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# High-Frequency Medical Cannabis Use Is Associated With Worse Pain Among Individuals With Chronic Pain

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## Abstract

Cannabis is widely used for chronic pain. However, there is some evidence of an inverse dose-response relationship between cannabis effects and pain relief that may negatively affect analgesic outcomes. In this cross-sectional survey, we examined whether daily cannabis use frequency was associated with pain severity and interference, quality of life measures relevant to pain (eg, anxiety and depressive symptoms), and cannabis use preferences (administration routes and cannabinoid ratio). Our analysis included 989 adults who used cannabis every day for chronic pain. Participant use was designated as light, moderate, and heavy (1-2, 3-4, and 5 or more cannabis uses per day, respectively). The sample was also subgrouped by self-reported medical-only use (designated MED, n = 531, 54%) versus medical use concomitant with a past-year history of recreational use (designated MEDREC, n = 458, 46%). In the whole sample, increased frequency of use was significantly associated with worse pain intensity and interference, and worse negative affect, although high-frequency users also reported improved positive affect. Subgroup analyses showed that these effects were driven by MED participants. Heavy MED participant consumption patterns showed greater preference for smoking, vaporizing, and high tetrahydrocannabinol products. In contrast, light MED participants had greater preference for tinctures and high cannabidiol products. Selection bias, our focus on chronic pain, and our cross-sectional design likely limit the generalizability of our results. Our findings suggest that lower daily cannabis use frequency is associated with better clinical profile as well as lower risk cannabis use behaviors among MED participants. Future longitudinal studies are needed to examine how high frequency of cannabis use interacts with potential therapeutic benefits. PERSPECTIVE: Our findings suggest that lower daily cannabis use frequency is associated with better clinical profile as well as safer use behaviors (eg, preference for cannabidiol and noninhalation administration routes). These trends highlight the need for developing cannabis use guidelines for clinicians to better protect patients using cannabis.

**Keywords:** Medical cannabis; cannabidiol; tetrahydrocannabinol; use frequency.

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