

CADTH RAPID RESPONSE REPORT: SUMMARY OF ABSTRACTS

Medical Cannabis or Cannabinoids for the Treatment of Insomnia Disorder in Adults: Clinical Effectiveness and Guidelines

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Research Questions

1. What is the clinical effectiveness of medical cannabis or cannabinoids for the treatment of insomnia disorder in adults?
2. What are the evidence-based guidelines regarding the use of medical cannabis or cannabinoids for the treatment of insomnia disorder in adults?

Key Findings

One randomized controlled trial and one non-randomized study were identified regarding the use of medical cannabis or cannabinoids in the treatment of insomnia disorder in adults.

Methods

A limited literature search was conducted on key resources including PubMed, The Cochrane Library, University of York Centre for Reviews and Dissemination (CRD) databases, Canadian and major international health technology agencies, as well as a focused Internet search. No filters were applied to limit the retrieval by study type. Where possible, retrieval was limited to the human population. The search was also limited to English language documents published between January 1, 2007 and June 19, 2017. Internet links were provided, where available.

Selection Criteria

One reviewer screened citations and selected studies based on the inclusion criteria presented in Table 1.

Table 1: Selection Criteria

Population	Adults with insomnia (chronic or acute)
Intervention	Medical cannabis (prescribed) or cannabinoids (i.e., tetrahydrocannabinol THC or cannabidiol CBN)
Comparator	Q1: Other therapies for insomnia including prescription drugs (sedative-hypnotics, z-drugs, over-the-counter medications) and non-drug entities (sleep hygiene, other) Q2: N/A
Outcomes	Clinical effectiveness (increased sleep time, sleep quality, decreased time to get to sleep, increased REM sleep), safety, adverse effects, guidelines
Study Designs	Health technology assessments, systematic reviews, meta-analyses, randomized controlled trials, non-randomized studies, guidelines

Results

Rapid Response reports are organized so that the higher quality evidence is presented first. Therefore, health technology assessment reports, systematic reviews, and meta-analyses are presented first. These are followed by randomized controlled trials, non-randomized studies, and evidence-based guidelines.

One randomized controlled trial and one non-randomized study were identified regarding the use of medical cannabis or cannabinoids in the treatment of insomnia disorder in adults. No health technology assessments, systematic reviews, meta-analyses, randomized controlled trials, or guidelines were identified.

Additional references of potential interest are provided in the appendix.

Overall Summary of Findings

One randomized controlled trial¹ and one non-randomized study² were identified regarding the use of medical cannabis or cannabinoids in the treatment of insomnia disorder in adults. One randomized controlled trial¹ compared the treatment of nabilone (0.5-1.0 mg) to amitriptyline (10-20 mg) before bedtime in patients with fibromyalgia with chronic insomnia. Nabilone was effective in improving sleep in patients and was well tolerated, however, the study recommended that longer trials are needed for long-term effectiveness and safety.

One non-randomized study² was a retrospective study that analyzed 104 male inmates with serious mental illness who were suffering from posttraumatic stress disorder-related insomnia. Nabilone, a synthetic cannabinoid, was prescribed to the inmates and results indicated significant improvement in their insomnia. The authors supported the use of nabilone as a safe and effective treatment for insomnia, but also caution that further trials need to be conducted to confirm the study's preliminary results.

References Summarized

Health Technology Assessments

No literature identified.

Systematic Reviews and Meta-analyses

No literature identified.

Randomized Controlled Trials

1. Ware MA, Fitzcharles MA, Joseph L, Shir Y. The effects of nabilone on sleep in fibromyalgia: results of a randomized controlled trial. *Anesth Analg*. 2010 Feb 1;110(2):604-10.
[PubMed: PM20007734](#)

Non-Randomized Studies

2. Cameron C, Watson D, Robinson J. Use of a synthetic cannabinoid in a correctional population for posttraumatic stress disorder-related insomnia and nightmares, chronic pain, harm reduction, and other indications: a retrospective evaluation. *J Clin Psychopharmacol*. 2014 Oct;34(5):559-64. Available from: <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC4165471>
[PubMed: PM24987795](#)

Guidelines and Recommendations

No literature identified.

Appendix — Further Information

Non-Randomized Studies – Insomnia Not Specified

3. Bonn-Miller MO, Babson KA, Vandrey R. Using cannabis to help you sleep: heightened frequency of medical cannabis use among those with PTSD. *Drug Alcohol Depend* [Internet]. 2014 Mar 1 [cited 2017 Jun 22];136:162-5. Available from: <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3929256>
[PubMed: PM24412475](#)
4. Gorelick DA, Goodwin RS, Schilke E, Schroeder JR, Schwoppe DM, Kelly DL, et al. Around-the-clock oral THC effects on sleep in male chronic daily cannabis smokers. *Am J Addict* [Internet]. 2013 Sep [cited 2017 Jun 22];22(5):510-4. Available from: <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC4537525>
[PubMed: PM23952899](#)
5. Babson KA, Boden MT, Bonn-Miller MO. Sleep quality moderates the relation between depression symptoms and problematic cannabis use among medical cannabis users. *Am J Drug Alcohol Abuse*. 2013 May;39(3):211-6.
[PubMed: PM23721537](#)

Non-Randomized Study – Alternative Outcomes

6. Belendiuk KA, Babson KA, Vandrey R, Bonn-Miller MO. Cannabis species and cannabinoid concentration preference among sleep-disturbed medicinal cannabis users. *Addict Behav*. 2015 Nov;50:178-81.
[PubMed: PM26151582](#)

Review Articles

7. Babson KA, Sottile J, Morabito D. Cannabis, Cannabinoids, and Sleep: a Review of the Literature. *Curr Psychiatry Rep*. 2017 Apr;19(4):23.
[PubMed: PM28349316](#)
8. Betthausen K, Pilz J, Vollmer LE. Use and effects of cannabinoids in military veterans with posttraumatic stress disorder. *Am J Health Syst Pharm*. 2015 Aug 1;72(15):1279-84.
[PubMed: PM26195653](#)