Medical Cannabis Program

Cannabis Nugs Of Wisdom

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Disclaimer

• The opinions shared during this meeting do not necessarily reflect the position of the Medical Cannabis Program.

• The Medical Cannabis Program does not endorse any specific product, producer, or vendor.

• The information presented in this meeting is as of May 18, 2023, and is subject to change as additional data is gathered and research is performed.
 Updates

• Electronic applications only
  • No more paper submissions
  • Online Patient Portal is HIPAA compliant

• Senate Bill 242
  • No more annual verifications
  • 2-year card with 2-year requirement

• Digital card only
  • No more plastic cards
  • Annual verification dates removed

• Insomnia approved as a qualifying condition
  • Added to list beginning June 1, 2023
Insomnia

• Experienced by 50 to 70 million U.S. adults.¹
• Generates over 5 million office visits per year in the United States alone.²
• 25 percent of Americans will experience acute insomnia.³
• 10 to 15 percent endorse chronic insomnia.⁴
• Common in older adults and women
• Increasing in unemployed, divorced, widowed, separated, or of lower socioeconomic status
Impact of insomnia

• Decreased quality of life
  • high blood pressure
  • weakened immune performance
  • weight gain
  • lack of libido
  • some cancers

• Decreased cognitive function and performance
  • mood swings
  • paranoia
  • depression
  • dementia
Impact of insomnia

- Cardiovascular risk and mortality
  - higher risk of diabetes
  - stroke
  - cardiovascular disease
- Self-medication leading to substance abuse
- Association with suicide
How much Sleep is needed?\(^5,6\)

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Age</th>
<th>Recommended Hours of Sleep</th>
</tr>
</thead>
<tbody>
<tr>
<td>Infant</td>
<td>4-12 months</td>
<td>12-16 hours per 24 hours (including naps)</td>
</tr>
<tr>
<td>Toddler</td>
<td>1-2 years</td>
<td>11-14 hours per 24 hours (including naps)</td>
</tr>
<tr>
<td>Pre-School</td>
<td>3-5 years</td>
<td>10-13 hours per 24 hours (including naps)</td>
</tr>
<tr>
<td>School Age</td>
<td>6-12 years</td>
<td>9-12 hours per 24 hours</td>
</tr>
<tr>
<td>Teen</td>
<td>13-18 years</td>
<td>8-10 hours per 24 hours</td>
</tr>
<tr>
<td>Adult</td>
<td>18-60 years</td>
<td>7 or more hours per night</td>
</tr>
</tbody>
</table>
Insomnia Questionnaires

- **Sleep Condition Indicator (SCI)** - score 16 or less indicates probable insomnia
- **Insomnia Severity Index (ISI)** - score 15 or more indicates moderate to severe insomnia
- **Dysfunctional Beliefs and Attitudes about Sleep (DBAS) Scale**
- **Daytime Insomnia Symptom Scale (DISS)**
- **Flinders Fatigue Scale**
Treatments for insomnia

- Cognitive behavioral therapy
- Pharmacological therapies
- Alternative therapies
  - Valerian
  - Melatonin
  - Cannabis
Cognitive Behavioral Therapies

- General Sleep Education
- Bedtime Restriction Therapy
- Stimulus Control Therapy
- Relaxation Techniques
- Cognitive Restructuring
Simple Steps to Improve Sleep

• Maintain a regular wake up time, even on weekends, regardless of a poor night sleep
• Resolve concerns or worries before bedtime
• Avoid going to bed until you are drowsy and ready to sleep
• Try not to force sleep
• Avoid daytime naps, especially if they are longer than 20–30 minutes or occur late in the day
• Reserve the bedroom for sleep and intimacy, and adjust the bedroom environment as needed to decrease stimuli (e.g. reduce ambient light, turn off the television or radio)
• Avoid bright light immediately before bed or while in bed including TV and mobile phone use
Simple Steps to Improve Sleep

- Avoid visual access to a clock throughout the night
- Allow sufficient time in bed to gain an adequate amount of sleep
- Avoid caffeinated beverages after lunch
- Avoid alcohol late afternoon and evening
- Avoid large meals immediately before bed
- Avoid smoking or other nicotine intake, particularly during the evening
- Avoid pets sleeping in the bedroom
- Exercise regularly for at least 20 minutes, preferably more than 1-2 hours prior to bedtime
- Do not stay in bed if you do not fall asleep quickly (stimulus control therapy) and encourage relaxing activities before bedtime or during
Pharmacological Therapies

• Prescription sleep aids – trazodone, amitriptyline, and doxepin
• Added to sleep aids – opioids and sedatives
• Benzodiazepines – diazepam and lorazepam
• GABA medications - zolpidem and eszopiclone
• Anti-psychotics – aripiprazole, olanzapine, quetiapine, and risperidone
Cannabis for Insomnia

- Sleep-related disorders represent one of the most common uses for cannabis products.
- 71% of patients using cannabis products reported a subjective improvement in their sleep.
- 39% of patients reduced and/or discontinued prescription therapy.
- 21% of patients experienced manageable dose-dependent adverse effects - (did not result in discontinuation of medical cannabis therapy)
Mechanism

- Cannabis, specifically with strains containing small amounts of tetrahydrocannabinol (THC), can have a positive impact on sleep. At lower doses, THC can reduce sleep onset latency and has been associated with greater ease of falling asleep, increased slow-wave sleep, and increased total sleep time. At higher doses, THC has demonstrated a reduction in REM sleep.

- Cannabidiol (CBD), can have a stimulating effect at lower doses, but when used in higher doses has been shown to increase total sleep time and decrease the frequency of arousals during the night.
540 distinct chemical compounds

- More than 113 different phytocannabinoids\textsuperscript{10}

- More than 200 terpenes – (aromatic compounds)\textsuperscript{11}

- More than 20 Flavonoids – (color producers)\textsuperscript{12}
Entourage Effect

• The mechanism by which cannabis compounds act synergistically to modulate the overall effects of the plant.
• Estimated to be over 1,000 different strains of cannabis each with its own special ratio of compounds.
• Limitless options for potential treatments, but hard to predict, replicate, or study.
Cannabinoids that affect sleep

- Cannabidiol (CBD)
  - Low doses – stimulating effect\(^{13}\)
  - Higher doses – sedative effect, increase total sleep time, and decrease frequency of arousals\(^{13}\)

- Tetrahydrocannabinol (THC)
  - Low doses – reduce sleep latency, increased slow-wave sleep and increased total sleep time.\(^9\)
  - High doses – reduction in total REM and REM density.\(^{14}\)

- Cannabinol (CBN)
  - May increase drowsiness when added.\(^{15}\)
Cannabinoids for insomnia$^{16}$

- Higher CBD
- Lower THC
- Addition of CBN
Terpenes that affect sleep\textsuperscript{17}

- Myrcene – sedative effect\textsuperscript{18}
- Beta Pinene – reduce anxiety, stress, and pain\textsuperscript{19}
- Beta-Caryophyllene - reduce pain and inflammation\textsuperscript{20}
- Linalool – reduce anxiety and stress\textsuperscript{21}
- Terpinolene – sedative effect and anti-inflammatory\textsuperscript{22}
Flavonoids that affect sleep

• Apigenin – Chamomile Tea$^{23}$

• Linarin – Valerian Root$^{24}$

• Myricetin – St. John’s Wort$^{25}$
Recommendations – (routes & products)

• Route
  • Edible or tincture
  • Slower uptake, longer lasting

• Product
  • Higher CBD: Lower THC ratio
    • Indica Strains/Indica-dominant hybrids
  • Cannabinol (CBN)
    • THC breaks down to CBN as cannabis ages.
  • Terpenes
    • myrcene, pinene, caryophyllene, linalool, terpinolene
  • Flavonoids
    • apigenin, linarin, myricetin
Best strains

- Northern lights
- Wedding cake
- Hindu Kush
- Kosher Kush
- Bubba Kush
- Grandaddy Purple
- Gelato
- The White
- Mochi
Caution

- High doses of THC can reduce REM sleep and REM density thereby reducing restorative sleep.
  - Lead to poor concentration and grogginess
  - Decrease the brain’s ability to process emotions and create new memories.

- High dose THC and chronic cannabis use may lead to cannabis withdrawal symptoms.
  - Cause sleep disruptions\(^{27}\) – (falling asleep, wake up, wake up early, sleep longer, sleep less)
  - Increased REM may lead to an increase in the frequency and intensity of dreams & nightmares\(^{\text{PTSD}}\)
Possibly Contraindicated – Children and adolescents

• Study
  • Analyzed data from 1,882 young adults from the Colorado Twin Registry.
  • Each had completed surveys about their sleep habits, marijuana use and mental health.
  • One-third of subjects who started using marijuana regularly before age 18 had insomnia in adulthood (20% among those who didn’t)
  • The same pattern held true for a particularly hazardous form of insomnia known as “short sleep” (sleeping fewer than six hours per night on a regular basis).
  • About one in 10 subjects who used cannabis regularly as teens grew up to be short-sleepers (5% of non-users)
Possibly Contraindicated – Children and adolescents

• Theory
  • Receptors are being desensitized or disturbed from all the cannabis use at a time that the brain is still developing, and that leads to waking issues later.
  • Cannabis use in adolescence leads to structural changes in the brain.

• Recommendation
  • “We would not recommend that teenagers utilize marijuana to promote their sleep. Anytime you are dealing with a developing brain you need to be cautious.”
Possibly Contraindication – Pregnant individuals

• Study
  • Data from the Adolescent Brain Cognitive Development Study (ABCD Study®) was used to determine whether maternal reports of prenatal cannabis use were associated with child sleep outcomes.
  • 11,875 children ages 9-10
  • Endorsement of any prenatal cannabis use was associated with symptoms of disorders of initiating and maintaining sleep, disorders of arousal, sleep wake disorders, disorders of excessive somnolence, and a summed sleep disorder score (all $\beta > 0.10$ and $p < 0.03$)
  • while frequency of prenatal daily cannabis use was significantly associated with disorders of excessive somnolence ($\beta=0.29$, $p=0.03$).
  • These associations remain when controlling for a range of covariates including prenatal substance exposure, mother's education, combined household income, parental marital status, race, child sex, child age, tobacco and alcohol use during pregnancy
Possibly Contraindication – Pregnant individuals\textsuperscript{29}

• Theory
  • Neurodevelopmental alterations in response to prenatal THC in the endocannabinoid system.
  • Prenatal exposure to drugs has been linked to environmental factors which could negatively influence sleep in childhood.

• Recommendation
  • "Although causality is not established, the results suggest potential long-term effects of prenatal cannabis exposure on sleep and the prudence of abstinence from cannabis use while pregnant."
Recommendations - (timing & patients)

• Avoid daily use
  • Withdrawal concerns

• Avoid in children and adolescents
  • Consider conditions other than insomnia

• Avoid in pregnancy – (throughout all three trimesters)\textsuperscript{30}
  • Consider conditions other than insomnia

*Cognitive therapy / Sleep hygiene options must be addressed*
References


References


References


Any questions?
For More Information

- Website: www.nmhealth.org/go/mcp
- Phone: (505) 827-2321
- Email: medical.cannabis@doh.nm.gov

THANK YOU!!