# **Association of Marijuana Use With Poor Mental Health Among** Non-Institutionalized Adults in the US

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### Background

- There is robust evidence that cannabis (i.e., marijuana) is an effective treatment for chronic pain in adults. However. marijuana use is associated with cardiovascular diseases, impaired cognitive function, increased impulsivity, and a higher risk of mental health disorders like psychosis, anxiety, and depression
- Due to a complex interplay of popular opinion, financial, and political considerations, many states have legalized marijuana, and there is a growing momentum toward federal legalization as well. Literature suggests that in states where marijuana has been legalized, there has been an increase in higher prevalence of its use.
- With the increasing prevalence of marijuana use, it is important to study its association with serious psychological distress (SPD), which can lead to a cascade of negative consequences and cause high clinical, humanistic, and economic burdens.

# Objective

The objective of this study is to determine the association of marijuana (cannabis/hashish) use with last month's SPD using a large, nationally representative sample of US households.

## Methods

**Design and Data Source:** This is a cross-sectional analysis of a nationally representative survey, the National Survey on Drug Use and Health (NSDUH) 2021. **Analytical Sample:** A total of 47,247, representing 253.7 million U.S. adults (Ages≥ 18 years), with no missing data on marijuana recency and serious psychological distress (SPD), excluding adults ages 18-23 who reported living in dormitories (n=44) because their information on poverty status and income was missing.

**Key explanatory variables:** Imputed variable for marijuana recency by NSDUH investigators, categorized into four groups: used marijuana in the last month, last year (1-12 months), more than one year ago, and never.

**Dependent Variable:** SPD reported occurring within the last month (yes/no), based on the Kessler-6 distress scale (K6), which assesses feelings of nervousness, hopelessness, restlessness, depression, worthlessness, and the perception that everything requires significant effort over the past 30 days.

**Other explanatory variables**: Age, sex, race/ethnicity, marital status, education, poverty, health insurance, living in metro areas, obesity, multimorbidity, and perceived negative impact of COVID-19 on mental health.

**Statistical Analysis:** Rao-Scott chi-square tests to test the association between categorical explanatory variables and SPD. Multivariable logistic regression to identify the association between marijuana recency on the SPD while controlling for other explanatory variables. When explanatory variables had missing data (obesity and the negative effect of COVID-19 on mental health), missing indicators were incorporated into the logistic regressions. All analyses were completed using SAS 9.4 survey procedures.



The reference group for Marijuana recency is "Never marijuana use." Fully adjusted model was adjusted for Age, sex, race and ethnicity, marital status, education, poverty, health insurance, living in metro areas, obesity, multimorbidity, and perceived negative impact of COVID-19 on mental health.

- Schedule I drug.

- accessibility.

- causation.

### Strengths:

- findings.
- analysis.
- results.

### Limitations:

- use.



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### Discussion

Significant prevalence of marijuana use among adults, with one in seven reporting use within a month and one in five within a year, reflecting a high prevalence of marijuana among US adults.

Increased marijuana use attributed to factors like state legalization laws and the COVID-19 pandemic despite federal regulations classifying it as a

• Complex interplay between marijuana use and mental health outcomes, with frequent use linked to withdrawal symptoms and poor mental health, exacerbated by pandemic-induced stressors.

• Marijuana consumption is associated with increased mental health issues, exacerbating treatment burdens and posing challenges in accessing mental health care, thus impacting various psychosocial aspects of individuals' lives. Assessing both the benefits and harms of marijuana use is crucial before recommending it, particularly with the option of medical marijuana

# Conclusion

Nearly one in 13 adults reported SPD in the last month of the interview Marijuana use is associated with SPD, particularly among more recent users, suggesting a potentially strong link with marijuana recency. However, as the study was cross-sectional, the found association could be bidirectional, so a longitudinal study would be necessary to establish

There is a need to adopt a holistic approach to address mental health concerns, recognizing the interconnectedness of various psychiatric conditions and substance use patterns.

# **Strengths and Limitations**

Nationally representative NSDUH 2021 enhances the credibility of our

Inclusion of detailed covariates enriches the depth and context of our

Large sample size enhanced the statistical robustness and reliability of

Marijuana use was self-reported, which may introduce biases or underreporting due to social desirability.

• The study didn't consider the influence of state-level marijuana policies on availability and usage patterns, which could significantly impact results. • The study didn't differentiate between medical and recreational marijuana