
This study examined (1) the prevalence of other psychopathologies among those with DSM-IV-diagnosed posttraumatic stress disorder (PTSD) compared to those without PTSD and (2) the associated between PTSD comorbidity and suicidal ideation (reporting thoughts of being better off dead or hurting themselves). 61.7% of guard members with PTSD in the last year had at least one other psychopathology; 20.2% has at least two other co-occurring conditions. The most common co-occurring psychopathology was depression. While those with PTSD overall were 5.4 (95% CI 3.8 – 7.5) times more likely to report suicidality than those without PTSD, those who had at least two additional conditions along with PTSD were 7.5 (95% CI 3.0 – 18.3) times more likely to report suicidal ideation at some point in their lifetime than those with PTSD alone.


This study assessed preparedness, unit support, and post-deployment support by using multi-measure scales adapted from the Deployment Risk and Resilience Survey. The prevalence of deployment-related posttraumatic stress disorder (PTSD) was 9.6%. In adjusted logistic models, high levels of all three deployment characteristics (compared with low) were independently associated with lower odds of PTSD. When we evaluated the influence of combinations of deployment characteristics on the development of PTSD, we found that post-deployment support was an essential factor in the prevention of PTSD. These results suggest that the development of suitable post deployment support opportunities may be centrally important in mitigating the psychological consequences of war.


We used logistic regression to determine the correlates of peri-/post-deployment alcohol abuse. Of 963 participants, 113 (11.7%) screened positive for peri-/post-deployment alcohol abuse, of whom 35 (34.0%) and 23 (32.9%) also reported peri-/post-deployment depression and PTSD, respectively. Soldiers with coincident depression (adjusted odds ratio [AOR] = 3.9, 95%CI: 2.0 – 7.2, p < 0.01) and PTSD (AOR = 2.7, 95%CI: 1.3 – 5.4, p < 0.01) were significantly more likely to screen positive for peri-/postdeployment alcohol abuse. This may suggest an etiologic pathway through which deployment-related exposures increase the risk of alcohol-related problems.

   Our aim was to analyze the symptom structure of major depression using the Patient Health Questionnaire-9 (PHQ-9). The PHQ-9 was administered to a sample of 2615 Army National Guard soldiers from Ohio. A one-factor model of depression and three separate two-factor models previously established in the literature were evaluated using confirmatory factor analysis. Results demonstrated greater support for the two-factor models of depression than for the one-factor model. The best fitting model was the two-factor model of somatic and non-somatic symptoms supported previously by Krause et al. (2010) and Richardson and Richards (2008).


   A sample of soldiers with a history of overseas deployment participated and were administered the PTSD Checklist (assessing PTSD) and Patient Health Questionnaire-9 (assessing depression). Using confirmatory factor analysis, results demonstrated that both PTSD’s dysphoria and hyperarousal factors were more related to depression’s somatic than non-somatic factor. Furthermore, depression’s somatic factor was more related to PTSD’s dysphoria than hyperarousal factor. Results indicate that PTSD’s dysphoria factor is related to depression specifically by way of depression’s somatic construct. Given PTSD’s substantial dysphoria/distress component, these results have implications for understanding the nature of PTSD’s high comorbidity with depression.


   We examined the relationship between posttraumatic stress disorder (PTSD), major depressive disorder (MDD), and human immunodeficiency virus (HIV) risk behavior among the Ohio Army National Guard (OHARNG). Logistic regression was used to examine the independent and combined effects of PTSD and MDD on past-year HIV risk behavior. Of 2,259 participants, 142 (6.3%) reported at least 1 past-year HIV risk behavior. To assess HIV risk behaviors, participants were asked whether they had engaged in any of the following in the past year: (a) used intravenous drugs, (b) been treated for a sexually transmitted or venereal disease, (c) given or received money or drugs in exchange for sex, and (d) had anal sex without a condom. In adjusted models, relative to soldiers with neither disorder, screening positive for MDD only was associated with HIV risk behavior (adjusted odds ratio [AOR] = 2.33, 95% CI = [1.15, 4.71]), whereas PTSD was not significant (AOR = 1.60, 95% CI = [0.80, 3.20]). Participants with both PTSD and depression were most likely to report HIV risk behavior (AOR = 2.75, 95% CI = [1.06, 7.11]). Soldiers with PTSD and MDD may
be at greater risk for HIV infection due to increased engagement in HIV risk behavior. Integrated interventions to address mental health problems and reduce HIV risk behavior are in need of development and evaluation.


A representative sample of Ohio Army National Guard soldiers were followed prospectively and information was gathered on smoking, suicidal ideation and depression at baseline and one year later. Smoking at baseline was associated with significantly increased likelihood of suicidal ideation at follow-up (OR=2.0 (1.3, 3.2)). This association persisted after adjusting for demographics and history of depression at baseline, but was no longer statistically significant after adjusting for depression at follow-up. Army National Guard soldiers who smoke have a greater risk of subsequent suicidal ideation. Depression concurrent with suicidal ideation appears to explain this relationship. If these results are replicated, screening of soldiers who smoke may be recommended as a proactive step towards mitigating the high risk of suicide in military personnel.


This paper aimed to investigate the relationship between smoking and depression in a sample of American soldiers. In bivariable cross-sectional associations, smoking status at baseline was associated with depression at baseline. History of smoking (but not current) (AOR=1.2 (0.7, 2.1)), sporadic/inconsistent smoking (AOR=2.2 (0.9, 5.2)) and incident smoking (AOR=2.7 (0.6, 12.4)) at baseline were not associated with increased risk of depression at follow-up but chronic smoking was associated with significantly increased risk of incident depression at follow-up (AOR=2.0 (1.2, 3.4)). This association remained statistically significant after adjusting for demographic differences. As such, the importance of making smoking cessation programs available to soldiers—as prevention of subsequent mental health problems, as well as a means to stop smoking—cannot be overestimated.


We assessed item-to-item correspondence between the Patient Health Questionnaire-9 (PHQ-9) and the Structured Clinical Interview for DSM-IV Axis I Disorders (SCID-I) major depression episode portion of the major depressive module. Data were analyzed using chi-square analyses, logistic regression, receiver operating characteristic (ROC) curve analyses and diagnostic efficiency statistics. To screen for depression effectively, results indicate use of the cardinal first two items, items representing fatigue, appetite and sleep changes with an item level cut-off point of two, and the item representing suicidal ideation with item level cut-off point of one. Further, total PHQ-9 scores significantly predicted SCID-I major
depressive episode (MDE) and diagnosis (MDD) with moderate accuracy. Lastly, the cut-off total score of 10 had the optimal balance of sensitivity and specificity compared to other PHQ-9 scoring options. This validation study provides guidelines for the use of the telephone-administered PHQ-9 in assessing the lifetime prevalence of a major depressive episode and diagnosis in non-clinical populations, with implications for clinical use.


The purpose of this analysis was to report the reliability and validity of key mental health assessments in an ongoing study of the Ohio Army National Guard (OHARNG). OHARNG soldiers received hour-long structured telephone surveys including the post-traumatic stress disorder (PTSD) checklist (PCV-C) and Patient Health Questionnaire – 9 (PHQ-9). A subset (N=500) participated in two hour clinical reappraisals, using the Clinician-Administered PTSD Scale (CAPS) and the Structured Clinical Interview for DSM (SCID). The telephone survey assessment for PTSD and for any depressive disorder were both highly specific [92% (standard error, SE 0.01), 83% (SE 0.02)] with moderate sensitivity [54% (SE 0.09), 51% (SE 0.05)]. Other psychopathologies assessed included alcohol abuse [sensitivity, 40%, (SE 0.04) and specificity 80% (SE 0.02)] and alcohol dependence [sensitivity, 60% (SE 0.05) and specificity 81% (SE 0.02)]. The baseline prevalence estimates from the telephone study suggest alcohol abuse and dependence may be higher in this sample than the general population. Validity and reliability statistics suggest specific, but moderately sensitive instruments.


Soldiers were assessed for alcohol abuse/dependence, depression, post-traumatic stress disorder (PTSD), deployment related factors (e.g., exposure to warzone stressors) and three deployment characteristics (pre-deployment preparedness, unit support during deployment, and post-deployment social support). Associations between the three deployment characteristics and incident alcohol abuse/dependence (defined as abuse or dependence at any point during or after deployment) were estimated using logistic regression. Only pre-deployment preparedness was associated with incident alcohol abuse/dependence (a non-linear inverted-u shaped relation) when controlling for demographics, deployment related factors (e.g., exposure to warzone stressors), and the presence of psychopathology that exhibited peri-/postdeployment. The association between pre-deployment preparedness and alcohol abuse/dependence may be characterized as an inverted-U shaped function. Suggestions for how and whether to modify predeployment preparedness in an effort to reduce peri-/post-deployment alcohol abuse or dependence should await further research.

A cohort of Ohio National Guard soldiers was interviewed three times over 3 years. The analytic sample included Ohio National Guard soldiers who had been deployed by 2008–2009, had participated in at least one follow-up wave, had reported consuming at least one alcoholic drink in their lifetime, and had non-missing data on alcohol use disorders (n=1,095). In a model including measures of civilian stressors and deployment-related traumatic events, only civilian stressors (OR=2.07, 95% CI=1.46, 2.94) were associated with subsequent alcohol use disorder. The effects of civilian stressors were only present among people with no history of alcohol use disorder. Independent of deployment-related exposures, post-deployment civilian stressors are associated with the onset of alcohol use disorder among reserve-component soldiers. Concerted investment to address daily civilian difficulties associated with reintegration into civilian life may be needed to prevent new cases of alcohol use disorders among returning military personnel.


This is a genetic association study in an Ohio National Guard longitudinal cohort (n = 810) of predominantly male soldiers of European ancestry, with replication in an independent Grady Trauma Project (Atlanta, Georgia) cohort (n = 2083) of predominantly female African American civilians. Controlling for the level of lifetime adult trauma exposure, we identified the novel association of a single-nucleotide polymorphism within the promoter region of the ADRB2 (Online Mendelian Inheritance in Man 109690) gene with PTSD symptoms in interaction with childhood trauma (rs2400707, P = 1.02 × 10−5, significant after correction for multiple comparisons). The rs2400707 A allele was associated with relative resilience to childhood adversity. An rs2400707 × childhood trauma interaction predicting adult PTSD symptoms was replicated in the independent predominantly female African American cohort. The rs2400707 polymorphism has been linked to function of the adrenergic system, but, to our knowledge, this is the first study to date linking the ADRB2 gene to PTSD or any psychiatric disorders. These findings have important implications for PTSD etiology, chronic pain, and stress-related comorbidity, as well as for both primary prevention and treatment strategies.


A representative sample of Ohio Army National Guard participants was enrolled. Demographic characteristics, mental health problems, and deployment status in 2009-2010 and mental health service use during the subsequent one-year period (2010-2011) were assessed. Approximately 16% of National Guard members used mental health services during the one-year period. Among those with depression, posttraumatic stress disorder,
anxiety, alcohol use disorders, or suicidal ideation, a little over one-third (37%) reported using services in the subsequent 12 months. Among all National Guard soldiers, being female, black, Hispanic, and insured and having comorbid general medical and mental health problems predicted mental health service use. Among those with mental health problems, only black race predicted mental health service use. Results suggest that there is a substantial level of unmet need for mental health treatment among National Guard soldiers. Efforts to identify National Guard soldiers with a need for mental health services and improving access to care might be warranted.


This study examined whether unit support, which reflects the quality of service members’ relationships within their unit, protects against sexual harassment and assault during deployment. Participants were 1,674 Ohio Army National Guard service members who reported at least one deployment during a telephone survey conducted in 2008 and 2009. Participants completed measures of sexual harassment/assault, unit support, and psychosocial support. Logistic regression was used to model odds of sexual harassment/assault. Approximately 13.2% of men (n = 198) and 43.5% of women (n = 74) reported sexual harassment, and 1.1% of men (n = 17) and 18.8% of women (n = 32) reported sexual assault during their most recent deployment. Greater unit support was associated with decreased odds of sexual harassment and assault. Programming designed to improve unit cohesion has the potential to reduce sexual harassment and assault.


The goal of this analysis was to assess the prevalence of risky driving and its demographic, mental health, and deployment-related correlates among members of the Ohio Army National Guard (OHARNG). We fit multiple logistic regression models and derived the adjusted prevalence of risky driving behavior for soldiers with mental health conditions, deployment experience, exposure to combat or trauma, and psychosocial stressors or supports. The prevalence of risky driving, including drinking and driving, passing on the right, and ignoring speed limits, were positively associated with a history of psychiatric disorders, deployment, deployment-related traumatic events, and combat or post-combat stressors. In contrast, the prevalence of risky driving was lower for soldiers who reported high levels of psychosocial support. Efforts to mitigate risky driving in military populations may be more effective if they incorporate both targeted messages to remediate dangerous learned driving behaviors and psychosocial interventions to build resilience and address underlying stressors and mental health symptoms.

The goal of this study is to determine the pre-existing lifetime and current prevalence of DSM-IV Axis I disorders within the Ohio Army National Guard (OHARNG). Data was analyzed from the clinical subsample of the Ohio Army National Guard Mental Health Initiative (OHARNG MHI). Five hundred participants were provided with an in-depth clinical assessment using the Clinician-Administered PTSD Scale (CAPS) and the Structured Clinical Interview for DSM-IV-TR (SCID). Logistic regression examined the relationship between Axis I disorders and the number of deployments and gender. Prevalence of at least one DSM-IV lifetime disorder was 66.2%; substance use disorders were 52.2%, followed by mood disorders (30.0%) and anxiety disorders (22.0%). Prevalence of at least one current disorder was 24.8%; anxiety disorders (13.2%), mood disorders (7.6%), and substance use disorders (7.0%) were most frequent. Number of deployments was associated with PTSD (OR=8.27, 95% CI 2.10–32.59, p=0.003), alcohol use disorder (OR=1.77, 95% CI 1.07–2.92, p=0.025), and any substance use disorder (OR=1.85, 95% CI 1.12–3.05, p=0.016). Gender (OR=2.02, 95% CI 1.10–3.73, p=0.024) was associated with any mood disorder. The results provide baseline information on the most prevalent mental disorders within the OHARNG.


   Posttraumatic stress disorder (PTSD) and major depressive disorder (MDD) are frequently comorbid. One explanation for this comorbidity is that PTSD has a constellation of “dysphoria” symptoms resembling depression. Using confirmatory factor analysis we tested the role of DSM-5 PTSD’s dysphoria factor in relation to MDD symptom dimensions of somatic and non-somatic psychopathology. 672 Ohio National Guard soldiers completed DSM-5 measures of PTSD and MDD symptoms in an epidemiological study. Results indicated that in contrast to other PTSD factors, PTSD’s dysphoria factor was more related to MDD’s somatic and non-somatic factors.


   This study aimed to document, by psychiatric disorder category, the annualized rate of Guard members who obtained psychiatric services and the factors associated with service utilization. Face-to-face clinical assessments were conducted to assess lifetime and current psychiatric disorders and recent psychiatric service use among 528 Ohio Army National Guard soldiers. An annualized rate of 31% of persons per year accessed psychiatric services between 2010 and 2012. Persons with substance use disorders had the lowest annualized rate of service use, and these were the only disorders not predictive of accessing services. Current mood disorder, current anxiety disorder, and lifetime history of service use were the strongest predictors of recent service use. There were no socioeconomic or other group predictors of psychiatric service use. Efforts to encourage broader adoption of treatment seeking, particularly among persons with substance use disorders, are necessary to mitigate psychiatric health burden in this population.
This study looked at how having a history of childhood maltreatment serves as a risk factor for mental illness among deployed National Guard soldiers with no history of depression or post-traumatic stress disorder (PTSD). The main health indicator of interest in this investigation was the risk of new-onset PTSD or new-onset depression first developed during or after the respondents’ most-recent deployment. Overall, 6.6% of soldiers developed new-onset PTSD during or after deployment and 10.5% of soldiers developed new-onset depression either during or after deployment. Experiencing sexual abuse as a child was associated with new-onset PTSD (odds ratio (OR): 8.5; 95% confidence interval (CI): 1.9, 38.9). Experiencing any child abuse (OR: 1.9; 95% CI: 1.1, 3.2) or 2 or more types of child abuse was associated with new onset depression (OR: 2.5; 95% CI: 1.3, 4.5), as was emotional abuse (OR: 2.4; 95% CI: 1.3, 4.2) and physical abuse (OR: 1.9; 95% CI: 1.1, 3.5). Female gender was associated with new-onset PTSD (OR: 3.4; 95% CI: 1.7, 6.8) and new-onset depression (OR: 2.0; 95% CI: 1.0, 3.9). These findings suggest that among soldiers with no lifetime PTSD or depression, a history of childhood abuse is a contributor to a soldier’s risk of developing depression during or following deployment, independent of the soldier’s traumatic event exposure history.