Cognitive Behavioral Therapy for Insomnia

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Overview

▪ Development and model of insomnia
▪ CBTI components
▪ CBTI therapy
▪ Outcomes
▪ Dissemination
Objectives

▪ Participants will understand the conceptual model of insomnia.
▪ Participants will be able to define CBTI, describe the treatment components, and understand the therapeutic rationale.
▪ Participants will understand the indications and contraindications for CBTI and be able to describe treatment efficacy.
Development of Insomnia
Definition of Insomnia

- Insomnia characterized by:
  - Trouble falling asleep
  - Trouble staying asleep
  - Early morning awakenings
- Distress/impairment in daytime functioning
- Adequate opportunity & circumstances for sleep
- At least 3x/week for 3 months
- Not better explained by another sleep disorder
Sleep Processes

- Homeostatic System
- Circadian System
- Arousal System

Sleep
Spielman’s Conceptual Model of Insomnia

Natural History of Insomnia

- Perpetuating factors
- Precipitating factors
- Predisposing factors

Clinical threshold

Premorbid, Acute insomnia, Short-term insomnia, Chronic insomnia
CBTI Components
What is CBTI?

- Multicomponent regimen
  1. Sleep restriction
  2. Stimulus control
  3. Cognitive therapy
  4. Sleep hygiene
  5. Relaxation training

- Goal: to alter factors presumed to sustain chronic insomnia (perpetuating factors)
- Front line treatment for chronic insomnia
Assessment

▪ Clinical sleep evaluation
▪ Sleep questionnaires
▪ Sleep diary
▪ Additional testing
  ▫ Actigraphy
  ▫ Polysomnography
Answer each question in the space provided, and provide a plan to address each case factor described. Write N/A if no plan is necessary.

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Insomnia Severity Index

For each question, please CIRCLE the number that best describes your answer.

Please rate the CURRENT (i.e. LAST 2 WEEKS) SEVERITY of your insomnia problem(s).

<table>
<thead>
<tr>
<th>Insomnia problem</th>
<th>None</th>
<th>Mild</th>
<th>Moderate</th>
<th>Severe</th>
<th>Very severe</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Difficulty falling asleep</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>2. Difficulty staying asleep</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>3. Problem waking up too early</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

4. How SATISFIED/DISSATISFIED are you with your CURRENT sleep pattern?

<table>
<thead>
<tr>
<th>Very Satisfied</th>
<th>Satisfied</th>
<th>Moderately Satisfied</th>
<th>Dissatisfied</th>
<th>Very Dissatisfied</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

5. How NOTICEABLE to others do you think your sleep problem is in terms of impairing the quality of your life?

<table>
<thead>
<tr>
<th>Not at all Noticeable</th>
<th>A Little</th>
<th>Somewhat</th>
<th>Much</th>
<th>Very Much Noticeable</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

6. How WORRIED/DISTRESSED are you about your current sleep problem?

<table>
<thead>
<tr>
<th>Not at all Worried</th>
<th>A Little</th>
<th>Somewhat</th>
<th>Much</th>
<th>Very Much Worried</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
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</table>

7. To what extent do you consider your sleep problem to INTERFERE with your daily functioning (e.g. daytime fatigue, mood, ability to function at work/daily chores, concentration, memory, mood, etc.) CURRENTLY?

<table>
<thead>
<tr>
<th>Not at all Interfering</th>
<th>A Little</th>
<th>Somewhat</th>
<th>Much</th>
<th>Very Much Interfering</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
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Sleep Diary

▪ Daily subjective report of sleep variables
▪ Aid in diagnosis
▪ Assessment of problem
▪ Guide treatment recommendations
▪ Track treatment improvements
▪ Help patients alter misperceptions
1. Sleep Restriction Therapy

▪ **Rationale**: Excessive time in bed can fragment sleep. Limiting the time allotted for sleep consolidates sleep and improves sleep quality.

▪ **Goal**: Induce mild sleep deprivation to increase sleep drive and reduce wakefulness.

▪ **Recommendations**:
  ▫ Time in Bed “prescription” to align with total sleep time.
  ▫ Adjustments based on therapeutic response.
Adapted from a patient handout created by Rachel Manber, Ph.D., for the Insomnia & Behavioral Sleep Medicine Program at Stanford University; reprinted with her permission to the VA Cognitive Behavioral Therapy for Insomnia Training Program.
2. Stimulus Control Therapy

- **Rationale**: Unsuccessful attempts to fall asleep associated with the bedroom create learned associations of wakefulness and arousal. Over time, the bedroom environment becomes a cue for arousal that perpetuates the insomnia.

- **Goal**: Eliminate conditioned arousal to the sleep environment and reassociate the bedroom with successful sleep.
Stimulus Control Recommendations

- Go to bed only when sleepy
- Establish a standard wake up time
- Get out of bed when unable to sleep
- Eliminate sleep-incompatible behaviors from the bed and bedroom
- Avoid daytime napping
Evidence of Conditioned Arousal

- I’m watching TV in the evenings and I fall asleep. Once I get up and go to bed, I’m wide awake.
- As soon as I turn the light out, my mind starts racing.
- I sleep better away from home
- I dread going to bed
3. Cognitive Therapy

▪ **Rationale:** Dysfunctional beliefs about sleep underlie and sustain insomnia. Cognitive therapy targets sleep-related misconceptions.

▪ **Goal:** To reduce the cognitive arousal and anxiety contributing to insomnia by altering cognitions that are counterproductive to sleep.

▪ **Recommendations:** Therapeutic exercises are used to identify, challenge, and alter dysfunctional beliefs.
Worry About Sleep

- Misconceptions about the causes of insomnia
- Amplifying the consequences of insomnia
- Unrealistic sleep expectations
- Lack of control over sleep
- Faulty beliefs about sleep practices

Worrying

Thinking

Planning
Changing Unhelpful Thoughts About Sleep

Event: I go to bed and cannot fall asleep

- Thought: “I’ve done it now. I’ll never pass my test.”
- Emotions: anxiety, frustration
- Behaviors: hyperventilating, up all night, cancels driving test the next day
- Adaptive Thought: “I’ve done well in driving school. Even if I don’t sleep well tonight, it doesn’t mean that I will fail the test.”
- Emotions: lower anxiety and frustration
- Behaviors: able to get back to sleep, take driving test the next day
4. Sleep Hygiene

- **Rationale**: Lifestyle and environmental factors may cause or contribute to insomnia.
- **Goal**: To maximize healthy sleep behaviors.
- **Recommendations**:
  - Diet
  - Exercise
  - Substances (caffeine, alcohol, nicotine)
  - Medication timing
  - Sleep environment
Caffeine

- Grande (16 oz.)
  Pike’s Place Roast from Starbucks
  - 8am: 330mg
  - 1pm: 165 mg
  - 6pm: 82 mg
  - 11pm: 41 mg
5. Relaxation

▪ **Rationale**: Many individuals with insomnia experience hyperarousal at bedtime.

▪ **Goal**: To reduce or eliminate hyperarousal.

▪ **Recommendations**: Relaxation skills are taught by a provider. Patients practice techniques at home in order to gain mastery.
Putting It All Together
## Therapy Process (VA Model)

<table>
<thead>
<tr>
<th>Session</th>
<th>Content</th>
</tr>
</thead>
</table>
| Intake  | Assessment and diagnosis  
|         | Case conceptualization/treatment plan  
|         | Sleep goals  
|         | Sleep diary |
| 1 - 3   | Review of sleep diary  
|         | Sleep education  
|         | Sleep restriction  
|         | Stimulus control  
|         | Sleep hygiene |
| 4 (final) | Review of sleep diary  
|         | Time in bed adjustments  
|         | Adherence  
|         | Strategies for addressing hyperarousal  
|         | Cognitive therapy |
| 4 (final) | Review of sleep diary  
|         | Time in bed adjustments  
|         | Relapse prevention plan  
|         | Termination |
CBTI Outcomes
Efficacy of CBTI

- Effect sizes for sleep outcomes are moderate to large.
- Average treatment effects from sleep diaries:
  - ~30 min reduction in latency to sleep onset
  - ~30 min reduction in time awake during the night
  - ~30 min increase in total sleep time
- Treatment gains are durable.
- Therapeutic benefits may improve further after treatment is concluded.
- Evidence demonstrating improvements in non-sleep related outcomes (e.g., daytime fatigue, quality of life) is limited.
Efficacy of CBT-I (con’t)

- Treatment effects of CBT-I are comparable to or better than sleep medications.
- CBT-I has demonstrated efficacy in:
  - Primary and comorbid insomnia
  - Older and younger adults
Comorbid Insomnia

- Medical Disorders:
  - Cancer
  - Chronic obstructive pulmonary disease
  - Chronic pain
  - Coronary artery disease
  - Fibromyalgia
  - Osteoarthritis

- Psychiatric Disorder:
  - Depression
  - Post traumatic stress disorder
  - Alcoholism
Examples of Comorbid Modifications

- **PTSD**
  - Address sleep avoidance/fear of sleep before Sleep Restriction Therapy
  - Add Imagery Rehearsal Therapy for nightmares

- **Depression**
  - Address dysfunctional beliefs before behavioral components
  - Emphasis going to bed only when sleepy
  - Add behavioral activation

- **Cancer**
  - Add interventions addressing fatigue

- **Pain**
  - Adapt behavioral components
  - Add stretching/pacing components
Safety

- Safe overall
- Modifications may be necessary in patients with:
  - mobility impairments
  - falls risk
  - chronic pain
- Caution for:
  - temporary daytime sleepiness
  - relaxation-induced anxiety with relaxation therapy (e.g., panic disorder)
Contraindications

- Sleep Restriction Therapy is contraindicated in seizure disorder, bipolar illness, sleepwalking, and disorders associated with excessive daytime sleepiness
- Cognitive therapy is contraindicated in individuals with limited or impaired cognitive functioning
- Active substance use disorders
- In EBP for PTSD
- Difficult to implement in institutional settings
When To Refer a Patient to CBTI

▪ Insomnia persists for weeks or longer.
▪ Insomnia persists after treating a comorbid condition.
▪ Sleep medications are ineffective, not preferred, or contraindicated.
▪ Patient is motivated/willing to try changing sleep behaviors.
▪ Patient has cognitive and/or behavioral targets (poor sleep habits, variable sleep schedule, cognitive arousal, sleep effort, rigid beliefs about sleep etc.).
## CBTI vs. Hypnotic Medications

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<tr>
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<th>Hypnotics</th>
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<tbody>
<tr>
<td><strong>Availability</strong></td>
<td>Limited</td>
<td>Widespread</td>
</tr>
<tr>
<td><strong>Outcome</strong></td>
<td>Resolution of Symptoms</td>
<td>Symptomatic relief</td>
</tr>
<tr>
<td><strong>Risks</strong></td>
<td>None</td>
<td>Long term ???</td>
</tr>
<tr>
<td><strong>Side effects</strong></td>
<td>None</td>
<td>Varied</td>
</tr>
<tr>
<td><strong>Tolerance/Dependence/Abuse</strong></td>
<td>None</td>
<td>Possible</td>
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<tr>
<td><strong>Patient Preference</strong></td>
<td>Preferred</td>
<td></td>
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<tr>
<td><strong>Cost</strong></td>
<td>More expensive in short term</td>
<td>Long term costs may exceed CBTI</td>
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Combining CBTI + Hypnotics

- No general consensus on optimal approach for combining CBTI and sleep medications.
- Patients on sleep medications can benefit from CBTI whether or not they are tapering.
- Withdrawal should be gradual to mitigate risk of rebound insomnia.
- Caution for risk of falls with Stimulus Control Therapy if on medication.
Dissemination
Dissemination Efforts

- Treatment modalities
  - Individual therapy, group therapy, telehealth, phone consultation, self-help, internet-based (Sleep Healthy Using the Internet [SHUTi], Sleepio), mobile applications (CBT-i Coach, Breathe2Relax)

- Stepped-care models

- Increasing number of providers
  - Counselors, nurses, family physicians
  - VHA national training program
CBT-I Coach

Relaxation exercises are opportunities to help your body learn to relax. Try each of the exercises to determine which ones are the most appealing and useful.

- Winding Down
- Schedule Worry Time
- Change Your Perspective
- Breathing Tool
Future Directions

▪ Matching individuals with specific CBTI components and treatment modalities.
▪ Sequencing of individual CBTI components or of CBTI with treatments for co-morbid conditions.
▪ Influence of interpersonal factors such as sharing a bed with a partner.
▪ Combining CBTI with other psychotherapies or pharmacotherapy.
▪ Treating individuals who fail to benefit from CBTI.
Summary

▪ CBTI is a multicomponent approach targeting factors that perpetuate chronic insomnia.
▪ Treatment components are designed to promote optimal functioning of the sleep system and to reduce hyperarousal.
▪ CBTI is effective and is the front line treatment for insomnia.
▪ Dissemination efforts hold promise for increasing accessibility.
Tool Box

- National Sleep Foundation
  - [http://sleepfoundation.org/insomnia/](http://sleepfoundation.org/insomnia/)
- American Academy of Sleep Medicine.
  - [http://www.sleepeducation.org/](http://www.sleepeducation.org/)
- Insomnia Severity Index
- Internet-based CBTI treatment
  - Sleep Healthy Using the Internet (SHUTi; [http://shuti.me](http://shuti.me))
  - Sleepio ([www.sleepio.com](http://www.sleepio.com))
- Mobile Applications
Insomnia Resources

Provider and Patient Information

National Sleep Foundation: http://sleepfoundation.org/insomnia/
American Academy of Sleep Medicine: http://www.sleepeducation.org/

Internet-based CBTI treatment

Sleep Healthy Using the Internet (SHUTi): http://shuti.me
Sleepio: www.sleepio.com

Mobile Applications

Breathe2Relax: http://t2health.dcoe.mil/apps/breathe2relax

Insomnia Severity Index


Listing of Behavioral Sleep Medicine specialists

www.absm.org/BSMSpecialists.aspx
# Case Conceptualization Form

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