Factors that Influences School Youth Exposure to HIV/AIDS, in Mettu Town, South West Ethiopia

Zenebu Begna Bayissa1*, Ebisa Negara2, Geremew Tolesa3 and Belayneh Kefale3
1Department of Health Officer, Ambo University, College of Medicine and Health sciences, Ambo 19, Ethiopia
2Department of Nursing, Mettu University, Faculty of Health sciences, Mettu, Ethiopia
3Department of Pharmacy, College of Medicine and Health sciences, Ambo University, Ambo, P.o Box 19, Ethiopia

Corresponding author: Zenebu Begna Bayissa, Department of Health Officer, Ambo University, College of Medicine and Health sciences, Ambo 19, Ethiopia, Tel: +251921250521; E-mail: zeni.begna@gmail.com

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Abstract

**Background:** Young people between the age of 15 and 24 years are both the most threatened globally, accounting for half of all new cases of HIV and the greatest hope for turning the tide against AIDS. Ethiopia is among the highly HIV/AIDS infected and affected countries with 790,000 HIV patients in the world in general and the region in particular. As is the case elsewhere in Africa, transmission is almost exclusively through heterosexual contact. A large proportion of new HIV infection is occurring in young people less than 25 years old. The objective of this study was to assess factors influences school youth exposure to HIV/AIDS, in mettu town.

**Methods:** School based cross-sectional study was employed. Sample size was determined by using single population proportion formula and 423 youths from grade nine to twelve was selected by Simple random sampling technique from registration books. Self-administered questionnaires were employed. All explanatory variables that were associated with the outcome variable during bivariate analysis were included in the final logistic model. A multivariate logistic regression analysis was made to identify factors that influence school youths exposure to HIV/AIDS at the p-value of <0.05.

**Results:** In this study 51 (12.9%) of the respondents reported that they had practiced sexual intercourse. All students engaged in sexual activity, 51 (100%) reported to have one sexual partner. All of students 394 (100%) were aware of HIV or the disease AIDS and all of them had heard diseases that can be transmitted through sexual intercourse. Finally, condom utilization, having sexual intercourse, drinking alcohols and smoking were found to be the independent predictor for risk factors of HIV/AIDS after controlling other variables as confounders.

**Conclusion:** It was concluded that school youths have risky behaviours like beginning sexual intercourse earlier, low proportion of condom use, and different factors influence them to practice such types of behaviour like being fire age, alcohol consumption and smoking. So that education on sexual issue should be given by all concerned bodies.

**Keywords:** Youth; Sexual intercourse; HIV/AIDS; High school

Introduction

**Background**

Over the past decade, adolescent sexual and reproductive health concerns have increasingly been on national agendas. For many countries, this concern has been driven by the high prevalence of HIV/AIDS among young people. In other countries, a central concern has been early childbearing; and still others have focused predominantly on sexual behaviours among adolescents. Today's youth generation is the largest in history: nearly half of the global population being less than 25 years old [1]. Young people are at the centre of the HIV/AIDS epidemic. An estimated 10 million young people aged 15-24 years are living with HIV/AIDS and more than 6000 contract the virus every day [2]. Due to high prevalence of HIV among the youth aged 15-24 years; various governments have diverted their strategies to emphasize on social behavioural change other than the focus on curative and hospitalization measures. Youth, even when aware of HIV risk, often do not consider this risk and stay with steady partners. Ethiopia is among the highly HIV/AIDS infected and affected countries with 790000 HIV patients in the world in general and the region in particular. As is the case elsewhere in Africa, transmission is almost exclusively through heterosexual contact. A large proportion of new HIV infection is occurring in young people less than 25 years old [3,4].

In Ethiopia, according to the first National Behavioural Surveillance Survey, significant proportion of the population, particularly the youth were indicated to be at risk of HIV infection despite high level of knowledge about HIV/AIDS [5].

The national HIV incidence rate in Ethiopia is levelling off and the rate at which it is progressing is declining over the last few years and the epidemic appears to be stabilizing, particularly in urban areas, indicating some behavioural change in the population. The indirect evidences of behavioural modification are the increase in distribution of condoms and substantive increase in voluntary and premarital HIV testing [6].

**Corresponding author:** Zenebu Begna Bayissa, Department of Health Officer, Ambo University, College of Medicine and Health sciences, Ambo 19, Ethiopia, Tel: +251921250521; E-mail: zeni.begna@gmail.com
The study area and period of HIV/AIDS among young people of the same age is 3.1 for women in the capital of the Zone located 600 km away from Addis Ababa. Based on Central Asia, where 1.0% of adults were living with HIV in 2011 [7]. AIDS, the knowledge towards the disease in high schools found in Methods and Materials.

Population
The source population for the study were all school youths age 15-24 in Mettu town attending their high school (secondary [9,10] and preparatory [11,12]) level education by the year 2012 to 2013.

Study population
The study populations were randomly selected school youths aged 15-24 years in Mettu High schools that enrolled secondary [9,10] and preparatory [11,12] level.

Inclusion: Students those have regular class.

Sample size determination
Sample size was calculated by using single population proportion formulae and considering the following parameters and assumption.

\[ P=50\% \text{ (assuming Proportion of exposure students to HIV/AIDS)} \]
\[ d=\text{margin of error of} 0.05 \text{ with 95\% confidence level}. \]
\[ Z a/2=1.96 \text{ (level of significance)} \]
\[ n=384 \text{ individuals} \]

Considering 10\% possible non-response rate, the final sample size was 423 youth students.

Sampling techniques
A simple-stage stratified sampling procedure was employed to draw a representative sample of all students in grades 9-12 youth in Mettu town. Study participants were selected randomly among all students that full fills the inclusion criteria from registration books of respective grade. To determine number of individual selected from each grade proportional probability allocation method was used.

Study variables
Dependent variable: exposure to HIV/AIDS: Independent variables: were classified in to Socio-economic and demographic variables: Age, Sex, Educational Level, Family income, Ethnicity, Religion, Family size, Parents Marital Status and Habits (Alcohol, Drugs, Khat and Cigarette) Knowledge of HIV/AIDS, sexual activities (sexual exposure, condom use, type of individual with whom they did sex).

Data collection techniques and instrument: Data was collected by using structured self-administer questionnaire adopted from different literatures and modified according to the local context by the investigators. The questionnaire was translated first to Afan Oromo language to make data collection process simple and translated back to English language to check its consistency by language experts.

Data quality control: To ensure the quality of data to be gathered from the study subjects, a range of mechanisms were employed to address major areas of bias introduction during the data collection process. First, data collection instrument was pre-tested on 5\% of the sample size in the study area out of the selected schools and necessary modifications were made based on the nature of gaps identified in the questionnaire. Students were informed about how to fill the questioner’s and facilitators were trained one day training before data collected how to gather the appropriate information, procedures of data collection techniques on the whole contents and subject matter of the questionnaire. At the end of each day, questionnaires were
reviewed and cross checked for completeness, accuracy and consistency by the investigators and corrective discussions were under taken with all facilitators. Data was cleaned and edited after it was entered in to the software (SPSS version 16.0).

Data processing and analysis: Data was entered, cleaned for outliers, missed values and missed variables and analyzed using SPSS for windows version 16. Different frequency tables, graphs and descriptive summaries were used to describe the study variables. Bivariate analysis was conducted to see the existence of association between dependent and independent variables. Then those variables that show significant association with the outcome variable were included in a final model and binary logistic regressions was performed to see the independent effect each variable which reveal association with the dependent variable. Finally only those independent variables that maintain their association with outcome variables in multiple variable regressions were used to construct the final models. Odds ratio with its p-value (<0.05) and confidence interval (95%) were used or reported in each logistic regression analysis.

Ethical Consideration

The study was conducted after getting official permission from an ethical clearance and research committee of Mettu University. Data were collected after getting official permission from Mettu zone education office. Informed verbal consent was obtained from each study Participant before data was collected and each respondent was informed about the objective of the study and their right to quit from the study. Confidentiality was held.

Results

Socio-demographic characteristics

The total size of the study units who were actual respondents during the data collection period in this study was 394. Therefore, the response rate of the study was calculated to be 93.14%. The median age of the study subjects is found to be 17 years with standard deviation of +/- 1.26. The socio-demographic characteristics of the respondents were as mentioned in the Almost all of the respondents, 387(98.2%), are currently unmarried. Oromo is the dominant ethnic group among the study subjects 320 (81.2%) (Table 1).

| Back ground variables         | Categories       | Frequency | (%) |
|-------------------------------|------------------|-----------|-----|
| Marital status                | Married          | 7         | 1.8 |
|                               | Single           | 387       | 98.2|
|                               | Total            | 394       | 100 |
|                               | Orthodox Tewahido| 175       | 44.4|
|                               | Protestant       | 170       | 43.1|
| Religion                      | Catholic         | 25        | 6.4 |
|                               | Muslim           | 19        | 4.8 |
|                               | Others           | 5         | 1.3 |
|                               | Total            | 394       | 100 |
| Ethnicity                     | Oromo            | 320       | 81.2|
|                               | Amara            | 58        | 14.8|
|                               | Gurage           | 8         | 2   |
|                               | Tigre            | 8         | 2   |
|                               | Total            | 394       | 100 |
| Educational status of fathers | Non formal education | 52 | 13.2 | |
|                               | Formal education | 342       | 86.8|
|                               | Total            | 394       | 100 |
| Educational status of mothers | Non formal education | 140 | 35.5 | |
|                               | Formal education | 254       | 64.5|
|                               | Total            | 394       | 100 |

Table 1: Socio-demographic characteristics of the respondents in Mettu town Ilu-ababora zone, Ethiopia, May, 2013.
Sexual activity of students

Sexual history: In this study 51 (12.94%) of the respondents reported that they had practiced sexual intercourse. Among those who had practiced sexual intercourse 29 (56.8%) were males. The reasons reported for the initiation of the first sexual encounter in those who ever practiced sexual intercourse were in 36 (70.6%) of them personal desire, and the remaining 15 (29.4%) are because of peer pressure. Of those students who have reported to have a sexual intercourse, 14 (27.5%) of them were receive money/gift in favour of sex.

Risky sexual behaviour: The sexual behaviour of the students was observed and are as mentioned in the Table 2, all students engaged in sexual activity, 51 (100%) reported to have one sexual partner. In their sexual intercourse episodes, majority 31 (60.8%) have never used condom during any sexual intercourse episode, while only 9 (17.64%) of them used consistently. Among the students who have reported to have sexual intercourse history no one has any contact with commercial sex worker.

| Variables                                  | Numbers | %   |
|--------------------------------------------|---------|-----|
| Ever practice sex n=394                    |         |     |
| Yes                                        | 51      | 12.94|
| No                                         | 343     | 87.06|
| No of sexual partner                       |         |     |
| One                                        | 51      | 100  |
| More than one                              | 0       | 0    |
| Condom utilization during first sex         |         |     |
| Yes                                        | 14      | 27.45|
| No                                         | 31      | 60.78|
| Don’t remember                             | 5       | 9.8  |
| Frequency of condom utilization             |         |     |
| Never used                                 | 31      | 60.78|
| Some times                                 | 3       | 5.88 |
| Most of the time                           | 2       | 3.92 |
| Always                                     | 9       | 17.64|
| Don’t know                                 | 5       | 9.8  |

Table 2: Sexual behaviour of school youths, Mettu Town, May 2013.

Knowledge on HIV/AIDS and magnitude of substance use

All of students 394 (100%) were aware of HIV or the disease AIDS and all of them had heard diseases that can be transmitted through sexual intercourse. The main mode of transmission of HIV known by the students were mentioned in Table 3 blood transmission 394 (100%), mother to child 306 (77.6%) and contaminated injection needles 226 (57.3%). The major misconception of the transmission reported by the students was 154 (39.1%) while eating meals cooked by HIV infected person. In other way 274 (69.5%) mentioned that they know that a person who have the virus but looks healthy can transmit the virus. Three hundred forty four (87.3%) of the study subjects reported that sexual abstinence protects from HIV. Additionally, 285 (72.3%) of the students indicated that people can protect themselves from the infection by having one uninfected faithful sexual partner. Among the study subjects majority 332 (84.3%) of them didn’t drank alcohols and no one of them exposed to shisha.

| Variables         | Number | %   |
|-------------------|--------|-----|
| Mode of transmission |        |     |
| Sexual intercourse | 394    | 100 |
| Blood transmission | 394    | 100 |
| Mother to child   | 306    | 77.6|
Contaminated injection 226 57.3
From asymptomatic person 274 69.5
Mode of prevention
Abstinence 344 87.3
With one faithful partner 285 72.3
Condom use 394 100
Alcohol conception
Never Drunk 332 84.3
Drunk 62 15.7
Khat chewing:
Never chewed 372 94.4
Chewed 22 5.6
Cigarette Smoking:
Never smoke 346 87.8
Smoked 48 12.2
Shisha/Cannabis use
Never used 394 100

Table 3: knowledge on HIV/AIDS transmission and prevention and magnitude of substance use Mettu Town, May 2013.

Risk factors
In bivariate analysis variables like age of students, marital status, mothers’ education, having sexual intercourse, condom utilization status, drinking alcohols, chewing chat and smoking showed as risk factors for HIV/AIDS.

For the final model all variables which had shown statistically significant association during the bivariate analysis included in the model. Finally, condom utilization, having sexual intercourse, drinking alcohols and smoking were found to be the independent predictor for risk factors of HIV/AIDS after controlling other variables as confounders.

As shown in Table 4 students those engaged in sexual intercourse were 3 times more likely to have exposure for HIV/AIDS as compared to those were not engaged in sexual intercourse (AOR=3.36, 95% CI (3.061, 7.664)). Using condom during sexual intercourse showed as protective effect for the occurrence of HIV/AIDS. Accordingly, students those who were not use condom during sexual contact were 3 times more likely to have exposure for HIV/AIDS as compared to those who use it (AOR=3.011, 95%CI (2.371, 9.541)). When students drink alcohol the probability of having exposure for HIV/AIDS increase. Compared to those students who do not drink alcohol, those drink alcohols were 2 times more exposed for HIV/AIDS (AOR=2.035, 95%CI (1.009, 4.132)). Smoking also considered as risk factor for HIV/AIDS as compared to not smoked students in this study.

| Variables     | COR | AOR |
|---------------|-----|-----|
| Age of students |     |     |
| 13-17         | 0.01| 0.431|
| 18-24         | 1   | 1   |
| Marital status |     |     |
| Married       | 0.043| 0.061|
| Unmarried     | 1   | 1   |
| Mothers education |     |     |
Table 4: Independent predictors for HIV/AIDS risk factors.

Discussion

In this study only 12.9% of the respondents reported that they had practiced sexual intercourse. But, it is much lower than study conducted else were; 25%, 46% and 51.3% [13-16] respectively. The possible explanation for these variations may be, in this study area there is high risk perceptions as well as due to differences in geographical locations and differences in the study period /time. This finding revealed that, the majority (60.8%) of the study participants who had history of sexual exposure did not use condom. This result is comparable with other finding 56.5% [16]. But, it is inconsistent with other findings; 38.9% and 38.8% [17,18] respectively.

Surprisingly, in this study among the sexually experienced individuals, no one had history of sexual contact with multiple sexual partners/commercial sex workers. But this result is inconsistent with other finding which show 31% of sexually experienced individuals had history of sexual contact with multiple sexual partners [14]. The reason for this inconsistency may be, in this study area, all sexually experienced individuals aware of ways to prevent transmissions’ of HIV/AIDS or of the importance’s of being faith to prevent HIV/AIDS transmissions. One encouraging result from this finding is, all study participants aware of HIV or the disease AIDS and all of them had heard diseases that can be transmitted through sexual intercourse.

But, still considerable amounts of study participants (39.1%) have misconception which says HIV/AIDS transmissions. In this study, 39.1% of individuals reported that, HIV/AIDS can be transmitted while eating meals cooked by HIV infected person. This finding is supported by another study which showed that, a substantiate proportion of the youth (49%), had misconception about the mode of transmission [19,20].

In other way, majority of study participants (69.5%) reported that they know that a person who have the virus but looks healthy can transmit the virus. This finding is higher than study conducted in Nigeria in which half of the respondents agreed that a person who looks healthy can be infected and possesses the ability to describe the look of an infected person [21,22]. It is higher may be due to differences in sample size as well as differences in socio-cultural conditions [23]. The most important findings depicted by this study is, marital status, condom utilization, having sexual intercourse, drinking alcohols and smoking were found to be the independent predictor for risk factors of HIV/AIDS after controlling other variables as confounders [24,25]. These findings are supported by other studies conducted elsewhere [14,16-18].
Conclusion

Even though all the study participants aware of the HIV or the disease AIDS and all of them had heard diseases that can be transmitted through sexual intercourse, among the sexually experienced individuals the majority (60.8%) did not use condom. But none of sexually experienced individuals have sexual contact with commercial sex workers. On the other way, misconceptions on ways of HIV/AIDS transmissions are common among these study participants. Finally, in this study, condom utilization, having sexual intercourse, drinking alcohols and smoking were found to be the independent predictor for risk factors of HIV/AIDS exposure.

Recommendations

Based on the findings of this study the following recommendations forwarded.

Respective schools have to aware their students on the importance of condom use to prevent exposure not only HIV/AIDS but also other sexually transmitted infections.

The schools have to be establish different clubs to create awareness for the students.

Youth center have to be established in the school for easily access of different services.

Since misconceptions on the ways of HIV/AIDS transmissions are common among study participants all stake holders (schools, Zonal health office and Mettu University) have work on this to prevent stigma and discriminations related with HIV/AIDS.

Further researches (e.g. pure qualitative study) are needed to explore the influence of factors like condom utilization, having sexual intercourse, drinking alcohols and smoking on exposure to HIV/AIDS.

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Conflict of Interest: None declared

References

1. Robert B, Kristin M (2005) Risk and Protective Factors Affecting Adolescent Reproductive Health in Developing Countries. WHO.
2. UNAIDS (2004) Report on the global HIV/AIDS epidemic.
3. UN, Report 2005.
4. UNAIDS African special report 2012.
5. HIV/AIDS Behavioral Surveillance Survey (BSS). Round one. Ethiopia, 2002.
6. Position statement on condom and HIV prevention, 2007.
7. UNAIDS Report on the global AIDS epidemic 2012.
8. Peter H Kilmarx, Division of HIV/AIDS Prevention, Centers for Disease Control and Prevention, Atlanta, Georgia, USA 2009.
9. GAP 2012 REPORT.
10. Ethiopian Demographic Health Survey 2011.
11. Center for Diseases Control and Prevention. 2013.
12. Adebisi AO, Asuzu MC (2009) Condom use amongst out of school youths in a local government area in Nigeria. Africa Health Sci 9: 92-97.
13. Doku D (2012) Substance use and risky sexual behaviours among sexually experienced Ghanaian youth. BMC Public Health 12: 571.
14. Girma B, Assefa D, Tushunie K (2004) Determinants of condom use among Agaro High School students using behavioral models. Ethiop J Health Dev 18: 25-30.
15. Mazengia F, Worku A (2009) Age at sexual initiation and factors associated with it among youths in North East Ethiopia. Ethiop J Health Dev 23: 2.
16. Alemu H, Mariam DH, Belay KA, Davey G (2007) Factors predisposing out-of-school youths to HIV/AIDS-related risky sexual behaviour in northwest Ethiopia. J Health Popul Nutr 25:344-350.
17. Alumne Z, Bedimo M, Azage M (2013) Risky Sexual Practices and Associated Factors For HIV, AIDS Infection Among Private College Students In Bahir Dar City, North West, Ethiopia.
18. UNAIDS (2007) AIDS Epidemic Update.
19. Omoigberale AI, Abiodun PO, Famodu AA (2006) Knowledge and attitude of youth (ages 15-25 years) to HIV/AIDS and to routine HIV screening. Niger J Clin Pract 9: 11-13.
20. Baniwada OF, Baniwada CT, Adebigha MA (2011) Knowledge of HIV/AIDS among secondary school adolescents in Osun state, Nigeria.
21. Olijira L, Berhane Y, Worku A (2013) Assessment of comprehensive HIV/AIDS knowledge level among in-school adolescents in eastern Ethiopia. J Int AIDS Soc 16: 17349.
22. Langille DB, Curtis L, Hughes J, Murphy GT (2004) Association of socio-economic factors with health risk behaviours among high school students in rural Nova Scotia. Can J Public Health 95: 20.
23. Njau B, Mwakalo V, Mushii D (2013) Correlates of Use of Condoms among Sexually Active Youth in Southern Highlands, Tanzania.