

## The Chewing of Khat: Saudi Arabia Addicted Drug

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### Abstract

Khat (or *Catha edulis*) is an evergreen tree of the Celastraceae family. It was originated from Ethiopia, but was later distributed to different countries. This plant is a natural stimulant which contains two main substances: Cathine and Cathinone that caused excitement, euphoria, and loss of appetite. Although khat has some benefits, it harms the body and caused many other severe effects such as addiction and illness. It also affects the social and economic growth negatively. Some studies are proved that Khat chewers may become psychologically addicted to khat. Hence, the World Health Organization (WHO), in 1980, categorized the Khat plant as a drug of abuse that can create mild to moderate psychological dependence. Based on WHO is classification, many countries have controlled the use of Khat by making its use illegal. Although Saudi Arabia is one of the countries that forbid Khat use, the majority of the population, southern region, is accepting and using it easily. However, this research clarifies the prevalence of Khat use among students in the Southern region of Saudi Arabia, and concludes the different factors which contribute to chewing Khat among students.

**Keywords:** Drug, Celastraceae, Khat

### Khat Chewing Habit in Saudi Arabia

Khat (or *Catha edulis*) is an evergreen tree of the Celastraceae family. It was originated from Ethiopia, but later distributed to different countries such as South Africa and the Arabian Peninsula. Although this plant is known as Khat in most of literature, it has a variety of names in different countries. It is known as Khat in Ethiopia, Qat in Yemen and Saudi Arabia, Jaad in Somalia and Mirra in Kenya [1].

Khat is considered a natural stimulant which contains some substances that caused excitement, euphoria and a loss of appetite. People have different reasons of why they use Khat. For example, some students in Southern Saudi Arabia are using it for examinations, because it is considered a natural stimulant. However, some drivers in other countries are using it for long distance journey which require more awareness and wakefulness. It was also used during the war by soldiers who needed to improve their performance [1]. Although Khat is considered a natural stimulant, it leads to several social and health problems. Eventually, it leads to time and money becoming a waste for the consumers which use the stimulant on a regular basis. Some researchers assessed that Yemenis spend about 14.6 million person hours per day chewing Khat. They also estimated that families use almost 17% of their income on Khat.

The leaves of Khat contain two main substances which are Cathine (a Phenethylamin-type substance) and Cathinone (a Monoamine Alkaloid). The presence of Cathine in the leaves of Khat causes euphoria for people who chew it. For Cathinone, it is considered as a natural Amphetamine, because this substance produces a similar effect like that of Amphetamine. Both Cathine and Cathinone, have a similar molecular structure to amphetamine. However, Cathinone is the most active ingredient and is more potent than Cathine [2].

The author in Khat website stated that:

“When the Khat leaves are chewed, Cathine and Cathinone are released and absorbed through the mucous membranes of the mouth and the lining of the stomach. The action of Cathine and Cathinone on the reuptake of epinephrine and norepinephrine has been demonstrated in lab animals, showing that one or both of these chemicals cause the body to recycle these neurotransmitters more slowly, resulting in the wakefulness and insomnia associated with Khat use” [2].

People use Khat as a recreational drug or as medicine. Some people chew khat to elevate their mood, because it contains Cathine in the leaves which cause euphoria. Nevertheless, others use it as medicine for fatigue, depression, obesity, decrease sexual desires, male infertility, and increase of aggression. Because Khat is a stimulant plant, it helps people who chewed it to become more talkative and observant. This plant can also improve one's thinking, produce a feeling of happiness, and relieve symptoms of stomach disorders [2].

Although Khat has some benefits, it harms the body and causes many severe effects such as addiction and illness. Some researchers have clarified that Khat may cause hypertension, low birth-weight infants, testicular degeneration, duodenal ulcers, cerebral haemorrhage, and oral and gastric cancer [3]. Moreover, people who stop chewing Khat may face some withdrawal symptoms such as mild depression, lethargy, irritability, nightmares and slight tremors. Khat has negative effects on people who are using it for a long time. It can cause the loss of appetite, permanent tooth darkening, susceptibility to ulcers and leave a negative impact on liver function.

Clearly, Khat contains some substances which cause excitement, euphoria, and loss of appetite. People can reach a state of euphoria after 15 or 30 min of chewing the leaves of Khat. They feel these symptoms due to the presence of Cathine and Cathinone [2]. Khat chewers may become psychologically addicted to Khat. Therefore, the WHO in 1980, categorized Khat plant as a drug of abuse that can

create mild to moderate psychological dependence. Based on WHO's classification, many countries have controlled the use of this plant by making its use illegal.

Although the cultivation and consumption of Khat are legal in some countries, it is illegal in other countries. Saudi Arabia is one of the Islamic countries that forbid the cultivation and consumption of Khat. This prohibition is based on the Islamic law that prohibits all kinds of alcohol, drugs, and substances that harm the body or lead to the social and health problems [2]. Although Saudis know that all harmful substances are clearly forbidden in many verses of the Quran, few of them are chewing Khat.

Although using Khat in Saudi Arabia is illegal, the majority of the population is accepting and using it easily. It is also a very common habit in Jazan region, because it is socially acceptable and easily available by citizens. Jazan region is located on the coast of the Red Sea and is situated in the South West corner of Saudi Arabia. It includes 5,000 villages and towns and 100 islands. Its total population was reported as 1.5 million in 2010.

However, wasting time is the main reason for chewing Khat in Jazan region. However, some people use it to change their mood and don't feel stressed. Moreover, some students chew it during examination periods, because it helps them to become more vigilant. Therefore, some researchers conducted remarkable studies which targeted students in different educational levels in Jazan region. One of the studies included 72 intermediate and secondary schools. On the other hand, another study included three higher education institutions which are Jazan University, the Technical College and the Academic Health College.

The first study was focused on intermediate and secondary school students in 72 schools in Jazan region. The objective of this study was to evaluate the prevalence of Khat chewing among students. In this study, the researchers conducted a cross-sectional survey and selected a random sample of 3923 students from 72 intermediate and secondary schools of the region. They collected the data by using a structured self-administered questionnaire. They also completed the descriptive statistics, a chi-squared test and logistic regression to study the prevalence of Khat chewing among students. However, after collecting, organizing, and analysing the data, they concluded significant information about the prevalence of Khat chewing among students. They also clarified the factors contributed to chewing khat among students [1].

Based on the data analysis for the first study, the researchers concluded that the prevalence of Khat chewing among students was 20.5%. They also noticed that the prevalence of khat chewing was higher among male (33.1%) than female (4.3%). From this study, the researchers discovered that there were some factors associated with a high risk of Khat chewing which were students' smoking status, friends' smoking use of Khat, friend's use of tobacco, gender, age and academic performance [1].

Based on this study and its result, the researchers recommended that the schools in Jazan region need intervention programs which create the awareness among students and prevent the prevalence of Khat chewing among them. They also need some programs that clarify the negative consequences of using and chewing khat [1].

There are two main objectives of the second study that focused on students in higher education institutions, during academic year 2013-2014, in Jazan region. The first objective was to evaluate the

prevalence and behavioural patterns of Khat use among students. The second objective was to examine the various factors which contribute to chewing khat among students [4].

After collecting and analysing the data by using different materials and methods, the researchers concluded that the prevalence of Khat chewing habits among higher education students was 23.1%. This percentage is higher among males (38.5%) than females (2.1%). Moreover, the researchers found that gender, peer influence (who smoke cigarette or chew Khat) and smoking status of students are the most factors that contribute to chewing Khat habits among students [4].

Based on the second study and its results, the researchers concluded the study by creating significant recommendations for the community in Jazan region. They suggested that the community need a comprehensive and strategic long-term intervention plan that include social interventions to change the community standards and help youth to quit this bad habit. They recommended that the community in Jazan need to create recreations alternatives and opportunities for youths which prevent them from Khat chewing and to not waste their time and money on useless things. They also recommended that the government in Jazan should review and assess the Faifa Development Authority Project for replacing Khat cultivation in Faifa area (an area that is located in Jazan region). Furthermore, they recommended that Jazan region need effective services programs for people who need help to quit Khat chewing habit [4].

Another study by Ageely [5] showed that the overall prevalence of Khat chewing in Jazan region was 48.7%. He also noticed that the prevalence of Khat chewing among the school students was lower than its prevalence in the general population. He clarified that the lower prevalence of khat chewing among students in Jazan region may back to two main reasons: The first one is due to the presence of the awareness programs about the harmful effects of Khat use. The second reason is due to the low income for some students who cannot purchase Khat.

To sum up, khat affects the social and economic growth negatively, because most Khat chewers in Jazan are spending a lot of time on this habit and waste their golden time on something useless. It also affects the family income negatively, because most Khat chewers, in Jazan, depend on their family income to buy Khat regardless of their family needs. Hence, Khat is considered one of the main reasons in Jazan that causes family conflicts and decrease in economic activities. Recently, affective studies have been conducted to provide the community in Jazan region with remarkable information about the risk of Khat and how this plant can be harmful to the body and society.

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