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Research Article

**ASSESSMENT OF SUBSTANCE ABUSE AND ITS ASSOCIATED  
FACTORS IN COLLEGES OF AFAR REGIONAL STATE OF  
ETHIOPIA, 2016**Desalegn Chilo<sup>1</sup><sup>1</sup> Mettu University public health and medical sciences faculty, department of pharmacy, Mettu,  
Ethiopia**Abstract:**

**Background:** Substance use remains high among Ethiopian youth and young adolescents particularly in high schools and colleges. The use of substance by college and university students of Ethiopia is current health problem. However, the magnitude of substance use and the factors associated with it has not been investigated among college students in the Afar region. **Methodology:** A cross sectional study was conducted to determine the overall prevalence of substance abuse among students and factors associated with it. Simple random sampling technique was used to select 479 students from all batches after stratifying them based on year of study. A pretest semi structured anonymous questionnaire was used to collect data. The data was analyzed using Epi-Data latest version and SPSS version 20 statistical package. The prevalence and predictors of substance abuse was examined by descriptive statistics and logistic regression with significance level set at  $p < 0.05$ . Multivariate logistic regression analyses were also used to assess the magnitude of associations between substance use and socio-demographic and behavioral correlates. Finally, substance abuse was measured by using CAGE-AID. **Result and conclusion:** About 61.8% of respondents replied that they have tried any substance from which 77.5% is covered by alcohol abuse followed by khat chewing (26.1%). Additionally, majority of the respondent (45%) said they began use of substance at secondary school level to get personal pleasure in hot weather (47%) followed by due to peer pressure (45%). It was associated positively with certain variables such as male participants, urban setting, and availability of drugs. This result implied a significant proportion of student abuse substances.

**Keywords:** substance use, khat; alcohol; tobacco; college students**Corresponding author:****Desalegn Chilo,**

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**INTRODUCTION:**

**Background:** Substance abuse is continual drug use unrelated to acceptable medical practice. The extent of substance use is mainly seen among the youth [1]. A maladaptive pattern of alcohol, *khat* leaves (*Catha edulis*) and tobacco use leading to clinically significant impairment or distress, as manifested by varying effects of the substances such as failure to accomplishment, crimes, and so forth [2].

The foremost aspects reported to fuel drug abuse behavior in many research findings are factors of sociological, psychological and biological origins. The main adverse sociological factors cited as the etiology of drug addiction include: unsatisfactory family circumstances, poverty, overcrowding, easy availability of narcotics, superstitious believes about them and lack of cultural amenities (3, 4). For this major reason, Social drug utilization including chat use in many European countries and Canada has been restricted and is as such classified as controlled substances. Additionally, in the United States, the drug enforcement agency has asserted that chat, *khataedulis*, is a schedule I substance [5].

Khat which is a plant with amphetamine-like effect and alcohol are among those substances widely consumed anywhere by youth people of all religious, age and social group among of Ethiopia. The report also asserted that there was dramatic increase in the consumption of alcohol and tobacco in this young population [6, 7]. In previous study on adolescents in Ethiopia who uses alcohol and khat prevalence of suicide attempts, physical illness, injuries, under nutrition, mental distress, sleep disorders, problem drinking and heavy smoking, and recurrent brief psychotic episodes associated violent behavior has been reported [8,9,10]. The lung diseases including lung cancer were mentioned as health risk of cigarette smoking stated in study conducted in Amhara region among college students [11]. Moreover, the study in Butajira of Ethiopia on adult people over 1000 respondents reported a higher prevalence of mental distress and suicide attempt was found in those using alcohol and khat [12, 13]. A study by Zein on the use of Khat among Ethiopian University students explained that chat use is associated with simultaneous use of cigarette, alcohol and other drugs [14].

The rationale behind this study was that, there was little data concerning commonly abused substances in different colleges of Afar region though substance abuse is an emerging public health problem. And also, no study was conducted on substance abuse

among students of these three colleges of Afar regional state. Therefore, this finding presented some answers for questions such as prevalence and the factors mainly involved for substance abuse among the college students sampled from three colleges of Afar Region.

**METHODS:****Study area, design and period**

Afar region is one of the nine regional state of Ethiopia that is found 600 km away from Addis Ababa, the capital city of Ethiopia, to the north east direction. The region is known with its hot weather climate and there is geographical proximity to the sources of some of the drugs considered in this study. The region has one university which is Samara University that supported this research at the time. The selected colleges of Afar region include Samara, Assaita, and Gewane colleges. The study was conducted from March to June 2016.

**Sources populations:** all batch students of both sexes at Samara Health College, Assaita College and Gewane college of Afar regional state.

**Target populations:** the students available during the time of data collection and who were willing to fill the self structured questionnaires.

**Sampling size determination and procedure**

The sample size was calculated by using single population proportion formula with the following assumptions; prevalence of substance use 50%, Confidence Interval of 95%, Margin of error of 5% and non response of 10% with the final sample size was 479.

**Data Collection**

The structured questionnaires were prepared in English language by reviewing literature and used for data collection in this study, and distributed to the randomly selected sample of students and filled by the students.

**Data analysis**

The collected data was entered and cleaned using Epi Data version 3 and were analyzed using SPSS version 20 statistical package. Descriptive statistics and logistic regression were performed to examine the prevalence and predictors of substance abuse. A multivariate logistic regression analysis was also used to assess the magnitude of associations between substance use and socio-demographic and behavioral correlates. P-value less than or equal to 0.05 was taken as cut of value to be significant in multiple logistic regression. Odds ratio and 95% confidence intervals was also computed along with the corresponding p-value.

**Ethical consideration**

At the beginning, the ethical clearance was provided from Samara University research director office and

the letter was written to the regional health office. Then, the regional health bureau gave consent the recognition letter for each colleges to collect the data from our source population. The purpose and the importance of the study were explained & written consent was obtained from each participant. Additionally, confidentiality of the information was assured through using anonymous questionnaire and keeping the data in secured place. The finding was reported to Samara University

### Results

Total of 479 students were included in this study. Out of this, majority of them found within age group of 15-19 followed by age group of 20-24 which is 312(65%) and 147(30.7%) respectively. On the other

hand, the sex related variable indicates that male respondents account 338(70.6%) where as females 141(29.4%).

### Socio-demography of respondents

Regarding ethnicity, majority [268(56%)] of them were Afar followed by Amhara 111(23.2%) and Tigre 77(16.1%). The rest of study subjects' ethnicity was Oromo and S/N/N which account about 13(2.7%) and 10(2%) respectively. Majority of the study subjects were Muslim 369(77.2%) followed by rare of Orthodox Christian 93(19.4%). The original residences of the respondents were majorly from urban area 248(51.8%), even though the difference to rural residence were minimal 248(51.8%) (Table 1).

**Table 1:** Socio-demographic characteristics of three selected College students (n=479) by sex, Afar, Ethiopia, 2016.

Variables		Frequency( percentage)			Total
		Samara	Asaita	Gewane	
<b>Sex</b>	Male	110(22.9%)	113(23.6%)	115(24%)	338(70.6%)
	Female	50(10.4%)	45(9.4%)	46(9.6%)	141(29.4%)
<b>Age group</b>	15-19	90(18.7%)	112(23.4%)	110(22.9%)	312(65%)
	20-24	55(11.5%)	43(8.97%)	49(10.23%)	147(30.7%)
	≥25	5(1%)	9(1.9%)	2(0.4%)	16(3.3%)
<b>Religions</b>	Orthodox	15(3.1%)	33(6.9%)	45(9.4%)	93(19.4%)
	Muslim	145(30.3%)	123(25.7%)	101(21.2%)	369(77.2%)
	Protestant	0(0%)	1(0.2%)	10(2%)	11(2.2%)
	Others	0(0%)	1(0.2%)	5(1%)	6(1.2%)
<b>Ethnicity</b>	Afar	93(19.4%)	117(24.4%)	58(12.1%)	268(56%)
	Amhara	44(9.2%)	21(4.4%)	46(9.6%)	111(23.2%)
	Tigray	23(4.8%)	15(3.1%)	39(8.2%)	77(16.1%)
	Oromo	0(0%)	2(0.4%)	11(2.3%)	13(2.7%)
	S/N/N	0(0%)	3(0.6%)	7(1.4)	10(2%)
	Others	0(0%)	0(0%)	0(0%)	0(0%)
<b>Original Residence</b>	Rural	58(12.1%)	77(16.1%)	96(20%)	231(48.2%)
	Urban	102(21.3%)	81((16.9%)	65((13.6%)	248(51.8%)

### Prevalence of substances use

The respondents were asked if they were engaged in any of substance abuse practice. From the response, 61.8% replied that they have tried any substance of abuse, of which 72.6% are male and 27.4% female. The rest 38.2% have not tried substance of abuse. Among those, 67.2% are male students and 32.8% female ones. This finding shows, male students are relatively exposed to the problem than that of the female students (table 2).

Table 2: Prevalence of Substance Users among selected College students (n=479), Afar, Ethiopia, 2016

Variables		Ever used		Currently using	
		Frequency(n)	Percentage (%)	Frequency(n)	Percentage (%)
Any substances	Yes	296	61.8	253	52.8
	No	183	38.2	226	47.2
Alcohol	Yes	280	58.4	205	42.8
	No	199	41.6	274	57.2
Khat	Yes	125	26.1	113	23.6
	No	354	73.9	366	76.4
Tobacco	Yes	37	7.7	32	6.7
	No	442	92.3	447	93.3
Shisha	Yes	23	4.8	23	4.8
	No	456	95.2	456	95.2

Comparing to females, male respondents account for almost 79% of current users of any substances. Additionally, currently users males account 77.5% for alcohol drinking, 77% for khat chewing, 87.5% for cigarette smoking, and 65.2% for illicit drug use. Concerning initiation time of substance use, 20% of participants started to use abused substances when they were elementary school students. 45% of the respondents started during secondary school life. Nearly 25% of the respondents had started when they were at college life (table 3).

Table 3: Percentage distribution of substance use among three selected College students (n=479) by sex, Afar, Ethiopia, 2016.

Variables	Sex	Current users	
		Frequency	percentage
Any substances	Male	200	79
	Female	53	21
Alcohol	Male	159	77.5
	Female	46	22.5
Khat	Male	87	77
	Female	26	23
Tobacco	Male	28	87.5
	Female	4	12.5
Shisha	Male	15	65.2
	Female	7	34.8

### Associated factors to use of substances

Different reasons were mentioned by students in which some of them mentioned more than one factor for their involvement into substance use. The prominent reasons for starting to use substances among the ever users were due to get personal pleasure in hot weather 47% only, 45% due to peer pressure and personal pleasures, due to availability of substances 30%, due to academic dissatisfaction 27.5%, to stay awake 22.1% and the least was to get relief from tension 15% (fig 1).

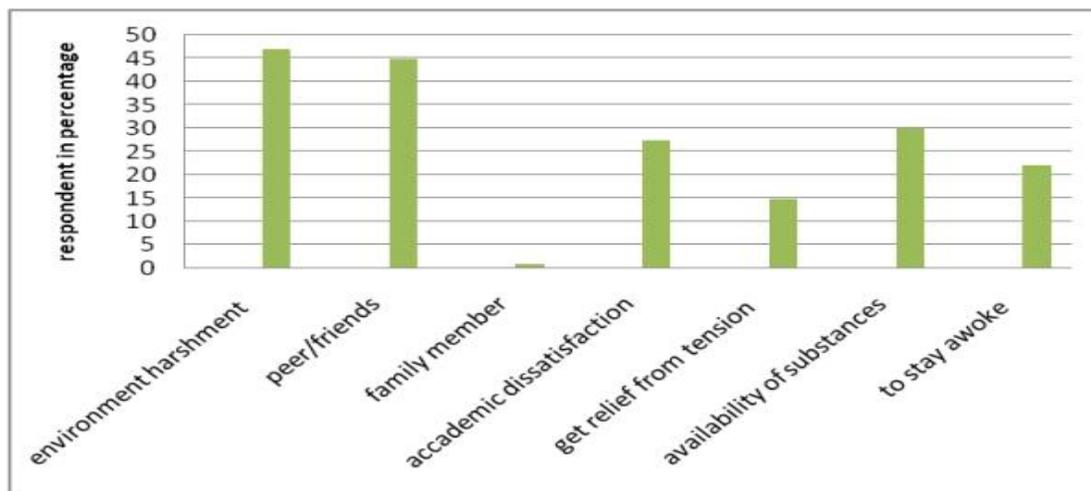


Figure 1: Distribution of students in the colleges based on who introduced them to use substances, 2016.

### DISCUSSION:

The prevalence of substance use in three colleges' students of Afar region was found to be 52.8%. The findings of this study also revealed that the commonly abused drugs were alcohol 58.2%, khat 26.1%, cigarette 7.7% and other illicit substances (4.6%). This finding is also somewhat comparative to the report from undergraduate students in public Midwestern University, the study that was done 2009 in secondary school of Kenya and various parts of the Ethiopia have noted that substance use was the most common which also having an approaching result to our current findings in Afar colleges' students. However, current finding is by far greater than the report from students of Mekelle University (20.1%) and substances abuse among Debre markos Polytechnic college students (14.1%) [13,15, 16, 17]. As compared to other drugs, high spread of alcohol, khat and cigarette abuse may be due to social, cultural and legal acceptability. The finding in relation to alcohol user depict that proportion of ever alcohol drinkers of this study is in line with finding of Debre Markos Polytechnic College students, and with among Chinese, University Students in Hong Kong alcohol abuse [18].

But, it is lower than the study among students of Mekelle University, 69.7%, (Abrha, 2013), additionally, it is slightly higher than reports from private high school students in Addis Ababa 57.7% (Kassaye *et al*; 1999). The difference in available stream of study in each college and countries could be contributing factors for this varying rate of alcohol consumption as it also further affects knowing the impacts of using it.

The present findings show that, being male; and coming from urban areas were slightly and positively associated with students to abuse substances. This is in agreement with study conducted among Addis Ababa high school students. Previous studies also identified that friends' and parental use of substances were strongly associated with the use of substances among adolescents, indicating the influence of peer pressure [15, 19]. This influence of the weather conditions and friends suggests that interventions should be multi directional involving different sections of the population at the same time. The finding also revealed reason of introduction to use substances by friend/peer influence which also in parallel with finding of Tesfahun (2013), Abrha (2013) and Igwe (2009) on adolescents [13, 15, 17, 18].

The study conducted among college students in North Western Ethiopia put similar prevalence of current user of substances with Afar region [8]. However, this finding is less prevalent compared to the study in high school students in south-western Ethiopia, 64.9% [20] and the study among Jimma University staffs [21].

The difference indicated in the above discussion might, in general, be due to the population under study difference, and promotion of publicity. The difference in educational program among colleges and between countries and the time the research was undertaken could also be contributing factors for this varying rate of substance use and abuse. There are also some contributions of weather conditions. Organizational, physical and behavioral property

variables of campuses, including the type of residence, institutional size, location and campus community property variables could also be reasons to the variations.

#### CONCLUSION AND RECOMMENDATION:

The present study aimed at assessing the magnitude of students' substance abuse and associated factors among colleges in Afar region. Accordingly, a significant proportion of students abuse substances. It was associated positively with certain variables such as male participants, urban setting, and availability of drugs. Additionally, the commonly abused substances were alcohol, khat, and cigarette. They use it for the reason of getting personal pleasure in hot weather, peer pressures, for relaxation with friends and to get relief from stress respectively. Therefore, actions targeting on those predictors are necessary to effectively reduce substance abuse among college students in Afar regional state.

Most of the respondents were aware of the complications that could arise from their substance use, though the prevalence is still high.

Based on this finding, the following recommendation are required to be implemented:

- ✓ The colleges need to prepare students involved open forums and conferences to create understanding on the ill effects of psychoactive substance use in collaboration with other organizations.
- ✓ Peer educators need to be established and strengthened in all colleges, high schools and preparatory schools; because involvement of peers and role models would have a high probability of success by providing education about substance and its effects in a friendly manner.
- ✓ Colleges need to teach their students with special focus on fresh man students, about the health risks and socioeconomic problems associated with psychoactive substance.
- ✓ School substance control efforts need to target on the environment where substances are found, parents and students.
- ✓ The support of religious institutions should be sought in providing education aimed at preventing substance use.

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