

# People who use cannabis for pleasure and pain are not the same

A comparison of cannabis use patterns among recreational and medical cannabis users from the Global Drug Survey.

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## Background

- Cannabinoids have various **therapeutic properties**, such as anxiolytic, antidepressant, neuroprotective, immunomodulatory<sup>1</sup> and anticonvulsant<sup>2</sup> characteristics.
- There is **substantive evidence** to support the efficacy of cannabis for the treatment of chronic pain, patient-reported spasticity caused by MS, epilepsy, nausea or vomiting in chemotherapy<sup>3</sup>.
- Self-reported medical cannabis use is **increasing**<sup>4</sup>.

## Research questions

1

Do exclusively **medical** and exclusively **recreational** cannabis users form separate groups?

2

Do patients treating **different medical conditions** vary in how they perceive cannabis, signs of self-medication and dependency?

## Method

### Study design & sample

- Cross-sectional survey design.
- Analysis of data from the largest online survey of substance use (**Global Drug Survey**).
- Data from **>40,000** past year cannabis users across 205 countries collected between Nov 2016 and Jan 2017.

### Measures

- **Sociodemographic**: age, gender.
- **Cannabis use**: days spent using cannabis in last 12 months, amount used per day, hours spent stoned per day, preferred preparation, most common method of intake.
- **Other drug use**: past prescription drug use, past recreational drug use.
- **Medical cannabis use**: effectiveness rating, medical diagnosis, disclosure of medical cannabis use to doctors, desire to get stoned, need to increase dose, worried about out-of-control use

### Analyses

- Descriptive statistics,  $\chi^2$  tests, t-tests, Kruskal-Wallis H tests, Mann-Whitney U test, one-way ANOVA

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3. National Academies of Sciences, Engineering and Medicine. (2017). *The Health Effects of Cannabis and Cannabinoids: The Current State of Evidence and Recommendations for Research*. Washington (DC): National Academies Press.  
4. Schauer, G., King, B., Bunnell, R., Promoff, G., & McAfee, T. (2016). Toking, Vaping, and Eating for Health or Fun. *American Journal of Preventive Medicine*, 50(1), 1-8.

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Characteristic	Med (N = 686)	Rec (N = 42,871)	P value
Age	38.01	25.82	$p < .001$
Gender			$p < .001$
Male	61.2%	72.9%	
Female	38.8%	27.1%	
Days spent using cannabis in last 12 months	194.38	100.46	$p < .001$
Amount of cannabis used in a day (grams)	1.45	0.65	$p < .001$
Hours of day spent stoned	5.99	3.85	$p < .001$
Past recreational drug use	52.9%	65.5%	$p < .001$
Past prescription drug use	52.3%	22.4%	$p < .001$

**Fig 1.** Demographic and cannabis use characteristics of people who use medical and recreational cannabis.

## Preferred preparation of intake

Recreational:

- Normal weed ( $p < .001$ )

Medical:

- Edibles ( $p < .001$ )
- Oil ( $p < .001$ )
- Butane hash oil ( $p < .001$ )

## Most common method of intake

Recreational:

- Joint with tobacco ( $p < .001$ )

Medical:

- Pipe without tobacco ( $p < .001$ )
- Bong with tobacco ( $p < 0.14$ )
- Bong without tobacco ( $p < .001$ )
- Vaporiser ( $p < .001$ )
- Tincture ( $p < .001$ )
- Medical spray ( $p < .001$ )
- Eaten ( $p < .001$ )

**Results:** Medical cannabis users were older, more often female, used cannabis more frequently and in greater quantities, spent longer intoxicated, preferred healthier preparations and routes of administration and reported more prescription but less recreational drug use.

## Discussion

- Medical cannabis users use cannabis in a manner consistent with **medical administration**.
- Use more **frequently** as they need to treat continuous condition continuously.
- Use in **greater quantities** may reflect increased tolerance due to more frequent use and/or increased efficacy experienced with greater concentrations of  $\Delta 9$ -THC.
- Preferred **less harmful modes of intake**, such as smoking cannabis without tobacco.
- More commonly used bongs – perceived to be to be healthier as bongs filter the cannabis but do not improve the  $\Delta 9$ -THC/tar ratio.
- Smoking cannabis in a **joint with tobacco** still most common method of intake for both groups.

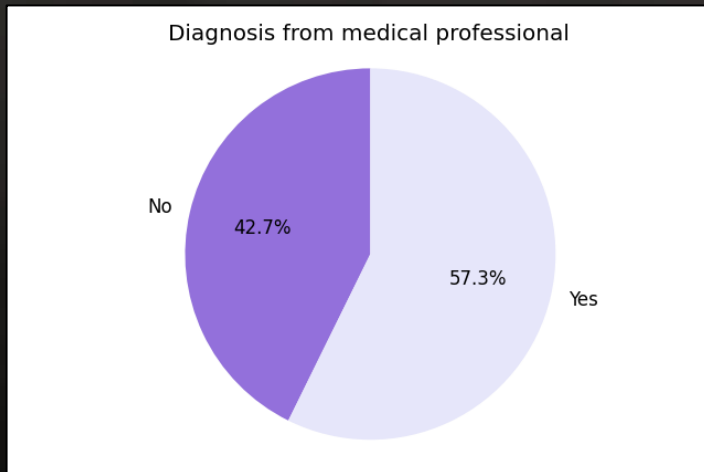
**Conclusion:** Physicians need to ensure they communicate accurate cannabis harm reduction information to medical cannabis patients.

**Conflict of interest statement:** Adam Winstock is the owner and founder of the GDS.

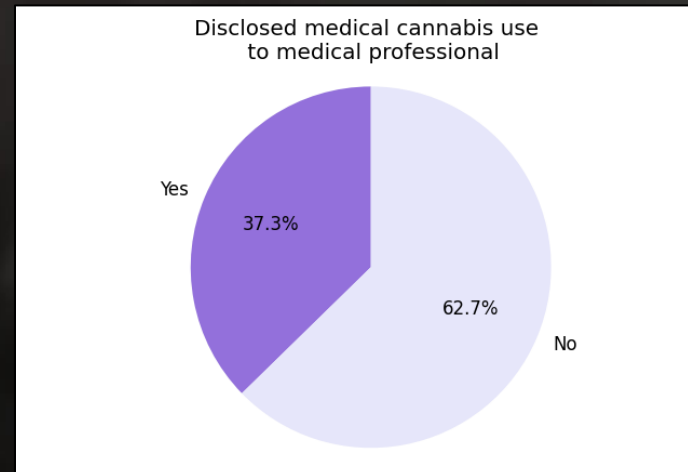


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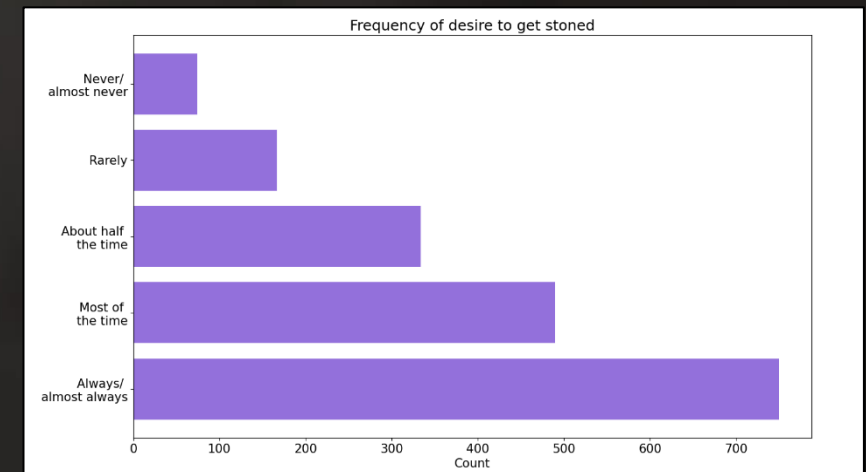
- The conditions most commonly treated with cannabis were **insomnia, depression, anxiety, headache & musculoskeletal pain**.
- Subsequent analyses focused on individuals primarily\* treating a **psychiatric disorder** (depression/anxiety), **sleep disorder** (insomnia/other sleep problems) & **chronic pain** (chronic musculoskeletal/neuropathic/other chronic pain).
- Cannabis was used to treat an average of 3.8 conditions, with a great deal of overlap among these patient groups.



**Fig 2.** Proportion of medical cannabis users with a medical diagnosis of their primary condition.



**Fig 3.** Proportion of medical cannabis users who had disclosed their medical use of cannabis use to treat their primary condition to their doctors.



**Fig 4.** Frequency with which medical cannabis users reported desiring to get stoned when using medical cannabis to treat their primary condition.

## Results

- Participants rated cannabis 8/10 in terms of effectiveness for their primary condition.
- Patients treating a **sleep disorder** found cannabis to be more **effective** but more frequently **self-diagnosed** their condition and **failed to disclose** their cannabis use to doctors (all  $p < .001$ ).
- Patients treating a **psychiatric disorder** were more likely to report **tolerance** and worrying about **out-of-control use** (both  $p < .001$ ).

## Discussion

- Cannabis is used to treat **chronic, comorbid conditions**.
- Although it is mainly used to treat conditions where there is **little evidence** of its efficacy, it is perceived by patients to be quite effective.
- Patients treating sleep disorders are frequently **self-medicating** without the guidance of a medical doctor. These patients are at risk of inadvertently misusing cannabis.
- Patients treating psychiatric disorders seem to exhibit greater signs of **dependency**.

**Conclusion:** There is a need for better communication between doctors and patients about medical cannabis and for careful monitoring of medical cannabis use in those at risk of addiction (i.e. with psychiatric disorders).

\*Primary condition = the main condition participants treated with cannabis.