Cannabis and the general practitioner — 'going to pot'

A LITERATURE search on the health risks of cannabis will reveal numerous academic papers and scores of reviews[1] on the subject, yet few general practitioners (GPs), and fewer still members of the public, can cite one problem associated with the most common illicit substance used today. That cannabis contains at least as many carcinogens as tobacco smoke, that it is used in a way that maximises its harmful effects, and that it more than likely contributes to the production of psychosis in young adults, may surprise many readers who, like most of the population, think that the drug is at worst harmless and at best good for you. It is a credit to the pro-cannabis debate that the legalisation issue has proved such an effective smoke screen to health risks associated with the drug.

It is hardly surprising that cannabis has health risks. It contains over 400 chemicals,[2] including 60 or so carcinogens,[3] and it is a markedly stronger drug than 20 to 30 years ago. A 'reefer' in the 1980s contained about 10 mg of 9-tetrahydrocannabinol (THC), the main active chemical, whereas a 'joint' today may contain around 300 mg of THC.[4] Most of the effects of cannabis are dose related, and hence this change in strength is important in determining its health effects.

So what are the health risks? These are considerable, and as the drug becomes more widespread they are becoming better defined. The known effects of cannabis are analogous to the known effects of alcohol and tobacco, although its dangers are less obvious. The evidence that it produces dependence is beyond dispute, with around 5% to 10% of users eventually becoming dependent.[5] Cannabis also impairs concentration, short-term memory, attention, and rational thought,[6] it impairs driving and piloting skills, and it amplifies the driving impairments caused by concomitant alcohol use.[7] Larger amounts of cannabis can produce anxiety and depression,[8] psychotic states lasting several days, and an increased risk of developing schizophrenia.[9]

Most of the ill effects of cannabis are related to smoking the drug, the most popular route of use, usually in the resin form mixed with tobacco. In their review of the respiratory effects of cannabis, the British Lung Foundation[10] highlights a number of important factors that make cigarettes made from cannabis at least as harmful as those made from tobacco. Studies estimate that three to four cannabis cigarettes per day are associated with the same evidence of acute and chronic bronchitis and the same degree of damage to the bronchial mucous membrane as 20 or more tobacco cigarettes a day.

Tar from cannabis cigarettes contains up to 50% higher concentrations of the carcinogens than tobacco smoke. Users smoke cannabis cigarettes in a manner that maximises the concentration of these chemicals at the bronchial mucosa. Compared with cigarette smokers, cannabis smokers take deeper, longer breaths and retain the smoke for longer periods. The habit of smoking the cigarette down to the butt deposits four times as much tar on the respiratory tract in comparison with unfiltered tobacco cigarettes, hence amplifying the exposure of cannabis smokers to particles that are known to be involved in the development of lung cancer.

Possible therapeutic effects

Cannabis has been widely used as a medicine for over a millennium in China, India, the Middle East and other parts of the world. There is evidence that it is effective against chemotherapy-induced nausea and vomiting[11] and as an analgesic,[12] and that it is valuable for combating the loss of appetite and weight loss experienced in patients with cancer and AIDS, for the relief of muscle spasms in patients with multiple sclerosis,[13] and in the treatment of glaucoma. Randomised controlled trials designed to compare cannabis with existing treatments will show if cannabis proves superior or not to these existing remedies, and there should then be no bar to it being made available to appropriate patients in the appropriate formulation. However, any claims for therapeutic effects must be backed up by robust evidence and the benefits must outweigh the risks.[14]

Conclusion

The reputation that cannabis has for being a safe drug is unjustified. The reasons for this misplaced view are that it is not immediately lethal in the way that heroin is, its effects on mood are not as obvious as those of alcohol, and because its capacity to produce dependence, like alcohol, is slow and insidious, and its widespread use is a relatively new phenomenon. Recent inquiries[15-17] into cannabis have all come to the same conclusion — that cannabis can be harmful and that its use should be discouraged. Although cannabis is not in the premier league of dangerous substances, new research tends to suggest that it may be more hazardous to health than might have been thought only a few years ago. Each year in the UK, smoking cigarettes now accounts for more than 35,000 deaths from lung cancer, 30,000 deaths from chronic lung disease and 35,000 deaths from other causes. If the prevalence of cannabis use was to approach that of alcohol or tobacco, its impact on public health would also increase and lead to a rise in psychological and physical morbidity.

What can doctors do?

Faced with the current and probable increased level of the use of cannabis, is there anything a doctor can do? Certainly, doctors have an important role in providing accurate information to users or potential users and informing them of possible ways of reducing their risks. However, perhaps the greatest impact that doctors can have is by influencing the political landscape surrounding the use of cannabis. Maybe we need to learn from the decades of cigarette smoking. During the tobacco industry's heyday, when cigarettes were an accepted part of life, doctors, dentists,

Acute effects

- Anxiety and panic, especially in naïve users
- Impaired attention, memory, and psychomotor performance while intoxicated
- Possibly an increased risk of an accident if a person drives a motor vehicle while intoxicated with cannabis, especially if used with alcohol and tranquilisers
- Increased risk of psychotic symptoms among those who are vulnerable because of personal or family history of psychosis
- Increased risk of low-birth-weight babies if smoked in pregnancy

Chronic effects (uncertain but very likely)

- Chronic bronchitis and histopathological changes that may be precursors of malignant disease
- A cannabis dependence syndrome characterised by an inability to abstain from or to control cannabis use, craving, and tolerance to the physical and mental effects of the drug. Between 15% and 30% of users report difficulty in controlling their use, and withdrawal symptoms are common in this group
- Subtle impairments of attention and memory that persist while the user remains chronically intoxicated. These may or may not be reversible after prolonged abstinence

Possible adverse effects (to be confirmed)

- Increased risks of cancers of the oral cavity, pharynx, and oesophagus, leukaemia among offspring exposed in utero
- Impaired educational attainment in adolescents, and underachievement in adults in occupations that require high levels of cognitive skills

Groups that have an increased risk of experiencing these adverse effects

- Adolescents with a history of poor school performance who initiate cannabis use in their early teens are at increased risk of using other drugs and of becoming dependent on cannabis. Women who continue to smoke cannabis during pregnancy may increase their risk of having low-birth-weight babies
- People with schizophrenia, asthma, bronchitis, alcohol and other drug dependence, whose illnesses are exacerbated by cannabis use

Summary of effects in non-vulnerable individuals

- Panic attacks
- Toxic psychosis
- Functional psychosis

Summary of effects in vulnerable individuals

- Individuals with mental disorders have an increased risk of misusing cannabis
- The risk of cannabis misuse is four to six times greater in patients with schizophrenia
- Heavy use of cannabis is a probable risk factor for schizophrenia
- Cannabis use may worsen some symptoms of schizophrenia and increase the rate of relapse
- Heavy cannabis use may cause short-term reversible cognitive impairments in adolescents

Box 1. Summary of adverse effects of cannabis.[4]

and nurses were lighting up on the advertising pages of leading newspapers and magazines to promote the product. These advertisements were part of the industry's efforts to convince people that smoking was not just acceptable but 'healthful'.[18] This state of affairs changed when the link between smoking and lung cancer was established. Nowadays, few doctors smoke, and they lead the way in anti-smoking campaigns and ensuring that information about the harm caused by the drug is well disseminated.[19] It this role, as promoters of political change, that doctors must now take on with regard to cannabis. To effect change, doctors themselves must be convinced of the dangers of the drug to public health, and beware of entering the polarised and unhelpful debate over legalisation.

Evidence is emerging that cannabis smoking among the young is now becoming more common than tobacco smoking.[20] Let us be prepared.

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