



# What is the Effect of Cannabis on Opioid Use in Adults with Chronic Pain?

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## BACKGROUND/SIGNIFICANCE

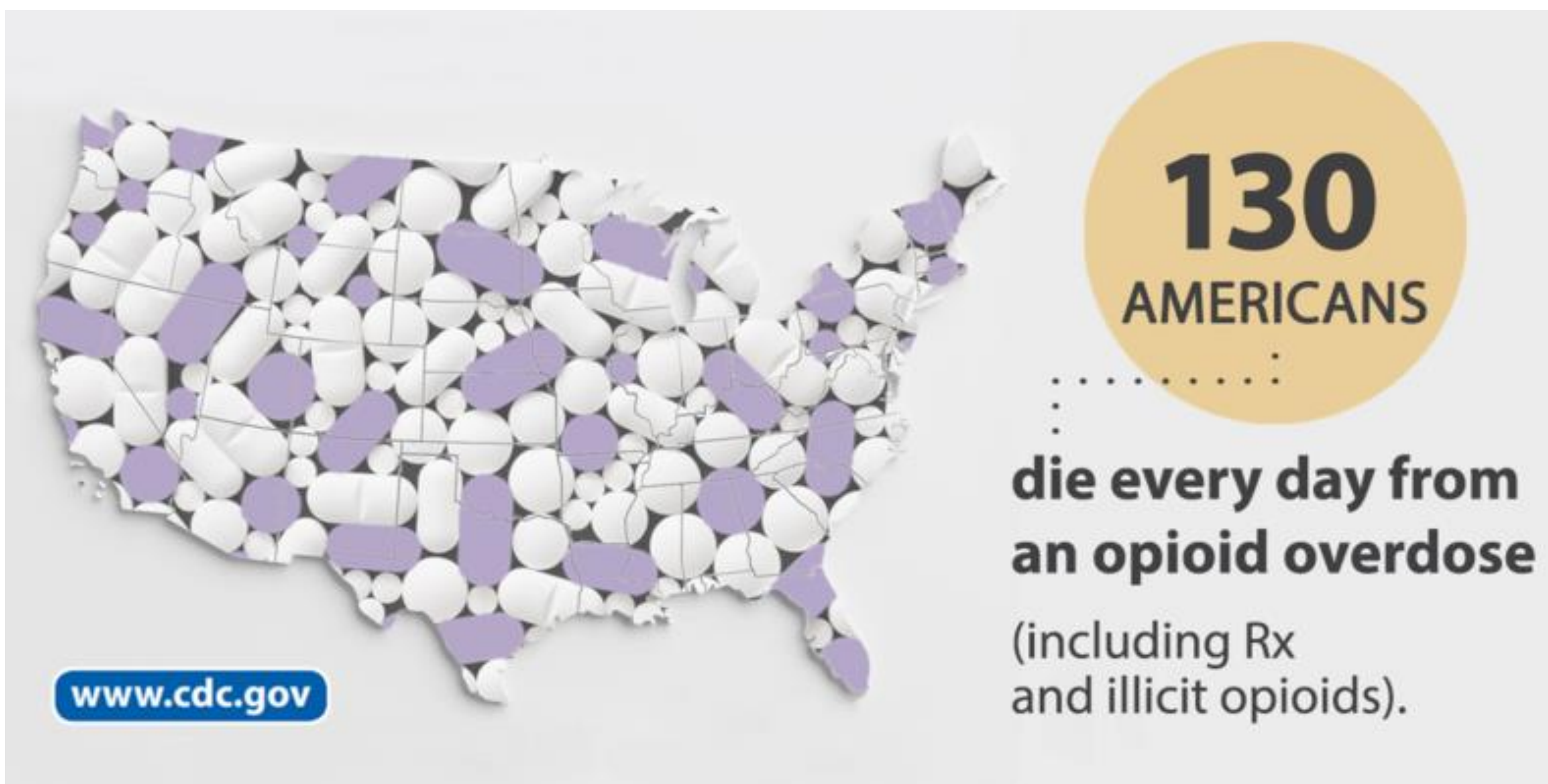
Since the late 1990s, opioids have been primarily prescribed for chronic pain. Since that time, over 500,000 United States citizens have died from opioid overdoses with 70% of the 70,630 deaths in 2019 alone resulting from involvement with opioids (CDC, 2021). It has been reported that overdose deaths related to opioid prescriptions have increased by more than 5 times the rate it was in 1999 with 130 Americans dying everyday as result of opioid overdose (National Institute of Drug Abuse (NIDA), 2019). In order to prevent continued opioid related deaths, it is important to consider alternative treatments to opioids for treatment of chronic pain. Recent data suggests that the legalization of medical cannabis has been associated with lower state-level opioid overdose mortality, hospitalizations related to opioid complications, detection of opioids among fatally injured drivers, and prescriptions of analgesics (Sohler et al., 2018). It has also been found there are fewer side effects and withdrawal symptoms when medical cannabis is used as an adjunct to opioids prescribed for chronic pain (Ishida et al., 2019).

**PICO Question:** In adults with chronic pain, what is the effect of cannabis on opioid use?

## METHODS

During February and March 2021, searches were conducted through CINAHL and Gale OneFile through Cumberland University Vise Library and Google Scholar using the following terms: marijuana, opioid use, chronic pain, medical marijuana, medical cannabis, narcotics, chronic pain treatment, opioid cessation, and opioid reduction. For the purpose of this review, five studies were found in peer-reviewed journals, written in English, and published within the past five years to be appropriate to answer the proposed PICO question.

Roy's Adaptation Model is widely used for education, research, and nursing practice as it focuses on the individual as a biophysical adaptive system which allows for the nurse to provide humanistic discipline that emphasizes the person's adaptive or coping abilities. Roy's model was used to guide the literature review as adaptation and coping are necessary in supporting the proposed PICO question as well as controlling pain. Cannabis as an adjunct or alternative treatment to opioids amidst the opioid epidemic requires the nurse to assess the client's internal and environmental stimuli to determine if the client's adaptive mechanisms are high enough to promote effective coping to an alternative treatment for their chronic pain (Black, 2020).



## RESULTS

Sohler and colleagues (2018) conducted a cross sectional study (n = 790) in a sample of individuals with chronic pain using interviews and questionnaires. The study found evidence of an association between cannabis use and reduced opioid analgesic use among people with chronic pain. The authors concluded that medical cannabis legislation might reduce the need for opioid analgesics for pain management.

Takakuwa and Sulak (2020) conducted a retrospective cohort study using an anonymous electronic survey (n=525). Patients in the study reported that cannabis was a useful adjunct and/or substitute for opioids in treating chronic pain.

In a meta-analysis of cannabis use and chronic pain, Campbell and colleagues (2018) found allowing medical cannabis and cannabis dispensary programs reduced annual daily doses of opioids by 14.4%. States with legalized medical cannabis were found to have slower increasing opioid overdose death rates. More high-quality clinical trials are needed to show whether cannabis controls chronic pain and reduces opioid doses.

Okusanya et al. (2020) conducted a systematic review and found opioid doses used to treat chronic pain were reduced by 64-75% when used with medical cannabis. The authors further found a reduction of opioid dosages in those using medical cannabis to be much higher than in those not using medical cannabis. Studies determining the optimal dosage of medical cannabis needed to reduce opioid doses are warranted.

Ishida and colleagues (2019) conducted a random sample survey (n=9,003) to determine opioid use in chronic pain. 41% of the respondents reported a decrease or cessation of opioid use due to marijuana use. More than half the respondents also reported fewer side effects and withdrawal symptoms with marijuana use. Underestimation of marijuana use may have been reported due to legality of marijuana in some states. Further research is needed.

## PRACTICE IMPLICATIONS

Education by nurses is important and constitutes one of their major roles in patient care. Ishida et al. (2019) found withdrawal symptoms and side effects were less observed with cannabis use compared to opioid use. For nurses, this information is useful in educating patients with withdrawal symptoms and the option for safer and more effective treatment of chronic pain. Not only is there a decrease in withdrawal symptoms, but the activities of daily living were improved with the use of medical cannabis, promoting self-care (Takakuwa & Sulak, 2020). Overall, Sohler et al. (2018) showed medical cannabis legislation might reduce the need for opioid analgesics for pain management. Nurses, as patient advocates, can provide evidence-based education on cannabis use for chronic pain to help reduce the prescribed doses of opioids.

## CONCLUSIONS

In the 1990s, opioids were being more steadily prescribed for chronic pain. Since then, hundreds of thousands of United States citizens have died from opioid overdoses. Roughly 21-29% of patients prescribed opioids misuse them. An estimated 80% of those who use heroin had first used prescription opioids (NIDA, 2019). Using Roy's Adaptation Model, the proposed PICO question calls for evidence-based nursing practice that focuses on the individual as a biophysical adaptive system (Black, 2020). Based on this review, it can be concluded that the doses of opioid analgesics are reduced when used in conjunction with medical cannabis and producing less side effects. However, more research is needed to determine the optimal dosage of medical cannabis needed to reduce opioid doses.

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