

Patient Perceptions of the Use of Medical Marijuana in the Treatment of Musculoskeletal Trauma

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Background/Purpose: There has been significant debate in the United States about the utility of medical marijuana. Despite federal laws limiting the sale and distribution of marijuana there are now 23 states that allow the prescription of marijuana for the treatment of medical conditions. A recent study demonstrated a decrease in opioid-related deaths in states with medical marijuana laws. It has been our anecdotal experience that since the legalization of marijuana in our state that there have been a significant number of patients who inquire about its use in managing postinjury and postsurgical pain. To our knowledge there are no studies evaluating the perceptions of the musculoskeletal trauma population with regard to the utility of using marijuana in the management of postinjury and postoperative pain. The goals of this study were to: (1) evaluate musculoskeletal trauma patients regarding their perception of the usefulness of marijuana in the treatment of postinjury pain and anxiety, (2) determine if patients feel that marijuana reduces their need for opioid pain medications, and (3) determine if there is a relationship between anxiety, pain catastrophizing, and symptoms of posttraumatic stress disorder (PTSD) and marijuana use during injury recovery.

Methods: We performed a prospective study of patients treated for a musculoskeletal injury in the trauma clinics of 2 Level I trauma centers in a state with recently legalized medical marijuana. Our practice does not prescribe marijuana nor does it endorse its use. A convenience sample of patients was collected from our orthopaedic trauma clinics. Inclusion required at least one musculoskeletal injury that had occurred between 1 and 6 months prior to their clinic visit. 264 patients were approached to complete a questionnaire, and 249 patients completed the questionnaire yielding a response rate of 94.3%. The survey consisted of basic demographic and injury questions as well as questions about the patients' perceptions of the validity of the use of marijuana in the treatment of medical conditions in general and pain specifically. We also asked patients about marijuana use during their recovery and whether they felt that it reduced their symptoms of pain and anxiety, and if they felt it reduced their opioid use. The Patient Reported Outcomes Measurement Information System (PROMIS) Anxiety Short Form 4, the Pain Catastrophizing Scale, and the Breslau Short Screening Scale for DSM-IV (Diagnostic and Statistical Manual of Mental Disorders) PTSD were also administered.

Results: There were 249 responses to the survey. Median age was 55 (range, 18-93). 46% (115) were female. 224 (90%) of patients reported an isolated injury, while 25 (10%) had multiple injuries. 180 (72%) required surgery to treat their injury. The majority of patients, 204 (82%), believed that marijuana is useful as a medication, while 30 (12%) were unsure and 15 (6%) felt that it was not. In addition, the majority of patients felt that marijuana could be used to treat both pain 195 (78%) and anxiety 156 (63%). 88% of people (n = 218)

reported they would be comfortable discussing medical marijuana with their health-care provider. Of the 249 patients who responded, 40 (16%) reported using marijuana following their injury. Of these, 36/40 (90%) believed that it reduced symptoms of pain and 33/40 (83%) believed that it reduced the amount of opioid pain medication they required to manage their pain. Marijuana use during injury recovery was associated with a worse PROMIS Anxiety score (mean nonuser 49.1 vs user 53.6, $P = 0.01$). There was no difference in the Pain Catastrophizing Scale in marijuana nonusers and users (mean 16.4 vs 18.9, $P = 0.28$). There was no difference in the number of patients with clinically significant PTSD (score = 4) in nonusers compared to users of marijuana (40/209 vs 6/40, $P = 0.69$).

Conclusion: The role of medical marijuana in managing postinjury and postoperative symptoms of pain and anxiety is poorly understood. The vast majority of patients in this study believed that medical marijuana is a valid treatment and that it does have a role in reducing postinjury and postoperative pain. Further, in the subset of patients who used marijuana following their injury, they indicated that it helped alleviate symptoms of pain and reduced their level of opioid intake. Current use of marijuana was associated with higher PROMIS anxiety scores. Scores for pain catastrophizing and PTSD were similar between current marijuana users and nonusers. Further study into the utility of medical marijuana in the orthopaedic trauma population is warranted.