Cannabis control

An approach to cannabis use and dependence

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BACKGROUND Cannabis use is widespread in our community. Dependence on cannabis may be associated with significant mental and physical harms.
OBJECTIVE This article aims to give an overview of the adverse effects of cannabis use and guidelines for management of cannabis dependence.
DISCUSSION General practitioners can manage cannabis dependence from a harm minimisation framework using motivational interviewing and other counselling measures. Occasionally, pharmacologic approaches may be used with the caveat that they should be brief and carefully monitored.

Recent household survey statistics suggest approximately one-third of all Australians over 14 years of age have used cannabis. This figure is close to 60% in the 20–29 years of age group.[1] While most cannabis users will not experience harms from its use, studies indicate approximately one in 10 cannabis users become dependent.[2–4] Psychiatric and physical harms related to chronic cannabis use are now well documented.[2] The general practitioner has a role in reducing cannabis related harm by managing cessation or reduction of use in cannabis dependent patients.

Cannabis use today

People using cannabis in Australia customarily smoke the dried flowers of the cannabis sativa plant (Figure 1, 2) in hand rolled marijuana cigarettes ('joints') or water pipes ('bongs'), often in combination with tobacco.[2,5] Some reports suggest that increased harm from cannabis use correlates with marked increases in potency in the past 20–30 years. However, the available evidence indicates that increases in concentrations of tetrahydrocannabinol in cannabis since the early 1980s have been modest.[5]

Cannabis as a gateway drug

Cannabis has been implicated as a 'gateway' or 'stepping stone' drug that predisposes the user to the use of other illicit drugs such as opiates or psychostimulants. While a direct causal link has not been established, evidence for an association between an individual's problematic cannabis use and the use of other drugs is significant in some groups.[6,7] It is important for a clinician to assess whether other drugs or alcohol are being used concurrently with cannabis.

Cannabis related psychiatric harms

The adverse health effects of cannabis use are summarised in Table 1. Current literature does not consistently support the existence of a well defined condition of 'cannabis psychosis'.[4,8,9] However, there is enough evidence to support some association between cannabis use and worsening psychiatric symptoms in predisposed individuals, such as those with a history of psychotic illness.[2,4,10,11] In addition, the mental health effects of cannabis on adolescents may be particularly pronounced.[2,12,13]

Other cannabis harms

The body of evidence supporting an association between cannabis smoking and respiratory disease is significant. Premalignant histopathological changes have been found in tissues of chronic cannabis smokers, although a causal link between any mutagenicity of cannabis and cancers is not established.[2,9,14] Cannabis users have been shown to have cognitive impairment, but this reverses after

Table 1. Acute and chronic effects of cannabis

Acute effects

- Increased risk of psychotic symptoms, particularly in individuals with history of psychosis
- Impaired cognitive function, especially in attention and memory
- Psychomotor impairment which may affect ability to drive or operate machinery, more significant when combined with alcohol

Chronic effects

Probable

- Dependence with inability to control use and withdrawal symptoms
- Chronic bronchitis and histopathological changes

Possible

- Long term cognitive problems, loss of educational achievement
- Oral cancers
- Birth defects as a result of in utero exposure, genetic or chromosomal abnormalities
- Exacerbation of cardiovascular disease such as atherosclerosis

Table 2. DSM IV dependence criteria

The DSM IV criteria for diagnosing substance dependence is based on the presence of three or more of the following, occurring at any time over a 12 month period:[16]

- Tolerance: the need for increased amounts of substance and/or diminished effect with continued use of the same amount
- Withdrawal, as manifested by use of the substance to relieve withdrawal symptoms
- Use of substance in larger amounts or over a longer period of time than was intended
- Persistent desire or failed efforts to control substance use
- Spending excessive time and effort in procuring and using the substance. Disruption of important social, occupational, or recreational activities because of substance use
- Continued substance use despite knowledge of a persistent or recurrent physical or psychological problem that is likely to have been caused or exacerbated by the substance, eg. chronic bronchitis from smoking cannabis

Figure 1. Dried cannabis flowers

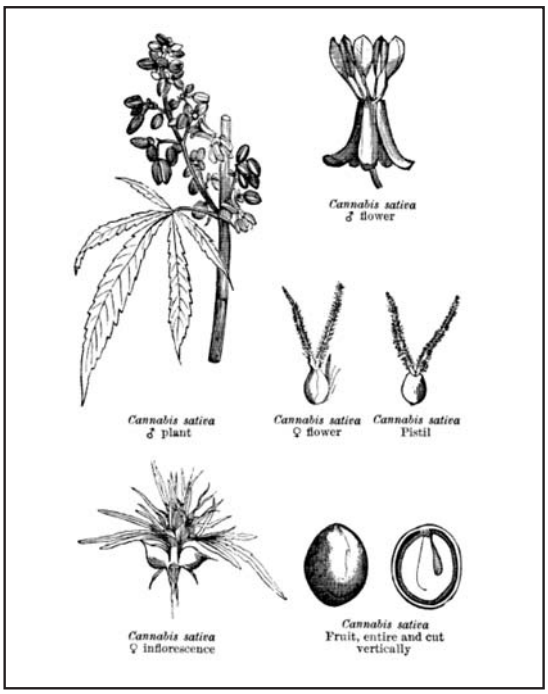

Figure 2. Cannabis plant

Table 3. Symptoms and signs in assessing cannabis dependence

Cannabis intoxication
Disinhibition
Impaired coordination
Tachycardia
Conjunctival redness
Cannabis withdrawal
Anxiety, restlessness, irritability
Lethargy
Cravings
Insomnia

cessation of the drug.[9-15] Similarly, there are putative effects on reproductive systems and the fetus. These effects probably warrant further study.[2,9]

Dependence

The evidence for a syndrome of cannabis dependence, meeting DSM IV criteria (Table 2) is convincing.[17] Cannabis withdrawal is commonly characterised by sleep disturbance, anorexia, irritability, dysphoria, lethargy and cravings. These symptoms usually subside over 1–2 weeks, although in some cases may last longer.[18]

Assessment

Assessment of cannabis use should involve a drug use history. This includes questions about frequency, pattern, amount and duration of use of the drug. At initial assessment, the clinician should also ask about other drugs used, such as opiates, benzodiazepines, alcohol and nicotine. Details of previous attempts at reduction or cessation of use and the experience of withdrawal symptoms should also be sought.

Examination should include an assessment of mental state and of the presence of intoxication or withdrawal features (Table 3). Physical assessment may simply involve focussing on the organs affected by cannabis use, such as the lungs. Urine drug screening is a sensitive test for past use of cannabis, often remaining positive for cannabinoids for several weeks after exposure to the drug. This test is also helpful in revealing the presence of other drugs used, such as opiates or benzodiazepines.

Treatment approaches

Psychosocial support is the primary treatment in cannabis withdrawal. Treatment should match the needs of the patient, and will depend on the patient's readiness for change and their goals, the severity of cannabis dependence and safety issues, eg. risk of serious psychiatric symptoms.[19] Concomitant nicotine or other drug withdrawal may also have to be managed.

The mainstay of treatment of cannabis dependence and withdrawal is nonpharmacologic.[18] Motivational interviewing[20] can be an effective brief intervention approach in a primary care

Table 4. Motivational interviewing

Motivational interviewing is a 'gentle' counselling technique based on a therapeutic partnership that explores a patient's ambivalence about their drug use. The important points in motivational interviewing may be summarised in the **'FRAMES'** acronym:

- **F**eedback: using reflective listening to help the patient look at his or her current situation of drug use
- **R**esponsibility: emphasising that the ability to change is their responsibility
- **A**dvice: simple information given to the patient about drug use can be helpful even where therapeutic engagement is brief
- **M**enu: patients may be offered a list of strategies that enable them to change behaviour associated with drug use
- **E**mpathy: understand the patient's frame of reference while being nonjudgmental, nonconfrontational and nonargumentative
- **S**elf efficacy: support and reinforce the patient's own self motivational and optimistic statements about their ability to change

Table 5. Prescribing in cannabis withdrawal

When anxiety predominates
Diazepam up to a maximum 5 mg four times a day, reducing over three to seven days, for a maximum of 10 days. Review frequently initially, titrating doses to minimum effective dose ensuring patient does not become drowsy
When insomnia predominates
Nitrazepam 5 mg or temazepam tablets 10 mg, one or two tablets at night, reviewing at around three days and prescribing for a maximum of seven days

setting (Table 4).[19] Primary carers may reduce cannabis related harm by providing information about the mental and physical health risks of cannabis use.[21] If reduction or cessation of cannabis use is to be attempted, advice on sleep hygiene and relaxation techniques may be helpful.

Other treatment options include referral to dedicated drug and alcohol treatment units for shared care or consultation liaison, self help groups such as Narcotics Anonymous or psychological counselling services.[19] In some cases, such as where there is concomitant use of other drugs, admission to an inpatient withdrawal unit may be warranted.

Pharmacologic management of cannabis withdrawal

Some patients intending to cease cannabis use may request medication for symptoms of withdrawal. Pharmacotherapeutic management of cannabis withdrawal is not well supported by medical evidence. As such it should be used primarily in patients experiencing significant anxiety or sleep problems. Clinicians should closely monitor prescribing of these medications and limit duration of drug treatment to a maximum of two weeks, with frequent reviews. To minimise the risk of toxicity, small amounts of these agents should be dispensed at a time.[18]

Benzodiazepines

Short courses of small doses of benzodiazepines for night time sedation or anxiety may be useful in cannabis withdrawal (Table 5). Diazepam is the drug of choice for day time anxiolysis. Short acting hypnotics, such as temazepam tablets may be used for sleep. It is preferable to use one or the other rather than to mix benzodiazepines. These drugs should be used cautiously, as they are associated with risk of abuse, diversion, interaction with other sedatives, and tolerance.

Tricyclic antidepressants

The sedative effects of tricyclic antidepressants may be used as an alternative to benzodiazepine hypnotics. This is an 'off label' use of this class of drug, as a side effect is being used therapeutically. A regimen such as doxepin 50–75 mg at night may be used for up to seven days. Disadvantages of such agents include the delay of return of normal sleeping patterns and the masking of pre-existing psychopathology. Due to the risk of overdose and toxicity, only small quantities of tricyclic antidepressants should be provided.

Antipsychotic drugs

Agents such as phenothiazines or newer atypical antipsychotic drugs should only be used where the patient has significant psychotic symptoms. In such cases psychiatric referral is usually desirable.

Conclusion

Cannabis has been used by various cultures for centuries. Its use in our community is widespread and the evidence for dependence and associated harm is well established. Brief interventions in the primary care setting can play a role in reducing harm from cannabis. In some cases pharmacotherapy may be warranted to manage the symptoms of cannabis withdrawal. Community based drug treatment agencies may also help the GP managing cannabis dependent patients.

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Recommended reading

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SUMMARY OF IMPORTANT POINTS

- Cannabis use is prevalent in young Australians and cannabis dependence is associated with psychiatric and physical harms.
- Cannabis withdrawal is primarily managed by psychosocial measures including motivational interviewing.
- Sedative or anxiolytic drug treatment of cannabis withdrawal should be reserved for patients with significant anxiety or insomnia.

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