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Baseline prevalence of Axis I diagnosis in the Ohio Army National Guard

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ABSTRACT

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.

1. Introduction

Understanding the mental health consequences of war is becoming increasingly compelling, given the length of deployment in recent wars, and increased deployment of women and reserve forces. In the past, it has been estimated that 18.7% of Vietnam veterans had PTSD at some point in their lives compared to 6.8–9.2% in the general population (Breslau et al., 1998; Dohrenwend et al., 2006; Kessler et al., 2005a; Kulka et al., 1990) and that male Vietnam veterans had a 40% lifetime prevalence of alcohol disorder compared with 25.0% of civilian males during the Vietnam era (Kulka et al., 1990). However, in more recent wars, veterans from Operation Iraqi Freedom (OIF) and Operation Enduring Freedom (OEF) were reported to have a similar current year prevalence of PTSD (2.7%) compared to the general population (3.5%) but elevated current prevalence of alcohol abuse (12.6% vs. 3.1%) (Kessler et al., 2005b; Riddle et al., 2007)

Within the military, research suggests that reserve forces,[1] including National Guard and reserve forces, have a greater risk of long-term psychopathology after serving in a war zone compared to their active duty counterparts. In the Millennium Cohort (MILCO) study, a 21-year

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[1] The reserve components of the United States military augment the full-time or active duty troops, as needed, during war or national emergency. The reserve components are often collectively referred to as "the Guard and Reserves." The US military has seven reserve components: Army Reserve, Army National Guard, Navy Reserve, Marine Corps Reserve, Coast Guard Reserve, Air Force Reserve and Air National Guard.

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prospective cohort study on 140,000 military personnel, Jacobson et al. (2008) found that after experiencing combat, the Guard and Reserves were more frequently diagnosed with an alcohol disorder than active duty soldiers (Jacobson et al., 2008). Possible reasons for this pattern may include different training methods and stressful situations unique to reserve forces such as the need to return to a civilian job after deployment (Milliken et al., 2007; Tanielian and Jaycox, 2008; Thomas et al., 2010). However, MILCO, and other studies that have assessed this population (Gray et al., 2002; Polusny et al., 2009) made use of self-administered screening instruments to assess mental disorders.

The Ohio Army National Guard Mental Health Initiative (OHARNG MHI) is unique as it not only utilizes self-report assessment but also face-to-face clinician interviews (Calabrese et al., 2011; Prescott et al., 2014) to provide in-depth information on OHARNG soldiers' mental health disorders prospectively. This paper outlines the procedures in the clinical cohort of the OHARNG MHI as well as the lifetime and current prevalence rates of DSM-IV Axis I disorders among the clinical cohort.

2. Methods

2.1. Study design

As detailed elsewhere, the OHARNG MHI is a representative survey of OHARNG soldiers 17 years and older who enrolled in the guard between June 2008 and February 2009. In the state of Ohio, 17 year olds who join the military are considered emancipated minors. The OHARNG MHI contains a parent study, which uses telephone survey methodology, as well as a clinical subsample which uses self-report methodology and face-to-face interviews. Both the parent study and the clinical subsample utilize a cross-sectional study sample at baseline to form a longitudinal prospective cohort for future study waves (Calabrese et al., 2011; Prescott et al., 2014).

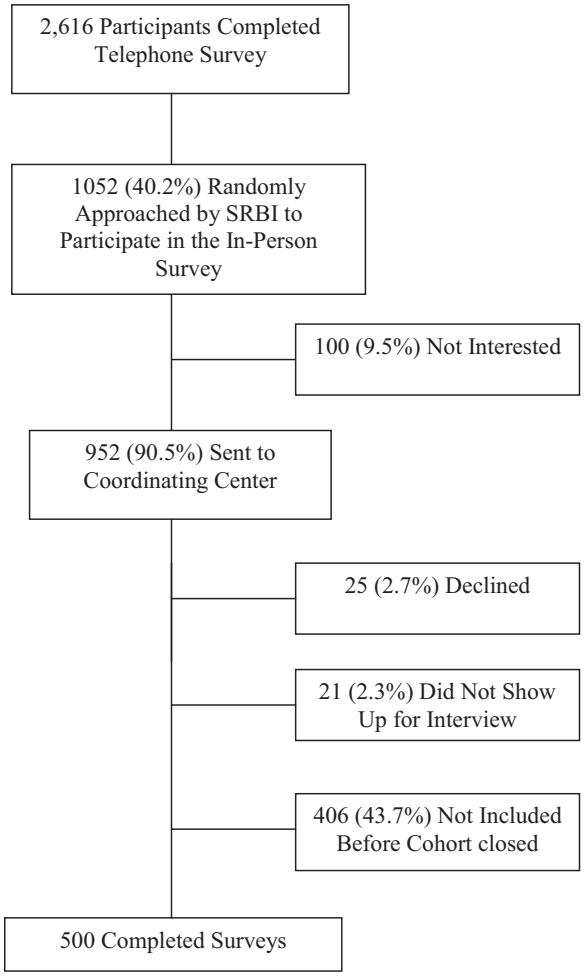

Fig. 1. The 500 completed surveys.

To obtain the sample for the clinical cohort, Fig. 1 depicts the method in which the goal of enrolling 500 clinical subsample participants was obtained. Overall, 1052 (40.2%) of the 2616 participants who completed the telephone survey were randomly invited to participate in the in-depth clinical cohort. Of those initially invited, 9.5% ($n=100$) were not interested. Of the 952 who were interested, 25 (2.7%) later declined, 21 (2.3%) did not attend the scheduled interview, and the goal of enrolling 500 participants was reached with 406 (43.7%) individuals who either were waiting to be contacted or had been called and not scheduled before the enrollment goal was reached.

Participants were contacted by staff at University Hospitals Case Medical Center (UHCMC) or University of Toledo (UT), based on the participants' proximity to either institution to schedule an interview date. After scheduling an interview date participants for the clinical cohort received a package in the mail with a letter indicating the date, time, and place of their interview, a consent form and a self-administered questionnaire; they also received a reminder call a few days before the scheduled interview.

There were a total of four clinicians conducting the clinical interviews. Two were located at UHCMC and two were located at UT, which allowed for the scheduling of participant interviews based on the proximity to either institution. There were two senior lead clinicians: one was located at UHCMC, who was a doctoral level prepared clinical psychologist with extensive training in administering research assessments such as the SCID and the CAPS. The second senior lead clinician was located at UT, who was a psychiatrist trained to administer the SCID and the CAPS. Both the senior lead clinicians trained the master's level clinicians at their respective institutions. To be certified in administrating the clinical interviews, each interviewer must observe a minimum of 10 ratings led by the lead clinician. After which, the interviewer must lead 10 ratings with the lead clinician present which meet the following inter-rater reliability (IRR) standards. To be considered a passing rating, there must be 100% agreement between the interviewer and lead interviewer on all SCID diagnoses and at the symptom level; there must be at least 85% overall agreement in each module. Furthermore, to be considered a passing rating on the CAPS, there must be 100% agreement on the diagnosis of PTSD, and frequency and intensity scores must be within ± 1 point from the lead interviewer's score. Furthermore, the interviewer must administer 10 assessments on their own while being audio taped, after which the lead clinician listens to the audio and scores to determine if it meets the IRR standards as previously described.

All clinical interviews were conducted in a neutral, private location (e.g. private library room, participant's home). At the interview, the clinicians first reviewed the informed consent and the audio informed consent that permitted the clinician to conduct and record the interview. The clinicians also determined if the self-administered questionnaire had been completed prior to the interview and if not, instructed the participant to complete the survey in their presence. The clinical interview consisted of questions that assessed soldiers' military history, in-depth mental health history (SCID and CAPS), treatment history, and social and economic circumstances. The SCID was administered prior to the CAPS and clinical interviews lasted an average of 2.12 h. If a participant became distressed, a protocol directed the field clinician to access a study clinician who helped triage and manage the participant. Advice for distressed participants included referral to OHIOCARES, a help group for OHARNG soldiers.

Monthly IRR for the SCID and the CAPS were performed to assure that the interviewers were standardized in their diagnostic assessment methods and interviewing techniques. To this end, each interviewer rated the same audio interview (selected at random through simple random selection without replacement) and the ratings and diagnoses were compared. To ensure that all interviewers had an opportunity to have their recordings selected for the monthly IRR, the interviewers were randomly assigned to 10 months of IRR sessions held for the baseline year. Diagnoses that did not match with the other interviewers were discussed until a consensus was obtained. The IRR analyses were conducted using the free marginal Kappa (Randolph, 2005).

Prior to the start of the clinical cohort, the interview procedure and instruments were piloted with 10–15 individuals. The pilot allowed clinicians to determine if the 2–3 h timeframe allotted to complete the overall survey was sufficient and if sections required shortening, which proved to be unnecessary. In addition, clinicians received feedback from participants that the wording of questions for some assessments, which were originally developed for Gulf War veterans, was no longer relevant and the military terminology was updated to ones used in OIF and OEF.

This study was conducted at University Hospitals Case Medical Center (UHCMC) and the University of Toledo (UT) with UHCMC acting as the Coordinating Center for the project. The institutional review boards at both institutions approved all recruitment and assessment procedures.

2.2. Data collection

Data for the clinical cohort were initially collected on paper assessments and transitioned to an electronic capture system using Research Informatics (RIX), a proprietary electronic data capture system (Michigan State University Biomedical Research Informatics Core). Data for the project was housed at Michigan State University

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