



**DETERMINE THE PREVALENCE AND RELATED CONSEQUENCE OF KHAT CHEWING
AMONG STUDENTS IN COLLEGE OF HEALTH SCIENCES, MEKELLE UNIVERSITY,
MEKELLE CITY 2011**

Solomon E. Awoke, Mezinew Sintayoh and *Kalayou K Berehe
Department of Nursing, College of Health Sciences, Mekelle University, Ethiopia

ABSTRACT

Back ground: Khat (an ever green plant with amphetamine like properties) is widely consumed among the youth of Ethiopia, Kenya, Madagascar, Somalia and Yemen some of the countries are introducing control measures to discourage the cultivation and use of khat. Apart from habitual use of khat, it is reported that, which is used by students to improve their academic performance, by truck drivers to keep them Selves awake and by Laborers to supply the extra vigor and energy they need for their work.

Objective: To determine the prevalence and related consequence of khat chewing among students in CHS, Ayder campus, MU. From May to June 2011 G.C.

Methods : A descriptive cross-sectional study was conducted in may 2011 in CHS Ayder campus Mekelle university year 2 and 3 were selected by random sampling, lottery method self administered questionnaire was used to collect data.

Result: The study reviled 11.8% life time prevalence rate of khat chewing. Among those chewers 26% were add cigarette, 12% were add shisha and 3% were add cannabis. The current prevalence rates of Khat chewing were 3.8%.

Conclusion and Recommendation : Although the life time and current prevalence of khat chewing lower in our study compare to other studies conducted along with khat other substances such as cigarette smoking, alcohol drinking are being used. More over illicit substances including shisha and hashish are also being taken. So the students should be educated or gate awareness about the adverse effect of khat and other substances on physical, Mental and social health.

INTRODUCTION

Back ground: Khat is a shrub that grows 6 to 12 ft high. It grows in the Middle East Somalia, East Africa and Ethiopia Khat goes by 40 different street names including khat, gat, tohai, chat, mirra and it is commonly known as chat in Ethiopia. It is most referred to consistently in literature as khat. It is socially and economically an important plant all over east and South Africa and in Arabian Peninsula. Khat was introduced to Yeman where later the Danish botanist and physician for S. kal (1736 – 1763) gave the name *Catha edulis* to the plant growing on the mountain of Al-yaman. The Harari region of Ethiopia is universally believed to be origin of khat use and not surprisingly people of Harar considered khat a treatment for 50% different ailments. Historically khat has also been used as medicine to alleviate symptoms of melancholia and depression. khat is generally chewed when fresh although occasionally they are dried and was consumed as pleasantly stimulating beverage and is usually wrapped in banana leaves immediately after picking to preserve its potency. Khat is occasionally consumed with coffee habitual khat chewing is mainly a male activity but it has become increasing popular among female (1,2,3).

When we see the chemical composition of Khat, It contains a psychoactive stimulant cathinone which produce central stimulating effect analogues to amphetamine. It is widely used in east Africa including Ethiopia for its euphoric effect. The use is deeply rooted in the regional customs and traditions. College and university students to get mental alertness and to work hard also consume it perhaps; the chemical stimulant effect of cathinone is enhanced when it is combined with caffeine and

***Corresponding Author :**
semishaw@gmail.com

cigarette smoking. Consumption of that Khat produce euphoria and increase alertness, although concentration problems and judgment are impaired heavy use can result in dependence and physical and mental problems resembling those produced by other stimulants. In Ethiopia Khat is commonly used for social recreation but occupational groups such as long truck drivers, who chew Khat during long distance driving to keep a wake also use it under variety of other conditions. A significant number of students chew chat especially during examination periods to be less sleepy and get mental alertness. There is also specific usage of Khat by some members of the community craft man and formers use Khat to reduce physical fatigue and traditional drug healers to cure some ailments. (4,5,6,7,8).

Statement of the problem: According to definition of the world health organization Khat is not classified as an inevitably addictive drug. However recent reports indicate that Khat abuse is suspected to be one cause of psychosis. Studies suggested that Catharine, which is an active ingredient of Khat increase heart rate, arterial blood pressure and respiration rate transiently. This is because of a positive inotropic and chronotropic effect on the heart and constriction of vas deference. in addition to this tolerance and dependence develops rapidly to many of the behavior and psychological effects, such as suppression of appetite, insomnia, euphoria and cardiovascular effects (Jacobs and Fehr. 1987) in 1973, the WHO expert committed on drug dependence include Khat type preparations of chat edulis Fork, in their group of dependence producing drugs (2,4). Although previous studies show that habitual Khat chewing has adverse effect on the physical, physiological, economical and psychological well being of the productive section of the society. There are only few communities based epidemiological studies done in Ethiopia to determine socio demographic profile, for example according to community based survey conducted on 1200 adults of Adamitulu district, south Ethiopia in 1997 the prevalence rate of Khat chewing was 31.7%. Other study conducted on students of Gondar College of medical science showed a 22.3% prevalence rate. Similar study done among students of four colleges (Gondar college of medical science, Gondar teacher's education college, Bahrdar university engineering faculty and Bahrdar university education faculty revealed a life time prevalence rate of Khat chewing to be 26.7% (9,10,11).

According to a study in Addis Ababa and other 24 towns across the country, there was a significant increase in the number of Ethiopians chewing Khat. Khat which was previously known to grow mainly in the eastern part Ethiopia was cultivated in all parts of the country. its consumption had become popular among all segments and Khat chewing often led to abuse of illicit drugs. Nationwide survey carried out among 20,234 in school and out of school youth aged between 15 and 24 years showed that over 23% of out of school youth used Khat every day or once weekly and 7.5% of in school youth did so. A cross sectional house to house survey conducted in Jimma town from January to September 2000 showed a prevalence rate of Khat chewing to be 30.6%. Despite the high production youth in Mekelle town and university students of Mekelle have chewing habit of Khat, there are no epidemiological studies conducted in the area, therefore this paper will give baseline data on the prevalence of Khat chewing and its common risk factors in Ayder campus CHS. So as to formulate health education programs and develops effective prevention and control program. Gastro intestinal side effects are often encountered with Khat use, constipation is the most common ones, stomatitis, and esophagitis. Other reported oral side effects include periodontal disease; temporomandibular joint dysfunction and keratosis of buccal mucosa, and oral cancers have been observed in some groups of population with chronic Khat chewing (4,9, 11,12).

Ingestion khat produces cardio vascular effects within 15-30 minutes and these effects include tachycardia, palpitation and increase blood pressure, chronic use of khat has also been implicated in hypertension, impotency and inhibition of blood flow to the pennies. Some people may spending a great part of their earning on khat and this can affect the economy of the family, excess of khat chewing may head to family disintegration, the chewer very often shows irritability, becomes quarrel some and disagreement with his friends. There is high incidence of absenteeism and decrease productivity which may lead to unemployment and poverty. In addition, the increased susceptibility and risk to infectious disease and the threat to normal development of the children of chronic users can be important public health problem.

Significance of the study: Khat chewing has many consequences, which interfere with the health, social and economical activities and it is believed that it's usage has to be abandoned and stopped

immediately, only few studies which shows the prevalence and consequence of Khat chewing has been conducted so far around the world, because of this it is difficult to take on appropriate prevention and control action on time. There for this paper will provide the necessary information about Khat chewing prevalence and its related consequence in the college of health science. So as to formulate polices health education and develop and effective prevention by showing its magnitude in the college more over it will provide a base line information for further comprehensive studies on Khat and increase awareness of the prevalence of Khat chewing often together with other drugs such as alcohol and tobacco. It is essential to further assess habituation in order to take further appropriate medical and social measures to limit its availability and use.

METHODOLOGY

Study area and design: Mekelle is one of the largest city in Tigray region which is 783 k/m far from Addis Ababa city to the northern direction. It has a total area of about 192,826,938 m² with total population of 237,922. It is one of the most populous cities in Tigray region. Its annual total population growth rate is 2.7% its climatic weather is Wiena-Dega with average temperature 19C^o and >2150m above sea level and the annual rain fall is 6183 mm. has two Woreda and seven local administration. The city has 7 hospitals 9 health centers, 3 health post and 25 non government clinics and 5 private laboratories so the study was takes place at Mekelle university Ayder campus CHS students. Study design was institutional based cross sectional study. Target population was all Mekelle University College of health Sciences students; Study population was all 2nd and 3rd academic year regular students. And The Study subject were all selected or sampled students

Inclusion and exclusion Criteria and variables: Inclusion criteria was 2nd and 3rd academic year regular students who were voluntary and present during data collection but exclusion criteria was those who were not voluntary and those who absent due to sickness and other reasons during data collection. Independent variables were age, religion, occupation, availability of chat, marital status, educational status and dependent variables were physical problem, social problem, and psychological problem.

Operational definition: Khat chewer: - Subjects who have a habit of khat chewing till interview and

subjects who had previously chewed. Non-Chewers: - Subjects who have never chewed khat. Dependence: - The physical and or psychological effects produced by the habitual taking of certain drugs. With drawl of substances: - Abstineneces of taking the drug.

Sample size and Sampling techniques: There is available similar studies conducted among students of Gondar college of medical science in 2001 with the result of the current prevalence of Khat chewing was estimated to be 26.7% this proportion was used to calculate the sample size with 5% marginal error and 95% confidence intervals and The formula used to calculate the sample size was single population proportion, as a result the final sample size with 10% contingency was 288. Stratified random sampling was used with self administered questionnaire to obtain the study subject. College of Health Sciences (Ayder Campus) was selected by lottery method for study area from the other campuses of Mekelle university then 2nd and 3rd academic year regular students also were selected by lottery method.

Sampling procedure and data collection procedure: Depending on the size of study population of 2nd and 3rd academic year after made strata by their departments, a proportional number of study unit or subject were allocated. That were 55 Pharmacy year 2 and year 3, 19 Midwifery year 2 and year 3, 117 Medicine year 2 and year 3, 33 Nurse year 2 and year 3, and 64 Public health year 2 and year 3. . Then also the study units were selected from each stratum by simple random method. Data was collected from selected study subject by self administered questionnaire and the questionnaires were prepared in English.

Data quality: Pre-testing was conducted on 10 individuals who were similar with the study subject by using pre-tested structural questionnaire to collect data. This did not include in sample. During the study each department was checked and also finally checked the filled questioner properly. During the study some correction was made accordingly: Immediately after return of the questionnaire was checked by group members. Data was checked for completeness and consistency.

Data processing analysis and interpretation: The collected data was reviewed and checked for completeness and consistency by the investigators on daily bases at the spot during the data collection time. The data was entered, cleaned and analyzed using SPSS version 16 software statistical packages and frequencies, ratios and other results were

computed and presented with tables, texts, diagrams like simple bar chart, multiple bar chart actual component and pie chart.

Ethical consideration: Permission was asked from Mekelle university college of health science all departments and other responsible bodies and after the consensus has reached the purpose of the study was explained to the study subjects, and detail information was given about the benefit of the study and the information given by study subjects were confidential and no need to write their names. Acknowledgement was given for those who helping us during the study.

RESULT

Socio demographic characteristics of the study subjects

Out of the 288 questionnaires administered a total of 285 respondents aged between 16-20 and 21-25 and 3 students greater than 26 years were included in

the study, making the response rate were 100%.of these 228 (79.1%) were males and 60 (20.8%) were females. Concerning marital status 2 of 288 respondents were married,285(99%)were single and 1 of 288 were divorced.Regarding religious aspect 246(85%) were orthodox Christian, 23(288)were Muslim,2(288)were catholic,11(288)were protestant and 6(288)were others.All these 155(53.8%) and 133(46.2%)have attended in academic year 2&3 respectively. Concerning ethnicity 197(68.4%) were Tigrins, 47(16.3%) were Amhara 18(288) were Oromo,12(288) were Debub and 14 of 288 were others.(Table 1)

Prevalence of Khat chewing

About 85.7% were know what khat means but 14.3% did not. The life time prevalence of khat chewing was 34(11.8%) &the current prevalence is 11(3.8%).Of all the ever khat chewers 33(14.4%) were males and a single (1.6%) female. Of the chewers 29.4% have chewed for 1-2 years,14.7% for

Table1: Socio demographic characteristics of year 2 and 3 students of Mekelle University College of Health Sciences (Ayeder campus) , Mekelle City, 2010/2011

| Serial No | Variable | | Male | | Female | | Total | |
|-----------|-------------------|------------------|------|-------|--------|------|-------|------|
| | | | No. | % | No. | % | No. | % |
| 1 | AGE- | 16-20 | 90 | 39.47 | 33 | 55 | 103 | 43 |
| | | 21-25 | 135 | 59.21 | 27 | 45 | 162 | 56 |
| | | ≥ 26 | 3 | 1.31 | - | - | 3 | 1 |
| | | Total | 228 | 99.9 | 60 | 100 | 288 | 100 |
| 2 | Marital status | Married | 1 | 0.44 | 1 | 2 | 2 | 0.69 |
| | | single | 226 | 99 | 59 | 98 | 285 | 99 |
| | | Divorced | 1 | 0.44 | | | 1 | 0.34 |
| | | Total | 228 | 100 | 60 | 100 | 288 | 100 |
| 3 | Educational level | Academic year- 2 | 92 | 40.3 | 39 | 65 | 225 | 78 |
| | | Academic year- 3 | 136 | 59.6 | 21 | 35 | 63 | 22 |
| | | Total | 228 | 99.9 | 60 | 100 | 288 | 100 |
| 4 | Religion | orthodox | 190 | 3.3 | 56 | 93.3 | 246 | 85 |
| | | Muslim | 21 | 9.2 | 2 | 3.3 | 23 | 8 |
| | | protestant | 9 | 4 | 2 | 3.3 | 11 | 4 |
| | | Others | 8 | 4 | - | 100 | 8 | 3 |
| | | Total | 228 | 100 | 60 | - | 288 | 100 |
| 5 | Ethnicity | Oromo | 16 | 7 | 2 | 3.3 | 18 | 6.2 |
| | | Amara | 40 | 17.5 | 7 | 11.6 | 47 | 16.3 |
| | | Tigray | 147 | 64.4 | 50 | 83.3 | 197 | 68.4 |
| | | Debub | 11 | 4.8 | 1 | 1.6 | 12 | 4 |
| | | Others | 14 | 6.1 | - | - | 14 | 5 |
| | | Total | 228 | 99.8 | 60 | 99.8 | 288 | 100 |

less than one year,15% for 2-5 years,35.29% for just

Table2: Prevalence of Khat chewing year 2 and 3 students of Mekelle University College of Health Sciences (Ayder campus) , Mekelle City, 2010/2011

| Variable | | H.O | | Medicine | | Pharmacy | | Midwife | | Nursing | | Total | |
|--|-----------------------------|-----|------|----------|------|----------|------|---------|------|---------|-----------|-------------|-------|
| | | No | % | No | % | No | % | No | % | No | % | No | % |
| 1. Know khat | Yes | 51 | 79.7 | 98 | 84 | 53 | 96.3 | 17 | 89.4 | 28 | 85 | 247 | 85.7 |
| | No | 13 | 20.3 | 19 | 16 | 2 | 3.6 | 2 | 10.5 | 5 | 15 | 41 | 14.2 |
| | Total | 64 | 100 | 117 | 100 | 55 | 99.9 | 19 | 99.9 | 33 | 100 | 288 | 99.9 |
| 2. Ever khat user | Yes | 1 | 1.56 | 15 | 12.8 | 10 | 18 | 4 | 21 | 4 | 12 | 34 | 11.5 |
| | No | 63 | 98.4 | 102 | 87.1 | 45 | 82 | 15 | 79 | 29 | 88 | 254 | 88.9 |
| | Total | 64 | 100 | 117 | 99.9 | 55 | 100 | 12 | 100 | 33 | 100 | 288 | 99.9 |
| 3. Duration of chewed Khat | Just once | | | 3 | 20 | 5 | 50 | 2 | 50 | 2 | 50 | 12 | 35.29 |
| | 1-2 years | 1 | 100 | 6 | 40 | 1 | 10 | 1 | 25 | 1 | 25 | 10 | 29.4 |
| | < 1 year | | | - | - | 3 | 30 | 1 | 25 | 1 | 25 | 5 | 14.7 |
| | 2-5 years | | | 5 | 33 | - | - | - | - | - | -- | 5 | 14.7 |
| | >5 years | | | 1 | 7 | 1 | 10 | - | - | - | - | 2 | 5.88 |
| | Total | | | - | - | - | - | - | - | - | - | 34 | 99.9 |
| 3.1 level of first starting chewing Khat | Elementary | | | 4 | 27 | 2 | 20 | | - | - | - | 6 | 17.6 |
| | High school | | | 2 | 13 | 5 | 50 | 1 | 25 | 2 | 50 | 10 | 29.4 |
| | Preparatory | 1 | 100 | 8 | 53 | - | - | 2 | 50 | 2 | 50 | 13 | 38.2 |
| | After coming to university. | | | 1 | 7 | 3 | 30 | 1 | 25 | - | - | 5 | 14.7 |
| | Total | | | - | - | - | - | - | - | - | - | 34 | 99.9 |
| 3.2 monthly income | 100-500 | 1 | 100 | 7 | 46.6 | 8 | 80 | 4 | 100 | 4 | 100 | 24 | 70.5 |
| | ≥ 500 | | | 8 | 53.4 | 2 | 20 | | - | | - | 10 | 29.4 |
| | Total | 1 | 100 | 15 | 100 | 10 | 100 | | - | | - | 34 | 99.9 |
| 4. Current Khat user | Yes | 1 | 1.6 | 7 | 5.9 | 3 | 5.4 | | - | | - | 11 | 3.8 |
| | No | 63 | 98.4 | 110 | 94 | 52 | 94.5 | 19 | 100 | 33 | 100 | 277 | 96.1 |
| | total | 64 | 100 | 117 | 99.9 | 55 | 99.9 | 19 | 100 | 33 | 100 | 288 | 99.9 |
| 5. Frequency of chewing Khat | Daily | | | 1 | 6.66 | - | - | - | - | - | - | 1 | 2.9 |
| | Once a week | 1 | 100 | 5 | 33.3 | 2 | 20 | 2 | 50 | | - | 10 | 29.4 |
| | 2-5 days/ Weeks | | | 1 | 6.66 | - | - | - | - | - | - | 1 | 2.9 |
| | Week end occasional | | | 1 | 6.66 | 1 | 10 | 2 | 50 | 3 | 75 | 7 | 20.5 |
| | Total | | | 7 | 46.6 | 7 | 70 | - | - | 1 | 25 | 15 | 44.1 |
| | | | | | | | | | | | 34 | 99.8 | |
| 6. Reason to begin chewing khat | Family member chewing | - | - | 1 | 7 | - | - | - | - | 2 | 50 | 3 | 8.8 |
| | Friends chewing | 1 | 100 | 5 | 33 | 9 | 90 | 2 | 50 | 1 | 25 | 18 | 52.9 |
| | I don't know | -- | - | 2 | 13 | 1 | 10 | - | - | - | - | 3 | 8.8 |
| | Other | - | - | 7 | 47 | - | - | 2 | 50 | 1 | 25 | 10 | 29.4 |
| | Total | 1 | 100 | 15 | 100 | 10 | 100 | 4 | 100 | 4 | 100 | 34 | 99.9 |

| Variable | | H.O | | Medicine | | Pharmacy | | Midwife | | Nursing | | Total | |
|---|---|-----|-----|----------|------|----------|-----|---------|-----|---------|-----|-------|-------|
| | | No | % | No | % | No | % | No | % | No | % | No | % |
| 7. Respondants given subjective reason for chewing chat | For recreational | - | | 4 | 27 | 7 | 70 | 1 | 25 | 1 | 25 | 13 | 38.2 |
| | To carry out routine activities | 1 | 100 | 2 | 13 | 1 | 10 | 1 | 25 | 1 | 25 | 6 | 17.6 |
| | for study purpose | - | - | 4 | 27 | 2 | 20 | 2 | 50 | 2 | 50 | 10 | 29.4 |
| | For religious purpose | - | - | 5 | 33 | - | - | - | - | - | - | 5 | 14.7 |
| | total | - | - | | | | | | | | | 34 | 99.9 |
| 8. Amount in birr Spent while chewing khat | 15-30 | 1 | 100 | 7 | 63.6 | 3 | 100 | 3 | 75 | 2 | 50 | 16 | 69.5 |
| | 31-45 | - | - | 1 | 9 | - | - | 1 | 25 | 2 | 50 | 4 | 17.3 |
| | ≥46 | - | - | 1 | 9 | - | - | - | - | - | - | 1 | 4.3 |
| | Other | - | - | 2 | 18.8 | - | - | - | - | - | - | 2 | 8.6 |
| | Total | 1 | 100 | 11 | 99.8 | 3 | 100 | 4 | 100 | 4 | 100 | 23 | 99.75 |
| 9. feeling during chewing khat | Pleasure Mild depression(loss of interest, loneness) | - | - | 12 | 80 | 6 | 60 | 4 | 100 | 4 | 100 | 26 | 76.4 |
| | | - | - | - | - | 3 | 30 | - | - | - | - | 3 | 8.8 |
| | Nothing special | - | - | 3 | 20 | 1 | 10 | - | - | - | - | 4 | 11.7 |
| | Others | 1 | 100 | - | - | - | - | - | - | - | - | 1 | 3 |
| Total | 1 | 100 | 15 | 100 | 10 | 100 | 4 | 100 | 4 | 100 | 34 | 99.9 | |
| 10. feeling after chewing khat | Mild depression(loss of interest , loneness) | - | - | - | - | 3 | 30 | 2 | 50 | - | - | 5 | 14.7 |
| | Pleasure | - | - | 7 | 46.7 | 1 | 10 | - | - | 1 | 25 | 9 | 26.4 |
| | Loss appetite | 1 | 100 | 4 | 26.7 | 3 | 30 | - | - | 3 | 75 | 11 | 31.3 |
| | Feeling hot and sweat | - | - | - | - | 3 | 30 | 1 | 25 | - | - | 4 | 11.7 |
| | Needs alcohol | - | - | - | - | - | - | 1 | 25 | - | - | 1 | 2.9 |
| | Others | - | - | 4 | 26.6 | - | - | - | - | - | - | 4 | 11.7 |
| | Total | 1 | 100 | 15 | 100 | 10 | 100 | 4 | 100 | 4 | 100 | 34 | 99.7 |
| 11. Events (Substances) add with khat | Cigarette | | | 3 | 20 | 2 | 20 | 2 | 50 | 2 | 50 | 9 | 26 |
| | Coffee | 1 | 100 | 6 | 40 | 6 | 60 | - | - | - | - | 13 | 38 |
| | Shisha | - | - | 2 | 13.3 | 2 | 20 | - | - | - | - | 4 | 12 |
| | Canabis | | | 1 | 6 | - | - | - | - | - | - | 1 | 3 |
| | Other | | | 3 | 20 | - | - | 2 | 50 | 2 | 50 | 7 | 21 |
| Total | 1 | 100 | 15 | 99.3 | 10 | 100 | 4 | 100 | 4 | 100 | 34 | 100 | |
| 12. Behavior occurred after chewing khat | Demonstrate sexual intercourse | - | - | 1 | 7 | | | - | - | | | 1 | 3 |
| | Quarrel with people | | | 6 | 40 | 3 | 30 | - | - | 1 | 25 | 10 | 29 |
| | Alcohol drink | | | 3 | 20 | 1 | 10 | - | - | - | - | 4 | 12 |
| | Other | 1 | 100 | 5 | 33 | 6 | 60 | 4 | 100 | 3 | 75 | 19 | 56 |
| | Total | 1 | 100 | 15 | 100 | 10 | 100 | 4 | 100 | 4 | 100 | 34 | 100 |

| Variable | | H.O | | Medicine | | Pharmacy | | Midwife | | Nursing | | Total | | |
|--|--|----------------|-----|----------|-------|----------|------|---------|-----|---------|-------|-------|-------|-------|
| | | No | % | No | % | No | % | No | % | No | % | No | % | |
| 13. use condom during sexual intercourse | Yes | - | - | 1 | 100 | - | - | - | - | - | - | 1 | 100 | |
| | No | - | - | - | - | - | - | - | - | - | - | - | - | |
| | Total | - | - | 1 | 100 | - | - | - | - | - | - | 1 | 100 | |
| 14. social effect of chewing khat | Social with drawal | -- | - | 1 | 5.5 | - | - | 2 | 50 | 1 | 25 | 4 | 12.1 | |
| | Friend break dawn | - | - | 5 | 27.7 | - | - | - | - | 1 | 25 | 6 | 18.2 | |
| | Unnecessary argument | 1 | 100 | - | - | 5 | 83 | 2 | 50 | 2 | 50 | 10 | 30.3 | |
| | Irritability | - | - | 3 | 16.6 | 1 | 16.6 | - | - | - | - | 4 | 12.1 | |
| | Talkativeness | - | - | 6 | 33 | - | - | - | - | - | - | 6 | 18.2 | |
| | Absenteeism | - | - | 3 | 16.6 | - | - | - | - | - | - | 3 | 9 | |
| | Total | 1 | 100 | 18 | 99.4 | 6 | 99.6 | 4 | 100 | 4 | 100 | 33 | 99.9 | |
| | 15. Physical effect of khat chewing | Weight loss | 1 | 100 | 2 | 12.5 | 2 | 20 | | | | | 5 | 13.88 |
| | | Dental problem | | | 2 | 12.5 | 1 | 10 | 1 | 25 | 1 | 16.6 | 5 | 13.88 |
| Loss of energy & Concentration | | - | - | 3 | 18.75 | 1 | 10 | | | 2 | 33.3 | 6 | 16.6 | |
| Weakness | | | | 1 | 6.25 | | | | | 1 | 16.66 | 2 | 5.55 | |
| Constipation | | | | 4 | 25 | 5 | 50 | 3 | 75 | 2 | 33.3 | 14 | 36.11 | |
| Palpitation | | | | 4 | 25 | 1 | 10 | - | - | - | - | 5 | 13.8 | |
| Total | | 1 | 100 | 16 | 100 | 10 | 100 | 4 | 100 | 6 | 99.9 | 36 | 99.8 | |
| 16. Psychological effect of khat chewing | Mental distress | - | - | - | - | 2 | 18.8 | 3 | 50 | 1 | 50 | 6 | 13.9 | |
| | Low motivation | 1 | 100 | 5 | 25 | 1 | 9 | 3 | 50 | 1 | 50 | 11 | 25.5 | |
| | Mild depression (loss of interest lone less) | -- | - | 4 | 21 | | | - | - | - | - | 4 | 9.3 | |
| | Hyper activated | - | - | 4 | 21 | 1 | 9 | - | - | 2 | 33.3 | 7 | 16.2 | |
| | happiness | - | - | 6 | 32 | 7 | 63.6 | - | - | 2 | 33 | .3 | 15 | |
| | Other | - | - | - | - | - | - | - | - | - | - | - | - | |
| | Total | 1 | 100 | 19 | 100 | 11 | 99.8 | 6 | 100 | 2 | 100 | 43 | 99.7 | |

khat chewers 27% were cigarette smokers,36.3%drink coffee,12% take shisha,3% cannabis users and 21% other substances have consumed. Male account for 100% the chewers, Regarding marital status of the current khat chewers and the department of current khat chewers 2.38% were public health,7.14% were medicin,6.25%were pharmacy but mid wife &nurses didnt chew khat currently.Concerning level starting of khat chewing 11.1% were of elementary school,30.3% were at high school,39.3% were at preparatoryschool&15% were after coming university. Regarding monthly income70.5%were monthly income 100-500 berr&29.4%were greater than 500 berr of on the khat chewers 16(69.5%)were spent 22.50berr per day

while chewing khat averagely for khat 4(17.6%)were spent38berr while chewing khat per day. this is greater than their monthly income(Table2).

Composition of Male and females in life time and current prevalence of khat chewer Years 2 and 3 CHS Ayder campus, MU

The reason given by the respondents to begin chewing khat (52%) were friend chewing, 9% were family members chewing, 9% reason did not know& 30% were others. The friends chewing or peer pressure is highly associated with increasing of chewing khat(table 2) and also the respondents had given reasons that why the chewing khat were 38% for recreation,30% study purpose ,18% to get energy

and concentration and also 15% for religious purpose. During .ofinterest&loneliness,11.7%were nothing special and1(3%) were others. And also after chewing khat the chewers were feeling 14.2% mild depression(loss of interest & loneliness). 28.5% pleasure.31.4% loss of appetite,11.4%feeling hot and sweating and3% needs alcohol and also 11.4% others. Regarding the chewers behavior after chewing khat 30% were quarrel with people,12%were alcohol drink,1(3%)demonstrate sexual intercourse and55%were having other behaviors. those who have demonstrate sexual inter course were use condom 100% (Table3).

Table 3. Socio demographic versus Prevalence of Khat chewer respondents in CHS Ayder campus of the current khat chewer.

| No. | Variable | Category | Number | Percent |
|-----|-------------------|------------|--------|---------|
| 1. | AGE- | 16-20 | | |
| | | 21-25 | 11 | 100 |
| | | ≥ 26 | | |
| | | Total | 11 | 100 |
| 2 | Marital status | Married | - | - |
| | | single | 11 | 100 |
| | | widowed | - | - |
| | | Divorced | - | - |
| | | Total | 11 | |
| 3 | Ethnicity | Oromo | 4/18 | 22.2 |
| | | Amara | 2/47 | 4.2 |
| | | Tigray | 4/197 | 2 |
| | | Debub | - | - |
| | | Others | 1/14 | 7 |
| 4 | Educational level | Academic | 1 | 9 |
| | | year- 2 | | |
| | | Academic | 10 | 91 |
| | | year- 3 | | |
| 5 | Religion | Total | 11 | 100 |
| | | orthodox | 2 | 0.8 |
| | | Muslim | 5 | 8.69 |
| | | Catholic | - | - |
| | | protestant | 11 | 9 |
| | Others | 3 | 50 | |

Participants response about effect of Khat on health, social and economic condition

Regarding social effects of the consequence of khat chewing 12% were sociawithdrawal,18%friends break down,29%unnecessary argument,12%were irritability,18% talkativeness and3(9%) absenteeism

and also those were physical effects of chewing khat 13.5% were weight loss, 6% were loss of energy and concentration 2(5%)were body weakness,36%were constipation and13.5% were palpitation .concerning psychological effects of the consequence of chewing khat 35% were feeling happiness,25%were low motivation and14% were mental distress.16%were showing hyper activity and9.3% were subjective feeling of depression symptoms such as loss of interest and loneliness(fig.1).

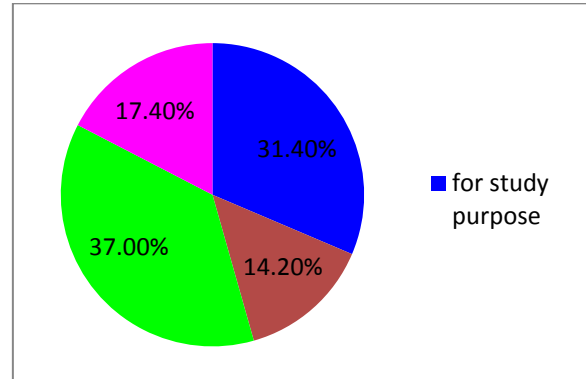


Fig. 1 Subjective reason given by respondents for chewing Khat in CHS Ayder campus, MU DISCUSSION

Epidemiological studies on Khat chewing are rare; particularly studies conducted on college students are very scarce. Our study showed that 3.8 % of the students chew khat currently. This figure is lower than other studies conducted on this age group & collage students(7 % for in school & 23% for out of school youth &17.5% for college students). There is an increasing friend of Khat chewing as indicated by subsequent studies conducted for example among students Gondar collage medical sciences, 22.3% in 1983 & 26.7 % in 2001. The life time prevalence of Khat chewing in this study is 11.8% this is also lower to compare to the ones that were reported for Admatulu 31.7 % & Jimma town . This study how ever reveled lower rates of life time & current Khat chewing prevalence compared to study in Butajira, South west Ethiopia in 1999, Where life time & current prevalence rates were found to be 55.7% & 50 respectively (20).This could be due to the preponderance of Muslims in Butajira where they account for over 90% of the population compared to 8 % in this study. It is found that 45% of Muslims are current Khat chewers that constitute 8% of the population compared to 18% of the Orthodox Christian that constitute 85 % of the population. According to this study it seems that there is significant association (P < 0.001) between Muslim

religion & Khat chewing habits. This finding consistent with those studies reported from Admitulu&Butajira

In this study the effect of Khat chewing were, social effects 27.7% were friends break down, 33% had behavior of talkativeness these events occurred due to psychoactive stimulant effect of Khat leaves in CNS and cause behavioral changes. Also there were physical and psychological effects such as 36% were constipation, 13.5% were dental problem,13.5% were palpitation and 16% were loss of energy and concentration. Also psychologically 35% were feeling happiness,25.5% were low motivation, 14% were mental distress,and 16% hyper activity and 9.3% were feeling of depression with symptoms of loss of interest and loneliness.

Of all the life time prevalence rate of Khat chewers 27% were cigarettes smokers , combined with Khat chewing, compared to studies conducted on medical & paramedical Sciences in 1983 which was 31.9% there is decrease life time prevalence rate. However, there is an increase in life time prevalence rates of smoking compared to a study conducted in the same collage in 2001, showing life time prevalence rates of 31.1%.There is a highly significant association ($p<0.001$) between khat chewing and sex more males (97%) of ever chewers prevalence rates and 100% of current chewers prevalence rate that females than were found to chew Khat in this study. This may be because of females are more culturally restricted from exposure to Khat chewing than males. In this study during chewing Khat 76% feeling pleasure & also after chewing 28.5% were feeling pleasure, 14.2% were felling mild depression symptoms (loss of interest & loneliness) & 31.4% loss of appetite & 12% were needs alcohol to drink, 36% were having constipation & 25.5% were low motivation. This is in line with other studies conducted in Gondar (20,24). The reason given by the respondents about the beginning of Khat chewing the significant numbers 52% were due to friends chewing or peer pressure. Regarding to the level of starting Khat chewing 39.3% were at preparatory school and 15% were after coming university. Of all the khat chewers 16(69.50%) were spend 22.50 birr per day while Khat chewing. This amount of birr is excess & greater than their monthly income ((10,11,12,16,20,24)..

CONCLUSION & RECOMMENDATION

Conclusion – although the literature on Khat & its prevalence among different segments of the population in Ethiopia is fairly effective, very few college based studies exist in the study area.Despite the dramatic increase in the production and consumption of khat in Ethiopia in recent years no regulatory measure have been attempted to be taken by the authorities in charge.In Ethiopia khat has been used for centuries in the eastern part of the country. Today khat consumption is widespread throughout the country. There are no laws restricting its use although the government discourages it. Although khat is a legal substance in Ethiopia, it can be an entry point to the use of other illicit drugs such as cannabis and shisha. The present study stated that the habit of khat chewing results negative impact on social interaction of the students such as social withdrawal, friend breakdown, unnecessary argument and irritability not only this are other khat chewing negative impacts on health(physical and psychological) and socio economic matter

RECOMMENDATIONS

There is a very high felt need to educate the students and generally to the public about the adverse effect of khat on physical, mental and social health.Use of khat in public entertainment areas, work places , school compounds should be restrictedNeeds further study and continuous assessment

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