

The Effects of Therapeutic Cannabis and Cannabinoids in Parkinson's Disease: An Overview of Meta-Analyses

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INTRODUCTION & AIM

Cannabis and cannabinoids have been investigated for their potential therapeutic effects in Parkinson's disease, but clinical findings remain scant and inconsistent.

This study provides a systematic overview of meta-analyses assessing the impact of therapeutic cannabis and its derivatives on health outcomes in patients with Parkinson's disease.

Cannabis Sativa
Franz Eugen Köhler's
Medizinal-Pflanzen (1887)
Public Domain Picture



METHOD

A comprehensive search of PubMed, EMBASE, Web of Science, and Google Scholar (up to April 2025) identified meta-analyses evaluating cannabis-based interventions in Parkinson's disease.

Eligible studies reported pooled estimates of effects on neurological symptoms. The most significant findings from the included studies were summarized and qualitatively analyzed.

RESULTS & DISCUSSION

After screening a total of 975 research items, seven meta-analyses of clinical and laboratory studies, primarily randomized controlled trials (RCTs), were identified [1-7].

One analysis of five RCTs demonstrated that **pure CBD or synthetic THC significantly improved disease symptoms** (SMD=-0.41, p=0.004) [1]. In contrast, a meta-analysis of three RCTs evaluating various cannabis extracts found **no significant effect on the Unified Parkinson Disease Rating Scale (UPDRS) total score** (SMD=-0.18, p=0.48) [2]. However, another analysis combining two RCTs and two non-RCTs reported a significant improvement in the UPDRS total score (MD=-4.19, p=0.03) [3]. Other meta-analyses yielded mixed results [4-6].

With regard to **pain management** in Parkinson's disease, a study confirmed that cannabinoids are an effective treatment option [4].

Additionally, a meta-analysis of preclinical **studies in animal models** indicated **notable enhancements in motor function**, with improved rotarod performance (MD=31.63 s, p=0.003) and reduced pole test times (MD=-1.51 s, p=0.028) [7].

CONCLUSION

While meta-analyses of clinical studies suggest some benefits of specific cannabinoid formulations, findings are uncertain. Preclinical data, however, demonstrate interesting motor improvements.

Further well-designed RCTs are warranted to clarify the therapeutic role of cannabis in Parkinson's disease management.

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