

Assessment of Factors Affecting Practice Towards HIV/AIDS Among In-School Youth in the West Guji Zone, South Ethiopia, 2021

Shiferaw Gelchu Adola

Bule Hora University Institute of health Department of Nursing, Ethiopia

*Corresponding author

Shiferaw Gelchu Adola, Bule Hora University Institute of health Department of Nursing, Ethiopia.

Submitted: 16 May 2022; Accepted: 23 May 2022; Published: 05 Jul 2022

Citation: Shiferaw Gelchu Adola. (2022). Assessment of Factors Affecting Practice Towards HIV/AIDS Among In-School Youth in the West Guji Zone, South Ethiopia, 2021. J Chem Edu Res Prac, 6(2), 240-250.

Abstract

Back Ground: Human immune deficiency virus was a worldwide pandemic, yet there is no proven medicine and vaccine to cure or prevent it. Prevention is only the mainstay to control the spread of the virus. Thus, continuously assessing factors affecting prevention practice towards HIV among young populations is relevant.

Methods: This cross sectional study design was conducted from December 01/2020 To January 01/2021. The multistage sampling technique was used and a total of 615 participants were enrolled. Epi-Data version 4.4.3.1 for data entry and SPSS Version 25 for analysis was used in this study. Descriptive statistics; frequency, percent and inferential statistics were needed. Statically significance cut point settled at $p < 0.05$ with 95% confidence intervals.

Results: Out of the 615 participants, 586 were completed the questionnaires in which 95.3% of respondents rate. The overall scores of poor knowledge, unfavorable attitude, and unsafe practice in the current study were 25.1%, 27.5%, and 24.2%. Of all study subjects; 38.7% were undifferentiated HIV from AIDS and 20.1% of them were wrongly reported as HIV/AIDS was a curable disease. Slightly more than half 51.5%, 28.2%, and 19.3% of the respondents were misbelieved that HIV transmitted by mosquito bit, eating food cooked by HIV positive person, and handshaking respectively. Early practice sexual activity at age < 15 years old was reported by 70(50.4%) and mean age for the first sex was $(15.68 \pm 2.13SD)$. Females were 71.6% time more likely protect AOR = 0.284, 95% CI = 0.18-0.43), Age group 15-19 (AOR = 4.69, 95%CI = 2.33-9.42), singles in marital status (AOR = 7.03, 95%CI = 3.19-15.52), Visiting sexual related video (AOR = 0.202, 95CI = 0.11-0.38) and sharing sharp (AOR = 0.089, 95%CI = 0.04-1.21) were factors significantly associated.

Conclusion: Misbelieve regarding ways of HIV transmission, level of knowledge, and practice gap were identified in this study. Being male, age group 15-19, single, visiting sexual related video, and sharing sharp materials were factors affecting practices towards HIV. As a result, continuous age-appropriate youth-friendly health services emphasized HIV risk behavior reduction should be given to the youth. In addition, all stakeholders including health care institutions, education institutions, and mass-medias give strong concern to alleviate misconceptions around HIV/AIDS.

Keywords: HIV/AIDS, In-School Youth, Misconception, Preventive Practice, West Guji

Background

The human immunodeficiency virus (HIV) is the causative agent for an advanced deadly disease called Acquired immunodeficiency syndrome (AIDS) by impairing and destroying the human immune system that defends the body against foreign antigens [1, 2]. The young people, who account for 42% of the global population who were seriously attached by the HIV/AIDS pandemic than any other segment of the society. Sub-Saharan Africa stayed the most affected region by HIV that 36.7 million people were positive to HIV currently shared 70% of HIV infected people from the globe [3, 4]. The lives of young people are catastrophically attacked by the human immune deficiency virus. There were about 4 million youth living with the

virus nowadays. On average, 1600 young people are infected by HIV per day. Every ten minutes, the life of a young person passed away due to HIV and its related complications [4, 5].

In Ethiopia, the challenges from HIV/AIDS becoming a dominant public health issue which more than one million people were living with HIV. The prevalence of HIV varies across the different regions of the country. Amara region shared 30% of PLHIV followed by Oromia regional state which 26% of people were saro positive. The overall HIV prevalence rate in our country among youth (15-24) was 2.9 urban versus 0.4 in rural [6, 7].

There are many factors that attributable to an elevated risk of

HIV among young people. These factors include maturity-related physiological and emotional changes, peer pressure, gender norms, sexuality-related factors, economic problem, attitude, and knowledge gaps, socio-demographic and personal-related factors [8, 9]. According to the Ethiopian Demographic Health Survey (EDHS) of 2016 and United Nations (UN) reports indicates; only one-third of youth in Ethiopia had adequate knowledge and safe practices towards HIV. The knowledge level varies between the gender that female youth were scored less level of knowledge which was 24-30.5% [10, 11]. Young people have the right to get access to information about HIV/AIDS and voluntary counseling and testing services to protect themselves from the virus. Responsibly bodies also play a crucial role in delivering appropriate, acceptable and accessible youth-friendly health services to young people [12, 13]. Continues assessment of misconception, level of awareness, and prevention behaviors concerning HIV/AIDS was an essential step to provide necessary intervention. The extensive intervention that focused on the nature of HIV/AIDS, ways of its transmission, and how to tackle its spread must be given to assure Sustainable Development Goal (SDG3) an end of HIV epidemic by 2030 G.C [3, 11, 13].

There was no proven medicine to cure HIV/AIDS and vaccines against it. So that, prevention was the mainstay measure to combat the spread of HIV. This can be achieved through multilayered efforts of all concerned stakeholders to correct misconceptions around HIV, raise awareness and preventive skills among young people. Furthermore, the intervention involves; sex education targeted on ABC approach which means (A: abstinence, B: be Faithfull and C: use of a condom) and use of pre-exposure (PrEP) and post-exposure prophylaxis (PEP) [2, 8, 14-16].

Therefore, this study stressed on assessment of the practice level and factors affecting practice towards HIV/AIDS among in-School Youth in the west guji zone, south Ethiopia.

Methods

Study Area and Period

The study was done at selected High Schools in the West guji zone in south Oromia, Ethiopia. The zone elevation between 500-2200 meters above sea level. The highest percentage of the climatic condition of the zone is relatively hot. The zone has ten districts (woreda). According to the 2007 census conducted by the Central Statistical Agency of Ethiopia (CSA), there were 1,300,000 million populations live in the West Guji Zone of which 50.4% males and 49.6% were females. There were thirty-eight (38) high schools and 37,128 students currently learned in the West guji zone. Study design: Institutional-based cross-sectional study design was carried out from December 01/2020 to January 01/2021 G.C.

Study Population

The study populations for this study were grade nine and grade ten students of selected high schools in the West guji zone whose ages between fifteen to twenty-four (15-24). All regular students of selected high schools were included in the study. Students age less than fifteen (<15) and greater than twenty-four (>24) years old were excluded from this study because of this study was conducted among the in-school youth.

Sample Size Determination

The sample size was determined using the standard formula for single population proportion based on the following assumptions [17].

$$n = \frac{z \left(\frac{\alpha}{2} \right)^2 * P(1 - p)}{d^2}$$

Where

n= the desirable calculated sample size,

Z (α/2) =1.96 (95% confidence level of the survey,

P = Practice level from a survey done in eastern Ethiopia, Dire Dawa town, 58.7% [18],

d = degree error tolerated (5%)

After adding 10% non -response rate and multiplying 1.5 design effect = 615

Sampling Technique

Multi-stage sampling technique was used in this study. Firstly, out of thirty-eight high schools found in the zone, eight high schools were selected by simple random sampling method. Then grade nine and grade ten students of selected high schools were enrolled in the study by systematic sampling technique.

Measurement

In questionnaires to assess the level of prevention practice from HIV, ten questions were used. The correct answer was assigned 1 point and the incorrect was assigned 0 points. Then the mean score of practice was calculated. The students who scored more than the mean considered as had good prevention practice and those who score less than the mean score categorized as poor prevention practice.

The level of knowledge was assessed by twenty questions in this study. The correct answer was assigned 1 point and incorrect was assigned 0 points. The mean score was taken as a cut point for the good and poor level of knowledge. Students scored greater than mean were considered as having good knowledge and those who scored less than the mean score were categorized as poor knowledge regarding HIV.

The level of attitude of the students towards people living with HIV was assessed by fifteen questions. Likert scale was applied to calculate attitude score. The correct answers were assigned 1 point and incorrect answers were assigned 0 points. Then the mean attitude score was calculated. The students, those were scored greater than the mean attitude score considered as had favorable attitude and those who scored less than the mean score was categorized as unfavorable attitude towards HIV.

Operational Definition

Knowledge: In this research paper, those who respond correctly less than or equal to 10 questions out of knowledge assessing questions were rated as had poor knowledge while those who answered correctly 11 questions was categorized as had good knowledge.

Attitude: A tendency of mind or a relatively constant feeling of the respondent towards HIV prevention method. In this research

paper those who responded correctly 8 questions out of the 15 attitude assessing questions were recognized as have a positive attitude.

Practice: Is defined as a health behavior that prevents disease or the opposite, what the individual has been doing regarding the HIV prevention. In this paper, study subjects who answered correctly 6 questions out of 10 practice assessing questions considered as they had good prevention practice from HIV.

Youth: The person whose age found between ranges 15 -24 years old. In this study youth is high school students whose age between 15- 24 years old [9].

Dependent Variable: Prevention Practice towards HIV

Independent Variables: Socio-demographic Factors: Age, Sex, Marital status, Religion, Ethnicity, Residence and level of education, Family income

Knowledge of HIV/AIDS: Difference between HIV and AIDS, Ways of HIV Transmissions, Source of information about HIV.

Attitude Towards HIV: Living with people with HIV, HIV is a punishment of sin, differentiate people with HIV by eye, HIV is life threatening.

Personal Related Factors: Use of substances (drinking alcohol, smoking cigarette, and using Hashish), Visiting Porn films (watching sexual intercourse films).

Data Collection Tools and Technique

The data collection instrument was adapted by reviewing different relevant articles to gather the required information from respondents [9, 19-23]. The tools were pretested before administers to the participants. The questionnaire has five parts: Part I: Socio-demographic characters, Part II: Knowledge of students regarding HIV/AIDS, Part III: Attitude of Students towards HIV, Part IV: Personal related factors, and Part V: Prevention Practice from HIV/AIDS. Questions were prepared in English language and translated to Afan Oromo and back-translated to English to ensure consistency. Eight diploma nurses for data collection and two BSc nurses for supervision of the data collection were recruited in this study. The study assistants were trained for two days concerning the study tools, data gathering procedures, objective of the study, and confidentiality of the collected data. Before data collection, all study participants were well instructed about the objective of the study, the benefit of the study, the risk to participating in the study, and confidentiality of their information.

During data collection, each respondent was invited voluntarily to participate in the study and the right to refuse or withdraw from participation was maintained. Self-administered questionnaires technique was used in this study. The supervisors have checked the questionnaires for completeness every day.

Quality Control Measures

The quality of the data was secured by using standard, pre-tested questionnaires, and proper data collection procedures. Two weeks before the actual data collection, pre-testing was done on 5% of the total study subjects in the Yabelo High school students. Based on the findings from the pre-test, necessary amendments were made regarding internal consistency, clarity and logical organizations of tools, and time to be taken completed questionnaires. Close supervision was carried out during data collection by the supervisors to assure the correct data collection procedures were implemented. Moreover, the data was carefully cross-checked before entering and beginning of the analysis.

Data Processing and Analysis

The data was coded, checked for completeness; missing values were dealt with before the data entered into Epi-Data version 4.4.3.1. Then data exported to SPSS Statistics Version 25 for analysis. Descriptive statistics and inferential statistics were applied in this study. Bivariate logistic regression and multivariate logistic model used to clerk association between the dependent variable and independent variables. The variables that had associations at $p < 0.25$ were entered into multivariate logistic regression model to control confounding variables and obtain adjusted odds ratio at a strong level of association. The significance level for multivariable logistic regression was adjusted at $p < 0.05$ and 95% confidence interval.

Ethical Approval

Bule Hora University College of Health and medical science, Institutional Review Board (IRB) approved for this study before the commencement. Permission letter was given to the high school's administration office. For study participants aged less than eighteen (< 18) assent was taken from each participant in addition to consent taken from their guardian. This study was harmless to the participants that required the only collection of the information related to knowledge about HIV transmissions, attitude toward people living with HIV, and prevention practice concerning HIV. After the aim of the study, benefits and risks related to the study explained verbal informed consent was obtained from each participant. The collected data were kept in a safe place and data used only for the purpose of the study to maintain the confidentiality of the collected data. Overall, concerning ethical issues since this was done on human beings, each traveled step lined with the declaration of Helsinki.

Results

Out of 615 students who participated in this study, 586 of them completed the question that response of this study was 95.3%. Males were slightly greater participants of this study 56.7% as compared to females. The average age of study subjects was 16.88 ± 2.98 and the median age was 17. Oromo was the dominant Ethnic group followed by Amara. The protestant and Orthodox were religions with a larger number of followers 64.2% and 14.3% respectively. The majority (59.2%) of the study participants were from the rural areas (See Table 1).

Table 1: Socio-Demographic Characteristics of the Participants, N=586

Variables	Category	Frequency	Percent (%)
Sex	Male	332	56.7
	Female	254	43.3
Age	15-19	540	92.2
	20-24	46	7.8
Marital status	Single	548	93.5
	Married	38	6.5
Ethnicity	Oromo	490	83.6
	Amara	43	7.3
	Gedeo	40	6.8
	Others +	7(13)	2.2
Religion	Orthodox	84	14.3
	Muslim	65	11.1
	Protestant	376	64.2
	Waqefata	50	8.5
	Others++	11	1.9
Education level of students	Grade 9	295	50.3
	Grade 10	291	49.7
Education level of mother	No formal education	226	38.6
	Primary (1-8 grade)	224	38.2
	Secondary (9-12 grade)	113	19.3
	College or University	23	3.9
Education level of father	No formal education	150	25.6
	Primary (1-8 grade)	212	36.2
	Secondary (9-12 grade)	145	24.7
	College or University	79	13.5
Residence of the family	Urban	239	40.8
	Rural	347	59.2

Index: Others+ - (Tigre, Burji), Others++ -Catholic.

The Youth Knowledge Regarding HIV/AIDS

In this study, 359(61.3%) of youths were correctly differentiate HIV from AIDS and 428(73%) of them told as AIDS is the late stage of the disease. However, 118(20.1%) of the participants wrongly reported as HIV/AIDS is a curable disease. Nearly half of the high school youth reported in there were no pre-exposure and post-exposure prophylaxis for HIV. Around two-thirds of study subjects identified the correct way of HIV transmission.

However, 302(51.5%), 165(28.2%), and 113(19.3%) of them reported HIV transmitted by mosquito bit, eating food prepared by HIV infected person, hugging, kissing, and handshaking respectively. Concerning the knowledge status of the study participants, about 439(74.9%) of them had a good level of knowledge and 147(25.1%) had a poor level of knowledge regarding HIV (See Table 2).

Table 2: Knowledge of Youth Regarding HIV/AIDS Study Done in the West Guji Zone, N=586

Questions	Correct response (%)	Wrong response (%)
There is difference between HIV and AIDS?	61.3	38.7
AIDS is advanced stage of disease	73	27
HIV/AIDS is incurable	79.9	20.1
There is pre-exposure prophylaxis for HIV	52	48
There is post-exposure prophylaxis for HIV	54.4	45.6
HIV transmitted via?		
Blood transfusion (yes)	63.1	36.9
Sexual intercourse(yes)	70.3	29.7

Breastfeeding(yes)	69.6	30.4
From infected mother to unborn child(yes)	74.2	25.8
Sharing sharp materials (yes)	74.4	25.6
Sharing toothbrushes with infected persons (yes)	74.4	24.7
Male or female traditional circumcision (yes)	68.6	31.4
Mosquito bite (no)	48.5	51.5
Eating food cooked by HIV infected person (no)	71.8	28.2
Hugging, Kissing and Handshaking (no)	80.7	19.3
Overall knowledge score	Good	439(74.9%)
	Poor	147(25.1%)

Source of Information About HIV/AIDS and Risk Behavior History of Participants

About 519(88.6%), 515(87.9%) and 390(66.6%) of in-school youth got information about HIV from health care workers, mass Medea, and internet. However, 388(66.2% and 155 (26.5%) of

participants were got information from their friends and traditional healers. Concerning the substance history of the study participants, 50(8.5%) of students had a history of drinking alcohol, and of them were 22(3.8%) chat chewer. 54(9.2%) of youth were visited pornography (See Table 3).

Table 3: Source of Information and Risk Behavior History of Participants Study Done in the West Guji Zone, N=586

Source of information about HIV/AIDS			
Variables	Response	Frequency(N)	Percent (%)
Health care workers	Yes	519	88.6
	No	67	11.4
Television, Radio	Yes	515	87.9
	No	71	12.1
Internet	Yes	390	66.6
	No	196	33.4
Friends	Yes	388	66.2
	No	198	33.6
Traditional Healers	Yes	155	26.5
	No	431	73.5
Substance use history of study participants			
Did you drink alcohol	Yes	50	8.5
	No	536	91.5
Did you chew chat	Yes	22	3.8
	No	564	96.2
Did you smoke Cigarettes	Yes	1	0.2
	No	585	99.8
Did use Hashish	Yes	2	0.3
	No	584	99.7
Visiting Pornography video	Yes	54	9.2
	No	532	90.8

The Attitude of Students Towards HIV

Overall attitude level of study participants, 425(72.5%) of them had favorable attitude towards HIV whereas 161(27.5%) unfavorable attitude. About 395(67.4%) of them correctly responded regarding person a might have HIV and 475(81.1) participants agree to provide care HIV infected person. 2/3 of high school

students agree to eat with the HIV positive-individuals and 372(63.5) of them able to live same home with the HIV-infected persons. The number of high school youth who were not correctly identified means of HIV transmission, risk group to HIV, and how to use a condom were not minimal (See Table 4).

Table 4: Attitude of Students Towards HIV Study Done in the West Guji Zone, N=586

Questions	Answer	
	Agree	Disagree
Health looking person may have HIV	395(67.4)	191(32.6)
Can give care for HIV positive person	475(81.1)	111(18.9)
Can eat with an HIV positive person	424(72.4)	162(27.6)
Can live with HIV positive person in same home	372(63.5)	214(36.5)
In case your friend is HIV positive, would you continue your friendship with him/her	300(51.2)	286(48.8)
In case a shopkeeper or food seller is HIV positive, could you buy items from him/her	319(54.4)	267(45.6)
In case a student is HIV positive, she/he should be allowed to continue his/her study in school	348(59.4)	238(40.6)
If a teacher is HIV positive, she/he should be allowed to continue his/her teaching in school	326(55.6)	260(44.4)
Everybody has the chance of acquiring the virus	259(44.2)	327(55.8)
It is difficult to prevent HIV/ AIDS transmission	254(43.3)	332(56.7)
Having sex with more than one partner can increase a person's chance of being infected with HIV	330(56.3)	256(43.7)
People are likely to get HIV by deep kissing	265(45.2)	321(54.8)
HIV is not punishment for sin	219(37.4)	367(62.6)
The condom can be used more than time	197(33.6)	389(66.4)
HIV/AIDS affects youths more than any other age group	338(57.7)	248(42.3)
The overall level of attitude	Favorable	425(72.5)
	Unfavorable	161(27.5)

Preventive Practice of High School Youth Towards HIV/AIDS

About three-fourths 444(75.8) of study subjects had a good level of practices towards HIV and 142(24.2%) had a poor level of preventive practice. Out of all participants, 382(65.2%) received VCT service and 554(94.5%) of them never shared sharp materials with their friends. Of all study subjects, 139(23.7%) and 70(50.4%) participants started sexual intercourse before 15

years old and the median age for first sex was 15. Of those who experienced sexual activities, two-third (71.9%) of them with their permanent friends. 65.5% sexually active students used condoms and few of them utilized persistently. One- thirds of sexual engaged participants practice sexual intercourse with multiple sexual partners and 46% of them had a sexual experience with the past 12months. The mean age of the first sex was (15.68 + 2.13SD) (See Table 5).

Table 5: Prevention Practice from HIV/AIDS Study Done in the West Guji Zone, N=586

Questions	Category	Frequency(N)	Percent (%)
Ever received Voluntary counseling test services? n=586	Yes	382	65.2
	No	204	34.8
Share sharp materials with your friends? n=586	Yes	32	5.5
	No	554	94.5
Start sexual intercourse n=586	Yes	139	23.7
	No	447	76.3
Age at start sexual intercourse n=139	< 15	70	50.4
	15-18	63	45.3
	>18	6	4.3
Practice sexual intercourse with n=139	Permanent friend	100	71.9
	Not permanent friend	39	28.1
Use a condom during sexual intercourse n=139	Yes	91	65.5
	No	48	34.5
Frequency of the Condom utilized n=91	Always	17	18.7
	Some times	74	81.3

Number of girl or boy friend you have n=139	One	101	72.7
	Two	28	20.1
	Three or more	10	7.2
Sexual intercourse practiced in the past 12 months n=139	Yes	75	54
	No	64	46
Ever got VCT services n=139	Yes	36	25.9
	No	103	74.1
Give or receive money for sex n=139	Yes	36	25.9
	No	103	74.1
Overall Practice score	Good	444	75.8
	Poor	142	24.2

Associated Factors with Prevention Practices Towards HIV Among High School Students

To identify factors associated with preventive practice toward HIV, binary and multivariable logistic regressions were done. Variables significant at a P-value of less than 0.25 were considered as a candidate to multivariable logistic regression. The statistical significance was adjusted for multivariable logistic regression at P value less than 0.05.

Accordingly, the independent variable that had an association with the preventive practice of HIV was: gender, females were 71.6% time more likely to protect themselves from HIV

AOR=0.284, 95% CI (0.18-0.43) than males. Study participants age group 15-19 were five times more likely to practice good prevention towards HIV AOR=4.69, 95%CI (2.33-9.42) than the counter-part. Concerning marital status, singles were seven times more likely to exercising a good prevention mechanism AOR= 7.03, 95%CI (3.19-15.52) than married. Visiting pornography film AOR= 0.202, 95CI (0.11-0.38) and sharing sharp materials AOR= 0.089, 95%CI (0.04-1.21) were factors that contributes to poor preventive practices among the high school students in this study. Furthermore; unprotected sexual activity, sharing toothbrush, traditional circumcision, and alcohol drinking were risk factors for poor preventive practices (See Table 6).

Table 6: Factors Associated with Prevention Practices Towards HIV Among High School Students in the West Guji Zone, 2021

Predictors Variables	Practice towards HIV		COR (95%CI)	P-Value	AOR (95%CI)	P-Value
	Good	Poor				
Sex						
Male	221(66.6%)	111(33.4%)	1	0.001*	1	0.001**
Female	223(87.8%)	31(12.2%)	0.27(0.18-0.43)		0.284(0.18-0.46)	
Age						
15-19	429(79.4%)	111(20.6%)	7.9(4.17-15.31)	0.001*	4.69(2.33-9.42)	0.001**
20-24	31(67.4%)	15(32.6%)	1		1	
Marital status						
Single	431(78.6%)	117(21.4%)	7.08(3.52-14.27)	0.001*	7.03(3.19-15.52)	0.001**
Married	13(34.2%)	25(65.8%)	1		1	
HIV transmitted un protect sex						
Yes	323(78.4%)	89(21.6%)	1.59(1.07-2.37)	0.023*	1.15(0.71-1.87)	0.576
No	121(69.5%)	53(30.5%)	1		1	
Sharing toothbrush						
Yes	348(78.9%)	93(21.1%)	1.91(1.26-2.89)	0.002*	1.67(0.93-3.01)	0.085
No	96(66.2%)	49(33.8%)	1			
Traditional circumcision						
Yes	319(79.4%)	83(20.6%)	1.81(1.23-2.69)	0.003*	1.32(0.77-2.27)	0.310
No	125(67.9%)	59(32.1%)	1		1	
Drinking Alcohol						
Yes	32(64%)	18(36%)	1	0.041*	1	0.376
No	412(76.9%)	124(23.1%)	0.54(0.29-0.98)		1.41(0.66-2.99)	

Pornography visit						
Yes	24(44.4%)	30(55.6%)	1	0.001*	1	0.001**
No	420(78.9%)	112(21.1%)	0.21(.012-0.34)		0.202(0.11-0.38)	
Sharing sharp						
Yes	8(25%)	24(75%)	1	0.001*	1	0.001**
No	436(78.7%)	118(21.3%)	0.09(0.04-.021)		0.089 (0.04-1.21)	

Index: COR- crude odds ratio, AOR- adjusted odds ratio, * significant at P-value < 0.25, ** significant at P-value <0.05.

Discussion

This quantitative study approach was carried out among high school youth to identify their level of preventive practice and associated factors. Misconceptions concerning the ways of HIV transmission were out of finding from this study. Of study participants; 302(51.5%), 165(28.2%), and 113(19.3%) were reported as HIV transmitted by mosquito bit, eating food cooked by HIV infected person, and hugging, kissing and handshaking respectively. These results were in agreement with existing literature [19-23]. This can be explained in terms of less knowledge of the high school youth regard ways of HIV transmission.

The significant number of the students got information about HIV from a reliable source, health care workers, and mass media. This finding coincided with several studies conducted in Iran, Lao People's Democratic Republic, and Uganda [19, 21, 24]. This may be due to the government and non-governmental organizations concern about HIV which involves multiple stakeholders in information dissemination including health care institutions and media.

The current study denotes two-third of in-school youths had good knowledge about HIV. This is compatible with the study done in southern Ethiopia, Arba Minch town that 70% of study participants had adequate knowledge of HIV [25]. This might be happened due to a similar geographical location which was far from the center and slightly similar population size. The finding was lower than the studies carried out in South Africa 95.5% [26]. However, the result higher than the studies conducted in northern Ethiopia, Gondar town 45% and in West Africa Ghana 61.6% [27, 28]. The observed difference can be explained in terms of the study population and population size, that the study population in the previous studies included preparatory students and the less population size in former studies.

Nearly, two-thirds (67.4%) of study participants agreed on healthy-looking persons may have HIV in their blood. This finding was lower than studies carried out in the South West Region of Cameroon 98.8% and North West Region of Cameroon 81.45% [20, 29]. The variation can explain by a difference in the study setting, study population and methodology used that were in previous studies nonprobability sampling technique was applied, the cut point for a mean score also different and wide coverage area. On the other hand, the finding of the present study was higher than the survey done in Osun state of Nigeria (52.2%) [23]. Study time gap and study setting difference can be possible factors to the difference.

In the present study, more than half (62.6%) of study subjects

have neglected the misconception, HIV was panishment for bad act. This result was supported by the survey conducted in Iran that (57%) of the participants were considered, HIV was not punishment for sin [19]. However, misconceptions around HIV still needs greater attention from stakeholders to brings a change in perception and believes among the young high-risk populations. The overall positive attitude score in this study was (72.5%). This result higher in comparison with the study carried out in South Africa (63.1%) [24]and in Ghana (58.5%) [28].

In this study, 382(65.2%) of the participants were utilized youth-friendly health services. This finding was higher than the studies done in Iran (13.1%) [19] and Northern Ethiopia, Gondar town (37.8%) [27]. However, lower than the survey conducted in Uganda 80.5% [24]. The difference might be due to the study time gap and population size which was less population participated in previous studies. Of all 586 study subjects, 139(23.7%) had the previous history of sexual intercourse. The result was inconsistent with the studies done in Iran, southeastern Ethiopia, Bale zone, and south Ethiopia, Arba Minch town [19, 22, 25]. In contrast, the finding was lower than studies carried out in Ethiopia, Dire Dawa City, Cameroon, Lao People's Democratic Republic, Uganda [18, 20, 21, 24]. This variability was due to methodological difference, study population, and study time gap that in the former study quota sampling technique was used.

The present study reveals early initiation of sexual intercourse was a remarkable concern that among those who had a history of sexual debt, half (50.4%) of them started age less than fifteen years old. The mean age of sexual initiation in this study was (15.68 + 2.13SD). This finding was well-matched with the studies done Lao People's Democratic Republic (16.1 + 1.1SD) and southern Ethiopia, Arba Minch town (16 + 1,18SD) [21, 25]. This can be due to physiological maturity, secondary sexual characteristics, and visiting sexually related videos.

According to the current study, the magnitude of condom utilization among those who were sexually active was 65.5%. This result was comparable with studies conducted in East Ethiopia, Dire Dawa town (62,2%) and Lao People's Democratic Republic (70.2%) [18, 21]. This is because the existed misconceptions regarding condom utilization were still a barrier for users. On the other hand, this finding was higher than existing literature [19, 20, 22, 24, 27, 30]. This difference might be due to variation in the study population, population size, and study setting coverage, and cut point for operational definition. Which were the previous studies used nonprobability sampling methods, smaller population size, preparatory and college students were enrolled in the study.

Of all the study subjects, more than two-thirds (75.8%) were safely practiced concerning HIV. the finding was higher than as compared to the study carried out in the Lao People's Democratic Republic (56.4%) [21]. This can be happened due to the difference in the study population, in former study unmarried male participants those were age between 16 to 19 years old participated in the study, and the population size also less than were 300 males involved in the previous study. The result was similar to a cross-sectional survey conducted in southern Ethiopia, Arba Minch town (77.6%) [25]. this may be due to a similar study setting and study population.

In this study, several factors are associated with students' practices towards HIV. Those factors were tested at two levels of the regression analysis model. The first one was at binary logistic regression and the next at multiple logistic regression level to identify candidate variables and to check the strength of association. Therefore, variables such as; gender, age, the practice of sharing sharp materials, traditional circumcision, drinking Alcohol and visiting sexually related film were factors shows a statistically significant association. Female participants were 71.6% time more likely protected from HIV than a counterpart in the current study. This finding was supported by a study done in eastern Ethiopia, Dire Dawa town that male participants were thirteen times more likely to exhibit risk practice towards HIV [18]. This might be explained in terms of socio-cultural norms regarding gender-based restriction sexual behavior.

Study subjects, age group between 15-19 were five times more likely protected from HIV than age group between 20-24 years old. This result was in contrast with a study conducted in North Ethiopia, Gondar town that participants with an age range between 15-19 were 1.72 times more likely exposed to HIV [27]. The difference may be due to the population which was a larger sample size in the present study and study area. Visiting sexually related videos and drinking alcohol were risk factors for poor preventive practice towards HIV in this study. These findings were affirmed with the studies carried out in south Ethiopia, Arba Minch town, and North Ethiopia, Gondar town [25, 27]. This can be due to the fact that visiting porn graph stimulates the youth to the risk practices and alcohol was central nervous system depressant which contributes to less protection from HIV.

Limitations of the Study

This study was done during the COVID-19 pandemic, which was a global burning issue. So that, less focus was given to other diseases including HIV.

The study was conducted among sample students from eight high schools in the west guji zone. This can be led to the difficult generalization of the finding.

In this study, the self-administration questionnaire technique was used for data collection. Thus, there may be the possibility of responder desirability bias.

Conclusion

In the present study; misconception on ways of HIV transmission; misbelieves regarding people living with HIV, and overall,

prevention practice gaps were identified. Misconception like HIV/AIDS was a curable disease, the transmission of HIV by mosquito bite, sharing sharp material and traditional circumcision were considered as correct responses by the many participants.

Gathering information from an unreliable source such as friends and traditional healers were another finding from this study. Misbelief towards people living with HIV was addressed in this survey. The HIV risk behaviors including alcohol drinking, improper use of sharp materials, and pornography visiting were identified.

The overall poor knowledge, unfavorable attitude, and unsafe practice regarding HIV in the current study were 25.1%, 27.5%, and 24.2% respectively. These results indicated, nearly one-third of study participants needed consideration for training on HIV. Voluntarily counseling and testing service was not utilized by (34.8%) of the in-school youth. Out of all study subjects, 139(23.7%) were sexually active. Early initiation of sexual intercourse age less than fifteen years old was reported by (50.4%) of sexually active participants and the mean of the first sex was (15.68 + 2.13SD). Having multiple sexual partners, none, and inconstant use of condoms were the risk behaviors to HIV by sexually active young people's found in this study.

In this study, gender, age, visiting sexually related videos, drinking alcohol and improper use of sharp materials were factors significantly associated with practice towards HIV.

Recommendation

Based on the findings, the following recommendation forwarded;

Local governmental health care institutions and non- governmental organizations provide; a continuous and age-appropriate youth-friendly health service that enables the students to reduce HIV risk behaviors and delay early initiation of sexual intercourse.

The training focused on HIV, ways of transmission, and how to prevent it must be given to in-school youth to step up the students' knowledge, attitude and practice.

HIV/AIDS was a deadly disease. Therefore, all stakeholders including health care institutions, education institutions, and mass-medias give strong concern to the disease to alleviate misconceptions around HIV/AIDS particularly in this time of the COVID-19 pandemic.

What Is Already Known on This Topic?

- HIV/AIDS was the worldwide pandemic and still it is challenge particularly to developing country.
- Young people were the risk group to HIV/AIDS and they are highly affected by HIV in Sub-Saharan Africa

What You Add To This Research ?

- This study identified the existing misconception regarding HIV/AIDS.
- Risk factors to poor preventive practices towards HIV were

identified among in-school youth.

- The level of knowledge, attitude, and preventive practice among in-school youth were identified in this study. Therefore, all concerned bodies who wanted to provide solution to the problem could be need the findings of the study.

Acknowledgments

I would like to thanks to the study participants, data collectors, supervisors, and high school managers for their contribution to the success of this work.

Competing of Interest

Author of this study affirm that there was no conflict of interest (both financial and non-financial competing of interests).

Authors Contributions

SG designed the study, gather data, analyzed data, interpretations of results, prepare manuscript and selection of journal.

References

1. Moss, J. A. (2013). HIV/AIDS Review. *Radiologic technology*, 84(3), 247-267.
2. Guindo, O. M., Liu, A., & Haba, K. (2014). Knowledge, attitudes and practices of youth towards HIV/AIDS in Mali, West Africa. *International Journal of Advanced Physiology and Allied Sciences*, 2(1), 12-23.
3. Li, Z., Li, M., Patton, G. C., & Lu, C. (2018). Global development assistance for adolescent health from 2003 to 2015. *JAMA network open*, 1(4), e181072-e181072.
4. Bogale, S. (2017). Analysis: HIV/AIDS is surging in Ethiopia, again. *Addis Standard*.
5. Moore, S., Rosenthal, D., & Mitchell, A. (2020). *Youth, AIDS and sexually transmitted diseases*. Routledge.
6. Bekker, L. G. (2019). HIV control in young key populations in Africa. *The Lancet Child & Adolescent Health*, 3(7), 442-444.
7. Csa, I. (2016). Central statistical agency (CSA)[Ethiopia] and ICF. *Ethiopia demographic and health survey*, Addis Ababa, Ethiopia and Calverton, Maryland, USA.
8. World Health Organization. (1997). Joint United Nations Programme on HIV/AIDS (UNAIDS)—WHO: Revised recommendations for the selection and use of HIV antibody tests. *Weekly Epidemiological Record= Relevé épidémiologique hebdomadaire*, 72(12), 81-87.
9. Nations, U. (2015). *Transforming our world: the 2030 agenda for sustainable development*. New York: United Nations, Department of Economic and Social Affairs.
10. Holtgrave, D. R., Qualls, N. L., Curran, J. W., Valdiserri, R. O., Guinan, M. E., & Parra, W. C. (1995). An overview of the effectiveness and efficiency of HIV prevention programs. *Public health reports*, 110(2), 134.
11. Andrewin, A., & Chien, L. Y. (2008). Stigmatization of patients with HIV/AIDS among doctors and nurses in Belize. *AIDS patient care and STDs*, 22(11), 897-906.
12. Amuche, N. J., Emmanuel, E. I., & Innocent, N. E. (2017). HIV/AIDS in sub-Saharan Africa: current status, challenges and prospects.
13. Federal, H. I. V. (2018). *HIV Prevention in Ethiopia National Road Map 2018-2020*.
14. Global, H. I. V. (2019). *AIDS statistics—2018 fact sheet*. Geneva: UNAIDS.
15. Pisani, E., Garnett, G. P., Grassly, N. C., Brown, T., Stover, J., Hankins, C., ... & Ghys, P. D. (2003). Back to basics in HIV prevention: focus on exposure. *Bmj*, 326(7403), 1384-1387.
16. Steen, R., Wi, T. E., Kamali, A., & Ndowa, F. (2009). Control of sexually transmitted infections and prevention of HIV transmission: mending a fractured paradigm. *Bulletin of the World Health Organization*, 87, 858-865.
17. Naing, L., Winn, T. B. N. R., & Rusli, B. N. (2006). Practical issues in calculating the sample size for prevalence studies. *Archives of orofacial Sciences*, 1, 9-14.
18. Daniel, D., Seyoum, Z., & Gipo, A. (2017). Risk factors of HIV/AIDS among secondary and preparatory school students in Dire Dawa City, Ethiopia. *American Journal of Health Research*, 5(3), 83-92.
19. Shokoohi, M., Karamouzian, M., Mirzazadeh, A., Haghdoost, A., Rafierad, A. A., Sedaghat, A., & Sharifi, H. (2016). HIV knowledge, attitudes, and practices of young people in Iran: findings of a national population-based survey in 2013. *PloS one*, 11(9), e0161849.
20. Nubed, C. K., & Akoachere, J. F. T. K. (2016). Knowledge, attitudes and practices regarding HIV/AIDS among senior secondary school students in Fako Division, South West Region, Cameroon. *BMC public health*, 16(1), 1-10.
21. Thanavanh, B., Harun-Or-Rashid, M., Kasuya, H., & Sakamoto, J. (2013). Knowledge, attitudes and practices regarding HIV/AIDS among male high school students in Lao People's Democratic Republic. *Journal of the International AIDS society*, 16(1), 17387.
22. Mohammed, A. Y., Tefera, T. B., & Ahmed, M. B. (2015). Knowledge, attitude and practice on HIV/AIDS prevention among batu terara preparatory school students in Goba Town, Bale Zone, Southeast Ethiopia. *Primary Health Care: Open Access*, 5(1), 1-6.
23. Bamise, O. F., Bamise, C. T., & Adedigba, M. A. (2011). Knowledge of HIV/AIDS among secondary school adolescents in Osun state, Nigeria. *Nigerian Journal of Clinical Practice*, 14(3), 338-344.
24. Renzaho, A. M., Kamara, J. K., Georgeou, N., & Kamanga, G. (2017). Sexual, reproductive health needs, and rights of young people in slum areas of Kampala, Uganda: a cross sectional study. *PloS one*, 12(1), e0169721.
25. Mersha, A., Teji, K., Darghawth, R., Gebretsadik, W., Shibiru, S., Bante, A., ... & Abayneh, N. (2018). Risky sexual behaviors and associated factors among preparatory school students in Arba Minch town, Southern Ethiopia. *Journal of Public Health and Epidemiology*, 10(12), 429-442.
26. Adeboye, A., Yongsong, Q., Akinwumi, O., & James, N. (2016). Knowledge, attitude and practices of HIV/AIDS among high school students in Eastern Cape, South Africa. *Journal of human ecology*, 54(2), 78-86.
27. Alem, A. T., Sisay, M. M., & Alemayehu, A. M. (2020). Factors Affecting Voluntary HIV/AIDS Counseling and Testing Service Utilization Among Youth in Gondar City, Northwest Ethiopia. *HIV/AIDS (Auckland, NZ)*, 12, 667.
28. Tarkang, E. E., Lutala, P. M., & Dzah, S. M. (2019). Knowledge, attitudes and practices regarding HIV/AIDS among

-
- senior high school students in Sekondi-Takoradi metropolis, Ghana. *African Journal of Primary Health Care and Family Medicine*, 11(1), 1-11.
29. Nkuo-Akenji, T., Anyangwe, I. A., & Fomboh, R. N. (2017). Knowledge, Attitude and Practice on Mode of Transmission of HIV/AIDS and Prevention among Youths in the North West Region of Cameroon. *Clin Microbiol*, 6(270), 2.
30. Silassie, A. G., Giorgis, M. W., Kahsay, N., Fisaha, Y., Zerihun, Z., Tadesse, K., ... & Malloy, P. (2016). Knowledge, attitude and practice of condom utilization among Axum preparatory school students. *J AIDS Clin Res*, 7(560), 2.

Copyright: ©2022 Shiferaw Gelchu Adola. This is an open-access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.