

Prevalence and Factors Associated with Regular Khat Chewing Among College and University Students in Harar Town 2024

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Received: April 25, 2024; Accepted: May 14, 2024; Published: May 18, 2024

ABSTRACT

Background: Khat (*Catha edulis*) is an evergreen shrub that is a natural stimulant native, planted and chewed in eastern through southern parts of Africa and the Arabian Peninsula with distribution in parts of the Middle East and on the island of Madagascar. Khat chewing is becoming a common practice and great concern in university and college students because they think that it helps increase their academic performance especially during exams and for recreational purposes. It is widely understood that the consumption of Khat creates a remarkable problem for today's youth which is not limited to individual users; rather its adverse negative consequence is believed to be challenging to a family, the community as a whole, economy and political arena of a given nation.

Objective of the Study: To assess Prevalence and factors associated with regular khat chewing among college and university students in Harar town 2024.

Methodology: Facility based cross sectional study was conducted in Harar Town from December 13 up to 29, 2023 on selected university and colleges. A total sample of 371 students was including on the study. Data was collected through structured questioner. Training was given for data collectors and data evaluation done on daily based. Cleaned data were entered to SPSS version 20 and multiple logistic regression analysis was used for better prediction of determinants and to reduce bias due to confounders. Those variables with P-value < 0.20 was entered in to multiple logistic regression analysis. Associations with P - value less than 0.05 was declared as statistically significant.

Result: The Prevalence of khat chewing on this study was 57.4%. In multivariable analysis marital status, religion, 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.

Conclusion and Recommendation: Majority of students was khat chewers for a long period of time and there also start chewing before their joining university and or college. Peer pressure, living condition and alcohol usage were significant predictors of khat chewing therefore to alleviate this problem effort on preventive measure is need by all stake holders at different levels.

Keywords: Khat, University, College Students, Khat Chewing, Effects of Chewing, Peer Pressure

Introduction

Khat (*Catha edulis*) is an evergreen shrub that is a natural stimulant native, planted which chewed across the globe [1]. It is believed that khat cultivation originated in Ethiopia, and was imported to Djibouti, Somalia, Kenya, Uganda, Tanzania, Zimbabwe, Zambia, South Africa and Yemen. In some of these countries, khat chewing goes far back in history and has always been a kind of tradition [2]. It is evident that khat chewing by users is intended to increase concentration, self-confidence, creativity and imagination as well as communication abilities

to associate as by virtue of its amphetamine like activity with euphoric and stimulant effects [3,4]. Khat chewing is becoming a common practice and great concern in university students because they think that it helps increase their academic performance especially during exams as well for recreational purposes [5,6].

Statement of the Problem

Globally an estimated 5 to 10 million people chewing khat most of which are in the horn of Africa and Arabian Peninsula, specifically Ethiopia, Somalia and yemen. In Ethiopia, different studies have showed that the prevalence of khat chewing ranges from 20 % up to more than 60% current khat chewing habit [7].

Citation: Gosaye Tekelehaymanot Zewde. Prevalence and Factors Associated with Regular Khat Chewing Among College and University Students in Harar Town 2024. *J Med Clin Nurs Stud.* 2024. 2(3): 1-7. DOI: doi.org/10.61440/JMCNS.2024.v2.50

It is widely understood that the consumption of Khat creates a remarkable problem for today's youth which is not limited to individual users; rather its adverse negative consequence is believed to be challenging to a family, the community as a whole, economy and political arena of a given nation [8]. Prolonged usage of khat exposes the user to thrombocytosis, which predisposes to myocardial infarction, ischemic heart disease, manic like schizophrenia and distress secondary to withdrawal. Likewise, its use has multiple deleterious effects, including erectile dysfunction, unsafe sex, psychotic experience, esophageal tumor, low birth weight and lactation problem and anatomical as well as functional brain changes. Moreover, behavioral impairment associated with its use might lead to a variety of criminal deeds 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 [9]. The use of alcohol, khat 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 [10]. Even if few studies conducted on khat chewing in Ethiopia, there is no sufficient information in our study area there for this study will try to fill the information gap which was not address by other researchers. And the main aim of this study was contributing to describing Khat chewing through comprehensively assessing the prevalence among college and university students, reasons for its use and its perceived effects on health as well as socioeconomic status of chewers.

Objectives

General Objective: To assess Prevalence and factors associated with regular khat chewing among college and university students in Harar town 2020.

Specific Objective

To determine prevalence of khat chewing among college and university students in Harar town.

To asses factor associated with chewing among college and university students in Harar town.

Methodology

Study Area & Period: The study was conducted in Harar Town Selected College and University. Harar town is located in the eastern part at a distance of 526 km away from Addis Ababa, the capital city of Ethiopia. In the town 3 governmental and 4 private college as well as 1 Governmental and 1 private university college were found. They provide teaching and education on social, Natural as well as health related fields. The Study was conducted from December 13 up to 29, 2023. Institutional based cross sectional study design was used. Randomly selected consented university and college student were incorporate on the study.

Eligibility Criteria: Student who are volunteer to participate as well as Students whose age greater than 18 was include on the study and those Student who are absent during study time or students who are sick at the time of data collection was exclude.

Sample Size Determination: sample was determined by using single population proportion formula with Prevalence of khat chewing 32.5 % study conducted on Gonder (38) [7] and after

adding 10% non-response rate the final sample size will be come 371.

Sampling Technique and Procedure: In the town a total of 7 colleges and 2 universities were found among those three colleges and 1 university namely; Harar Teacher Teaching College, Afran Qallo, Lucy and Rift Valley University was selected by SRS method. Sample was proportionally allocated based on the total number of active students. Study participant was selected by systematic random sampling method.

Study Variables: was categorized in two Dependent and independent Variable therefore Depend variables of this study was khat chewing while the independent variables were Sex, Age, Religion, Monthly income, Residents, Exposure to mass media, Peer influence, living in rent house, Ethnicity.

Data Collection Tool and Procedure: Data collection instrument was developed after critical review of literature. The questionnaire contains socio- demographic characteristics, khat chewing practice and variables that help to study prevalence and associated factors. Data was collected by 8 Bsc pharmacy professionals through self-administered questioner after informed consent was obtained.

Data Processing and Analysis: Data checking and cleaning was done by principal investigators on daily basis during collection before actual analysis. Analysis was done by using SPSS version 20.0. The uni-variate analysis such as proportions, percentages, ratios, frequency distributions and appropriate graphic presentations as well as measures of central tendency and measures of dispersion were made. Multiple logistic regression analysis was used for better prediction of determinants and to reduce bias due to confounders. Those variables with P-valueless than 0.20 were entered in to multiple logistic regression analysis. Associations with P - value less than 0.05 was declared as statistically significant at 95% confidence level.

Data Quality Assurance: Data quality assurance mechanisms were instituted at several points to ensure the quality of the data. Pretest was conducted on 5% of the total sample at Horn international college. The questionnaires were translated into local language and back translated to English by people who have proficiency in translation to ensure its consistency. Training was given for data collectors and supervisor.

Ethical Consideration: Before beginning of data collection, ethical clearance letter was obtained from Harar Health Science College Research Ethics Review Committee and it was submitted to the study organization and consent was obtained from organization administrators and Permission was obtained from study institution. All the participants were informed the purpose, advantages and disadvantages and there have the right to be involved or not as well as they can withdraw from the study any time they want. Informed verbal consent was obtained from all participants. Confidentiality was maintained by avoiding names and other personal identification.

Result

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 ± 3.341) and ranges from 19 to 35 years. Regarding sex and marital status majority were 195 (52.6%) female and 241 (65%) singles. 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 birrs with mean of 1089.59 and standard deviation of (SD ±1359.49) (Table 1)

Table 1: Socio - demographic characteristics college and university students in Harar town from December 13 up to 29, 2023

S. No	Variable	Characteristics	Frequency	Percent
1	Have you ever chew khat	Yes	217	58.5
		No	154	41.5
	Are you currently chewing Khat	Yes	213	57.4
		No	158	42.6
2	For how many year/s have you chew khat	Life time	119	32.1
		For less than one years	37	10.0
		More than 1 year	57	15.4
3	When do you start Chewing Khat	joining the university/college	64	25.3
		Before joining the university/college	119	32.1
4	At what educational level due you start chewing Khat	Elementary	14	3.8
		High school	167	45.0
		College	32	8.6
5	pattern of khat chewing frequency	Twice a day	16	4.3
		Once a day	83	22.4
		Twice a week	85	22.9
		Once a week	20	5.4
		Once a month	9	2.4
6	Time spent for khat Chewing	Less than 1 hour	48	12.9
		1 hour	87	23.5
		2 hour	50	13.5
		3 hour	21	5.7
		4 or more hour	7	1.9
7	Addiction on Khat	Yes	155	41.8
		No	58	15.6

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 1)

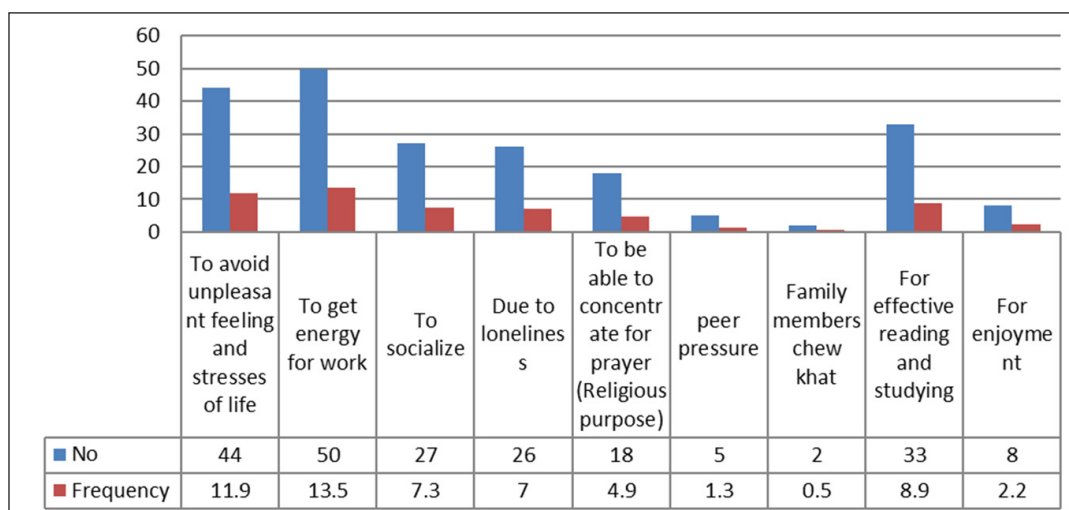


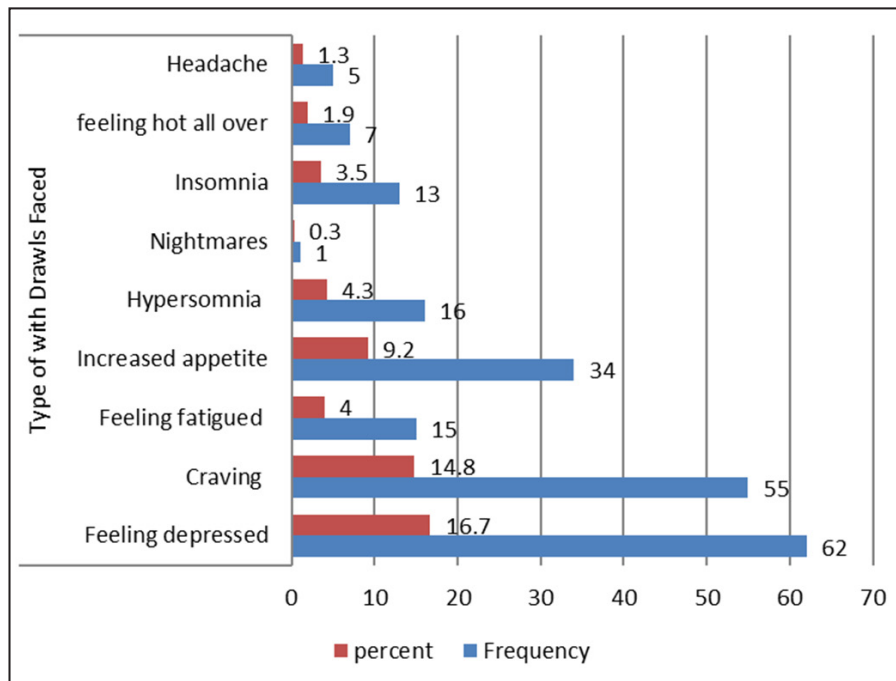
Figure 1: Reason for khat chewing among college and university students in Harar town from December 13 up to 29, 2023

Withdrawal Symptom & its Measure Taken: Majority of study participant 208 (56.1%) had faced withdrawal symptom and 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%) mothers as well as 189 (50.9%) respondent peers were chews khat. Regarding living arrangements majority 189 (50.9%) was live on rented house. (Table 2)

Table 2: Khat chewing, its withdrawal symptom, problem & its measure taken among college and university students in Harar town from December 13 up to 29, 2023

S. No	Variable	Characteristics	Frequency	Percent
1	Have you faced with drawl symptoms	Yes	208	56.1
		No	5	1.3
2	What measure did you do to get relief	Use Coca or Coffee	34	9.2
		Chew khat	61	16.4
		Sleep	82	22.1
		Do sport	9	2.4
		Watch a movie	17	4.6
		Take a shower	5	1.3
3	What type of problem have you face due to khat chewing	Loss of appetite	68	18.3
		Constipation	44	11.9
		Weight loss	101	27.2
4	Are you living with khat chewer	Yes	189	50.9
		No	182	49.1
5	Does your father chews khat	Yes	152	41.0
		No	219	59.0
6	Does your Mother chews khat	Yes	131	35.3
		No	240	64.7
7	Do you have peers who chew khat	Yes	189	50.9
		No	182	49.1
8	Do you have peers who smoke cigarette	Yes	138	37.2
		No	233	62.8
9	Do you smoke cigarette while chewing chat	Yes	86	23.2
		No	285	76.8
10	Have you drink alcohol (Ever)	Yes	247	66.6
		No	124	33.4
11	Have you currently drink alcohol	Yes	147	39.6
		No	224	60.4
12	Are you living off-campus in rented houses	Yes	189	50.9
		No	182	49.1
		Off-campus (in rented house)	189	50.9
		Off-campus with parents/relatives	182	49.1

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)



Factors associated with khat Chewing

In multivariable analysis after controlling of confounders marital status, religion, 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.

Those students who were single were 14 times more likely chew khat than their encounter (AOR = 14.11, 95% CI: 0.920 -216.517) and students whose Peers chew khat were 33 times more like chew khat than their encounters (AOR = 33.960, 95% CI: 7.910 -145.798). The odds of chew khat were 5 times (AOR = 5.043, 95% CI: 1.396 -18.215) higher on those students whose peers smoke cigarette than those who did not. Those students whose lives in rented house were 4 times more likely chew khat than their encounter (AOR = 4.905, 95% CI: 1.684 -14.287) and students whose currently drink alcohol were 5 times more likely chew khat than their encounter (AOR = 5.869, 95% CI: 2.006 -17.174). (Table 2)

Table 2: Bi and Multivariate analysis of Factor associated with Khat Chewing 2020 (n = 371)

Characteristics	Chewing Khat		P Value	Crude OR (95% CI)	P Value	Adjusted OR (95% CI)
	Yes	No				
	No (%)	No (%)				
Sex						
Male	67 (42.4)	109 (51.2)		1.00		1.00
Female	91 (57.6)	104 (48.8)	0.095	0.702 (0.464 - 1.063)	0.791	1.149 (0.411 - 3.209)
Age						
18 - 24	67 (42.4)	85 (39.9)	0.003	1.00	0.083	1.00
25 - 29	62 (39.2)	112 (52.6)	0.120	1.424 (0.912 - 2.224)	0.467	0.574 (0.0.128 - 2.563)
30 - 35	29 (18.4)	16 (7.5)	0.018	0.435 (0.218 - 0.866)	0.054	0.251 (0.061 - 1.027)
Marital Status						
Married	60 (38.0)	65 (30.5)	0.215	1.00	0.159	1.00
Single	95 (60.1)	146 (68.5)	0.602	1.625 (0.262 - 10.062)	0.057	14.11(0.920 - 216.517)
Divorce	3 (1.9)	2 (0.9)	0.365	2.305 (0.378 - 14.055)	0.063	13.543 (0.868 - 211.414)
Year of Study						
1 st year	102 (47.9)	45 (28.5)	0.001	1.00	0.260	1.00
2 nd year	102 (47.9)	107 (67.7)	0.000	2.378 (1.526 - 3.705)	0.465	0.277 (0.009 - 8.682)
3 rd Year	9 (4.2)	6 (3.8)	0.458	1.511 (0.508 - 4.499)	0.756	0.581 (0.019 - 17.733)
Income						
< 1500	115 (72.8)	124 (58.2)	0.002	1.00	0.332	1.00

1500 - 4500	37 (23.4)	86 (40.4)	0.001	2.156 (1.359 - 3.419)	0.972	1.020 (0.335 - 3.105)
> 4501	6 (3.8)	3 (1.4)	0.285	0.464 (0.113 - 1.897)	0.138	11.878 (0.452 - 312.085)
Religion						
Orthodox Christianity	67 (42.4)	63 (29.6)	0.002	1.00	0.098	1.00
Muslim	42 (26.6)	92 (43.2)	0.001	2.330 (1.411 - 3.847)	0.095	3.553 (0.802 - 15.751)
Protestant	38 (24.1)	33 (15.5)	0.788	0.924 (0.517 - 1.649)	0.824	1.157 (0.319 - 4.197)
Catholic	1 (0.6)	3 (1.4)	0.321	3.190 (0.323 - 31.479)	0.950	1.185 (0.006 - 241.933)
Others	10 (6.3%)	22 (10.3)	0.043	2.340 (1.028 - 5.327)	0.006	24.861 (2.496 - 247.582) *
Living Area						
Rural	12 (7.6)	46 (21.6)		1.00		1.00
Urban	146 (92.4)	167 (78.4)	0.00	3.351 (1.710 - 6.569)	0.059	4.263 (0.944 - 19.247)
Living arrangement						
Off-campus (in rented house)	115 (54.0)	74 (46.8)		1.00		1.00
Off-campus with parents/relatives	98 (46.0)	84 (53.2)	0.173	1.332 (0.882 - 2.012)	0.463	0.702 (0.272 - 1.807)
Father chews khat						
No	70 (32.9)	149 (94.3)		1.00		
Yes	143 (67.1)	9 (5.7)	0.000	33.821 (16.282 - 70.250)	0.214	2.813 (0.551 - 14.353)
Peers who chew khat						
No	33 (15.5)	149 (94.3)		1.00		
Yes	180 (84.5)	9 (5.7)	0.000	90.303 (41.881 - 194.712)	0.000	33.960 (7.910 - 145.798) **
Peers who smoke cigarette						
No	83 (39.0)	150 (94.9)		1.00		
Yes	130 (61.0)	8 (5.1)	0.000	29.367 (13.698 - 62.962)	0.014	5.043 (1.396 - 18.215) *
living off-campus in rented houses						
No	77 (36.2)	145 (91.8)		1.00		
Yes	136 (63.8)	13 (8.2)	0.000	19.700 (10.465 - 37.084)	0.004	4.905 (1.684 - 14.287) *
Smoke cigarette while chewing chat						
No	131 (61.5)	154 (97.5)		1.00		1.00
Yes	82 (38.5)	4 (2.5)	0.000	24.099 (8.601 - 67.523)	0.015	7.138 (1.474 - 34.577) *
Currently drink alcohol						
No	77 (36.2)	147 (93.0)		1.00		1.00
Yes	136 (63.8)	11 (7.0)	0.000	23.603 (12.037 - 46.284)	0.001	5.869 (2.006 - 17.174) **

Discussion

The current prevalence of khat chewing on this study was 57.4% was higher than study conducted in Gonder 32.5% Butajira 50.3%, Jimma (30.8%) South western Ethiopia 31.4% [7,10-12]. Hawassa University 10.5% Jimma university 23.9% and Haramaya University 23.6% [13,14,17]. This discrepancy and higher prevalence in our study might be due to difference in Socio - demography, study population as well as accessibility of khat.

The life time prevalence rate of khat chewing on this study was 58.5% which was higher than among study conducted in Gonder 42.0%, Jimma university 26.3% Hawassa University 22.8%, and Addis Ababa University 14% [7,11,13,15]. This discrepancy might be due to easily accessible of Khat in our study area as well as difference on study area and population.

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 [11].

In our study having peers who chew khat, Cigarette smoking, live off-campus in rented houses was significantly associated with khat chewing which was in line with study conducted in Hawassa University. In contrast year of study and having a father who chews khat were not associates in our study which was different from study conducted in Hawassa study [13].

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

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 as well as reference population.

Conclusion

Majority of students was khat chewers for a long period of time and there were also start chewing before their joining university or college. 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 their families around them were more prone for khat chewing therefore to alleviate this problem effort need by all stake holders at different levels like MOH, MOE study institutions.

Recommendation: Based on my major findings the following recommendation will provide

For Harar Regional Health Office

- Behavioral change communication skill development training needs to be offer at high school level
- Provision of health education about substance abuse need to provide at high school level

For Harar Region Education Office

- Better to provide education regarding substance abuse at each class level
- Incorporate on curriculum and providing teaching about substance use and its effect
- Provision of health education in collaboration with HRHO
- Provision of life skill training at each level

For Study Organization

- Provide more emphasis about substance use while teaching
- Provision of live skill training
- Provision of supportive therapy
- Student counsel service should be strengthened
- Established as well as strengthen ant substance use club

For Another Researcher

It will be more valuable if studies will be conducted on this subject matter on large scale by incorporating other college and university

References

1. Patel NB. "Natural amphetamine" khat: A cultural tradition or a drug of abuse?. *Int Rev Neurobiol*. 2015. 120: 235-255.
2. Drake PH. Khat-chewing in the Near East. *The Lancet*. 1988. 331:532-533.
3. Al'Absi M, Khalil NS, Al Habori M, Hoffman R, Fujiwara K, et al. Effects of chronic khat use on cardiovascular, adrenocortical and psychological responses to stress in men and women. *The American Journal on Addictions*. 2013. 22: 44-50.
4. Damena T, Mossie A, Tesfaye M. Khat chewing and mental distress: a community-based study, in jimma city, southwestern ethiopia. *Ethiopian journal of health sciences*. 2011. 21: 37-46.
5. Hussain M. Health and Soci-economic Hazard associated with Khat consumption. *J Food and Community Med*. 2013. 15: 3-11.
6. Deressa W, Azazh A: Substance use and its predictors among undergraduate medical students of Addis Ababa University in Ethiopia. *BMC Public Health*. 2011. 11: 660.
7. Teni FS, Surur AS, Hailemariam et al. Prevalence, reasons, and perceived effects of Khat chewing among students of a college in Gondar town, Northwestern Ethiopia: A cross-sectional study. *Annals of Medical and Health Sciences Research*. 2015. 5: 454-460.
8. Aklilu Sinshaw, Hiwot kassa, Anteneh Messele. Prevalence and Associated Factors of Khat Chewing Among Atse Fasil Campus Students, University of Gondar, North West Ethiopia. 2014. *J Psychol Clin Psychiatry*. 1: 00040.
9. Alemu WG, Amare Zeleke T, Takele WW. Prevalence and associated factors of khat chewing among students in Ethiopia: a protocol for systematic review and meta-analysis. *BMJ Open*. 2018. 021157.
10. Workineh Getahun, Teferi Gedifet al. Regular Khat (Catha edulis) chewing is associated with elevated diastolic blood pressure among adults in Butajira, Ethiopia: A comparative study. *BMC Public Health*. 2010. 10: 390
11. Abdeta T, Tolessa D, Adorjan K, Abera M. Prevalence, withdrawal symptoms and associated factors of khat chewing among students at Jimma University in Ethiopia. *BMC Psychiatry*. 2017. 17: 142
12. Damena T, Mossie A, Tesfaye M. Khat chewing and mental distress: A community-based study, in Jimma city, south western Ethiopia. *Ethiop J Health Sci*. 2011. 21: 37-45.
13. Astatkie A, Demissie M, Berhane Y, Worku A. Prevalence of and factors associated with regular khat chewing among university students in Ethiopia. *Substance abuse and rehabilitation*. 2015. 26: 41-50.
14. Gelaw Y, Haile-amlak A. Khat chewing and its socio-demographic correlates among the staff of Jimma University. *Ethiop. J. Heal. Dev*. 2004. 18: 179-184.
15. Wakgari Deressa1, AkliluAzazh. Substance use and its predictors among undergraduate medical students of Addis Ababa University in Ethiopia. *BMC Public Health*. 2011. 11: 660
16. Reda AA, Moges A, Biadgilign S, Wondmagegn BY. Prevalence and determinants of khat (cathaedulis) chewing among high school students in Eastern Ethiopia. *PLoS One*. 2010. 7: 33946.
17. Tesfaye G, Derese A, Hambisa MT. Substance Use and Associated Factors among University Students in Ethiopia: A Cross-Sectional Study. *Journal of Addiction*. 2014.