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Improving the quality of the cannabis debate: defining the different domains

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The policy debate on cannabis has moved back into prominence in Britain and elsewhere after reports of increases in use during the early 1990s¹ and renewed claims about the therapeutic value of marijuana.^{2,3} Rational debate has often been obstructed because the media present a forced choice between two sets of views. One of these constructed views is that cannabis is harmless when used recreationally, is therapeutically useful, and hence should be legalised. The other is that recreational use is harmful to health and that cannabis should continue to be prohibited for recreational or therapeutic purposes.⁴

This oversimplification of the cannabis debate has prevented a more considered examination of eight conceptually separate issues (box). We believe that a competent consideration of these issues would contribute to a more informed debate about the appropriate public policies that could be adopted towards cannabis use for recreational or therapeutic purposes.

Is cannabis a single product?

More than 60 different cannabinoids and over 400 active components have been identified in samples of cannabis.² However, our interest and concerns about associated harms could be much more focused. Should we be especially concerned about the use of new cannabis preparations with higher concentrations of tetrahydrocannabinol? Does using cannabis that has a higher tetrahydrocannabinol content result in a higher intake of tetrahydrocannabinol or do smokers consciously or subconsciously titrate the dose, as do cigarette smokers?⁵ What are the rates of dependence and adverse health effects in people who use these more potent forms of cannabis? Tetrahydrocannabinol is the major psychoactive component of cannabis and hence is a logical starting point for search and study.

Uncertainty over harm

The physical harms of regular cannabis use over years and decades have long been a subject of scientific uncertainty. Recent evidence on damage (to the respiratory tract, for example) is rekindling this debate.⁶⁻⁸ Now may be an appropriate time for renewed research effort into the effects of long term cannabis use since sizeable cohorts of long term users (20 years of use) are now available for study. There is an important supple-

Summary points

Cannabis use is increasing steadily in many countries and is most prevalent among young people

The value of the debate on cannabis is seriously diminished by heated contributions that obstruct rational consideration of important public health and policy issues

The different domains of the debate should be considered in isolation at first to allow a more objective analysis of the evidence

Substantial public investment in research into the different areas is a prerequisite of rational consideration of public policies

mentary question for these studies, given that tobacco smokers and alcohol consumers often use cannabis. What is the interplay between the respiratory effects of long term cannabis and tobacco smoking?

Cannabis and psychological harm

What is the nature of the relation between cannabis and psychosis and other serious psychological harms? How strong is the evidence that cannabis is causally implicated in the precipitation or exacerbation of schizophrenia and other psychoses?^{9,10} Three different clinical conditions need specific consideration.

- To what extent are there time limited, acute psychiatric disturbances such as acute psychosis or panic attacks whose origins may lie in an episode of cannabis use?^{11,12}
- To what extent might cannabis be implicated causally in the genesis of long term psychiatric disorders that would not otherwise have occurred?¹³⁻¹⁵
- What weight should be attached to reports that cannabis use adversely affects the course of established mental illnesses—for example, precipitating relapses of schizophrenia or manic depressive illness?¹⁵⁻¹⁸

Dependence on long term cannabis use

How important and widespread is dependence on cannabis use? The popular view is that cannabis is not

a drug of dependence because it does not have a clearly defined withdrawal syndrome. This is too narrow a view of dependence. Substantial proportions of long term cannabis users in non-treatment, community samples report that they are dependent; many of them satisfy diagnostic criteria for dependence according to the *Diagnostic and Statistical Manual of Mental Disorders*, third edition, revised and ICD-10 (international classification of diseases, 10th revision) as well as the severity of depression scale^{19, 20}; however, fewer consider that they have a cannabis problem.¹⁹ As many as one in 10 cannabis users have been found to want to stop or cut down, find it very difficult to do so, and continue to use cannabis despite the adverse effects that it has on their lives.^{21, 22} How serious an impact this type of dependence has on the lives of affected individuals and their families is unknown, but enough cannabis users have sought treatment to warrant the establishment of local programmes dedicated to quitting.^{23, 24}

Is cannabis a “gateway drug”?

Reuter and MacCoun have examined seven very different ways in which the concept of a gateway drug may be interpreted.²⁵ Cannabis is typically the first illicit drug that is used by those who subsequently develop problems with heroin and cocaine use.²⁶ Does cannabis use play a causal role in this sequence of drug involvement? That is the key question for policy, but a difficult one to answer because adolescents who start using cannabis early and become heavy users are found to be independently at higher risk of using other drugs.²⁷ They are also more likely to keep company with peers who are heavy drug users. If there were a gateway effect, would preventing or delaying the onset of cannabis use (assuming that we could) prevent flow on to other drug use or simply change the sequence of involvement?

Overlooked therapeutic effects?

The cannabinoids are an overlooked group of therapeutic drugs.^{2, 3, 28–30} For over a decade there have been anecdotal and clinical reports on the usefulness of cannabis preparations in treating conditions like nausea, glaucoma, and multiple sclerosis. What conclusions are possible on the evidence to date? What might be learned from better investigation? What implications, if any, do these therapeutic uses have for policies towards recreational cannabis use? The accumulating body of evidence now indicates strongly at least some hitherto uncharted therapeutic applications from some of the more than 60 different cannabinoids or other active products found in samples of the herbal product.^{2, 28, 29} However, it is almost certain that new formulations of the relevant (as yet not clearly identified) active components would be required in order to separate any therapeutic effects from harmful effects from smoking the drug. Clinical trials to explore possible therapeutic worth have recently been initiated.³⁰ As with other medical challenges, disciplined search for active therapeutic ingredients that address health problems which are currently not well managed is now the way forward.^{2, 3, 28, 29}

Domains of the cannabis debate

- What is the importance of the different types of cannabis product composition, presentation, and usage?
- What evidence is there of physical damage from long term use?
- What evidence is there of psychological or psychiatric (acute and chronic) consequences?
- How widespread is dependence on cannabis and how important is this?
- Is cannabis a “gateway” drug and what is the importance of this?
- Do some cannabinoids have therapeutic potential and how best can this be used?
- To what extent, and in what ways, is fitness to drive compromised by cannabis use, and for how long?
- What can we learn from experiences with cannabis control policies in other countries?

Does cannabis interfere with driving?

To what extent does cannabis use interfere with skilled activities such as driving a motor vehicle or operating machinery? The recognition of the substantial morbidity and mortality caused by drink driving has increased concern about a similar role for illicit drugs in view of the increase in prevalence of use among young adults who are most at risk of accidental injury.^{1, 31, 32} Certainly, many drivers stopped by the police or being treated for injuries have been found to have blood or urine samples that test positive for cannabis.^{33, 34} However, the importance of these positive toxicological results and their implication for driving competence is not entirely clear. In controlled studies, cannabis has been found to produce impairment.³¹ This effect lasts well beyond perceived intoxication, but the full effects seen in controlled research may not occur to the same extent in “normal” driving on the road because of compensatory responses by drivers who are aware of their impairment. Furthermore, a clearer understanding will be required of the extent to which a particular concentration of the drug (or its metabolites) can reliably be taken as evidence that an individual’s driving ability was consequently impaired.³⁵ Additionally, given the widespread combined use of alcohol and cannabis, it will also be important to establish the effects on accident risk of combining alcohol and cannabis use.



ANGELA SMITH

Impact of national policy on cannabis use

What has been the impact of alternative cannabis control policies in different countries on the prevalence of use? It has been difficult confidently to assess the contribution made by different policies. Nevertheless, opportunities do exist for retrospective, or occasionally prospective, studies of the impact of changes in cannabis laws or regulations in individual countries or states. In these studies, adjacent and similar regions are used as quasi-controls to assess the extent to which any observed changes in cannabis use result from the regulatory or legislative change or merely reflect broader trends in society. Careful, objective scrutiny of the available data is only rarely evident.³⁶⁻³⁹ This is hampered by secular increases in cannabis use, the lack of large scale survey data in countries which have and have not changed their cannabis policies, and the lack of research on the effects of the law as it is applied rather than as expressed in statute.

Rational consideration needed

A more rational consideration of public policies towards cannabis use by adolescents and young adults is urgently required. This is particularly important in view of the evidence of a major increase in cannabis use over the past few decades,^{1 40} the persistence of this substantial level of use, and the continued major law enforcement effort to apprehend cannabis users.⁴¹ Furthermore, doctors need a clearer understanding of the associated adverse health and psychological consequences of acute and chronic use so that they are better able to give appropriate advice to their patients.⁴² Substantial public investment in research will be needed to advance our knowledge of the areas outlined above. In its absence, public policy will continue to be made with premature foreclosure of debate in the face of uncertainty by using arbitrary rules about which side in the debate bears the burden of proof—those who defend the status quo or those who wish to reform our cannabis laws. With research, and with greater clarity in each of these domains, we will at last be in a position to formulate evidence based public policy about cannabis. At the end of the day, the final decisions will, as always, be the outcomes of a political process, but the quality of these decisions would undoubtedly be improved by the availability of better evidence on each of the domains defined above.

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