Khat & Mental Illness: Reviewing the evidence

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Can khat use cause mental illness?

• There has been an ongoing international concern about a causal relationship between Khat use and mental disorder.

• Associations between khat use and severe psychiatric disorders have repeatedly been reported in the medical literature.

• In the UK, community concerns and media reports about the relationship between khat use and psychological problems have led to calls for the reclassification of khat under the UK Misuse of Drugs Act.
Selected Publications


• Bhui K., Warfa N., Phillips K., Nandy K., Griffiths S. (2005) A Qualitative Analysis of Dual Diagnosis and Ethnicity (accepted for publication )


• Warfa et al., (2006)- Demographic, socio-economic and immigration correlates of depression, PTSD and all mental disorders among Somali refugees: A quantitative study (Forthcoming).
Aims

In the light of this urgency, this presentation aims to review:

(a) the evidence that Khat use can cause mental disorders.

(b) the extent to which the use of Khat can be detrimental to mental wellbeing.
What are the criteria for cause–effect relationships’?

- A causal association is found when a change in exposure leads to a change in disease outcome.
- Measures such as relative risk and odds ratios are often used to determine the strength of the association with causal direction implied by observed dose–response relationships (e.g., see Warfa et al. 2007, for more details).
Methods

- A detailed search of medical and psychiatric databases for clinical case reports and quantitative articles on khat use and mental illness from 1945 to 2005.

- The databases included psychoINFO, MEDLINE, PubMed and Inhenta.

- Some articles were obtained through the British Library and through manual identification.

- Backward and forward citation tracking and cross reference checking were also conducted.

- 449 articles. Of these, 41 papers matched our inclusion criteria, and 24 met the full criteria for inclusion in the final analysis of our report.
## Results of the case reports

<table>
<thead>
<tr>
<th>Case Study</th>
<th>Location</th>
<th>Participant</th>
</tr>
</thead>
<tbody>
<tr>
<td>Giannini &amp; Castellani 1982;</td>
<td>USA</td>
<td>North African patient</td>
</tr>
<tr>
<td>Yousef <em>et al</em> 1995;</td>
<td>UK</td>
<td>4 Somali patients</td>
</tr>
<tr>
<td>Pantelis <em>et al</em> 1989;</td>
<td>UK</td>
<td>3 Somali patients</td>
</tr>
<tr>
<td>Nielen <em>et al</em> 2004;</td>
<td>Holland</td>
<td>2 Somali male patients</td>
</tr>
<tr>
<td>Jager &amp; Sireling 1994;</td>
<td>UK</td>
<td>Male Somali patient</td>
</tr>
<tr>
<td>Alem &amp; Shibre 1997;</td>
<td>Ethiopia</td>
<td>Male Somali patient</td>
</tr>
<tr>
<td>Carothers 1945;</td>
<td>Kenya-</td>
<td>2 Som &amp; Mnyamwezi patients</td>
</tr>
<tr>
<td>Stephen &amp; Mathew 2005;</td>
<td>Australia</td>
<td>Somali male patient</td>
</tr>
<tr>
<td>Crithlow 1987;</td>
<td>UK</td>
<td>Somali female patient</td>
</tr>
<tr>
<td>McLaren 1987;</td>
<td>UK</td>
<td>Ethiopian male patient</td>
</tr>
<tr>
<td>Gough &amp; Cookson 1984;</td>
<td>UK</td>
<td>Yemeni male patient</td>
</tr>
<tr>
<td>Granek <em>et al</em> 1988.</td>
<td>Israel</td>
<td>3 Yemenis</td>
</tr>
</tbody>
</table>
Outcome reported

- Ingestion of khat caused symptoms of manic psychosis (Giannini & Castellani 1982)
- Khat chewing induced psychosis (Yousef et al. 1995)
- Khat chewing can induce at least two kinds of psychotic reaction (Pantelis et al. 1989)
- Patients with Khat abuse may develop severe psychotic states (Nielen et al. 2004)
- Chewing Khat caused a paranoid psychosis (Jager & Sireling 1994)
- Khat induced brief episodes of psychosis (Alem & Shibre 1997)
- Insanity was clearly precipitated by a herb Catha edulis (Carothers 1945)

- Khat psychosis could be an increasing occurrence in Australia (Stephen & Mathew 2005)

- Khat-induced paranoid psychosis (Crithlow 1987)

- Khat use should be enquired after in patients from this region (Ethiopia) presenting with psychotic illness (McLaren 1987)

- Khat induced schizophreniform psychosis (Gough & Cookson 1984)

- Khat induced hypnagogic hallucinations (Granek et al 1988).
<table>
<thead>
<tr>
<th>Study</th>
<th>Location</th>
<th>Evidence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kennedy <em>et al</em> 1983</td>
<td>Yemen</td>
<td>CS: 706 Yemenis</td>
</tr>
<tr>
<td>Dhadphale &amp; Omolo 1988</td>
<td>Kenya</td>
<td>CC: 100 Kenyans</td>
</tr>
<tr>
<td>Elmi 1982</td>
<td>Somalia</td>
<td>CS 7845 Somalia</td>
</tr>
<tr>
<td>Litman 1986</td>
<td>Isreal</td>
<td>CS: 136 Isreali Yemenis</td>
</tr>
<tr>
<td>Griffiths <em>et al</em> 1997</td>
<td>UK</td>
<td>CS: 207 Somalia</td>
</tr>
<tr>
<td>Odenwald <em>et al</em> 2005</td>
<td>Somalia</td>
<td>CS &amp; CC 4854 Somalis</td>
</tr>
<tr>
<td>Numan 2004</td>
<td>Yemen</td>
<td>CS: 800 Yemenis</td>
</tr>
<tr>
<td>Alem <em>et al</em> 1999</td>
<td>Ethiopia</td>
<td>CS: 10468 Ethiopians</td>
</tr>
<tr>
<td>Bhui <em>et al</em> 2003</td>
<td>UK</td>
<td>CS: 180 Somalis</td>
</tr>
<tr>
<td>Bhui <em>et al</em> 2006</td>
<td>UK</td>
<td>CS: 143 Somalis</td>
</tr>
<tr>
<td>Ahmed and Salib</td>
<td>UK</td>
<td>CS &amp; CC: 52 Somalis</td>
</tr>
<tr>
<td>Hassan <em>et al</em> 2002</td>
<td>Yemen</td>
<td>PP: 200 Yemenis</td>
</tr>
</tbody>
</table>
Outcome reported

• The starting age for khat use and excessive khat chewing were both related to the onset of psychotic symptoms (Odenwald et al 2005)

• There was no significant difference between the chewers and non-chewers but when the quantity chewed was excessive, the incidence of psychiatric morbidity significantly increased (Dhaqphale & Omolo 1988)

• Current khat users were more likely to have suicidal ideas than non-users (Bhui et al 2003)

• A higher risk of mental disorders was found among Somalis who used Khat (Bhui et al 2006)

• The prevalence rate of psychopathology was not higher among khat users than among abstainers (Litman et al 1986).

• Khat use was associated with increased loquacity, increased and decreased concentration, Constipation, Anorexia, Insomnia & headaches (Elmi 1983).
Reported outcome

• There was a significant increase of mood disturbance in the khat user group than in the control group (Hassan et al 2002).

• Few diseases or conditions occurred with enough frequency to permit detailed analysis and fewer were associated with khat use (Kennedy et al 1983).

• Khat use is not linked to psychological morbidity and any association that is found may reflect an interaction with other environmental factors (Numan 2004).

• The level of psychological dysfunction was similar in both khat users and non-users (Ahmed & Salib 1998).

• Mental distress has not been shown to be associated with khat use (Alem et al 1999).

• Current khat users were more likely to have suicidal thoughts than non-users (Bhui et al 2003)

• Some adverse psychological problems were associated with khat use (Griffiths et al 1997).
In Summary

1. Although excessive khat use seems to exacerbate psychological problems caused by pre-existing stressors, there is no agreement as to the effects of khat use and the development of psychiatric disorders.

2. This suggests that people with experiences of mental illness and khat use may have a complex and multidimensional profile of health and social care.

3. Unfortunately, the inadequate designs of some of the studies have contributed to the general confusion about khat use and psychological problems.

4. The long-term effects of khat use on mental health warrants urgent attention and longitudinal research.
Limitations with current evidence

- Relied on convenience sampling strategies
- Lack of Longitudinal Studies
- Lack of validated research instruments
- Lack of control for confounders
- Many other limitations
Where shall we go from here?

- In spite of decades of research, our understanding of the psychiatric implications of khat use remains very poor.

- So we shall we go from here?

- Could this conference work and agree on a position statement?