	**60(100%)**
Chewing 'Chat'	Yes	21 (35%)	9(15%)	30(50%)
	No	24 (40%)	6(10%)	30(50%)
	Total	**45 (75%)**	**15(25%)**	**60(100%)**

not use.

DISCUSSIONS

This study showed that, in general, secondary school students in Mekelle city have high level of knowledge on issues related to HIV/AIDS transmission. About 90.7% of the respondents were able to mention at least two modes of transmission for HIV/AIDS. A further examination on the frequency distribution revealed that some misconceptions and speculations exist despite the high levels of knowledge. Among the respondents, 17.1% and 11.8% claimed that kissing and mosquito bites respectively can transmit HIV/AIDS. Similar findings are also described by the study carried out in Gondar, North West Ethiopia (Yitayal, Agersew, Amanuel, Afera, Andarge, Alemayehu, Abebe, Takele and Baye, *2011)* and South Africa (Karl and Supa, *2005)*. The reason for the existents of misconceptions may be; because majority of students have got awareness about HIV/AIDS from mass media that has limitation in establishing two way communications to clear up misunderstanding. Majority of respondents, 93.42% perceive the severity of HIV/AIDS and they believe it affects youth at high proportion than any other group. This finding is higher than the finding obtained from study held at Addis Ababa University, Ethiopia (Yusuf, 2007). The difference might be due to the time gap that could bring considerable change in the attitude between the two studies from 2000 to 2013.

The result of this study identified that 26.3% of the respondents have started sexual activity (65% of males and 35% of females). The proportion is slightly lower when it is compared with the study done in Awassa, Southern Ethiopia (Marianne, 2011), the difference might be probably due to socio-cultural difference. From the total respondents who practiced sex, regarding the type of their sex partner, the study indicated that 35% had causal friends, 65% fixed friends and none of them had sexual intercourse with commercial sex workers in the last one year. This finding is higher than the finding obtained in the study held at Awassa high school students (Marianne, 2011).

Overall condom utilization was 75% which is higher from the studies held in Addis Ababa University and Gonder teachers training college, Ethiopia (Shitaye, Nuru, Getu, Yared and Solomon, *2004)* and the reason could be due to the time gap between the two studies, in which it could be believed that it brought a considerable change in practice.

Regarding the summary values on condom use, it indicates that chewing chat and drinking alcohol negatively influence condom use. However, knowledge, attitude, age and sex don't influence on the unsafe use of condom. Generally unsafe practices were wide spread despite the high level of awareness of HIV/AIDs among the secondary school students. This commonly found reality indicated that behavioral change might not soon follow awareness particularly in this age group. It may be because of the incomplete information received by youths from different sources of information. Out of the students who chew chat and drink alcohols, 65% students use condom at the time of sexual intercourse while 35% students do not use condom during sexual intercourse. Thus knowledge alone is not enough to prevent HIV/AIDS but strategies to instill positive attitude and better practice for preventing HIV/AIDS transmission should be implemented.

CONCLUSION

The knowledge, attitude and practice of Mekelle city secondary school students towards the risk of HIV/AIDS and its determinants using cross-sectional study were assessed. The results indicate that most of the students (85.5%) were aware of at least one type of sexual transmitted disease and they were able to answer most of the knowledge questions. Despite the high level of knowledge, there were also misconception and speculation

speculation, among these; kissing and Mosquito bite were speculated to transmit HIV/AIDS by 17.1% and 11.8% of the respondents respectively. The finding on the assessment of attitude of the students revealed that over all risks perception was low. The result of this study indicated that among respondent who are sexually active group, 26.3% students have started sexual activity which are 17.1% males and 9.2% of females. In these sexual active, 75% point out that they use condom during sexual intercourse, 66.6% of them use regularly condom and have habit of using it and none of the respondents had sexual intercourse with commercial sex worker. Thus knowledge alone is not enough to prevent HIV/AIDS but strategies to instill positive attitude and better practice for preventing HIV/AIDS transmission should be implemented.

CONFLICT INTEREST

The authors declare that they have no competing interests.

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