



Cannabis and mental health

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Cannabis is the most widely used illegal drug in Australia. This article reviews some recent epidemiological findings about the psychological harms associated with cannabis use.

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Cannabis contains a variety of psychoactive compounds, in particular tetrahydrocannabinol. There are cannabinoid receptors throughout the brain and in other tissues, and use of cannabis produces a range of psychological and physiological effects. People who enjoy the effect of cannabis report a pleasant detachment from their surroundings and an alteration in their perception of events, which lasts for several hours after smoking or eating cannabis. A proportion of users report transient anxiety symptoms and increased suspiciousness and lethargy. Physiological effects include tachycardia, increased appetite, dry mouth and red eyes. Regular cannabis use can be associated with tolerance to the effects of the drug and withdrawal symptoms, including irritability, insomnia and cravings for the drug.

The recent Australian National Survey of Mental Health and Wellbeing found that 18% of participants had tried the drug, 6% had used the drug in the past 12 months and about 1% met the criteria for cannabis dependence.¹ Most regular users start between the ages of 15 and 20 years, although community surveys of drug use in Australia suggest that cannabis use is declining among young people. Recent clinical and epidemiological research has demonstrated a range of adverse psychological effects of cannabis use.

This article summarises the evidence for the association between cannabis use and psychiatric disorders, and considers what advice doctors should give to patients who use cannabis.

CANNABIS AND PSYCHOTIC ILLNESS

There is strong epidemiological evidence that regular cannabis use can contribute to the onset of psychosis, particularly in young people who are predisposed to developing mental illness. A prospective study of Swedish military conscripts found that cannabis users had up to a six-fold increase in risk of developing

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schizophrenia in the next 15 years.² More recent studies have shown that people who start to use cannabis in their early teens and those who are heavy users are the most affected.^{3,4}

About one-third of people who develop schizophrenia have a history of significant cannabis use, and the onset of illness is about three years earlier than that for nonusers.⁵ The risk of schizophrenia and earlier age at onset of schizophrenia may be due to an interaction between cannabis use and an underlying genetic vulnerability because only a small proportion of cannabis users develop symptoms of psychosis.⁶

About half of cannabis users who develop psychosis stop using the drug soon after diagnosis, and doing so improves their prognosis.⁷ However, persistent cannabis users are harder to treat because of the effect on symptoms and the association between drug use and poor co-operation with treatment. Of course, most cannabis users do not develop psychosis and occasional cannabis adult users who are not predisposed to a psychiatric disorder probably do not have a significantly increased risk of developing psychosis.

CANNABIS AND COGNITIVE IMPAIRMENT

There is a growing body of evidence that regular cannabis use is associated with cognitive impairment. Cannabis intoxication causes impairment in concentration and in other domains of intellectual function, and recent use of cannabis doubles the risk of having a fatal motor vehicle accident.⁸ Impairments in attention and memory function have been shown in regular users in the absence of recent intoxication, although those deficits seem to abate after periods of abstinence of about a month.⁹

Ongoing cannabis use is associated with poor academic achievement in high school years.¹⁰ The most disturbing evidence has come from a well-designed prospective birth cohort study, which found that cannabis use in adolescence is associated with below expected performance in measures of intelligence in mid-adulthood.¹¹

CANNABIS, DEPRESSION AND ANXIETY

The association between cannabis and mood disorders is not as well established as the association between cannabis and schizophrenia, and not every study has confirmed the presence of an association between cannabis use and depression³ or suicide attempts.¹² However, cannabis can make many users anxious, giving up cannabis has been shown to reduce depression in people with psychotic illness, and cannabis use probably can contribute to the anxiety and depression often reported by patients with other mental disorders.

ARE THERE MEDICINAL USES OF CANNABIS?

At least 100 clinical trials of cannabis compounds for a range of physical and psychiatric conditions have been carried out.

However, most of those trials have involved small numbers of subjects, subjective rating of efficacy and a notable lack of blinding to the active ingredient. The conditions for which there is the most evidence for cannabis use are spasticity in multiple sclerosis and neuropathic pain. Most of the medicinal use of cannabis in the North American jurisdictions where medicinal use is permitted has been for chronic pain and in palliative care.

The superiority of cannabis over other treatments has not been well established for any condition. However, cannabis may prove to be a second-line drug for the treatment of some chronic conditions in which conventional medications have proved to be ineffective or have produced intolerable side effects.

WHAT SHOULD WE TELL PATIENTS?

Medical practitioners should ask their patients about cannabis use. This particularly applies to younger patients and those at risk of mental illness. Doctors are required to notify the police of serious offences if they have specific information that would result in a police investigation. Doctors might also be required to notify driver licensing authorities about patterns of substance use that cause enduring impairment in fitness to drive. However, a patient's recreational drug use would not normally fall into either of these categories and a nonjudgmental enquiry about substance use is an important part of the medical history, especially the mental health history.

Most doctors are comfortable counselling drug-injecting patients about how to avoid HIV infection, and a similar approach can be taken when counselling people about the harms associated with the use of cannabis. Abstinence would be ideal, but a more realistic approach for some patients would be to help them reduce the frequency of cannabis use and avoid developing a pattern of cannabis dependence.

Medical practitioners have a duty to inform cannabis-using patients about the harmful effects of regular use of cannabis. This is especially true for cannabis use by adolescents, which is the age group most likely to be experimenting with cannabis and is also a period in which the developing brain appears to be most vulnerable to the neurotoxic effects of regular use of strong cannabis preparations.

In the case of a young person who is known to use cannabis, two approaches are recommended. The first is to provide information about the potentially harmful effects of cannabis using an approach that is readily understood, in the same way we would advise patients about the risks of using tobacco, hazardous quantities of alcohol and other harmful substances. The second is motivational interviewing, a technique drawn from cognitive behavioural therapy, which aims to help patients identify their patterns of harmful substance use and develop their own plan to modify their behaviour. The same general approach is recommended for alcohol abuse. Many practitioners are

nihilistic about treating substance use, although referral to drug and alcohol services or to a psychologist with skills in this area can produce lasting change. Parents who are concerned about the use of cannabis by a child under their care should be provided with similar information and encouraged to discuss it with their child, along with an offer to speak with the child directly. Drug-using parents should be counselled about the potential effect of making cannabis available to their children and the poor example set by their own behaviour.

Cannabis use by older people is an emerging problem. The risk of developing a psychotic illness triggered by cannabis use declines but does not disappear with age, and cannabis use can contribute to cognitive difficulties experienced by older people. Psychosis associated with cannabis use usually requires ongoing treatment with antipsychotic medication under the supervision of a specialist service, even if the disorder appears to abate after the cessation of cannabis use.

SUMMARY

There is a growing body of evidence that cannabis can contribute to the emergence of psychosis and the poor course of psychotic disorders such as schizophrenia. There is also emerging evidence that cannabis use is associated with lasting impairments in intellectual function. **MT**

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