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## Cannabis use and psychiatric illness in the context of medical marijuana legalization: A clinical perspective



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## ABSTRACT

**Objective:** More than half of the U.S. states have legalized medical marijuana. Emerging evidence suggests that medical marijuana legalization may increase marijuana use and cannabis use disorder (CUD). CUD is comorbid with, and exacerbates, numerous psychiatric conditions, including misuse of other substances. It is unclear if marijuana is a gateway to other drug use, if it is simply a marker of another variable or shared experiences. Thus, we aim to present a perspective of the potential impact of medical marijuana legalization on CUD, focusing on the relationship of CUD to other psychiatric disorders.

**Findings:** Medical marijuana legalization may lead to problematic cannabis use in patients with depressive symptoms, individuals with genetic predispositions, and those with certain early life stressors or who use in order to cope. Past positive experience with marijuana use may contribute to patient desire to seek medical marijuana treatment. Despite approved indications, medical marijuana often only leads to partial relief of its intended target symptom. While recreational marijuana use increases likelihood of using other drugs and is detrimental to recovery from other substance use disorders, the relationship between medical marijuana use and polysubstance use or risk of addiction relapse is uncertain.

**Conclusions and relevance:** Legalized medical marijuana use may increase rates of CUD, although further research is needed to clarify this association. Based on the literature, it is our perspective that patients with affective symptoms and those with other substance use disorders are at increased risk of developing CUD and its sequelae. Given the uncertainty surrounding how prescribed marijuana may interact with other disorders, it is paramount that clinicians make patient-specific judgments as to the risks and benefits of the treatment.

### 1. Introduction

33 states have legalized medical marijuana, for indications most commonly including appetite stimulation and relief of intractable pain or nausea secondary to a multitude of chronic conditions (please see supplementary content for indications by state) [5]. Medical marijuana legalization may increase rates of marijuana use, and marijuana may increase risk for other substance use [3,5]. Further, marijuana use is a poor prognostic factor for other substance use disorders [6,8]. These trends are especially concerning for psychiatrists because CUD is comorbid with and may exacerbate other psychiatric conditions [2,5]. This is a notably controversial point, as some argue that marijuana use is instead a marker of individual traits that predispose certain people towards both marijuana and other drugs – this is the common liability model. The gateway and common liability phenomena both play a role in understanding marijuana use and are probably not mutually exclusive [6]. Consequently, understanding the potential effects of medical marijuana on the psychiatric population is not straightforward. We aim to briefly review CUD while proposing our perspective of how CUD may be affected by marijuana legalization. Our hope is that this article can inform clinicians in order to help provide the best patient care possible.

### 2. Cannabis use disorder

#### 2.1. Clinical presentation, risk factors, and comorbidities

CUD is a pattern of persistent drug use that interferes with functioning (DSM-5 criteria in Table 1) [1]. Though marijuana produces dependence less readily than most other substances – 9% of those who try marijuana develop physical dependence, compared to 24% of those who try heroin – CUD the most prevalent substance use disorder in North America except alcohol use disorder [3].

Legalizing medical marijuana may increase rates of cannabis use and thus of CUD by changing the social environment surrounding attitudes towards and access to marijuana [3,4]. As far as psychiatric risk factors, problematic cannabis use in a sample of adults receiving medical marijuana was predicted by depressive symptoms [5]. Accordingly, CUD is highly comorbid with many other psychiatric illnesses; up to 95.6% of men and 94.1% of women with CUD have a psychiatric comorbidity, most commonly alcohol use disorder, anti-social personality disorder, and affective disorders [7].

#### 2.2. Social effects

Cannabis use is associated with negative social sequelae. It is a risk factor for unemployment, failure in education, and inability to maintain

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**Table 1**  
Diagnostic criteria for CUD [1].

DSM-5 Criteria for cannabis use disorder
A problematic pattern of cannabis use leading to clinically significant impairment or distress as manifested by at least two of the following occurring in a 12-month period:
1. Cannabis is often taken in larger amounts over a longer period than was intended.
2. There is a persistent desire or insignificant effort to cut down or control cannabis use.
3. A great deal of time is spent in activities necessary to obtain cannabis, use cannabis or recover from its effects.
4. Craving or a strong desire or urge to use cannabis.
5. Recurrent cannabis use resulting in failure to fulfill major role obligations at work, school or home.
6. Continued cannabis use despite having persistent or recurrent social or interpersonal problems caused or exacerbated by the effects of cannabis.
7. Important social, occupational or recreational activities are given up or reduced because of cannabis use.
8. Recurrent cannabis use in situations which is physically hazardous.
9. Cannabis use is continued despite knowledge of having persistent or recurrent physical or psychological problems that are unlikely to have been caused or exacerbated by cannabis.
10. Tolerance, as defined by either:
A) A need for markedly increased amounts of cannabis to achieve intoxication and desired effect, or
B) A markedly diminished effect with continued use of the same amount of cannabis.
11. Withdrawal, as manifested by either:
A) The characteristic withdrawal symptoms for cannabis, or
B) A closer related substance is taken to relieve or avoid withdrawal symptoms.

intimate relationships. Long-term marijuana users exhibit decreased cognitive functioning from their teenage years to adulthood. It is not currently possible to determine the direction of causality between CUD and these correlates.

### 2.3. Interaction with other substance use disorders

Secondary marijuana use is a poor prognostic factor for relapse of other substance use disorders, particularly heroin, opioid, tobacco, and alcohol disorders (Subbaraman et al. 2017). It has been proposed that marijuana is a “gateway” drug, leading to other substance use. Regular marijuana use is associated with a greater likelihood of using, abusing, and dependence on other recreational drugs; in these situations, marijuana use predated the use of the other drugs [6]. Importantly, no causal link has been established. What is clear is that thorough psychiatric evaluation of patients with cannabis dependence is paramount. Failing to recognize CUD in patients with comorbid mental illness may lead to inadequate treatment and poorer prognosis; thus, clinicians must remain cognizant of the prevalence of cannabis use among psychiatric populations.

### 3. Challenges

In the inpatient rehabilitation setting, one patient using prescribed medical marijuana for a medical condition may negatively impact another patient in recovery. If a patient needs medical marijuana and has physician clearance, then it is their clear right to have the treatment. But, the presence of other patients high on marijuana would likely be triggering for patients with CUD, perhaps even more so than seeing the drug itself. Given the uncertainty surrounding how prescribed marijuana for medical indications may interact with psychiatric disorders risk of developing CUD, at this time it is important that clinicians make patient-specific judgments as to the risks and benefits of the prescribing cannabis treatment. Further challenges include preventing CUD relapse.

The current literature shows that environmental strategies, including disposing of cannabis related equipment, are successful strategies for cessation. Also, patients who more highly endorse that marijuana negatively impacts one's health and self-image are less likely to relapse [5].

In sum, it will be important to identify which populations are at risk for CUD, which groups benefit maximally from marijuana, and how medical marijuana impacts the psychiatrically ill. With careful clinician judgment and psychiatric follow up, medical marijuana can be part of treatment to relieve symptoms of patients who need it without negatively affecting other psychiatric conditions.

### Author contributions

MY and NK contributed conception and design of the article; MY wrote the first draft of the manuscript; MY, TK and NK wrote sections of the manuscript; MY, TK and NK contributed to manuscript revision, read and approved the submitted version.

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### Declaration of competing interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

### Appendix A. Supplementary data

Supplementary data to this article can be found online at <https://doi.org/10.1016/j.genhosppsy.2019.08.003>.

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