

Marlin E. Barlow III

MS3

Louisiana State University Health Sciences Center – New Orleans

Dr. Shannon Bierma

LSUHSC, Department of Psychiatry

Kratom (*Mitragyna speciosa*) Use in Adolescents: A Scoping Review

Background: Kratom or *Mitragyna speciosa* is a psychoactive drug with active ingredients including 7-hydroxymitragynine and mitragynine, and it currently remains uncontrolled and unregulated in several states resulting in fewer barriers that limit adolescent access.^{1–3} While adult kratom use has been increasingly described, adolescent-specific data on prevalence, substance use comorbidity, and clinically relevant harms remains limited.^{4–7} This scoping review examines kratom use patterns and clinical implications among the adolescent population.

Methods: A review of published literature dating from 2020 to February 2026 was conducted via electronic databases (PubMed, EMBASE, and Scopus). Key words employed during search inquiries included kratom, *Mitragyna speciosa*, adolescent, youth, mental health, substance use disorder youth, depression, and anxiety with database-specific vocabulary and age filters applied.

Results: Of the initial 92 articles, literature that did not specifically outline an adolescent population (12-17 years old), repeated articles, and articles that did not include data relevant to use of kratom were excluded. Nine articles were included: four nationally representative survey analyses and five adolescent case reports/series.

Conclusions: In analyses of NSDUH 2019 data, kratom use among U.S. adolescents (12-17) was low with a lifetime prevalence of 0.44% and past-12 month use 0.27%.⁸ Adolescents are less likely to report kratom use than adults.^{4–6} The past-12 month use of kratom was associated with other substance use such as cigarettes and cannabis with a lower prevalence than prescription pain relievers.⁸ Case reports suggest that adolescents with kratom exposure are associated with QT prolongation.^{3,9,10} Clinicians should consider kratom in adolescent evaluations of self-harm.³ Case series evidence indicates adolescents can develop kratom dependence and withdrawal associated with worse school performance.¹¹ Treatment approaches include methadone for kratom dependence.¹¹ These case findings support screening for kratom in adolescents with substance use or receiving mental health services and careful cardiac monitoring when exposure is suspected.

References

1. Smith KE, Rogers JM, Strickland JC. Associations of Lifetime Nonmedical Opioid, Methamphetamine, and Kratom Use within a Nationally Representative US Sample. *J Psychoactive Drugs*. 2022;54(5):429-439. doi:10.1080/02791072.2021.2006374
2. Kratom Summary of State Laws. Published online April 2025.
3. Wong A, Mun M. A Case of Kratom Overdose in a Pediatric Patient. *Case Rep Psychiatry*. 2020;2020. doi:10.1155/2020/8818095
4. Adzrago D, Obekpa EO, Suragh TA, et al. Kratom use categories and their associations with co-occurring substance use and mental health disorder symptoms during the COVID-19 pandemic. *Drug Alcohol Depend*. 2022;239((Adzrago D., David.Adzrago@uth.tmc.edu; Obekpa E.O.; Suragh T.A.; Gallardo K.R.; Wilkerson J.M.) Center for Health Promotion and Prevention Research, CDC Prevention Research Center, School of Public Health, The University of Texas Health Science Center at Houston (UTHealth), Houston, TX, United States). doi:10.1016/j.drugalcdep.2022.109605
5. Palamar JJ. Past-Year Kratom Use in the U.S.: Estimates From a Nationally Representative Sample. *Am J Prev Med*. 2021;61(2):240-245. doi:10.1016/j.amepre.2021.02.004
6. Xu KY, Mintz CM, Borodovsky JT, Glaser PEA, Bierut LJ, Grucza RA. Prevalence of Kratom Use and Co-Occurring Substance Use Disorders in the United States. *Prim Care Companion CNS Disord*. 2021;23(4). doi:10.4088/PCC.21br02930
7. Singh D, Azuan MA, Narayanan S. Kratom (*Mitragyna speciosa*) use in a sample of drug-dependent adolescents in rehabilitation for drug use in Malaysia. *J Ethn Subst Abuse*. 2025;24(4):930-945. doi:10.1080/15332640.2023.2293941
8. Sharma V, Cottler LB, Bares CB, Lopez-Quintero C. Kratom Use Among U.S. Adolescents: Analyses of the 2019 National Survey on Drug Use and Health. *J Adolesc Health Off Publ Soc Adolesc Med*. 2022;70(4):677-681. doi:10.1016/j.jadohealth.2021.10.009
9. Baumgartner KT, Mullins ME. A case of Kratom poisoning causing cardiotoxicity. *J Med Toxicol*. 2020;16(2):165-166. doi:10.1007/s13181-020-00759-7
10. Truesdale N, Kaliki V, Fuller KE, Nathani Y. QTc prolongation related to kratom ingestion with underlying SSRI usage. *Am J Med Sci*. 2024;367((Truesdale N.; Kaliki V.; Fuller K.E.; Nathani Y.) The University of Oklahoma Health Sciences Center, Oklahoma City, OK, United States):S284. doi:10.1016/S0002-9629(24)00525-1
11. Kamaludin NN, Noor MAM, Muhamad R, Yudin-Badrin ZM, Nawi NIM. Kratom dependence in adolescents: Is methadone a lifesaver? *Bangladesh J Med Sci*. 2021;20(3):673-677. doi:10.3329/bjms.v20i3.52816