

# Marijuana Use Among Persons Living with Chronic Pain: A Qualitative Study

Verlin Joseph<sup>1</sup>, Deepthi Varma<sup>2</sup>, Xinguang Chen<sup>2</sup>, Roger Fillingim<sup>2</sup>, Diana Wilkie<sup>2</sup>, Robert L. Cook<sup>2</sup>



<sup>1</sup>University of New Mexico

<sup>2</sup>University of Florida



**Introduction:** Chronic pain is presently the most expensive disease condition in the United States; with roughly 1 in 5 Americans currently reporting chronic pain. Medical marijuana is now available in 36 states for approved conditions including chronic pain. However, little is known regarding the mechanisms by which marijuana provides pain relief among current marijuana users with chronic pain. We sought to address this scientific gap by conducting open ended qualitative interviews from a community sample.

**Methods:** Individuals (N=13) were eligible for study participation if they reported having any pain during the previous 3 months and if they reported past 30-day marijuana use. The interviews lasted approximately 60 minutes following a semi structured interview guide over Zoom telecommunications. A qualitative coding plan was developed and refined during the coding process to include relevant topics. Each transcript was individually coded by the principal investigator and a senior member of the study team using a thematic analysis. Codes were entered into Atlas T.I. qualitative data analysis software to identify themes associated with pain relief.

**Results:** Participants reported an average pain intensity score of 5.5 (SD=3.7) and a worst intensity pain score of 8.0 (SD=2.2) using a 1-10 scale. Most participants reported smoking marijuana flower in joints/blunts (n=12), and the majority of participants reported using marijuana at least 6 days a week (n=9). Our thematic analysis identified three mechanisms whereby marijuana use reduced chronic pain among users: physical, psychological, and both. Participants describing physical reductions in pain detailed how marijuana directly reduces the bodily qualities of pain including spasms, inflammation, and tingling. Respondents describing psychological reductions in pain reported improvements in mental qualities of pain including anxiety, catastrophizing, and fear. Whereas, several participants detailed how marijuana reduces their pain by simultaneously targeting both physical and psychological qualities of pain.

**Discussion:** Overall, these qualitative data indicate current marijuana users' favorable opinions towards using marijuana as an alternative pain therapy. Additionally, participants reported several improvements in pain that are generally not captured using standardized 1-10 numerical pain measures. Therefore, we encourage persons evaluating the effect of marijuana use on pain to examine a broader set of outcomes related to pain. As legislation legalizing marijuana use for medicinal purposes continues to expand, additional qualitative studies are needed to examine the extent to which marijuana use is effective in managing pain.

## Theme 1: Physical Reductions In Pain Intensity

- Participants were queried regarding the subjective effects of marijuana on their pain intensity
- Responses physical qualities of pain (i.e. reductions in spasms, sensitivity, etc.) were coded under this theme
- Responses indicating numerical reductions in pain intensity were also included under this theme.

## Theme 2: Psychological Reductions In Pain Intensity

- Participants were queried regarding the subjective effects of marijuana on the psychological qualities of their pain
- Responses indicating reductions psychological qualities of pain (i.e. improvements in pain catastrophizing, depression, and anxiety, etc.) were included under this theme.
- Participants also detailed how marijuana psychologically reduces pain intensity by distracting their minds.

## Theme 3: Psychological & Psychological Reductions In Pain Intensity

- Participants indicating simultaneous reductions in both physical and psychological qualities of pain were included under this theme.
- Respondents described reductions in physical pain intensity while their minds were distracted from painful stimuli.

## Theme 1: Select Responses

"If my pain is at a 9 and I'm having a migraine and I'm nauseous(marijuana) can get it to like a 4 but it can get me as low as a 2 or 1, its' remarkable." (Female, age 55)

"I think (marijuana) helps relax the muscles and whatever else is around the area that's inflaming to cause the pain. I think its just helping all that relax." (Female, age 32)

## Theme 2: Select Responses

"(Marijuana) is probably keeping me sane, I could lose it at any moment if I'm in pain and I'm irritable or angry and if I'm smoking it doesn't take away the pain, it reduces the pain. It helps my mind relax and it give me a better perspective." (Male, age 65)

"I have arthritis throughout my entire body, I have degenerative gnawing in my spine and my neck, I have a bulging a herniated disk, basically, severe spinal thrombosis and a few other variations. [Marijuana] doesn't get rid of it. None of the pills from big Pharma help me but [Marijuana] helps me forget about the pain." (Female, age 49)

## Theme 3: Select Responses

"It relaxes the muscles and it helps take the edge off the pain, I mean it doesn't get rid of it. None of the pills from big Pharma help me, but (marijuana) helps me forget about it. It basically relaxes the muscle and helps take your mind off the pain." (Male, age 60)

"I think (marijuana) does help with swelling, when I'm smoking my pain is not there, my mind is somewhere else so it alters my brain and I don't feel it." (Female, age 47)