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Research paper

Medical cannabis access, use, and substitution for prescription opioids and other substances: A survey of authorized medical cannabis patients

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ABSTRACT

Background: In 2014 Health Canada replaced the Marihuana for Medical Access Regulations (MMAR) with the Marihuana for Medical Purposes Regulations (MMPR). One of the primary changes in the new program has been to move from a single Licensed Producer (LP) of cannabis to multiple Licensed Producers. This is the first comprehensive survey of patients enrolled in the MMPR.
Methods: Patients registered to purchase cannabis from Tilray, a federally authorized Licenced Producer (LP) within the MMPR, were invited to complete an online survey consisting of 107 questions on demographics, patterns of use, and cannabis substitution effect. The survey was completed by 271 respondents.
Results: Cannabis is perceived to be an effective treatment for diverse conditions, with pain and mental health the most prominent. Findings include high self-reported use of cannabis as a substitute for prescription drugs (63%), particularly pharmaceutical opioids (30%), benzodiazepines (16%), and antidepressants (12%). Patients also reported substituting cannabis for alcohol (25%), cigarettes/tobacco (12%), and illicit drugs (3%). A significant percentage of patients (42%) reported accessing cannabis from illegal/unregulated sources in addition to access via LPs, and over half (55%) were charged to receive a medical recommendation to use cannabis, with nearly 25% paying $300 or more.
Conclusion: The finding that patients report its use as a substitute for prescription drugs supports prior research on medical cannabis users; however, this study is the first to specify the classes of prescription drugs for which cannabis it is used as a substitute, and to match this substitution to specific diagnostic categories. The findings that some authorized patients purchase cannabis from unregulated sources and that a significant percentage of patients were charged for medical cannabis recommendations highlight ongoing policy challenges for this federal program.

Background

The past two decades have witnessed a resurgence of interest in the therapeutic potential of cannabis, with several nations and jurisdictions developing regulations to allow for access to cannabis for medical purposes (Fischer, Murphy, Kurdyak, Goldner, & Rehm, 2015). One potential salutary consequence of these developments is the substitution of cannabis for other substances (Allsop et al., 2014; Lucas et al., 2013, 2016). Indeed, examinations of jurisdictions with legal access to medical cannabis have reported reductions in negative health outcomes associated with the use of other substances, such as opioid overdose (Bachhuber, Salone, Cunningham, & Barry, 2014), and cannabis substitution has been forwarded as a mechanism to help explain these public health benefits. Consistent with this proposal, several large surveys confirm that medical cannabis users report substituting cannabis for other medications (Lucas, 2012a; Lucas et al., 2013, 2016; Reiman, 2009). Although extant surveys have provided broad evidence of cannabis substitution, the extent to which cannabis is

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used to substitute for distinct classes of substances by distinct patient groups has not been systematically examined from a patient-centred perspective. The present study addresses this knowledge gap by examining the extent to which physician-authorized medical cannabis users report using cannabis as a substitute for specific classes of substances, and by disaggregating this examination according to condition-based patient group. We also add to the nascent literature on medical cannabis use by describing patient characteristics, patterns of use and barriers to access.

In 2001 Canada become one of the first nations to develop a program to allow access to cannabis for medical purposes. The program has undergone numerous convolutions, culminating in the 2014 establishment by Health Canada of the Marihuana for Medical Purposes Regulations (MMPR) (Walsh et al., 2013), and ultimately in the Access to Cannabis for Medical Purposes Regulations in August 2016. One of the primary changes of the MMAR was the authorization of multiple Licensed Producers of cannabis: as of August 2016 >30 federally authorized Licensed Producers provide hundreds of strains of cannabis, as well as cannabis extracts to approximately 67,075 patients (Office of Medical Cannabis, 2016). The ACMPR adds regulations by which patients can produce their own cannabis, an option that was removed in the transition from MMAR and MMPR, and subsequently re-established through a court decision (Allard et al. v. Canada).

In contravention of the MMPR/ACMPR, a large number of patients access cannabis through community-based outlets known as dispensaries or compassion clubs, as well as from friends and other sources. In addition, although many Provincial medical colleges expressly forbid physicians from charging patients for providing patients with medical cannabis prescriptions, 3rd party patient aggregator services have emerged that provide cannabis prescriptions, occasionally in exchange for a substantial fee. To date, the prevalence of this practice among clients of LPs has not been explicitly examined. In addition to providing a more granular examination of cannabis substitution, this study also adds to the growing literature chronicling patterns of medical cannabis use and user characteristics using a novel sampling methodology: whereas prior studies generally queried self-identified medical cannabis users who may not have obtained physician authorization (Lucas, 2012b; Lucas et al., 2013; Walsh et al., 2013), to our knowledge this is the first study since the establishment of the MMPR to include only those medical cannabis users with confirmed physician authorization to access cannabis for therapeutic purposes.

Design and methods

A password protected 107 question online cross-sectional survey was made available in French and English for a 2 week period in July 2015 to patients of Tilray—a licensed producer of cannabis. 1310 participants were notified of the opportunity to participate in this study via direct email to patients that had opted in to receive online communication from Tilray upon registration. Participants were compensated $10 credit for Tilray cannabis. The study was approved by Institutional Review Board Services, and gathered data on demographics, patient experiences, patterns of use, and cannabis substitution effect. Respondents were not forced to answer a given question in order to proceed to the next and as such the number of recorded responses varies across items. All reported percentages are based on number of responses rather than on the entire sample; we accompany all reported percentages with number of responses.

Findings

The survey was started by 301 participants, and completed by over 90% of respondents (n = 271). The 30 non-completers only filled out the demographic section of the study, and based on this information did not differ on age, gender, education, income or work status compared to those that completed the survey. The primary demographics of respondents corresponds with the greater Tilray patient population but was more male and Caucasian, single, disabled and of lower income than the general Canadian population, with over-representation in Western Canada and Ontario, and under-representation in Quebec (see Table 1 for demographic characteristics).

While an increasingly common medical treatment, cannabis is often used for symptom relief rather than as a curative agent, therefore it's important to distinguish between the primary conditions for which cannabis is officially prescribed by a physician, and the specific symptoms for which patients report relief. For example, while a patient might report having a prescription for MS, the list of symptoms impacted might include chronic pain, spasticity, and insomnia. In this survey, respondents could select a single primary condition from a drop-down list, but could then select multiple symptoms affected by the medical use of cannabis. In regards to conditions, pain-related conditions were the most common, reported by 53% of participants (n = 144; chronic pain 36%; (n = 98), arthritis 12% (n = 32), headache 5% (n = 14)). The second most prominent class was mental health (eating disorder, PTSD & psychiatric disorder), reported by 15% (n = 41). Other prominent conditions included gastrointestinal I disorders (11%, n = 29), insomnia (7%, n = 18) and multiple sclerosis (4%, n = 11).

In regards to symptoms; the most highly endorsed were chronic pain (73%, n = 197), stress (60%, n = 162), insomnia (57%, n = 155), depression (46%, n = 126) and headache (32%, n = 87). Gastrointestinal (GI) issues also featured prominently, with 29% (n = 79) citing appetite loss and another 29% (n = 79) nausea. Cannabis was perceived to be very effective at symptom relief, with 95% (n = 257) reporting that it "often" or "always" helped alleviate their symptoms.

Patterns of use

The mean age of initiation was 18.50 (SD = 7.42) for recreational use and 34.13 (SD = 13.74) for medical use, as determined by responses to the question "How old were you when you first used cannabis" followed by "How old were you when you first used cannabis for medical purposes?". It is notable that participants readily distinguished between their recreational and medical use of cannabis, with recreational cannabis use preceding medical use for 81% (n = 220) of respondents, with 16% (n = 44) reporting no history of recreational cannabis use, and 3% (n = 7) reporting precedence of medical use prior to recreational use.

In regard to frequency, 88% (n = 238) reported using cannabis at least daily, and the modal amount used per day was 1–2 g, with 29% (n = 79) using a larger amount.

In regard to methods of use, 90% (n = 243) had tried joints, 86% (n = 234) vaporizers, 76% (n = 207) oral/edibles (such as baked goods, butter, tincture, etc.) and 16% (n = 44) had used cannabis-infused topical ointments. Regarding *primary* methods of use, vaporizers proved most popular (38%, n = 102), followed by joints (25%, n = 67), oral/edibles (14%, n = 37), waterpipe/bongs (12%, n = 33), pipes (11%, n = 30), and topicals (1%, n = 2). Regarding *preferred* method, vaporization was rated most highly by a plurality (44%, n = 119), with oral/edibles second (23%, n = 63). Respondents overwhelmingly reported that not all strains/types of cannabis were "equally effective" at relieving symptoms (77%, n = 210): 82%