The VISN 2 Center of Excellence for Suicide Prevention

Veterans Health Administration Research Development
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The Relationship of Sleep Disturbance to Suicidal Thoughts and Behaviors: An Opportunity for Intervention

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The Relationship of Sleep Disturbance to Suicidal Thoughts and Behaviors: An Opportunity for Intervention

OUTLINE

- Review the literature regarding the relationship between sleep and suicidal thought and behavior
- Present ongoing work on the development of interventions to concurrently address insomnia, depression, and suicide risk.
- Discussion will include suggestions for clinicians and recommendations for shaping future research

Support: VA HSRD I21 HX001473; VA Center for Integrated Healthcare; VA Center of Excellence for Suicide Prevention; VA Advanced Post-doctoral Fellowship

Conflicts: Speakers Bureau for Merck, Inc.

Disclaimer: The views or opinions expressed in this talk do not represent those of the Department of Veterans Affairs or the United States Government.

Poll Question #1

What is your primary role in VA?

A. Student, trainee, or fellow
B. Clinician
C. Researcher
D. Administrator, manager or policy-maker
E. Please leave me alone, I'm checking my email

Poll Question #2

Which of the following have you attended? (check all that apply)

A. Annual SLEEP Meeting
B. Annual American Association of Suicidology Conference
C. Quasi-Annual VA/DoD Suicide Prevention Conference
D. HSR&D/QUERI National Meeting
E. AC/DC Concert (and purchased a black t-shirt)

Why Focus on Sleep?

- **Sleep Problems are Highly Prevalent**

  50-80% Prevalence in patients with depression, anxiety, PTSD, chronic pain & traumatic brain injury.

- **Sleep Problems are Stubbornly Persistent**

  Tend **not** to resolve spontaneously **or** by treating comorbidities

- **Sleep Problems are Pernicious**

  Exacerbate and can even cause comorbidities (e.g. depression)

- **Sleep Problems are Treatable**

  e.g., Apnea, Nightmares, Insomnia

- **Sleep Treatment is a Gateway….**

Matteson-Rusby (2010) Why treat insomnia? *Primary Care Companion J Clinical Psychiatry,* 12(1)

Treatment of Sleep Disturbances Represent a Gateway to:

- **Relieving a health problem that impacts function**
- **Improving co-occurring medical & psychiatric disorders**
- **Diminishing or preventing negative health consequences**
- **Decreasing resistance to pursuing needed mental health services**
- **Altering the trajectory of those on a path to suicide ?**

Why Focus on Sleep in Suicide Prevention?

INSOMNIA AND SUICIDE.

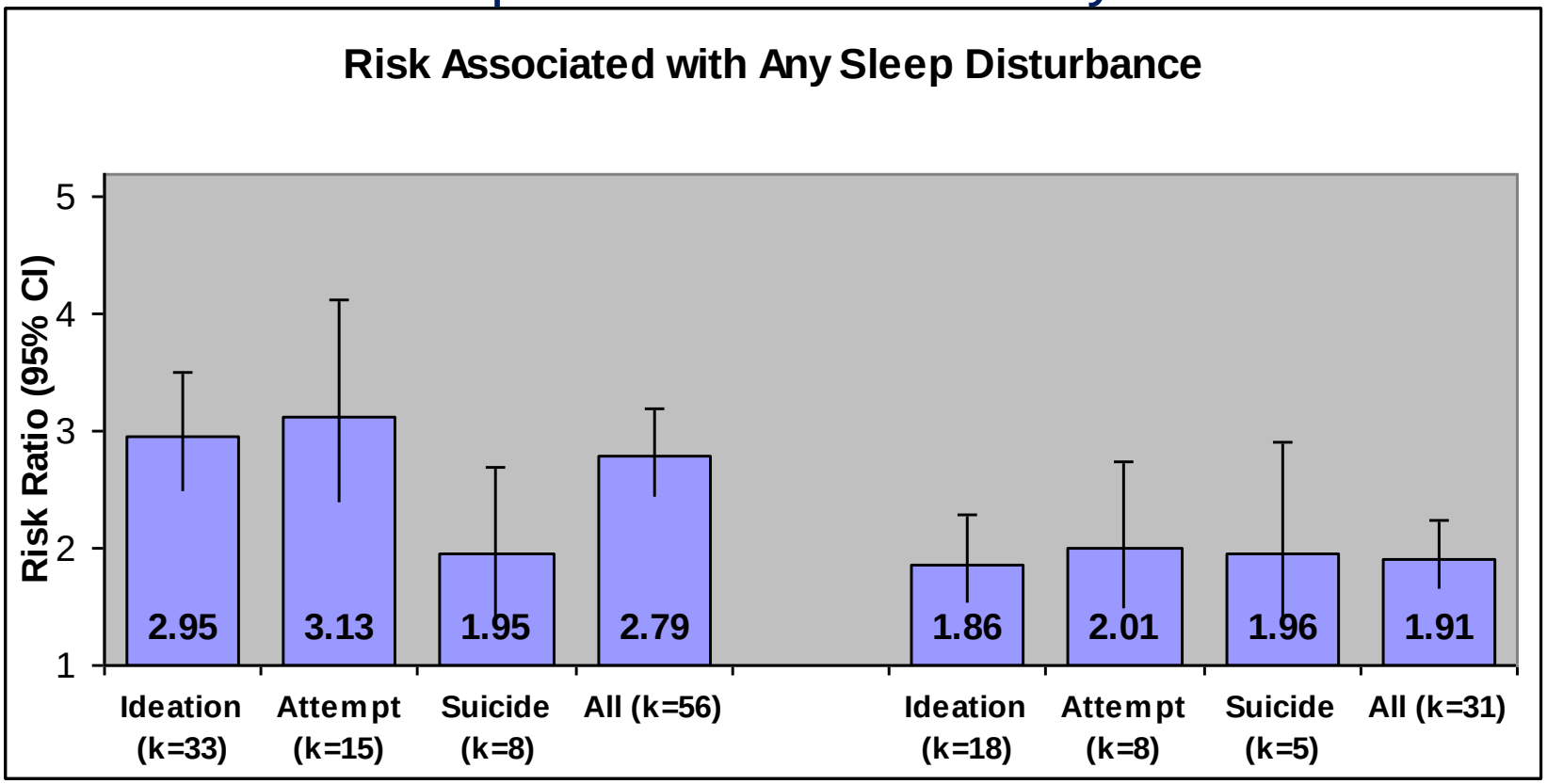
By C. ERNEST PRONGER, F.R.C.S.Eng.,
CONSULTING OPHTHALMIC SURGEON TO THE HARROGATE INFIRMARY.

For a long time past newspaper reports of suicide, associated with insomnia, have attracted my attention. Probably if all the cases in all the papers were collected we should find that annually a very great wastage of human life from this cause alone goes on which might to a great extent be prevented. But we must also bear in mind the thousands of sufferers from insomnia who struggle on, and who do not yield to the temptation to end a miserable existence.

The Lancet, Dec 1914

Why Focus on Sleep in Suicide Prevention?

Sleep & Suicide Meta-Analysis



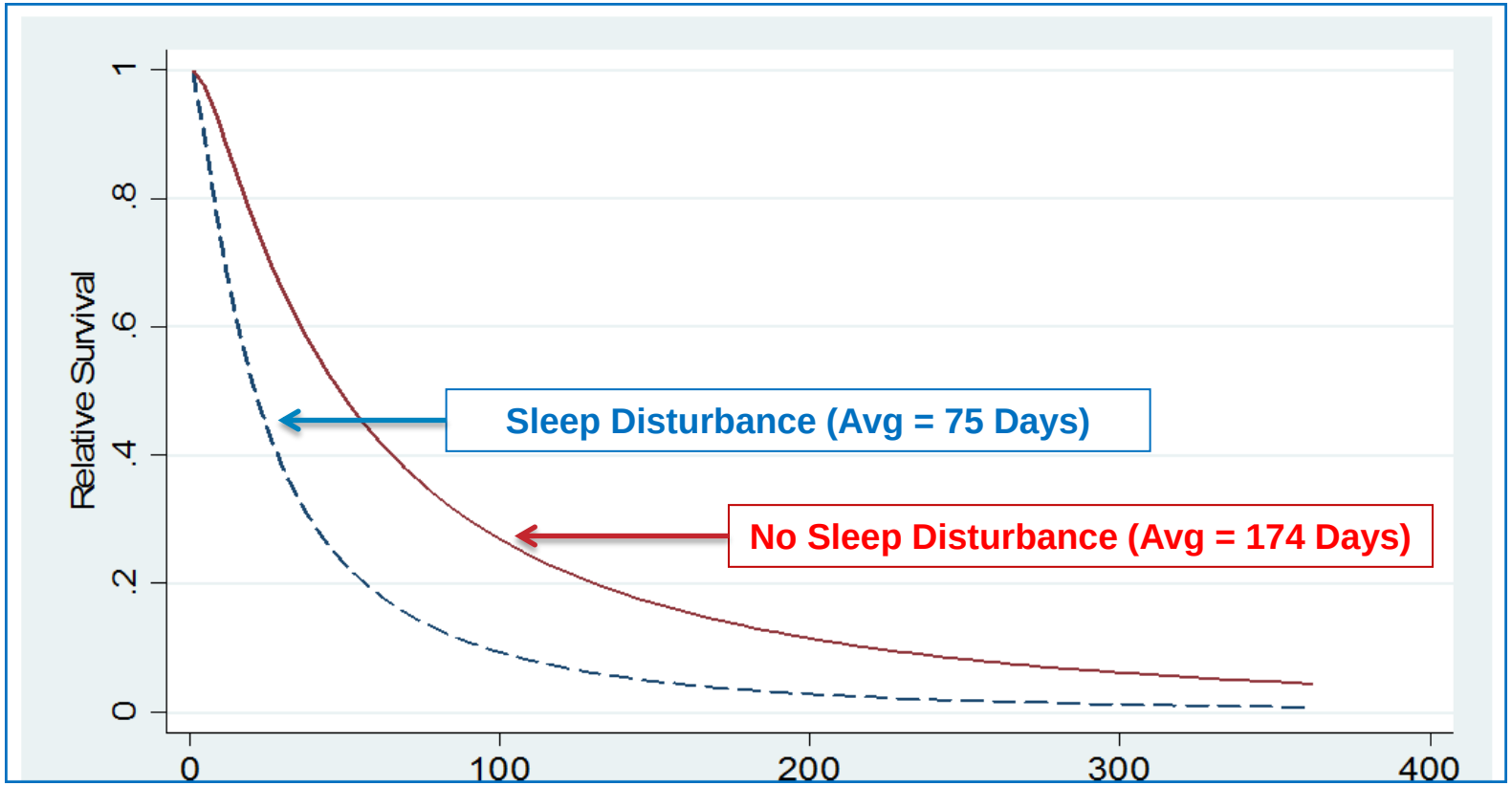
Pigeon, Pinquart & Conner (2012), J Clin Psychiatry.

Why Focus on Sleep in Suicide Prevention?

- See also these excellent reviews:
  - Bernert, R. A., Joiner, T. E., Cukrowicz, K. C., Schmidt, N. B., & Krakow, B. (2005). Suicidality and sleep disturbances. *SLEEP*, *28*(9)
  - Bernert, R. A., & Joiner, T. E. (2007). Sleep disturbances and suicide risk: a review of the literature. *Neuropsychiatric disease and treatment*, *3*(6)

- And a more recent meta-analysis:
  - Malik, S., Kanwar, A., Sim, L. A., Prokop, L. J., Wang, Z., Benkhadra, K., & Murad, M. H. (2014). The association between sleep disturbances and suicidal behaviors in patients with psychiatric diagnoses: a systematic review and meta-analysis. *Systematic reviews*, *3*(1).

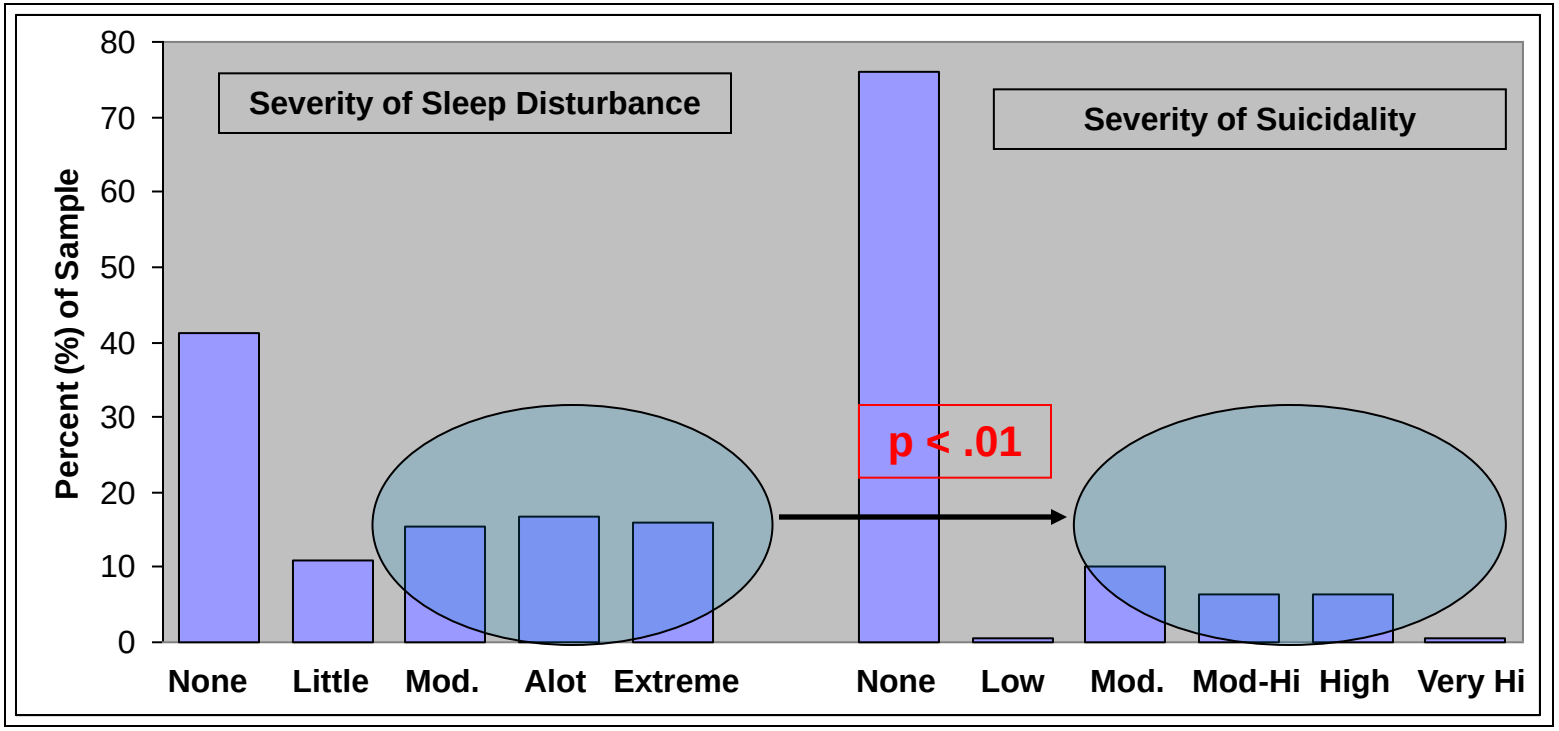
Sleep Preceding Suicide in 381 Veterans



Pigeon, et al (2012), Am J Public Health.

Sleep and Suicidal Ideation in 654 Veterans

- Assessments performed by the VA Behavioral Telehealth Center
- Multiple Regression controlling for age, gender, etoh, *depression*



Bishop, Pigeon, & Possemato (2013)

Insomnia among 239 personnel referred to U.S. Army clinics or hospitals for severe suicidality

Journal of Affective Disorders 136 (2012) 743–750

Contents lists available at SciVerse ScienceDirect

Journal of Affective Disorders

journal homepage: www.elsevier.com/locate/jad

Research report

Sleep problems outperform depression and hopelessness as cross-sectional and longitudinal predictors of suicidal ideation and behavior in young adults in the military ☆

Jessica D. Ribeiro [a], James L. Pease [b,1], Peter M. Gutierrez [b,1], Caroline Silva [a], Rebecca A. Bernert [c], M. David Rudd [d], Thomas E. Joiner Jr. [a,*]

Includes baseline and one month follow-up assessments

Poll Question #3

Which statement most adequately captures your experience?

A. I am credentialed in Behavioral Sleep Medicine (BSM)
B. I have extensive training in CBT-I (e.g., completed VA CBT-I rollout training)
C. I have had some training in CBT-I
D. I do not deliver CBT-I, but am reasonably knowledgeable
E. What is CBT-I ?

Insomnia Treatments

Pharmacologic

- **FDA Approved Hypnotic Medications**
- **Off-label use of medications with sedating side effects**
- **OTC sleep aids**

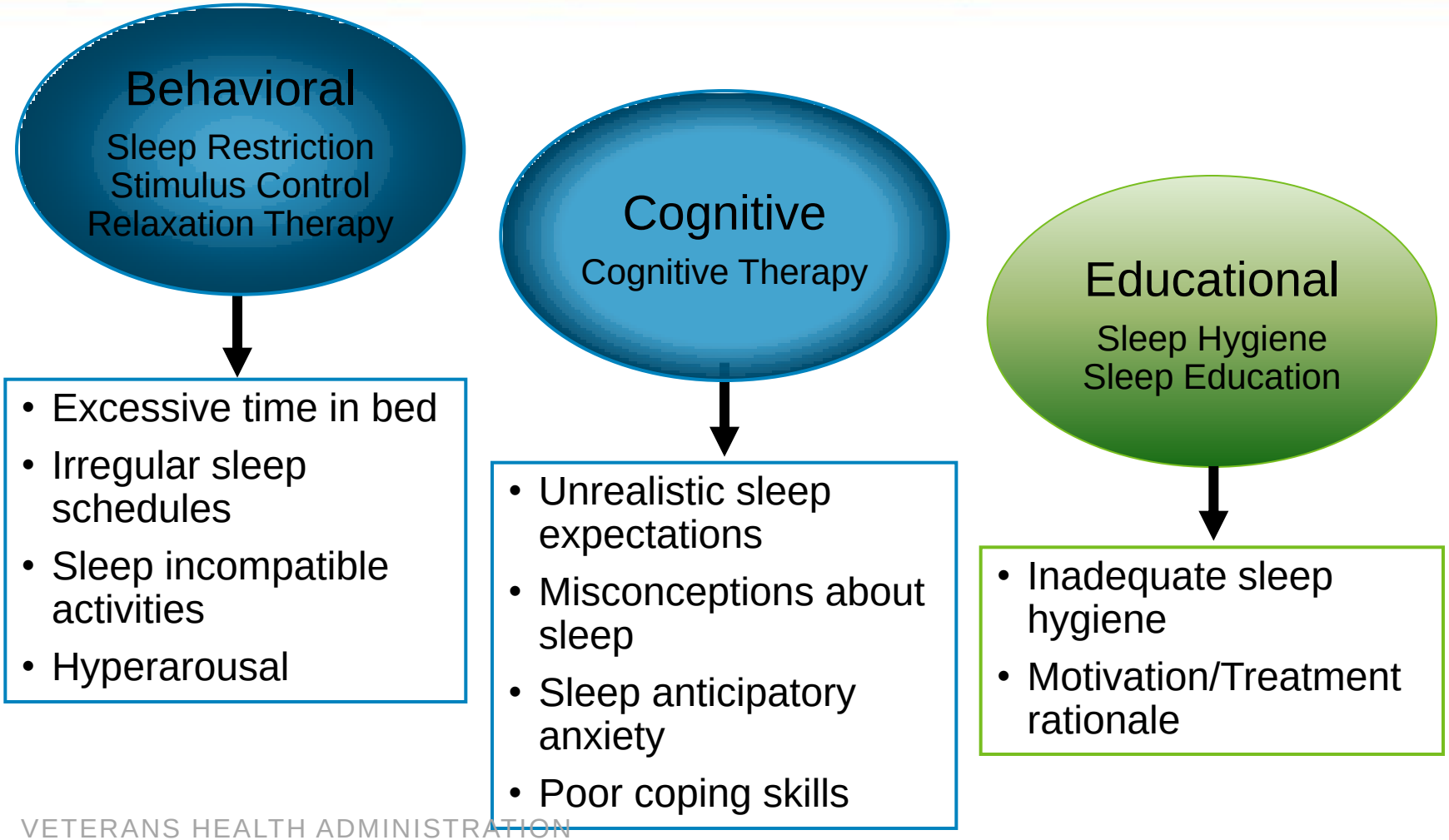
Nonpharmacologic

- **Several behavioral, cognitive, and relaxation approaches**
  - **Cognitive-Behavioral Therapy for Insomnia (CBT-I)**

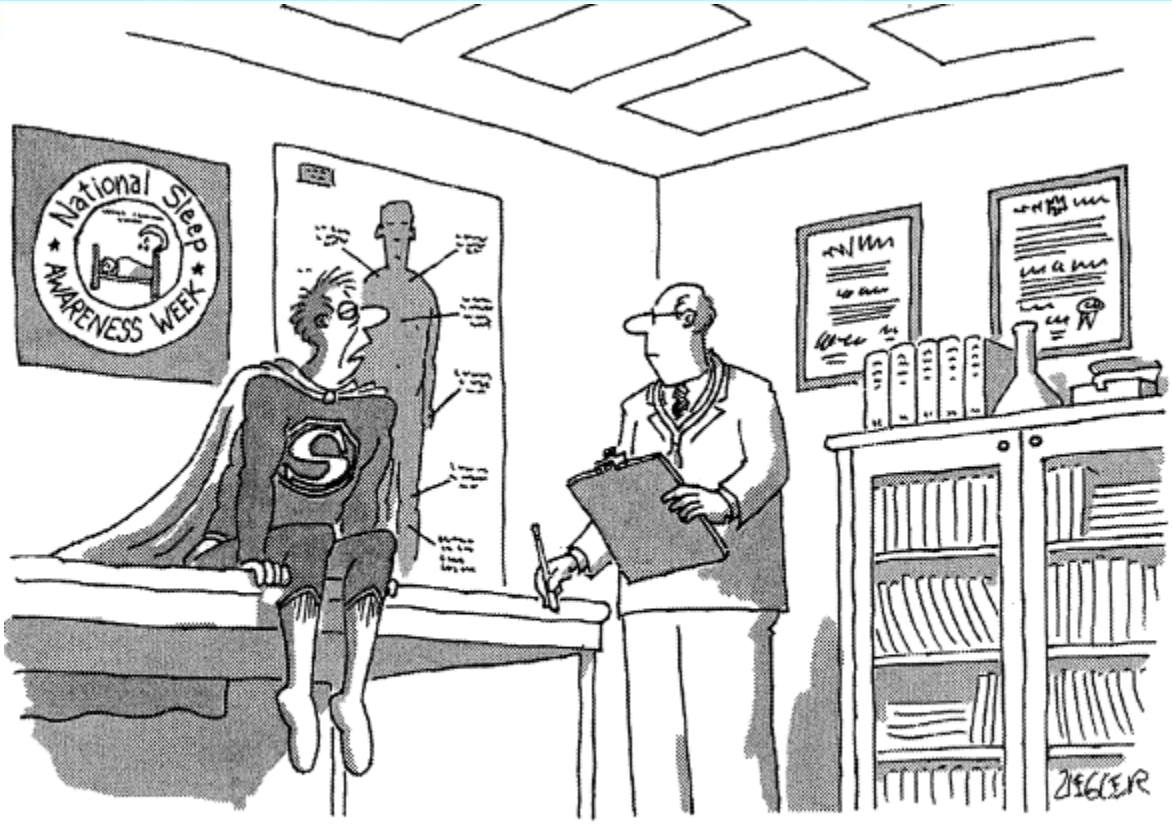
Cognitive-Behavioral Therapy for Insomnia (CBT-I)

- **Multi-component intervention**
- **Standard delivery in 5-8 individual or group session; sometimes shorter**
- **Requires therapist fidelity and patient adherence**
- **Is now the recommended first line treatment for insomnia**

CBT-I Treatment Components & Targets



Insomnia is treatable.
How do we treat more people?



"I gotta tell you, doc, this insomnia has been wreaking havoc with my ability to leap tall buildings in a single bound."

A Study to Test Brief CBT-I in in VA Primary Care (PC) patients with depression and insomnia

- Small Randomized Controlled Trial CT comparing:
  - 4-session CBT for Insomnia (CBT-I; n=13)
  - 2-session Sleep Hygiene (SH; n=15)
- Potential subjects:
  - identified from annual PC depression screener

Results: Sleep Diary Data

			within group		time x group	
	Pre-Tx	Post-Tx	sig.	*d*	sig.	*d*
SL [cbti]	43.8 (29.2)	18.9 (9.8)	*	1.19	*	0.55
[sh]	34.1 (32.7)	36.1 (42.6)	*ns*	0.05		
NOA	2.8 (1.6)	1.4 (0.9)	**	1.14	*	0.60
	2.5 (1.6)	2.1 (1.2)	*ns*	*0.34*		
WASO	79.4 (65.8)	28.7 (24.2)	*	1.06	**	0.71
	58.5 (43.4)	55.8 (48.9)	*ns*	*0.12*		
TST	361.1 (60.8)	363.8 (88.1)	*ns*	*0.27*	*ns*	*0.15*
	372.9 (113.5)	356.9 (155.9)	*ns*	*0.12*		
SE	75.4 (12.6)	86.7 (12.1)	**	0.95	*	0.44
	79.8 (7.7)	80.5 (16.3)	*ns*	*0.06*		

Repeated Measures ANOVA; * $p < .05$; ** $p < .01$

Other Progress to Date, Works in Progress, & Resources

By US Department of Veterans Affairs Open iTunes to buy and download apps (free).

CBT-i **Coach** was a collaborative effort between **VA's** National Center for PTSD, Stanford School of Medicine and DoD's National Center for Telehealth

Other Progress to Date, Works in Progress, & Resources

Insomnia Screen in VA Primary Care using PHQ 9 sleep item (N=111)

ISI Score	PHQ-item #3 cutoff	Positive Predictive Value	Negative Predictive Value	Sensitivity	Specificity
8 or above	1 or above	78.4%	91%	82.5%	84.5%

- MacGregor KL, Funderburk JS, Pigeon WR, Maisto SA. (2012) Evaluation of the PHQ-9 item 3 as a screen for sleep distrubance in primary care? *J Gen Int Med.* 27:339-344.

Treating Insomnia In Primary Care

- Pigeon WR, Funderburk J. (2014) Delivering a brief insomnia intervention to depressed VA primary care patients. *Cognitive Behavioral Practice*, 21:252-260.
- Bishop TM & Pigeon WR. (2014). Using Behavioral Therapies in Primary Care. In *Primary Care Sleep Medicine* (pp. 83-89). Springer New York.
- Goodie JL & Hunter CL. (2014). Practical Guidance for Targeting Insomnia in Primary Care Settings. *Cognitive and Behavioral Practice*.

Other Progress to Date & Works in Progress

Important Results of Insomnia Treatment in Military/Veteran Populations

- Ulmer C, Edinger JD, & Calhoun PS. (2011). A multi-component cognitive-behavioral intervention for sleep disturbance in veterans with PTSD: A pilot study. *J Clinical Sleep Medicine, 7,* 57-68.

- Germain A, Richardson R, Stocker R, et al. (2014). Treatment for insomnia in combat-exposed OEF/OIF/OND Military Veterans: Preliminary randomized controlled trial. *Beh Research and Therapy*, *61*, 78-88.

Effect of CBT-I on Suicidal Ideation Amongst VA CBT-I Roll-out Training Cases

- Trockel M, Karlin B, Taylor C et al. Effects of CBT-I on suicidal ideation in veterans. *Sleep* 2015;38:259-65.

Studies Recently Completed (unpublished) focusing on Sleep & Suicide in Veterans

An Adjunctive Behavioral Sleep Intervention to Prevent Veteran Suicides

Principal Investigator: W. Pigeon, Center of Excellence for Suicide Prevention
Sponsor: VA Health Services Research & Development

A Behavioral Sleep Intervention for the Prevention of Suicidal Behaviors in Military Veterans: A Randomized Treatment Trial

Principal Investigator: Rebecca Bernert. Stanford University
Sponsor: Military Suicide Research Consortium

Brief CBT-I in PC: Study #2

- Brief CBT-I (n=23) *vs.* TAU (n=27) in VA PC
- Potential subjects:
  - identified from electronic medical record DXs
  - recruited by introductory letter from their PCP
  - assessed and treated in a co-located PC office
  - progress notes co-signed by PCP
- Criteria included:
  - endorsing SI (without current intent)
  - Dx'd with Major Depressive Disorder and/or PTSD
  - Insomnia Severity Index (ISI) score $\geq$ 10 + trouble sleeping $\geq$ 3 months + $\geq$ 1 daytime consequence

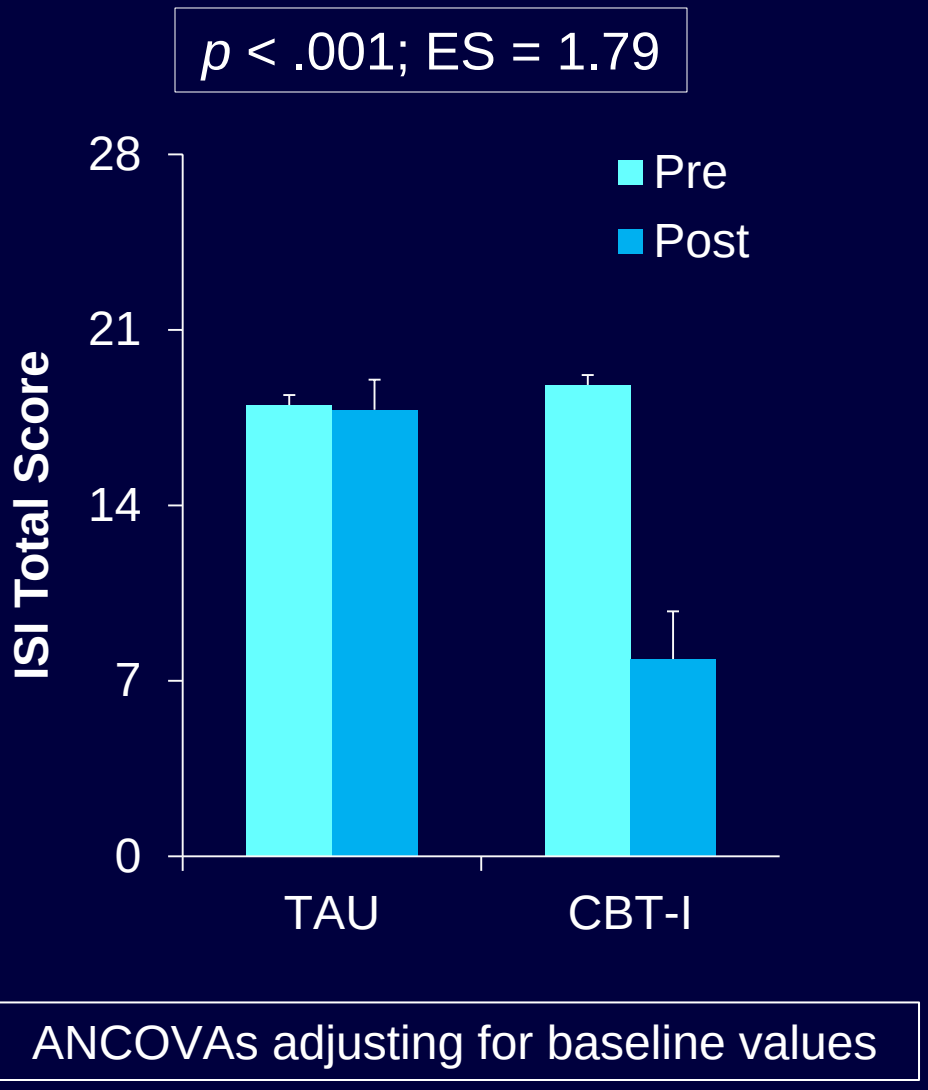
Brief CBT-I Intervention

- Individual therapy supplemented by workbook
- Four Sessions averaging ~ 30 min
- Content: Sleep Psychoeducation
  Stimulus Control
  Sleep Restriction
  Cognitive Therapy
  Sleep Hygiene
  Relapse Prevention
- Sessions audio-recorded and rated for treatment fidelity

Outcome Questionaires

- Insomnia Severity Index (ISI)
- Patient Health Questionnaire (PHQ-9)
- Columbia-Suicide Severity Rating Scale (C-SSRS)
    - Suicidal Ideation (0-5 categorical scale)
    - Intensity of Ideation (5 items, 1-25 continuous scale)
    - Suicidal Behaviors

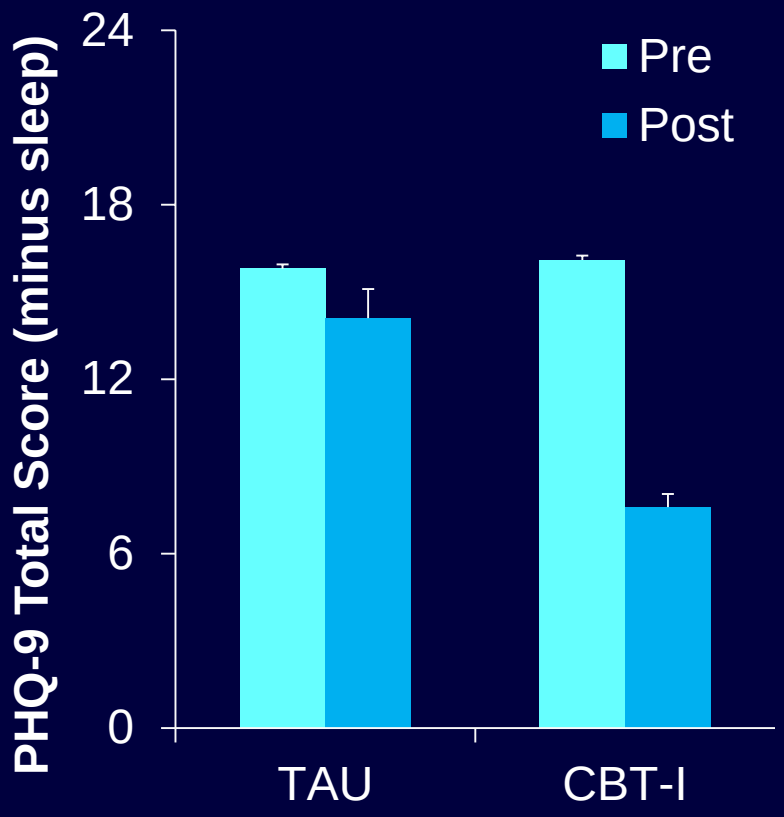
Results: Insomnia Severity Index



ANCOVAs adjusting for baseline values

Results: Depression Severity (PHQ-”8”)

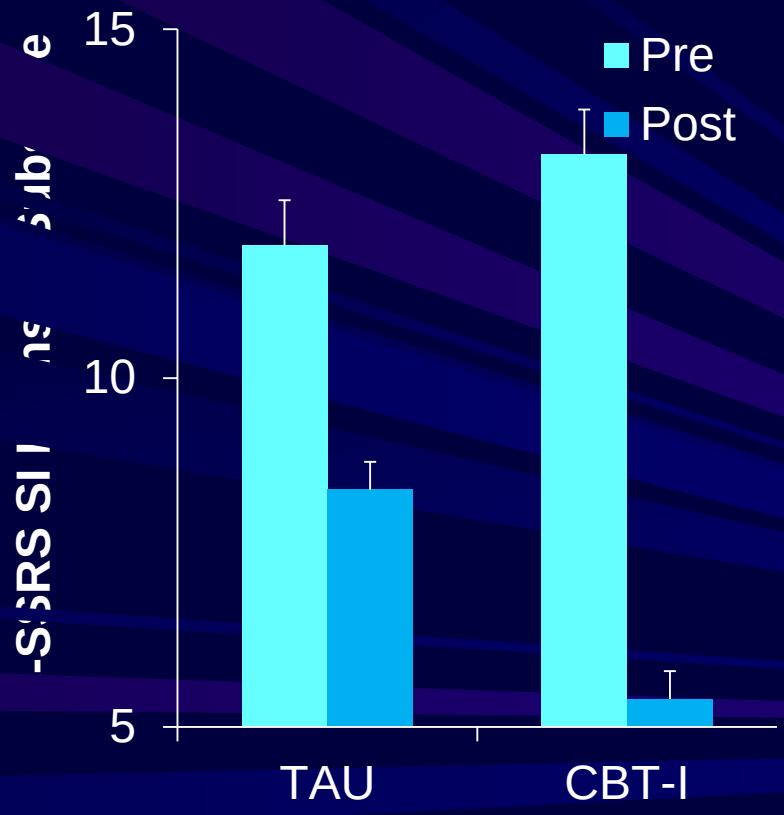
p < .01; ES = 1.13



ANCOVAs adjusting for baseline values

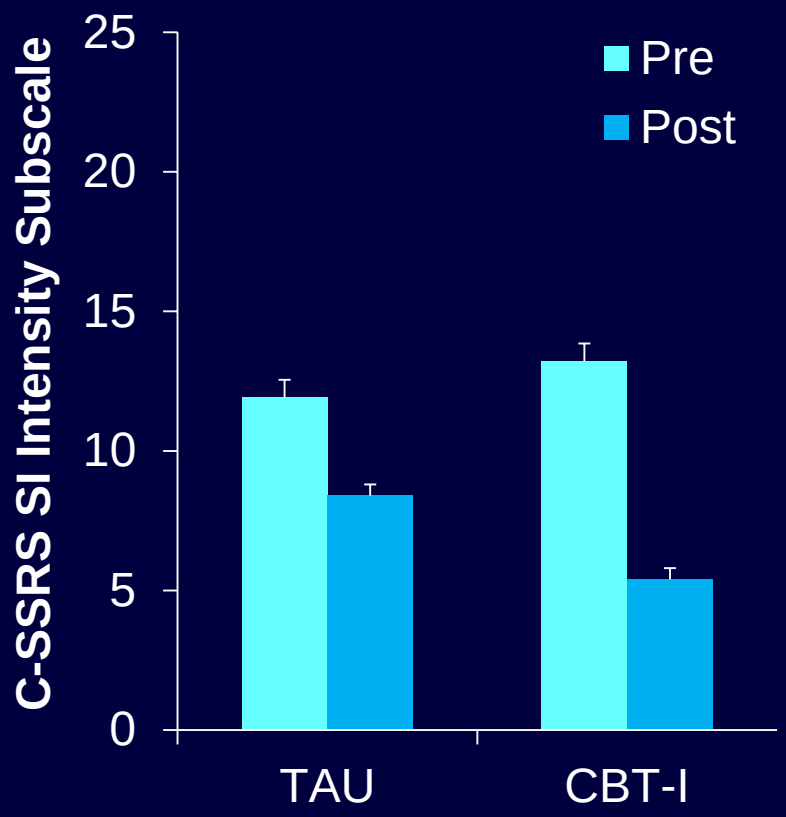
SI Severity Results - Version 1.0

Wow !



Results: SI Severity (C-SSRS subscale)

p = .153; ES = 0.44



ANCOVAs adjusting for baseline values

Poll Question #4

Were you aware that VA is enforcing PIV?

A. Yes, thank you for the reminder.

Summary, Suggestions & Recommendations

- Sleep disturbance generally, and some sleep disorders specifically, are associated with increased risk for suicidal thoughts and behaviors even when controlling for important risk factors like depression.
- Insomnia in particular is an excellent target for intervention (with CBT-I as a starting place) which is likely to include benefits beyond improved sleep.
- Preliminary evidence suggests that CBT-I can reduce suicidal ideation.

Summary, Suggestions & Recommendations

What we Don't Know:

- Whether CBT-I reduces suicide attempts and/or suicide
- Whether CBT-I in depressed individuals with current SI and/or a prior suicide attempt should be delivered before, after or in-tandem with other interventions
- Whether patients with insomnia who are at risk for suicide should be withdrawn from hypnotic medications that are associated with suicidal ideation and treated with CBT-I.
- Whether nightmare treatments reduce suicidal thoughts and behaviors
- Ditto apnea treatment…

Summary, Suggestions & Recommendations

What we can Do:

- Design pragmatic clinical trials to address these questions.
- Develop VA/DoD clinical practice guidelines for sleep disorders that incorporate the difficult real world clinical scenarios with which clinicians are faced when working with patients at risk for suicide.
- And in the interim… vigorously identify and treat sleep disturbances based on current evidence available to us.

Discussion/Q&A

“The best bridge between despair and hope is a good night's sleep.”

-- E. Joseph Cossman

Contact Information

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