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The prevalence and determent of HIV/AIDS Risky practices among students Afar Regional State, Northeast, Ethiopia 2019

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ABSTRACT

Human immunodeficiency virus deficiency virus remains as a serious public health importance. Practices that expose them to risk of contracting sexual transmitted diseases included HIV/AIDS is that the major effective driver. The aim of the study was to assess risky practices and associated factors for HIV/AIDS infection among students Afar Regional State Northeast, Ethiopia. An institutional-based cross-sectional study was conducted from Decembers 10, 2019 to January 12, 2020, among regular students who resided in university and college students. A pretested structured questionnaire was used per collect of the data. Using the systematic random sampling technique, a total of 800 respondents participated in the study. The data were entered into EPI info version 3.5.3 and moved to SPSS version 20 for analysis. Descriptive statistics bi-variate and multi variable analyses were done. A p-value < 0.05 was considered the statistical significance of the association between factors (independent variables) and risky sexual activity. The Odds' ratio was also used to determine the presence and the degree of association between dependent and independent variables. Among 800 respondents, the magnitude of risky sexual behaviors was found to be 33.1%... The most predictor variables for risky sexual behavior among the students were marital status (AOR = 3.18, 95% CI = 1.96–5.17), year of study (AOR = 3.57, 95% CI = 2.13–5.96), ever visted to nightclubs (AOR = 7.11, 95% CI = 4.88–10.37) and ever chewing Khat (AOR = 2.78, 95% CI = 1.56–4.96) were statistically associated with risky sexual practice. The prevalence of risky HIV/AIDS practice was high, and 33.1% of study participants were engaged in risky practice. Efforts to increase Awareness creation activity on the importance of safer sex behaviors and consequences of substance use like chewing khat through health education and counseling are highly recommended.

Keywords: HIV/AIDS, university and college students, Sexual practice, associated factors. Afar, Ethiopia

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1. INTRODUCTION

Human Immuno-deficiency Virus infection and the consequent acquired immuno-deficiency syndrome continue to be a major health threat at a global level. There are approximately 37.9 million people living with HIV and 32.0 million people have died from AIDS-related illness since the start of the epidemic. [1, 2]

According to a study, young people aged between 15-24 years accounted for 42% of new HIV infections and nearly 80% of them live in Sub-Saharan Africa. Unless appropriate age and institution targeted interventions are adapted, certain unwanted sexual behaviors can put the youth at a greater risk of HIV infection. Groups of individuals who engage in these high-risk sexual behaviors are considered as vulnerable to HIV infection and wish to be watched to control the epidemic[3].

A study conducted in secondary schools of some African countries indicated that 21.6% of scholars started sexual contact before the age of 15 years whiles quite 80% participants who ever had sexual intercourse started sexual intercourse under the age of 18 years[4, 5]. More than 35% had started sexual intercourse before the age of 18 years [6]. According to Ethiopian demographics health services 9% of women were first sexual intercourse before an age of 15 years 40% were before the age of 18 year [7].

Besides other various factors affecting HIV spread, it was observed that SSA youth have multiple sexual partners in their lives which put them at risk for STIs and unintended pregnancies [8] A study conducted in secondary schools of an African country showed that out of 29% of sexually active participants, about 47.7% have had more than one sexual partner [9]. Similarly, different studies conducted in different parts of Ethiopia showed that those who have had sexual intercourse, more than 45% of them had two or more sexual partners in the past 12 months [4, 5, 10, 11].

The studies conducted among school and university students in Ethiopia showed that 25% and 42.1% of the respondents who ever had sexual intercourse had multiple sexual partners respectively [12, 13]. Another study conducted among high school students in Ethiopia showed that 70.5% of the respondents had two or more sexual partners in the past one year of the survey. The mean age of sexual initiation were 16.2 years, a risk factor for Sexually Transmitted Infections (STIs), unwanted pregnancies and other reproductive health-related complications [14].

Furthermore, based on several studies, a general conclusion was made that college students as a group have awareness and knowledge of HIV and modes of its transmission. They are also aware how to prevent infection but continue to practice risky sexual behaviors that increase personal risk of HIV transmission[15].

According to a study report, nearly 71% of students reported to have sexual activity within the last year, while only 27.1% of these are tested for HIV [16]. College students whose behavior puts them at increased risk of HIV infection i.e. participating in sexual activity without condoms, or seldom use of condoms, having a multiple sex

partners, etc.) are ideally the persons who should be tested for HIV[15, 17]. As a population, college students frequently practice those behaviors that place them in the targeted high risk group, increasing their susceptibility to HIV. Among individuals who choose active, consistent and correct condom during sexual act is the only reliable method of HIV prevention. Unfortunately, the degree of consistent condom use throughout all sexual acts among students group continue to be low [15]. Of the nearly 71% of college students who reported sexual activity within the last year, 45% of them reported one partner within the past 12 months, 10% two partners, and 16% three or more partners.[16]

In Ethiopia low access to target reproductive health (RH) care and services for youth contributes to the high burden of RH problems. Over a quarter of all pregnant youths feel that their pregnancies are mistimed, reflecting the limited access of this population to family planning and reproductive health services. These unwanted pregnancies entail significant risks for maternal health, including high rates of delivery-related complications and high abortion rate. Unwelcome pregnancy is one of the major reproductive health challenges faced by the youth in Ethiopia. About 54% of pregnancies to girls under the age of 15 years were unwanted compared to 37% for those aged between 20-24 years [18].

In spite of such informative but scattered studies, only a limited number of specific studies have been conducted to measure the prevalence of risky sexual behavior among university and college students in the country and it is more so in case of afar regional state which constitutes primarily a backwards and pastoralist community. Therefore, it was thought worthwhile to conduct to determine the magnitude of impact of risky sexual practices and its associated factors of HIV infection among college and University students in Afar region, northeast Ethiopia.

2. MATERIALS AND METHODS

2.1 Study setting and participants

An institutional-based cross-sectional study was conducted from Decembers 10, 2019 to January 12, 2020, among regular students who resided in university and college students at Aysita, Gawane and Ambara districts in Afar region, Northeast Ethiopia. These study areas are located on the main street of Addis Ababa-Djibouti high way. A total population of study area 431,065 Of these, 51% are males and 49% are females [19]. It has bars, nightclubs, shisha houses and local drinking houses in hotspot towns which high prevalence of HIV, STIs or behaviors that put study at risk for acquiring HIV infection.

The sample size was calculated using single population proportion formula by considering the basic assumptions using 40.6% taken from the previous study conducted in Bahir Dar city town on risky sexual behaviors among College Students (16); 95% confidence interval, 5% precision, and 10% non-response rate and design effect 3, the final sample size was calculated to be 800.

2.2 Data collection tool and procedures

The questionnaire was primary prepared in English and interpreted into the local language (Afar-af), and then retranslated to English by language experts to check the consistency. The questionnaire is adopted from similar studies conducted in different parts of the world. Five biology graduated as data collectors and one supervisor were employed and trained on the methods, objectives, and the tool before data collection began.

The tool were pre-tested among 5% of study population at collages in afar regional stat to ensure the clarity and applicability of the tool, and then necessary modifications and correction were undertaken. Questions which caused difficulty in the pre-test were rephrased and corrected. Data were collected using self-administered structured questionnaires.

Before data collection, these study participants were given information about the purpose of the study, the possible risks and benefits of participating, the confidentiality of the study, and has right withdrawn from the study any time. Then, informed consent was taken from each participant and the data were collected using an interviewer administered questionnaire. The supervisor and investigators checked the completeness of the questionnaire every day.

2.3 Data processing and analysis

The collected data were checked for completeness, coded and entered into Epi Info version 3.5.3 and was exported to SPSS version 20 for analysis. Binary logistic multivariate analysis was made. Each explanatory variable was first analyzed by using bivariate logistic regression and variables with p-values but 0.2 were further entered in to multivariable logistic regression model to ascertain the independent effect of covariance on risky sexual intercourse within the multivariable analysis, a p-value but 0.05 was considered to figure out the statistical significance of association. Crude Odds ratio (COR) within the bivariate analysis and adjusted odds ratio (AOR) in multivariable analysis with 95% CI were used to assess the presence and strength of association between dependent and independent variables.

2.4 Ethical considerations

The Institutional Review Board (IRB) of the University of Samara, College of medical and Health Sciences approved the study and a support letter was obtained from regional health offices. Respondents were informed about the aim, procedure, possible risks and benefits of participating, the confidentiality, and their right not to participate or withdraw from the study any time. Then, informed verbal consent was obtained from each participant and confidentiality for collected data was also ensured throughout the study process.

2.5 Operational definitions

Consistent condom use: using condom in the right way during each and every sexual intercourse
Non-café: receiving money allocated for students' food service and using elsewhere other than student cafeteria.
Non-regular partner: sexual partner out-off marital union
Out-off campus living: receiving money allocated for dormitory service and living outside the university compound.
Predisposing factor: any condition related to biology, cultural, economic, demographic or personal that can increase the risk of involving in risky sexual behavior
Risky HIV Practice: Varies widely counting on the sort of exposure or behavior (such as sharing needles or having sex without a condom substance use).
Substance use: Use of at least one substance, like khat chewing, cigarette smoking, alcohol drunker…and so on.

3. RESULTS AND DISCUSSION

3.1 Socio-demographic characteristics of students

A total of 800 students participated in the study, the response rate were98.0%. Out of 800 respondents, 526(65.8) % were males and 770 (96.3%) within the age group of 18 to 24 years with a mean ± SD age of 20.20±1.74 years. Majority of the respondents 581(72.6%) were from urban residents, 704 (88.0%) attended public high schools and 310 (38.8%) students used to get a monthly pocket money of 100 to 299 Ethiopian Birr (ETB) (Table 1).

TABLE 1: Socio demographic characteristics of students among Samara University and colleges students, Afar region, Ethiopia, 2019 (n=800)

Characteristics	Frequency	%
Age (in years)		
Mean(± SD)	20.20 ± 1.74	
±18-24	770	96.2
>24	30	3.8
Sex		
Male	526	65.8
Female	274	34.3
Religion		
Muslim	300	37.5
Orthodox	364	45.5
Protestant	108	13.5
Others	28	3.5
Religious attendance		
Yes	456	57.0
No	344	43.0
Marital status		
Ever married	121	15.1

Never married	679	84.9
Ethnicity		
Afar	233	29.1
Somali	49	6.1
Oromo	137	17.1
Tigray	46	5.8
Amhara	323	40.4
Other	12	1.5
Place of origin		
Urban	581	72.6
Rural	219	15.6
School type		
Public high school	704	88.0
Private high school	68	8.5
Missionary high school	28	3.5
Pocket money(ETB)		
<100	106	13.3
100-299	310	38.8
300-499	164	20.5
>=500	220	27.5
Source of pocket money		
Family	640	80.0
Self	8	1.0
Others	152	19.0
Type of institution		
University	402	50.3
Colleges	398	49.8
Field of study		
Non-health sciences	721	90.1
Health sciences	79	9.9
Year of study		
Year one	431	53.9
Year two	227	28.4
Year three	129	16.1
Year four and above	13	1.6
Accommodation		
Café	619	77.4
Non-café	181	22.6
Parents' educational status		
No education	318	39.8
Primary school	248	31.0
Secondary school	72	9.0
college and above	162	20.3

3.2 Sexual behavior of study students

Out of the total participants, 327 (40.9%) of students had life time sexual experience. Of the 327 sexually active students, 231 (70.1%) were males and 96 (29.9%) were females. The Mean (± SD) age at first sex for both males and females was 16.67 ±2.07

years ranging from 12 to 22 years. From the 327 sexually experienced respondents, 271 (82.9%) had their first sex prior to joining the college/university and 56 (17.1%) after joining the college/ university (**Table 2**).

The main reasons for initiating sex were related to personal sexual desire or curiosity 177(54.1%), boy/girlfriend's pressure 49(15.0%), marriage 28(8.2%), sex for money 14 (4.3%), peer pressure 23(7.0%) and other reasons 4(1.2%). Among the 327 sexually active students, 205 (62.7%) students were engaged in sexual activities for the last 12 months with majority of them 157(76.6) reported to have been engaged in sexual activity with their boy or girlfriend and 10 (4.9%) having sex with their commercial sex workers(CSWs).

From the overall sexually active students, who had at least one of the risky sexual behaviors were 265(33.1%), among them 142(43.4%) had life time multiple sexual partners, 107(37.2%) used condom inconsistently, 184 (56.3%) had sexual intercourse before the age of 18 years and 10 (4.9%) males had sex with commercial sex workers. The most common reason reported for avoiding use of condom was trust on the partner 70(65.4%), reduced sexual pleasure by using a condom, 19(17.8%) and hatred for condoms 18(16.8%).

Table 2: Sexual behavior of study students among Samara University and colleges students, Afar region, Ethiopia, 2019 (n=800)

Characteristics	Frequency	%
Risky sexual behavior		
Yes	265	33.1
No	535	66.9
Lifetime Sexual practices of respondents		
Ever had sex		
Yes	327	40.9
No	473	59.1
Age at first sexual contact (in years) (n=327)		
Mean(± SD)	16.67 ±2.07	
<18	192	58.7
≥18	135	41.3
When was first sex (n=327)		
Before joining College/University	271	82.9
After joining College/University	56	17.1
Person had first sex with (n=327)		
Boy/girlfriend	216	66.1
Husband/Wife	94	28.7
Others	17	5.2
Reason for having first sexual intercourse (n=327)		
Sexual desire	177	54.1
Boy/girlfriend's pressure	49	15.0
To maintain relationship (marriage)	28	8.6

Peer pressure	23	7.0	
Curiosity	36	11.0	
Economic benefit (for males only)	14	4.3	
Alcohol effect	12	3.6	
Other reasons	4	1.2	
Number of sexual partners (life time)			
One	185	56.6	
One and above	142	43.4	
Sexual behaviors of respondents in the last 12 months			
Had sexual intercourse in the past 12 months (n=327)			
Yes	205		62.7
No	122		37.3
Person ever had sex with in the last 12 months(n=205)			
Boy/girlfriend	157		76.6
Husband/Wife	33		16.1
CSWs (for males only)	10		4.9
Others	5		2.4
Number of sexual partners in the last 12 months			
One	152		74.1
One and above	53		25.9
Condom use of respondents (n=327)			
Ever used condom (n=327)			
Yes	220		67.3
No	107		32.7
Frequency of condom use(n=220)			
Always	165		75.0
Occasional	29		13.2
Rarely	26		11.8
Ever used condom for first sexual encounter (n=220)			
Yes	132		60.0
No	88		40.0
Ever used condom for last sexual encounter (n=220)			
Yes	125		56.8
No	95		43.2
Reason for not using condom(n=107)			
I trust my partner	70		65.4
Not comfortable	18		16.8
Do not like	6		5.6
Reduces sexual pleasure	19		17.8
Do not trust condom	16		15.0

3.3 Substance use behaviors of students

Preceding the survey, out of the total participants, 208 (26 %) students were an experience of using some substance, and 82(10.3%) of them chewed khat at least once in their lifetime. The frequency among males 132(69.8%) was higher as compared to females 59(29.2%). Collectively, response to chewing pattern indicated that about half

of them (49.5%) chew khat occasionally (2-3 times per week) and 28.2% daily. (**Table 3**).

Table 3: Substance use behaviors of students among samara University students, Afar region, Ethiopia, 2019. (n=800)

Characteristics	Frequency	%
Ever chew khat		
Yes	82	10.3
No	718	89.8
Ever drunk alcohol		
Yes	101	12.6
No	699	87.4
Ever smoking cigarette		
Yes	25	3.1
No	775	96.9
See pornographic movies		
Yes	299	37.4
No	501	62.6
Believe on pornography(n=299)		
Yes	131	43.8
No	168	56.2
Ever went to night clubs		
Yes	233	29.1
No	567	70.9

Table 4: Factors associated with risky ssexual behavior of study students among Samara University and Colleges students, Afar region, Ethiopia, 2019 (n=800)

Characteristics	Risky sexual behaviour		COR(95%CI)	AOR(95%CI)
	Yes	No		
Age (in years)				
<18	5(26.3)	14(73.7)	1	1
18-24	244(32.5)	507(67.5)	1.35(0.48-3.78)	0.85(0.26-2.76)
>24	16(53.3)	14(46.7)	3.20(0.92-11.15)	0.98(0.23-4.24)
Sex				
Male	182(34.6)	344(65.4)	1.22(0.89-1.67)	1.09(0.71-1.67)
Female	83(30.3)	191(69.7)	1	1
Marital status				
Ever married	61(50.4)	60(49.6)	2.37(1.59-3.50)	**3.18(1.96-5.17)***
Never married	204(30.0)	475(70.0)	1	**1**
Place of origin				
Urban	185(31.8)	396(68.2)	1	1
Rural	80(36.5)	139(63.5)	1.23(0.89-1.71)	1.10(0.72-1.69)
Monthly pocket money(ETB)				
<500	173(29.8)	407(70.2)	1	1
>=500	92(41.8)	128(58.2)	1.69(1.23-2.33)	1.24(0.79-1.92)

Year of study				
Year one	114(26.5)	317(73.5)	1	**1**
Year two	65(28.6)	162(71.4)	1.12(0.78-1.59)	0.77(0.48-1.21)
Year three and above	86(60.6)	56(39.4)	4.27(2.87-6.36)	**3.57(2.13-5.96)***
Accommodation				
Café	180(29.1)	439(70.9)	1	1
Non-café	85(47.0)	96(53.0)	2.16(1.54-3.03)	1.68(0.99-2.68)
Ever went to night clubs				
Yes	152(65.2)	81(34.8)	7.54(5.37-10.59)	**7.11(4.88-10.37)***
No	113(19.9)	454(80.1)	1	**1**
Ever drink alcohol				
Yes	41(40.6)	60(59.4)	1.45(0.95-2.22)	1.44(0.84-2.46)
No	224(32.0)	475(68.0)	1	1
Ever chewing Khat				
Yes	34(41.5)	48(58.5)	3.26(2.04-5.20)	**2.78(1.56-4.96)***
No	501(69.8)	211(29.3)	1	**1**

***significant at P<0.05

4. Discussion

This study provides insight in to the prevalence and risk factors associated with risky sexual behavior using composite practices among colleges and University students in study area. The study revealed that 33.1% [95% CI: 29.9%-36.5%] of the students have had risky sexual practices before the surveys conducted. A finding having relatively similarity with the earlier studies conducted at Jimma University, 32.9% and Bahirdar, private College, 40.6% [20, 21].But the prevalence is lower than studies conducted in Ethiopia and other African counters [22-24]. The reason for such difference might be attributed to the difference in socio-demographic characteristics and previously exposer of study population. In addition, the mean age at first sexual intercourse in this study was 16.7 years. This finding is almost similar with study conducted in Jimma University [25]

The main predictor variables for risky sexual behavior among students were: marital status, year of study, ever visits to night clubs and ever chewed khat. In this study, marital status showed a significant association with increasing risky sexual behavior 3.2 times higher among ever married students than those of never married or unmarried students. This finding is consistent with EDHS 2016, where never-married individuals were more likely to use condom compared to married individuals [7].This might due to fact that never-married individuals were more likely to use condoms compared to married individuals to protect themselves from the infection. [20, 26]

Our study revealed 58.7% students had early sexual debut (<18years); similar study were reported from Cameroon University 55% [27]. But the findings are comparatively higher than Haramaya University scored 43.5 % & Bahir Dar University were 24.3 %[28, 29]. But slightly higher than a study in this study. The disparity might be because of the difference in the focused population groups of the previous studies. This is

another nation, culturally different. Lower findings in study done years ago at in Ethiopian universities 75.6% and 72.8% respectively are explained by the obvious time gap and the media interventions on sexual health [29, 30].

In this study, year of study showed a significant association with increasing risky sexual behavior and was 3.6 times higher among fourth year compared to first year students. This could be attributed to the fact that with increase in the study years, students get engaged in sexual practices and increases their potential of having multiple partners due to the effects of social media, their academic failure and substance use. This finding was supported by other research findings which advocated year of study as a risk factor of risky sexual practices [20, 22]

The students who were going to night clubs and chewing Khat showed significant association with increasing risky sexual behavior by 7.1 and 2.8 times higher respectively among those students who never visited night clubs and chewed khat .

This might be a coherence those students who chew khat and go to night clubs drink alcohol and alcohol leads to decrease in inhibitions, alters rational decision-making and increases risk taking behavior. Moreover, studies showed there is a strong association between khat chewing and alcohol consumption, and the combined use of both substance had an amplifying effect on sexual risk behaviors that predispose to HIV [6]. This study is consistent with the study conducted in other communities[20, 24].

This study interpreted the following limitations include, the cross-sectional nature of the study does not allow establishing causality relationships between the predictors and risky sexual behaviour [31]. Other concerns the representativeness of the sample. Although students from a good range of socio-economic background were included, the findings might not necessarily generalize to students living in further college and university or out-of-school adolescents whose living conditions and lifestyle could also be different.

Self-reported measures, there are created biases and thus the potential for both under reporting and over-reporting within the reports[32]. Given the cultural norms governing sexual behavior, it's likely that the gender difference is caused partially by over-reporting by boys and under-reporting by girls[33]. Findings from our study might be limited by the unknown reliability and validity of the scales which were adapted from previous studies conducted in developed countries. Despite this limitation, the study provides useful information risk of practice on HIV and associated factors that plan to design a strategy to reduce the prevalence of risk practices habit and its adverse social and health consequences. The strength of this study was the request of complex risky behaviors together to measure the student's risky sexual behavior. This can clearly indicate the burden of this misbehavior among sexually active students at this school.

Additionally, study were tried to minimize social desirability bias through administration of self-administered questioner, stile because of sensitive nature of the problem, the possibility of underestimation cannot be ruled out.

4. CONCLUSION AND RECOMMENDATION

The study showed an overall magnitude of 33.1% for risky sexual behaviors by Samara University and colleges students of Afar region. The main predictor variables for risky sexual behavior among the students were: marital status, year of study, ever went to night clubs and ever chewed Khat, in the study areas. Awareness creation on the importance of safer sex and consequences of using substances such as chewing khat, together with taking necessary disciplinary measures for individuals, who break the rules and regulations set by the university/colleges, is highly recommended. The study districts health office has to include these factors HIV risk prevention and health promotion activities to reduce risky sexual practices. The Afar Education Bureau and the city education department have to design ways to deliver at least a high school education for young population.

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