Wisconsin Public Psychiatry Network Teleconference (WPPNT)

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Cognitive-Behavioral Therapy for Insomnia

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A definition of insomnia and the co-morbid insomnia model

Insomnia assessment and case conceptualization

Insomnia treatment with cognitive-behavioral approaches
DSM-5 Criteria for Insomnia Disorder

- One or more:
  - difficulty initiating sleep
  - difficulty maintaining sleep
  - waking up too early

- Sleep difficulty occurs:
  - despite adequate opportunity for sleep
  - at least 3 nights a week
  - at least 3 months

- Daytime consequences

- Not explained by another sleep-wake disorder or substance use

- Co-existing mental disorders and medical conditions do not adequately explain the predominant complaint of insomnia

Insomnia predicts future depression: Meta-analysis, OR 2.6 (CI 1.98-3.42)

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<th>Z-value</th>
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N= 21 studies

Insomnia as a risk factor for relapse/exacerbation of psychiatric illness

- Insomnia usually does not resolve with general treatment

- Untreated insomnia/residual insomnia symptoms can increase illness severity, treatment response, and risk for relapse


Treatment of insomnia co-morbid with psychiatric illness

- Insomnia co-morbid with psychiatric illness can improve with direct intervention

- Treating both the psychiatric illness and co-morbid insomnia show favorable results for psychiatric illness and insomnia

Insomnia assessment and case conceptualization

How can sleep catch us best?

- Homeostatic regulation (the sleep drive)
- Circadian regulation (the body’s clock)

How can sleep catch us best?

• Strong association between sleep & bed
• Relaxed mind and body

• No direct efforts toward sleep
• Absence of regular thought process about sleep

How can sleep catch us best?

• Absence of sleep-disrupting substances
• Sleep-promoting environment
  – Dark, moderate temperature, quiet, well-ventilated
• Regular exercise that is not close to bedtime
A Cognitive-Behavioral Model of Insomnia

Cognitive Factors
- Sleep Effort
- Unhelpful Sleep-Related Thoughts & Beliefs

Homeostatic Dysregulation
- Sleep Extension

Circadian Disruption
- Irregular Sleep Scheduling

Inhibitory Factors
- Poor Sleep Hygiene
- Hyperarousal
- In-bed Habits
- Conditioned Arousal

Chronic Insomnia


Cognitive Factors

- Consequences
  - “I cannot function without a good night’s sleep.”

- Worry
  - “I am worried that I will lose control over my ability to sleep.”

- Expectations
  - “I need 8 hours of sleep to function well during the day.”

- Medication
  - “I tried to go without my medication one night to see what would happen, and my insomnia was horrible. I will never be able to come off this medication.”
Insomnia Assessment

- Clinical Interview
- Sleep Logs
- Medical/Neurological exam as needed
- An overnight sleep study is not routinely indicated

Clinical Interview

- Characterization of the sleep complaint
  - Chief complaint
  - Frequency of complaint
  - Perceived severity of sleep difficulties and daytime consequences
  - Onset
  - Any precipitating factors
  - Course of sleep difficulties
Clinical Interview

• Current/past treatments & treatment response
  • “What have you tried in the past to help with your sleep?”

• Current goals for treatment
  – “What would you like to see change most about your sleep?”

Clinical Interview

• Description of the sleeping environment
  – Sleeping surface
  – Bedroom?
  – Mattress age
  – Bed partner?
  – Temperature
  – Darkness
  – Ventilation
  – Noise Level
Clinical Interview

• Current sleep-wake pattern
  – Activities 1 hour prior to bedtime
  – Time sleep medication is taken
  – Time of getting in to bed & time of “lights out”
  – Activities before “lights out”
  – Time taken to fall asleep
  – Number and duration of awakenings
  – “What do you do when you are awake at night?”
  – Time of final awakening & time of getting out of bed
    (with or without an alarm?)
  – General daytime structure
  – Daytime napping or dozing?
  – Substance use

Clinical Interview

• Evaluation of co-morbid conditions
  – Psychiatric disorders
  – Other sleep disorders
    • Circadian rhythm disorders, sleep-disordered breathing, restless legs syndrome
  – Medical conditions
    • Chronic pain, thyroid disorder, GERD, cancer, HIV, asthma, menopause, dialysis
Sleep Logs

- Considered a reliable and valid index of insomnia symptoms despite tendency of
  - overestimated sleep onset latency and wake time after sleep onset; and
  - underestimated total sleep time

- Also, more likely to capture the night-to-night variability that often characterizes the sleep of chronic insomnia than 1 time measures

- However, often no validity check on time of entries


<table>
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<th>Sample</th>
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<tr>
<td>Day's Date</td>
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<tr>
<td>Did you nap?</td>
</tr>
<tr>
<td>In total, how long did you sleep?</td>
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<tr>
<td>How many hours of alcohol did you drink?</td>
</tr>
<tr>
<td>What time was your last drink?</td>
</tr>
<tr>
<td>How many caffeinated beverages (coffee, tea, soda, energy drinks) did you have?</td>
</tr>
<tr>
<td>What time was your last caffeinated beverage?</td>
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<tr>
<td>Did you take any over-the-counter or prescription medication(s) to help you sleep?</td>
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<tr>
<td>If no, list medication(s), dose, and time taken</td>
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<td>12. Comments (if applicable)</td>
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Step #1: Assessment and Conceptualization
Intake Case Conceptualization

- Sleep drive: going to bed later (+); stable schedule (+)
- Body’s clock: stable schedule (+)
- Hyperarousal/conditioning: staying in bed with worry (-); sleep effort (-)
- Sleep-Interfering Behaviors: sleep environment (+)
- Co-morbidities: anxiety (-); past hx depression (-); fam hx of depression (-); nocturia (-); hypothyroidism (treated)
- Medication: approach to lorazepam use (-)
- Other factors: similar sleep and anxiety pattern in past with loss of partner (-); lighter sleeper (-); family hx of insomnia (-)
Continued Case Conceptualization

- **Some difficulty falling asleep along with early morning awakenings**
- Sleep drive: going to bed later (+); **variability in sleep schedule (-)**
- Body’s clock: **variability in sleep schedule (-)**
- Hyperarousal/conditioning: staying in bed with worry (-); sleep effort (-)
- Sleep-Interfering Behaviors: sleep environment (+)
- Co-morbidities: anxiety (-); past hx depression (-); fam hx of depression (-); nocturia (-); hypothyroidism (treated); **maybe more delayed sleep preference (+/-)**
- Medication: approach to lorazepam use (-)
- Other factors: similar sleep and anxiety pattern in past with loss of partner (-); lighter sleeper (-); family hx of insomnia (-)

Insomnia treatment with cognitive-behavioral approaches
### Cognitive-Behavioral Therapy for Insomnia (CBT-I):
A Multi-Component Treatment

- Typically includes:
  - Stimulus control
  - Sleep restriction therapy
  - Cognitive therapy
  - Sleep hygiene

- May or may not include:
  - Relaxation therapies


### Efficacy of Cognitive-Behavioral Approaches

- Well-established treatments
  - Relaxation
  - Stimulus Control
  - Sleep Restriction
  - CBT-I

- Not efficacious as a stand alone treatment
  - Sleep Hygiene only
  - Cognitive Therapy only

A Cognitive-Behavioral Model of Insomnia

Cognitive Factors
- Sleep Effort
- Unhelpful Sleep-Related Thoughts & Beliefs

Cognitive Therapy

Inhibitory Factors
- Poor Sleep Hygiene
- Hyperarousal
- In-bed Habits
- Conditioned Arousal

Sleep Hygiene

Stimulus Control

Circadian Disruption
- Irregular Sleep Scheduling

Relaxation Therapies

Sleep Restriction

Homeostatic Dysregulation
- Sleep Extension

Step #2:
Rationale, Rationale, Rationale!

“How can sleep can us best?”
Step #3: Core Strategies

Stimulus Control:
Reassociating the Bedroom with Sleeping &
Setting the Body’s Clock

- Select a standard wake-up time
- Avoid sleep-incompatible activities in bed
- Get out of bed when unable to sleep
- Avoid napping
- Go to bed only when sleepy

Bootzin (1972)
Sleep Restriction Therapy:  
Increasing Sleep Drive & 
Setting the Body’s Clock

- Patient completes sleep logs
- Compute average total sleep time (TST)
- Limit time in bed (TIB) to TST + 30 min  
  – Best to never go below 5.5 hours
- Increase TIB 30 min when sleep efficiency  
  ≥ 85% and patient remains sleepy
- Decrease TIB 30 min. when sleep efficiency is < 80 %

Spielman et al. (1987)

Cognitive Therapy:  
Addressing Sleep-Related Thoughts and Beliefs

- Cognitive restructuring or educational approaches  
  – Targets unhelpful beliefs/attitudes about sleep
- Scheduled and structured worry time  
  – Targets worry and cognitive arousal in bed
- Scheduled pre-bedtime wind down  
  – Targets pre-bedtime cognitive arousal

Sleep Hygiene:
Addressing Sleep Inhibitory Factors

• Exercise daily
• Eliminate use of caffeine, alcohol, tobacco, and illicit drugs
• Eat a light snack at bedtime
• Ensure a quiet, dark, and comfortable sleep environment

Hauri (1977)

Relaxation Therapies:
Reducing Arousal

• Progressive muscle relaxation
  – Jacobsen (1934)
• Autogenic training, diaphragmatic breathing, passive muscle relaxation, etc.
Step #4: Follow-up
Motivation/ambivalence
Implementation
Increasing time in bed as sleep improves
Problem solving
Supporting

Case Treatment Course
• S1: total sleep time = 5.9 hours; total wake time = 2.5 hours; sleep efficiency = 70%; rationale and implementation of core sleep strategies (11:30-7); pt more aware of anxiety
• S2: sleep improved some; reviewed strategies; nocturia addressed; keeping anxiety in mind
Case Treatment Course

- S3: sleep continues to improve, but more difficult night prior to session related to tension/stress; explored and discussed broader treatment options
- S4: sleep still improving; changed schedule to 11:30-7:30 due to sleep efficiency increasing; contact with mindfulness group

Case Treatment Course

- S5: sleep is much improved; feeling less and less tense at night; sleep maintenance strategies; unsure if she wants to eventually taper lorazepam
Case Treatment Course

- S6 & S7: follow-up toward end of mindfulness experience and after group was over; finding awakenings less and less and less and less anxiety as well; feeling content and discontinued treatment
Summary

• CBT for insomnia is an efficacious treatment for adults of all ages with primary insomnia and co-morbid insomnia

• Steps:
  – #1: Assessment and Conceptualization
  – #2: Rationale, rationale, rationale!
  – #3: Core Strategies
  – #4: Follow-up

Self-Help Resources
