

Purpose

This study will analyze temporal (i.e., day-to-day) associations between sleep disturbance, posttraumatic stress symptoms (PTSS), and alcohol use disorder (AUD) symptoms. Additionally, it will test the effects of a sleep intervention on PTSS and AUD symptoms in Operation Enduring Freedom (OEF), Operation Iraqi Freedom (OIF) and Operation New Dawn (OND) veterans.

Background

- Posttraumatic Stress Disorder (PTSD) negatively affects the lives of many veterans¹ and increases risk for AUD².
- Sleep disturbance is common in those with PTSD^{3, 4} and AUD⁵ and especially common in veterans⁶ though understudied and undertreated^{7, 8}.
- Very few studies have analyzed sleep, PTSD, and alcohol use concurrently^{9, 10, 11}. None of these studies were longitudinal and they did not use objective measures of sleep.
- Cognitive Behavioral Therapy for Insomnia (CBT-I), the gold standard of sleep interventions¹², was recently adapted for veterans¹³.
- CBT-I is effective at treating primary insomnia in veterans^{13, 14, 15} though its effect on comorbid PTSD and AUD is unknown.

Approach

Study Population and Setting

100 OEF/OIF/OND veterans age 18-55 recruited from USD and areas surrounding Vermillion, SD.

- Inclusion Criteria: Experienced posttraumatic stress symptoms and alcohol-related problems.
- Exclusion Criteria: Significant suicidal ideation, psychotic symptoms, incapacitating alcohol use disorder, severe sleep apnea, and receiving current treatment for sleep problems

Measures

Objective Sleep Measure: actigraphy collected via Readiband™



CBT-I Intervention: five-week at-home administered via MP3s and PDFs

Baseline Variables

- Demographics
- Trauma Exposure – DRRI-2¹⁸ and the CES¹⁹
- PTSD symptoms – PCL-5 & CAPS-5²⁰
- Alcohol Use and Problems – DDQ²¹, AUDIT²², SIP-2R²³
- Sleep Disturbance – PSQI²⁴

Control Variables

- Depression – HRSD²⁵
- Affect – PANAS²⁶

Experience Sampling Variables will be collected 8 random daily and 1 morning questionnaires on participants' mobile phones

- PTSD symptoms²⁰
- Alcohol consumption and AUD symptoms^{27, 28, 29}
- Sleep Quality
- Compliance with sleep intervention

Aims

Aim #1:

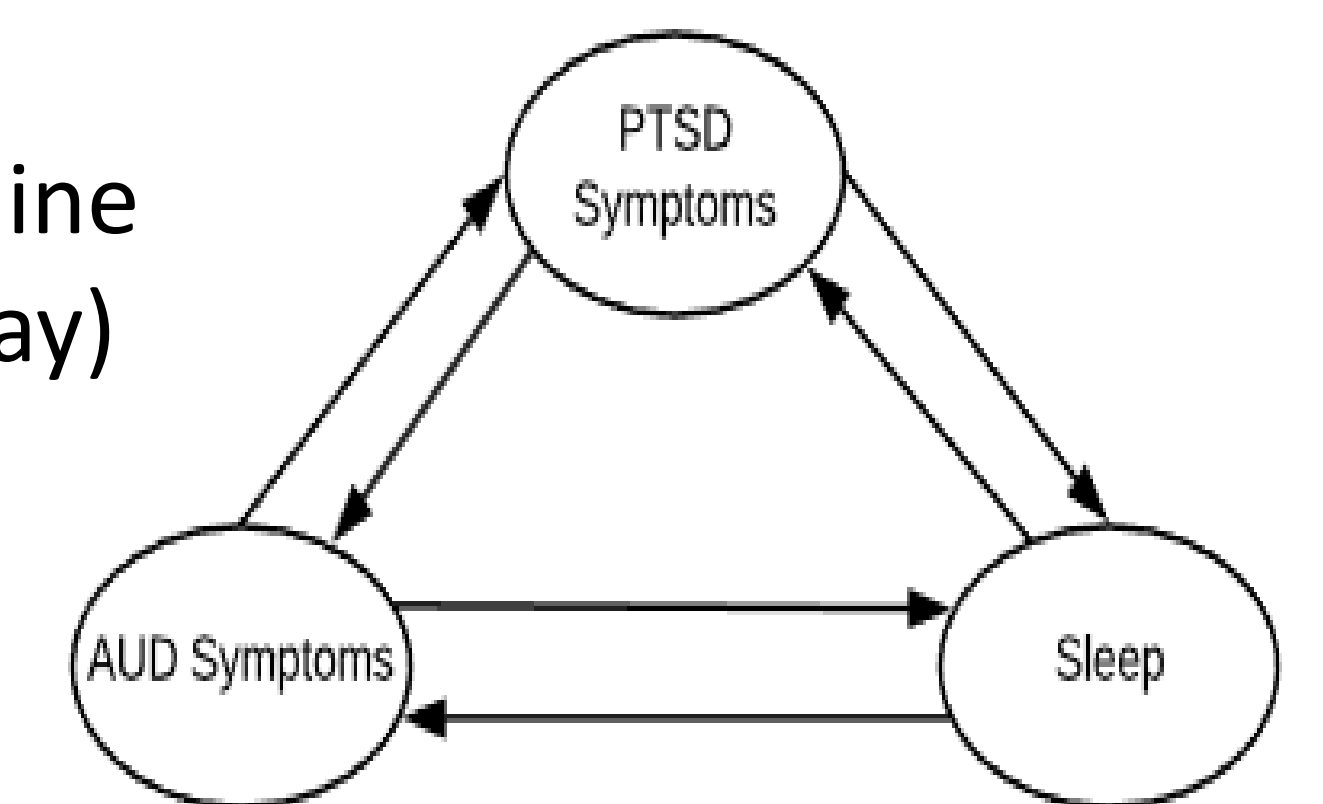
Conduct a randomized controlled pilot trial of veterans to examine the effectiveness of a brief therapeutic sleep intervention (CBT-I) that is hypothesized to:

- Improve sleep
- Decrease PTSS
- Decrease AUD symptoms

Aim #2:

Conduct an experience sampling study to examine temporal (i.e., day-to-day) associations between:

- Sleep disturbance
- PTSD symptoms
- AUD symptoms



Next Steps

- Encourage routine sleep assessments in clinical settings if disturbed sleep is shown to be a risk factor in maintaining PTSD symptoms and alcohol misuse.
- If effective, the intervention could be implemented in rural settings where veterans have limited access to treatment.

Contact Information

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Acknowledgements

The project described was supported by the National Institute of General Medical Sciences, 1U54GM115458. The content is solely the responsibility of the authors and does not necessarily represent the official views of the NIH.

References available upon request.

Study Protocol

Week	1	2	3	4	5	6	7
Day	1		15			36	49
All participant visits	Baseline, Initiate burst		Return Readiband			Pick-up Readiband	Complete follow-up
All participants	Actigraphy/ESM					Actigraphy/ESM	
Intervention group only	CBT-I intervention						