

ROYAL COLLEGE OF PSYCHIATRISTS

Mental Health Information

Cannabis and mental health

About this leaflet

Two million people in the UK smoke cannabis. Half of all 16 to 29 year olds have tried it at least once. In spite of government warnings about health risks, many people see it as a harmless substance that helps you to relax and 'chill' - a drug that, unlike alcohol and cigarettes, might even be good for your physical and mental health. On the other hand, recent research has suggested that it can be a major cause of psychotic illness in those who are genetically vulnerable.

This leaflet looks at the research on the effects of cannabis use and mental health and is for anyone who is concerned about the issue. We hope that this will help people to make informed choices about using - or not using - cannabis.

What is cannabis?

Cannabis sativa and cannabis indica are members of the nettle family that have grown wild throughout the world for centuries. Both plants have been used for a variety of purposes including hemp to make rope and textiles, as a medical herb and as the popular recreational drug.

The plant is used as:

- The resin - a brown/black lump , known as bhang, ganja, hashish, resin etc;
- The dried leaves - known as grass, marijuana, spliff, weed etc.

Skunk is one of the stronger types of cannabis which is specifically grown for its higher concentration of psychoactive ingredients. It is named after the pungent smell it gives off during growing. It can be grown either under grow lights or in a greenhouse, often using hydroponic (growing in nutrient rich liquids rather than soil) techniques. There are hundreds of other varieties of cannabis with exotic names such as AK-47 or Destroyer. Street cannabis can come in a wide variety of strengths, so it is often not possible to judge exactly what is being used in any one particular session.

How is it used?

Most commonly, the resin or the dried leaves are mixed with tobacco and smoked as a 'spliff' or 'joint'. The smoke is inhaled strongly and held in the lungs for a number of seconds. It can also be smoked in a pipe, a water pipe, or collected in a container before inhaling it - a "bucket". It can be brewed as tea or cooked in cakes.

More than half of its psychologically active chemical ingredients, are absorbed into the blood when smoked. These compounds tend to build up in fatty tissues throughout the body, so it takes a long time to be excreted in the urine. This is why cannabis can be detected in urine up to 56 days after it has last been used.

What is its legal status in the UK?

Before January 2004, it was classified as a Class B drug, alongside amphetamines and barbiturates. This dates from 1928, when Egyptian and South African doctors stated that heavy use could cause mental disturbances.

It is currently a Class C drug, in the same group as anabolic steroids and tranquillisers such as valium and temazepam. It is still illegal to have it and the maximum penalty for possession is two years.

The decision to reclassify cannabis was recently reconsidered by the Government's Advisory Council on the Misuse of Drugs (ACMD) because of worries about:

- a possible connection with mental health problems;
- the increased strength of the cannabis that is now widely used.

However, the decision was taken in January 2006 to keep it as a Class C drug under the Misuse of Drugs Act, 1971.

This means that the maximum penalties are:

For possession: 2 year prison sentence or an unlimited fine, or both

For dealing/supplying: 14 year prison sentence or an unlimited fine, or both.

How does it work and what is the chemical make up of cannabis?

There are about 60 compounds and 400 chemicals in an average cannabis plant. The four main compounds are called delta-9- tetrahydrocannabinol (delta-9-THC), cannabidiol, delta-8-tetrahydrocannabinol and cannabinol. Apart from cannabidiol (CBD), these compounds are psychoactive, the strongest one being delta-9- tetrahydrocannabinol. The stronger varieties of the plant contain little cannabidiol (CBD), whilst the delta-9-THC content is a lot higher.

When cannabis is smoked, its compounds rapidly enter the bloodstream and are transported directly to the brain and other parts of the body. The feeling of being 'stoned' or 'high' is caused mainly by the delta-9-THC binding to cannabinoid receptors in the brain. A receptor is a site on brain cell where certain substances can stick or "bind" for a while. If this happens, it has an effect on the cell and the nerve impulses it produces. Curiously, there are also cannabis-like substances produced naturally by the brain itself - these are called endocannabinoids.

Most of these receptors are found in the parts of the brain that influence pleasure, memory, thought, concentration, sensory and time perception. Cannabis compounds can also affect the eyes, the ears, the skin and the stomach.

What are its effects?

Pleasant

A 'high' - a sense of relaxation, happiness, sleepiness, and colours appear more intense, music sounds better.

Unpleasant

Around 1 in 10 cannabis users have unpleasant experiences, including confusion, hallucinations, anxiety and paranoia. The same person may have either pleasant or unpleasant effects, depending on their mood and circumstances. These feelings are usually only temporary - although as the drug can stay in the system for some weeks, the effect can be more long-lasting than users realise. Long-term use can have a depressant effect, reducing motivation.

Education and learning

There have also been suggestions that cannabis may interfere with a person's capacity to:

- concentrate
- organise information
- use information

This effect seems to last several weeks after use, which can cause particular problems for students. However, a large study in New Zealand followed up 1265 children for 25

years. It found that cannabis use in adolescence was linked to poor school performance, but that there was no direct connection between the two. It looked as though it was simply because cannabis use encouraged a way of life that didn't help with schoolwork.

Work

It seems to have a similar effect on people at work. There is no evidence that cannabis causes specific health hazards. But users are more likely to leave work without permission, spend work time on personal matters or simply daydream. Cannabis users themselves report that drug use has interfered with their work and social life.

Of course, some areas of work are more demanding than others. A review of the research on the effect of cannabis on pilots revealed that those who had used cannabis made far more mistakes, both major and minor, than when they had not smoked cannabis. As you can imagine, the pilots were tested in flight simulators, not actually flying ... The worst effects were in the first four hours, although they persisted for at least 24 hours, even when the pilot had no sense at all of being "high". It concluded "Most of us, with this evidence, would not want to fly with a pilot who had smoked cannabis within the last day or so".

What about driving?

In New Zealand, researchers found that those who smoked regularly, and had smoked before driving, were more likely to be injured in a car crash. A recent study in France looked at over 10,000 drivers who were involved in fatal car crashes. Even when the influence of alcohol was taken into account, cannabis users were more than twice as likely to be the cause of a fatal crash as to be one of the victims. So - perhaps most of us would also not want to be driven by somebody who had smoked cannabis in the last day or so.

Mental health problems

There is growing evidence that people with serious mental illness, including depression and psychosis, are more likely to use cannabis or have used it for long periods of time in the past. Regular use of the drug has appeared to double the risk of developing a psychotic episode or long-term schizophrenia. However, does cannabis cause depression and schizophrenia or do people with these disorders use it as a medication?

Over the past few years, research has strongly suggested that there is a clear link between early cannabis use and later mental health problems in those with a genetic vulnerability – and that there is a particular issue with the use of cannabis by adolescents.

Depression

A study following 1600 Australian school-children, aged 14 to 15 for seven years, found that while children who use cannabis regularly have a significantly higher risk of depression, the opposite was not the case - children who already suffered from depression were not more likely than anyone else to use cannabis. However, adolescents who used cannabis daily were five times more likely to develop depression and anxiety in later life.

Schizophrenia

Three major studies followed large numbers of people over several years, and showed that those people who use cannabis have a higher than average risk of developing schizophrenia. If you start smoking it before the age of 15, you are 4 times more likely to develop a psychotic disorder by the time you are 26. They found no evidence of self-medication. It seemed that, the more cannabis someone used, the more likely they were to develop symptoms.

Why should teenagers be particularly vulnerable to the use of cannabis? No one knows for certain, but it may be something to do with brain development. The brain is still developing in the teenage years - up to the age of around 20, in fact. A massive process of 'neural pruning' is going on. This is rather like streamlining a tangled jumble of circuits so they can work more effectively. Any experience, or substance, that affects this process has the potential to produce long-term psychological effects.

Recent research in Europe and in the UK has suggested that people who have a family background of mental illness - so probably have a genetic vulnerability anyway - are more likely to develop schizophrenia if they use cannabis as well.

Is there such a thing as 'cannabis psychosis'?

Recent research in Denmark suggests that yes, there is. It is a short-lived psychotic disorder that seems to be brought on by cannabis use but which subsides fairly quickly once the individual has stopped using it. It's quite unusual though - in the whole of Denmark they found only around 100 new cases per year.

However, they also found that:

- Three quarters had a different psychotic disorder diagnosed within the next year
- Nearly half still had a psychotic disorder 3 years later.

So, it also seems probable that nearly half of those diagnosed as having cannabis psychosis are actually showing the first signs of a more long-lasting psychotic disorder, such as schizophrenia. It may be this group of people are particularly vulnerable to the effects of cannabis and so should probably avoid it in the future.

Is cannabis addictive?

It has some of the features of addictive drugs such as:

- tolerance - having to take more and more to get the same effect
- withdrawal symptoms. These have been shown in heavy users and include:
 - craving
 - decreased appetite
 - sleep difficulty
 - weight loss
 - aggression anger, irritability, restlessness, and strange dreams.

These symptoms of withdrawal produce about the same amount of discomfort as withdrawing from tobacco.

For regular, long-term users:

3 out of 4 experience cravings

half become irritable

7 out of 10 switch to tobacco in an attempt to stay off cannabis.

The irritability, anxiety and problems with sleeping usually appear 10 hours after the last joint, and peak at around one week after the last use of the drug.

Compulsive use

The user feels they have to have it and spends much of their life seeking, buying and using it. They cannot stop even when other important parts of their life (family, school, work) suffer.

You are most likely to become dependent on cannabis if you use it every day.

What about skunk and other stronger varieties?

Traditional herbal cannabis contains between 1 and 15 per cent of the main psycho-active ingredient, THC. Some of the newer strains, including skunk, contain up to 20 per cent, so can be 3 times as strong as traditional cannabis. It works more quickly, and can produce hallucinations with profound relaxation and elation - along with nervousness, anxiety attacks, projectile vomiting and a strong desire to eat. They may be used by some as a substitute for Ecstasy or LSD.

Legally, these strains remain classified as Class C drugs. While there is little research so far, it is likely that these stronger strains carry a higher risk of causing mental illness. A major study, currently underway, has already reported problems with concentration and short-term memory in users of stronger types of cannabis.

Problems with cannabis use

Many - perhaps most - people who use cannabis do enjoy it. But it can become a problem for some people. A US organisation, marijuana-anonymous.org, defines the problems of cannabis as follows:

" ... if cannabis controls our lives and our thinking, and if our desires centre around marijuana - scoring it, dealing it, and finding ways to stay high so that we lose interest in all else."

The website carries the following questionnaire - which could equally well apply to alcohol use.

"If you answer 'Yes' to any of the questions, you may have a problem.

1. Has smoking pot stopped being fun?
2. Do you ever get high alone?
3. Is it hard for you to imagine a life without marijuana?
4. Do you find that your friends are determined by your marijuana use?
5. Do you smoke marijuana to avoid dealing with your problems?
6. Do you smoke pot to cope with your feelings?
7. Does your marijuana use let you live in a privately defined world?
8. Have you ever failed to keep promises you made about cutting down or controlling your dope smoking?
9. Has marijuana caused problems with memory, concentration, or motivation?
10. When your stash is nearly empty, do you feel anxious or worried about how to get more?
11. Do you plan your life around your marijuana use?
12. Have friends or relatives ever complained that your pot smoking is damaging your relationship with them?"

Reducing cannabis use

The Home Office recently published a guide on how to cut down and stop cannabis use. It suggests a range of things you can do to successfully stop using, including:

- drawing up a list of reasons for wanting to change
- planning how you will change
- thinking about coping with withdrawal symptoms
- having a back-up plan. www.homeoffice.gov.uk/materials/kc-stop.pdf

If you decide to give up cannabis, it may be no more difficult than giving up cigarettes.

You could try:

- do it yourself - work through the leaflet on the FRANK website www.talktofrank.com. Many people will be able to stop on their own. However, if this isn't enough:

- join a support group, for instance the on-line www.marijuana-anonymous.org.
- www.connexions.gov.uk is a website for 13-19 year olds which offers support and can put you in touch with a practitioner or personal adviser.
- talk to your GP or practice nurse. They will have a lot of experience in helping people to cut down their drinking and to stop smoking. They can also refer you to more specialist services, such as a counsellor, support group NHS substance misuse service.
- NHS substance misuse services offer assessment and counselling for a range of street drugs, aiming to help with:
 - harm reduction - reducing the impact of the drug on your life
 - abstinence - stopping completely
 - relapse prevention - not starting to use again
 - some offer a specific service for cannabis users.

Where can I get more help and information?

www.talktofrank.com is an excellent website. You can order printed information for different age groups over the internet.

Frank telephone helpline: 0800776600

Use the search facility to get the contact details of organisations offering practical help and support in your area.

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