



NEW DISCOVERY

A Revolutionary Breakthrough in Sleep Aids: Clinical Trial Discovers TruCBN™ Efficacy for Sleep Disturbance

History's First Placebo-Controlled Trial Reveals Significant Sleep Improvement with Three Different Doses of TruCBN™ Compared to Placebo

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INTRODUCTION

CBN Takes Center Stage as Sleep Aid amid Rising Sleep Deficiency; FloraWorks Spearheads Research to Corroborate Anecdotal Claims

Insufficient sleep has emerged as a pressing public health concern, as a staggering ~60% of Americans fail to meet the recommended 7 hours of nightly sleep. This sleep deprivation not only compromises overall well-being but also poses the risk of serious health complications, including inflammatory conditions, obesity, and heart disease. As a result, individuals are actively seeking natural and safe alternatives to address their sleep issues.

While pharmaceuticals and melatonin have been widely utilized for sleep improvement, their effectiveness is marred by the presence of mild to severe side effects.

Particularly concerning is the rise in child overdoses associated with melatonin usage. Moreover, other existing solutions have shown inconsistent performance, leading to dissatisfied consumer feedback.

In the midst of this scenario, the cannabinoid CBN, which has a long anecdotal history linked to sleep and sedation, has rapidly gained popularity in sleep-focused products since its introduction to adult-use cannabis markets in 2020. Notably, it has become the fastest-growing segment within the edibles category, with CBN-infused edibles across eight markets amassing an impressive market value of \$186 million. This represents a remarkable 400% growth since its introduction. Furthermore, an overwhelming 95% of the available CBN products are specifically marketed for sleep enhancement, highlighting the considerable demand for such products among consumers.

Cannabinoids, particularly CBN, are emerging as a promising natural alternative for sleep aids, devoid of the severe side effects associated with other options. This is further supported by a long history of administering CBN to human volunteers, spanning 50 years of safe human consumption. Consequently, the purity of CBN is paramount, as it ensures the absolute absence of any other cannabinoids, allowing for a more focused and controlled approach to its effects.

Although anecdotal evidence and historical use indicate the potential of CBN as a sleep aid, limited scientific research exists to validate these claims comprehensively. To bridge this research gap, FloraWorks has commissioned Radicle Science to conduct a comprehensive study, aimed at verifying the anecdotal evidence surrounding CBN's potential efficacy as a sleep aid. By leveraging the extensive history of CBN's safe human consumption, this study instills confidence that any observed results can be attributed to the influence of CBN.



Nearly 60% of Americans Fall Short of the Recommended 7 Hours of Sleep Per Night



18% of Adults Regularly Rely on Sleep Medication to Fall or Stay Asleep



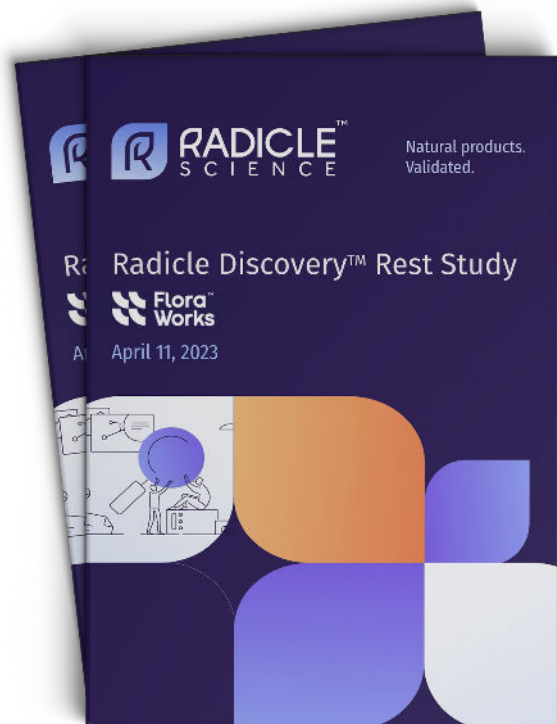
Poor Sleep Identified as Risk Factor for Cognitive Decline

RADICLE SCIENCE - THE GAME CHANGER

Radicle Science, as the world's leading Proof-as-a-Service company, stands out as a neutral and objective facilitator in real-world clinical trials. They are dedicated to bridging the "proof gap" between non-prescription wellness products and pharmaceutical drugs, thereby providing consumers with credible, reliable wellness solutions. Their streamlined approach allows health and wellness products like those developed by FloraWorks, to generate robust clinical evidence across various conditions and populations.

FloraWorks, in its pursuit to validate the effectiveness of CBN as a sleep aid, leveraged Radicle Science's expertise. This collaboration allowed them to capitalize on Radicle Science's innovative approach, which democratizes access to clinical trials while offering an unprecedented combination of speed, and scale.

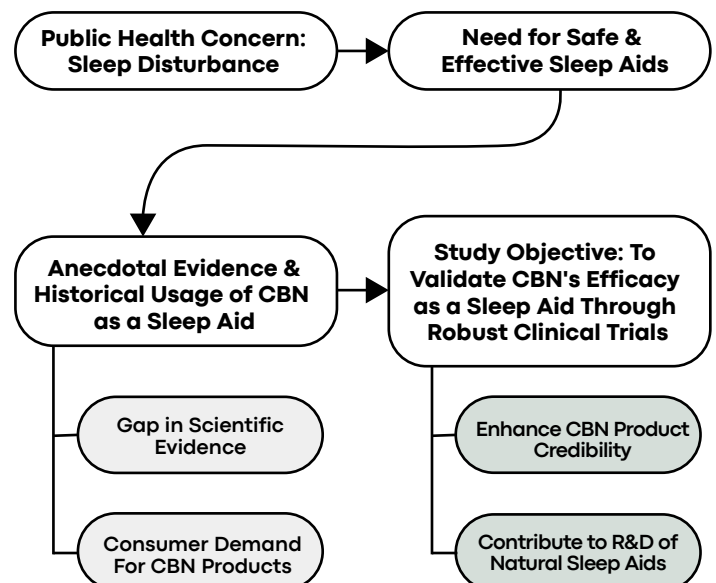
Radicle Science's commitment to providing proof beyond placebo empowers FloraWorks' product, TruCBN™, with scientifically substantiated credibility. This objective partnership also gives consumers increased confidence in the product's efficacy, thus strengthening the position of FloraWorks in the health and wellness marketplace.



STUDY RATIONALE

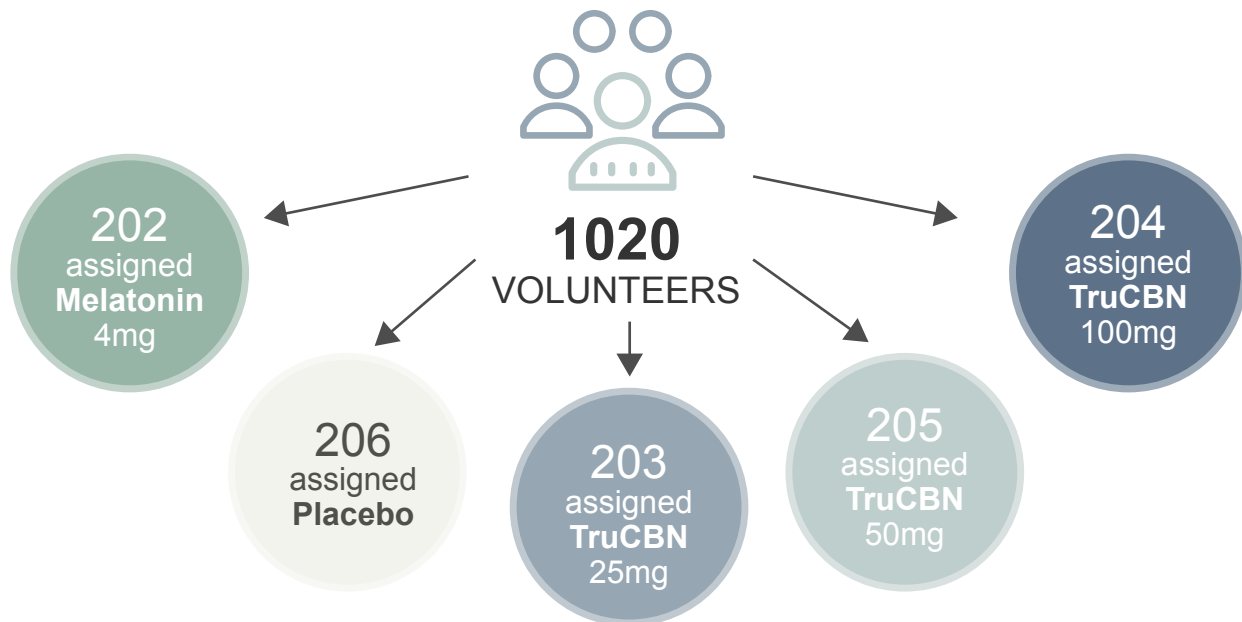
The research conducted primarily sought to scientifically explore and verify the efficacy of TruCBN™, a proprietary CBN product developed by FloraWorks, as a sleep aid. While anecdotal evidence and historical usage suggest a potential benefit for sleep, there has been a significant gap in robust clinical trials to substantiate these claims.

The aim is not only to provide scientific validation of CBN's effectiveness as a sleep aid, but also to enhance the ingredient's credibility among consumers. It's crucial for users to trust the products they're using, especially in a market saturated with varying sleep aids. By conducting rigorous scientific research, the goal is to elevate TruCBN™ as a reliable and trusted option among other sleep aid solutions.



STUDY METHODOLOGY

More than 1000 volunteers from across the United States, each experiencing minor sleep difficulties, participated in a study using FloraWorks' TruCBN™, a proprietary, ultra-pure, THC-free Cannabinol. *These participants were randomly assigned to one of five groups, each receiving a different nightly treatment for a duration of six weeks:*



Each participant ingested one softgel before bedtime. Their sleep improvement was measured using validated health indices surveys that they completed over the course of the study. Any side effects reported were closely monitored throughout this period.

The inclusion of a group taking melatonin was deliberate due to its wide use among individuals having difficulty with sleep. As one of the most commonly used sleep aids globally, melatonin serves as a significant benchmark for evaluating the effectiveness of TruCBN™.

STUDY PARTICIPANTS

The characteristics of the participants were as follows:

- **Gender Distribution:** Approximately 54% of participants identified as female, while 46% identified as male.
- **Stress Prevalence:** A significant 90% of participants reported suffering from stress.
- **Sleep Disturbance:** About 79% of participants disclosed that they suffer from sleep disturbances.
- **Ethnicity:** The majority of the participants, approximately 80%, were white.
- **Severity of Sleep Disturbance:** About two-thirds, or 66.6%, of participants experienced either mild or moderate sleep disturbances at baseline.

KEY FINDINGS

The primary analyses of this study revealed significant improvements in sleep outcomes as measured by the **PROMIS Sleep Disturbance 8a score**.

The key findings were as follows:

There Were Three Effective TruCBN™ Dosages Discovered

There was a significant difference in the rate of mean PROMIS Sleep Disturbance 8a score change between the groups taking 25, 50, or 100 mg of TruCBN™ all showed a significant improvement in sleep compared to placebo

50mg TruCBN™ Significantly Improves Sleep Compared to Other Study Groups

Participants receiving the 50 mg of TruCBN™ had a clinically meaningful improvement in their sleep – the greatest percentage out of any groups, including the melatonin group

No Significant Side Effects.

There were no significant differences in the frequency of reported side effects between any dose of TruCBN™ compared to placebo.

“Best thing I’ve tried that’s helped me stay asleep more than 3 hours at a time.”

50mg TruCBN Arm Participant

“Not only did I get longer than 5 hours of great sleep but noticed, upon taking, my body and mind was so relaxed that I felt no body aches and pains.”

50mg TruCBN Arm Participant

PROMIS Sleep Disturbance 8a Score



The PROMIS Sleep Disturbance 8a score is a survey that asks participants to rate their sleep quality over the past week. It focuses on any sleep issues a person might be experiencing, like having trouble falling asleep, waking up often during the night, or not feeling well-rested in the morning. This score is used by researchers to understand how different factors (like new supplements or lifestyle changes) might affect sleep. In the FloraWorks study, this score was used to see if their product, TruCBN™, helped improve people's sleep.

CONCLUSION - FUTURE DIRECTION



Jeff Chen, MD, MBA
CEO, Radicle Science

“The historical firsts encompassed in this study have tremendous implications for formulating effective, natural sleep products for Americans. The findings especially highlight the importance of understanding the appropriate dosage for the desired health outcome. For CBN, higher concentrations like 100 mg do not seem to improve effectiveness for sleep disturbance compared to lower concentrations like 50 mg. This is some of the first human data to suggest CBN can significantly improve sleep, and the effects may be comparable to the most studied and used dietary supplement sleep ingredient: melatonin. It highlights the importance of exploring product formulations in a methodical, clinical manner through randomized, blinded clinical trials”

This study provides strong clinical proof that FloraWorks' TruCBN™ formulations are effective sleep aids. The findings emphasize the importance of precise dosing, revealing that 25, 50, and 100 mg doses of TruCBN™ outperform placebo in efficacy.

CEO and Co-Founder of FloraWorks, Alleh Lindquist, states, "These findings bring needed clarity to the rapidly growing consumer demand for existing CBN products and marks a major milestone in building consumer trust and confidence in the therapeutic potential of cannabinoids." This comprehensive, real-world evidence supports the case for further research and exploration into cannabinoids for the improvement of overall health and wellness.

Currently, FloraWorks is in the process of assembling a research paper for submission to a peer-reviewed scientific journal. This step signifies a milestone for FloraWorks TruCBN™, positioning it as the inaugural cannabinoid ingredient with substantiated, scientifically-backed assertions concerning its efficacy in treating sleep disturbance.

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