Cannabis

CANNABIS is the most commonly used illicit drug in Australia. Cannabis is the general name used for the products of the plant *Cannabis sativa*. While most people who use cannabis do not experience problems, it is the most common illicit drug dependency among adults, with approximately 300,000 Australians suffering from a current cannabis use disorder (Swift et al., 2001a).

PHARMACOLOGY

Cannabis sativa contains over 400 chemical substances — about 60 are responsible for its unique effects. The principal psychoactive ingredient is delta-9-tetrahydrocannabinol (THC). THC is largely responsible for the person feeling 'stoned' with changes in mood, thoughts, perceptions and motor skills when intoxicated. THC is lipophilic and rapidly taken up by fatty tissue. This results in a slow elimination of metabolites. THC content varies greatly (from 0.5–12%), depending on genetic and environmental factors and the method of preparation.

Common Names

- marijuana: lower potency dried flowering heads and leaves of the cannabis plant
- hash(ish): extracted resin. Also known as hash oil

Routes of Administration

- smoking is the most common method of ingestion — onset of effects is more rapid and predictable. Frequently smoked with tobacco in a water pipe (bong) or rolled as a cigarette (joint)
- by mouth e.g. in food products or drunk in a tea

PHYSICAL AND PSYCHOSOCIAL COMPLICATIONS

Acute Effects

In common with other psychoactive drugs, the effects of cannabis depend on the dose, individual and setting. Many of the following effects are perceived as positive by users. The most common effects include:

- relaxation
- sense of wellbeing (euphoria)
- disinhibition
- heightened visual and auditory perceptions
- increased appetite
- altered time perception
- concentration:
  - general difficulty
  - tendency to focus awareness on a particular activity

Negative Acute Effects

There can also be negative acute effects such as:

- anxiety and panic
- paranoia
- visual or auditory hallucinations
- impaired coordination
- short-term memory loss
- tachycardia and supraventricular arrhythmias

Cannabis is not associated with fatal overdose.

Harms Associated with Chronic Use

There are several probable harms associated with regular (daily or near daily), sustained use (over several years):

- cannabis dependence syndrome: characterised by a variety of cognitive, physical and behavioural symptoms, such as an inability to control use, continued use despite problems, withdrawal and tolerance
- subtle cognitive impairment: affecting attention, memory, and the organisation and integration of complex information. Evidence to date suggests that these impairments are not grossly debilitating, but their reversibility is unknown
- adverse respiratory effects: associated with the route of administration, such as chronic bronchitis and mutagenic and carcinogenic histopathological changes of the parenchyma and epithelial cells
- an increased likelihood of carcinoma e.g. carcinoma of the oropharynx and bronchus
- reduced sperm count
- negative effects on the developing foetus. Avoiding cannabis is advisable if pregnant or trying to get pregnant

High Risk Groups

Certain groups are at a higher risk of developing adverse acute and chronic effects. These include:

- adolescents
- pregnant women. Continued smoking throughout pregnancy may increase the risk of having a low birthweight baby

- those with respiratory or cardiovascular disease, whose conditions may be aggravated by use
- those with a comorbid psychological disorder. Cannabis use is strongly associated with other drug use disorders and psychosis (Degenhardt et al., 2001). Those with schizophrenia may be particularly susceptible to the negative effects of cannabis. There is evidence that use may exacerbate psychotic symptoms in those with the disorder, and long-term, heavy use may precipitate schizophrenia in vulnerable individuals (Hall & Degenhardt, 2001).

MANAGEMENT AND INTERVENTION STRATEGIES

While many people with a substance use disorder do not seek assistance from a health professional, there has been a substantial increase in the number of cannabis smokers seeking professional assistance to quit, or to manage cannabis-related problems.

There are no maintenance pharmacotherapies available for the management of cannabis withdrawal or relapse prevention.

Assessment

Assessment should focus on:

- level and patterns of cannabis use and dependence
- evidence of psychiatric sequelae
- withdrawal symptoms
- health complications of cannabis use
- psychosocial context of use

Respiratory Function

- examination of respiratory function may be useful
- spirometry may be considered to provide feedback to a user regarding the acute consequences of smoking cannabis (alone or mixed with tobacco)
- significant respiratory problems such as emphysema, chronic bronchitis or exacerbation of asthma may be evident

Cardiovascular

- acute cardiovascular signs may also be present, either related to:
  - panic (e.g. hypertension, tachycardia); or
  - an exacerbation of angina pectoris

Detection by Urine Analysis

Psychotropic effects of cannabis are maximal at 20 minutes and last for 2–4 hours; cannabinoid levels can, however, be detected in urine up to 28 days after use. Urinary cannabinoid levels are therefore *not* an appropriate measure of recent cannabis use, intoxication or impairment.

Psychosocial Interventions

Psychosocial interventions for cannabis use disorder are still in their infancy. Most interventions used for cannabis dependence have been adapted from alcohol interventions. Psychosocial interventions are of greater benefit than no therapy, and the general principles of psychosocial interventions outlined in Chapter 13 are recommended for application in relation to problematic cannabis use.

Even one session of cognitive behavioural therapy can produce clinically significant reductions in the frequency and amount of cannabis use and related problems among severely dependent users (Copeland et al., 2001). Studies show that 6–9 sessions of cognitive behavioural therapy produce more fa-

vourable outcomes than brief motivational interventions, especially with more severely dependent users.

See Chapter 13
Psychosocial Interventions

Tolerance, Dependence and Withdrawal

A dependence syndrome associated with cannabis use has been well described (Swift et al., 2001a, 2001b). While severe dependence clearly exists, the cannabis dependence syndrome is generally less pronounced than dependence associated with drugs such as opioids and alcohol. However, the evidence is conflicting and concerns are emerging that dependence on cannabis in some younger people may develop rapidly and be more severe than previously believed.

The most common symptoms of cannabis dependence are difficulties controlling use and withdrawal (Swift et al., 2001b).

The most common symptoms of cannabis withdrawal reportedly include:

- anxiety, restlessness and irritability
- anorexia
- disturbed sleep and increases in vivid dreams
- gastrointestinal disturbances
- night sweats
- tremor

The symptoms are usually relatively mild and last a week or two. They do not require more than short-term symptomatic management.

Management and Intervention

Health professionals can significantly improve the outcome for patients presenting with cannabis use disorders by:

- providing information on the harms associated with heavy long term cannabis use
- providing advice on reducing or ceasing use
- adopting brief motivational and cognitive behavioural techniques to manage withdrawal and craving

Some people at the severe end of the dependence spectrum or with comorbid disorders may be helped by referral to specialised addiction and/or psychiatric services.

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