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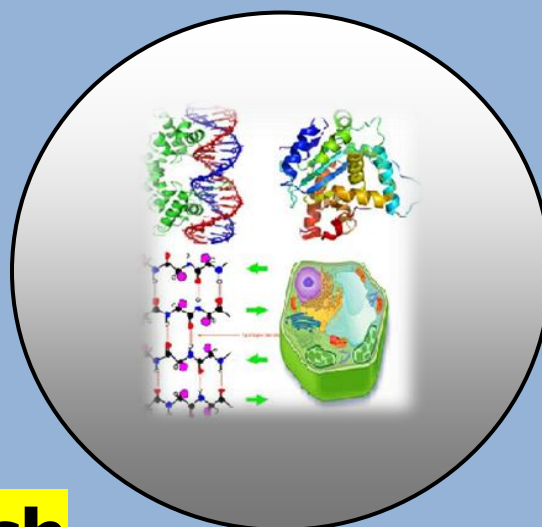
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ISSN 0970-4973 (Print)**ISSN 2319-3077 (Online/Electronic)****Tsige Ketema**[http:// www.jbcr.in](http://www.jbcr.in)jbicchemres@gmail.cominfo@jbcr.in**RESEARCH PAPER**

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Exploration of Pattern of Use of Khat and Tobacco among Residents of Halaba Kulito Town, Southern Ethiopia**Tsige Ketema,*** Esayas Alemayehu and ***Argaw Ambelu*****Jimma University, College of Public Health and Medical sciences, Department of Environmental Health Sciences and Technology, Jimma Ethiopia******Jimma University, College of Natural Sciences, Department of Biology, Ethiopia******* Jimma University Institute of Technology, Department of Water Resources and Environmental Engineering, Ethiopia****ABSTRACT**

Khat (Catha edulis, Forsk) is the most psychoactive substance frequently practiced by some publics in Ethiopia. Concomitant use of khat and cigarette to enhance level of excitement might increase prevalence of cigarette smoking among khat chewers. Thus this study was designed to assess awareness of the public on health effects of khat and tobacco use, and their spreading pattern. Community-based cross-sectional study was carried out using structured face-to-face interview compiled with open and close ended questions. Chi-square test and logistic regression with reference to odd ratio were chiefly used for data analysis. The prevalence of life time khat chewing rate documented in this study was 56.84% (95% CI, 54.02-59.98%), with 51.93 and 34.04% current khat chewers and cigarette smokers, respectively. Unlike other reports from Ethiopia, frequency of female khat users observed in this study was higher (18.77%). Though cigarette smoking was significantly decreased with increase in educational status and income $P < 0.0001$ of the respondents, significant differences was not observed in khat chewing. Presence of motivating factors was found the predictor variables for khat and tobacco use. Awareness of respondents on health effect of khat (43.72%) was relatively lower than on cigarette smoking (53%). Some of the respondents (32.4%) still believe that khat chewing has medicinal value for treatment of different ailments. High prevalence of khat chewing observed in the current study when they have better knowledge of its health effect could be an evidence for widespread use of the plant and an implication for existence of psychological addiction in the community. Our findings replicate and extend those of previous studies, and calls for well-designed long term practical intervention especially on the new generation to minimize overall public health effects.

Key words; Tobacco, Perception, Health Effect, Khat and Prevalence.

INTRODUCTION

Khat (*Catha edulis*), the herbal plant native to Harar, eastern city in Ethiopia, has been in use for long in social and recreational situations (Mark, 2003). Active ingredients of leave of the plant, namely cathinone and cathine, are known to have different physical and emotional effects such as increasing alertness, creating joyful state, and reducing physical fatigue on users (Al-Motarreb *et al.*, 2002; Al-Hebshi and Skaug, 2005). Some indigenous people of east Africa use processed leaves and roots of the plant for treatment of some ailments (Al-Hebshi and Skaug, 2005; Balint *et al.*, 2009). Despite its popularity among most population because of its stimulating activity or to some extent for its medicinal value, khat has adverse health and social effects (Toennes *et al.*, 2003; Murugan *et al.*, 2003). Even though khat use was previously restricted to some groups of population, the current trend showed that, it is becoming an everyday psychoactive drug for most population of Ethiopia. Reports from some areas of the country such as Adami Tulu and Butajira showed that, the prevalence of khat use among the public, students at high school and universities, and instructors is tremendously increasing (Alem *et al.*, 1999; Kebede, 2002; Gelaw *et al.*, 2004; Tesfaye *et al.*, 2008; Damene *et al.*, 2011; Reda *et al.*, 2012). Also concomitant use of khat with other substances such as cigarette or alcohol to enhance the level of excitement is becoming an issue of concern. Cigarette is a common stimulant globally used by millions with adverse health impacts. Its smoke is responsible for fatal non-communicable disorders such as cancers of vital body organs and mortality (Sopori and Kozak, 1998). Globally, about 30% of the adult males are estimated to be smokers (WHO, 2002; Toustad and Andrew-Johnston, 2006). Prevalence of smoking among men in sub-Sahara ranges from 20% to 60% and the annual cigarette consumption rates are on the rise for both men and women (Townsend *et al.*, 2006). Though little was reported on prevalence of smoking in Ethiopia, few of these studies showed that the percentage of young smokers and university instructors was high (Betre *et al.*, 1997). Like wise cigarette has health effects on circulatory and respiratory system, cause cancer of vital organs, affects reproductive system, causes stroke, chronic obstructive lung diseases, bronchitis, and infertility (Ockene and Miller, 1997; Mokda *et al.*, 2004). With the increasing evidence of the harmful effects of khat use and cigarette smoke on the health and social life, assessing the level of their spreading pattern of khat and cigarette use among the population and perception of the community toward its use is important. Thus, this study was aim to assess awareness of the public on health consequences of khat and tobacco use, and their spreading pattern among residents Halaba Kulito town, southern Ethiopia.

MATERIAL AND METHODS

Study setting and design

A community based cross-sectional study was carried out in Halaba Kulito Town, southern Ethiopia from June-December 2012. The study site is located in the southern part of the country, which is 315 kilometers away from the center, Addis Ababa. The town is divided into five Kebeles, the lowest administrative structure in Ethiopia.

Sample Size Determination and Sampling Technique

According to the 2005 report of the Central Statistical Agency of Ethiopia, the town has an estimated populations of 27,359 of whom 13,741 were males and 13,618 were females (CSA, 2005).

Sample size of the study was determined by assuming a maximum of 50% chewer and/or smoker (the highest prevalence report from the country), relative precision of +0.05, at 95% confidence level, and 3% margin of error (Daniel, 1995). One thousand sixty five (n=1065) households were included in the study. Participants of the study were selected by using quota sampling technique that helps to reach total households from each Kebele and by using systematic sampling which helps to select each household from the Kebele. In each Kebele, there were 10 *menders* (a cluster containing 250-300 households). From each mender, 21 households were selected by considering every 10th houses, but some extra households were considered for those consisting more than 250 households. When extra households encountered, the same selection criteria mentioned above (every 10th houses within 21 households domain) was used.

Data Collection

Data were collected using structured face-to-face interview containing open and close ended questions. The questions were developed by reviewing pertinent literatures from Ethiopia on similar studies but different groups such as students and youth at different level of academic institutions [Alem *et al.*, 1999; Kebede, 2002; Gelaw *et al.*, 2004; Damene *et al.*, 2011; Reda *et al.*, 2012]. Three major issues were addressed in the questionnaire: (a) socio-demographic characteristics, (b) Frequency of use of khat and cigarette and motivating factors, and (c) knowledge on health effects of khat chewing and cigarette smoking.

The English version of the interview questions were translated into Amharic, a language spoken by most people of the study area, by an expert fluent in the language. It was then translated back into English by another person to ensure consistency with the original questions. The Amharic language interview questions were used to collect data. The interview questionnaire was used after pretested by distributing to the selected 20 households from all the five kebeles (4 from each). Briefly, the field work supervisor allowed the house head of each household to complete the questionnaire and collected immediately. The questionnaires were checked for their correctness in line with the intended purpose. Based on their response possible modification or correction was made to improve the clarity of some items of the interview questions before handed to the data collectors.

Data collectors involved in this were unemployed bachelor degree holders (n=3) and diploma graduates (n=2). As they have good academic back ground and skill of field data collection, their training was easy and takes only few days. Members of the research team supervised and monitored all data collection procedures. From each household only one person, house head was interviewed. In some cases such as when house head was not available, wife or any family members of age greater than 20 were interviewed. Thus, proportion of females included in this study wasn't inline to the actual sex ratio of the country (50:50), rather they were interviewed as replacement of their husband. During data collection, respondents were informed that the information collected would be kept anonymous and participation was totally voluntary.

The independent variables included were sex, age, religion, educational status, marital status, income condition, ethnicity, presence of motivating factors such as family history of smoking and khat chewing. The main dependent variables were prevalence of cigarette smoking and khat chewing. In the study, during data collection there were no selection criteria concerning gender, profession, marital status, economic condition, religion, occupation and ethnicity of the participants.

Operational Terms

- Life time prevalence of khat chewing or cigarette smoking is the proportion of respondents who had ever khat chewed or smoked cigarettes in their life time,
- Current prevalence of khat chewing or cigarette smoking is the proportion of respondents who are khat chewing or smoking cigarettes within 30 days preceding the study,
- Ever smoker or ever khat chewer is when an individual ever smoke or khat chewed even if he/she had smoked or khat chewed only once in his/her life time.

Data Analysis

To ensure the quality of data, the principal investigator of the study reviewed every filled questionnaire daily for any error, misinterpretation of the questions, and inconsistency of responses as soon as possible. Before analysis, data was checked for its completeness and correctness, and then double entered into Epi Info software to minimize error, version 5.0. SPSS software version 20.0 was also used for analysis of different parameters. Data analysis consists descriptive statistics and inferential statistics. Simple tabulation frequencies, percentage and means of different variables were used to give a general overview of the data. Furthermore, univariate and multivariate logistic regressions analysis was used to assess predictor variables for khat chewing and cigarette smoking. The predictor variables of only smoker were considered along smokers plus khat chewers. This was due to lower proportion of only cigarette smokers. Odds ratios (ORs) and their 95% confidence intervals (CI) were reported. Chi-square test was used to test the association between different variables. Median was considered over mean for non-normally distributed variables. Khat chewing and cigarette smoking prevalence were presented with a 95% CI.

Ethical Clearance

Data collection procedures of the study got approval by Ethical Review Committee of College of Public Health and Medical Sciences of Jimma University. In addition, prior to data collection, verbal consent was obtained from each respondent.

RESULTS**Socio-Demographic Characteristics of Respondents**

From the total number of participants intended to be interviewed (n=1065), 99.4% (n=1059) response rate was obtained. Relatively high proportion of the study participants were males who account 73.6 percent. 68.55 percent of the participants were married. Those who completed their elementary school education were 39.37 percent. 68.91 percent of them fall in the age range of 20-40. 56.9 percent of them are Muslims. 33.8 percent of them were Halaba in ethnicity, and 40.2% were merchant occupationally (Table 1). Median age of the respondents was 32 years (20-70 years).

Pattern of Khat Chewing and Cigarette Smoking

The prevalence of life time khat chewing rate documented in this study was 56.84% (95% CI, 54.02-59.98%). Among these, 38.37% (95% CI, 35-40.1%) and 8.7% of them were concomitant user of khat with cigarette, and khat with alcohol, respectively. The prevalence of life time cigarette smoker was 23.89%. All smokers and alcohol users were males. Proportion of only smokers were very minimal, (2.07%, n= 22).

Current prevalence of khat chewers and cigarette smokers (with khat and alone) accounted for 52.03% (n= 551) and 22.57% (n= 239), respectively. Smoking was significantly higher (OR=11.44, 95% CI, 5.79-22.6) among khat chewers than non-chewers. In this study, frequency of female khat users was 18.77% and majority of them (80.39%) were in reproductive age groups (20-49 years).

Table 1. Socio-demographic characteristics of respondents, Halaba Kulito town, Southern Ethiopia, 2012.

Variables	Total population (%)	Percent (%)
Age (year): 20-30	356	33.6
31-40	374	35.31
41-50	209	19.7
51-60	79	7.4
>60	41	3.87
Sex: Female	280	26.4
Male	779	73.6
Education: Illiterate	257	24.27
Elementary complete	317	29.93
High school completed	276	26.06
Post high school	209	19.73
Marital status: Married	726	68.55
Single	249	23.5
Other*	84	7.38
Religion: Muslim	603	56.9
Protestant	255	24.07
Orthodox	201	18.98
Ethnicity: Halaba	358	33.8
Kenbata	195	18.4
Silte	211	19.9
Wolyta	59	5.57
Gurage	104	9.84
Other **	132	12.5
Occupation: Gov. employee	230	21.7
Merchant	426	40.2
Farmer	50	4.7
Private	181	17.09
Daily laborer	25	2.36
Other***	147	13.88

NB: *Other marital status includes divorced and widow, **other ethnicity includes Amhara, Oromo, Tigre, *** other occupation includes self employment and others

Regarding frequency of use, about 49.67% and 53.75% of the respondents use khat and/or smoke cigarette on daily bases, respectively. The rest use khat in some day's interval per week or once per week. Most of the respondents (57.21%) were known to start khat chewing and/or smoking when they were young (aged between 15 to 20 years). Only 4.3% of them started at age >30 years.

Most respondents (43.27%) already chewed khat and/or smoke cigarette for about 10-20 years. Mean duration (years) of exposure of khat and tobacco was 17 years (Figure 1).

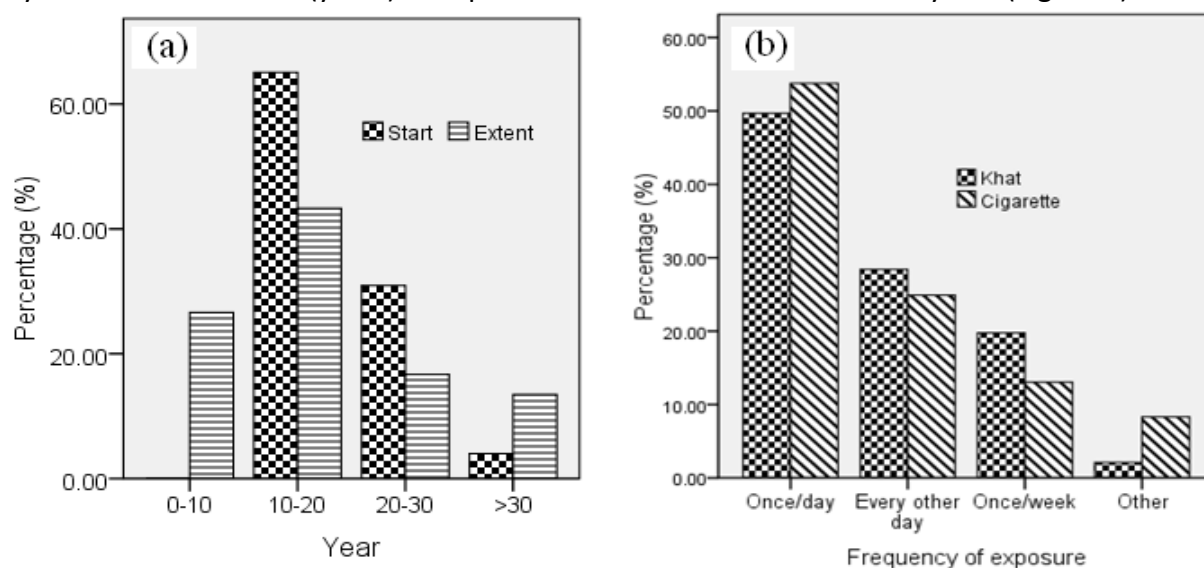


Figure 1. Extent of use, start age (a) and frequency of use (b) of khat and cigarette by residents of Halaba Kulito town, Southern Ethiopia.

Khat chewing was frequent among Muslims (86.23%, $P < 0.0001$), and male (OR= 2.395, 95%CI, 1.81-3.16), but habit of smoking was significantly lower ($P < 0.0001$) among Muslim (9.95%, $P < 0.0001$). On the contrary, smoking cigarette was high among the Orthodox Christians, (96%, $P < 0.0001$) (Table 2).

Table 2. Comparative prevalence of khat chewing and cigarette smoking among residents, Halaba Kulito town, Southern Ethiopia, 2012.

Variables	Khat chewing			Cigarette Smoking		
	Yes (%)	No (%)	P.value	Yes (%)	No (%)	P.value
Sex						
- Female	114 (40.71)	166 (59.28)	0.0001	0 (0)	280 (100)	0.0001
- Male	488 (62.64)	291 (37.35)		253 (32.47)	526 (67.52)	
Marital status						
- Married	430 (59.23)	296 (40.77)	0.0017	176 (24.24)	550 (75.75)	0.963
- Single	119 (47.8)	130 (52.2)		60 (24.09)	189 (75.9)	
Education						
- Post high school	63 (30.14)	146 (69.85)	0.0029	18 (8.61)	191 (91.38)	0.0001
- Illiterate	112 (43.58)	145 (56.42)		156 (60.7)	101 (39.29)	
Income (birr)						
- >2000	163 (78)	46 (22)	0.0001	32 (15.31)	177 (84.69)	0.0001
- <500	78 (49.68)	79 (50.31)		82 (52.22)	75 (47.77)	
Ethnicity						
- All other	351 (50.07)	350 (49.92)	0.0001	161 (22.96)	540 (77.03)	0.324
- Halaba	251 (70.1)	107 (29.9)		92 (25.7)	266 (74.3)	
Religion						
- Orthodox			0.0001			0.0001
- Christian	82 (40.8)	119 (59.2)		193 (96.01)	8 (3.98)	
- Muslim	520 (86.23)	83 (13.76)		60 (9.95)	543 (90.04)	

Based on marital status, khat chewing was highly practiced among married (OR= 1.023, 95%CI, 0.68-1.525), but smoking was equally practiced by all. As age of the participants increase, frequency of khat chewing and cigarette smoking significantly increase (OR= 1.023, 95%CI, 1.012-1.034); and OR= 1.025, 95% CI=1.014-1.037, respectively). However, cigarette smoking significantly decreases with increase in educational status ($P<0.0001$) and increase income (OR= 0.816, 95%CI, 0.525-1.27) of the respondents. Yet, khat chewing was not significantly different among participants with different educational status, except significant increment among illiterate (OR=2.499, 95% CI, 1.58-3.94). Presence of motivating factors such as encouraging culture, friends, company of khat chewer or cigarette smoker family member at home were found as predictor variables for khat chewing. The absence of such predictor variables significantly decrease use of khat (OR= 0.005, 95%CI, 0.001-0.035), but cigarette smoking was not affected by motivating factors (OR= 13.76, 95%CI, 6.75-28.05) (Table 3).

Table 3. Regression model estimates of independent variables for khat chewing and cigarette smoking among residents of Halaba Kulito town, Southern Ethiopia, 2012.

Variables	Khat chewing			Cigarette smoking		
	Frequency (%)	Adjusted OD (95% CI)	P. value	Frequency (%)	Adjusted OD (95% CI)	P. value
Sex						
- Female	114 (18.9)	1.00		0	1.00	
- Male	488 (81.06)	2.395 (1.81-3.16)	0.000	253 (100)	21.93 (9.63-49.9)	0.000
Age		1.023 (1.01-1.034)	0.000		1.025 (1.014-1.04)	0.000
Marital status						
- Other	53 (8.79)	1.00		17 (6.7)	1.00	
- Single	119 (19.76)	0.659 (0.49-0.89)	0.912	60 (23.7)	1.73 (0.95-3.14)	0.042
- Married	430 (71.42)	1.023 (0.68-1.52)	0.006	176 (69.56)	2.11 (1.23-3.62)	0.007
Education						
- Post high school	63 (10.4)	1.00		18 (7.1)	1.00	
- Illiterate	212 (35.2)	2.499 (1.58-3.94)	0.000	156 (61.66)	2.286 (1.48-3.52)	0.000
- Elementary complete	48 (24.58)	1.837 (1.16-2.9)	0.009	58 (22.92)	2.163 (1.37-3.41)	0.001
- High school complete	179 (29.73)	2.194 (1.19-4.05)	0.012	21 (8.3)	1.384 (0.83-2.3)	0.209
Income (birr)						
- >2000	163 (27.07)	1.00	1.00	32 (12.6)	1.00	
- <500	78 (12.95)	1.19 (0.766-1.85)	0.437	82 (32.4)	0.56 (0.345-0.907)	0.019
- 500-1000	121 (20.1)	1.138 (0.724-1.79)	0.576	98 (38.73)	0.606 (0.38-0.96)	0.034
- 1000-2000	240 (39.86)	1.017 (0.68-1.53)	0.935	41 (16.2)	0.816 (0.525-1.27)	0.364
Religion						
- Orthodox	82 (13.62)	1.00		193 (76.28)	1.00	
- Muslim	520 (86.37)	37.7 (16.97-83-88)	$P<0.0001$	60 (23.7)	0.15 (0.082-0.28)	$P<0.0001$
Motivating factor						
- Presence	466 (77.4)	1.00		85 (33.59)	1.00	
- Absence	136 (22.59)	0.005 (0.001-0.035)	$P<0.005$	168 (66.4)	13.76 (6.75-28.05)	0.000

Most khat users stated that khat enhance their social interaction and friendship, facilitate religious prayer or increase concentration during prayer, increase mental performance, treat depression and stress, and also they believed that it helps for recreation.

Awareness of Respondents on Health Effect of Khat Chewing and Cigarette Smoking

Of all the respondents, about 43.72% (n=463) had awareness about health problems associated with khat chewing. Among these, 245 were current khat users; the rest (59.3%) had no information about. Rather, they only think that khat brought peace of mind, relief, protect them from stress and depression, facilitate friendship and socialization, and increase working capability. Those respondents who had awareness about health effect of khat chewing mentioned that it causes brain disorder, kidney failure, tooth decay and discoloration, stomachache, sleeplessness, dehydration, loss of appetite and weight. Relatively, knowledge of the respondents on health effect of cigarette smoking was better than khat. About 53% (n=562) of them had awareness on health effect of cigarette smoking. However, some of them, 23.13% (n=130) smoke cigarette when they had adequate knowledge on its health impact. Some of the health risks mentioned by respondents were, lung and respiratory system problem (81.85%), bad smell of the users mouth (25.2%), and heart problem (18.4%) (Figure 2).

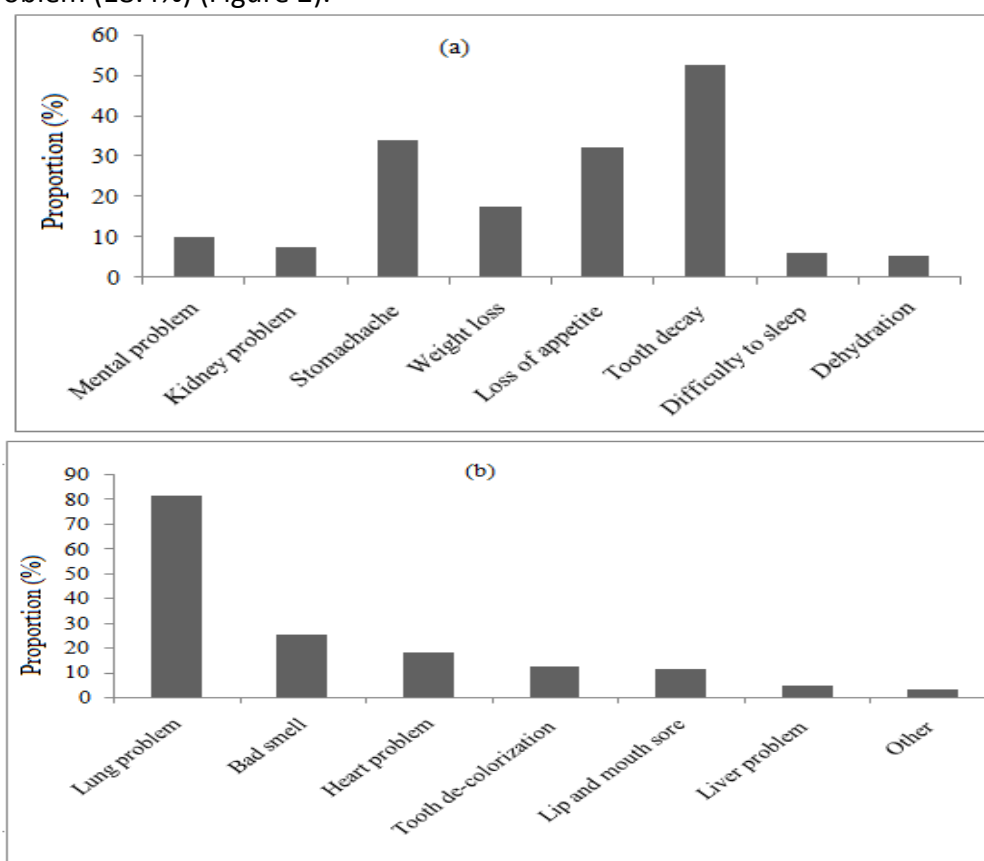


Figure 2. Knowledge of respondents on health effects of khat (a) and cigarette (b), Halaba Kulito town, SNNPR, Ethiopia.

Despite all health impacts, still some khat chewers (32.4%) believed that khat has protective value against some ailment. They stated that khat has medicinal value against illnesses such as malaria, blood pressure, cold, depression, cough, stress, headache, anemia, diabetes, heart infection, diarrhea and asthma (Figure 3).

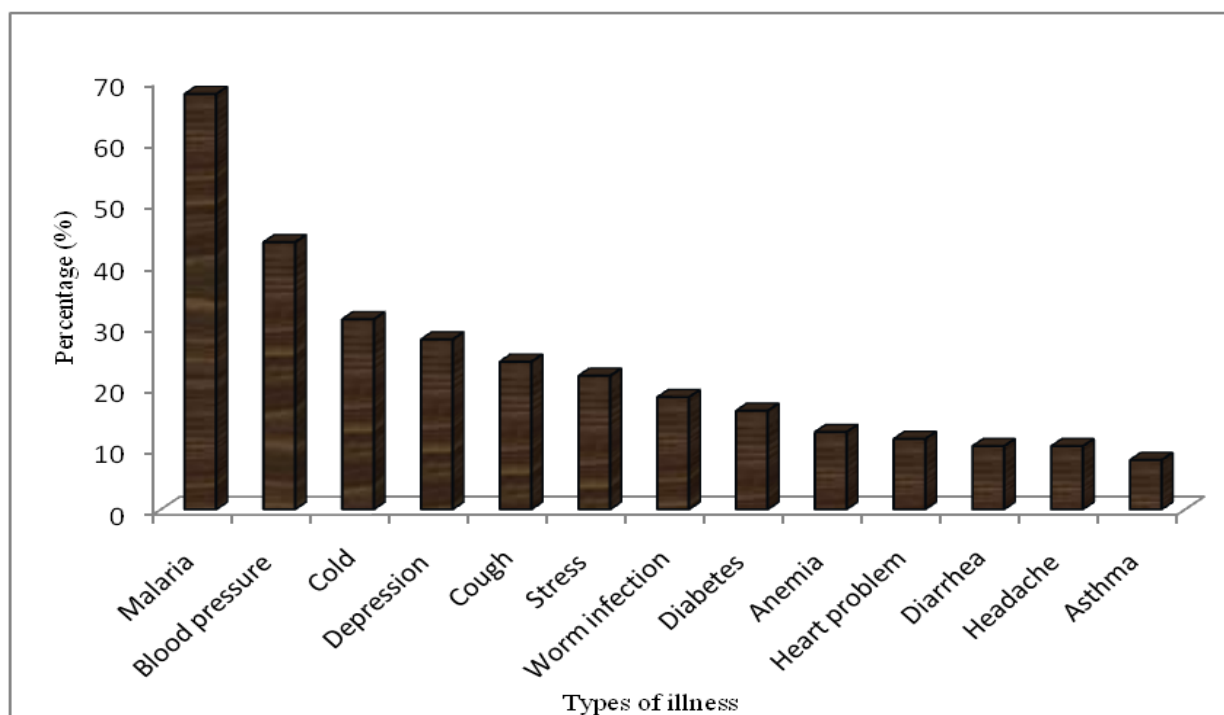


Figure 3. Response of participants on medicinal value of khat, Halaba Kulito town, Southern, Ethiopia.

DISCUSSION

The findings of this study showed that the self-reported life time khat chewing rate documented in this study was 56.84% (95% CI, 54.02%-59.98%), with 51.93 and 34.04% current khat chewers and cigarette smokers, respectively. Frequency of female khat users observed was higher (18.77%) than other reports from Ethiopia. Presence of motivating factors positively associated with khat and tobacco use.

Since it was expected that most of the study participants could be illiterate, it was difficult to provide standardized self-directed questionnaire. Thus at the beginning it was difficult to obtain reliable information on attitude and opinions of the respondents. They rather preferred to stick to agree answers for most questions. To overcome this, an alternatives were given for choice, their opinion on each items were thoroughly assessed by local data collectors, selected from the same community with similar culture. But, the problem here was due to diverse responses gathered, it was difficult for analysis. So that based on their similarity, responses were grouped together and the analysis was made accordingly. In addition, as study conducted on perception of people on khat and tobacco use among resident or adults was almost none, we were unable to get standardized protocol during data collection and for definition of operational terms. However, to overcome this, we derived most of the items from literatures on similar studies but different groups such as students and youth at different level of academic institutions.

The findings of this study showed that, the self-reported prevalence of life time khat chewing among the study population was the highest report from Ethiopia when compared to the earlier reports from Butajira (50%), Jimma town (37.8%), rural areas of Ethiopia (31.7%) and Addis Ababa (15.9%) among adults indicating a wide spread use of khat

(Alem *et al.*, 1999; Belew *et al.*, 2000; Tesfaye *et al.*, 2008; Damene *et al.*, 2011). Since most khat chewers use cigarette to enhance their level of excitement (Mossie, 2002), proportion of smokers observed among khat chewers were high. Number of smokers, observed in this study (23.9%) was relatively higher than previous reports from the same country (Kebede, 2002; Tesfaye *et al.*, 2008; Belew *et al.*, 2000), but less than report from other African countries (Van Walbeek, 2002; Schoenmaker *et al.*, 2005; Nasheeta *et al.*, 2009). Even though khat chewers and smokers studied were adult, certainly their current action will contribute for future increment of youth's smoker and khat chewers at school and universities in the area. Since existence of motivating factors such as presence of smoker or khat chewer family member in home was found strong predictor variables for high prevalence of khat and tobacco use.

Though in most cases khat use among female is less frequent and unusual, high proportion of female chewers was observed, but less than reports from Yemen (Khawaja *et al.*, 2008). According to WHO (2008) in Yemen, there was an estimate of 73% of women chew khat leaf more or less frequently (WHO, 2008). The higher prevalence of female khat chewing observed in this study showing a trend of further spread of khat use not only in male but also in female. Moreover, majority of the khat chewer females (80.39%) were in reproductive age groups (20-49 years). According to a review made by Mwenda *et al.* (2003), Khat has genotoxic and teratogenic effects on the fetus of pregnant mothers chronically exposed to khat. Khat chewing during pregnancy may be one of the factors contributing to infant mortality under such condition. Therefore, khat chewer females of the study area might be prone to this kind of health effect of khat.

Though it is not scientifically proved, most khat chewers believed that khat has medicinal value for some ailments and even they were utilizing it when they have symptoms of blood pressure, cold, cough, stress, asthma, depression, and others. This supports the indigenous knowledge of people of East Africa, who used processed leaves and roots of khat for treatment of various illnesses including influenza, stomachache, asthma, gonorrhea, and vomiting (Al-Hebshi and Skaug, 2005; Balint *et al.*, 2009). In other report some people also believed that regular consumption of khat protects against malaria (Voogelbreinder, 2009). Likewise, in past some groups of people in Yemen, use khat as medicine to treat obesity, for its appetite suppressive nature, and the fumes of burning khat leaves inhaled to alleviate headaches (Christian, 1998).

Though several findings from epidemiological studies and experimentation on animal models showed diverse health impacts of khat use, only some of the respondents had awareness. With this regard, relatively knowledge of respondents on health effect of cigarette was better than khat. Some of khat associated health problems mentioned by respondents were stomachache, kidney problem, tooth decaying and discoloration, loss of appetite and weight, and neurological disorders. In fact, most of the health consequences of khat mentioned by respondents were in agreement with existing literatures. For instance, it is confirmed that chronic users of khat develop cognitive impairment, cardiovascular disorders, stomach ulcer and increase adrenocorticotrophic hormone levels, urine retention and gall bladder motility by relaxation of bladder wall and closure of internal sphincter, gastro-intestinal tract constipation and hemorrhage due to tannin and norpseudoephedrine content of the plant (Nasher *et al.*, 1995; Hassan *et al.*, 2002; Cox and Rampes, 2003; Dhaifalaha and Santavy, 2004; Al-Hebshi and Skaug, 2005; Kimansi *et al.*, 2008).

Likewise, even if the enumeration wasn't scholarly, most health effects of tobacco mentioned by respondents were supported by different literatures (Ockene and Miller, 1997; Mokda *et al.*, 2004). It is true that cigarette smoke has effects on circulatory and respiratory system, and well-known to cause cancer of vital organs. Moreover, it affects reproductive system, causes stroke, chronic obstructive lung diseases, bronchitis, and infertility (Ockene and Miller, 1997; Mokda *et al.*, 2004). About half of the respondents chew khat when they have good knowledge of its health effects. Inability of those chewers to quit chewing or smoking despite their good knowledge on its consequence, it is an implication of their psychological dependence to the substances (Brian, 2002).

CONCLUSION

This study showed a widespread use of khat and tobacco among public in Halaba Kulito town, particularly in female unlike other former reports from the country. Even if, there was relatively better knowledge about health effects of smoking among respondents, their awareness about health effects of khat use was deficient. Importantly, use of the two substances while to some extent they were aware on associated health effect could be an implication for psychological dependence in the community. Thus, it necessitates well-designed long term realistic intervention in order to minimize the overall effects of the current practice especially onto the new generation.

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