

Prevalence and Factors Associated with Regular Khat Chewing Among College Students in Harar City, Eastern Ethiopia

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To cite this article:

Jemal Abraham Imar. Prevalence and Factors Associated with Regular Khat Chewing Among College Students in Harar City, Eastern Ethiopia. *International Journal of Psychological Science*. Vol. 3, No. 1, 2023, pp. 1-5. doi: 10.11648/j.ijps.20230301.11

Received: June 9, 2023; **Accepted:** July 3, 2023; **Published:** July 11, 2023

Abstract: Khat/Chat (*Catha edulis*) is a green shrub that is a natural stimulant native, planted and chewed in mainly within eastern and southern parts of Africa and the Arabian Peninsula. Chewing khat/chat is a common practice and getting greater concern in university and college students because they think chewing chat helps in increasing their academic performance especially during examination and recreation. It is widely understood that khat chewing creates a serious problem for today's youth which negatively affects not only individual users; but also families, the community as a whole, economy and political arena of a given nation. The aim of this study was to assess the prevalence and factors associated with regular khat chewing among college students in Harar city. Cross sectional study was conducted in Harari city from mar 13 up to 29, 2023, within selected colleges. A total sample of 371 students were included in the study. Data was collected through structured questioner and after checking for clarity data were entered to SPSS version 22 and multiple logistic regression analysis were used for better prediction of determinants and to reduce bias due to co founders. Result: The Prevalence of khat chewing on this study was 213 (57.4%). In multivariate analysis marital status, religion, Living area (Residence), Peers who chew khat, peers who smoke cigarette, students whose lives in rented house, Smoke cigarette while chewing chat, currently drink alcohol were associated with outcome variables. Majority of students were khat chewers for a long period of time and there were also started chewing before their joining the colleges. peer pressure, living condition and alcohol usage were significant predictors of khat chewing.

Keywords: Khat (Chat), College Students, Khat Chewing, Effects of Khat Chewing

1. Introduction

Khat/Chat (*Catha edulis*) is a green shrub that is a natural stimulant native to, planted and chewed in eastern and southern parts of Africa and the Arabian Peninsula with distribution in parts of the Middle East and on the island of Madagascar. It is a tall evergreen shrub (2.7 to 3.7 m in height) that grows best at high elevations (1,500 to 2,000 m above sea level) [1].

Ethiopia is believed to be the country of origin of Chat khat; the chewing of khat leaves probably pre-dates the use of coffee. Given the accessibility of market, khat remains a marketable commodity. Khat cultivation is expanding at an alarming rate as farmers realize its income potential; it is exported to Djibouti, Somalia, and Yemen and became one of Ethiopia's main export commodity like coffee [2, 3].

Khat cultivation and chewing certainly have a long tradition

in Ethiopia specially eastern part. It is mainly produced in the Hererge highlands, which borders northern Somalia. It is considered food for the Pious, and literati remark that it has the singular properties of enlivening the imagination, clearing the ideas, cheering the heart, minimizing sleep, and reducing the need for frequent eating [4].

It is evident that khat chewing by users is to increase concentration, bring self confidence, have creativity and imagination as well as boot communication abilities to associate as by virtue of its amphetamine like activity with euphoric and stimulant effects [5, 6]. The biochemically active constituents of khat responsible for its psycho-stimulant activity are the alkaloid chemicals called cathinone (first discovered in 1975 by the Laboratories of the United Nations) and cathine (ales potent form of cathinone) which are similar to the psychoactive substance amphetamine both structurally and functionally [7, 8].

According to multiple study, of the young segment of the Ethiopian population, higher education institution students are the most at risk of using alcohol and other drugs such as khat and tobacco. Most often stimulant medications are increasingly used by university and college students as a means to improve academic performance. Entering the higher education, often leads to new opportunities, independence from family control, self-decision making, and peer-pressures to start use or abuse chat, alcohol or other drugs. The use of alcohol, khat/chat among adolescents and youths 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 [9]. As a factor that initiates chat chewing at university or college entry, The economic, social, and cultural environments in which they live either directly or indirectly influence these changes. This makes them more vulnerable to try new, previously forbidden and sometimes illicit experiences [10].

Even if most studies have been done on chat, most studies disregard the regularity with which khat chewing is practiced which is important to assess the intensity of exposure to khat and did not consider students' living environment as a possible factor associated with khat chewing, to fill this gap, these study was under taken to identify the prevalence of and factors associated with regular khat chewing among selected college students in Harar city.

2. Methodology

The study was conducted within selected colleges in Harar. Harar is one of the ten regional states of the Federal Democratic Republic of Ethiopia. The town is located in the eastern part at a distance of 526 km away from Addis Ababa, the capital city of Ethiopia and about 45 km from Dire dawa and 89km in the east direction from Jegjega. Harar town is located between 9°11'and 10°03'north longitude and 32°48'and 31°13'east latitudes. It extends. Harar city area shares border with oromia national regional state in the north and east and it covers around 334 square kilometer. Hararcity is 525km east of Addis Ababa. In Harar town there are 3 governmental colleges and 2 university colleges namely, Harar Health Science College, Harar Poly Technique College, Teaching Training Institution, Haramaya university Health and medical science college and 4 private college and 1 university Horn International, Eastern Africa, Lucy, Afran Qallo and Rift valley university were found. There were providing different social and natural as well as health field and teaching training and education. Study period was from mar 13 up to 29, 2023.

In the town there are a total of 7 colleges and 2 universities were found among those by lottery method three colleges was selected those are; Harar Teacher Teaching College, Afran Qallo, Lucy and Rift Valley University.

In order to allocate sample for each selected institution first the total number of students in each campus was obtained from registrar officer then Sample was allocate proportionately based on the total number of active students

in each college and university and then the total sample size was allocated to each batch proportionally.

Study participant were selected by systematic random sampling method after calculating k^{th} interval for each institution until the desired sample size were met.

The total number of students on selected college and university were 3045 at Harar Teacher Teaching College 475, AfranQallo were 300, Lucy College 670, Rift Valley University 1600.

Sample size was determined by using single population formula

$$n = \frac{(Z_{1-\alpha/2})^2 \times p(1-p)}{d^2}$$

z = the standard normal deviation at 95% confidence interval; =1.96

p = Prevalence of khat chewing 32.5 % study conducted on Gonder (45)

d = margin of error 5% (0.05)

Therefore,

$$n = \frac{(1.96)^2 \times 0.308 (1-0.308)}{(0.05)^2} = 337$$

By adding 10 % non response rates (33.7) the final sample size will be come 371

Sample size for Harar Teacher Teaching College = $(371 \times 475) / 3045 = 58$

Sample size for AfranQallo= $(371 \times 300) / 3045 = 36$

Sample size for Lucy College = $(371 \times 670) / 3045 = 82$

Sample size for Rift Valley University = $(371 \times 1600) / 3045 = 195$

Final sample size was 371

3. Result

3.1. Socio Demographic Characteristics of the Respondents

From 371 Study population, all students were interviewed which makes response rate 100 %. Majority 174 (46.9%) of respondents were between the age group 25 – 29 years with mean age of 25.17 and standard deviation of $(SD \pm 3.341)$ and ranges from 19 to 35 years. Regarding sex and marital status majority were 195 (52.6%) female and 241 (65%) single. Most of respondents 134 (36.1%) were Muslim religion followers followed by orthodox 130 (35.0%). Regarding year, field and program of study majority 209 (56.3%), 106 (28.6%) and 233 (62.8%) of respondents were year 2 year, Natural science study and regular program students respectively. Average monthly income ranges from 500 up to 9506 birr with mean of 1089.59 and standard deviation of $(SD \pm 1359.49)$.

3.2. Khat Chewing Practice

The current prevalence of khat chewing on this study was 213 (57.4%) while the life time prevalence rate was 271 (58.5%). About 119 (32.1%) of the participants reported that there had a life time use of khat and majority 119 (32.1%) and 167 (45%) of student start chewing Khat before joining the

university/college while there was at High school education level irrespectively. As to the frequency of Khat chewing, the most common Twice a week reported by 85 (22.9%) followed by Once a day 83 (22.4%). Regarding time spent on a typical Khat chewing activity session, most of the chewers 87 (23.5%) reported they spent duration of 1–2 hours. More than half 155

(41.8%) of respondent reported that there had develop addiction.

Regarding reason for khat chewing majority 50 (13.5%) respond that their chew khat to get energy for work followed by 44 (11.9%) to avoid unpleasant feeling and stress of life. (Figure).

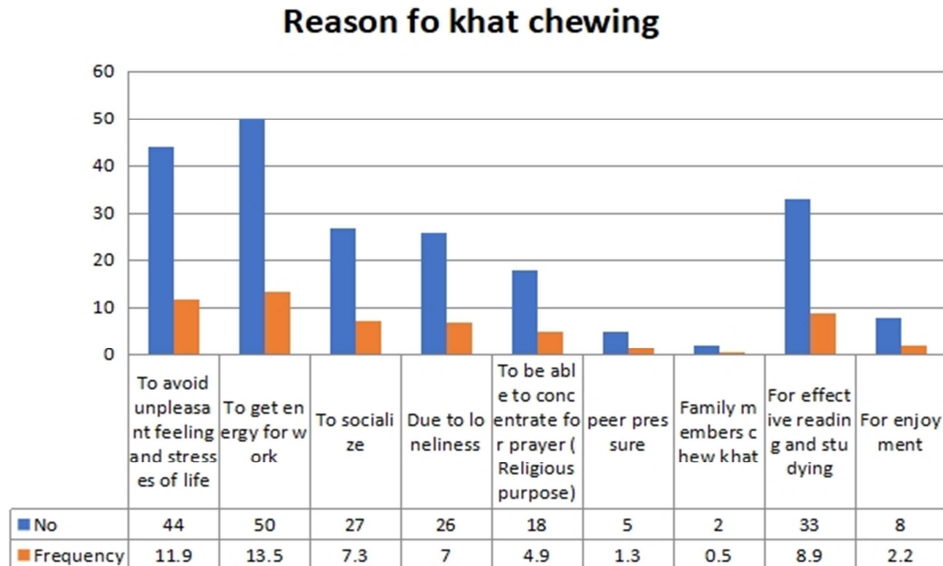


Figure 1. Reason for khat chewing among college and university students in Harar town from mar 13 up to 29, 2023.

3.3. Withdrawal Symptom& Its Measure Taken

Majority of study participant 208 (56.1%) had faced withdrawal symptom. Measure taken to have relief was having slept reported by 82 (22.1%) respondents. The most frequently reported problem face due to khat chewing was weight loss 101 (27.2%). Near to half 189 (50.9%) of respondent had live with khat chewer. One hundred fifty two 152 (41.0%) respondent father and 131 (35.3%) mother as

well as 189 (50.9%) respondent peers were chews khat. Regarding living arrangements majority 189 (50.9%) was live on rented house.

Among current khat chewers, 208 (56.1%) reported that they had had experienced various withdrawal symptoms. The most frequently reported withdrawal symptoms were feeling depressed 62 (16.7%), craving 55 (14.8%), and increased appetite 34 (9.2%). (Figure 2).

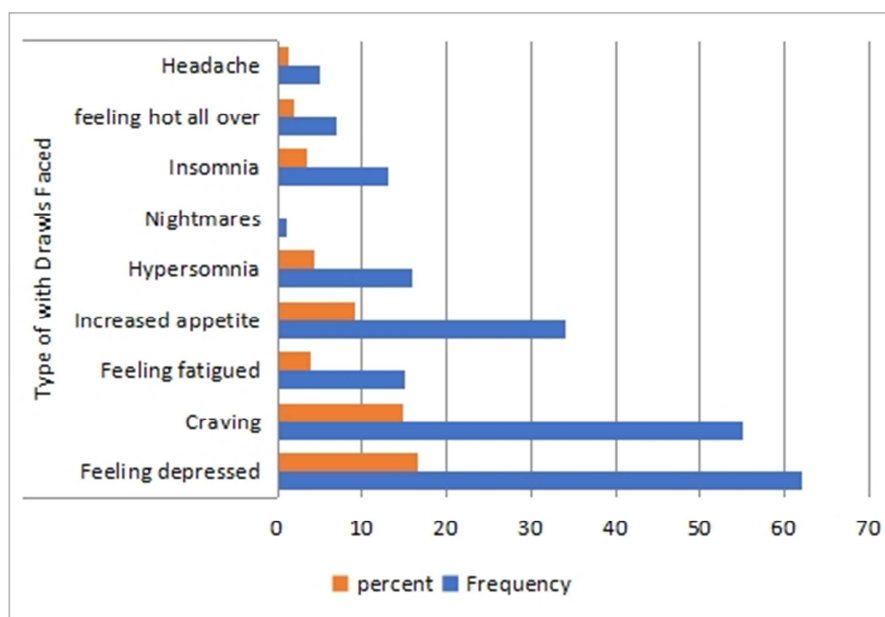


Figure 2. Type of withdrawal faced among college and university students in Harar town from mar 13 up to 29, 2023.

3.4. Factors Associated with Khat Chewing

In multivariable analysis marital status, religion, Living area (Residence), Peers who chew khat, peers who smoke cigarette, students whose lives in rented house, Smoke cigarette while chewing chat, currently drink alcohol were associated with outcome variables.

4. Discussion

The current prevalence of khat chewing on this study is (57.4%) was higher than study conducted in Jimma (30.8%) [5]. Hawassa University 10.5% [11] jimma university 23.9% [12] and Gonder 32.5% [13]. This discrepancy and higher prevalence in our study might be due to difference in Socio - demography, study population and study period.

The life time prevalence rate of khat chewing on this study was (58.5%) which was higher than among study conducted on undergraduate medical students of Addis Ababa University 14% [14]. Hawassa University 22.8%, [11] jimma university 26.3% [5] and Gonder 42.0% [13]. This discrepancy might be due to easily accessible of Khat in our study area as well as difference on study area and population.

On this study (32.1%) student start chewing khat before joining the university/college our finding is lower than study conducted in Jimma 58.6% before joining the university/college [5] and Gonder 59.2% before joining the university/college [13]. This might be due to difference on study area and population.

In this study (13.5%) respond that their chew khat to get energy for work and this finding were not in line with study conducted in Adiss Abeba reasons reported for chewing khat included for effective reading and studying (68%) [14] Butajira The main reasons for chewing Khat include religious prayer, [14] and Hawassa University Reason for chewing khat is to be able to concentrate while reading (38.9%) [11] Study conducted in Jimma The main reason given for starting khat chewing was for study purposes (54.6%) [5] Concentration during study 62.3%. This deference might be due to variation on study setting and soc-demographic characters.

In this study 41.8% of study participant were reported that there had addicted to Khat chewing which was higher than study conducted in Butajira 9.0% [15]. This might be due to over continues consumption of khat in our study area.

In this study the most reported withdrawal symptoms were felling depressed 16.7% which was similar with study conducted in Jimma (65.3%) [5] and different from study conducted in Gonder majority 83.1% reported they faced to sleep disturbance [13]. The variation might be due to difference in study population and area.

In this study age, sex, family members currently chewing khat, not statistically significant on multivariate analysis this finding different from study conducted in Harar town secondary school [16].

In our study living arrangement, Religion, Having peers who chew khat, Cigarette smoking, live off-campus in rented houses were significantly associated with khat chewing this

was similar with study conducted in Hawassa University. While year of study and having a father who chews khat were not associates in our study the finding was different from Hawassa study [11].

In this study cigarette smoking had statistically significant associated with khat chewing while Age and marital status were not statistically significant on multivariate analysis this finding was similar with study conducted in Jima but there was a difference on current drinking alcohol.

In our study sex, marital status and year of study were not statistically significant on multivariate analysis this finding is not in line with study conducted in Haromay University [17]. This difference might be due to variation in sample size.

5. Conclusion

Majority of students were khat chewers for a long period of time and there were also start chewing before their joining university or college at high Scholl. Most of study participants were develops addiction as well as different withdrawal symptoms. Peer pressure had a major contributing factor for khat chewing. Those students who drink alcohols as well as leaving in rent house with not having there families around them were more prone for khat chewing therefore to alleviate this problem effort need by all stake holder at different levels like MOH, MOE study institutions.

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