Khat (Catha edulis) Plant Abuse in Saudi Arabia: A Retrospective Study

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KEYWORDS
Khat plant,
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Abuse,
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ABSTRACT

The khat plant is a natural stimulant cultivated in both the Arabian Peninsula and North Africa and, as such, the khat trade is considered a major source of income for countries within these regions. Saudi Arabia is the first destination for khat smugglers due to the close proximity of its border with Yemen, where the khat plant has historically been an extensive part of its culture. Investigations have shown that this negative cultural impact of narcotic drugs on the Saudi teen population is rising, with seizures of smuggled drugs causing alarm among both scientists and local authorities. The focus of this article is the smuggling of khat into Saudi Arabia. This issue was addressed through analysis of data obtained from Saudi Customs and other governmental entities responsible for monitoring the smuggling of drugs, over a period of seven years (2010 – 2016), including the amount of khat seized and smuggled into Saudi Arabia. The study revealed an increase in khat smuggling over the period of analysis from 2010 to 2016, with promotional and smuggling data placing khat in third place among other drugs since the year 1999. Statistically, the Jazan region of Saudi Arabia is the most vulnerable to khat smuggling, with intervention programs designed to approach the issue in this area. Furthermore, public education and higher education should collaborate to raise awareness among Saudi youth.

Introduction

Substance abuse is a tragedy facing all societies and health care systems worldwide, with the forms and patterns of abuse varying from one place to another. In 1980, the World Health Organization (WHO) categorized the khat plant as a drug of abuse that can create mild to moderate psychological dependence. Based on this classification, many countries have controlled the use of khat by making it illegal (Alsanosy et al., 2013 and Abdelwahab et al., 2015).

Historically, East African countries and Yemen have been the major producers and consumers of khat and remain the main sources of the plant today (Griffiths et al., 2010). Furthermore, khat has been a part of southern Saudi Arabian and Yemeni culture for generations and is used socially in virtually every occasion (Ayman et al., 2015; Mahfouz et al., 2013).

Khat (*Catha edulis;* Figure 1), also known as qat or the khat plant (spelled differently in scientific literature), is grown in Ethiopia and other countries. Notably, khat has stimulant effects similar to those of amphetamines (Abdeta, et al., 2017). During khat use, the leaves and the bark of the plant are chewed slowly over several hours, and the juice of the masticated leaves is swallowed without the residue. Khat contains phenylpropylamine alkaloids, of which the main psychoactive constituent is S-(-)-α aminopropiophenone (cathinone), alongside the less psychoactive phenylpropanolamine diastereomers S-(+)-norpseudoephedrine (cathine) and R, S-(-)-norephedrine (Griffiths et al., 2010 and Duresso et al., 2016).

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Both cathine and cathinone (Figure 2) are scheduled under the UN 1971 convention. Cathinone is regarded as an amphetamine-like sympathomimetic amine. Khat affects human behavior by causing grandiose delusions, with chronic use causing depression and suicide, hallucinations, paranoia, nightmares, euphoria, increased alertness and energy, hyperactivity, increased blood pressure and heart rate, cardiac complications, insomnia, and gastric disorders (Graziani et al., 2008 and El-Setouhy et al., 2016).

Notably, some studies have demonstrated that khat users may become psychologically addicted to khat (Berihu, et al., 2017 and Aati et al., 2019), with many international studies documenting the potential adverse effects of the addictive constituents of khat on mental and psychiatric health (Abdelwahab et al., 201٥). In addition, chewing of khat affects neurological performance and is associated with a lower quality of life and lower socioeconomic status, reduced productivity, and risk of unemployment due to the fact that khat reduces the motivation to work and increases work absence. Furthermore, the impact of khat cultivation on the national economy is huge (Sheikh et al., 2014).

Saudi Arabia is located in Western Asia and constitutes the bulk of the Arabian Peninsula, with an estimated area of 2,150,000 square kilometers. Saudi Arabia represents the first destination for smugglers, most likely because the Kingdom's borders are very close to Yemen, allowing for ease of distribution and increased smuggling. The purpose of the smuggling includes illegal gains, weakening and dismantling of cultural and religious values, as well as domicile (urban or rural) and socio-economic factors in Saudi society. However, investigations have shown that the negative culture associated with narcotic drugs is increasing among the teenage sector of the Saudi population. Consequently, seizures of large quantities of smuggled drugs are causing alarm among both scientists and local authorities (Alsanosy et al., 2013 and Abdelwahab et al., 2015).

Because of the lack of information regarding the problem of khat promotion and smuggling into Saudi Arabia, this study aimed to conduct an analysis of data obtained over a seven-year period (2010 – 2016) in Saudi Arabia so as to assess and quantify the khat situation in this region.

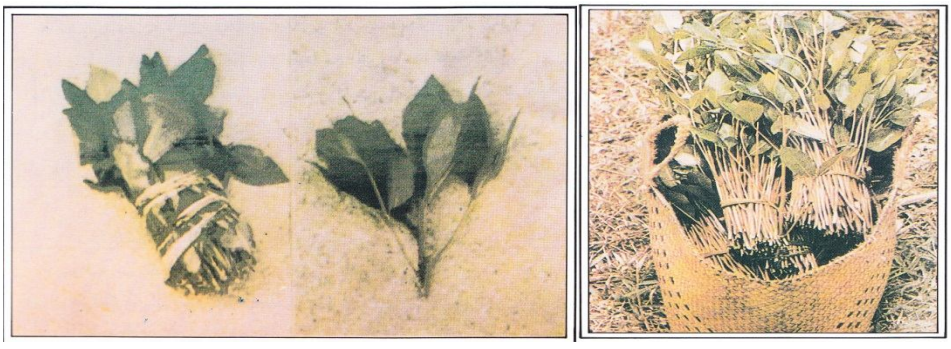

Fig (1): Bundles of khat, as typically traded.

Fig. (2): Chemicals structure of Cathinone ($C_9H_{11}NO$, MW 149-left) and Cathine ($C_9H_{13}NO$, MW 151- right).

Material and Methods

This retrospective descriptive study was carried out over a period of seven years from 2010 – 2016 in Saudi Arabia through different outlets (29 Ports).

Data collection approach

In order to conduct research on the problem of khat in Saudi Arabia, an analysis of data collected over seven years from Saudi Customs and other Governmental Entities responsible for preventing the promotion and smuggling of drugs was performed. Collected data included the amount of khat seized and smuggled into Saudi Arabia, as well as the largest quantity seized by customs at the port.

Data management

Data from 2010 to 2016 was analyzed to identify seizures of khat according to ports, based on both promotion and smuggling. This analysis placed khat in third place among drugs smuggled into Saudi Arabia since 1999, which is considered the base year. Collected data were coded, processed, and analyzed using SPSS (Version 20) for Windows. The growth rate of seized khat quantities was calculated over each of the seven-year study period compared to the base year (1999). Categorical data were presented as a number and percentage of total.

Ethical considerations

Confidentiality and privacy of information were respected, and the collected data will not be used for any other purpose.

Results

Results indicate that khat smuggling has increased in Saudi Arabia over seven (2010 – 2016) years. The amount seized in 1999 was used as a reference value. The annual growth rates in comparison to the size of base year seizures (1999) are presented in Table (1).

Table (1): Annual growth rates of khat from 1999 until the end of 2016.

Year	Quantities (tons)	Annual growth rate	Growth rate compared to base year (1999)
1999	220.2	-	-
2010	373.9	-	69.8%
2011	418.7	12.0%	90.1%
2012	3240.2	673.8%	1371.3%
2013	2977.8	8.1%	1252.1%
2014	2971.7	0.2%	1249.3%
2015	3153.1	6.1%	1331.7%
2016	4922.9	56.1%	2135.3%
Total khat seizures (2010-2016)	18278.5 tons		

The amount of khat seized in the year 1999 was approximately 220 tons. The level of khat seizures increased until 2010 (approximately 373 tons), a 70% increase from the base year, while the number of seizures in 2011 increased by 90% since the base year. The quantity of khat seized in 2012 was exceptionally high, reaching approximately 3240 tons – an increase of 1371% compared to 1999. This high level of khat seizures continued until 2016, reaching approximately 5000 tons as shown in Figure (3).

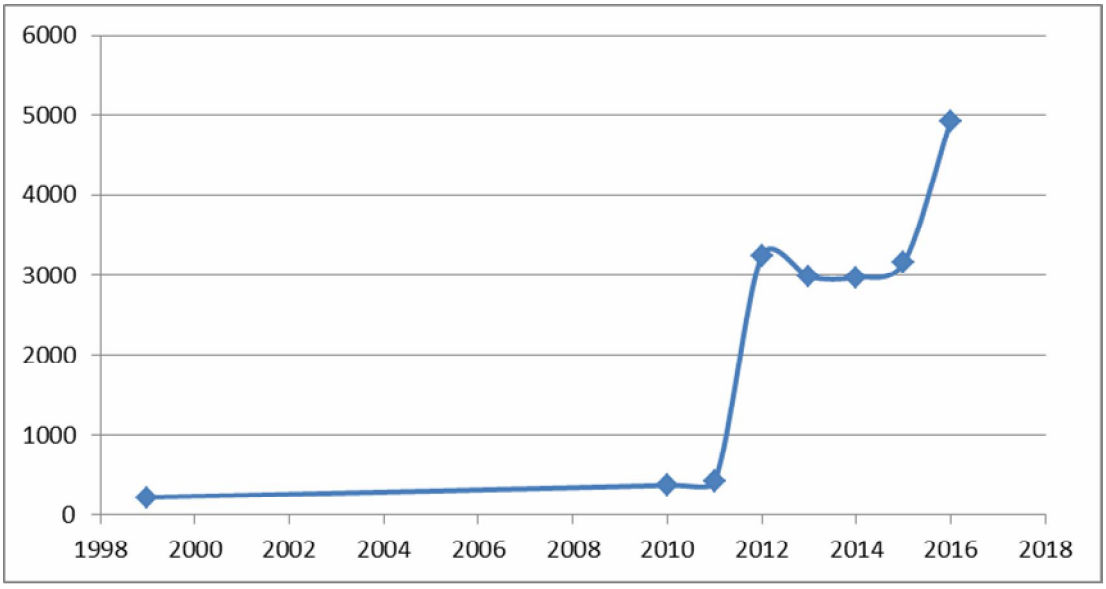

Fig. (3): The annual growth rate of seized khat quantities from 1999 until the end of 2016.

The highest quantity of khat was seized at the port of Tawal via customs clearance (97.8%), followed by Altadena Port (1.6%) and Jazan Port (0.2%) customs as shown in Table (2). The remaining customs outlets had not experienced any khat smuggling.

Table (2): Seized (khat) in kilograms across outlets in Saudi Arabia from 2010 to 2016.

Port name	2010	2011	2012	2013	2014	2015	2016	Total	Percentage of total
Tawal	44.212	46.158	1890.26	11.538	7.104	2.445	0	2001.72	97.8
Alwadeha	27.715	0.15	0.115	0.4	0.013	2.302	2.910	33.61	1.6
Jazan	0	5.02	0	0	0	0	0	5.02	0.2
King Abdulaziz International Airport	0.99	0.817	0.387	0	0	0	0.625	2.82	0.1
Green Customs	0.436	0.4	0.674	0.347	0.135	0.026	0	2.018	0.1
Alab	0	0.223	0.333	0	0	0	0	0.56	0.0
King Khalid International Airport	0.1	0	0	0	0	0	0	0.1	0.0
King Fahd Causeway	0	0	0.04	0	0.016	0	0	0.06	0.0
Total	73.453	52.768	1891.807	12.285	7.268	4.773	3.535	2045.889	100.0%

Discussion

Khat remains illegal in most countries, with seizures of this plant increasing in the Kingdom of Saudi Arabia (Abdelwahab et al., 201٥). Interpretation of data on drug seizures is always difficult, particularly for substances like khat (Griffiths et al., 2010). The present study revealed an increase of 70% in the level of khat seizures until 2010 from the base year (1999), while the number of seizures in 2011 increased by 90% since the base year. The quantity of khat seized in 2012 was exceptionally high compared to 1999, a cause for worry among authorities. Khat control between 2013-2016 was also very high compared to the previous years.

This increase in seizures may be explained by a number of factors, including planned targeting and re-application of sanctions enacted before the introduction of the anti-narcotics system to handle khat issues on the southern Saudi border. The present study demonstrated that the smuggling of khat from Yemen into the Kingdom of Saudi Arabia is not completely controlled, with the wide expanse of Saudi Arabia located in Western Asia requiring heightened security to control the smuggling routes. Moreover, Saudi Arabia's abundance of oil and minerals has led to extensive wealth for its 29 million citizens, of which a large portion are young people who, along with at least seven million foreigners, add to the purchasing power for the illegal khat. These factors all make Saudi Arabia an attractive first destination for smugglers. Unfortunately, the government's efforts to control khat use seem to be ineffective because the trade of khat remains widespread (Abdelwahab et al., 201٥).

Due to the importance of seizure analysis in identifying, preparing for, and responding to smuggling strategies, a detailed analysis of the Customs Department's data was conducted to arrive at more detailed conclusions. Findings indicated that the port of Tawal is the primary target for smuggling khat from the other customs outlets, followed by Alwadeha Port and Jazan Port. It is worth mentioning that only the ports mentioned in the table had witnessed smuggling operations, while the rest of the ports in Saudi Arabia did not observe any smuggling during the study period. These results can be explained by the fact that khat desiccates and dries rapidly, thus necessitating its smuggling to the nearest point of cultivation for rapid distribution and use. The borders of the Kingdom of Saudi Arabia are very close to Yemen, where the narcotics are produced, leading to ease of distribution and increased smuggling. Yemen is a country famous for khat cultivation, with khat producers targeting those seeking consumption through the Tawal Port, indicating that this port is the target of smuggling the narcotic from the other customs outlets.

Conclusion

The present study highlights the significance of understanding the increased smuggling of large quantities of khat into Saudi Arabia. Analysis found Jazan to be the port most vulnerable to khat smuggling, which has become a serious problem for Saudi Arabia due to the presence of 30 customs ports along a border spread over a large area, thus making border control increasingly difficult.

Recommendations

Intervention programs should be designed to address the problem of khat smuggling in the Jazan region. Furthermore, public education and higher education should collaborate to raise awareness among the youth of Saudi Arabia.

Acknowledgment

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Conflict of interest

The author has declared no conflict of interest.

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