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Original Paper

Substance Abuse and Associated Factors among Female Students in Jigjiga University, Eastern Ethiopia

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Abstract

The use of drugs such as alcohol, khat, and tobacco has become one of the increasingly serious public health and socioeconomic concerns globally. Young people at higher learning institutions are a particularly susceptible demographic in terms of drug usage. In fact, the problem is considered to be on the rise, and has become a cause of concern for different parties. However, there is a little evidence on the extent of drug misuse and related variables among University students in, Ethiopia which compelled this study to be undertaken. The purpose of this study was to investigate the prevalence of drug use and related variables among female students in Jigjiga University. Institution based cross sectional research design was conducted. Multi stage sampling approach was utilized. List of all female students from the designated departments were the sampling frame. Data were obtained using self-given questionnaire by six data collecting facilitators. The obtained data loaded into Epi Data version 3.1 and then exported to SPSS version 20. Bivariate and multivariate analysis was done to discover variables linked with the drug usage. Lifetime drug usage was determined to be 48.7 percent. However, the most often used substances were alcohol (44.7 percent) khat (12.5 percent), cigarettes (7.7 percent), and other illegal drugs (6.4 percent). Lifetime substance use was positively associated with off campus residence [(AOR= 1.702, 95 percent CI: (2.763, 3.798)], having boyfriend [(AOR= 2.299, 95 percent CI: (1.063, 4.970))], sexually violated [(AOR= 7.525, 95 percent CI: (3.316, 17.077))], and witness parental violence during childhood [(AOR=2.690, 95 percent CI: (1.318, 5.487)]. Significant number of students abuse drug with some proportion of Students' abuse khat, alcohol and cigarette together. Having boyfriend, been sexually assaulted, witness parental violence throughout childhood and off campus residence are highly connected with substance misuse. From this it can be also established that drug use habit is quite knotty which need a counteractive activity to take the edge off its destructiveness. In order to make it true all stakeholders should attempt to take their roles across all level of intervention.

Keywords

Female students, Jigjiga University, substance abuse

1. Introduction

Use of drug such as alcohol, khat leaves and Tobacco has become one of the increasing serious public health and economical concern worldwide. It is believed that 90 percent of worldwide population aged 12 or order are categorized with dependent on psycho active drug. The history of drug use in Africa is brief, yet the abuse of drug in Africa is growing quickly for tobacco, alcohol and khat abuse to consumers to wide variety of drug users (Rehm et al., 2003)

The history of drug use in Africa is brief, yet the abuse of drug in Africa is growing quickly for tobacco, alcohol and khat abuse to consumers to wide variety of drug users. Alcohol intake is key risk factor for morbidity and mortality and social damage in the globe, resulting to 2- 5 million death per year. Alcohol drinking is responsible for roughly 4 percent of worldwide burden mortality. This burden is larger in high income nations and among male, accounting for 11 percent of all male death in WHO European area in 2004. Even though, the problem is reported to be rising in developing globe, there are no major statistics on alcohol consumption and its impact in many developing nations (WHO, 2019).

Substance use has become one of the increasing main public health and socio-economic concerns globally. Hard drugs like cocaine are seldom available in Ethiopia although Khat, alcohol and cigarette are regularly available and utilized substances (Tadesse, 2014). Khat is originated from Ethiopia, mainly in Hararghe area with the steady growth to the other regions of the country and other nations in Africa and Arabia (Atwoli et al., 2011). According to the global health organization (WHO) assessment, roughly 47 percent of men and 12 percent of women smoke cigarette worldwide in 2010. The WHO defines smoking as pandemic while attributing more than 4 million deaths in a year to tobacco and it is projected that this figure would climb to 10 million fatalities by the year 2020. More people smoke today than any previous period in human history. One person dies every 10 seconds owing to smoking-related illnesses (WHO, 2010). Smoking is performed combined with khat chewing and consuming alcoholic drinks that have various effects. Annually, in the United States, around half million Americans die of numerous ailments attributable to cigarette smoking.

The use of drugs such as alcohol, khat, and tobacco has become one of the increasing serious public health and socioeconomic concerns globally. The worldwide burden of illness related to alcohol and illegal substance constitutes 5.4 percent of the overall burden of disease. Another 3.7 percent of the worldwide burden of illness is related to tobacco usage. And disorders owing to psychoactive substance use including alcohol, drug, and cigarette dependence are the key underlying problems ultimately accountable for the biggest fraction of the worldwide burden of illness linked to substance use (WHO, 2010). Lack of appropriate and trustworthy information on the prevalence and related variables with drug misuse among university female students had encouraged the execution of the study. To the best of our knowledge, studies linked to drug addiction had not been done in the study region. Based on this knowledge, it is vital to document the extent and related variables with substance misuse among female students in the institution. Therefore, this study is aiming to examine magnitude of drug misuse and related variables among females in Jigjiga University Students.

2. Methods

2.1 Study Area and Period

This study was done in Jigjiga University from February 22-30, 2019. It is located in the growing town of Jigjiga the capital city of Ethiopia Somali regional state, 635 kilometers distant from Addis Ababa. The institution officially launched its services with 712 students in 2007. Jigjiga University (JJU) is one of Ethiopia state university which is comprises of 10 colleges. Currently the institution has 21379 students in both regular and non-regular programs.

2.2 Study Design

Institution (University) based cross-sectional quantitative study was employed.

2.3 Study population: All regular undergraduate female students of Jigjiga University who registered in the 1st year and above in the academic year of 2019, from designated colleges.

2.4 Inclusion Criteria: All regular undergraduate female students at Jigjiga University who registered in the 1st year and above in the academic year of 2019, in the selected institutions.

2.5 Exclusion criteria: Those pupils who are medically unwell and who did not appear at the time of data collection.

2.6 Sample Size and Sampling Method

The needed sample size for this study was estimated by utilizing formula for single population proportion (n = (Zα/2)2pq/d2)) and described below using the following assumptions. Prevalence of drug addiction 37.5 percent (Gebreslassie et al., 2013), confidence level at 95 percent =1.96 and margin of error = 0.05. By considering 1.5 design effects and adding 10 percent for the non-response rate, the total sample size was determined to be 595.

A multistage sampling procedure was employed to choose the research participants. In the first step, five colleges were picked at random. In the second step, after acquiring a list of all departments in five colleges, departments were picked from each of the five institutions by applying lottery technique. In the third step, after acquiring the list of all female students from the specified departments, respective to the year or batch of the students, sample was allotted proportional to each stratum. Finally, a total of 595 samples were collected from each stratum by simple random sampling approach.

2.6.1 Data Collection Methods

Structured questionnaire was constructed in English after studying literatures of comparable surveys that have been carried out previously, including (Alebachew et al., 2019, Sendo and Meleku, 2015). Six BSc nurses had aided data gathering after having two days instruction. In addition to the primary investigator, two supervisors were designated to lead the data collection, to check the completeness and consistency of a questionnaire, and to support facilitators. Before data collecting begun, Jigjiga University academic and research vice president and student dean's reached by utilizing a letter written by Department of public Health. To identify eligible students, questionnaire administration halls/ rooms were acquired from student deans.

2.6.2 Dependent Variable

Substance abuse

2.6.3 Independent Variables

- Socio demographic
- Family history
- Sexual experience

2.6.4 Operational Definition

Substance use: pupils that ever tried alcohol, khat, cigarate and narcotics like cocaine (Alebachew et al., 2019).

• Frequent - consumers of the drug on daily or more than two times a week basis

• Infrequent - consumers of the drug on the basis of fortnightly, monthly or less

Sexual Violence:

Sexual violence is any sexual act, attempt to obtain a sexual act, unwanted sexual comments or advances, or acts to traffic, or otherwise directed, against a person's sexuality using coercion, by any person regardless of their relationship to the victim, in any setting, including but not limited to home and work . It encompasses sexual harassment, attempted rape and accomplished rape (Gebreslassie et al., 2013).

2.6.5 Data Quality Control

Data quality assurance procedures were implemented by providing proper training and orientation for the data collection facilitators, supervisors, pre-testing the questionnaire and supervision during data collecting. Study participants were clearly directed about the objective and usefulness of the survey and therefore generating amicable atmosphere to lessen their tension as the study addresses sensitive areas.

3. Data Processing and Analysis

The data were initially coded, entered and cleaned by utilizing Epi Data statistical software version 3.1 and then exported into SPSS statistical program version 20 for analysis. Descriptive analysis was done for each variable in the research by running frequencies.

Bi-variate analysis was done to see the connection between each independent variable and the result variable by applying binary logistic regression. All variables with p-value < 0.25 were put into the multivariable model to adjust for all potential confounders. Multi-collinearity also examined to see the linear connection among the independent variables by employing standard error. Variables having standard error > 2 eliminated from the multi-variable analysis. Model fitness was assessed using hosmer limshow goodness of fit when the model insignificant deemed as suited the data. The odds ratio was utilized as the primary measure of strength and direction of the association between the independent variables. Odds ratio along with 95 percent CI were computed to identify variables linked with substance addiction by applying multivariate analysis in the binary logistic regression. Level of statistical significance was indicated at p-value < 0.05.3.1.

Ethical Considerations

Before commencing of the data collecting procedure, ethical approval was received from Haramaya University Institutional Health Research Ethics Review Committee (IHRERC) (IHRERC). Official notice were written from Haramaya University to Jigjiga University. Informed, voluntary written and signed agreement was acquired from each participant after describing the goal and advantages of the study.

4. Result

4.1 Socio-demographic Characteristics of the Study Participants

The response rate was 94.3%. The mean age of the participants were 21.81 (SD ±2.190) and the maximum and minimum age of participants were 30 and 18 years, respectively. Majority of respondents (81.3%) were between the ages of 20 and 24 years. Among all, 48.7% of the respondents were Orthodox Christians, while 42.8% of the participants were from Amhara ethnic group. Regarding marital status of respondents majority of them (92.3%) were unmarried and around half (53.1%) of the respondents were from rural areas (Table1).

Table 1. Socio-demographic Characteristics of Jigjiga University Female Students, 2019, N =561

Variable	Frequency %
Parents	
Living Together	422(75.1)
Divorced/Separated	52(9.3)
Only mother alive	57(10.2)
Only Father	16(2.9)
Both of them not alive	14(2.5)
Father's Education	
No formal education	175(31.2)
Grade 1 to 8	93(16.6)
Grade 9 to 12	110(19.6)
Above grade 12	168(29.9)
Don't know	15(2.7)
Mother's Education	
No formal education	229(40.8)
Grade 1 to 8	101(18.0)
Grade 9 to 12	81(14.4)
Above grade 12	135(24.1)
Don't know	15(2.7)

Witness of Violence as child	
Yes	253(45.1)
No	308(54.9)
Freely discussion with family members sexual issue	
Yes	346(61.7)
No	215(38.3)

Table 2. Family History of Jigjiga University Female Students 2019, N=561

Variable	Frequency %
Age	
<20	22(3.9)
20-24	456(81.3)
>24	83(14.8)
Ethnicity	
Somali	63(11.2)
Amhara	240(42.8)
Oromo	102(18.2)
Gurage	21(3.7)
Tigray	52(9.3)
Others*	83(14.8)
Religion	
Orthodox	273(48.7)
Muslim	175(31.2)
Protestant	84(15)
Catholic	14(2.5)
Other**	15(2.7)
Place where they came from	
Urban	263(46.9)
Rural	298(53.1)
Current living arrangement	
In campus	479(85.4)
Off campus	82(14.6)
Currently married	
Yes	43(7.7)
No	518(92.3)

Having boy friend	
Yes	226(40.3
No	335(59.7)
Year of study	
1st year	230(41.0)
2nd year	143(25.5)
3rd year and above	188(33.5)

Other*(gambella, welayta), Other**(waqefeta)

Table 3. History of Substance-use among Jigjiga University Female Students 2019, N=561

Variable	Frequency %
Ever chewed khat	
Yes	70(12.5)
No	491(87.5)
Chewing Frequency (n=70)	
Frequent*	30(42.9)
Infrequent**	40(57.1)
Ever smoking	
Yes	43(7.7)
No	518(92.3)
Smoking Frequency (n= 43)	
Frequent*	18(41.9)
Infrequent**	25(58.1)
Ever drinking alcohol	
Yes	251(44.7)
No	310(55.3)
Drinking Frequency (n=251)	
Frequent*	75(32.2)
Infrequent**	176(67.8)
Have drunken peers	
Yes	144(25.7)
No	417(74.3)
Ever used substances like cocaine	
Yes	36(6.4)
No	525(93.6)
Frequency of using substances like cocaine (n=36)	

Frequent*	11(30.6)
Infrequent**	25(69.4)

*Frequent - users of the substance on daily or more than two times a week basis

**Infrequent - users of the substance on the basis of fortnightly, monthly or less

Table 4. Sexual Experiences among Jigjiga University Female Students 2019, N= 561

Variable	Frequency %
Ever had sexual intercourse (n=561)	
Yes	278(49.6)
No	283(50.4)
Age at first sexual intercourse (n=278)	
< 15 Years	33(11.9)
15 – 17 Years	165(59.3)
> 18 Years	80(28.8)
Mean + SD	16.73±2.581
Age of first sexual partner (n=278)	
< 18 Years	25(9.0)
18 – 24 Years	163(58.6)
> 24 Years	90(32.4)
Mean + SD	22.49±4.372
Willingness at first sexual intercourse (n=278)	
Yes	151(54.3)
No	127(45.7)
Number of sexual partners in lifetime (n=278)	
One	228(82.0)
Two	27(9.7)
Three	7(2.5)
Four and above	16(5.8)
Number of sexual partners currently (n=278)	
Only one	249(89.6)
More than one	29(10.4)

4.2 Magnitude of Substance Abuse

Lifetime prevalence of any form of substance use was reported by 273 (48.7%, 95% CI: (44.7, 53.1).

Table 5. Multivariate Logistic Regression Analysis Output of Factors Associated with Substance Abuse among Jigjiga University Female Students, 2019

	Substance abuse			
Variable	Yes	No	COR CI	AOR CI
Having boyfriend				
Yes	136(66.3%)	90(25.3%)	0.277 (0.194, 0.396)**	2.299(1.063, 4.970)*
No	69(33.7%)	266(74.7%)	1.00	1.00
Sexually violated				
Yes	174(84.5%)	31(15.0%)	0.074 (0.048, 0.115)**	7.525(3.316,17.077)*
No	99(27.8%)	257(72.2%)	1.00	1.00
Current residency				
In campus	213(47%)	239(53%)	1.00	1.00
Off campus	70(64.2%)	39(35.8%)	1.556 (1.23, 2.511)**	1.702 (2.763, 3.798)*
Witness Parental violence				
Yes	194(66%)	99(33.8%)	0.213(0.149, 0.304)**	2.690 (1.318, 5.487)*
No	79(29.5%)	189(70.5%)	1.00	1.00
Having >1 sexual partner				
Yes	26(90%)	3(10%)	4.103(1.206,13.956)**	2.361 (0.543, 10.267)
No	170(68.3%)	79(32%)	1.00	1.00

95%CI = Confidence Interval; AOR = Adjusted Odd Ratio; COR = Crude Odd Ratio; P value < 0.25 P value < 0.05***

5. Discussion

In this study life time prevalence of substance addiction were 48.7 percent 95 percent CI: 44.7, 53.1. This result is greater than research's in Asian nations 46 percent (Yi et al., 2017). and also the finding of this study was higher than finding from Nigeria University which was 46.7 percent (Likawunt, 2011). These disparities might be related to differences in technique and differences in the socio-cultural features of the research populations. Likewise, the finding of this study were lower than the study done in Kenya 69.8 percent (Atwoli et al., 2011) and study at Ethiopia University 64.2 percent (Tesfaye et al., 2014).

Moreover, this finding is lower than with a study in many African universities which was 69.8 percent (Lamina, 2009) but higher than Ethiopian studies at Mekelle University (21 percent), Debre markos Poly Technique College (14.1 percent), Hosana Health Science College (27 percent) and Jimma University (12.4 percent) (Aklog, 2013, Abraha, 2011, Sori, 2015) and (Likawunt, 2011). This disparity may be related to a lower sample size that was evaluated for this study and variations in geographic location (khat is significantly more farmed and marketed nearby this study region than

elsewhere in Ethiopia) (khat is much more cultivated and marketed nearby this study area than elsewhere in Ethiopia). Moreover, in this study life time prevalence of any drug greater than previous studies in Haramaya University which is 45 percent (Alebachew et al., 2019) and Axum University 45.9 percent (Gebreslassie et al., 2013).

The difference in magnitude from those of the Axum University might be due to the difference in the study area where in this part of the country there is easy availability as well as the accessibility of substances especially khat and alcohol which are frequently taken by students, and are relatively socially acceptable due to different sociocultural environment.

The most often used substances in decreasing order were alcohol (44.7 percent), khat (12.5 percent), cigarettes (7.7 percent), and other illegal drugs (6.4 percent). (6.4 percent).

The lifetime prevalence of khat chewing in this research was 12.5 percent . This result is lower than the result of study done among high school students in Eastern Ethiopia 24.3 percent (Reda et al., 2012), a study done among college students in North West Ethiopia 26.7 percent (Kebede, 2002), and in Jazan district of Saudi Arabia 21.4 percent (Ageely, 2009). This difference may be because of the participants in this study being female students.

The prevalence of lifetime alcohol consumption in this study was 44.7 percent, which is lower than to a study in Kenya 51.9 percent (Atwoli et al., 2011) and is substantially higher than Addis Ababa University medical students 31.4 percent (Deressa & Azazh, 2011). The discrepancy from the Addis Ababa University may be attributable to the fact that the study was totally done by including only female students in contrast to ours in which we have recruited participants from all categories of students.

In the present study the life time prevalence of cigarette smoking was 7.7 percent which is lower than a study in Axum University 9.3 percent (Gebreslassie et al., 2013), a study in Saudi University students 14.5 percent (Ageely, 2009) and also lower than a study in Kenya 42.8 percent (Atwoli et al., 2011). The lesser magnitude as compared to Axum and Saudi University may be owing to the lower usage of khat among students in our study than those studies, as there is association between khat chewing and cigarette smoking. The change in the findings with Kenya can be because to the differences in research environment.

Our study was analyzed several elements which are claimed as contributing factors for drug misuse, students whose dormitories located in off campus reported increased frequency of using substances. Similar findings were obtained from research among university students in Iran University students whose dormitory was located off campus was higher substance user than those from on campus students (Heydari et al., 2015). This link might be explained by the fact that Students who residing outside the institution are more prone to use substance because of higher conditional and environmental access to substance selling homes.

In this study having regular boyfriend was also observed to raise the chance of developing drug misuse. Having guy friends are more likely to enhance drug use behaviours because they enable students to

familiarize substances and embrace use hence lessening the subjective norm and perceived danger perception of students. Likewise, in this study students those who had experience witness parental violence throughout childhood were substantially connected with substance misuse.

Moreover, in this study being sexually violated were substantially connected with drug misuse. The reality that victims of sexual assault may use drink or drugs to cope with their feelings following the attack. Many victims have Post-Traumatic Stress Disorder (PTSD), or comparable symptoms, including shock, flashbacks, powerful emotions, and unpleasant memories. Rape victims are 3.4 times more likely to use marijuana, 5.3 times more likely to use prescription medicines for non- medical purposes, 6.4 times more likely to use cocaine, and 10 times more likely to use hard narcotics other than cocaine (Dawgert, 2009).

6. Conclusions

The total life time prevalence of drug use among university female students is high. The most widely used drug among students is alcohol. Having partner, witness parental violence, sexual violence and off campus residency were revealed to be independent indicators of drug use among students. Substance use among university students involves special attention, emergency preventative measures, and focused IEC engagement. Education and awareness creation on detrimental effect of drug usage should be done.

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