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Cannabis use patterns and motives: A comparison of younger, middle-aged, and older medical cannabis dispensary patients

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HIGHLIGHTS

- Younger medical cannabis users may be using cannabis to relieve boredom.
- Middle-aged medical cannabis users are using cannabis as a sleep-aide.
- Older medical cannabis users are using cannabis to treat chronic medical conditions.
- Age of regular use onset is a risk factor for problematic cannabis use among medical cannabis users.

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ABSTRACT

Introduction: Medical cannabis is increasingly being used for a variety of health conditions as more states implement legislation permitting medical use of cannabis. Little is known about medical cannabis use patterns and motives among adults across the lifespan.
Methods: The present study examined data collected at a medical cannabis dispensary in San Francisco, California. Participants included 217 medical cannabis patients who were grouped into age-defined cohorts (younger: 18–30, middle-aged: 31–50, and older: 51–72). The age groups were compared on several measures of cannabis use, motives and medical conditions using one-way ANOVAs, chi-square tests and linear regression analyses.
Results: All three age groups had similar frequency of cannabis use over the past month; however, the quantity of cannabis used and rates of problematic cannabis use were higher among younger users relative to middle-aged and older adults. The association between age and problematic cannabis use was moderated by age of regular use initiation such that earlier age of regular cannabis use onset was associated with more problematic use in the younger users, but not among older users. Middle-aged adults were more likely to report using medical cannabis for insomnia, while older adults were more likely to use medical cannabis for chronic medical problems such as cancer, glaucoma and HIV/AIDS. Younger participants reported cannabis use when bored at a greater rate than middle-aged and older adults.
Conclusions: Findings suggest that there is an age-related risk for problematic cannabis use among medical cannabis users, such that younger users should be monitored for cannabis use patterns that may lead to deleterious consequences.

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1. Introduction

Twenty-eight states and the District of Columbia have implemented laws allowing the use of cannabis and its derivatives for a variety of medical conditions (National Conference of State Legislatures, 2017. With the advent of "legal" cannabis markets in more than half the United States, there is a risk of increased cannabis use by adolescents and young adults, who may access it through dispensaries and home cultivation allowances. Indeed, adolescents and adults in states with laws providing legal protection to medical cannabis dispensaries exhibit higher rates of cannabis use compared with states that do not allow medical use of cannabis, or do not allow for cannabis dispensaries (Hasin et al., 2015; Pacula, Powell, Heaton, & Sevigny, 2015). Furthermore, adolescents age 14–18 years in states with medical cannabis laws exhibit lower educational attainment than those in states without medical cannabis laws (Plunk et al., 2016). Greater perceived availability of cannabis and an increase in prevalence of cannabis use was observed among adults age 26 years and older in states with medical cannabis laws, but not among younger adults or adolescents (Martins et al., 2016), suggesting the impact of cannabis laws are variable. Higher rates of cannabis use among states with medical cannabis laws are also associated with a higher prevalence of cannabis use disorders (Cerda, Wall, Keyes, Galea, & Hasin, 2012), and an increase in the frequency of binge drinking among young adults age 21 or above (Wen, Hockenberry, & Cummings, 2015).

Although previous studies found relatively no differences between medical and non-medical cannabis users (Furler, Einarson, Millson, Walmsley, & Bendayan, 2004; Ogborne, Smart, Weber, & Birchmore-Timney, 2000), emerging research indicates that medical cannabis users display higher medical and psychological problems, whereas non-medical cannabis users exhibit more problematic alcohol use (Compton, Han, Hughes, Jones, & Blanco, 2017; Roy-Byrne et al., 2015; Woodruff & Shillington, 2016). These researchers conclude that medical cannabis users may be legitimately using cannabis to treat medical illness, pain and mental health concerns. To date, however, little research has been conducted to evaluate use characteristics, motives, and specific problems associated with medicinal cannabis use, particularly among different age cohorts.

Researchers have identified several motives for cannabis use among younger users, including altered perception, alleviation of boredom, perceived low health risk (compared to alcohol and other drugs), and sleep-aide, all of which were associated with higher frequency of cannabis use (Lee, Neighbors, Hendershot, & Grossbard, 2009). In terms of associated risk, young adults' motives for using cannabis have been shown to have an impact on their frequency and quantity of use and the development of problematic patterns of use and misuse (Bonn-Miller & Zvolensky, 2009), which is of particular concern given that adolescence and early adulthood is a critical time for brain development (Gruber, Silveri, Dahlgren, & Yurgelun-Todd, 2011; Lopez-Larson et al., 2011). For example, adolescents who use cannabis to cope with negative affect are significantly more likely to exhibit a greater number of cannabis dependence symptoms (Fox, Towe, Stephens, Walker, & Roffman, 2011). Individuals who use cannabis to cope in this manner may be predisposed to experience more frequent and intense negative affect and may rely on cannabis as a means of regulating their mood (Mitchell, Zvolensky, Marshall, Bonn-Miller, & Vujanovic, 2007). It is unclear whether the association between cannabis use motives and use consequences (i.e., dependence symptoms), observed among young adult populations extends to older adults or individuals using cannabis for medical purposes.

Most cannabis users initiate use in late adolescence, though they typically demonstrate a pattern of maturation in which they dramatically reduce or cease use after age 29 (Chen & Kandel, 1995; Price, Risk, & Spitznagel, 2001). Accordingly, adults who continue cannabis use into middle-age represent an overlooked demographic subset that may have significant unmet needs for addiction treatment. Differences between individuals who experiment and become regular cannabis users from those who eventually moderate or stop their use may be associated with their underlying motivation for use. In a study by Banes, Stephens, Blevins, Walker, and Roffman (2014), middle-aged (mean age 37.7, SD = 12.08) adults seeking treatment for cannabis use disorders had better clinical outcomes (i.e., decreased cannabis use frequency, dependence symptoms, and problems) if they reported less coping-oriented use of cannabis.

The baby boomer generation (currently age 50+) has historically demonstrated higher rates of substance use than previous generations before them, including cannabis use (SAMHSA, 2011). Given the higher rates of lifetime cannabis use among this cohort of older adults, coupled with increased prevalence of chronic medical conditions that arise in later life (Schneider, O'Donnell, & Dean, 2009), examination of factors that may contribute to greater problematic cannabis use in this population is important. An observational study found that older adult patients with alcohol and substance use disorders (aged 55 years and older) exhibited similar substance use patterns and levels of functioning in terms of psychological distress, family conflicts, and legal problems compared to a demographically matched sample of young adult patients with substance use disorders (aged 22–54 years). Importantly though, at 12-month follow-up, older adult patients with substance use disorders demonstrated significantly better substance use and functioning outcomes compared with younger patients, despite having had greater medical problems (Brennan, Nichol, & Moos, 2003). Although this study did not specifically examine cannabis, one reason that older adults may fare better following substance use treatment is a difference in motives for use. For example, older adults may be more likely to use substances, such as cannabis, to cope with medical problems.

Though recent research has been conducted to characterize medical cannabis patients (e.g., Ilgen et al., 2013; Reinarman, Nunberg, Lanthier, & Heddleston, 2011), there is little data on how cannabis use patterns and motives for use differ across the adult lifespan in this population. Given the paucity of research on medical cannabis use among age cohorts that encompass the full developmental lifespan, the current study aimed to: (1) to characterize and compare cannabis use patterns (i.e., frequency, quantity) and problematic use of cannabis and alcohol by age defined groups; and (2) to identify differential motives and medical/psychiatric conditions for which cannabis is used, as a function of age group. Such information can better inform the practices of consumers, clinical providers, and policy-makers.

2. Methods

2.1. Participants

Study participants ($N = 217$) were adult patients, age 18 years and older, using medical cannabis for a physical or mental health condition obtained from a licensed medical cannabis dispensary in San Francisco, California in 2012–2013. At the time of data collection, the dispensary was one of 20 medical dispensaries in San Francisco, located in an urban, commercial neighborhood. The mean age of the sample was 41.2 years ($SD = 14.9$), and 24% were female. Self-reported ethnicities were 69% White/Caucasian, 7% Black/Non-Hispanic, 3% Black/Hispanic, 8% Hispanic, 3% Asian, and 10% other. A comprehensive description of the sample, including other substance use, psychological symptoms and pain severity, was previously reported (see Bonn-Miller, Boden, Bucossi, & Babson, 2014).

2.2. Procedures

Patients presenting to the medical cannabis dispensary were provided with the opportunity to participate in the study by research staff. After obtaining written informed consent to participate, interested individuals completed a battery of questionnaires. Following a debriefing by research staff, participants were entered into 1 of 4 drawings to receive