Recreational cannabis use is associated with decreased use of prescription and over-the-counter sleep medications

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No Disclosures
Background and Objective

- Cannabis may improve the quality and duration of sleep and improve insomnia
- Up to two-thirds of patients taking medical cannabis report substituting cannabis for prescription medications, including medications for pain, anxiety, and/or sleep
- We examined whether recreational cannabis users are using cannabis to improve sleep, and whether recreational cannabis is associated with changes in use of OTC or prescription sleep aids

Sources: National Academies Report (2017); Nunberg et al. (2011); Grella et al. (2014); Reiman (2009); Zaller et al. (2016)
Cannabinoids for Medical Use: Effect on Insomnia and Sleep Quality

- Systematic review of benefits and adverse events of cannabinoids
- RCTs (n=79) of cannabinoids for:
  - N/V 2° chemotherapy (n=28)
  - Appetite stimulation in HIV (n=4)
  - Chronic pain (n=63)
  - Spasticity (n=33), Tourette’s (n=7)
  - Depression (n=0), Anxiety (n=1)
  - Psychosis (n=9)
  - Glaucoma (n=1)
  - Sleep disorders (n=5)
    - 19 trials of other indications included sleep as an outcome
- Results demonstrated some evidence that cannabinoids are associated with improvements in insomnia, sleep quality, and sleep disturbance
Impact of Medical Cannabis on Insomnia

- Survey of 100 consecutive patients returning for yearly recertification for medical cannabis use in Hawaii
- Response rate 94%
- Most respondents (97%) used cannabis primarily for chronic pain, and reported a 64% relative decrease in average pain
- Many respondents (45%) reported relief from insomnia
- Many respondents wrote notes on the survey describing impact of cannabis
  - “In the last two years, I have been able to drop meds for anxiety, sleep, and depression.”
  - “I do not need Xanax anymore.”

Overlap in Medical and Recreational Use

• Users in states with legal recreational use may use for symptom relief without formal medical recommendation
  – Anonymous WA-based on-line survey of 2,404 respondents who used $\geq 1x$ in 30 d found 1,429 (59%) identified as medical rather than recreational users, but only 40% of medical users reported obtaining a formal recommendation from a medical provider. Common conditions: pain (61%), anxiety (58%), depression (50%).
• Users with medical illness may prefer inhaled/smoked forms due to rapid response, easy titration
• Use for symptom relief by recreational users is unknown

Source: Sexton, Cannabis and Cannabinoid Research, 2016
Methods

- To assess use for symptom relief by recreational users, we surveyed a convenience sample of recreational cannabis customers at two dispensaries in Colorado from 8/2016 to 10/2016.
- Electronic surveys conducted by the dispensary organization as part of a customer information program.
- Data de-identified and provided to researchers for analysis.
Methods: Sleep Questions

- Do you use cannabis for sleep?
- How often do you use cannabis for sleep?
- How, if at all, has cannabis changed your prescription sleep medication use in the last 6 months?
- How, if at all, has cannabis changed your over-the-counter sleep medication use in the last 6 months?
## Results (n=1,000)

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>N (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Age</strong></td>
<td></td>
</tr>
<tr>
<td>&lt;30</td>
<td>412 (42)</td>
</tr>
<tr>
<td>30-49</td>
<td>478 (48)</td>
</tr>
<tr>
<td>≥50</td>
<td>104 (10)</td>
</tr>
<tr>
<td><strong>Female sex</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>418 (42)</td>
</tr>
<tr>
<td><strong>Race/ethnicity</strong></td>
<td></td>
</tr>
<tr>
<td>White, non-Hispanic</td>
<td>610 (66)</td>
</tr>
<tr>
<td>Black, non-Hispanic</td>
<td>93 (10)</td>
</tr>
<tr>
<td>Hispanic/Latino, of any race</td>
<td>171 (19)</td>
</tr>
<tr>
<td>Any other or multiple races</td>
<td>50 (5)</td>
</tr>
</tbody>
</table>
Results: Frequency of use

- 74% (n=742) reported using cannabis for sleep

- **Nightly**: 67%
- **2-3 times a week**: 22%
- **Once a week**: 3%
- **Less than once a week**: 7%
Results: Perceived helpfulness

- Extremely helpful: 50%
- Very helpful: 33%
- Moderately helpful: 14%
- A little helpful: 3%
Results: OTC sleep medication

- 41% (n=303) reported OTC sleep medication use

<table>
<thead>
<tr>
<th>Completely stopped</th>
<th>Decreased</th>
<th>No change</th>
<th>Increase</th>
</tr>
</thead>
<tbody>
<tr>
<td>52%</td>
<td>35%</td>
<td>12%</td>
<td>1%</td>
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Results: Prescription medication

- 24% (n=174) reported prescription sleep medication

- 57% Completely stopped
- 26% Decreased
- 12% No change
- 1% Increase
Summary

- Nearly three-quarters of respondents reported using cannabis for sleep.
- Most (83%) found cannabis to be very or extremely helpful for sleep.
- Among respondents using over-the-counter or prescription sleep medications, the vast majority (>80%) reported reducing or stopping use of those medications.
Limitations

• Results could be biased by selection (convenience sample)
• Unclear generalizability
• Social desirability bias
• Self-report, did not verify with medical or prescription records
Conclusions

• Sleep is a common reason for using cannabis among “recreational” customers

• Findings suggest *de facto* medical use among a majority of “recreational” customers

• Cannabis use is associated with decreased use of prescription and over-the-counter sleep medications