

## Pre-deployment insomnia is associated with post-deployment post-traumatic stress disorder and suicidal ideation in US Army soldiers

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### Abstract

#### Study Objectives

Insomnia is prevalent among military personnel and may increase risk of mental disorders and suicidal ideation. This study examined associations of pre-deployment insomnia with post-deployment post-traumatic stress disorder (PTSD) and suicidal ideation among US Army soldiers.

#### Methods

Soldiers from three Brigade Combat Teams completed surveys 1–2 months before deploying to Afghanistan in 2012 (T0), on return from deployment (T1), 3 months later (T2), and 9 months later (T3). Logistic regression was performed to estimate associations of pre-deployment (T0) insomnia with post-deployment (T2 or T3) PTSD and suicidal ideation among respondents who completed surveys at all waves ( $n = 4645$ ). A hierarchy of models incorporated, increasing controls for pre-deployment risk factors and deployment experiences.

#### Results

Pre-deployment insomnia was associated with increased risk of post-deployment PTSD (adjusted odds ratio [AOR] = 3.14, 95% confidence interval [CI] = 2.58% to 3.82%,  $p < .0005$ ) and suicidal ideation (AOR = 2.78, 95% CI = 2.07% to 3.74%,  $p < .0005$ ) in models adjusting for sociodemographic characteristics and prior deployment history. Adjustment for other pre-deployment risk factors and deployment experiences attenuated these associations; however, insomnia remained significantly associated with post-deployment PTSD (AOR = 1.50, 95% CI = 1.19% to 1.89%,  $p = .001$ ) and suicidal ideation (AOR = 1.43, 95% CI = 1.04% to 1.95%,  $p = .027$ ). Subgroup models showed that pre-deployment insomnia was associated with incident PTSD (AOR = 1.55, 95% CI = 1.17% to 2.07%,  $p = .003$ ) and suicidal ideation (AOR = 1.67, 95% CI = 1.16% to 2.40%,  $p = .006$ ) among soldiers with no pre-deployment history of these problems.

#### Conclusions

Pre-deployment insomnia contributed to prediction of post-deployment PTSD and suicidal ideation in Army soldiers, suggesting that detection of insomnia could facilitate targeting of risk mitigation programs. Future studies should investigate whether treatment of insomnia helps prevent PTSD and suicidal ideation among deployed service members.

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