

Mixed findings regarding quality of evidence supporting benefit of medical marijuana

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In an analysis of the findings of nearly 80 randomized trials that included about 6,500 participants, there was moderate-quality evidence to support the use of cannabinoids (chemical compounds that are the active principles in cannabis or marijuana) for the treatment of chronic pain and lower-quality evidence suggesting that cannabinoids were associated with improvements in nausea and vomiting due to chemotherapy, sleep disorders, and Tourette syndrome, according to a study in the June 23/30 issue of *JAMA*.

Medical [cannabis](#) refers to the use of cannabis or cannabinoids as medical therapy to treat disease or alleviate symptoms. In the United States, 23 states and Washington, D.C., have introduced laws to permit the medical use of cannabis; many other countries have similar laws. Despite the wide use of cannabis and cannabinoid drugs for medical purposes, their efficacy for specific indications is not clear, according to background information in the article.

Penny F. Whiting, Ph.D., of the University of Bristol, Bristol, United Kingdom, and colleagues evaluated the evidence for the benefits and adverse events (AEs) of medical cannabinoids by searching various databases for randomized [clinical trials](#) of cannabinoids for a variety of indications. The researchers identified 79 trials (6,462 participants) that met criteria for inclusion in the review and meta-analysis.

The researchers found that most studies suggested that cannabinoids were associated with improvements in symptoms, but these associations

did not reach statistical significance in all studies. There was moderate-quality evidence to suggest that cannabinoids may be beneficial for the treatment of chronic neuropathic or cancer pain and spasticity due to multiple sclerosis (sustained muscle contractions or sudden involuntary movements). There was low-quality evidence suggesting that cannabinoids were associated with improvements in [nausea and vomiting](#) due to chemotherapy, weight gain in HIV, [sleep disorders](#), and Tourette syndrome; and very low-quality evidence for an improvement in anxiety. There was low-quality evidence for no effect on psychosis and very low-level evidence for no effect on depression.

There was an increased risk of short-term AEs with cannabinoids, including serious AEs. Common AEs included dizziness, dry mouth, nausea, fatigue, somnolence, euphoria, vomiting, disorientation, drowsiness, confusion, loss of balance, and hallucination. There was no clear evidence for a difference in association (either beneficial or harmful) based on type of cannabinoids or mode of administration. Only 2 studies evaluated cannabis. There was no evidence that the effects of cannabis differed from other cannabinoids.

"Further large, robust, [randomized clinical trials](#) are needed to confirm the effects of [cannabinoids](#), particularly on [weight gain](#) in patients with HIV/AIDS, depression, sleep disorders, anxiety disorders, psychosis, glaucoma, and Tourette syndrome are required. Further studies evaluating cannabis itself are also required because there is very little evidence on the effects and AEs of cannabis," the authors write.

"If the states' initiative to legalize medical marijuana is merely a veiled step toward allowing access to recreational marijuana, then the medical community should be left out of the process, and instead marijuana should be decriminalized," write Deepak Cyril D'Souza, M.B.B.S., M.D., and Mohini Ranganathan, M.D., of the Yale University School of Medicine, New Haven, Conn., in an accompanying editorial.

"Conversely, if the goal is to make marijuana available for medical purposes, then it is unclear why the approval process should be different from that used for other medications. Evidence justifying marijuana use for various medical conditions will require the conduct of adequately powered, double-blind, randomized, placebo/active controlled clinical trials to test its short- and long-term efficacy and safety. The federal government and states should support medical marijuana research. Since [medical marijuana](#) is not a life-saving intervention, it may be prudent to wait before widely adopting its use until high-quality evidence is available to guide the development of a rational approval process."

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