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Characteristics of adults seeking medical marijuana certification

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ABSTRACT

Background: Very little is known about medical marijuana users. The present study provides descriptive information on adults seeking medical marijuana and compares individuals seeking medical marijuana for the first time with those renewing their medical marijuana card on measures of substance use, pain and functioning.
Methods: Research staff approached patients ($n = 348$) in the waiting area of a medical marijuana certification clinic. Chi-square and Wilcoxon signed rank tests were used to compare participants who reported that they were seeking medical marijuana for the first time ($n = 195$) and those who were seeking to renew their access to medical marijuana ($n = 153$).
Results: Returning medical marijuana patients reported a higher prevalence of lifetime cocaine, amphetamine, inhalant and hallucinogen use than first time patients. Rates of recent alcohol misuse and drug use were relatively similar between first time patients and returning patients with the exception of nonmedical use of prescription sedatives and marijuana use. Nonmedical prescription sedative use was more common among first time visitors compared to those seeking renewal ($p < 0.05$). The frequency of recent marijuana use was higher in returning patients than first time patients ($p < 0.0001$). Compared to first time patients, returning patients reported somewhat lower current pain level and slightly higher mental health and physical functioning.
Conclusions: Study results indicate that differences exist between first time and returning medical marijuana patients. Longitudinal data are needed to characterize trajectories of substance use and functioning in these two groups.

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1. Introduction

Marijuana is the most commonly used schedule I controlled substance in the United States (US; Substance Abuse and Mental Health Services Administration, 2010). Based on national survey data, an estimated 16.7 million individuals 12 years of age or older have used marijuana in the past month (Substance Abuse and Mental Health Services Administration, 2010). Heavier marijuana use has been linked to a number of adverse health and social outcomes, including cannabis dependence, other psychiatric conditions such as psychosis, poor work outcomes, neurocognitive problems, and interpersonal violence (Adefuye et al., 2009; Brodbeck et al., 2006; Brook et al., 2008; Buckner et al., 2011; D'Souza, 2007; Gruber et al., 2003; Moore et al., 2005; Naar-King et al., 2010; Stinson et al., 2006). In addition, although primarily based on data from adolescents, there is concern that marijuana use could lead to greater utilization of other drugs (Kandel et al., 1992; Wagner and Anthony, 2002).

Despite the potential harms associated with use, individual marijuana users report that marijuana is helpful for managing a wide range of conditions and complications including AIDS wasting, spasticity from multiple sclerosis, depression, chronic pain, and nausea associated with chemotherapy (Institute of Medicine, 1999). Arguably, the strongest research base for the medicinal use of marijuana pertains to the treatment of pain. A number of laboratory studies have examined the short-term analgesic effects of marijuana use (Campbell et al., 2001; Institute of Medicine, 1999, 2009; Narang et al., 2008). These studies have generally established that marijuana use is associated with a significant reduction in self-reported pain levels when compared with a placebo. For example, Wilsey et al. (2008) found that pain was more tolerable with higher cumulative doses of marijuana than with a placebo in a laboratory setting. Other studies have supported the short term effect of synthetic cannabinoids in reducing pain (Holdcroft et al.,

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1997; Jochimsen et al., 1978; Maurer et al., 1990; Noyes et al., 1975; Staquet et al., 1978).

Very little is known about medical marijuana users and the use of medical marijuana for pain management. Most of the limited existing research on medical marijuana use for pain was conducted in either the United Kingdom (UK) or Canada. For example, in one study, 15% of patients presenting to an ambulatory pain clinic in Canada reported the use of marijuana for pain relief (Ware et al., 2003). Of these individuals, 62% reported marijuana use at least weekly and 38% reported use at least daily. Similarly, a survey of adults in the UK identified through patient support groups for pain and multiple sclerosis found that 18.3% of respondents reported past medical marijuana use; medical marijuana users were more likely to be male, younger in age, and using marijuana for non-medical reasons compared those with pain and multiple sclerosis who did not use medical marijuana (Ware et al., 2005). Opponents of the use of medical marijuana cite lack of Food and Drug Administration oversight, the potential for dependency, risk associated with the route of administration (smoking), potential misuse for recreational purposes, and lack of recommended dosages (Kleber and Dupont, 2012).

Despite the controversy about the potential benefits and costs of marijuana, 18 states, and the District of Columbia, have passed laws providing some level of legal protection for the use of marijuana for medical purposes, with California passing the first of its kind in 1996 (Stack and Suddath, 2009; The Associated Press, November 14, 2010). The specific covered conditions vary from state to state, as do the processes through which an individual can obtain, possess, and use the medical marijuana. Regardless, many aspects of medical marijuana laws are relatively consistent across the states in the following ways: (a) the individual must have one or more qualifying conditions; (b) a physician must document that the individual has one of these qualifying conditions and sign a form that is submitted to the state; (c) the state will then provide a card as verification that a patient qualifies to possess medical marijuana; (d) the patient can then either grow a small amount of marijuana or obtain it from a "caregiver"; and (e) the cards must be renewed on a regular basis to remain valid. Although individual states have legalized marijuana for medical purposes, marijuana use remains illegal under Federal law.

The vast majority of what is known about the epidemiology of marijuana use, its correlates, and its potential consequences comes from surveys that do not distinguish between recreational use and use intended for medical purposes. Research is needed to better describe the characteristics of those seeking marijuana for medical purposes and why they report they are seeking medical marijuana cards. Because medical marijuana cards must be renewed at regular intervals, clinics that provide certification for medical marijuana cards include a heterogeneous population of those seeking a card for the first time and those seeking to renew their medical marijuana card. Comparing these two potentially distinct groups provides an important opportunity to better understand how these groups differ in terms of their background characteristics. Additionally, although this is a cross-sectional study, comparing first time medical marijuana patients with those who have had legal access to marijuana for at least one year, provides initial descriptive information on the extent to which those with prior legal access have higher rates of substance use, lower pain and better functioning. The present study surveyed adults seeking medical marijuana from a single medical marijuana certification clinic in southwestern Michigan. This study compared patients seeking first-time medical marijuana certification with patients seeking renewal of their medical marijuana certification on measures of lifetime and current substance use, level of marijuana use and marijuana problems, self-reported pain, mental health and physical functioning.

2. Methods

2.1. Participants

The study was based in a single medical marijuana clinic in southwestern Michigan. Patients awaiting an appointment were asked by a research staff member, not employed by the medical marijuana clinic, if they would like to participate in a 15–20 min survey. During the recruitment period, 370 men and women aged 18 years and older were approached and 348 (94.1%) provided verbal consent to participate in this study. This study was approved by the University of Michigan Medical School Institutional Review Board. Remuneration was $20.

2.2. Measures

2.2.1. Frequency of substance use. Modified items from the World Health Organization's Alcohol, Smoking and Substance Involvement Screening Test (ASSIST) were used to determine if participants reported lifetime and past three-month use/misuse of marijuana, cocaine, sedatives or sleeping pills, street opioids, prescription opioids, amphetamines, hallucinogens, and inhalants (WHO ASSIST Working Group, 2002). Participants were asked if they ever used a specific substance in their lifetime; if they answered "Yes," they were asked how often they used the substance in the past three-months. Data were recoded to reflect any lifetime or past three-month use of each substance. For marijuana use, we also examined the frequency of past three-month use.

2.2.2. Alcohol problems. The Alcohol Use Disorder Identification Test (AUDIT) was used to assess for problematic alcohol use (Babor et al., 1989). The AUDIT asks participants about quantity and frequency of alcohol use over the past year in addition to questions about potential consequences of alcohol use. Prior research has established the reliability and validity of the AUDIT (Reinert and Allen, 2002) and current guidelines recommend a cut-off of greater than or equal to 8 as the best screen for a current alcohol use disorder (Conigrave et al., 1995).

2.2.3. Nonmedical pain medication use. Four questions from the Current Opioid Misuse Measure (COMM) were used to assess past 30-day nonmedical opioid use (Butler et al., 2007). The COMM was developed for use in pain treatment settings and has been found to have both good test-retest and internal reliability among chronic pain patients (Butler et al., 2007). Because the recommended scoring guidelines for the COMM were developed for a setting that is quite different from a medical marijuana clinic, the present study used a subset of items from the COMM which were recoded to create an indicator of any past 30-day nonmedical opioid use. Specifically, the following questions (all pertaining to the past 30 days) were used: (1) "How often have you needed to take pain medications belonging to someone else?"; (2) "How often have you had to take more of your pain medication than prescribed?"; (3) "How often have you borrowed pain medication from someone else?"; (4) How often have you used your pain medication for symptoms other than for pain?". Each of these items included the following response options: "never"; "rarely", "sometimes", "often", or "very often." For the present study, if a participant gave any response other than "never" for any of the four COMM questions, they were coded as having engaged in nonmedical opioid use in the past 30 days.

Additionally, participants were asked to rate the following two statements "I am trying to use prescription pain medications for nonmedical reasons less often than I used to" and "I am trying to use prescription pain medications for pain relief less often than I used to" on a five point scale. Responses were recoded to indicate either "strongly agree" or "agree" versus "neither agree or disagree", "disagree" or "strongly disagree".

2.2.4. Pain level. The Numeric Rating Scale (NRS) was used to assess pain level on an 11-point scale (0 = no pain, 10 = worst pain imaginable) (Farrar et al., 2001). Two questions were asked: (1) average pain over the past 30 days and (2) current pain level.

2.2.5. Functioning. The Short Form-12 Health Survey (SF-12) was used to measure emotional and physical functioning (Ware et al., 1995, 1996). The mental component score (MCS) measures mental health symptoms and the impact of these symptoms on one's daily life. The physical component score (PCS) measures key physical health problems and the degree to which the individual perceives that these problems interfere with their daily activities.

2.3. Data analyses

Prior to analysis, frequencies and univariate distributions were evaluated for important demographic characteristics, and categorical responses with low cell counts were consolidated, when necessary, to assure adequate within-cell sample size of planned chi-square tests (e.g., the response options '8th grade or less', 'some high school' and 'high school graduate or GED' were combined into the category of 'high school or GED or less'). Frequencies and percentages of substance use, pain and functioning were calculated for the overall sample; group frequencies and means were compared via chi-square and Wilcoxon signed-rank tests, respectively, to analyze differences between those who were seeking medical marijuana certification