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At high risk and want to quit: Marijuana use among adults with depression or serious psychological distress

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HIGHLIGHTS

- We assessed marijuana use and quit behaviors among adults with depression or SPD.
- People with depression or SPD were more likely to use marijuana.
- People with depression or SPD were equally or more likely to make quit attempts.

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ABSTRACT

Objectives: This study compared marijuana use characteristics and quit behaviors between adults with and without depression or serious psychological distress (SPD).
Methods: Drawing data for 39,133 non-institutionalized adults from the 2011 National Survey on Drug Use and Health, we assessed marijuana use status, frequent use, dependence or abuse, and quit behaviors in association with lifetime clinician-identified depression, lifetime and recent major depressive episode (MDE), and recent SPD.
Results: Adults with depression or SPD were at a significantly higher risk of being lifetime ever users (OR = 1.60–2.08), past year users (OR = 1.67–1.86), frequent users (OR = 1.40–1.62), and dependent or abusing users (OR = 2.32–3.05) compared with adults without these symptoms. Adults with depression or SPD had a lower quit ratio overall, but were equally or even more likely to make quit or self-regulation attempts. Further analysis suggested that adults with recent MDE had the greatest level of quit attempts or self-regulation attempts compared with adults without MDE or with past MDE.
Conclusions: These findings highlight the need for tailored cessation programs to sustain quit attempts and promote successful quitting among adults with depression or SPD, especially those with recent symptoms.

1. Introduction

Marijuana is the most commonly used illicit drug among adults in the United States (SAMHSA, 2012). The lifetime prevalence of marijuana use in the United States was estimated to be approximately half of the adult population (NSDUH, 2012), far higher than other countries in the world (Degenhardt et al., 2008). The trends in marijuana use prevalence have remained flat in the 1990s and deceased only slightly in the 2000s (Gledhill-Hoyt, Lee, Strote, & Wechsler, 2000; Harper, Strumpf, & Kaufman, 2012; Mohler-Kuo, Lee, & Wechsler, 2003). To reduce the prevalence of marijuana use and achieve the Healthy People 2020 objective of increasing the proportion of persons who need illicit drug treatment and receive specialty treatment for abuse or dependence by 10% ("Healthy People 2020 Objectives,"), effective intervention and treatment programs need be designed to target subgroups at high risk of marijuana use in the entire population.

Among people at high risk of marijuana use, those with mental health problems are one of the most vulnerable subgroups. The concurrence of marijuana use and a wide range of mental illness, including depression, has been only sporadically documented in population-based investigations (Kessler et al., 1996; Lev-Ran, Le Foll, McKenzie, George, & Rehm, 2013; Mathews, Hall, & Gartner, 2011). Several studies have examined the association between marijuana use and general mental illness or depression defined by the Diagnostic and Statistical Manual of Mental Disorders, third edition DSM-III or fourth edition DSM-IV ("Diagnostic and statistical manual of mental disorders (3rd Edition)," 1980; "Diagnostic and statistical manual of mental disorders (4th Edition)," 1994). For example, Lev-Ran et al. (2013) estimated that adults who suffered from mental illness in the past year according to DSM-IV criteria were 2.5 times as likely to report marijuana use

Abbreviations: NSDUH, National Survey on Drug Use and Health; SPD, serious psychological distress; MDE, major depressive episode; OR, odds ratio; CI, confidence interval.

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compared to adults without such mental illness, and 3.2 times as likely to report marijuana use disorders. Specifically, 3.4% adults with major depression used marijuana at least weekly, significantly higher compared to the 0.6% prevalence rate among adults without any mental illness. Another study (Kessler et al., 1996) reported that 90% of respondents with marijuana dependence in the National Commodity Survey had lifetime DSM-III psychiatric disorders. Mathews et al. (2011) estimated that people being marijuana dependent were 5.59 times as likely to be diagnosed with affective disorders, including major depressive disorder, dysthymia and bipolar. Instead of using diagnostic criteria to assess mental illness, some studies have focused on psychological measures to explore their association with marijuana use. For example, Mathews et al. (2011) also found that serious nonspecific psychological distress assessed by the Kessler Psychological Distress Scale (K6) was more common among marijuana-dependent respondents (68.5%) than among other respondents (28.5%).

Although the previous population-based studies reviewed above agreed that adults with depression or serious psychological distress (SPD) were at a higher risk of being marijuana users, no studies have made further comparison of marijuana quit behaviors between adults with and without these symptoms. It is unknown whether marijuana users with depression or SPD are less likely to make quit attempts, or if they have a comparable level of quit attempts but their quit attempts are less likely to be successful. In addition, the previous studies investigated either lifetime or current depression or SPD. No studies thus far have attempted to explore possible differential associations between marijuana use and the measurers in different time horizons. The previous studies are also limited by their relatively old data source in the late 1990s or early 2000s, or their lack of representativeness of the adult population in the United States.

We used the most recent National Survey on Drug Use and Health (NSDUH) data (2011) to compare the marijuana use characteristics and quit behaviors between adults with and without depression or SPD in the United States. Both lifetime and recent symptoms screened by various instruments were examined. This comprehensive examination was expected to deepen our understanding of the relationship between marijuana use and mental health problems, improve the screening for high risk marijuana use subgroups, and provide guidance in the treatment development for the targeted population.

2. Methods

2.1. Data source

The data source for this study is the repeated cross-sectional survey NSDUH conducted annually in the United States since 1971. The NSDUH collects data on the use of tobacco, alcohol, marijuana, other drugs, and on related issues such as drug dependence and abuse, and health conditions. The NSDUH uses a multistage household sampling strategy and represents 98% of the non-institutionalized civilian population aged 12 and older in the United States. Computer-assisted interviewing was introduced in 1999 to increase the validity of the responses on sensitive behaviors. Detailed description of the sampling and survey methodology can be found elsewhere (NSDUH, 2012). We drew the adult participants from the 2011 survey to provide the most recent description of mental health and marijuana use status in the United States at the time of the study. The combined household and individual weighted response rate was 74.7%.

2.2. Marijuana use outcomes

2.2.1. Use status

The NSDUH screens respondents for their most recent marijuana use if they ever used marijuana in their lifetime, and collects the frequency information of marijuana use for the 12-month reference period prior to the interview. Ever marijuana use was defined as reporting any marijuana use in a respondent's lifetime, and past year marijuana use was defined as having most recently used marijuana within the past 12 months.

2.2.2. Frequent use

In line with relevant literature (Lev-Ran et al., 2013; Moore et al., 2007; Patton et al., 2002), we categorized frequent use as reporting at least weekly marijuana use on average in the reference period. Specifically, past year frequent use was defined as engaging in marijuana use for 52 days or more in the past 12 months.

2.2.3. Dependence or abuse

According to the NSDUH (NSDUH, 2012), a respondent was defined as marijuana dependent if he or she met at least three of the following marijuana dependence criteria in the past year: spent a great deal of time getting, using, or getting over the effects of marijuana; used marijuana more often than intended; needed to use marijuana more than before; unable to cut down or stop using marijuana; used marijuana even when it caused problems; and reduced participation in important activities due to marijuana use. Marijuana abuse was defined as reporting one or more of the following marijuana abuse symptoms in the past year while not being screened positive for marijuana dependence (NSDUH, 2012): had serious problems because of marijuana use; used marijuana regularly and put oneself in physical danger; got into trouble with the law due to marijuana use; and continued to use marijuana although its use caused problems with family or friends. In this study, a respondent was identified as "marijuana dependent or abusing" if he or she was classified under marijuana dependence or marijuana abuse as defined by the criteria above.

2.2.4. Quit behavior

Former marijuana users were defined as those who had ever used marijuana in their lifetime but did not use marijuana in the past year. The quit ratio was computed as the ratio of number of former users to lifetime ever users, representing the total cessation rate in the population. In the NSDUH, past year marijuana users were asked if they had tried to cut down or stop marijuana use in the past year. A quit attempt was defined as answering "yes" to this question. Past year marijuana users were also asked if they had tried to set limits on how often or how much marijuana was used in the past year. Respondents responding with a "yes" answer to this question were categorized as having made a self-regulation attempt.

2.3. Depression and serious psychological distress (SPD) measures

2.3.1. Lifetime clinician-identified depression

Lifetime clinician-identified depression was assessed by the self-report recall of ever receiving a clinical diagnosis of depression. Respondents were asked to choose from a list any of the mental or physical health conditions that a doctor or other medical professional had ever told them they had. Those who selected depression from the list were classified as having lifetime clinician-identified depression.

2.3.2. Lifetime and recent major depressive episode (MDE)

MDE questions were adapted from the Composite International Diagnostic Interview (CIDI), which was used in the depression section of the National Comorbidity Survey—Replication (Kessler et al., 2003). A participant in the NSDUH was classified as having lifetime (or recent) MDE if he or she reported ever (or in the past year) having at least five out of nine DSM-IV clinical criteria, where at least one of the criteria was a depressed mood or loss of interest or pleasure in daily activities (NSDUH, 2012). The study sample was further grouped into three mutually exclusive categories based on the lifetime and recent MDE status of participants – no MDE (without MDE in lifetime), past MDE (with lifetime MDE but not recent MDE), and recent MDE – to compare the marijuana use and quit behaviors among these three groups.