



The Adverse Effects of Khat Chewing on Consumers Socioeconomic Wellbeing in Mogadishu, Somalia

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Article info

Received: 12 December 2023

Accepted: 20 May 2024

Published: 11 June 2024

Keywords

Khat Consumption, Socioeconomic
Wellbeing, Adverse Effects, Sexual
Performance, Insomnia

ABSTRACT

Over 90% of men and 10% of women use Khat, either regularly or infrequently, primarily because to its accessibility. An estimated one-third of total income is spent on Khat purchases. The main objective of this study was to assess adverse effects of Khat chewing on consumer's socioeconomic wellbeing. Institution-based Cross-Sectional study was conducted among 117 Khat chewers in Mogadishu, Somalia between Januarys to July 2023, in Mogadishu, Somalia. To assess adverse effects of Khat chewing on consumer's socioeconomic wellbeing, a multivariate binary logistic regression model was employed with a statistical significance of p-value <0.05. A total of 117 participants with a Mean age \pm standard deviation of respondents was 43 ± 19 , with the maximum age being 83 years and the minimum age being 18 years. The participants asked that Khat consumption cause weakens of sexual performance with three options to choose from, the results of multiple binary logistic regression analysis shows that the participants who answered NO [AOR= 6.226, 95% CI: 1.763 -21.985], were six times more likely to develop socio-economic implication compared those who answered YES [AOR= 1.661, 95% CI: 0.486-5.679]. and also asked that Khat consumption cause Insomnia with three options to choose from, the results of multiple binary logistic regression analysis shows that the participants who answered YES [AOR= 2.410, 95% CI: 0.578 - 10.048], were two times more likely to develop socio-economic implication compared those who answered NO [AOR= 5.678, 95% CI: 1.392 - 23.153]. These findings suggest a potential relationship between Khat consumption and socio-economic implications related to sexual performance and insomnia.

INTRODUCTION

Over 10 million people in the Arabian Peninsula and East Africa are thought to chew Khat every day (Abate et al., 2018). Khat is renowned for having a stimulating impact on the sympathetic nervous system, causing a fleeting feeling of activity and happiness as well as mood disruption and anxiety (Alkhormi et al., 2021).

These chemicals have a stimulating action on the sympathetic nervous system, resulting in a fleeting feeling of activity and joy as well as anxiety and mood disruption (Brenneisen et al., 1990; Hassan NA, Gunaid AA, El-Khally FM, 2002). Khat, qat, chat, or miraa are all names for the plant *Catha edulis* (S. Beckerleg, 2010). Drug-induced male reproductive system dysfunction causes husband and wife estrangement over time. As a result, the substance is thought to be a contributing cause in one out of every two divorces in Djibouti (Kalix P, 1985). Khat has a high misuse potential and significant negative impacts, hence it should be taken into account by international drug policy. These findings indicate the need for quick action to stop or lessen the negative effects of Khat consumption (Asfaw, 2022). At the household level, purchasing Khat diverts funds from being utilized for food, home improvements, education, or other



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family needs, which could lead to financial difficulties and family dissolution (Ishraq D, 2004). The respondents' socioeconomic characteristics looking at the respondents' educational backgrounds, we find that 114 (34.1%) had not completed any formal schooling, 54 (12.8%) had completed primary school, 125 (29.6%) had completed secondary school, and 99 (23.5%) had completed university education. Regarding employment, 168 people (39.8%) reported having a job. 254 (60.2%) were unemployed. Among the employed portion, 69/168 (41.1%) were self-employed whereas 99/168 (58.9%) were working for someone else. For the employed respondents, their level of income were as follows; the majority 71/168 (42.3%) were earning 50,000 to 99,000 UGSHs, 45/168 (26.8%) earned between 100,000 - 199,000 UGSHs, 41/168 (24.4%) were earning between 200,000-299,000 UGSHs while the minority 11/168 (6.5%) earned 300,000 UGSHs and above (WARSAME, 2014).

METHODS AND MATERIAL

Study design, area, and period

cross-sectional quantitative institution-based study was carried out from January to July 2023, in Mogadishu, Somalia.

Study population

All Khat chewers who lived in Mogadishu, and willing to take part in the study at the specified period of data collection

Inclusion Criteria

All individuals with in the age groups of 18 years and older, who were khat consumers, and living in Mogadishu, Somalia.

Exclusion Criteria

Individuals who were not willing to participate, those who had mental or cognitive problems, and those who were not feeling well at the time of data collection were excluded.

Sample size determination

Since the exact number of study population was unknown we considered the appropriate formula for sample size determination was Cochran's single population proportion formula which is calculated as:

$$n = \frac{z^2 \cdot p \cdot q}{d^2}$$

In this study, we have researched the proportion of Khat chewing in Somalia, but we found the proportion of Jigjiga in the Ethiopian region as Somali ethnicity. When we missed the Somali study, for that reason, we took it at 26.4% as a proportion (Abdi et al., 2021).

So, it was 26.4% (0.264) as P, while q= 1-p (1-0.264) = 0.736 (26.4%). Z₂= the standard squared critical value usually set at 1.96 which corresponds to 95% confidence level. D₂= is the squared value of the desired level of precision and we choose 0.08 or 8% (RESEARCH, 2022).

$$n = \frac{z^2 \cdot p \cdot q}{d^2}$$

$$n = \frac{1.962^2 * 0.264 * 0.736}{(0.08)^2} = 117$$

In order to add the potential non respondents we used the following formula: Final sample size= n/1-Non respondents (usually taken as (10%) = 117/1-0.1 117/0.9= 130, So the final sample size of this study was = 130.

Sampling technique

The sampling technique of this study was non-probability-based sampling technique since the study population was unknown and unregistered.

The non-probability sampling technique was also based on purposive, meaning the trained data collectors collected data from those chewing Khat whom they found suitable for this study.

Survey instrument and data collection procedure

An interviewer filled structured questionnaire was prepared in English to collect and obtain data from 117 eligible participants.

The preparation of the instrument occurred after rigorous analysis of related literatures (Mamo et al., 2021; Ofosu et al., 2014).

The instrument included a total of 23 items: 7 Socio-demographic items, 7 item Khat consumption on family relationship, 9 Khat on household Economy items.

The prepared structured questionnaire was pre examined to assess and investigate its effectiveness. The questionnaire was finally based on the results after it was pre examined then the final version of the questionnaire was used for data collection.

The data were collected by self because of there was no group. The data was collected through face-to-face interviews. Respondents were informed to feel free and assured that their answers would be kept secret and no information would be shared with others, except the researchers. The respondents who were willing to take part and gave oral informed consent were then interviewed using a comfortable space.

Data processing and analysis

During processing and analysis of the data I used both Descriptive for unvaried analysis of Mean + or - Standard deviation, Frequencies, Percentages and also Inferential for bivariate and multivariate analysis of binary logistic regression analysis. Statistically a p-value of <0.05 was considered to be significant. Data were analyzed by using computerized software known as statistical package for social science (SPSS) Version 20.0 and Excel for data cleaning and also analysis and then the data were presented by using statements, tables and figures with interpretations for unvaried and multivariate analyses.

VARIABLES IN THE STUDY

Dependent variable

The dependent variable in this study was adverse effects of Khat chewing on consumer's

socioeconomic wellbeing (Omar, 2021).

Independent variables

There were 3 independent groups of variables in this study: [A] Socio-demographic characteristics [Age of respondents the educational level of respondents and Occupation of respondents [B] implication of Khat consumption on family relationships variables [intend to quit Khat consumption at future time, Who did you chew with mostly, Where did you chew mostly, relate with your spouse after consuming Khat , spouse attitude towards Chewing Khat, Khat leads to marital break down [C] Khat consumption on the consumers' household economy variables [Khat consumption is Waste of Resources, Khat consumption has Low Productivity at work, Khat consumption cause Absenteeism from work and home, Khat consumption has Poor Household ties, Khat consumption has household wrangles.

RESULTS

Socio-demographic characteristics of participants

The study collected data from respondents, with 105 (89.7%) identifying as male and 12 (10.4%) identifying as female. The age range of participants varied, with the majority of respondents, 43 (36.8%), being above the age of 48 While 35 (29.9%) were group of age between 18-28 years while 24 (20.5%) were group of age between 29-38 years, and the last 15 (12.8) were group of age between 39-48 years in age. Additionally, the study found that the mean age \pm standard deviation of respondents was 43 ± 19 , with the maximum age being 83 years and the minimum age being 18 years. In terms of marital status, the study found that the majority of respondents, 60 (51.3%), were married. Conversely, 27 (23.1%) were single, 19 (16.2%) were divorced, and only 11 (9.4%) were widowed. It is noteworthy that the study indicates that most respondents were married. Regarding children, the majority of respondents, 41 (35.0%), had between 4-6 children, while 38 (32.5%) had between 1 and 3. Furthermore, 28 (23.9%) did not have any children, and only 10 (8.5%) had more than six children. In terms of education, the study found that the majority of respondents had only religious education. Specifically, 23 (19.7%) reported not receiving any formal education, 20 (17.1%) had a primary level education, 19 (16.2%) had a secondary level education, and only 13 (11.1%) had a university level education. Hence, the study suggests that most Khat chewers have some level of formal education.

Regarding employment status, the study found that the majority of respondents, 61 (52.1%), were employed, while 56 (47.9%) were unemployed. Regarding income, the study found that the majority of respondents, 43.8%, had a monthly income of less than \$100, while 27 (23.1%) had a monthly income of \$100 to \$200, 25 (21.4%) had a monthly income of \$200 to \$300, 17 (14.5%) had a monthly income of \$300 to \$400, and only 5 (4.3%) had a monthly income of \$400 or more. Hence, the study indicates that the monthly income of most respondents was below \$100.

Table 1 Frequency and Percent distribution of socio-demographic characteristics of participants [n=117]

Variable	Frequency	Percent
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The sex of the respondents		
Female	12	10.3%
Male	105	89.7%
Total	117	100%
The Age of the respondents (years)		
18-28	35	29.9%
29 – 38	24	20.5%
39 – 48	15	12.8%
>48	43	36.8%
Total	117	100%
The marital status of the respondents		
Married	60	51.3%
Single	27	23.1%
Divorced	19	16.2%
Widowed	11	9.4%
Total	117	100%
The number of the respondents' children		
4 – 6	41	35%
1 – 3	38	32.5%
None	28	23.9%
Above 6	10	8.5%
Total	117	100%
The respondent's educational level		
Religious education only	42	35.9%
None	23	19.7%
Primary	20	17.1%
Secondary	19	16.2%
University	13	11.1
Total	117	100%
The respondents job status: Employee		
Yes	61	52.1%
No	56	47.9%
Total	117	100%
The respondent's monthly income		

≤ 100\$	43	36.8%
101\$--200\$	27	23.1%
201\$--300\$	25	21.4%
301\$--400\$	17	14.5%
Above 400\$	5	4.3%
Total	117	100%

The implication of Khat consumption on family relationships

The data reveals that the majority of respondents, 54 (46.2%), reported a negative change in their behavior towards their spouse, stating that they did not communicate with them during Khat chewing sessions. Conversely, 40 (34.2%) reported a positive change, stating that they felt happy and sometimes expressed gratitude towards their spouse after Khat chewing. Only 23 (19.7%) reported no change in their behavior towards their spouse. Therefore, the study indicates that Khat chewers exhibited varying behaviors towards their spouses after Khat consumption, with some experiencing a positive change, while others exhibited negative or neutral behavior. During the interview, some participants also noted that the effects of Khat chewing on behavior may depend on the individual's original behavior. In summary, the data highlights that Khat chewers displayed different behaviors towards their spouses after Khat consumption. The data reveals that the majority of respondents, 73 (62.4%), reported that their spouses had a negative attitude towards Khat chewing. Conversely, 26 (22.2%) reported that their spouses viewed Khat chewing positively, while only 18 (15.4%) indicated that they did not know their spouse's attitude towards Khat consumption. Therefore, the study suggests that the spouses of Khat chewers generally viewed Khat chewing negatively. However, it is important to note that the data has limitations due to the lack of information for some respondents regarding their spouse's attitude towards Khat consumption. In summary, the data highlights that a significant proportion of the respondent cohort's spouses had a negative attitude towards Khat consumption. The data reveals that the majority of respondents, 55 (47%), disagreed that Khat consumption could lead to marital breakdown. Conversely, 47 (40.2%) agreed that it could lead to marital breakdown, and only 15 (12.8%) were undecided on the matter. Therefore, the study indicates that the majority of respondents did not believe that Khat consumption could lead to marital breakdown. In summary, the data highlights that a significant proportion of the respondent cohort did not consider Khat consumption as a factor that could lead to marital breakdown. The majority of respondents, 57 (48.7%), agreed that chewing Khat could distract from marital life, leading to a delay in getting married or causing difficulties in maintaining a healthy relationship. Conversely, 41 (35%) disagreed that Khat consumption could have such an impact, and only 19 (16.2%) were undecided on the matter. Therefore, the study indicates that Khat consumption may lead to distractions in marital life, as perceived by a significant proportion of the respondent cohort. In summary, the data highlights that a significant proportion of the respondent cohort believed that Khat consumption could have negative effects on marital life. The data reveals that the majority of respondents, 50 (42.7%), reported coaching their children's homework after Khat chewing sessions. Conversely, 47 (40.2%) reported not coaching their children's homework after Khat

chewing, and only 20 (17.1%) were unsure. Therefore, the study suggests that a significant proportion of Khat chewers coach their children's homework after Khat consumption. In summary, the data highlights that a significant proportion of the respondent cohort reported coaching their children's homework after Khat chewing. The responses of the respondent cohort regarding whether they believe that Khat consumption can cause weakness in sexual performance. The data reveals that the majority of respondents, 46 (39.3%), reported that Khat consumption does not cause weakness in sexual performance. Conversely, 36 (30.8%) reported believing that it can cause weakness in sexual performance, and 35 (29.9%) were unsure. Therefore, the study suggests that the respondent cohort was divided in their beliefs regarding whether Khat consumption can cause weakness in sexual performance.

During the interview, some participants mentioned that the effects of Khat consumption on sexual performance may depend on the individual's blood group. For example, they suggested that Khat consumption may cause a lack of desire in individuals with blood group O+ and may increase interest in individuals with blood group A+. However, it is important to note that this idea is not scientifically supported, and there is no evidence to suggest that blood group plays a role in the effects of Khat consumption on sexual performance. The data reveals that the majority of respondents, 81 (69.2%), disagreed that Khat chewers are harsh and rude. Conversely, 36 (30.8%) agreed that Khat chewers are harsh and rude. Therefore, the study suggests that the respondent cohort did not believe that Khat chewers are generally harsh and rude. In summary, the data highlights that a significant proportion of the respondent cohort disagreed that Khat chewers are harsh and rude.

Table 2 Frequency and Percent distribution of implication of Khat consumption on family relationships of participants [n=117]

Variable	Frequency	Percent
The relationship between the respondent's spouse after consumption		
Poor	54	46.2%
Good	40	34.2%
I don't know	23	19.7%
Total	117	100%
The attitude of the respondent's spouse about chewing		
Poor	73	62.2%
Good	26	22.4%
I don't know	18	15.2%
Total	117	100%
Khat leads marital breakdown		
Disagree	55	47.0%
Agree	47	40.2%
Undecided	15	12.8%
Total	117	100%
It has been stated that Khat consumption distracts marital life		
Agree	57	48.7%
Disagree	41	35%
Undecided	17	16.2%

Total	117	100%
Chewer coach the children at home in their homework		
Yes	50	42.7%
No	47	40.2%
Not Sure	20	17.1%
Total	117	100%
Khat consumption cause weakens of sexual performance		
No	46	39.3%
Yes	36	30.8%
No sure	35	29.9%
Total	117	100%
Khat chewers are said to be harsh and rude to rest of family members.		
Disagree	81	69.2%
Agree	36	30.8%
Total	117	100%

Implication of Khat consumption on the consumers' household economy

That the majority of respondents, 78 (66.7%), reported believing that Khat is a waste of resources. Conversely, only 39 (33.3%) reported not believing that Khat is a waste of resources. That the majority of respondents, 65 (55.6%), reported believing that Khat consumption leads to low productivity at work. Conversely, 35 (29.9%) reported not believing that Khat consumption causes low productivity at work, and only 17 (14.5%) were unsure the majority of respondents, 60 (51.3%), agreed that Khat consumption can cause absenteeism from work. Conversely, 39 (33.3%) disagreed that Khat consumption causes absenteeism, and only 18 (15.4%) were unsure. the majority of respondents, 53 (45.3%), reported believing that Khat chewing has a negative impact on household ties. Conversely, 49 (41.9%) reported not believing that Khat chewing has a negative impact on household ties and suggested it may depend on the person. Only 15 (12.8%) were unsure. The majority of respondents, 56 (47.9%), reported believing that Khat chewing leads to a lack of child nurturing. Conversely, 40 (34.2%) reported not believing that Khat chewing leads to a lack of child nurturing, and only 21 (17.9%) were unsure. The majority of respondents, 53 (45.3%), believed that Khat chewing can lead to household conflicts. Conversely, 35 (29.9%) did not believe that Khat chewing leads to household conflicts, and 29 (24.8%) were unsure. The majority of respondents, 55 (47%), reported believing that Khat chewers are unable to manage household budgets. Conversely, 39 (33.3%) reported not believing that Khat chewers are unable to manage household budgets and suggested that they can. Lastly, 23 (19.7%) were unsure. The majority of respondents, 46 (39.3%), reported believing that there is help or aid available for Khat chewers who want to quit. Conversely, 45 (38.5%) reported not believing that help or aid is available, while only 26 (22.2%) were unsure. The majority of respondents, 59 (50.4%), reported believing that Khat consumption can lead to insomnia. Conversely, 33 (28.2%)

reported not believing that Khat consumption leads to insomnia, and only 25 (21.4%) were unsure. That the majority of the chewers, 35 (29.9%), reported using Khat with cigarettes. The second most commonly reported item used with Khat was sugar, with 33 (28.2%) respondents reporting its use. Gum was reported as the third most commonly used item with Khat, with 21 (17.95%) respondents reporting its use. Other items reported to be used with Khat included peanuts (11, 9.4%) and coffee (3, 2.6%). Fourteen respondents (12%) reported using other items not listed in the table. Therefore, the study suggests that there is significant diversity in the items used alongside Khat. In summary, the data highlights that a significant proportion of Khat chewers reported using cigarettes, sugar, and gum alongside.

Table 3 Frequency and Percent distribution of Implication of Khat consumption on the consumers' household economy of participants [n=117]

Variable	Frequency	Percent
Khat consumption is Waste of Resources		
Yes	78	66.7%
No	39	33.3%
Total	117	100%
Khat consumption has Low Productivity at work		
Yes	65	55.6%
No	35	29.9%
Unknown	17	14.5%
Total	117	100%
Khat consumption cause Absenteeism from work and home		
Yes	60	51.3%
No	39	33.3%
Unknown	18	15.4%
Total	117	100%
Khat consumption has Poor Household ties		
Yes	53	45.3%
No	49	41.9%
Unknown	15	12.8%
Total	117	100%
Khat consumption has lack of Child nurturing		
Yes	56	47.2%
No	40	34.9%
Unknown	21	17.9%
Total	117	100%
Khat consumption has household wrangles		
Yes	55	45.3%
No	35	29.9%
Unknown	29	24.8%
Total	117	100%
Khat consumption has Inability to manage household budget		
Yes	55	47%
No	39	33.3%
Unknown	23	19.7%
Total	117	100%
Khat consumption cause incapable to avail		
Yes	46	39.3%
No	45	38.5%

Unknown	26	22.2%
Total	117	100%
Khat consumption cause Insomnia		
Yes	59	50.4%
No	33	28.2%
Unknown	25	21.4%
Total	117	100%

Multivariate Binary Logistic Regression variable influence socio-economic status of the participants

The following table shows the two independent significant predictors.

When the participants were asked about the potential impact of Khat consumption on sexual performance, the results of multiple binary logistic regression analysis revealed that those who answered "no" [AOR = 6.226, 95% CI: 1.763–21.985] were six times more likely to experience socio-economic implications compared to those who answered "yes" [AOR = 1.661, 95% CI: 0.486–5.679].

Similarly, when the participants were asked about the potential link between Khat consumption and insomnia, the results of multiple binary logistic regression analysis showed that those who answered "yes" [AOR = 2.410, 95% CI: 0.578–10.048] were two times more likely to experience socio-economic implications compared to those who answered "no" [AOR = 5.678, 95% CI: 1.392–23.153].

Variable	AOR* (95% C.I)	p- value
Khat consumption cause weakens of sexual performance, do you agree?		
Yes	78	66>7%
No	39	33.3%
Total	117	100%
Khat consumption has Low Productivity at work		
Yes	1.661 (0.486-5.679)	0.419
No	6.226 (1.763 -21.985)	0.004
Not sure		

* P-value was assumed to be significant when its <0.05

DISCUSSION

The study shows that the significance between that Khat consumption can cause weakness in sexual performance and socio-economic status of the respondents. The data reveals that the majority of respondents, 46 (39.3%), reported that Khat consumption does not cause weakness in sexual performance. Conversely, 36 (30.8%) reported believing that it can cause weakness in sexual performance, and 35 (29.9%) were unsure. Therefore, the study suggests that the respondent cohort was divided in their beliefs regarding whether Khat consumption can cause weakness in sexual performance.

During the interview, some participants mentioned that the effects of Khat consumption on sexual performance may depend on the individual's blood group. For example, they suggested that Khat consumption may cause a lack of desire in individuals with blood group O+ and may increase interest in individuals with blood group A+. However, it is important to note that this idea is not scientifically supported, and there is no evidence to suggest that blood group plays a role in the effects of Khat consumption on sexual performance.

When my participants I asked that Khat consumption cause weakens of sexual performance with three options to choose from, the results of multiple binary logistic

regression analysis shows that the participants who answered NO [AOR= 6.226, 95% CI: 1.763 -21.985], were six times more likely to develop socio-economic implication compared those who answered YES [AOR= 1.661, 95% CI: 0.486-5.679].

Many Yemenis think that chewing Khat increases their desire and excitement for sexual activity, but for certain people, Khat consumption causes impotence. Spermatorrhoea is reported to occur, typically at the first micturition after the session is over. Semen volume, sperm count, and sperm motility were all found to be lower in Khat addicts compared to non-addicted patients. In addition, a higher percentage of the addicts' spermatozoa were malformed (EL-shoura SM, Abdel Aziz M, 1995).

The associations between the practice of chewing Khat and some risky sexual behaviors show that those who chew Khat have significantly higher odds of having additional sexual partners for married people (AOR: 2.2; 95% CI 1.14.6); ever having had sexual contact as a single person (AOR: 2.5; 95% CI 1.14.3); watching pornographic movies (AOR: 4.0; 95% CI 1.3-12.8); and self-reported STIs (AOR: 8.3; 95% CI 4.6-15.1) by 2.2, 2.5, 4.0, and 8.3 times, in comparison to those who did not chew Khat, respectively (Abate et al., 2018). The current study found that male individuals' sexual and reproductive health suffered as a result of Khat consumption. The discovered sexual issues related to Khat use were erectile dysfunction, early ejaculation, and failure to have penetrating sex (Abate et al., 2018) (Nassar & Aklan, 2014).

Displays the responses of the respondent cohort regarding whether they believe that Khat consumption can lead to insomnia the data reveals that the majority of respondents, 59 (50.4%), reported believing that Khat consumption can lead to insomnia. Conversely, 33 (28.2%) reported not believing that Khat consumption leads to insomnia, and only 25 (21.4%) were unsure. Therefore, the study suggests that a significant proportion of the respondent cohort believed that Khat consumption could lead to insomnia. In summary, the data highlights that a significant proportion of the respondent cohort believed that Khat consumption could lead to insomnia.

When my participants I asked that Khat consumption cause Insomnia with three options to choose from, the results of multiple binary logistic regression analysis shows that the participants who answered YES [AOR= 2.410, 95% CI: 0.578 - 10.048], were two times more likely to develop socio-economic implication compared those who answered NO [AOR= 5.678, 95% CI: 1.392 - 23.153].

Khat chewing is associated with primary symptoms of sleep onset insomnia and sleep maintenance insomnia. This is indicated by the significantly higher scores for the PSQI component scores for sleep latency as well as the PSQI component scores for the sleep disturbances among concurrent Khat chewer (both groups) compared to both nonusers as well as alcohol use only groups. Previous studies have demonstrated a link between Khat use and longer sleep latency (Jradi, 2017).

As a result, the current study found that PSU of Khat, alcohol, and nicotine substantially linked with bad sleep, sleep disorders related to poor sleep, and deficiencies in metacognition (Manzar et al., 2022). According to this study, most polysubstance users chewed Khat (97.5%), and 56% of the population had trouble sleeping. This PSU behavior among Khat users is consistent with earlier studies' findings that Khat users frequently utilize other drugs (Alemu et al., 2020; Manzar et al., 2018).

CONCLUSION

In conclusion, the findings of the multiple binary logistic regression analysis indicate significant associations between participants' responses regarding the potential impact of Khat consumption on sexual performance and socio-economic implications. Those who answered "no" were six times more likely to experience socio-economic implications compared to those who answered "yes." Similarly, when examining the potential link

between Khat consumption and insomnia, participants who answered "yes" were two times more likely to experience socio-economic implications compared to those who answered "no." These results suggest that Khat consumption may have socio-economic consequences, particularly in relation to sexual performance and insomnia. Further research is needed to explore the underlying mechanisms and develop targeted interventions to address these implications.

Limitations and Strength of the study

The first main limitation was the institution-based nature of the study, which limits the generalization of the findings and the second limitation was less time and budget to reach the appropriate sample the third limitation was the sensitivity of the topic no one there give responds because in Somalia the chewers hide mostly and they see shame This study focused on a topic [Socio-economic impact], that very few previous published articles from Somalia, were available, for that reason we hope it can provide basic quantitative information about the topic and can be a baseline for future qualitative studies.

ACKNOWLEDGEMENTS

Our deepest gratitude goes to data collectors for their relentless efforts to provide reliable data. We would also like to express our appreciation to the participants for their valuable contribution.

AUTHOR CONTRIBUTIONS

Hassan Mohamud Hassan performed all the required manuscript, Abdiwali Mohamed was supervised for guiding and checking the whole work. Finally, all authors have read and approved the final version of the manuscript.

DECLARATION OF COMPETING INTEREST

The authors declare that no conflict of interest exists.

ETHICAL APPROVAL AND CONSENT

The researchers required a permission letter from the ethical review board of Hordaland International University to conduct the data collection, the researchers always considered the ethical issues throughout the research project and kept the anonymity, privacy, and confidentiality of the participants. To protect the privacy and confidentiality of the participants their names, address, phone numbers, or any other identifying attributes were not collected or registered at all. Through the informed consent before administration of any instrument, all of the participants were equally fully and openly informed about the contents of the study, the objectives of the study, the benefits expected from the study, and that there was no expected potential harm coming to them from the study and that they were free to withdraw or refuse any time they felt the need without any consequences for such acts and their decisions were respected and accepted by the data collectors.

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