Cognitive Behavioral Therapy for Insomnia

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Overview

- Development and model of insomnia
- CBTI components
- CBTI therapy
- Outcomes
- Dissemination

Objectives

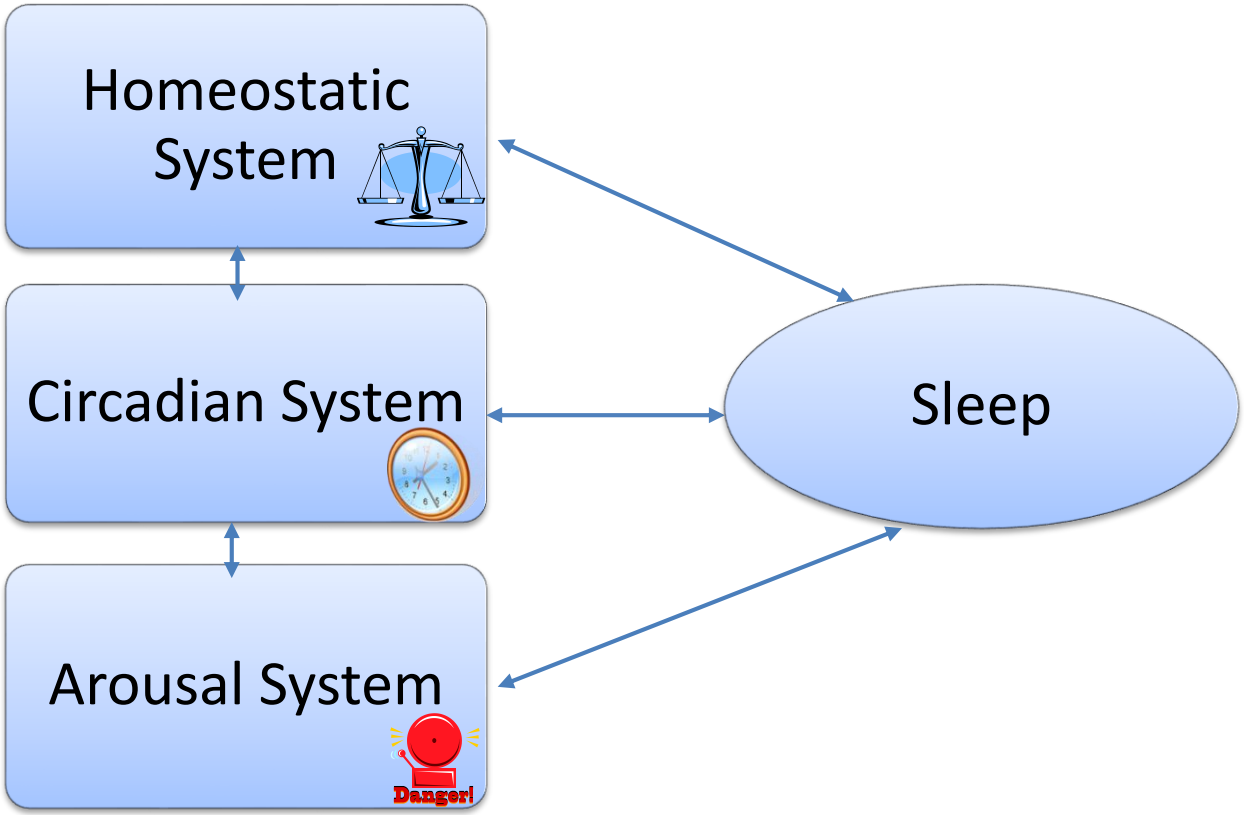
- Participants will understand the conceptual model of insomnia.
- Participants will be able to define CBTI, describe the treatment components, and understand the therapeutic rationale.
- Participants will understand the indications and contraindications for CBTI and be able to describe treatment efficacy.

Development of Insomnia

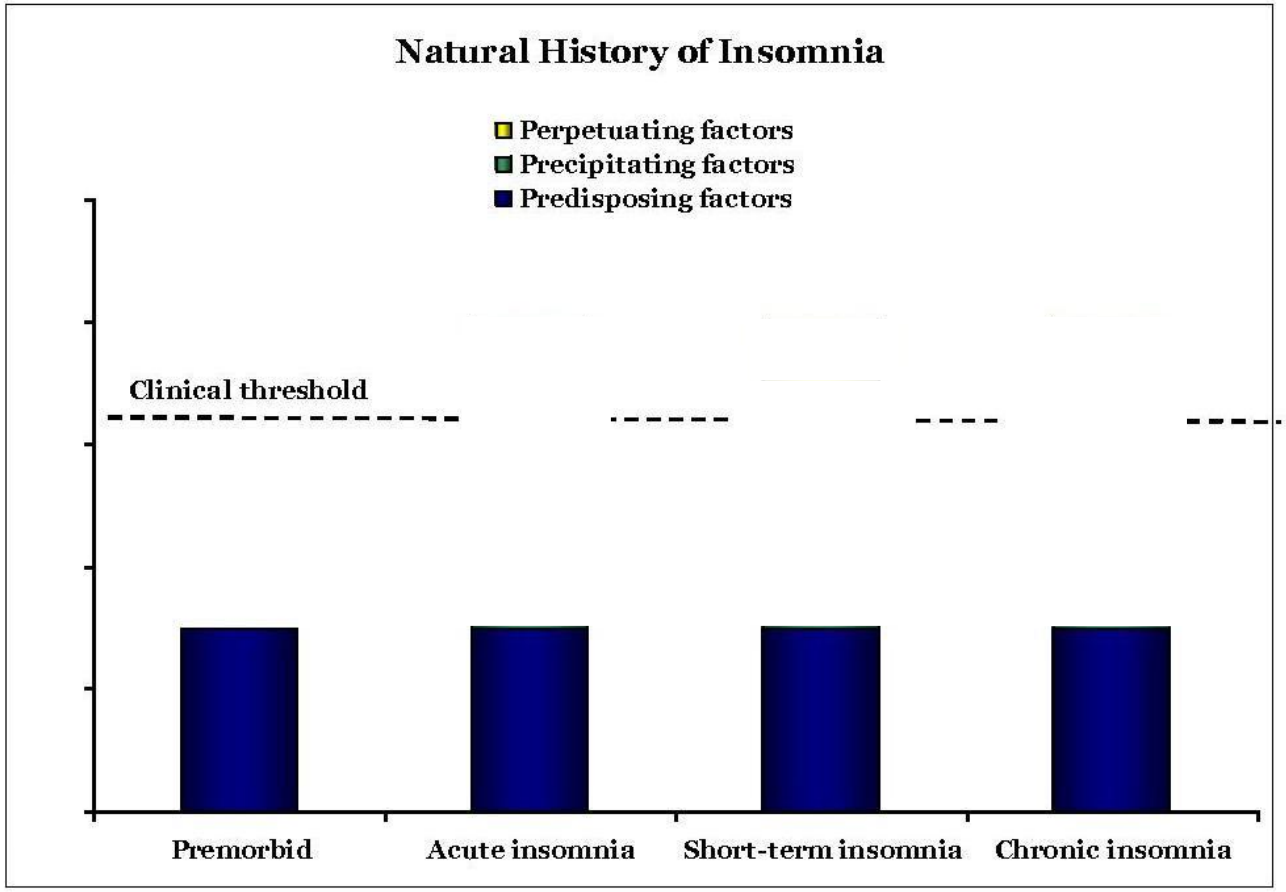
Definition of Insomnia

- 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

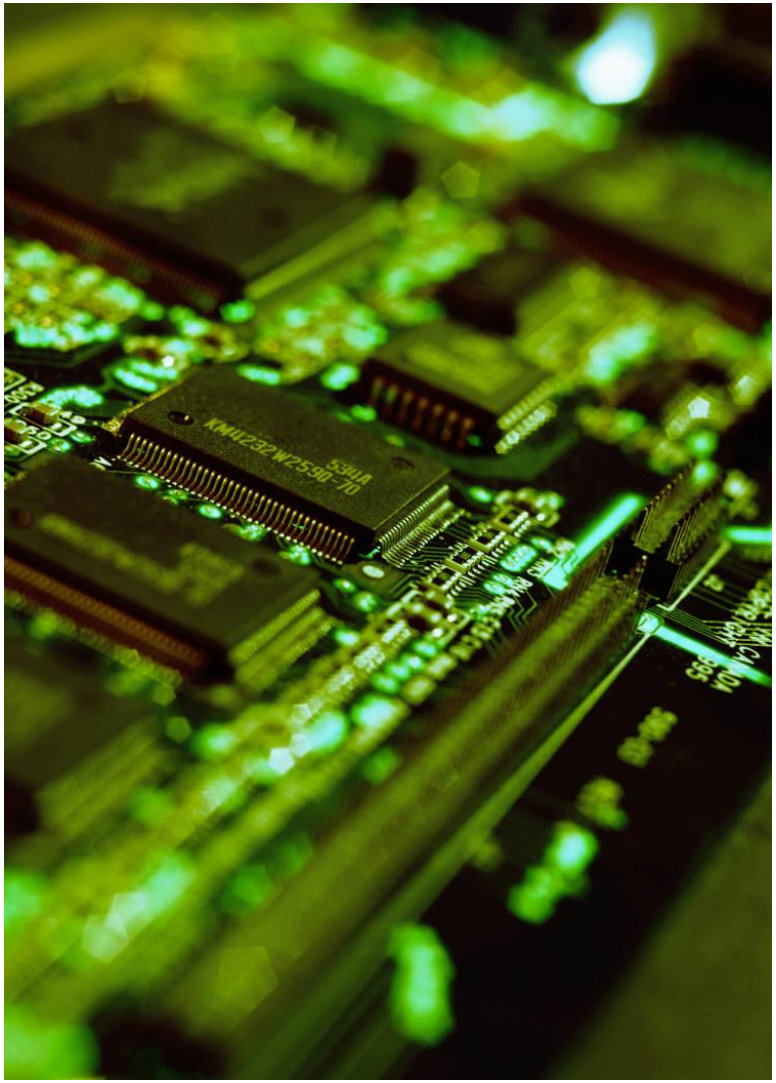
Sleep Processes



Spielman's Conceptual Model of Insomnia

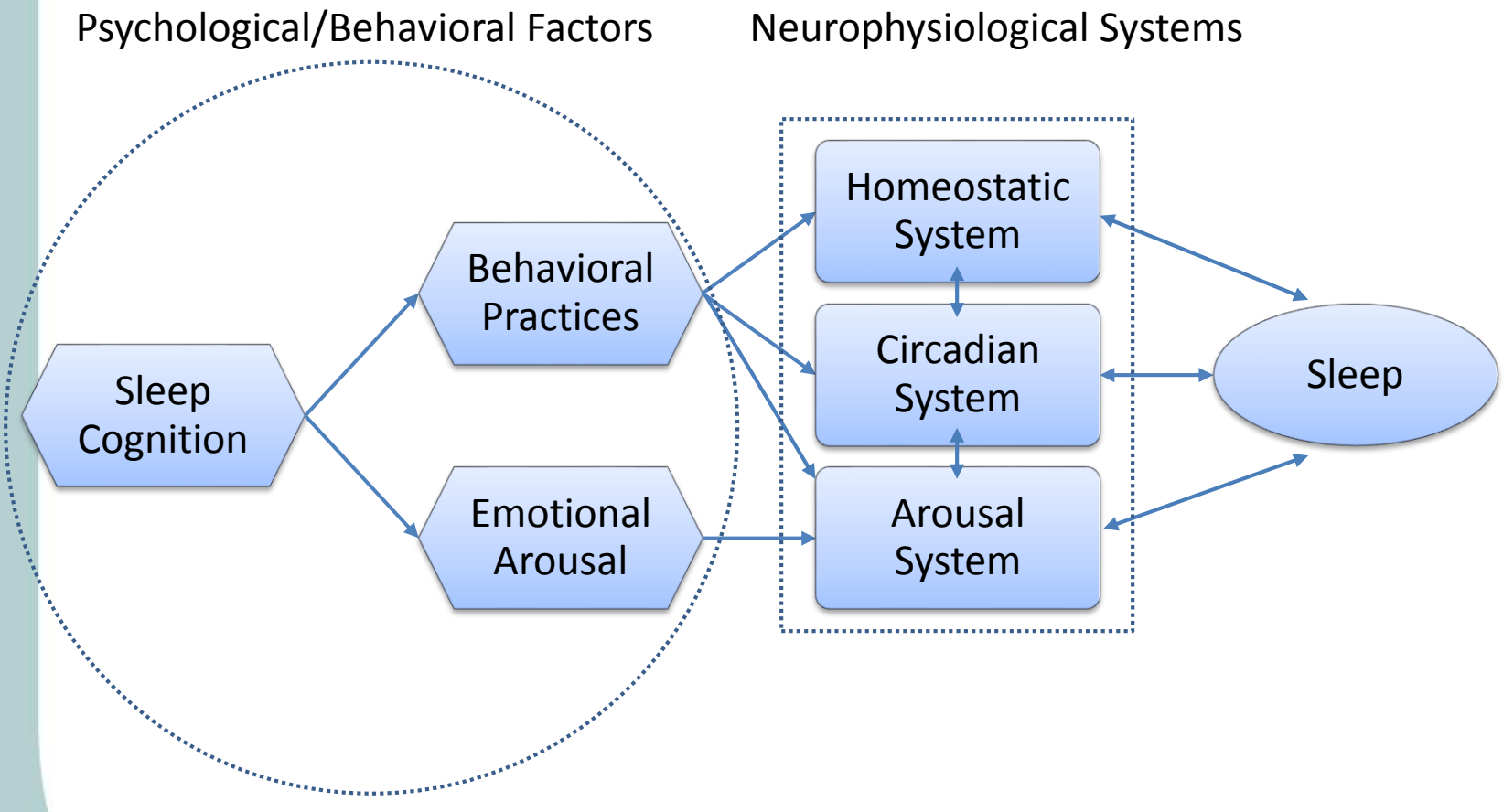


CBTI Components



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



Model of insomnia adapted from Yang CM, Spielman AJ, Glovinsky P. Nonpharmacologic strategies in the management of insomnia. *Psychiatr Clin North Am.* 29(4), 895-919 (2006).

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.

	Answer	Plan
1. What factors weaken the sleep drive (i.e. napping)?		
2. Is there a mismatch between circadian tendency and sleep schedule?		
3. What are manifestations of hyper-arousal?		
4. What role, if any, do substances play in the presentation?		
5. What co-morbidities affect the patient presentation and how? (Consider sleep, medical and psychiatric comorbidities)		
6. Are there any predisposing factors? If so, what are they?		
7. Is there a clear precipitating event?		
8. What factors are maintaining the insomnia?		
9. What other factors are relevant to the patient's presentation?		

Suggested citation: Developed by Rachel Manber, Ph.D. and the VA CBT-I Training Development Team (2010). *Cognitive Behavioral Therapy for Insomnia Case Conceptualization Form.* Washington, DC: U.S. Department of Veterans Affairs.

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).

Insomnia problem	None	Mild	Moderate	Severe	Very severe
1. Difficulty falling asleep	0	1	2	3	4
2. Difficulty staying asleep	0	1	2	3	4
3. Problem waking up too early	0	1	2	3	4

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

Very Satisfied	Satisfied	Moderately Satisfied	Dissatisfied	Very Dissatisfied
0	1	2	3	4

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

Not at all Noticeable	A Little	Somewhat	Much	Very Much Noticeable
0	1	2	3	4

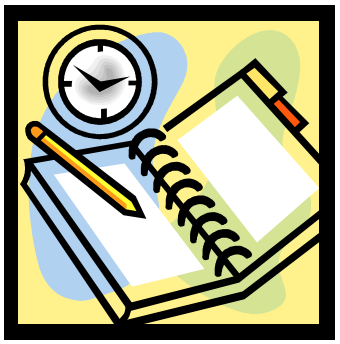
6. How WORRIED/DISTRESSED are you about your current sleep problem?

Not at all Worried	A Little	Somewhat	Much	Very Much Worried
0	1	2	3	4

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?

Not at all Interfering	A Little	Somewhat	Much	Very Much Interfering
0	1	2	3	4

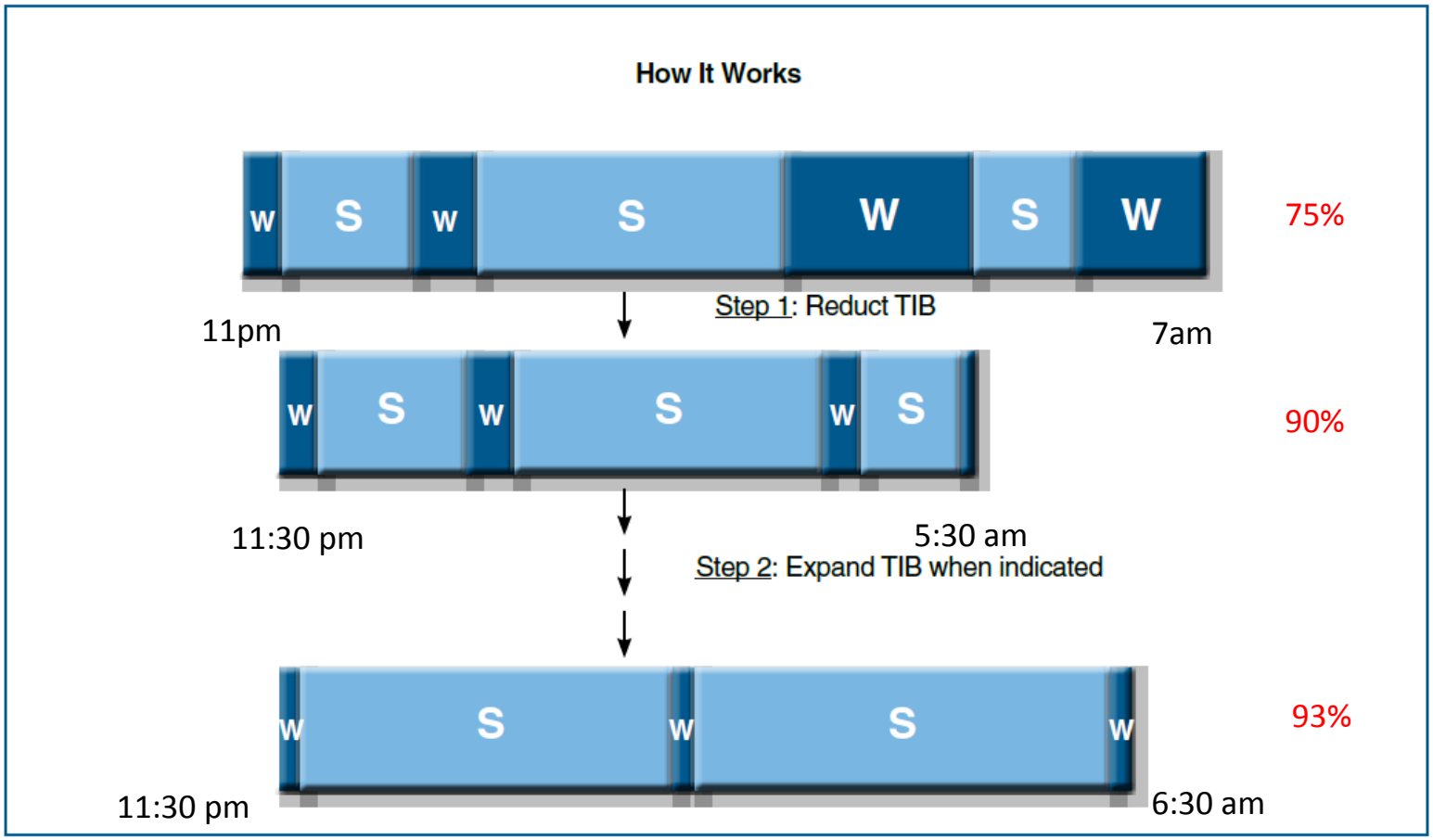
Sleep Diary



- 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

Morin, C. (1993). Insomnia: Psychological Assessment and Management. Guilford Press, New York.

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)

Session	Content
Intake	Assessment and diagnosis Case conceptualization/treatment plan Sleep goals Sleep diary
1	Review of sleep diary Sleep education Sleep restriction Stimulus control Sleep hygiene
2 - 3	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 CBTI (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

	CBTI	Hypnotics
Availability	Limited	Widespread
Outcome	Resolution of Symptoms	Symptomatic relief
Risks	None	Long term ???
Side effects	None	Varied
Tolerance/Dependence/ Abuse	None	Possible
Patient Preference	Preferred	
Cost	More expensive in short term	Long term costs may exceed CBTI

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.

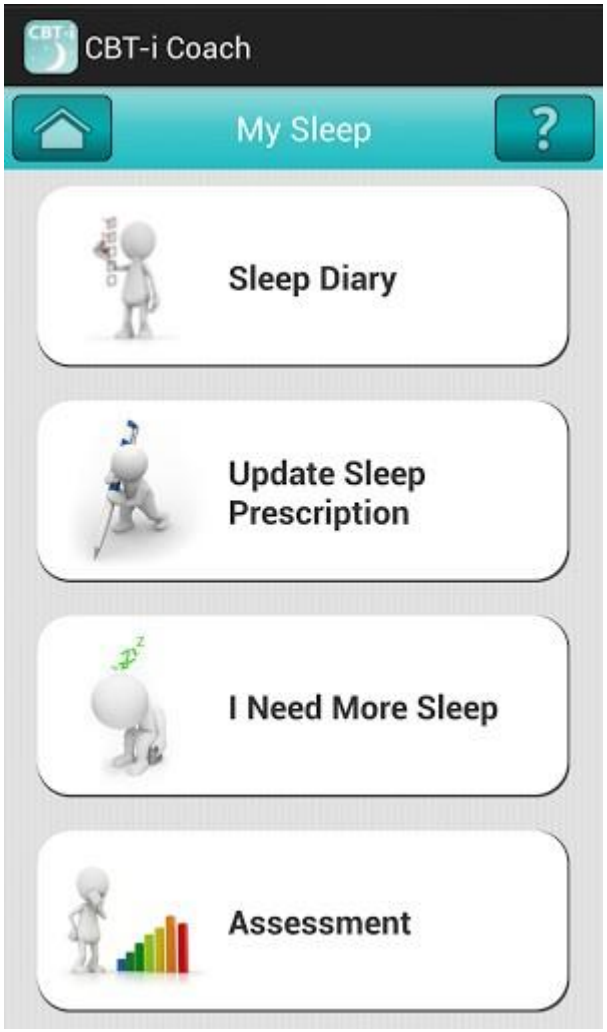
Dissemination

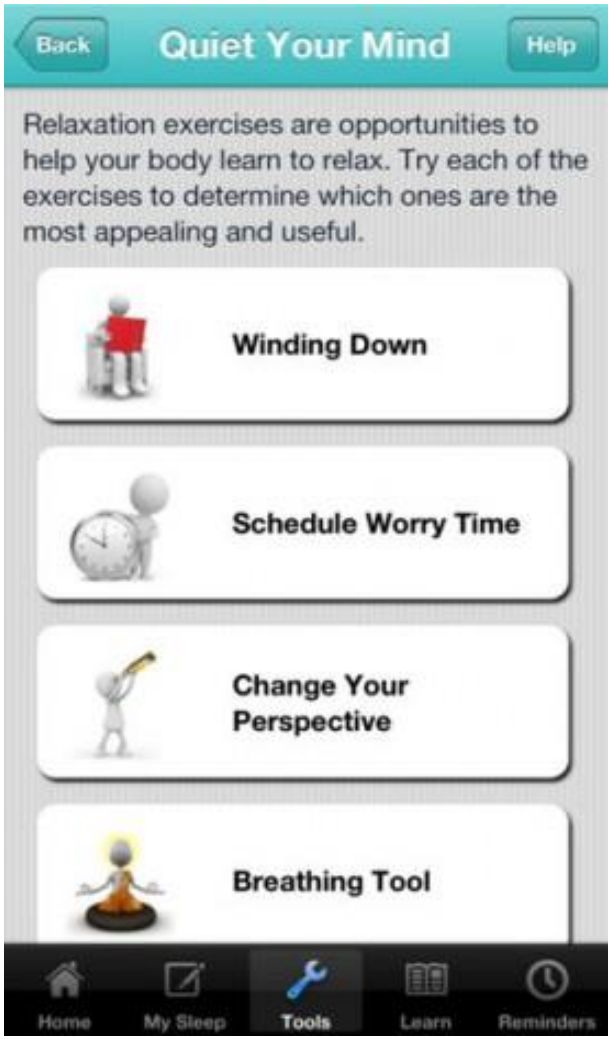
Dissemination Efforts

- 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


CBT-i Coach
CBT-i
coach
PTSD
STANFORD
SCHOOL OF MEDICINE


CBT-i Coach
My Sleep
?
Sleep Diary
Update Sleep Prescription
I Need More Sleep
Assessment


Back
Quiet Your Mind
Help
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
Home
My Sleep
Tools
Learn
Reminders

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/
- American Academy of Sleep Medicine.
  - http://www.sleepeducation.org/
- Insomnia Severity Index
  - https://biolincc.nhlbi.nih.gov/static/studies/masm/Insomnia%20Severity%20Index.pdf
- Internet-based CBTI treatment
  - Sleep Healthy Using the Internet (SHUTi; http://shuti.me)
  - Sleepio (www.sleepio.com)
- Mobile Applications
  - CBTi Coach (http://www.ptsd.va.gov/public/materials/apps/cbti-coach-app.asp)
  - Breathe2Relax (http://t2health.dcoe.mil/apps/breathe2relax)

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

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

Insomnia Severity Index

https://biolincc.nhlbi.nih.gov/static/studies/masm/Insomnia%20Severity%20Index.pdf

Listing of Behavioral Sleep Medicine specialists

www.absm.org/BSMSpecialists.aspx

Case Conceptualization Form

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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2. Is there a mismatch between circadian tendency and sleep schedule?		
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