

Does Substance use act as a variable of importance for predicting risky sexual behaviour of university students? Results from Ethiopian university students

Solomon Abrha¹

R.D. Sampath Kumar²

¹ Solomon Abrha, Assistant Professor of Social Work, University of Gondar; PhD Scholar, Department of Social work, Andhra University

² Professor R.D. Sampath Kumar, Professor of Social Work, Department of Social work, Andhra University

ABSTRACT

Background: Young people have been faced with a variety of social problems during age of adolescence. One of these is engagement to risky sexual behavior which primarily intimidates their life. Previous studies on risky sexual behaviors identified various factors contributing to risky sexual behavior. This study focuses on the influence of substance use, as predictor of risky sexual behavior among university students in Ethiopia.

Methods: A quantitative cross-sectional study among university students located in Amhara regional states of Ethiopia was conducted. Seven hundred ninety students were selected using a multi-stage cluster sampling method. Data was collected using self-administered schedules.

Result: Independent samples t-test was conducted to examine gender differences on substance use among university students in the study areas. According to the finding of the study gender differences was primarily observed with respect to substance use. Males were more substance users than their female counter parts. The finding of the study revealed that there was a significant linear relationship between substance use ($\beta = 0.825$, $t = 40.5$, $P < 0.01$), and risky sexual behavior. In the study, substance use has found out to be an important predictor of risky sexual behavior.

Conclusion: Substance use among the university students was important predictors of risky sexual behavior in the university compounds.

KEYWORDS: *Substance use; risky sexual behavior; youths; university students, Amhara; Ethiopia*

Introduction

The student community, especially the university students constitutes the most vibrant sector and to a large extent the future of any country put on. This segment is considered as the reflections of the society and they often deal with issues of societal and national importance. The stage of university studentship in the life of any person is evidently a period of greater transition; the transition from adolescence to youthhood, transition to self-dependence and creation of newer social roles and career. However, youths at this age are more prone to risky sexual behavior which affects their wellbeing as individual.

Risky sexual behavior in this study was understood on whether the respondents had sexual intercourse in the past, has sexual intercourse under the influence of drug, had sex with unknown partner, and cheated on their partner, having more number of sex partners, practicing sex before age of 18 and in consistent condom use. University students clearly fall within the age range between 17-23. According to few studies in higher and tertiary education institutions in Ethiopia, there is anecdotal evidence that HIV- and AIDS-related illnesses and risky behaviors among students in these institutions are on the increase. Studies have been conducted as regards to risky sexual behavior among youths. However, barely little studies conducted among university students that have tried to examine predictors of sexual behaviors.

A number of factors throw in to the risky sexual behavior of students in the universities. Students could be challenged by the new social environment, accompanied by unlimited freedom. Risky sexual behavior is a result of multifaceted factors. Many of the studies conducted in this particular area convey several factors as provider to it. A large body of research has examined demonstrated the originator of substance use for risky sexual behavior. According to David W. Brook, et al (2002) a reciprocal longitudinal relationship between risky sexual behaviors and drug use was identified. In a study conducted among college students in Bonga, Ethiopia, the ever use of khat were statistically associated with risky sexual behavior. The prevalence of substance use among Bonga college students was high. The study also showed that many of the students who were sexually active engaged in unsafe and risky sexual practices (Agegnehu Alemu et al, 2015).

One of the reasons why we became interested in youths sexual health is because these category of people are engaged in unprotected and unsafe sexual practices there by threatening their health destructively. The university students in Ethiopia are experiencing a variety of sexual health problems given the context they are living. According to the report from UNAIDS and WHO 2009, “the university students are at higher possibility of HIV inflammation”. They are introduced to many dangerous actions including sexual harassment, unnecessary pregnancy and abortion, STI comprising HIV/AIDS similar to other youngsters since they belong to the youngster age group.” (UNAIDS & WHO, 2009).

In similar line of thought in the last three decades, following the expansion of higher education institutions in the country, a substantial increase has been observed in the proportion of adolescents who engaged in sexual activity while at school (Ugoji, 2013). This made a large number of youths to live away from their families and may be to different culture from their own which require them to adapt to a new environment. The cultural adaptation and the new environment made some students unable to adapt and learn a different behavior. In universities students enjoy freedom with responsibility, where some of them abuse such freedom without considering the responsibilities they have to make their life safer. This has left some students exposed to problems related to sexual health like STI's, HIV/AIDS, unwanted pregnancy and abortion and other sexual health problems.

Literature review

Substance abuse

Most studies have confirmed that substance abuse was connected to augmented HIV/STI associated risks, unfavorable condom approaches and lower skills. In most cases people who are taking alcohol before sex have the chance of having improper and unsafe sex. This in turn reduces the possibility of using condoms during sexual intercourse. There are a number of reasons why university students are prone to substance abuse when they are in universities compound. The university students' experiences, relational and social stresses are the reasons for substance abuse. According to Karam et al (2003), university students' aged 18-24 years across the globe have greater alcohol consumption levels compared to their non-university peers (Karam *et al.*, 2003). Such behavior will lead them to unprotected and unsafe sex resulting in STI's, HIV/AIDS and unintended pregnancy. The students aged between 18-24 years had unsafe sex reported drinking of 4-5 drinks in a single drinking occasion before sex (Hingson *et al.* 2005). Students in the college and universities are using substances across the globe and it is supported by studies by various researchers. The students in the universities who are consuming alcohol will probably practice risky sexual behavior. Apart from alcohol, students in the universities are also using other substances like drugs that instigate them to engage in risky sexual behaviors.

Like many countries in the world substance use has become a major problem in Ethiopia. Furthermore, students and teachers at higher education institutions are significantly at high danger of substance use. A study on cigarette smoking and khat chewing among college students in North West

Ethiopia revealed the existence of 13.1 % life time occurrence rate of cigarette smoking and 26.7 % life time occurrence rate of khat chewing. In the study, prevalence of cigarette smoking was found to be 8.1 % and that of khat chewing 17.5 %. Forty six (31.7 %) of the life time smokers and 45.6 % of the life time chewers began the habit in their senior secondary school (Kebede, 2002).

The fast changes among students social environment coupled with their age, lead them experience an augmented and socially unruly exploitation of alcohol and drugs. This study is, therefore, aimed at scrutinizing the contribution of substance use on students' engagement to risky sexual behavior. The study also examines the contribution of socio demographic variables on students' engagement to risky sexual behavior.

Statement of the problem

Students in the Ethiopian universities are at the stage of late adolescence; which is in a state of transition from adolescence to adulthood. This is the time where they make up their future career, build up their emotional and psychological changes, and establish healthier developments. Most students at this age try out what is available around their environment including practicing sex, taking substances and many other behaviors due to peer influences and the new environment they are in.

Risky sexual behaviors that include practicing sex; under the influence of drug, with unknown partner, with more number of sex partners, and without condom use is taking place among university students and it has become an observable fact. In most cases taking substances like alcohol, khat and drugs initiate students to have unsafe sex thereby resulting in HIV/AIDS, unwanted pregnancies and abortion. This research was conducted on the hypothesis that substance use among youths in general and students in the universities in particular, may be a contributing factor to students' engagement to risky sexual behaviors. In fact studies on university students as regards to risky sexual behavior were conducted. However, much of the researches in this area were conducted among early adolescences group and as well as on didn't see the different generations at a time. Therefore, it is imperative to see the effects of substance use on students' engagement to risky sexual behaviors among different generation universities. This study is therefore can be taken as an attempt to examine the precursors of risky sexual behaviors in the university settings.

Objectives of the study

The main aim of this study is to find out the extent to which substance use predicts students' engagement to risky sexual behavior among university students located in Amhara regional states.

From the above mentioned goals the following objectives were formulated:

1. To assess correlations between socio demographic variables and substance use
2. To examine the gender difference in substance use among the students
3. To determine the contribution of substance use to the prediction of the risky sexual behaviors among university students enrolled in universities located in the Amhara regional states.

Research questions

On the basis of the aforementioned objectives, the following research questions were generated for this particular research:

1. Are there correlations between socio demographic variables and substance use?
2. Is there significant gender difference in substance use among students?
3. Are there significant relationship between substance use and risky sexual behaviour?

Methods and materials

Study area and period

The study was conducted in universities located in the Amhara regional states, Ethiopia. In Amhara regional states there are seven public universities which were established at different times not including the fourth generation universities which are about to launch. University of Gondar, Debre markos University and Debre tabor university were selected for the study. The study data were collected from November 2017 to march 2018.

Study design and participant

A cross-sectional study was employed to obtain the necessary data required for the study. All sampled students registered in during the data collection in the selected universities were included in the research. The study included those public university students in the age bracket of 17-25 years and those university students who attend in the public universities located in the Amhara regional states in the regular under graduate program. The study used equal number of both males and females.

Sampling

Multistage sampling technique was employed to select the study participants. From each generation one university was selected by the lottery method. Then, from each selected universities, students were clustered on the basis of field of study and accordingly colleges were categorized. Separate sampling frames for male and females were generated on computerized basis to ease the selection of the samples and using systematic random sampling the samples were drawn from the list of the population. Finally, estimated adolescents student population in the selected three universities who are pursuing their undergraduate study in the regular program consists of 806 (17-25 years) students were selected. The sample size was determined by using Naing, Winn & Rusli, 2006 formulae for larger populations, it became 384. Nevertheless; the study employs cluster or multistage sampling methods and therefore it requires a larger sample size to achieve the same precision. Therefore, the calculated sample size using the above formulae needs to be multiplied by the design effect (deff) (Cochran, 1977) as cited by Naing, Winn & Rusli (2006). That is, using the above formulae, the sample size was 384, and the obtained sample size was multiplied by design effect ($D = 2$). Moreover, because of the nature of the issue concerning questions that are highly personal and potentially sensitive, we expected that there would be non-response by some respondents either to a part of the questions or even to all of the questions. Thus, an additional 5% of respondents were added to the recommended sample size. Accordingly, the total sample size was calculated to be $[384 * 2 + (5/100 \times 768)] = 806.4$.

Data collection procedures

The data for the study were collected using self-administered schedule assisted by three trained data collectors holding Master of social work. The schedule was filled by the students themselves after the necessary orientation was given to them.

Tools of Data Collection

Instruments

The study employed questionnaire to gather data. The self-report questionnaire was used to collect quantitative data to generate information substance use among the study participants. The quantitative data was able to generate information and establish relationships between substance use and risky sexual behavior in Ethiopian public universities. The instruments are described below.

Personal and Demographic Profile; Questions related to personal and socio-demographic issues were asked.

Measuring of substance abuse; So as to measure substance use of students, a 10 item questions that implore students experience of substance use was assessed. Students were asked regarding their experiences of substance use particularly their experience of using *khat*, *alcohol*, *shisha* and cigarette before and after joining university and they were required to choose the scale from never to always where never be 1 to always 5, with a high score indicating a positive response or favorable response. In this study it has Cronbach's Alpha reliability of 0.922.

Data processing and analysis

Method of Analysis

The study employed both descriptive and bivariate analyses. The multivariate analyses included MANOVAs, and regression. All analyses were conducted using SPSS 20. Descriptive statistics were employed to understand the socio demographic nature of students using frequencies and percentages. A bivariate analysis was done to determine the degree to which substance use is related to the risky sexual behaviors. Independent sample t-test was used to look at gender difference in using substances like alcohol, khat and drugs. Specifically, pearson correlations was employed to examine the association between individual level variables between age of the respondents, parents' average annual income, cumulative grade point average of students, respondents monthly pocket money, fathers' occupational status, mothers' occupational status in comparison with substance use. Most importantly, multiple linear regression was employed to predict the effects of substance use on risky sexual behavior. Factors with p-value ≤ 0.05 were kept in final models. Substance use was regressed with risky sexual behavior in order to determine the existing relative contribution it has on risky sexual behaviour.

Ethical considerations

Despite the fact that the issue of sexual behavior is a very sensitive topic, the study takes the necessary precaution to safeguard respondents from possible harm or inconvenience and maximum effort were taken to keep the responses very confidential by numerically coding each questionnaire. An informed consent form were developed including a clear statement of the purpose of the research and the use to which the research outputs would be put to so as to maintain the integrity of the research activity and the wellbeing of the research participants.

Result

Out of 806 sampled students, 790 respondents were participating in the study, which makes the response rate of 98 %. The study targeted equal number of male and female students for the study. However, from the total, 790 students 51 % of the respondents were females and 49 % of the respondents were males. According to the finding of the study, it was found out that the mean age of the study population was 19.85 ± 1.449 SD years. The maximum age of the respondents was 25 years and a minimum of 18 years. Regarding residence 10 % of the respondents came from rural places and 90 % of them are from urban places. In terms of religious affiliation of the participants, it was revealed that the majority of the respondents were found to be followers of the Orthodox Christian (65.6 percent), Muslim(16.3 percent), Protestant (Christian)(14.9 percent), Wakefeta(0.6%),Catholic (Christian)(1.8 percent), Others(0.8 percent). As to the type of school participants attended their preparatory college studies, the study has revealed that 78%, 18 %, 3.5 % and 0.4 % of the participants have attended government, private, religious and other schools respectively.

Regarding the educational status of respondents' parents, the study showed that 31.4 % of the respondents' fathers' occupational status is government employee who are salaried employees , 16.2 %

were private employee or who are in the private sector, 48.1 % own business and farming, 3.2 % were unemployed and 1.1 % were found to be engaged in other income earning activities. Concerning fathers' level of education of the respondents 19.7 % of the respondents' fathers were illiterate fathers, 44.1 % of fathers were high school incomplete, 7.7 % were high school completed, 9.4 % were diploma holders, and 19.1 % were fathers holding university degree and above. Considering the participants mothers' occupational status, 18.6 % of the participants mother's occupational status is government employee, 13.5 % were private employee, 47.5 % own business, 16.3 % were house wives and 4.1 % were found to be engaged in other income earning activities. Similarly, respondents mothers' level of education were assessed and it was found out that 31.5 % of the participants' mother's level of education were found to be illiterate, 38.4 % were high school incomplete, 9.4 % were high school completed, 9 % of their mothers were diploma holders, and 11.8 % were mothers who hold university degree and above. Regarding the current relational status of respondents' parents, it was found out that 73% of them are Living together, 14.2 % are divorced and separated, where as 12.8 % were widowed. Considering parents average annual income, the study found out that the mean parent's annual income was 38300 birr with standard deviation 39835.008 birr. The maximum parents' annual income was 240,000 birr and minimum was 500 birr. The mean participants' monthly pocket money was found out to be 839 birr with SD 719.61. The maximum participants' monthly pocket money was 9000.00 birr and minimum was 50 birr.

Descriptive information of substance use among university students

The finding of the study revealed students substance use before and after joining university. According to the result of the study, 13.7 % of the students have never chewed Khat while in the university, and 27.2 % of the participants have never chewed Khat before joining university. However, 32.2 % of the participants have rarely chewed khat, 38.1 % of them sometimes chewed khat, and 11.6 % of the study participants' usually chewed khat and 4.4 % of the study respondents have always chewed khat while in the university. Accordingly 27.2 % of the participants replied that they have never chewed khat before joining the university, 37.6 have rarely chewed khat, 26.7 % chewed khat sometimes, 8.2 % of the participants have usually chewed and 0.3 % of the participants have always chewed khat. Sizes equal to 16% of the participants of the study have chewed khat while in the university.

Regarding smoking shisha, 87.4% have never smoked Shisha while in the university, and 30.8 % for have never smoked Shisha before joining university. With respect to drinking alcohol, 15.8 % of the participants have never drank alcohol while in the university, 25.7 % of the proportion did rarely, 34.6 % have drink sometimes, 16.7 % have drunk usually and 7.2 % of the study participants are always drinking alcohol while in the university. Similarly as regards to their experience of drinking alcohol before joining university, the finding of the study demonstrated that 33.8 % of the participants have never drank alcohol while in the university, 35.4 % of the proportion did rarely, 23.7 % have drink sometimes, 7 % have drunk usually, 1 % of the study participants are always drinking alcohol before joining the university. Looking at their experience of smoking cigarette, the finding of the study revealed that 14.2 % of the participants have never smoked cigarette while in the university, 31.5% of them have rarely smoked cigarette, 35.6 % of them sometimes smoked 13.8 % of them usually smoked and 4.9 % of them are always smoking cigarette while at the university. This shows that a size equal to 138.7 % of the participants have smoked cigarette while in the university in one way or another. Pertaining to their cigarette smoking experience before joining university, still a size equal to 8.3 % of the participants of the study have had the experience of smoking cigarette. Specifically 30.4 % of the study participants have never smoked cigarette before joining university, 39.7 % of them have rarely smoked, 22.4 % of the participants have sometimes smoked, 7.3% of them have usually smoked cigarette and 0.1 % of them have always smoked cigarette before joining the university.

When examining students utilization of cannabis while in the university, it was found out that 28.7 % of the participants of the study never used cannabis, 34.3 % of them rarely smoked cannabis, 26.2 % smoked sometimes cannabis, 7.1 % of them do smoke cannabis usually and 3.7 % of them smoke cannabis always. In similar line of thought before joining the university, 40.8 % of the participants have never smoke cannabis, 33.7 % of them have rarely smoked cannabis, 19 % have smoked cannabis some times, 6.5 % of them smoked usually and 0.1 % has been smoking always. This justifies that although smoking cannabis and other similar drugs are a criminal act punishable by the criminal code of the country, still students are doing it before joining universities as well as while in the university. 7.1 % of the participants of the study which is unarguably large number of students are practicing cannabis which is still a major contributing factor to risky sexual practice. One can see from this finding that students' practice of substances of any kind augmented after they joined university.

Substance use and gender

Independent sample t- test was used to look at gender difference in using substances like alcohol, khat and drugs

Table 6: Group Statistics

	Sex	N	Mean	Std. Deviation	Std. Error Mean
Substance use	Male	391	2.4046	.71147	.03598
	Female	399	2.1724	.80525	.04031

Table 7: Independent sample t- test for substance and gender

	t-test for Equality of Means						
	T	Df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
						Lower	Upper
Substance use	4.291	788	.000	.23217	.05410	.12597	.33837
	4.297	779.717	.000	.23217	.05403	.12610	.33824

Independent Samples t-test was conducted to examine gender differences on substance use among university students in the study areas (refer to Table 6 and Table 7). According to the finding of the study gender differences was primarily observed with respect to substance use. The study revealed that there was statistically significant gender difference with regard to substance use ($p < 0.05$). Accordingly, male (mean substance use = 2.4046) students were using more substances than their female (mean substance use = 2.1724) students counter parts at $t = 4.291$, $p < 0.05$.

Table 8: Correlations between socio demographic variables and substance use

	Substance use
Age of the respondent	Pearson Correlation
	.265**
	Sig. (2-tailed)
	.000
	N
	790
Parent's Average Annual income	Pearson Correlation
	.033
	Sig. (2-tailed)
	.349
	N
	790
Current Cumulative Grade Points Average (CGPA)	Pearson Correlation
	.003
	Sig. (2-tailed)
	.941
	N
	790
Respondent's average monthly income obtain from family	Pearson Correlation
	.616**
	Sig. (2-tailed)
	.000
	N
	790
Father's occupational status	Pearson Correlation
	-.041
	Sig. (2-tailed)
	.251
	N
	790
Mother's occupational status	Pearson Correlation
	-.074*
	Sig. (2-tailed)
	.038
	N
	790

As indicated in Table 8, the bivariate analysis was conducted to examine the association between socio demographic variables and substance use. The result shows there was a statistically significant positive correlation between age and substance use ($r = .265$, $p < .01$). The result revealed that students with elevated age were more likely to be substance users. This finding established that older students took more substances than younger students. Parent's average annual income in this study didn't have statistically significant relationships with substance use ($r = 0.33$, $p > 0.05$). In addition, the finding of the study clearly show that there were no statistically significant correlation between current cumulative grade points average (CGPA), and substance use ($r = 0.033$, $p > 0.05$). It was revealed from the finding of the study that there was a statistically positive significant correlation between respondent's average pocket money and substance use ($r = 0.616$, $p < 0.01$). The finding confirmed that students with higher average pocket money were more likely to be substance users. An increase in average pocket money increases consumption of substances among students. This finding established that those who have higher pocket money consume more substances than those with lower income. Finally the finding of the study demonstrated that there were no statistically significant relationship between father's occupational status and substance use and mother's occupational status and substance use.

Association between substance use and risky sexual behaviors

In order to answer this research question and examine the relationship between substance use and risky sexual behavior, a multiple linear regression model was chosen to analyze and discover the differential influence of substance use on risky sexual behavior. Factors with p-value < 0.05 were kept in final models.

Table 9: Regression model

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.832 ^a	.692	.690	.45134

a. Predictors: (Constant), Substance use, Current Cumulative Grade Points Average (CGPA), Parent's Average Annual income, Age of the respondent

The above table presents the regression analyses of the data with respect to the outcome variable of the study. Consequently, the value of R-square is 0.692 which shows that 69.2 % variation in the risky of sexual behavior is explained by substance use. We can take this result as good quality as compared to the finding of similar other studies in another place.

Table 10: Analysis of variance among independent variables

Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	358.905	4	89.726	440.473	.000 ^a
Residual	159.908	785	.204		
Total	518.813	789			

a. Predictors: (Constant), Substance use, Current Cumulative Grade Points Average (CGPA), Parent's Average Annual income, Age of the respondent

b. Dependent Variable: Riskysexualbehaviour3

Table 10 Relative contribution of substance use to the Prediction risky sexual behavior

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.797	.112		7.105	.000
	Substance use	.870	.021	.825	40.505	.000

a. Dependent Variable: Riskysexualbehaviour3

Multivariate linear regression was conducted to examine the relationship between independent substance use with risky sexual behavior. The finding of the study revealed that there was a significant linear relationship between substance use ($\beta = 0.825$, $t = 40.5$, $P < 0.01$), and risky sexual behavior. In this study, substance use was found out to be an important predictor of risky sexual behavior. When students were consuming substances, the rate of laid under risky sexual behavior will be increased by 0.825 folds while other factors remains constant. The odds ratio 0.825 indicate that a unit increases in substance use increase students' engagement to risky sexual behavior by 0.825 times. That is, students who consume substance were 0.825 times more likely to engage in risky sexual behavior than their counter parts. Thus, the likelihood of engaging in risky sexual behavior will also be determined by the extent to which students are practicing and experiencing substance use.

Discussion

This study gives an imminent into the impact of substance use as factors to predict risky sexual behavior among university students located in Amhara regional state. Using chi-square test it was able to look at the gender difference with regard to substance use. Accordingly, the result of the study confirmed that there was a statistically significant gender difference with regard to substance use ($p < 0.05$). Pertaining to gender difference to substance use, the study indicated that male students were using more substances than their female students counter parts. Similar to the current finding, males are more likely than females to report marijuana and alcohol use, whereas females are more likely than males to report nonmedical use of prescription drugs (Center for Behavioral Health Statistics and Quality, 2012). The finding of the study confirmed that there was a statistically significant positive correlation between age and substance use ($r = .265$, $p < .01$). Elevated age was associated with higher use of substance. The result showed that older students were more likely engaged in substance use than younger students. In any cases, results with respect to age of the students confirmed that as compared to freshmen students, senior students were more likely to use substances like drinking alcohol, chewing khat, and smoking cigarettes and drugs.

In the present study a statistically positive correlation existed between respondent's average pocket money and substance use ($r = 0.616$, $p < 0.01$). The finding confirmed that students with higher average pocket money were more likely to be substance users. An increase in average pocket money increases consumption of substances among students. Thus, students who got more pocket money were more likely to use substance than those who receive lesser monthly pocket money. This finding is consistent with the study conducted by desalegn et al, 2011. A study conducted in Ethiopia showed that the amount of money students get from families during their stay in the university, also contribute to risky sexual behavior. Males who get relatively higher amount of money from their families get involved in risky sexual behaviors. This is strongly linked with substance abuse like 'khat', alcohol, cigarettes, 'shisha', 'ganja', etc. Students who take any of these substances are mostly seen engaging themselves in various risky sexual behaviors like having multiple sexual partners, having sex with commercial sex workers, having sex without condoms and starting a relation with outsiders (desalegn et al, 2010).

The result of the study confirmed that there was a significant linear relationship between substance use ($\beta = 0.825$, $t = 40.5$, $P < 0.01$), and risky sexual behavior. This particular study demonstrated that substance use was a major predictor of risky sexual behavior among university students. This finding supports previous studies conducted in Ethiopia. In line with the present study, kebede et al (2005), noted that, the use of Khat, alcohol and other substances has great significance and association with the risky sexual behavior of Ethiopian adolescents. A study conducted in Ethiopia also showed that there is strong link between substance abuse like 'khat', alcohol, cigarettes, 'shisha', 'ganja', etc and risky sexual behavior. Students who take any of these substances are mostly seen engaging themselves in various risky sexual behaviors like

having multiple sexual partners, having sex with commercial sex workers, having sex without condoms and starting a relation with outsiders (desalegn et al, 2010). In another study conducted in the university setting in Addis Ababa indicated that use of alcohol was significantly associated with risk sexual behaviors, multiple sexual partner and unprotected sex (Anwar nuru, 2014).

Conclusion

Risky sexual behavior is associated with several fundamental reasons and contributing factors. In this study it was able to identify substance use as a major predicting variable for risky sexual behavior among university students who are enrolled in universities located in Amhara regional states, Ethiopia. The finding of the study verified that there was a significant direct relationship between substance use and risky sexual behavior. When students were consuming substances, the rate of laid under risky sexual behavior will be increased by 0.825 folds while other factors remains constant. There was a significant gender difference in use of substances. In terms of substance use the finding of the same study showed that male were found to be more substance users than females which in turn trigger them to take risky sexual decision.

Recommendations

Based on the finding of the study, the researchers forwarded the following recommendations:

1. The concerned bodies should work on increasing the awareness of students about safer sex and the cost of substance use for college students
2. Policies and laws should be formulated and developed with the aim of preventing the use of substances in areas closer to universities and within the university compounds. There should be clear law enforcement of substances uses in the university compound as well as the nearby communities.
3. The universities should establish a separate section that could deal with students' engagement of risky sexual behaviour, train students on the effects of taking substance and its consequences
4. Although it could appear difficult to keep communicating with the families, given the barriers of communications and the physical distance families have with the universities, engagement of students parents' is strategic, at least twice in a year pertaining to what the student has done and his/her status.
5. An active engagement of universities teachers in shaping and moulding of their students' behaviour should be worked out properly.
6. Social workers, and healthcare professionals should establish and implement programs targeting at decrease the number of students who are engaged in substance abuse

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