

# Exploring the Impact of Post-Traumatic Stress Disorder on a Mobile Sleep Intervention for Insomnia

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Insomnia is a prevalent and debilitating disorder among U.S. veterans. Cognitive behavioral therapy for insomnia (CBTI) can be effective for treating insomnia, but unfortunately many Veterans with sleep issues do not access this in-person care. Technology-based solutions such as mobile apps can offer affordable and accessible self-management alternatives to in-person CBTI. Additionally while insomnia is often comorbid with post-traumatic stress disorder (PTSD) for veterans, those with comorbid mental health disorders are often excluded from mobile-insomnia interventions, due in part to a belief that this comorbidity makes a patient-symptomology severe to benefit from these options. The current study represents a post-hoc, secondary analysis of a randomized clinical pilot trial (RCT) investigating the usability and effectiveness of a mobile-delivered insomnia intervention for veterans (N = 33) with chronic insomnia. The present study examined potential differences in sleep outcomes following use of the VA insomnia self-management app (CBT-i Coach app) based on the severity of participant's PTSD symptoms. Outcomes included insomnia severity, quality of sleep, and functional outcomes of sleep. Results indicated that veterans with PTSD symptoms in the clinical range (PCL-5 > 33) reported significant improvements on sleep outcomes (insomnia severity, functional outcomes of sleep, and sleep quality), as did veterans without PTSD. These rates of sleep quality improvement after app use were also similar between veterans with and without clinically-significant PTSD symptoms. These findings suggest that self-management mobile apps for insomnia treatment can also assist veterans with comorbid PTSD symptoms, and should be considered when referring veterans to mobile app resources.

*Keywords:* insomnia, mobile apps, cognitive behavioral therapy, veterans, post-traumatic stress disorder

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