Authors' reply

In their letters, Iain McGregor and Alex Bekker state that previous systematic reviews have provided evidence of the effectiveness of cannabinoids for chronic non-cancer pain. However, three systematic reviews[1–3] published this year have suggested caution regarding use of cannabinoids, because of a paucity of high quality studies, and concluded that evidence for the effectiveness of cannabinoids in chronic non-cancer pain is limited by the very short duration of studies, small participant numbers, the exclusion of patients with complex comorbidities, and failure of studies to date to include common forms of chronic non-cancer pain (eg, back and neck pain, arthritis). Our observational study examined the relationship between cannabis and pain over 4 years in a large cohort of patients with pain, including those with multiple comorbidities and the most common pain conditions.[4] We also obtained participant-level data on the potential opioid-sparing effects of cannabis, rather than relying on ecological data.

We presented comprehensive data by including not only pain intensity scores (often the only outcome measured in clinical trials), but also participants' reports of pain interference, perceptions of the effectiveness of cannabis, their reasons for using and stopping cannabis, and their opinions regarding the effect that cannabis had on their use of opioid medication. We clearly reported conflicting findings: cross-sectionally, pain levels and interference were higher among people who used cannabis than those who did not, and no association was found between cannabis use and pain and opioid dose prospectively, although participants perceived cannabis to be effective on their pain.

We acknowledged the possibility that cannabis might affect other domains that could subsequently affect perceptions of the effect of cannabis on pain. Our study has clearly stimulated debate around these potential explanations, and we hope future work will explore these possibilities.

The possibility of confounding was acknowledged, addressed, and reported in our paper. We adjusted for several confounders identified in our previous study,[5] such as age, sex, pain duration, anxiety, history of substance use, pain severity, pain interference, oral morphine equivalent dose, and pain self-efficacy. We could not control the dose or type of cannabis that patients used, and did not obtain objective confirmation of their self-reported cannabis use. The same is true of surveys used to justify patients smoking cannabis for pain control. We discussed this in the limitations section of the paper.

Finally, regarding potential competing interests, we have previously documented deaths from opioid overdose in Australia[6] and attributable to over-the-counter codeine,[7] which informed decisions to make codeine a prescription-only drug in Australia. We value our independence extremely highly and retain academic independence in all its forms.

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