OPEN ACCESS

GAVIN PUBLISHERS

Commentary Article

Advising Around Cannabis for Sleep: Clearing Up the Smoke

Stephanie Tung[1-3*], Peter R Chai[1,2,4-6], Manan M Nayak[2,7†], Ilana M Braun[1-3†]

[1]Harvard Medical School, Boston, MA, USA

[2]Department of Psychosocial Oncology and Palliative Care, Dana Farber Cancer Institute, Boston, MA, USA

[3]Department of Psychiatry, Brigham and Women's Hospital, Boston, MA, USA

[4]Department of Emergency Medicine, Brigham and Women's Hospital, Boston, MA, USA

[5]The Koch Institute for Integrated Cancer Research, Massachusetts Institute of Technology, Cambridge, MA, USA

[6]The Fenway Institute, Boston, MA, USA

[7]Phyllis F. Cantor Center for Research in Nursing, Dana-Farber Cancer Institute, Boston, MA, USA

†co-final authors

*Corresponding author: Stephanie Tung, Department of Psychosocial Oncology and Palliative Care, Dana Farber Cancer Institute, Boston, MA, USA

Sleep disruption is among the most common reasons people cite for medicating with cannabis [1]. However, clinical trial evidence to support the use of cannabis for sleep disorders, such as insomnia, is scant [2]. A single randomized, double-blind, placebo-controlled trial with nine patients evaluating the impact of herbal delta-9-tetrahydrocannibinol (THC) as a hypnotic was conducted over half a century ago [3]. The results suggested decreased sleep latency and improved sleep quality during the first half of the night; yet, since then, no empirical evidence has replicated these findings. More recently, sleep disturbance was incorporated as a secondary endpoint in a randomized clinical trial of adults with multiple sclerosis and central pain using cannabis, again with positive results [4]. Scientific research suggests that the medical community is often unable or reticent to make recommendations around cannabis therapeutics, and that patients are relying on non-clinical information sources, chiefly cannabis dispensary personnel [5-7]. Despite scant evidence, individuals are clearly turning to cannabis therapeutics, for sleep and other symptom management, especially as states liberalize and eliminate legal barriers to obtaining product.

We sought to understand the advice that cannabis dispensary personnel offer clients with sleep disruption. To do this, we conducted a subanalysis of 26 qualitative interviews across 13 states among medical and recreational cannabis dispensary personnel in client-facing or managerial roles, recruited through snowball sampling [7]. Specifically, we asked: "What recommendations might you give a client presenting with insomnia?" Analytic search terms in de-identified transcripts included: sleep, insomnia, fatigue, tired, groggy, drowsy, zombie, functional, awake, alert, energy, sedated.

While a vast majority of dispensary interviewees viewed cannabis' soporific qualities to be a facilitator to use by their clients ("best sleep of life"), we found an absence of a systematic approach across interviews in managing sleep disturbance. Among participants in the study, several algorithms were employed for selection of soporific products. Some participants reasoned in terms of cannabis strains, favoring indicas over sativas. For example, a participant reported:

If they've been having trouble sleeping, we will kind of push them toward an indica strain to help relax them and help them sleep at night.

Others discounted such an approach, suggesting that strain selection was not evidence-based, but rather "folk-wisdom" and "anecdotal." A different approach was to think in terms of concentration of the major cannabinoids when addressing disrupted sleep. Given the sedating nature of THC, some dispensary personnel favored THC- over cannabidiol (CBD)-predominant products for sleep. For example, one interviewee recommended that clients:

Increase the THC over the CBD at night because CBD has… kinda the opposite [effect] of THC where CBD will make you feel a little bit more awake and alert, rather than THC that makes you more sedated.

A third strategy for issuing recommendations around sleep was to take into account not just THC and CBD, but cannabis' hundreds of other bioactive ingredients. For example, one participant shared:

It really ruins a lot of reputations for some budtenders and dispensaries because they don't have people who actually have the base of knowledge of understanding like CBN [cannabinol] or CBG [cannabigerol], or the fact that there's more than 120 active compounds in cannabis other than THC, and how they work together in collaboration for medical effects. How the "entourage effect" of THC and CBD works as far as… inducing sleep.

Taken together, our findings highlight a pressing need for guideline generation within and across dispensaries. Such guidance should be synchronized whenever possible with that being issued by the medical community, particularly as research in this area expands. Without guidelines, those using cannabis for sleep will invariably face conflicting advice and access varying products. Beyond uneven effects and side effects, this personal experimentation may be financially burdensome, exacerbating healthcare disparities. As part of the need for guidelines for cannabis in sleep, more research that tests both the mechanistic targets of cannabis in sleep as well as clinical trials that test cannabis against other pharmacotherapies for sleep are needed. Such studies should target common indications for cannabis, such as sleep disruption; employ well-described, replicable herbal cannabis products, including percentages of active ingredients; and include both subjective and objective measures of effects and side effects. By nature of these requirements, these studies may identify specific cannabis pharmaceuticals for sleep. There should therefore also be pragmatic trials that leverage the variety of products that individuals are likely to access at their local dispensaries. Only then, will the smoke obscuring the relationship between cannabis and sleep therapy dissipate.

References

1. Hazekamp A, Ware MA, Muller-Vahl KR, Abrams D, Grotenhermen F (2013) The medicinal use of cannabis and cannabinoids—an international cross-sectional survey on administration forms. J Psychoactive Drugs 45:199-210.

2. Bhagavan C, Kung S, Doppen M, John M, Vakalalabure I, et al., (2020) Cannabinoids in the treatment of insomnia disorder: a systematic review and meta-analysis. CNS Drug 34:1217-1228.

3. Cousens K, DiMascio A (1973) (-) Delta 9 THC as an hypnotic. An experimental study of three dose levels. Psychopharmacologia 33:355-364.

4. Rog DJ, Nurmikko TJ, Friede T, Young CA (2005) Randomized, controlled trial of cannabis-based medicine in central pain in multiple sclerosis. Neurology 65:812-819.

5. Braun IM, Wright A, Peteet J, Meyer FL, Yuppa DP, et al., (2018) Medical Oncologists' Beliefs, Practices, and Knowledge Regarding Marijuana Used Therapeutically: A Nationally Representative Survey Study. J Clin Oncol 36:1957-1962.

6. Braun IM, Nayak MM, Revette A, Wright AA, Chai PR, et al., (2020) Cancer Patients' Experiences with Medicinal Cannabis-related Care. Cancer 127:67-73.

7. Braun IM, Nayak MM, Roberts JE, Chai PR, Tulsky JA, et al., (2022) Backgrounds and Trainings in Cannabis Therapeutics of Dispensary Personnel. JCO Oncol Pract 18:e1787-e1795.