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Psychoactive Substances Use (Khat, Alcohol and Tobacco) and Associated Factors among Debre Markos University Students, North-West Ethiopia, 2013

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Abstract

Background: Use of substances such as alcohol, khat leaves (Catha edulis) and tobacco has become one of the rising major public health and socio-economic problems worldwide. Recent trends indicate that the use of substances have dramatically increased particularly in developing countries. Alcohol, especially in high doses, or when combined with khat or tobacco, continues to claim the lives of many young people.

Objective: The aim of this study was to determine the prevalence and associated factors of psycho-active substance use among undergraduate students in Debre Markos University.

Methods: Institution based quantitative cross sectional study design was conducted among Debre Markos university students in from 1-10 May 2013. A sample of 845 students was selected by using multi stage sampling technique. The data was collected by using pre tested anonymous self administered questionnaire and the collected data was cleaned, coded, entered into EPI-DATA version 6 and transferred & analysed using SPSS computer soft ware package version 20.

Results: Out of 845 students 800 students were participated in the study and make it the response rate 96.6%. The overall life time and prevalence of psychoactive substance use in the last 12 months among Debre Markos university students was 48.4% and 46.3%, respectively. The prevalence of khat chewing, alcohol drinking and cigarette smoking in the last 12 months was 28.5%, 33.8% and 10%, respectively. A large proportion of the study participants were introduced for khat chewing 60%, alcohol drinking 63% and cigarette smoking 70% by their peer friends. The commonest reason for khat, alcohol and cigarette using were to keep alert while reading 46.1%, for relaxation 79% and to relief stress 36.6%, respectively. Being male was strongly and positively associated with khat use, drinking alcohol and cigarette smoking [AOR: 3.2, 95%CI: (1.83, 5.32)], [AOR: 2.62, 95%CI: (1.26, 4.32)] and [AOR: 2.6, 95%CI :(1.17, 5.76)], respectively.

Conclusion: Firstly a significant proportion of students use psychoactive substances. Secondly, important variables were identified as predictors for the increased psychoactive substance use. The odds of psychoactive substance use increased with being male, urban residence and peer pressure. Therefore, actions targeting on those predictors are necessary to effectively reduce the use of the psychoactive substance use.

Keywords: Substance use; Khat; Alcohol; Cigarette; University students

Background

Use of substances such as alcohol, khat leaves (Catha edulis) and tobacco has become one of the rising major public health and socio-economic problems worldwide [1]. Recent trends indicate that the use of substances have dramatically increased particularly in developing countries [1]. Alcohol, especially in high doses, or when combined with khat or tobacco, continues to claim the lives of many people. It is estimated that 9% of the global population aged 12 or older are classified with dependence on psychoactive substances such as alcohol [2]. Heavy consumption of khat is associated with euphoria, hyperactivity, anorexia, insomnia, lethargy and depression. In addition, the combined use of alcohol and khat could increase sexual risky behavior contributing to the spread of human immune-deficiency virus (HIV) infection [2,3].

The transition from high school to college is a critical developmental period commonly associated with escalations in a range of health-risk behaviors including alcohol, tobacco and illicit drug use [4]. Substance Abuse occurs in all segments of all societies especially among college students, which results in decreased work, decreased academic performance, increased risk of contracting HIV and other sexually transmitted diseases, accidents, intoxication while working, absenteeism, violent crime, theft and other psychiatric disorders such as lethargy, hopelessness and insomnia [2,5].

During the transition to college, young people encounter many new sources of stress, including separation from family, sharing close living quarters with strangers, the formation of new social groups, intense academic pressures and the balancing of social engagements with academic and other life responsibilities [6]. In 2006 there where around 190 million drug abusers around the globe, which accounts for 3.1% of the world population or 4.3% of the population aged 15 years and above [7]. A study conducted among college students in Eldoret, western Kenya showed that the Lifetime prevalence rate of any

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substance use was 69.8%; Lifetime prevalence rate of alcohol use and cigarette was 51.9% and 42.8%, respectively [8]. Substance use remains high among Ethiopian youth and young adolescents particularly in high schools and colleges [9]. The use of alcohol, khat and tobacco by college and university students can be harmful; leading to decreased academic performance, increased risk of contracting HIV and other sexually transmitted diseases.

Substance abuse is one of the most burning and growing public health problem in Ethiopia, as in many developing countries. Alcohol , khat and Tobacco are the most frequent substances of abuse, followed by, cannabis and solvents [9,10], However Hard drugs such as heroin and cocaine are rarely used [2,9]. The prevalence of hazardous drinking was about 3%, and that of alcohol dependence and cannabis abuse was each about 1.5%. The prevalence of khat use varied widely (0.3 to 64.7%) [9,10].

Studies claimed that substance abuse is associated with Availability and cost of the substance, Psychiatric disorders, Social setting and community attitude, Peer influence Paucity of other options for pleasure and diversion ,Low employment or educational opportunities, Gender, Age and family history [2,5,11,12]. Moreover, study done among adolescents of the Seychelles and chili showed that Age, Gender, poor parental controlling and Psychological characteristics such as sadness, loneliness, insomnia due to worrying, and suicidal ideation were associated with substance use [13,14].

Therefore, knowing the prevalence and identifying the associated factors of psycho active substance use can be important for the prevention of alcohol, Khat, Tobacco and other drug use disorders among adolescents, College and University Students. So, the aim of this study was to assess the prevalence of psychoactive substance use and its associated factors among undergraduate students in Debre Markos University, North-West Ethiopia, 2013.

Methods

Study area and period

Debre Markos University is one of the newly established public higher education institutions in Ethiopia. It is located in Debre Markos town, about 299 Km far from Addis Ababa, the Ethiopian Capital city. Currently, the university is organized into six faculties and one school. The university has a total of 35 academic departments. Teaching, research, and consultancy/community services are main objectives of the university. This study was conducted from 1-10 May, 2013.

Study design and study population

Institutional based quantitative cross sectional study was conducted among undergraduate regular students of Debre Markos University. The study population was selected sample of regular undergraduate students.

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 845.

The required sample was obtained by using Multi-stage sampling technique. At the First stage seven departments was selected by using simple random sampling from the total of 35 departments at Debre Markos University. At the second stage departments in each field of study was further stratified by their year of study, assuming that their field of study and duration of stay in the campus will affect psycho active substance use among the students. Finally the total sample size was distributed proportionally to the selected departments based on total number of students in each year of study. Individual students from each stratum were selected by using simple random sampling technique using computer generated random numbers.

Data collection and quality measurement

The questionnaire was prepared by reviewing relevant literature and previously used standardized instruments. Data collection was done by pre tested, pre coded, and self- administered questionnaire with closed ended questions. The questionnaire was originally prepared in English language and then translated to the national language (Amharic) and again re-translated to English by language experts for consistency.

The data was collected by five diploma nurse. Two supervisors was selected and trained as to how to supervise. Note that, staffs and supervisors were informed not to interfere while students were filling the questionnaire in order to avoid bias.

Data processing and analysis

The collected data was cleaned, coded, entered into EPI-DATA version 3 and transferred & analysed using SPSS computer soft ware package version 16. Summary statistic of socio demographic variables was presented using frequencies tables and graphs. Bivariate analysis was done & variables with p-value less than 0.20 were included in the multiple logistic regression analysis which will be performed to assess the association between psychoactive substance use and various explanatory variables. 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

Primarily, ethical clearance was obtained from, Debre Markos University and official letter was written from College of Medicine and Health Sciences, Debre Markos University to get permission and cooperation. Accordingly, a sort of discussion was made with the research and community service vice president of Debre Markos University about the whole purpose of the research project. The purpose and the importance of the study were explained & written consent was obtained from each participant. Participant's involvement in the study was on voluntary basis; participants who were unwilling to participate in the study & those who wish to quit their participation at any stage were informed to do so without any restriction. Moreover, Confidentiality of the information was assured through using anonymous questionnaire and keeping the data in secured place.

Results

Socio-demographic characteristics

Out of 845 students, 800 participated in the study making the response rate of 94.6%. Among the study subjects, 468 (58.5%) were males. Of the study subjects, 641 (80.1%) were in the age group of 20-24 with mean age of 21.6 $\pm$ 3.4 years. Majority of the study subjects were Orthodox Christian 504 (63%) and Amhara 400 (60%) in Ethnic. Most of the students were single 720 (90%) (Table1).

Prevalence of psychoactive substance use

The overall life time and current prevalence of psychoactive

Characteristics	Total n (%)
Sex	
Male	468 (58.5)
Female	332 (41.5)
Age group	
15-19	50 (6.3)
20-24	641 (80.1)
25-30	109 (13.6)
Mean ± SD	21.6 ± 3.4 SD
Religion	
Orthodox	504 (63)
Muslim	160 (20)
Protestant	120 (15)
Others	16 (2)
Ethnicity	
Amhara	400 (60)
Oromo	180 (30.7)
Tigray	150 (16)
S/N/N	60 (9.1)
Others	10 (1.3)
Marital status	
Single	720 (90)
Married	72 (9)
Others	8 (1)
Original Residence	
Rural	560 (70)
Urban	240 (30)
Monthly income (Birr)	
<150	400 (50)
150-500	300 (37.5)
>500	100 (12.5)
Year of study	
First year	308 (38.5)
Second year	250 (31.5)
Third year and above	240 (30)
Faculty	
Engineering	340 (42.5)
FBE	200 (25)
Health	70 (8.8)
Natural	140 (17.5)
Social	50 (6.2)

Table 1: Socio-demographic Characteristics of Debre Markos university students by sex, May 2013.

substance use among the study subjects was 48.4% and 46.3%, respectively. The life time prevalence of khat use, alcohol drinking and cigarette smoking was 30.8%, 35% and 11.3%, respectively. Similarly, the prevalence of khat chewing, alcohol drinking and cigarette smoking in the last twelve month was 28.5%, 33.8% and 10%, respectively. The minimum age for khat chewing, alcohol drinking and cigarette smoking were 15, 13 and 16, respectively. At the same time, the mean age at which the respondents started khat chewing, alcohol drinking and cigarette smoking was 18.3 ± 3.25, 17.5 ± 2.2 and 21.5 ± 1.2 years, respectively (Table 2).

From a total of 228 khat chewers, about 86 (37.7%) of them chewed occasionally and about 43 (18.7%) chewed daily. Similarly about 180 (66.7%) of alcohol drinkers and 38 (42.3%) of cigarette smokers used it occasionally. Only about 11 (4%) of alcohol drinkers and 31 (34.4) of smokers used it daily.

With regard to starting time for psychoactive substance use, about 35% of khat chewers and 39% of cigarette smokers started khat and cigarette using while they were first year students. However, majority of alcohol drinker 29% started while they were high school students (Figure 1). A large proportion of the study participants were introduced for khat chewing 137 (60%), alcohol drinking 155 (63%) and cigarette smoking 7 (70%) by their peer friends (Figure 1).

Among the respondents who used khat and cigarettes, 44% and 33% chewed chat and smoked cigarette at khat houses, respectively. At the same time, about 28% chewed khat at their dormitory and 37% of cigarette smokers smoke cigarette anywhere (Figure 2).

Of the 228 ever khat chewers; about 171 (75%) obtained from nearby shop followed by from street peddlers 39 (17.1%) and the remaining 18 (7.9%) obtained from hotels and other market areas.

Majority of the respondents, chewed khat 166 (72.8%) and drunk alcohol 220 (81%) with their peer friends and about 40 (17.5%) of khat chewers and 17 (7%) of alcohol drinkers used with their boy/girl friends.

Reasons for psychoactive substance use

Among 228 study participants who reported chewed khat in the

Variables	Total n (%)
Ever used	
Yes	387 (48.4)
No	413 (51.6)
Users in the last 12 months	
Yes	370 (46.3)
No	430 (53.7)
Current users	
Yes	320 (40)
No	480 (60)
Ever chewed	
Yes	246 (30.8)
No	554 (69.2)
Chewed in the last 12 months	
Yes	228 (28.5)
No	572 (71.5)
Current chewer	
Yes	225 (28.1)
No	575 (71.9)
Ever drunk alcohol	
Yes	280 (35)
No	520 (65)
Drunk in the last 12 months	
Yes	270 (33.8)
No	530 (66.2)
Current drinker	
Yes	260 (32.5)
No	540 (67.5)
Ever smoker	
Yes	90 (11.3)
No	710 (88.7)
Smoked in the last 12 months	
Yes	80 (10)
No	720 (90)
Current smoker	
Yes	80 (10)
No	720 (90)

Table 2: Life time, in last 12 months and current prevalence of psychoactive substance use among Debre Markos university students by sex, May 2013.

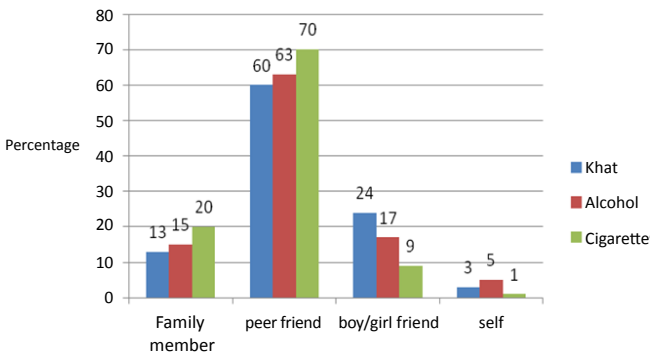

Figure 1: Distribution of students in Debre Markos University based on who introduced them to use substances, May 2013.

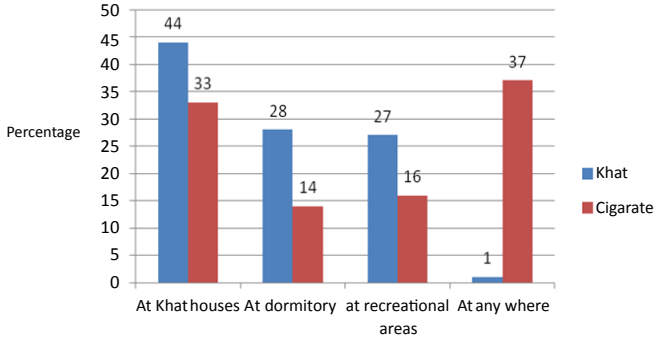

Figure 2: Distribution of Debre Markos university students based on the place where psychoactive substances are mostly taken, May 2013.

last 12 months, 105 (46.1%) believed that khat chewing is important to keep alert while reading. About 39 (17.1%) and 34 (14.9%) chewed khat to get relief from stress and for relaxation, respectively. On the other hand, 181 (79%) and 45 (16.7%) of alcohol drinkers used it for relaxation with friend and to get relief from stress, respectively. Similarly about 32 (36.6%) and 29 (32.2%) of the total cigarette smokers used it to get relief from stress and for relaxation with friends, respectively.

Intention to stop psychoactive substance use

Of the total psychoactive substance users, 138 (60.5%), 155 (57.4%) and 33 (36.7%) didn't have an intention to stop khat, alcohol and cigarette, respectively. The main reasons mentioned by the study subjects for intention to stop khat chewing were, Spending a lot money for khat 37 (41.1%) and the students know that khat is bad for health 30 (33.3%). Similarly the main reason for intention to stop alcohol and cigarette smoking was the students know that alcohol 62 (53.9%) and cigarette 33 (42.3%) are bad for health.

Factors associated with substance use

Being Sex, Religion, Ethnicity, original residence, peers chewing khat, family chewed khat, ever smoke cigarette and perceived health risk were found to be significant factor for khat chewing by the respondents (Table 3).

Among socio demographic characteristics of the respondents Sex and Religion were found to be significant factor for alcohol drinking (Table 1).

Among the socio demographic characteristics of the respondents only Sex and residence were found to be significant factors for cigarette smoking. Similarly, students who had ever drink alcohol, whose friends currently smoke cigarette were also significantly associated with cigarette smoking.

Discussion

Use of substances such as alcohol, khat leaves (Catha edulis) and tobacco has become one of the rising major public health and socio-economic problems worldwide. Recent trends indicate that the use of substances have dramatically increased particularly in developing countries. Alcohol, especially in high doses, or when combined with khat or tobacco, continues to claim the lives of many people [1].

This study showed that there is substantial burden of psychoactive substance use among Debre Markos University Students. The overall life time and prevalence of psychoactive substance use in last 12 months among Debre Markos university students was 48.4% and 46.3%, respectively. This finding higher than similar study among Axum University where the overall life time and in the past 12 month prevalence of psychoactive substance use were 45.9% and 44.8%, respectively [15]. This might be due to that psychoactive substance like khat is more accessible in the study area than Axum. This finding is significantly lower than a similar study done among high school students in Nigeria, in which the life time and current prevalence were 87.3% and 69.2% , respectively [16]. The possible explanation for this large variation could be; the socio demographic and cultural variation, knowledge gape on the health risks of substance use among the students could contribute for this variation in prevalence and including the commonly consumed substance (coffee) may increase the overall prevalence [3].

	Chewed khat within the last 12 months				
Variables	**Yes**	**No**	**COR (95%CI)**	**AOR (95%CI)**	**p-value**
Sex					
Male	180	288	3.7 (1.45, 6.42)	3.2 (1.83, 5.32)	0.004
Female	48	284	1	1	
Religion					
Orthodox	124	338	1	1	
Muslim	81	79	2.79 (0.21, 0.46)	2.7 (1.67, 3.25)	0.001
protestant	20	10	1.63 (0.26, 1.63)	0.41 (0.21, 1.79)	0.307
Others	3	13	1.41 (0.44, 3.68)	0.32 (0.03, 1.63)	0.466
Residence					
Rural	120	440	0.33 (0.17, .76)	0.23 (0.18, 0.38)	0.046
Urban	108	132	1	1	
Ever drunk alcohol					
Yes	160	120	8.9 (7.31, 12.01)	7.64 (6.47, 11.52)	0.008
No	68	452	1	1	
Ever smoke cigarette					
Yes	60	30	6.6 (5.16, 13.36)	5.61 (3.62, 12.49)	0.01
No	168	552	1	1	
Perceived health risk					
Yes	148	500	0.27 (0.13, 0.67)	.34 (0.27, 0.84)	0.004
No	80	72	1	1	
Family chewed hat					
Yes	180	200	6.97 (5.68, 11.41)	6.45 (5.23, 10.43)	0.001
No	48	372	1	1	
Peers chewing khat					
Yes	150	180	4.18 (3.69, 11.43)	3.7 8(2.89, 10.51)	0.001
No	78	392	1	1	

Table 3: Bivariate and multivariate logistic regression analysis showing Socio-demographic and behavioral correlates of khat chewing within the last 12 months among Debre Markos University students, May 2013.

In our study, the prevalence of khat chewing, alcohol drinking and cigarette smoking in the last 12 months was 28.5%, 33.8% and 10%, respectively. This finding was higher than the study done among Addis Ababa University, Medical students which is the prevalence of khat chewing, alcohol drinking and cigarette smoking in the last 12 months, was 22%, 7% and 9%, respectively [2]. This might be due to the time difference because the study is conducted in 2009 which was before three years ago. The other possible reason for this variation might be the difference in composition and knowledge on health risks of khat chewing among the study participants.

The life time and prevalence of Alcohol drinking in the last 12 months among Debre Markos university students was 35% and 33.8%, respectively. This result is lower than an electronic screening study done among university students in Sweden, which showed that majority of the students 91% consumed alcohol during the preceding three months [17]. This result is also lower than a study done at federal university of Alagoas, Brazil and among college students in Eldoret, Western Kenya with alcohol consumption rate of 87.6% and 51.9%, respectively [8,18]. The possible explanation for this large variation on prevalence of alcohol consumption could be; the socio-economic and cultural difference among this different group of students might have an impact on alcohol drinking rate and possibly the use of electronic screening method might eliminate either under reporting or false reporting by the students.

The prevalence of cigarette smoking among Debre Markos University Students were almost consistent with study conducted among college students in North West Ethiopia where the life time and current prevalence was 13.1% and 8.1%, respectively [12]. This is also consistent with community based study conducted in Butajira town, Ethiopia where 11.8% men and 0.2% women were current smokers [19].

The minimum age for khat chewing, alcohol drinking and cigarette smoking were 13, 15 and 16 respectively. At the same time, the mean age at which the respondents started khat chewing, alcohol drinking and cigarette smoking was 18.3 ± 3.25, 17.5 ± 2.2 and 21.5 ± 1.2 years, respectively. This is slightly higher than a study done among college students in North west Ethiopia in which the mean age for starting khat chewing and cigarette smoking were 17.3 and 18.2 years, respectively and the finding of this study is similar to Axum University Students [12,15].

With regard to starting time for psychoactive substance use, about 35% of khat chewers and 39% of cigarette smokers started khat and cigarette using while they were first year students. This finding is similar with the research conducted among Axum University Students about 83 (38.2%) of khat chewers and 93 (35.6%) of alcohol drinkers started khat and alcohol using while they were preparatory school students. However, majority of cigarette smokers 35 (43.2%) started while they were first year university students. Similarly about 16.7 khat chewers, 17.6% alcohol drinkers and 6.2% of cigarette smokers were started during their high school period [15]. The possible reason for most students start psychoactive substance in preparatory school and first year is because they are out of family control and they are introducing to the adolescent stage.

The commonest reason for khat, alcohol and cigarette using were to keep alert while reading 46.1%, for relaxation 79% and to relief stress 36.6%, respectively. This finding was supported by study done in among Axum University students [15]. About 625 (78.1%), 650 (81.2%) and 700 (87.5%) of the respondents were aware of problems or complications that could arise from khat, alcohol and cigarette using, respectively. This result is supported by study done among Axum University where about 585 (77.3%), 608 (80.4%) and 657 (86.9%) of the respondents were aware of problems or complications that could arise from khat, alcohol and cigarette using , respectively [15].

A large proportion of the study participants were introduced for khat chewing 137 (60%), alcohol drinking 155 (63%) and cigarette smoking 7 (70%) by their peer friends. This study is supported by a study conducted among Axum University Students [15]. This could be due to majority of the students are found in the adolescent age group where peer pressure is expected to be high (Table 4).

The socio demographic variables sex, religion and original residence were significantly associated with khat chewing in the last 12 months. Being male [AOR: 3.2, 95CI: (1.83, 5.32], Muslim in religion as compared to Orthodox Christian [AOR: 2.7, 95%CI: (1.67, 3.25 and being from urban back ground are significantly associated with khat chewing. This might be due to the fact that khat growing and the practice of chewing have traditionally been confined to some places where Muslim population is found. The habit might be socially accepted and could be easily passed from generation to generation [19]. This study is supported by a study conducted among Axum University Students where gender and religion was significantly associated with khat chewing [15].

Ever alcohol drink and cigarette use, family member chew khat, peer friends chew khat [AOR: 3.78 95%CI: (2.89, 10.51) were strongly and positively associated with khat use, however perceived health risk is negatively associated with khat use. This might be due to adolescents are at high risk for peer pressure and the presence family member who chew khat could influence adolescents and children in the family. Similarly, those students who know the different health risks of khat chewing were less likely to chew khat, this could be due to fear of complications that arise from khat chewing. This study is consistent with study done among staff of Jimma University which showed that being male, Muslim and habit of alcohol and cigarette intake had

	Drunk alcohol within the last 12 months				
Variables	Yes	No	COR (95%CI)	AOR (95%CI)	P-value
Sex					
Male	200	268	2.79 (2.13, 4.56)	2.62 (1.26, 4.32)	0.001
Female	70	262	1	1	
Religion					
Orthodox	230	294	1	1	
Muslim	22	138	0.20 (0.12, 0.46)	0.14 (0.11, 0.34)	0.000
protestant	15	105	0.18 (0.14, 0.63)	0.16 (0.13, 0.59)	0.008
Others	3	13	0.29 (0.24, 3.68)	0.22 (0.18, 1.63)	0.172
Ever chewed khat					
Yes	186	58	18 (17.86, 22.58)	12 (10.36, 14.73)	0.007
No	84	472	1	1	
Perceived health risk					
Yes	200	500	0.17 (.16, .94)	0.15 (0.13, 0.87)	0.001
No	70	30	1	1	
Family drunk alcohol					
Yes	180	300	1.53 (0.92, 3.24)	1.24 (1.17, 2.34)	0.001
No	90	230	1	1	
Peers drunk alcohol					
Yes	200	320	1.88 (1.59, 3.02)	1.69 (1.29, 6.85)	0.001
No	70	210	1	1	

Table 4: Bivariate and multivariate logistic regression showing socio-demographic and behavioral correlates of alcohol drinking within the last 12 months among Debre Markos university students, May 2013.

significant association with khat chewing. This study is also supported with similar study among university students in Jimma University where, majority of khat users were male, and Muslim [20].

Sex and religion of the students were significantly associated with alcohol drinking. Males are more likely to drink alcohol than female students; this is almost similar with a study done among medical students in Addis Ababa University and Axum University Students [2]. This could be due to females are more culturally restricted from exposure to alcohol drinking than males. Religions of the students were significantly associated with alcohol drinking, being Orthodox Christians were more likely to drink alcohol than other religions. The possible reason for this result could be Traditional alcohol containing drinks (in moderation) might not be discouraged by the Orthodox Christian church, even though in moderation, alcoholic beverages like "Tella" are provided for the church servants.

This finding is in line with similar study done among medical students in Addis Ababa University and Axum University which reported that being a Muslim was strongly and positively associated with khat use, but inversely related with alcohol use in the last 12 months. In contrast, belonging to Orthodox Christianity was strongly and positively associated with alcohol use [AOR: 0.14, 95%CI: (0.11, 0.34)] [2] (Table 5).

Ever chewed khat [AOR: 12, 95%CI: (10.36, 14.73), family drinking alcohol [AOR: 1.24, 95%CI: (1.17, 2.34)], peer friends drink alcohol [AOR: 1.69, 95%CI: (1.28, 6.85)],) and perceived health risk of alcohol drinking by the student [AOR: 0.15, 95%CI: (0.13, 0.87)] were significantly associated with alcohol using among the respondents. A student who ever chewed Khat 12 times is more likely to drink alcohol than non khat chewers. This finding is supported by the result of similar study among US adolescents and Axum University Students which showed family member drinking in the home, peer drinking perceived health risk of alcohol were associated with alcohol use [21].

Alcohol drinking in this study agrees with the results of similar study in Addis Ababa university where Sex, ever use khat,) and peer friend drink alcohol were significantly associated with Alcohol drinking

	Cigarette smoking within the last 12 months				
Variables	**Yes**	**No**	**COR (95%CI)**	**AOR (95%CI)**	**P-value**
Sex					
Male	71	397	2.94 (2.17, 7.46)	2.60 (1.17, 5.76)	0.019
Female	19	313	1	1	
Residence					
Rural	22	538	0.10 (0.08, 165)	0.07 (.04, .096)	0.023
Urban	68	172	1	1	
Ever chewed khat					
Yes	65	181	7.6 (5.46, 11.34)	3.29 (1.61, 8.45)	0.009
No	25	529	1	1	
Ever drunk alcohol					
Yes	68	212	7.3 (6.31, 11.01)	4.32 (2.14, 14.7)	0.001
No	22	498	1	1	
Peers smoke cigarette					
Yes	60	440	1.20 (1.16, 3.93)	1.61 (1.26, 6.78)	0.001
No	30	270	1	1	
Perceived health risk					
Yes	27	638	0.04 (0.0.01, 0.027)	0.16 (0.12, 0.74)	0.016
No	64	59	1	1	

Table 5: Bivariate and multivariate logistic regression, showing Socio-demographic and behavioral correlates of cigarette smoking within the last 12 months among Debre Markos university students, May 2013.

[2]. Again just like khat chewing, peer pressure is playing great role for the initiation of alcohol consumption.

Sex and original residence of the students have significantly associated with cigarette smoking, being male were 2.6 time more likely to smoke cigarette than female students and being rural original residence were 0.07 less likely to smoke cigarette when we compare with urban original residence. Being Life time alcohol, khat and perceived health risk of cigarette was strongly associated with cigarette smoking. The finding of this study is consistent with similar study done among Axum and Addis Ababa University Students [2,15].

Conclusion

- A significant proportion of students use psychoactive substances.
- Most of the students started substance use during their preparatory school and first year university study period
- The most commonly mentioned reason for khat, alcohol and cigarette use among undergraduate university students were to keep alert while reading, for relaxation with friends and to get relief from stress respectively.
- Most of the respondents were aware of the complications that could arise from their substance use, though the prevalence is still high
- Important variables were identified as predictors for the increased psychoactive substance use. The odds of psychoactive substance use increased with being male, urban residence and peer pressure.

Recommendation

- The University 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 universities, 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.
- Universities need to teach their students with special focus on fresh man students, about the health risks and socioeconomic problems associated with psychoactive substance.
- The ministry of Education need to focus and Integrate education about substances use into the curricula of primary and secondary schools.
- 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.
- Heavy cost should be imposed on tobacco, khat and alcoholic beverages to discourage their widespread consumption.

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References

1. Odejide AO (2006) Status of drug use/abuse in Africa. International Journal of Mental Health 4: 87-102.
2. Deressa W, Azazh A (2011) Substance use and its predictors among undergraduate medical students of Addis Ababa University in Ethiopia. BMC Public Health, 11: 660.
3. Oshodi OY, Aina OF, Onajole AT (2010) Substance use among secondary school students in an urban setting in Nigeria: prevalence and associated factors. African J Psychiatry 13: 32-57.
4. Grossbard JR, Mastroleo NR, Kilmer JR, Lee CM, Turrisi R, et al. (2010) Substance Use Patterns Among First-Year College Students:Secondary Effects of a Combined Alcohol Intervention. J Subst Abuse Treat 39: 384-90.
5. Kebede Y, Abula T, Ayele B, Feleke A, Degu G, et al. (2005) Substance Abuse For the Ethiopian Health Center Team: Ethiopia Public Health Training Initiative.
6. Joseph A (2003) Depression, Substance Abuse and College Student Engagement: A Review of the Literature.
7. Emerging Public Health Problem in Ethiopia (2006) Annual conference of The Ethiopian Public Health Association, Addis Ababa.
8. Atwoli L, Mungla PA, Ndung'u MN, Kinoti KC, Ogot EM (2011) Prevalence of substance use among college students in Eldoret, western Kenya. BMC Psychiatry 11: 34.
9. Fekadu A, Ataley A, Charlotte H (2007) Alcohol and Drug Abuse in Ethiopia. African Journal of Drug and Alcohol Studies 6: 39-53.
10. Thatcher DL, Clark DB (2008) Adolescents at Risk for Substance Use Disorders Alcohol Res Health.
11. Mossie A (2002)The prevalence and socio demographic characteristics of khat chewing in Jima Town, South west Ethiopia. Ethiop J Health Sci 12: 69-79.
12. Kebede Y (2002) Cigarette smoking and Khat chewing among college students in North West Ethiopia. Ethiop J Health Dev 16: 9-17.
13. Alwan H, Viswanathan B, Rousson V, Paccaud F, Bovet P (2011) Association between substance use and psychosocial characteristics among adolescents of the Seychelles. BMC Pediatrics 11: 85.
14. Horner P, Grogan-Kaylor A, Delva J, Bares CB, Andrade F, et al. (2011) The Association of Family and Peer Factors with Tobacco, Alcohol, and Marijuana Use among Chilean adolescents in Neighborhood Context. Subst Abuse Rehabil 2: 163-72.
15. Measho G, Feleke A, Melese T (2013) Psychoactive substances use and associated factors among Axum university students, Axum Town, North Ethiopia. BMC Public Health, 13: 693.
16. Fawibe AE, Shittu AO (2011) Prevalence and characteristics of cigarette smokers among undergraduates of the University of Ilorin, Nigeria. Niger J Clin Pract 14: 201-205.
17. Andersson A, Wiréhn AB, Ölvander C, Ekman DS, Bendtsen P (2009) Alcohol use among university students in Sweden measured by an electronic screening instrument. BMC Public Health, 9: 229.
18. Brandao YST, Correia YS, de Farius MSJ, Antunes TMT, da Silva LA (2011) The prevalence of alcohol consumption among the students newly enrolled at a public university. Journal of Pharmacy and Bioallied Sciences 3: 345-349.
19. Schoenmaker N, Hermanides J, Davey G (2005) Prevalence and predictors of smoking in Butajira town, Ethiopia. Ethiop J Health Development 19: 182-187.
20. Gelaw Y, Haile-Amlak A (2004) Khat chewing and its socio-demographic correlates among the staff of Jimma University. Ethiop J Health Devt 18: 6-15.
21. Fisher LB, Miles IL, Austin B, Camagro Jr. CA, Colditz GA (2007) Predictors of Initiation of Alcohol Use among US Adolescents. Arch Pediatr Adolesc Med, 161: 959-966.