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DEPLOYMENT-RELATED INSOMNIA AND COGNITIVE BEHAVIORAL TREATMENTS

Adam Bramoweth, PhD
Advanced Fellow, Mental Illness Research & Treatment
Mental Illness Research, Education and Clinical Center
VA Pittsburgh Healthcare System

Visiting Instructor
Department of Psychiatry
University of Pittsburgh

DISCLOSURE

- **Financial Support**

- VA Advanced Fellowship in Mental Illness Research and Treatment
VISN 4 Mental Illness Research, Education and Clinical Center
(Director, D. Oslin; Site Director, G. Haas)
VA Pittsburgh Healthcare System
- Department of Psychiatry, University of Pittsburgh

- This presentation does not represent the views of the Department of Veterans Affairs or the United States Government.

DEPLOYMENT RELATED INSOMNIA

- Outline/Goals:
 1. Review insomnia, including common risks and consequences
 2. Provide an overview of deployment-related factors/mTBI and impact on insomnia
 3. Briefly describe cognitive behavioral treatment for insomnia + case example
 4. Discuss dissemination and implementation efforts for CBTI

SURVEY 1

- What is your primary position?
 - Clinician – Primary Care Provider (MD/DO, NP, PA)
 - Clinician – Behavioral Health (Psychologist, Psychiatrist, Social Worker)
 - Clinician – Other Medical/Behavioral Health provider
 - Research – Physician
 - Research – Psychologist
 - Research – Other

SURVEY 2

- What is your experience with insomnia?
 - I treat many Veterans with insomnia
 - I occasionally treat Veterans with insomnia
 - I rarely treat Veterans with insomnia
 - I do not currently treat Veterans with insomnia

DSM-5 INSOMNIA DISORDER¹

- Difficulty initiating sleep, maintaining sleep, and/or early morning awakenings
- Clinically significant distress or impairment
- ≥ 3 nights per week
- ≥ 3 months
- Occurs despite adequate opportunity for sleep

- Specify if:
 - Comorbid with non-sleep psychiatric disorder
 - Comorbid with medical disorder
 - Comorbid with sleep disorder
- Episodic (<3 months), Persistent (> 3 months), Recurrent (>2 episodes in 1 year)

INSOMNIA IN VETERANS – ADAPTED 3P MODEL

Predisposing Factors	Precipitating Factors	Perpetuating Factors
<ul style="list-style-type: none">• Baseline factors• Bio/Psych/Social traits • Stable	<ul style="list-style-type: none">• Initial cause of insomnia	<ul style="list-style-type: none">• Behavioral• Cognitive • Target and modify

INSOMNIA IN VETERANS – 3P MODEL

Predisposing Factors	Precipitating Factors	Perpetuating Factors
<ul style="list-style-type: none">• Adverse childhood events• Pre-military/ deployment problems		

INSOMNIA IN VETERANS – 3P MODEL

Predisposing Factors	Precipitating Factors	Perpetuating Factors
<ul style="list-style-type: none">• Adverse childhood events• Pre-military/ deployment problems	<ul style="list-style-type: none">• Deployment• Combat exposure• Shift work/irregular scheduling• Hyper-vigilance	

INSOMNIA IN VETERANS – 3P MODEL

Predisposing Factors	Precipitating Factors	Perpetuating Factors
<ul style="list-style-type: none">• Adverse childhood events• Pre-military/ deployment problems	<ul style="list-style-type: none">• Deployment• Combat exposure• Shift work/irregular scheduling• Hyper-vigilance	<ul style="list-style-type: none">• Nightmares• Energy drink consumption• Psychopathology• Sleep schedule adjustment• Unemployment/ financial stress• Family responsibilities• Coping mechanisms: alcohol/substance use

INSOMNIA IN VETERANS

- Prevalence rates higher in Veterans vs. general adult population
 - 24-54% in Veterans vs. 10-22% in general adult population²
- Sleep disturbance^{3,4}
 - Iraq Veterans: ~30%
 - Head injury: ~58%
 - Vietnam Veterans: ~94%
- PTSD + sleep disruption: 70-87%⁵
- Among the most frequent complaints of recently deployed Veterans³
- Most common initial complaint of those referred for mental health services⁶

RISKS & CONSEQUENCES

- 40% - 57% of people with insomnia have a comorbid psychiatric disorder^{7,8,9}
- Depression¹⁰
 - Insomnia vs. Good Sleepers: 10x more likely to have depression (BDI > 18)
- Anxiety¹⁰
 - Insomnia vs. Good Sleepers: 17x more likely to have anxiety (STAI > 70 T score)
- Risk factor: Depression, Substance Abuse Disorders, and Cardio-Metabolic Disorders^{11,12,13}

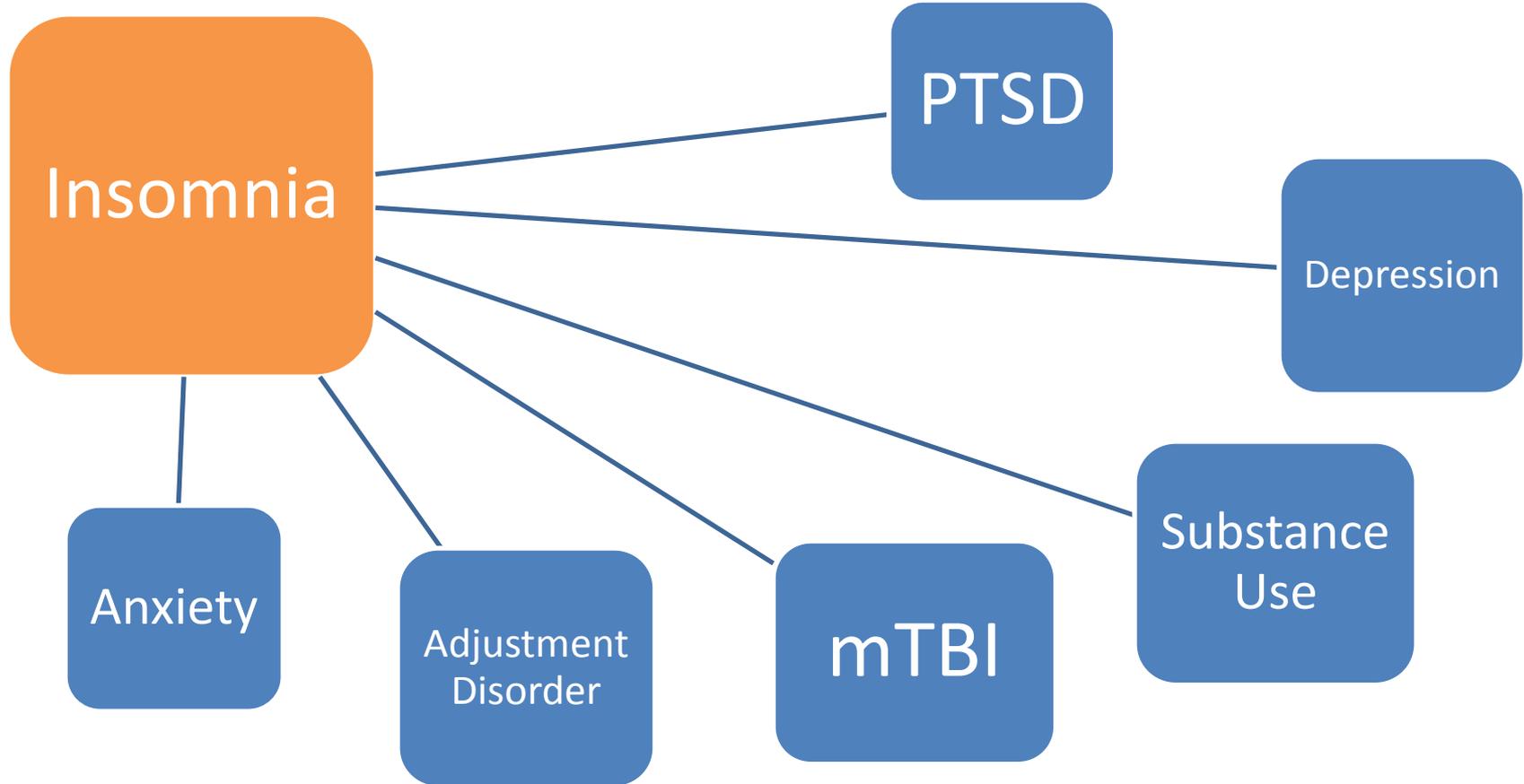
RISKS & CONSEQUENCES

- Increased healthcare utilization^{15,16}
 - Office visits + Medication usage

- Increased insomnia-related costs¹⁴
 - Insomnia Syndrome \approx \$5,000/year vs. Good Sleeper \approx \$400/year

- Insomnia associated with significant economic burden¹⁴
 - Total costs (treatment + indirect) \approx \$250 billion annually

COMORBIDITY



COMORBID INSOMNIA – MILITARY/VETERANS

- PTSD^{17,18}
 - Insomnia symptoms at post-deployment (time 1), significantly linked to increased PTSD symptoms at time 2
- Suicide¹⁹
 - Veterans who committed suicide—those with a sleep complaint died closer to their last office visit than Veterans without a sleep complaint
- Insomnia can be a target for treatment/intervention of psychiatric disorders

MILD TRAUMATIC BRAIN INJURY + SLEEP

- 5 – 22% soldiers have mTBI
 - Majority report >1 mTBI²⁰
- 50% civilians with mTBI have a sleep disturbance²¹
 - 25 – 30% have diagnosed sleep disorder
- 97% of military with chronic mTBI (>3 months) report sleep problems²²
 - Per PSG findings^{23,24}: 85% hypersomnia, 55% insomnia, 54% sleep fragmentation, 35% sleep apnea

MILD TRAUMATIC BRAIN INJURY + SLEEP²²

- Blast-related injuries
 - Insomnia
 - Anxiety

- Blunt-related injuries
 - Obstructive sleep apnea

Summary

- Insomnia
 - Prevalent
 - Comorbid
 - Significant risks and consequences

COGNITIVE BEHAVIORAL TREATMENT FOR INSOMNIA

SURVEY 3

- What is your experience/exposure to CBT for Insomnia?
 - I am not at all familiar with CBT for Insomnia
 - Heard of it but don't know much about it
 - Heard of it and have referred Veterans
 - I use it occasionally
 - I use it regularly

CBT FOR INSOMNIA

- Multi-Component Evidence-Based Therapy
 - Education
 - Stimulus Control
 - Sleep Restriction
 - Cognitive Therapy
 - Relaxation
- All vs. select components
- Recommended first-line of treatment
- 4-6 sessions (30-60 minutes)

CBTI – LANGUAGE OF ITS OWN

- Sleep Diary – self monitoring tool to measure sleep behaviors
- Time in Bed – amount of time spent in bed
- Total Sleep Time – amount of time sleeping
- Sleep Onset Latency – how long does it take to fall asleep
- Wake After Sleep Onset – time awake after initially falling asleep
- Sleep Efficiency – $\text{Total Sleep Time} / \text{Time in Bed}$

ASSESSMENT/OUTCOME MEASURES

- Sleep Diary – measure/track sleep behaviors
- Insomnia Severity Index – 7-items, insomnia symptoms
- Epworth Sleepiness Scale – 8-items, likelihood to fall asleep in situations
- Dysfunctional Beliefs About Sleep – rate 16 common sleep beliefs
- Morningness/Eveningness – identify chronotype (owl vs. lark)
- Other: Depression, Anxiety, PTSD

CASE EXAMPLE

CASE: MTBI + INSOMNIA

- TB was referred by his PCP for insomnia/sleep disruption
- 25 y/o, Caucasian, Veteran of Marine Corps (medical retirement/honorable discharge)
- Service Connected: TBI, PTSD, Migraines, Tinnitus
- Afghanistan 7 months, 2009-2010

CASE: MTBI + INSOMNIA

- Combat exposure (sniper fire), 4 IED blasts (1 LOC)
 - Vehicle triggered detonation of IED
 - Explosion caused Veteran hit head on vehicle door: 30-60 sec LOC
 - Headache with dizziness and photophobia
 - 60 min of “dazed and confused”
 - Cervical/thoracic/lumbar injury

- Other blast-related injuries: headaches resolved <60 min

CASE: MTBI + INSOMNIA

- Bedtime: 3:00am
- Sleep latency: up to 3 hours
- 2-3 nighttime awakenings with minimal wake after sleep onset
- Up time: 12:00 – 3:00pm
- Unrefreshed upon awakening
- Chronic back pain contributing to sleep latency
- Denied significant worry, rumination, fear
- Sleep with TV on to help reduce tinnitus
- Daytime: fatigue, poor concentration, poor memory, irritability

CASE: MTBI + INSOMNIA

- Insomnia Severity Index: 20/28 (clinical insomnia)
- Epworth Sleepiness Scale: 6 (not excessively sleepy)
- PHQ-9: 12 (moderate depression)

- Highly rated dysfunctional beliefs about sleep:
 - After a poor night's sleep, I need to catch up the next night
 - I am worried I will lose control over my sleep
 - Poor sleep will interfere with next day activities
 - Medication is probably the only solution

EDUCATION

- Normal sleep vs. Abnormal sleep
- 3P model of insomnia: predisposing, precipitating, and perpetuating
- Other sleep disorders (e.g., apnea, restless legs syndrome)
- Behaviors/Lifestyle: substances, diet, and exercise

FIGURE

A MODEL OF CHRONIC INSOMNIA²⁻⁴

Predisposing Factors

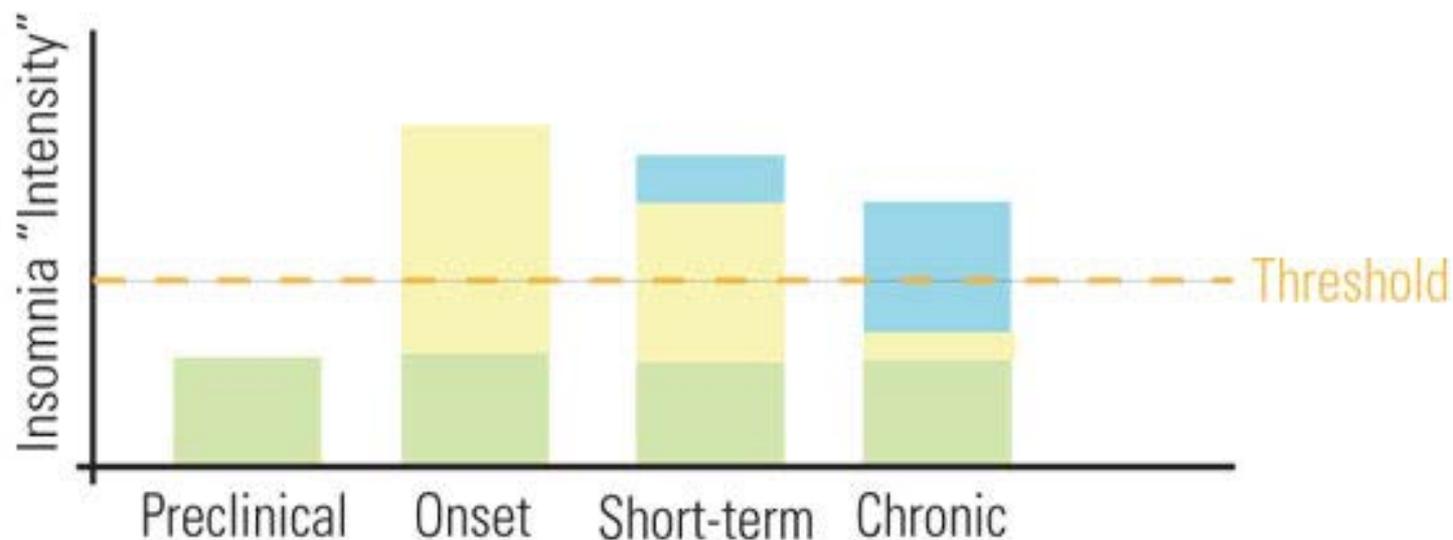
- Biologic traits
- Psychological traits
- Social factors

Precipitating Factors

- Medical illness
- Psychiatric illness
- Stressful life events

Perpetuating Factors

- Excessive time in bed
- Napping
- Conditioning



Sleep-Related
Anxiety



Sleep-Related
Behaviors



Thoughts/Beliefs
about Sleep

CBTI

- The sleep diary is your best friend...

	3/19/2014
How long did you nap/doze yesterday?	0 min
What time did you get into bed?	10:15pm
What time did you try to go to sleep?	10:45pm
How long did it take you to fall asleep?	1 hour 15 minutes
How many times did you wake up, not counting your final awakening?	3
In total, how long did these awakenings last?	1 hour 10 minutes
What was your final awakening? Did you wake up earlier than desired? How many minutes earlier?	6:30am Yes 30 min
What time did you get out of bed for the day?	7:00am
How would you rate the quality of your sleep? (1=very poor to 5=very good)	2

STIMULUS CONTROL

Strengthen the relationship between the act of sleeping and the bed/bedroom

- **Wake up at the same time every day**
- Go to bed only when sleepy (not when tired or because its bedtime)
- Use the bed and bedroom only for sleep (and sex)
- If unable to sleep, get out of bed and return to bed only when sleepy
- Do not nap (or keep it brief and early)
- Create a “buffer zone” and avoid stressful activities in bed

SLEEP (TIME IN BED) RESTRICTION

- Reduce Time in Bed
 - Match to current total sleep time + 30 minutes
 - No less than 5-6 hours
 - Contraindicated: seizure disorder, bipolar disorder
- Prescribe Wake Time (stable)
- Work backwards to establish a new, flexible bedtime
- As sleep efficiency increases (TST/TIB >90%), slowly extend bedtime 15-20min/week
- Sleep compression: slowly reduce time in bed until sleep efficiency >90%, then extend time in bed

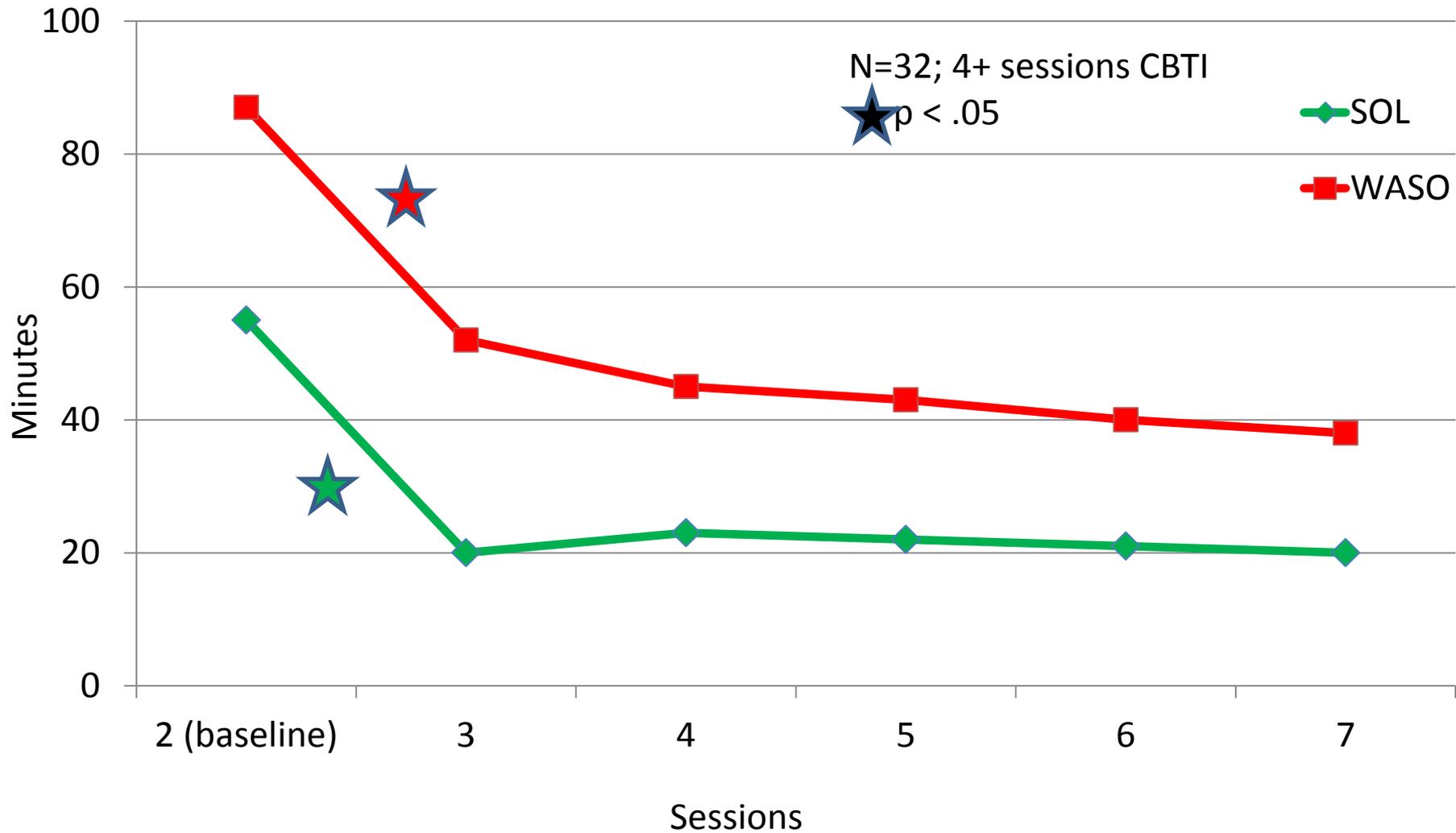
COGNITIVE THERAPY

- Identify maladaptive/dysfunctional beliefs about sleep (DBAS scale)
- General worries related to insomnia/disrupted sleep
- Guided discovery to challenge/change thoughts
 - Where is the evidence for that?
 - What is the worst that could happen? Most realistic?
 - Do you know for certain _____ will happen?
 - What would you tell a friend in a similar situation?
 - How have you dealt with this in the past?

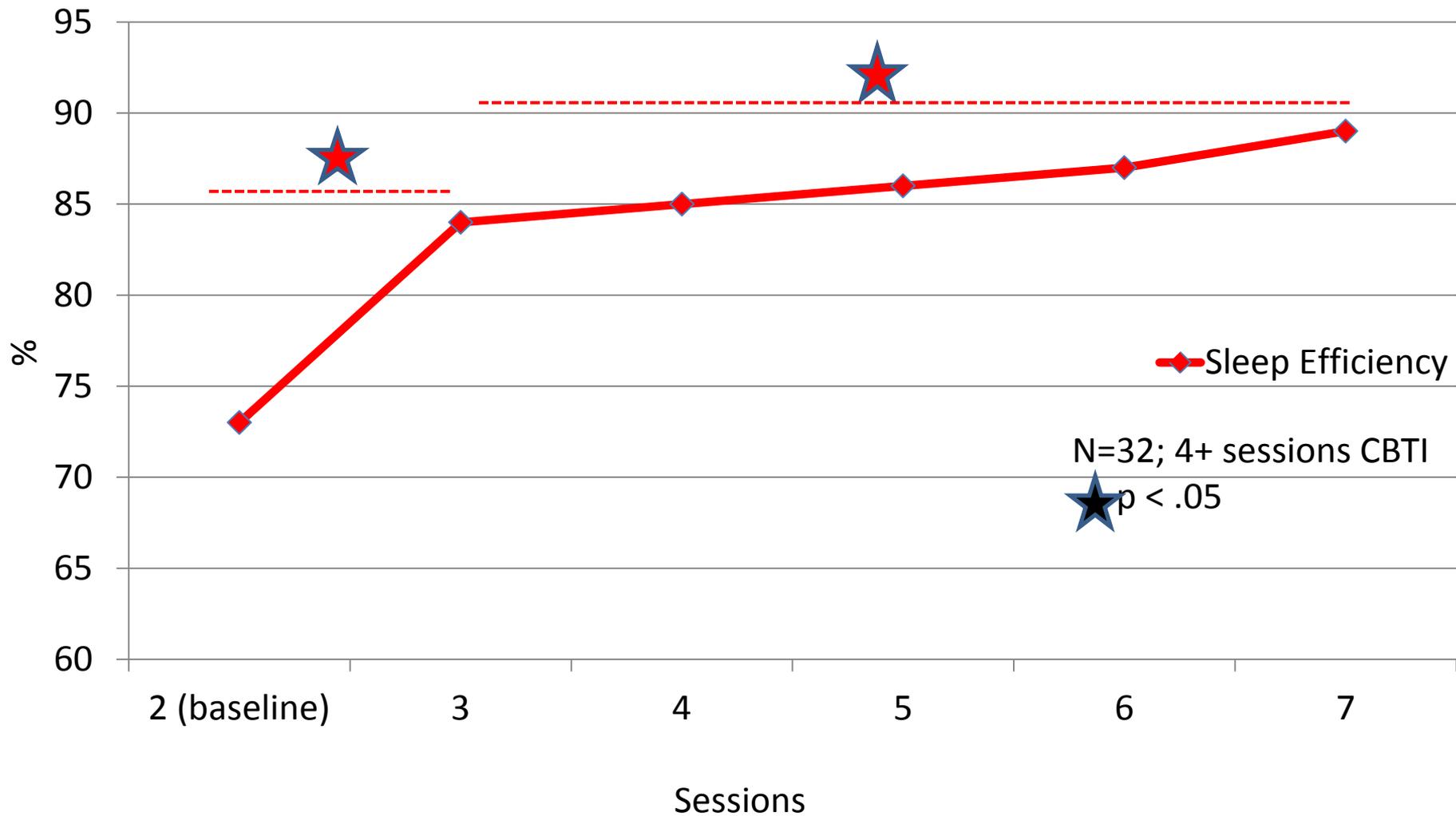
RELAXATION

- Progressive Muscle Relaxation
- Passive Relaxation
- Guided Meditation
- Mindfulness

EVIDENCE



Sleep Efficiency (TST/TIB x 100)



CASE: MTBI + INSOMNIA

- Session 1:
 - TIB: 10h 30m
 - TST: 7h 38m
 - SOL: 2h 9m (129m)
 - WASO: 16m
 - SE%: 75%
- OTC sleep aid helped reduce sleep latency
- Hesitant to set early wake time but willing to try
- Rx TIB: 12:00am – 8:00am

CASE: MTBI + INSOMNIA

- Session 2:
 - No sleep diary
 - Without sleep aid, inconsistent sleep; with sleep aid, consistent and good quality sleep
- Plan:
 - Use OTC sleep aid and establish structured sleep schedule
 - Taper sleep aid while maintaining/adjusting sleep schedule
- Rx TIB: 2:00am – 10:00am

CASE: mTBI + INSOMNIA

- Session 3:
 - TIB: 6h 57m
 - TST: 6h 8m
 - SOL: 40m
 - WASO: 4m
 - SE%: 87%
- Good sleep with OTC sleep aid (1 bad night without aid)
- Shift Rx TIB: 1:00am – 9:00am
- If sleep remains stable, begin taper of sleep aid

CASE: MTBI + INSOMNIA

- Session 4: No Show
- Plan: TB trying to participate in an outpatient multidisciplinary pain program + continued CBTI
- Never rescheduled for CBTI

CBTI - SUMMARY

- Multi-component evidence-based treatment
 - Brief: 4-6 sessions
- Collaborative partnership with patient
- Adapt treatment to the patient
 - Patient goals: ideal vs. realistic
 - Adherence issues
 - Comorbid disorders

DISSEMINATION

VHA NATIONAL DISSEMINATION

- Nationwide training in CBTI through Evidence-Based Psychotherapy Program
 - <http://vaww.mentalhealth.va.gov/ebp/insomnia.asp>
- ~400 clinicians have been trained (goal: 1000)
 - Psychologists
 - Psychiatrists
 - Social Workers
 - Psychiatric Nurses

Cognitive Behavioral Therapy for Insomnia (CBT-I)



[Home](#) » [EBP Training Programs & Protocols](#) » CBT-I

CBT for Insomnia Dissemination Initiative

Mental Health Services has implemented a national initiative to disseminate Cognitive Behavioral Therapy for Insomnia (CBT-I) throughout VHA to make this treatment widely available to Veterans. As part of this initiative, VA has developed a national training program in CBT-I for Veterans with Insomnia.

CBT-I is a multi-component treatment that addresses patients' sleep-related cognitions and behaviors. Treatment is delivered in approximately 6 weekly, 50-minute individual therapy sessions, and includes patient completion of a daily sleep diary. CBT-I has been shown to be effective in treating insomnia across many patient populations, including those with comorbid chronic pain conditions, cancer, mild traumatic brain injury, depression, and PTSD.

[SharePoint Site](#)

Please click on the icon on the right to be directed to the VA CBT-I SharePoint site for more information and resources related to the VA CBT for Insomnia dissemination initiative.





Therapy and Assessment Resources

Select the links below to access valuable CBT-I materials.

CBT-I Therapist Manual

Coming Soon!

This manual will provide an overview of the CBT-I principles and skills that will help clinicians meet the challenges of treating Veterans with insomnia.

Sleep Diary

The sleep diary is an essential element for implementing CBT-I, and data obtained from the diary allows tracking of change with treatment, provides the basis for the implementation of behavioral components, and helps patients alter misperceptions about their sleep. A list of abbreviations, sleep diary instructions, and the sleep diary calculator are included here.

CBT-I Assessment and Treatment Tools

This section includes the CBT-I VA Intake Form (Adults), Insomnia Severity Index (ISI), Restless Legs Syndrome Rating Scale (RLS), Smith's Measure of Morningness/Eveningness, Dysfunctional Beliefs and Attitudes About Sleep, Sleep Need Questionnaire, and the CBT-I Case Conceptualization form.

CBT-I Handouts/Patient Materials

Click here to download copies of the following: Guide to Overcoming Your Insomnia, Questions and Answers about "The Guidelines", Center for Science in the Public Interest-Caffeine Content List, Action Plan for Addressing Insomnia in the Future, Things to Do If You Are Awake, and Changing Your Thinking About Sleep.

VA CBTI Rollout: Patient Outcome Measures at Baseline and Last CBTI Session

Outcome Measure (scale)	Baseline Mean	Last Session Mean	Significant Change
Insomnia Severity Index (0-28)	20.5 (4.4)	11.0 (6.9)	+
Beck Depression Inventory-II (0-63)	23.8 (11.3)	17.1 (12.3)	+
WHOQOL-BREF (4-20)			
Physical	10.8 (2.7)	13.2 (3.0)	+
Psychological	11.4 (2.7)	13.0 (3.1)	+
Social	11.4 (3.4)	12.8 (3.8)	+
Environmental	14.1 (2.4)	14.9 (2.6)	+

WHOQOL-BREF: abbreviated version of WHO Quality of Life 100

Locally: Insomnia Consult Service (check CPRS)

Behavioral Health Consults...		Done
1	Combat Stress Recovery/PTSD Program OUTPT	TO BE USED BY CBOC STAFF ONLY
2	CTAD (Center for Treatment of Addictive Disorders) Consult OUTPT	25 CBOC Telepsychiatry Psychiatry
3	Geropsychology Consult HJH INPT	26 CBOC Telepsychiatry Psychology
4	<u>Insomnia Consult OUTPT</u>	
5	Smoking Cessation Group	
6	NeuroPsych Testing Consult OUTPT	CHOOSE CORRECT CBOC FOR THE FOLLOWING:
7	Pain Management Consults...	27 Psychology Consult Beaver OUTPT
8	Psychiatry Consult HJH INPT	28 Psychology Consult Belmont OUTPT
9	Psychiatry Consult HJH INPT Follow up	29 Psychology Consult Fayette OUTPT
10	Psychiatry Consult HJH OUTPT	30 Psychology Consult Washington OUTPT
11	Psychiatry Consult UD INPT	31 Psychology Consult Westmoreland OUTPT
12	Psychiatry Consult UD OUTPT	
13	Psychology Initial Evaluation OUTPT	
14	Psychology Consult HJH OUTPT	
15	Psychology (UD) INPT	
16	Psychology (UD) OUTPT	
17	Psychological Testing INPT	
18	Psychological Testing OUTPT	
19	Military Sexual Trauma Consult OUTPT	
20	Weight Mgmt (MOVE) Orders/Consults...	
THE FOLLOWING IS FOR PRIMARY CARE USE ONLY		
21	Behavioral Health Lab Consult (Telephone Evaluation) OUTPT	

OTHER FORMS OF CBTI

- VA Tele-health
 - Rural Veteran
 - Inconsistent transportation
 - Not a CBTI provider in the VISN
- VA mobile application: CBT-i Coach
- Brief Behavioral Treatment for Insomnia (University of Pittsburgh)
 - 2 in-person sessions (week 1 & 3)
 - 2 phone sessions (week 2 & 4)
 - Delivery by non-psychologist





Post-Traumatic Stress



Depression



Anger



Alcohol & Drugs



Tobacco



Physical Injury



mild Traumatic Brain Injury



Stigma



Spirituality



Anxiety



Families & Friendships



Life Stress



Suicide Prevention



Sleep



Resilience



Military Sexual Trauma



Health & Wellness



Families with Kids



Financial Health



Work Adjustment

New & Featured



Kids Deploy Too!
MilitaryKidsConnect.org

inTransition
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"The coaching support helped me stay **connected** and **focused** during a stressful time."



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Updated Weekly!



Participate in Research

STIGMA

Learn more about **Environmental Exposures**



My Health...
It's about Living My Life.





Sleep



Start Here!

VIDEO STORIES

1. [Sleep Basics](#)
2. [Causes of Insomnia](#)
3. [Things You Can Do](#)
4. [Harmful Sleep Habits](#)
5. [Helpful Sleep Habits](#)



Sleep
Workbook



Sleep
Assessments



Sleep
Library



Sleep
Resources



Personal
Stories

Summary

- Insomnia is highly prevalent, especially among Military/Veterans
- Insomnia is comorbid with psychiatric and medical disorders
- Risk factor for development of disorders
- Linked to significant increases in healthcare utilization and costs

- Evidence-based treatments available
- Treatment is brief, effective, and adaptable
- Dissemination efforts in place and ongoing

MENTORS/COLLABORATORS

- Pittsburgh VAMC/
University of Pittsburgh
 - Anne Germain, PhD
 - Matt Chinman, PhD
 - Charles Atwood, MD
 - Ada Youk, PhD
 - Barbara Hanusa, PhD
 - Gretchen Haas, PhD
 - Jon Walker, MSIS
 - Melissa Gregory, BA
- Philadelphia VAMC
 - Gala True, PhD
- Stanford University
 - Rachel Manber, PhD

COMMENTS & QUESTIONS

adam.bramoweth@va.gov

RESOURCES

- <http://vaww.mentalhealth.va.gov/ebp/insomnia.asp>
- www.afterdeployment.org

- Treatment Manuals
 - **Cognitive Behavioral Treatment of Insomnia: A Session-by-Session Guide** (Perlis, Junquist, Smith, and Posner, 2008)
 - **Overcoming Insomnia: A Cognitive-Behavioral Therapy Approach Workbook** (Edinger & Carney, 2008)
 - **Insomnia: A Clinical Guide to Assessment and Treatment** (Morin and Espie, 2003)

RESOURCES

- Papers

- Buysse et al. Recommendations for a standard research assessment of insomnia. *SLEEP* 2006;29(9):1155-1173.
- Manber et al. Dissemination of CBTI to the non-sleep specialist: Protocol development and training issues. *J Clin Sleep Med* 2012;8(2):209-218.
- Morgenthaler et al. Practice parameters for the psychological and behavioral treatment of insomnia: An update. *SLEEP* 2006;29(11):1415-1419.
- Schutte-Rodin et al. Clinical guideline for the evaluation and management of chronic insomnia in adults. *J Clin Sleep Med* 2008;4(5):487-504.

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