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Review

Evaluating the drug interactions in kratom usage: clinical application

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Pages 949-959 | Received 19 Nov 2024, Accepted 12 Jun 2025, Accepted author version posted online: 16 Jun 2025, Published online: 22 Jun 2025

🗨️ Cite this article  <https://doi.org/10.1080/17425255.2025.2521045>



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ABSTRACT

Introduction

Mitragyna speciosa (Korth.) Havil. (Rubiaceae), commonly known as kratom, is a tropical tree native to Southeast Asia, traditionally used for its diverse ethnopharmacological activities, including analgesic and anxiolytic effects. Kratom's unique pharmacological



profile allows it to function as a stimulant at low doses and produces opioid-like effects at high doses, making it a potential alternative for pain management and mitigation of opioid use disorder.

Areas covered

Google Scholar and PubMed, along with FAERS database, were systematically searched to evaluate the clinical applications of kratom by examining its drug interactions, which can significantly impact the pharmacokinetics and pharmacodynamics of concomitant medications. By examining current evidence, this review aims to highlight the importance of establishing safe clinical practices and protocols for healthcare providers and patients.

Expert opinion

Evaluating drug interactions in kratom usage is clinically imperative because kratom's bioactive alkaloids can interact with the pharmacokinetic and pharmacodynamic processes of concurrent medications, potentially resulting in adverse effects or compromised therapeutic outcomes. This review presents an expert opinion on the clinical relevance of kratom's interactions with drugs, aiming to inform clinical practice, highlight ethical and regulatory considerations, and propose future research directions to improve the understanding of kratom's pharmacological profile and enhance user safety.

KEYWORDS:

Kratom *Mitragyna speciosa* mitragynine pharmacokinetics pharmacodynamics

drug interactions

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Article highlights

- Kratom exhibits polypharmacological actions, stimulant at low doses and mimics opioids at high doses.
 - Kratom alkaloids affect cytochrome P450 enzymes, impacting drug metabolism.
 - Kratom may cause significant drug interactions, especially at high doses.
 - Unregulated kratom needs more research, clinical guidelines, and controlled clinical trials to ensure safe use.
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Declaration of interest

CRM serves as an expert witness in kratom wrongful death lawsuits on both the plaintiff and defendant sides. All other authors have no relevant affiliations or financial involvement with any organization or entity with a financial interest in or financial conflict with the subject matter or materials discussed in the manuscript. This includes employment, consultancies, honoraria, stock ownership or options, expert testimony, grants or patents received or pending, or royalties.

Author contributions

We confirm that our manuscript fully adheres to the authorship criteria established by the International Committee of Medical Journal Editors (ICMJE).

AI-based tools and technologies

The authors declare that they have not used AI-based tools and technologies for the preparation of this manuscript.

Reviewer disclosure

Peer reviewers on this manuscript have no relevant financial or other relationships to disclose.

Acknowledgments

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Correction Statement

This article was originally published with errors, which have now been corrected in the online version. Please see Correction

(<http://dx.doi.org/10.1080/17425255.2025.2588054>)

Additional information

Funding

This research was funded by grants [R01 DA047855, UG/UH3 DA048353, and R21 DA055908] from the National Institute on Drug Abuse.

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