

# Smoking marijuana provides more pain relief for men than women

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A dried flower bud of the Cannabis plant. Credit: Public Domain

Researchers from Columbia University Medical Center (CUMC) found that men had greater pain relief than women after smoking marijuana.

Results of the study were recently published online in *Drug and Alcohol Dependence*.

"These findings come at a time when more people, including women, are turning to the use of [medical cannabis](#) for [pain relief](#)," said Ziva Cooper, PhD, associate professor of clinical neurobiology (in psychiatry) at CUMC. "Preclinical evidence has suggested that the experience of pain relief from cannabis-related products may vary between sexes, but no studies have been done to see if this is true in humans."

In this study, the researchers analyzed data from two double-blinded, placebo-controlled studies looking at the analgesic effects of cannabis in 42 recreational marijuana smokers. After smoking the same amount of either an active or placebo form of cannabis, the participants immersed one hand in a cold-water bath until the pain could no longer be tolerated. Following the immersion, the participants answered a short pain questionnaire.

After smoking active cannabis, men reported a significant decrease in pain sensitivity and an increase in pain tolerance. Women did not experience a significant decrease in [pain sensitivity](#), although they reported a small increase in [pain tolerance](#) shortly after smoking.

Despite differences in pain relief, men and women did not report differences in how intoxicated they felt or how much they liked the effect of the active cannabis.

The authors noted that additional studies in both men and women are needed to understand the factors that impact the [analgesic effects](#) of cannabinoids, the active chemicals in cannabis products, including strength, mode of delivery (smoked versus oral), frequency of use and type of pain measured.

"This study underscores the importance of including both men and women in clinical trials aimed at understanding the potential therapeutic and negative effects of cannabis, particularly as more people use cannabinoid products for recreational or medical purposes," said Dr. Cooper.

**More information:** The study, titled "Sex-Dependent Effects of Cannabis-Induced Analgesia" was published in the *Drug and Alcohol Dependence* on August 25, 2016.

Provided by Columbia University Medical Center

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