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Cannabidiol for moderate-severe insomnia: a randomized controlled pilot trial of 150 mg of nightly dosing

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Abstract

Study objectives: Low-dose cannabidiol (CBD) has become readily available in numerous countries; however, little consensus exists on its efficacy as a sleep aid. This trial explored the efficacy of 150 mg of CBD (n = 15) compared with placebo (n = 15) as a sleep aid in primary insomnia. CBD supplementation was hypothesized to decrease insomnia symptoms and improve aspects of psychological health, relative to placebo.

Methods: Using a randomized, placebo-controlled, parallel design featuring a single-blind placebo run-in week followed by a 2-week double-blind randomized dosing phase, participants consumed the assigned treatment sublingually 60 minutes before bed nightly. Wrist-actigraphy and sleep diaries measured daily sleep. Sleep quality, sleep effort, and well-being were measured weekly over 4 in-laboratory visits. Insomnia severity and trait anxiety were measured at screening and study conclusion.

Results: Insomnia severity, self-reported sleep-onset latency, sleep efficiency, and wake after sleep onset did not differ between treatments throughout the trial (all $P > .05$). Compared with placebo, the CBD group reported greater well-being scores throughout the trial (trial end mean difference = 2.60; standard error: 1.20), transient elevated behavior following wakefulness scores after 1 week of treatment (mean difference = 3.93; standard error: 1.53), and had superior objective sleep efficiency after 2 weeks of treatment (mean difference = 6.85; standard error: 2.95) (all $P < .05$). No other significant treatment effects were observed.

Conclusions: Nightly supplementation of 150 mg CBD was similar to placebo regarding most sleep outcomes while sustaining greater well-being, suggesting more prominent psychological effects. Additional controlled trials examining varying treatment periods and doses are crucial.

Clinical trial registration: Registry: Australian New Zealand Clinical Trials Registry; Name: Cannabidiol (CBD) treatment for insomnia; URL: <https://anzctr.org.au/Trial/Registration/TrialReview.aspx?ACTRN=1262000070932>; Identifier: ACTRN1262000070932.

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Keywords: CBD; anxiety; cannabidiol; cannabis; insomnia; mood; sleep.

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