Cannabis Substitution Reduces Opioid Use in Patients With Chronic Pain

Pain researcher discusses findings from his latest study: Boehnke KF, et al. Pills to Pot: Observational Analyses of Cannabis Substitution Among Medical Cannabis Users With Chronic Pain. *J Pain.* 2019;20(7):830-841.

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In a large nationwide survey study (N=1321), my colleagues and I found that individuals using cannabis for chronic pain management reported reductions in the use of opioids and other pain medications.[1] In our retrospective study, 53% (n=691) of participants substituted cannabis for opioids and 22% (n=287) for benzodiazepines, with more than 65% of substitutors reporting discontinued use of these medications due to better symptom management and fewer side effects.

These results corroborate our 2016 pilot study (N=185), which showed a 64% decrease in opioid consumption among patients using medical cannabis for chronic pain management.[2] The rationale and effect size are consistent with studies conducted in Canada that similarly gauge substituting cannabis for other medications.[3]

Our study population was 59% female with a mean age of 49.8 years (SD±13.8), reflecting the population demographic in which chronic pain is common—older adults and women.[4]

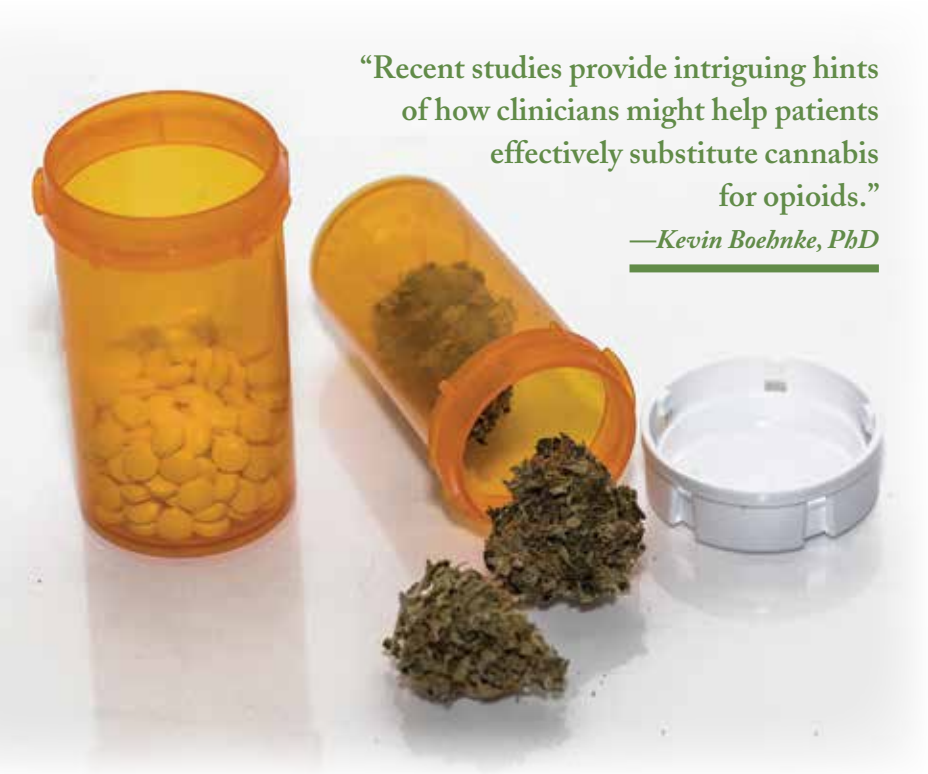
Cannabis as an Opioid Alternative

The poor performance of many pain medications, including high numbers needed to treat (NNT) and challenging side-effect profiles, have many looking for alternatives that have greater analgesic efficacy.[5,6] Additionally, the ongoing opioid crisis has made it more difficult to obtain opioid prescriptions, and the increasing social acceptance of cannabis as a safe, alternative medication may be driving people toward opioid alternatives.[7,8] Although our data are observational and retrospective, the pattern emerging from these and numerous similar studies makes it clear that some individuals derive benefit from cannabis-based medicines—enough so that they discontinue traditional pain medications.

Strategies for Effectively Substituting Cannabis for Opioids

Despite this pattern, however, we must proceed cautiously, as other studies report that cannabis use is associated with worse clinical pain symptoms and prescription medication misuse.[9,10] Although some may frame these incongruent findings as conflicting, we believe that they instead suggest that there are subsets of individuals for whom cannabis is unhelpful (or even harmful), and others for whom substitution is possible and clinically useful. Thus, the pressing questions moving forward are how and in which clinical populations this substitution can be done most effectively.

Although we did not examine whether participants modified their medication regimen under the guidance of medical professionals, some recent studies provide intriguing hints of how clinicians might help patients effectively substitute cannabis for opioids. For example, Sagy et al. reported that patients with fibromyalgia (N=367) were guided by a certified nurse through a slow, methodical titration regimen of delta-9-tetrahydrocannabinol (THC) oil and/or cannabis flower. After 6 months, participants reported significant improvements in pain and quality of life, as well as decreased opioid and benzodiazepine use.[11]



> "Recent studies provide intriguing hints of how clinicians might help patients effectively substitute cannabis for opioids."
> *—Kevin Boehnke, PhD*

Similar effects were found in a study examining patients with chronic pain (N=600; unspecified conditions) who were undergoing an opioid taper. Participants were given access to sublingual, oral, and/or vaporized cannabis products with appropriate education on dose titration, as well as online psychological support tools. Eighty-one percent of participants discontinued or reduced their opioid dose and all but one participant reported satisfaction with sleep, pain control, and quality of life.[12]

Additionally, 2 recent clinical trials shed light on important mechanisms by which cannabidiol (CBD) and THC may alleviate opioid withdrawal or reduce opioid consumption. In the first study, Hurd et al. showed that CBD reduced cue-related anxiety and craving among individuals in recovery from heroin use disorder, suggesting that CBD may assist in quelling symptoms related to opioid addiction or dependence (and perhaps other substance use disorders as well).[13]

In the second study, Cooper et al. found that smoked THC-dominant cannabis combined with subthreshold doses of oxycodone provided similar pain relief as a higher dose of oxycodone, providing plausibility that individuals could reduce opioid consumption by adding cannabis into their treatment regimen.[14]

Taken together with the observational studies mentioned above, these findings highlight several important factors for substituting effectively: flexible dosing regimens (both in terms of cannabinoids and administration routes), educational supports for both cannabis titration and pain-related symptoms, and psychological services.

Tips for Providing Clinician Oversight in Cannabis Treatment

Although federal restrictions present challenging barriers to conducting rigorous cannabis studies (especially randomized clinical trials), cannabis is becoming increasingly available. States have continued to pass both medical and adult-use cannabis legislation, and hemp-derived CBD products are available in nearly all states.[15]

In this context, patients can and will use cannabis for symptom management. Despite the lack of strong clinical trials that give explicit dosing guidance, clinicians can still provide sound clinical oversight by:

- Developing treatment plans that take into account patient expectations/goals (eg, substitution) and that include symptom tracking;
- Employing harm-reduction strategies (eg, avoid smoking, "start low, go slow"); and
- Ensuring patients know the limits of both the evidence and the regulatory system in place—especially for CBD products, which often are inaccurately labeled and do not undergo stringent safety testing.[15]

In so doing, clinicians can embody the practice of evidence-based medicine by synergizing the best available scientific evidence with compassionate clinical expertise that accounts for the preferences and rights of patients with whom they are making clinical decisions.[16] This is not yielding to a health fad, but taking a step toward demystifying cannabis so it can be judiciously used as medicine.

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