

Smoking and Khat Chewing Among Yemeni Women in Aden Governorate

Ahmed A. K. Thabet¹, Siham A. Suroory² and Ahmed M. Al-Hadrani³

1 Epidemiologist ,Community Medicine Department ,Faculty of Medicine and Health Sciences , Thamar University,E-mail:thabet64@live.com

2 Director of Information & Drug Researches in Supreme Board of Drugs & Medical Appliances \ Aden Branch

3 General Surgeon , Rector of Thamar University

ABSTRACT

Background: khat is a plant which is cultivated in Yemen and the horn of Africa. The small leaves are chewed by people for their stimulating effects. The mental and physical stimulating effects of khat chewing are due to the sympathemimetic substances in khat. The most important is cathinone.

Smoking is also an increasing health problem in Yemen. The aims of this study, therefore, are to determine the prevalence of khat chewing and smoking habit among Yemeni women in Aden governorate and to find the association between khat chewing and smoking.

Methodology: A cross-sectional study was conducted which involved 250 women from different sectors of society in Aden governorate.

Results: The study showed that the life time prevalence of smoking was 80% while both life time smokers and chewers was 100%. Thirty three percent (33%) of the life time chewers and 32.7% of the life time smokers have duration of khat chewing and smoking from 10 to 19 years. 15.9% of the ever khat chewers and 19.6% of the ever cigarette smokers have had duration from 30 to 39 years. Also, the study shows that the habit of khat chewing is a very important risk factor in increasing the addiction of smoking with a frequency of 96.9% of smoking during khat chewing, compared to 3.3% of khat chewing without smoking.

Conclusion: The study demonstrated high prevalence of smoking and khat chewing among women in Aden governorate. Also, the study demonstrated the high prevalence of cigarette smoking among chewers.

Keywords: Khat chewing, Smoking, Women, Yemen



INTRODUCTION

Tobacco and khat are two of the many habits/drugs to which people can become addicted [1]. Chewing khat, a psychotropic plant, is a deeply rooted addictive habit in Yemeni society. Khat has been cultivated for use as a stimulant for centuries in Yemen, other parts of the Arabian Peninsula as well as the Horn of Africa [2, 3]. The khat chewing habit is particularly widespread in Yemen [4,5]. Although the habit was traditionally practiced by men, it is now prevalent among women and all socio-economic groups. It has been estimated that about 80% of Yemeni men and 60% of women chew khat [2]. It is especially common in social gatherings and ceremonies such as wedding celebrations and death mourning. Many Yemeni men and women also spend most of their afternoons chewing khat, owing to the pleasant stimulant action it provides. It is believed that khat offers a sense of euphoria, cheerfulness [4,5], relief from fatigue, increased energy levels, ability to communicate easily, capacity to associate ideas and to improve self confidence [4,5,6]. On the other hand, khat is addictive, and has many negative health consequences [7]. It contains several chemical elements, the most important of which is cathinone, a stimulant of the central nervous system and is believed to have the same effect as amphetamine. Khat chewing leads, therefore, to anxiety, mood disturbances, depression, and insomnia [4,5]. The nicotine in cigarette smoke is known to have an addictive effect. Compulsive use, psycho-active effects, and drug-reinforced behaviour are the primary criteria for defining drug addiction [8, 9,10]. Cigarette smoking causes lung cancer, atherosclerotic cardiovascular diseases, intrauterine growth retardation, spontaneous abortion, antepartum haemorrhage, female infertility, peptic ulcer disease, chronic obstructive lung disease, sexual dysfunction in men, and many other diseases. Passive smokers can also acquire diseases associated with cigarette smoking [10, 11, 12, 13, 14, 15,16]. Habits of khat chewing and smoking are major contributors to gross dental staining [17,18].

There are no available precise figures on the prevalence of khat usage and smoking among Yemeni women in Aden governorate. This study is thus timely to determine the prevalence of khat chewing and smoking habit among women in Aden governorate and to find the association between khat chewing and smoking.

METHODOLOGY

A Cross-sectional study was conducted in Aden governorate from 2002 to 2004, which is the economic and commercial capital of Yemen, and the most important sea outlet for Yemen to the Arabian Sea and the Indian Ocean.

Aden governorate consists of eight districts and occupies an area of 6980 km², with an estimated population of 590,000 inhabitants.

This cross sectional study involved 250 women from different parts of Aden (societies, institutes and colleges).

Twenty five women from each organization or institutions (Pharmacy, Economic and Education collages in Aden University, Yemen Women union association in Aden, Development charity association in Aden, Child care association in Aden, Aden University staff members, Ministry of Public Health office staff members in Aden, and 25 house wives in Aden community) were randomly selected using a convenience method.

A structured self-administered questionnaire was employed for data collection. The variables included were socio-demographic characteristics, use of khat/cigarettes,

motivating factors that initiate people to use khat/ smoking, reasons why people use khat/smoking, health hazards of khat chewing/smoking, and attitude towards khat use. Ethical clearance and permission were obtained from the Research Committee of Thamar University, and before starting the data collection, oral permission was also obtained from the individual target women, by explaining the purpose of the study and promising them that the information collected would be kept anonymous; and participation was totally voluntary.

The operational definitions used:-

I. Khat chewing:

(a) Non-user: Person, who has never used khat in any form, (b) Lifetime prevalence of chewing: the proportion of the study population who had ever chewed khat in their lifetime, (c) Ever chewer: An individual is considered an ever chewer even if she had chewed only once in her lifetime.

II. Smoking

Non-smoker: Person, who has never used cigarette in any form, (b) Lifetime prevalence of smoking: the proportion of the study population who had ever smoked in their lifetime, (c) Ever smoker: An individual is considered an ever smoker even if she had smoked only once in her lifetime.

Frequency tables were used for data presentation and the association between khat chewing and smoking was considered statistically significant at $p < 0.05$ by using chi-squared test. Data was analyzed using SPSS version 11.5.

RESULTS

Two hundred and fifty women were included in this study and the overall response rate was 214 (85.6%). One hundred and twelve (52.3%) were married, 68 (31.8%) were single, 12 (5.6%) were divorced and 22 (10.3%) were widows (figure 1).

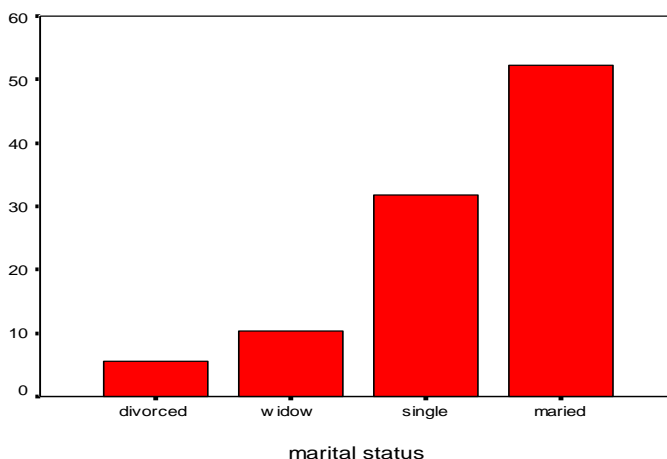


Figure (1): marital status of studied women

Figure 2 shows the age distribution among women included in this study. About 38.3% of the women were in the age group 20-30, the minimum age was 20 years and the maximum 72.

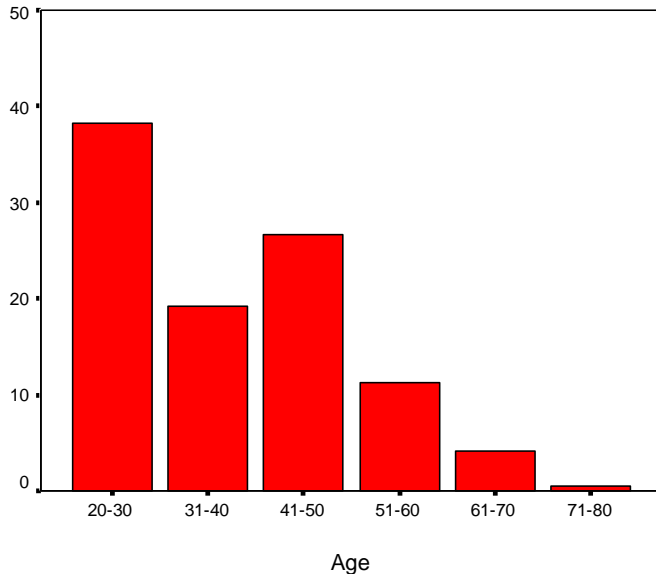


Figure (2): Age distribution among women included in this study.

The life time prevalence of smoking was 80%, while both life time smokers and chewers 100%, table 1.

Table (1): Prevalence of khat chewing and cigarette smoking among women in Aden governorate (gov.)

khat chewing /Smoking status	NO(total n=214)	Percent*
Neither chewer nor smoker	0	0%
Life time khat chewer	214	100%
Life time smoker	172	80%
Both life time chewer and smoker	172	80 %
Life time chewer or smoker	214	100%

*the percentages do not add up to 100% because one category can be included in the other

Seventy one (33.2%) of the lifetime chewers and 70 (32.7%) of the lifetime smokers have a duration of khat chewing and smoking from 10 to 19 years .Thirty four (15.9%) of the ever khat chewers and 28(19.6%) of the cigarette smokers have had duration from 30 to 39 years (Table 2).

Table (2): Duration of khat chewing /smoking among women in Aden gov.

Time in years	Ever khat chewers (total n=214; (No (%))	Cigarette ever smokers (total n=214; (No (%))
Less than 1 year (1<)	2 (0.9%)	1(0.5%)
1-9	71(33.1%)	70(32.7%)
10-19	70(32.7%)	40(18.7%)
20-29	37(17.3%)	33(15.4%)
30-39	34(15.9%)	28(13.1%)
Non chewers/smokers	0	42(19.6%)

The main reason given for chewing khat or smoking was for relaxation and pleasure (72.5%), to keep alert while working were the main reason for starting chewing or smoking,(20,6%). Table 3 shows the reasons for starting khat chewing or smoking.

Table (3): Reasons given by women in Aden for chewing khat and cigarette smoking

Reason	Khat chewing or cigarette smoking (n=214) No (%)
Relieve stress	15(7%)
To keep alert while working	44(20.6%)
For relaxation and pleasure	155 (72.4%)

On the contrary, many women believe that khat chewing and cigarette smoking have health risks. Sleeplessness (35.5%) was the main risk factor for the khat chewing, while the addiction mentioned as the main health problem of chewing khat or cigarette smoking (30.8%). Table 4 show the main health risks associated with khat chewing and cigarette smoking as perceived by the study group.

Table (4): Health risks of khat chewing/smoking mentioned by women in Aden gov.

Health risk	N0 (%*)
Addiction	66(30.8 %%)
Health risks	51(23.8%)
Increase susceptibility to many diseases	10(4.7%)
Gastrointestinal disorders	31(14.5%)
Sleeplessness	76(35.5%)
Anxiety	22(10.3%)
Family problems	37(17.3%)
Didn't mention any health risks	103(48.2%)

NB: *1. The percentages are calculated from the total number of women who reported that khat chewing/cigarette smoking has health risk n=214

2. The percentages do not add up to 100% because one responder can give more than one answer

The risk of smoking increased with chewing khat ($X^2 = 186.9$, $P 0.0005$), table 5.

Table (5): Shows the association between khat chewing and smoking.

Khat chewing /smoking status	Frequency	Chi-square test (X ²)	Df (degree of freedom)	p-value
Khat chewing with smoking	207(96.7%)	186.916	1	0.0005
Khat chewing without smoking	7(3.3%)			

DISCUSSION

This study revealed that 100% of the lifetime prevalence rate is for khat chewing and 80% for smoking among women in Aden governorate. Both life time prevalence rates in this study group are higher compared to previous studies done in Ethiopia and Aden by Kebede [1] ,Alkhader Laswer and Hashem [3] respectively .The possible explanation for this difference could be that the previous studies were done among college students.

The duration of taking khat or smoking ranges from 1 to 39 years among our study group. From this finding, possible explanation includes Yemeni social view; with increasing age there is an increasing social acceptance of khat chewing . In agreement with this statement is that the main reasons mentioned for started chewing khat / smoking were relaxation and pleasure (72.5%). To keep alert while working (20.6%) is the second reason mentioned by our study group. This is an important indication to direct interventions towards decreasing the prevalence of these habits.

Many women believe that khat chewing and smoking have health risks. Sleeplessness (35.5%) was the main risk factor for khat chewing, while addiction was mentioned as the main health problem of khat chewing and cigarette smoking. On the other hand, 48.2% didn't mention any health problems; this indicates that there is a need for health education and promotion about khat chewing and cigarette smoking.

About 20% of the study group were non-smokers, and these are good examples for smokers, in that stopping these habits is possible.

In this study 96.7% declare that they smoke during khat session .This finding indicates positive association between smoking and chewing khat (X² = 186.916, df=1, p=0.0005).

One limitation of this study is that 100% response was not obtained; of course this is one of the limitations of self-administered questionnaires. The other limitation could be that all women might not give genuine answer to the questions they were asked. This might underestimate the prevalence of cigarette smoking.

CONCLUSIONS

In general the prevalence of khat chewing and cigarette smoking among women in Aden governorate were high. Most of women knew the commonest health risks associated with khat chewing and cigarette smoking, while some of them didn't mention any health problems.

The association between smoking and khat chewing is statistically significant (X² = 186.916, df=1, p=0.0005).

RECOMMENDATIONS

Based on the finding of this study the following recommendations are made:

1. Colleges, institutes and women associations should educate their staff members on the health problems associated with khat chewing and cigarette smoking.
2. The mass media should also give emphasis to the problems of khat and cigarette smoking.

ACKNOWLEDGMENT

The researchers thank all general directors of all institutions & organizations in Aden governorates for their kind help during the field work. The authors also thank all women who participated in this research.

REFERENCES

1. Kebede Y. (2002), Cigarette smoking and khat chewing among college students in Northwest Ethiopia. *Ethiop. J. Health Dev.*: 16(1): 9-17.
2. Marwan Khawaja Mohannad al-Nsour and Ghada Saad; (2008), Khat (*Catha edulis*) Chewing during Pregnancy in Yemen: Findings from a National Population Survey. *Maternal Child Health J.*, 12:308–312
3. Alkhader N. Iaswer ,Hashem Darwish.(2009), Prevalence of cigarette smoking and khat chewing among Aden University medical students and their relationship to BP and body mass index. *Saudi J kidney Dis Transp.* 20(5): 862-866
4. Hassan N, Gunaid AA, Murray Lyon IM.(2007), Khat (*Catha edulis*): health aspects of khat chewing . *East. Mediterr. Health J.* 13: 706-18
5. Al-Motarreb A, Baker K, Broadley KJ.(2002), Khat: pharmacological and medical aspects and its social use in Yemen. *Phytother Res*; 16(5): 403–13.
6. Adugna F, Jira C, Molla T. (1994), Khat chewing among agaro secondary school students, Agaro, South Western Ethiopia. *Eth Med J.*; 32(3):161-166.
7. Yeshigeta Gelaw, Abraham Haile-Amlak;(2004), Khat chewing and its socio-demographic correlates among the staff of Jimma University; *Ethiop.J.Health Dev.*18(3).
8. John HH.(1998), Nicotine addiction. In: *Harrison's Principle of Internal Medicine* edited by Anthony SF, Eugene B, Kurt JI, Jean DW, Joseph BM, Dennis LK et al.14(2):2516-2519.
9. White, M., Bush, J., Kai, J., Bhopal, R., & Rankin, J.,(2006), Quitting smoking and experience of smoking cessation interventions among UK Bangladeshi and Pakistani adults: The view of community members and health professionals. *Journal of Epidemiology and Community Health*, 60, 405–411.

10. Kassay M, Sherif T, Fissehaye G, Teklu T.(1994), "Drug " use among high school students in Addis Ababa, Ethiopian Journal of Health Development. 13(2):101-106.
11. West, R., & Shiffman, S., (2004), Smoking cessation. Oxford: Health Press.
12. Bawazeer AA, Hattab AS, Morales E; (1999), First cigarette smoking experience among secondary school student in Aden. Republic of Yemen . East. Mediterr Health J., 5: 440-9.
13. Elie A Akl,Swarna Gaddam,Sameer K Gunukula, Roland Honeine, Philippe Abou Jaoude and Jihad Irani; (2010), The effects of water pipe tobacco smoking on health outcomes: a systematic review; International Journal of Epidemiology 1–24.
14. Al-Turki YA, (2006), Smoking habits among medical students in Central Saudi Arabia. Saudi Med J 2006; 27:700–3.
15. Al-Haddad N, Hamadeh RR. (2003), Smoking among secondary school boys in Bahrain: prevalence and risk factors. East Mediterr Health J., 9:78–86.
16. Jackson D, Aveyard P. (2008), Waterpipe smoking in students: prevalence, risk factors, symptoms of addiction, and smoke intake. Evidence from one British university. BMC Public Health, 8:174.
17. Al-Hebshi NN, Skaug N. (2005), Effect of Khat Chewing on 14 selected periodontal bacteria in sub- and supragingival plaque of a young male population. Oral Microbiol Immunol, 20(3): 141–6.
18. Essam Halboub, Essam Dhaifullah, Mahmoud Abdulhuq; (2009), Khat chewing and smoking effect on oral mucosa:A clinical study; Acta Medica, 52(4):155–158

انتشار ظاهرة القات والتدخين بين النساء في محافظة عدن بالجمهورية اليمنية

احمد علي قايد ثابت¹ ، سهام عبد الرب السروري² ، احمد الحضرائي³

1. استاذ الوبائيات المشارك، كلية الطب والعلوم الصحية ، جامعة ذمار
2. مدير ادارة المعلومات والبحوث ، الهيئة العليا للأدوية ، محافظة عدن
3. استاذ الجراحة العامة ، رئيس جامعة ذمار

ملخص

نبات القات يزرع في اليمن والقرن الأفريقي. وعادة يمضغ الناس أوراقه الصغيرة من اجل الحصول على الاثر التحفيزي. وتنتج الآثار النفسية والجسدية للقات عن وجود مواد ال sympathemimetics في القات. ومن اهمها الكاثينون. بينما يعد التدخين من المشاكل الصحية الهامة في اليمن .

اهداف الدراسة : تهدف هذه الدراسة إلى تحديد مدى انتشار التدخين ومضغ القات بين النساء اليمنيات في محافظة عدن وكذا ايجاد العلاقة بين مضغ القات والتدخين.

المنهجية : أجريت دراسة مستعرضة وشملت 250 امرأة من مختلف قطاعات المجتمع في محافظة عدن. النتائج : أظهرت الدراسة أن معدل انتشار التدخين ولو لمرة واحدة في العمر كان 80 ٪ في حين أن انتشار التدخين والقات بين المدخنين والماضغين ولو لمرة واحدة في العمر كان 100 ٪. وثلاثة وثلاثون في المئة (33 ٪) من الماضغين و32،7 ٪ من المدخنين مارسوا عادة التدخين ومضغ القات خلال مدة 10 وحتى 19 عاما. بينما 15،9 ٪ من ماضغي القات و19،6 ٪ من مدخني السجائر قد مارسوا عادة مضغ القات والتدخين خلال مدة 30 وحتى 39 عاما. كما اظهرت هذه الدراسة أن عادة مضغ القات عامل مهم جدا في زيادة مخاطر إدمان التدخين . حيث ان 96،9 ٪ من المدخنين أثناء مضغ القات يزداد تناولهم للسجائر مقارنة ب 3،3 ٪ من ماضغي القات من دون تدخين.

الخلاصة : أظهرت الدراسة ارتفاع معدل انتشار التدخين ومضغ القات بين النساء في محافظة عدن. كما أظهرت الدراسة ارتفاع معدل انتشار التدخين بين ماضغي القات.

