The challenges in providing safe, effective, affordable cannabis-based medicines for unapproved indications

Wayne D Hall1,2, Michael Farrell3

Over the past 20 years or more, governments in many countries have struggled with how best to respond to the requests of patients, families and some doctors that they be allowed to use unapproved cannabis-based medicines to treat serious medical conditions that have failed to respond to conventional treatment.1 In Australia, parents of children with cancer or intractable forms of epilepsy have recently persuaded state and federal governments to permit access to cannabis-based products for medical use under the Special Access Scheme of the Therapeutic Goods Act.2

This issue of the MJA includes reports on the experiences of paediatric neurologists in New South Wales3 and Victoria4 who have trialled a 98% cannabidiol extract as an adjunct treatment for children with intractable epilepsy. Parents reported improvements in 12 of 20 children in Victoria and 12 of 40 in NSW; adverse events were also experienced by 16 and 15 children respectively, most frequently somnolence, nausea, and vomiting. These events were generally mild to moderate in severity and declined over time, presumably as tolerance developed and the doses of other anti-epileptic drugs were reduced.

Within the limitations of the small study sizes, these experiences are broadly consistent with the findings of a recent review of the clinical evidence,5 which found that cannabidiol halved the frequency of seizures in a substantial minority of children with intractable epilepsy. On the basis of this evidence, the United States Food and Drug Administration has approved the use of cannabidiol for treating patients from 2 years of age with Lennox–Gastaut and Dravet syndrome epilepsy.6

As the authors of the two case series in this issue of the Journal note, more clinical research is needed to identify which children will benefit from cannabidiol and the doses that achieve these benefits while keeping adverse effects and interactions between cannabidiol and other anti-epileptic drugs to a minimum.

A different set of challenges is posed for clinicians and government regulators by patients who wish to treat medical conditions for which there is limited or no evidence of the efficacy of cannabis products. These challenges are highlighted in this issue by the results of a survey of the experiences of 1748 Australians who reported using illicit cannabis for medical purposes in 2016.7

The authors undertook an anonymous online survey to minimise respondents’ concerns about disclosing an illegal activity, primarily recruiting respondents from medical cannabis websites and Facebook groups. This approach has a number of limitations that the authors acknowledge. First, we do not know the population from which the sample was drawn, so we cannot extrapolate its results to estimate the prevalence of medical cannabis use in Australia. Second, the method of recruitment has probably oversampled patients with positive experiences of medical cannabis, and the results consequently convey an optimistic impression of its efficacy in treating their symptoms.

The survey nonetheless provides useful information about who uses cannabis for medical purposes in Australia, why and how they use it, and their views on how cannabis should be provided to patients who want to use it for medical purposes. The respondents differed from the patients who feature in media stories on medical uses of cannabis, with few terminally ill cancer patients, older adults with degenerative neurological disorders, or children with epilepsy. Instead, Australian medical cannabis users were much like those surveyed in Canada and the USA:8,9 predominantly men (68%), with an average age of 37.9 years, and a 10-year history of using cannabis for medical purposes; most had used cannabis for recreational reasons in their teens.

1 Centre for Youth Substance Abuse Research, University of Queensland, Brisbane, QLD. 2 National Addiction Centre, King’s College London, London, United Kingdom. 3 National Drug and Alcohol Research Centre, UNSW, Sydney, NSW. w.hall@uq.edu.au

DOI: 10.5694/mja18.00445

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Most respondents smoked herbal cannabis, and the median rate of use was three times a day on each of 26 of the preceding 28 days. They reported successfully treating anxiety, chronic pain, depression, and sleep problems, but also frequently experienced adverse effects, including drowsiness, lethargy, memory impairment and paranoia.

There is limited evidence from clinical trials on the efficacy of cannabis-based medicines in these conditions. Systematic reviews have found insufficient evidence to assess the efficacy of cannabinoids in treating anxiety and depression. One review concluded that cannabinoids improve sleep in the short term, but the benefits and risks of longer term use have not been assessed. A recent review found low to moderate quality evidence that cannabinoids reduce chronic neuropathic pain. However, the analgesic effects were modest: 29% of patients given a cannabinoid reported a 30% reduction in pain, as did 26% of those receiving a placebo; 24 patients needed to be treated for one to benefit.

The participants in the survey by Lintzeris and colleagues usually obtained their cannabis from the black market. Many were un-derstandably concerned about the risks of arrest, and also reported difficulties in obtaining a dependable supply of cannabis of consistent quality. They wanted the medical use of cannabis to be made legal, integrated into conventional medical care, and its costs subsidised by the taxpayer.

Their wishes would be difficult to satisfy without undermining the integrity of pharmaceutical regulation in Australia and the processes for deciding whether the costs of pharmaceutical drugs should be publicly subsidised. Were Australia to accede to their requests, it would establish a publicly subsidised special access scheme on the basis of much weaker evidence of safety and efficacy than is required for all other medicines.

The best public policy response to patient demands for medical cannabis is that which has been adopted by the federal and several state governments: namely, to facilitate and fund clinical trials for investigating the safety and effectiveness of cannabinoids and cannabis as medications; and, in the interim, to allow patients who have not responded to other treatments to access cannabinoids through the Special Access Scheme and to monitor their experiences, including any adverse effects.

Competing interests: We have each advised the Therapeutic Goods Administration on the evidence of the safety and effectiveness of cannabinoids in the treatment of various illnesses. Wayne Hall is a member of the Australian Advisory Council on the Medicinal Uses of Cannabis.

Provenance: Commissioned; externally peer reviewed.

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8 Lucas P. It can't hurt to ask; a patient-centered quality of service assessment of Health Canada’s medical cannabis policy and program. Harm Reduct J 2012; 9: 2.