Clinical Resource on the use of Medical Cannabis for Insomnia in Adults

Insomnia is a sleep disorder characterized by persistent difficulty in sleep initiation, duration or consolidation. Insomnia persists despite opportunity for sleep, and often results in fatigue and perceived daytime impairment.

State restrictions prohibit prescribing of medical marijuana by unlicensed providers- this resource provides information for providers when informing patients who are self medicating.

Assessment

- Evaluate current sleep habits/ hygiene by asking direct questions about sleep quality, quantity, timing, duration, length and severity of symptoms, and associated symptoms.
- Assess with questionnaires when possible for consistency
- Diagnose insomnia disorder using patient self report, sleep diaries or methods of actigraphy or polysomnography (DSMV).
- Ask about current stressors or lifestyle factors
- Consider current medications, over the counter sleep aids, and use of supplements or substances

Initial Management

- Implement sleep hygiene and CBT-I before pharmacological intervention
- Use of cannabis for sleep has limited research and wide range of dose, (see table below) use “start low go slow” approach

THC is not conducive to sleep: Cannabis products containing THC >0.3% did not show improvement in sleep quality and had a higher rate of adverse effects, therefore not included in this dose information

	Dose (Oral)	Sleep Disturbance	Total Sleep Time	Daytime Sleepiness	Adverse Effects
CBD	15-300 mg	Improved	Improved	Reduced	GI distress, anxiety, paranoia
CBN	25-100 mg	Improved	Not studied	Not improved	Dysgeusia, anxiety, somnolence, headache
CBD/CBN	10mg/15mg up to 100mg/20mg	Improved	Not studied	Somewhat improved	Sleep disturbance, effects listed above

Monitoring

- For doses <300mg, monitoring not routinely recommended.
- If dose is between 300- 999mg in a healthy adult, check CBC, CMP and LFTs, at baseline and monitor every 1, 3, and 6 months
- Frequent medication reconciliation to assess interaction
- Frequent evaluation of dose, compliance and duration of treatment
- Use validated insomnia tools to assess perceived improvement in sleep
- Actigraphy and total sleep time assessment is helpful tracking

Insomnia Tools

- Insomnia Severity Index (ISI)
- Patient-Reported Outcomes Measurement Information System (PROMIS)
- Epworth Sleepiness Scale (ESS)
- Pittsburgh Sleep Quality Index (PSQI)
- Actigraphy by smart watch, wearable devices and sleep trackers

Cannabis Interactions with Commonly Used Medications

Cannabis is hepatically metabolized using CYP450: including CYP1A1, 1A2, 2C8, 2C9, 2C19, 3A4, and 2D6; UGT1A9 and UGT2B7; Cannabinoids (especially CBD) are significant enzyme inhibitors, which reduce the enzyme activity in the metabolism of other medications that also use CYP pathways, reducing their metabolism and increasing their serum levels (possibly to toxic effects).

Medication Interactions	Potential Risk
Anti-Seizure Drugs	CBD inhibits CYP metabolism (Clobazam, Lamotrigine, and Stiripentol- Increased serum levels, increased LFTs: risk for sedation and liver injury
Beta-Blockers	May increase serum levels of betablockers, leading to bradycardia and hypotension
Buprenorphine	Enhanced opioid activity; risk of intoxication
Calcium Channel Blockers	May elevate levels of CCB, risking hypotension. For non-dihydropyridines this may also increase potential for bradycardia
Clopidogrel	Interrupts conversion of the pro-drug into active metabolite, decreasing antiplatelet effect, increasing risk for thromboembolism
Digoxin	CBD could interfere with P-glycoprotein transport, leading to increased digoxin levels
Ketoconazole	Delayed cannabis metabolism: increased risk of sedation and psychoactivity
Levothyroxine	CBD and whole plant cannabis can increase and/or decrease levothyroxine levels. Additionally, THC levels can increase the risk for psychoactivity
SSRIs and SNRIs	CBD can slow the metabolism of selective Serotonin Reuptake Inhibitors (SSRI) and Serotonin-Norepinephrine Reuptake Inhibitors (SNRI) which increases the risk for serotonin syndrome
Statins	CBD and cannabis may increase serum levels of statins, increasing risk for myopathy
Tacrolimus	Levels are increase with both THC and CBD causing risk for Tacrolimus toxicity
Warfarin	Increased warfarin levels: increased risk of bleeding
Note: Other medications include: Opioids, Barbiturates and Benzodiazepines, which may increase sedation effects.	
Note: Some medications reduce the effectiveness of CBD, including the anti-seizure medications (Phenytoin, Carbamazepine, Topiramate, Phenobarbital), as well as Rifampicin (antimycobacterials), Efavirenz (HIV Antiviral), and Pioglitazone (Anti-diabetic).	

Extreme caution should be taken in patients...

- At risk for polypharmacy. Medication reconciliation is needed at every visit
- In patients with a history of substance abuse or cannabis use disorder
- Clinically significant history of cardiac, endocrine, renal, or hepatic conditions

Scan for references and supplemental materials.
For additional references please email
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