

Brief Communication

**PSYCHOTIC DISORDER, KHAT ABUSE AND
AGGRESSIVE BEHAVIOR IN SOMALIA: A CASE REPORT**

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ABSTRACT

The current literature on khat and mental disorders focuses on khat-induced disorders neglecting at large the adverse consequences of co-morbid use on pre-existing disorders. The case of a 32 year old Somali with a delusional disorder and co-morbid khat abuse is presented who killed a man in the state of paranoid delusions. The psychotic exacerbation prior to this incident was accompanied by an increase of khat intake. Co-morbid khat abuse can lead to the deterioration of psychotic disorders, can facilitate aggressive acts and complicates treatment. The medical and legal system of the countries where khat use reaches highest levels are not fully prepared to deal with such cases. Further research and the development of adequate prevention and treatment measures is urgently needed.

KEY WORDS: khat, psychosis, co-morbidity, aggression, Somalia

Co-morbidity of psychoses and substance-use disorders is a frequently observed phenomenon in Western countries (Kavanagh, McGrath, Saunders, Dore & Clark, 2002; Regier et al., 1990). Information concerning this problem from developing countries is rare (Ahmad et al., 2001).

Traditionally the leaves of the khat shrub are consumed in Arab countries and East Africa for their stimulating effects (Halbach, 1972). Mostly the fresh young leaves and tender shoots of the plant are chewed, but its use as tea or dried power is also known (Baasher, 1980). Freshness of the plant material is crucial, as the stimulating properties vanish when the

leaves wither (Geissshusler & Brenneisen, 1987). The main psychoactive substance is the alkaloid cathinone, which in chemical structure, central and peripheral effects closely resembles amphetamine (Kalix, 1992; Nencini & Ahmed, 1989). In recent decades, the cultivation of khat has seen an explosion-like boom, from a niche product to one of the mayor cash-crops for countries neighboring the Horn of Africa (Gebissa, 2004). On the consumer side we find equally drastic changes: khat chewing developed swiftly from a normatively regulated and socially institutionalized habit mostly practiced by adult males from specific ethnic and religious groups to a widespread phenomenon

in the general population of these countries with features of informality, excessiveness and loss of traditional control (Carrier, 2005). The causal link between khat use and psychiatric disorders has often been suggested but the evidence is not overwhelming in relation to this question because little empirical information is available (for review see Odenwald, 2007). But several case studies described khat-induced psychotic states, mostly among immigrants living in Western countries, with pronounced paranoid or grandiose delusions and frequent aggressive behaviors (Pantelis, Hindler & Taylor, 1989) including homicide (Alem & Shibre, 1997). Some authors believe that concerning information from countries with traditional khat use is sparse due to the unavailability of mental health services, which would detect or treat mental disorders (Luqman & Danowski, 1976). Recently, we reported that psychiatric patients in Somalia frequently have a history of excessive khat abuse (Odenwald et al., 2005). This is confirmed by the experience of local NGOs in Somalia (e.g. General Assistance and Volunteer Organization, GAVO).

We report here the case of a prison inmate in North Western Somalia with a history of excessive khat abuse, who had killed a man in a state of paranoid delusions. Our goal with this case vignette is to report one of these presumably frequent but undocumented cases, where khat abuse, mental disorder and serious behavioral problems are interacting.

METHOD

We based our report on two clinical interviews in 2003 and 2006, two separate family interviews, and an additional interview with the prison representatives including the responsible physician in 2003. The interviews were conducted with the permission of Somaliland prison authorities. The patient and his family gave a written informed consent to the publication of this report. The interviews in 2003 were interpreted by a bilingual Somali medical doctor. In 2006, a trained social worker served as interpreter.

CASE REPORT

Mr. A. is a national of North-East Somalia (Somaliland), 32 years of age, not married and owner of a business. At the time of the interview, he was detained in prison for three months awaiting trial for shooting one of his employees.

Psychiatric findings: During the interview in 2003 A. was fully oriented and aware of his situation. His physical appearance was poor in hygiene and cleanliness, but conforming to the situation of detainees in Somaliland. His affect appeared flattened, psychomotor reactions were markedly reduced, his gaze numb. Indifference and lack of empathy were quite obvious. His voice was low and monotonous, his replies to the interviewer's questions short and with low content. Thought disorders could not be noticed. Paranoid delusions were present, with no hallucinations, disorganized speech, catatonic or other behavioral symptoms noticeable. A. admitted the killing openly, but showed no sign of remorse or guilt, and stated that he would do it again. He was not under medication.

Anamnestic information: His development in childhood and adolescence was described as normal. He completed his formal education after the regular eight years. When war broke out in Northern Somalia in 1988, A. fled with his family to the countryside. The onset of khat chewing was described as normal in late adulthood, and regular consumption in normal quantities could be confirmed. In 2001, A. started to run a business, together with his sister. The victim belonged to his sub-tribe and had been working as his employee. In late 2002, at the age of 31, while staying for some months in another town to open another business, paranoid symptoms probably developed for the first time. He believed being sidelined, and pulled out of the first business suspecting his sister and his employee to be plotting against him. After some time, A. gave up this business and moved back. He then continued working with his sister and employee as if nothing had happened. Beginning in January 2003, A. increased his daily khat intake to

up to six bundles (“mijin”) per day. At about that time A. developed serious paranoid delusions. He was constantly ruminating that he lost his business share because of the plot against him. He felt threatened constantly and pursued by the local police, believing his employee to have informed the police about his (A.’s) plan to kill him. Thus, A. believed that the police was about to arrest him. He also believed his employee intended to kill him. At that time A. secretly bought a gun from the black market (an AK 47 assault rifle). He avoided sleeping at night and restricted his rest hours to the time of the change of shift at the local police. At night he chewed khat by himself so as to stay awake. When going out to buy khat, he kept on moving restlessly and avoided staying more than ten minutes in one place or showing up at the same place more than once. Marked negative symptoms were present during this period, such as the neglect of physical appearance and hygiene, anorexia, and withdrawal from social contacts. He was frequently in a state of agitation, being easily irritated. He was also often observed as absent minded and with a fixed gaze. At that time his family and friends began to believe he had a serious mental problem. However, during all this time no consultation of a medical doctor or traditional healer was sought. The night before the murder A chewed khat excessively and slept in the day. The following afternoon, he behaved strangely, e.g., he changed his clothes three times in quick succession. A. reports that, in the early evening of that day, while chewing khat he had received a supernatural message from god telling him to kill his employee. It is not clear whether this experience involved voice hallucinations. He went for his gun immediately and then straight to the hotel, where he found his employee and fired point blank. He then left the place calmly, carrying his gun, not caring about his being observed by people. He went back to his home to continue chewing khat, with no plans to run away. The following morning, he was arrested at his house. We could not rule out a full abstinence from khat as prison inmates sporadically have access to the drug.

In 2006, Mr. A was contacted again. He had spent about 3 years in prison before his ‘jilib’ (extended family) paid the blood price to the family of the victim; then he was released. During the three years in prison he did not undergo any medical or psychiatric assessment nor did he receive any medical treatment. During the interview he was obviously suspicious but he allowed to be interviewed and signed the informed consent. A. was fully oriented and appeared well-dressed saying that he was starting a new business, information which could be confirmed by his sister. No signs of emotional symptoms could be assessed, neither thought disorders, delusional ideations or hallucinations. A. still showed no sign of remorse. He was not under medication. He stated that he had stopped taking khat regularly because it does harm to him.

DISCUSSION

We report here a case with a psychotic disorder and excessive khat abuse, who killed a man in a state of paranoid delusion. After arrest, he did not undergo any psychiatric assessment and there was no psychiatric record compiled for him. At the time of our first interview he awaited his trial assuming full responsibility for this crime.

Regarding diagnosis, we do not assume schizophrenia because A. did not exhibit clear schizophrenic symptoms and because he maintained normal social functioning up to a few months before the incident and restored his social functioning after release from prison. The diagnostic and anamnestic information available appear to indicate a long-lasting delusional disorder (ICD-10 F22.0), but we cannot fully rule out a drug-induced psychotic disorder (ICD-10 F15.51). According to the physician of the custodian force cases like A.’s are quite frequent in Somaliland. This agrees with our own observations, although no statistical records are available. However, we believe that the degree of violence exhibited in this case is exceptional. A recent study (Banjaw, Miczek & Schmidt, 2006) has

shown that cathinone and khat extract, indeed, increase the frequency of aggressive behaviors in an animal model of aggression (isolation-induced baseline aggression; White, Kucharik & Moyer, 1991). In the light of this study, our previous work in Somalia (Odenwald et al., 2005), and anecdotal reports from neighboring countries (Alem & Shibre, 1997) we assume that khat-related behavioral problems must be a huge problem in the communities of these countries. For a clinician it is quite obvious that the uncontrolled and often uncritical use of khat in countries at the Horn of Africa considerably complicates treatment of co-morbid psychiatric disorders.

The case reported here illustrates, in a nutshell, the problems related to khat abuse having emerged after the end of the civil war in Somalia society, including the legal system being unprepared to deal with such cases. These problems, like excessive juvenile use patterns, are conducive to mental disorders and interfere with their treatment. Solving these problems requires, among others, research on changing drug intake habits and on respective norms, on the interaction between regional drugs and mental disorders, and on culturally adequate prevention and intervention strategies, especially for the co-morbid khat abuse.

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