

Prevalence and Factors Associated to Alcohol Use and Khat Chewing Among Ambo University Students, Ambo, West Ethiopia

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Abstract

Background

Substance use among college and university students remains an important area of research due to the implications of early substance dependence on the future of the youth. University students may be at high risk for using illicit substances during university life. Entering the university, often leads to new opportunities, independence from family control, self decision making, and peer-pressure to use or abuse alcohol or other drugs.

Results

Life time, past 12 months and current prevalence of Alcohol drinking was reported to be 50.7%, 43% & 26.1% respectively among Ambo university students. Lifetime prevalence of khat chewing was 36.1% and 18% of the respondents currently chewing khat. Male students were about two times more likely to current alcohol user as compared to female students (AOR 2.26, 95% CI 1.27, 4.03). The presence of family members who drink alcohol, chew chat and smoke cigarette was significantly associated with alcohol using with AOR 7.83, 95% CI 4.64-13.20 as well as Students with substance user (i.e, alcohol ,Khat & cigarette) friends were at higher risk of life time drinkers (AOR 5.22, 95% CI 2.63-10.39) when compared to those whose friends are non user of substance.

Methods

Institution based cross-sectional quantitative study design involving the administration of Amharic version of the pre-tested structured self-administered questionnaire was used to collect information on alcohol use and khat chewing. The source population was stratified based on their year of study. The study population was selected using simple random sampling technique

Conclusion

The prevalence of alcohol use and khat chewing in the present study particularly the lifetime prevalence was high compared to previous study on the similar study population

1. Background

1.1. Statement of the problems

Substance use which is remaining high among the world Adolescent and Youth of which alcohol, khat and cigarette are among others. Use of these substances 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].

The use or misuse of addictive substances, such as cigarettes, alcohol, and khat (*Catha edulis* Forsk) is increasingly prevalent in Ethiopia. Of the young segment of the Ethiopian population, college and university students are the most at risk of using alcohol and other drugs such as khat and tobacco [2]. Some countries where the use of Khat is widespread; the habit has a deeprooted social and cultural tradition. This is particularly true for Ethiopia [3]. Several million people may be chewing Khat worldwide, with an estimated of 10 million people chewing Khat leaf daily. From different perspective, Khat seriously can harm the economy of any State by encouraging laziness and absenteeism besides unwise income spending; the thing that adversely affected the economies of States such as Ethiopia, Yemen, Djibouti where the statistics suggest, nearly every family spends one third of its disposable income on Khat. Thus, Khat is banned in Saudi Arabia, Egypt, Morocco, Sudan, Kuwait, US and some European countries; while in Australia, its importation is controlled under the Customs (Prohibited Imports) Regulations. Up until a few decades ago, khat chewing was mainly restricted to older men or members of Muslim communities who used it in lieu of alcohol on religious grounds and, therefore, the habit did not pose serious public health or socio-economic problems. In recent years, however, its use has spread across many faiths, ethnic groups, age, sex, etc [4 &5].

University students may be at high risk for using illicit substances during university life due to changes in lifestyle and reduced parental control [6]. Entering the university, often leads to new opportunities, independence from family control, self-decision making, and peer-pressure to use or abuse alcohol or other drugs [7].

It is generally acknowledged that several factors are involved in the initiation of substance use among adolescents and young adults. Current use of alcohol was significantly associated with Living alone during

school period, self reported study difficulty being a clinical student and age 25 years or above [8-12].

Substance use among college and university students remains an important area of research due to the implications of early substance dependence on the future of the youth. The use of alcohol, khat and tobacco among adolescents can be harmful, leading to decreased academic performance, increased risk of contracting HIV and other sexually transmitted diseases, or other psychiatric disorders such as lethargy, hopelessness and insomnia. Alcohol, especially in high doses, or when combined with khat or tobacco, continues to claim the lives of many people.

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 immunodeficiency virus (HIV) infection.

Furthermore, it exposes students to Legal repercussions, or jeopardizes their enrollment at the university. Though alcohol consumption, khat chewing and cigarette smoking have become common practices among high school and college/university students in Ethiopia, only very few studies have assessed their magnitude and the associated factors which is limited to community based and high school [13,14].

The few studies done in Ethiopia regarding the use of khat, and alcohol had indicated that the use of these "drugs" is high and is most commonly found among youngsters, street children, Commercial sex workers and students. The adverse effect is diversion of income for the purchase of drugs at the expense of the needs of the family, leading to family discord and divorce, absenteeism from work, and criminal acts. Like in Yemen, the use of *Catha edulis* is ever increasing in Ethiopia. *Catha edulis* previously known to grow mainly in the eastern part of Ethiopia is now widely cultivated in all parts of the country and neighbouring regions. It is consumed regularly with the young generations being the primary targets. In Ethiopia, current ways of chewing *Catha edulis* has changed from the traditional way of consumption, which is highly regulated, towards the use by adolescents, chewing *Catha edulis* in tea shops that operate day and night as well as early morning use [15-17].

1.2. Literature Review

2.2.1. Khat chewing, and alcohol use definition, distribution, and prevalence Khat (*Catha edulis*) is an evergreen plant that grows mainly in Ethiopia, Yemen and other African countries along the coast of the Indian Ocean. It is a large green shrub that grows at high altitudes in the region extending from eastern to southern Africa, as well as on the Arabian Peninsula. Originating in Ethiopia, khat now also grows in Somalia, Kenya, Malawi, Uganda, Tanzania, Congo, Zambia, Zimbabwe, Afghanistan, Yemen and Madagascar. Khat goes by numerous names: Khat, qat, chat, qaadka, kus-es-salahin miraa, tohai, tschat, Abyssinian tea, African tea, African salad, and brown cows. It has been used for centuries as a mild stimulant. The fresh leaves are chewed or consumed as tea. For most youths chewing Khat is a method of increasing energy and elevating mood in order to improve work performance. The psycho-stimulant effect of Khat is due to the alkaloid ingredient cathinone, which has a similar chemical structure to amphetamine. Its leaves are widely chewed especially among men, for their central nervous system stimulating properties. Khat leaves contain three ingredients including cathine ($C_6H_5CHOH(NH_2)CH_3$), cathinine, and cathidine, as well as sugars, tannins, and vitamin C in great amounts (324 mg/100 g vs. green [bell] pepper's 120 mg/100 g). The World Health Organization (WHO) considers Khat to have amphetamine-like properties, and categorizes it as a separate drug group in which it is the sole member. Several case reports and population studies have shown that there is a clear association between heavy consumption of khat and psychosis. Khat is widely consumed among the youth of Ethiopia as shown by several prevalence studies. While some attribute their sexual impotence to Khat use, others report increased libido. Tobacco and khat are two of the many drugs to which people can become addicted. The nicotine in cigarette smoke is known to have an addictive effect. Compulsive use, psycho-active effects, and drug-reinforced behavior are the primary criteria for defining drug addiction [1, 2, and 3].

Tobacco and alcohol are the most common addictive substances used by young people, and alcohol consumption is increasing in this population. Although alcohol is the primary drug of choice among college students, particularly those of traditional college age (i.e., 18 to 25 years), over half of all college students and young adults have tried an illicit drug at least once in their lifetime. The use of tobacco, alcohol and other addictive drugs among university students is major public health concern [4].

Study done in Swedish on the Attitudes, Beliefs and Use of Alcohol and Drugs among Swedish University Students revealed 96% of the students had consumed alcohol in the last 12 months prior to completing the survey, 92.7% consumed it since the beginning of the school term. In the total, only 1.8% had been lifelong abstained [8].

Cross-sectional study done on 2258 university students at Easter Turkey (2008) showed the Proportion of alcohol intake 26.9% [9].

Cross-sectional study on 10,000 students done at Jazan region of Saudi Arabia (2006) shows that the current prevalence rates of Khat chewing among secondary school and college students was 21.1% and 19.2%, respectively [10].

Cross-sectional study conducted in Eldoret, Kenya among 500 college students (2011) revealed Lifetime prevalence rate of alcohol use was 51.9%, and 97.6% of alcohol users had consumed alcohol in the week prior to the study which is high and causes significant physical and psychosocial problems in this population. A majority of those using substances want to relax (62.2%), or relieve stress (60.5%). A large proportion of those using alcohol reported serious adverse effect, including quarrelling and fight, loss and damage to property, problem with family, medical problem and unplanned unprotected sex [11].

According to cross-sectional study the done in Nigeria among 402 medical students (2007) prevalence of current alcohol use was 13.6% (22). Almost all respondents had seen cigarettes and reported that they are freely available locally [12].

The use or misuse of addictive substances, such as cigarettes, alcohol, and khat (*Catha edulis* Forsk) is increasingly prevalent in Ethiopia [13].

The cross-sectional study conducted at Addis Ababa University among 622 medical students (2009) revealed that in the last 12 months, alcohol was consumed by 22% (25% males vs. 14% females, $p=0.002$) and khat use was reported by 7% (9% males vs. 1.5% females, $p<0.001$) of the students [14].

The Cross-sectional study done at Addis Ababa and Buta jira among 428 high school Students (1998) showed the percentages of ever use of alcohol were 17.9%, 57.8%, and 18.2% in urban governmental high school, private high school, and Butajira rural governmental high school, respectively. Similarly khat use is 9.2%, 35.6% and 31%, respectively [14].

The result of the cross-sectional study done on 400 staff of Jimma University (2003) shows the Lifetime prevalence of khat chewing was found to be 46% while the current prevalence of chewing was 30.8%. The frequency among males (33.0%) was higher compared to females (20.0%) [17].

Cross-sectional study on Health Officer and Medical 248 Jimma University students at 2009 revealed that the current prevalence of chat chewing and alcohol intake 33.1% and 36.4% respectively [18].

According to the cross-sectional study done at north western Ethiopia at 2001 On 1258 students the lifetime prevalence of khat chewing was 26.7 %. The current prevalence rate of khat chewing was 17.5 %. Seventy-five (6.8 %) were both current smokers and chewers [21].

1.2.3. Factors associated with alcohol use, and chat chewing Use of alcohol among Nigerian medical students was significantly associated with living alone during school period, self reported study difficult, being a clinical students, and age 25 year and or above but self reported good mental health were less likely to be current uses of alcohol [11].

There is a significant association between lifetime alcohol use and that of tobacco ($X=107.9$, $p<0.001$)(10). It is generally acknowledged that several factors are involved (associated) in the initiation of substance use among adolescents and young adults. These factors include the faculty, Year of study, Original back ground (place the students came from), Socio-demographic factors (sex, age, religious, marital status), family history of alcohol use ,cigarette smoking and/or chat chewing, friend currently smoking, culture, peer pressure[19,20].

Results

The prevalence and associated factors of alcohol use, and Khat chewing was determined among 440 under graduate Ambo university students from year one via fourth year. The response rate constitutes 97%.

Socio-demographic characteristics of the respondents.

A total of 440 students were studied, comprising 315 males (71.6%). The mean age was 21 years, with standard deviation of (+2.25years). Subjects aged 20-24 years constituted the largest age group in the study i.e. 315 (71.6%). In terms of religion, 138 (31.4%) were orthodox and 194 (44.1%) were Muslims. The majority of the respondents were oromo ($n=197$; 44.8%) who is followed by Amhara 118(26.8). The parental education of the respondents revealed that 43% of the mothers and 17.3% of the fathers were reported to be illiterate. Sixty point seven of the family use substance like alcohol, Khat & cigarette of which 197(44.8%) was father followed by brother. Distribution of education level by academic year enrollment 236(53.6%) of the respondents were year one which is followed by year II 79(18%). Table 3: Shows the details of Socio-demographic characteristics of the study population. See Table three for detail

Prevalence of Alcohol use, and Khat chewing

Out of 440 students 223(50.7%) were drunk Alcohol at least once in their life & 43% reported drinking alcohol in the past twelve months. The life time and current prevalence of Khat chewing was 36.1% and 18 % respectively. About 23.9% of the students reported chewing Khat in the past twelve months. There was a significant difference between male & female on the alcohol drinking, and Khat chewing in the present study. For instance, among drunker of alcohol 75% of them were males while only 24.7% were female. Table 4: Shows the details of prevalence of alcohol use, and chat chewing. See Table Four

Factors associated to alcohol use

Male students were about two times more likely to lifetime alcohol user as compared to female students (AOR 2.26, 95% CI 1.27, 4.03). The presence of family members who drink alcohol, chew chat and smoke cigarette was significantly associated with alcohol drinking with AOR 7.83, 95% CI 4.64-13.20 as well as Students with substance user (i.e, alcohol ,Khat & cigarette) friends were at higher risk of life time drinkers (AOR 5.22, 95% CI 2.63-10.39) when compared to those whose friends are non user of substance.

Khat chewing & factors associated

The association was observed between current khat chewing, and socio- demographic factors & Environmental factors. Khat chewing was significantly associated with age range from 18 -19 (AOR 3.42, 95% CI 1.10-10.59), having friend currently using alcohol, chewing cigarette (AOR 1.97, 95% CI 1.03-3.78) and family history of substance use (AOR 2.99, 95% CI 1.34 -6.67)

Discussion

The present study estimated the prevalence & associated factors of Alcohol use, and Khat chewing among undergraduate Ambo university students. Regarding the sex of the sample and source population there was no great difference observed in this study. This similarity to some extent may enhance generalization of the finding of the study to source population as a result of slight observed homogeneity between the sample and source population. Alcohol constituted the most commonly used substance in this study both for lifetime and current use. For substance included in this study; there was more male user than female. The prevalence occurs across all year of study, although it is higher among year one students. The lifetime prevalence of alcohol use, & Khat chew was 50.7%, and 36.1% respectively. While 43% of the respondents were drink alcohol in the last 12 months; 23.9% chewed khat during the same time. Meanwhile alcohol use & Khat chewing in the past month was 26.1%, & 18% respectively. Study done in Swedish showed 96% of the students were reported alcohol intake in the last 12 months .This prevalence is actually very high when compared to the present study probably due study setting difference [8].

In the Study of substance use among college students Eldoret, Western Kenya the lifetime prevalence of alcohol use was reported to be 51.9% [10] .This figure is almost about the same to the preset study. The study done on college & secondary high school students of Jazan region, Saudi Arabia indicated almost similar current prevalence of Khat chewing (19.2%) (2006) [10].

The life time prevalence of alcohol use in this study is very high compared to study done among secondary school in urban setting of Nigeria since the age group being studied was markedly different due study setting and study population [23].

The present study prevalence estimates are high when compared to those reported in the substance use and its predictors among under graduate medical students of Addis Ababa which was 31.4% for ever alcohol use and 14.1% for ever khat chewing [14] as well as study done among college students in the northwest Ethiopia [18]. This high level of prevalence could be due to great difference in numbers faculty/school/ included in the present study, sample size difference and setting difference.

In Northwest Ethiopia, the lifetime and current prevalence of Khat chewing was reported by 22.6% and 17.5% of the students respectively (2001) [18] which is lowed when compared to this study. This could be due to time and study setting difference.

The prevalence of current khat chewing in this study much lower when compared to the result of the study among medical and health officer students of Jimma University which was 33.1% [24]. This is mainly due to social acceptability of chewing at Jimma as well as study time difference. However, current Khat chewing in this study was lower when compared to study done on among university instructors in Ethiopia which reported current chewer as 21 % (2001) [6]. This study is however not directly comparable since the study population being studied was Markedly different .This low level prevalence in the present study could also be due to good income of the instructors when compared to the students.

In the Study among Jimma University staff the prevalence of lifetime and current khat chewing Was 46% and 30.8% respectively (2003) [2]. This finding is also much more higher compared to the preset study which may be due to difference between the study populations as well as study setting. Based on crude analysis and logistic regression analysis, this study shows significant association between current alcohol use, and current khat chewing and socio-demographic factors as well as Environmental factors.

Males are two times at higher risk of using alcohol compared to females. These factors might be due to cultural reason. Students with Friends currently using substance like alcohol, Khat and Cigarette were at higher risk of using alcohol than those with non-drunker friends which might be due to peer pressure. The present study finding showed that the current alcohol use, and Khat Chewing was strongly associated with the family history of substance use. Age range from 18-19 years was associated with Khat chewing which might be due to those in this age group wish to try all things. Similar finding from other studies also showed that friend currently using substance; family history substance use and being male were more likely to use substance like alcohol and khat.

Study at Addis Ababa University found that being Muslim is significantly associated with Khat chewing as well as being orthodox is associated with alcohol use. However, the present study reported being Muslim and being orthodox was not as important as the influence by other factors.

Conclusions

The prevalence of alcohol use and khat chewing in the present study was high compared to study done at northwest Ethiopia and at Addis Ababa University on the similar study population but lower when compared to study done at Jimma University among medical and health officer students. In this study being male was associated to current alcohol use; family history substance use and having friend currently using alcohol, khat and cigarette was associated to current alcohol use, and current khat chewing. Age range from 18-19 years was associated Khat chewing.

Competing interests

We don't have competing interest with others

Authors' contributions

I was supervisor during data collection; Data analysis and interpretation was done by me with help my advisor professor Yigzaw Kebede and Mr.Ergata Kidane. Proposal of this study was done by me also.

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