Impact of Combat Duty in Iraq and Afghanistan on the Mental Health of U.S. Soldiers: Findings from the Walter Reed Army Institute of Research Land Combat Study

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ABSTRACT

Background. A recent study has shown that over 12% of U.S. Soldiers and Marines who returned from combat duty in Iraq met criteria for post-traumatic stress disorder, a rate significantly higher than before deployment, and that Soldiers reported significant stigma and barriers to receiving needed mental health care (Hoge, Castro, et. al. N Engl J Med 2004). The study has continued to examine the effects of combat duty on U.S. Soldiers in near real time as the war has progressed, and this paper will present the latest findings from this landmark study.

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Methods. Over 25,000 surveys have been obtained from U.S. Soldiers and Marines before deployment, during deployment, and up to one year post-deployment. Outcomes include major depression, generalized anxiety, post-traumatic stress disorder (PTSD), alcohol misuse, health risk behaviors, and family functioning.

Results. Soldiers deployed to Iraq have experienced sustained high levels of combat exposure. The rate of screening positive for a mental disorder at 3 months post-deployment was significantly higher after duty in Iraq (15-17%) compared with Afghanistan (11%) or before deployment (9%), with the largest difference due to PTSD. Less than 40% of screen positives sought mental health care, and there was a high rate of concern about stigma / other barriers to care.

Conclusions. Combat duty in Iraq is associated with a significant risk of mental health problems and there is an important unmet need for mental health services and barriers to care. New data will be presented on the prevalence rates and risk factors for mental health problems up to one-year post-deployment.

INTRODUCTION

Mental health problems are some of the most common and disabling medical conditions that affect service members (1). A study conducted prior to the current war in Iraq and Afghanistan showed that among the 1.4 million active duty U.S. military service members, mental disorders were the leading cause of hospitalization for men and the second leading cause for women (second only to pregnancy-related admissions). Six to ten percent of U.S. military personnel were documented to receive outpatient treatment for a mental disorder each year (1,2). Over 25% of service members who received outpatient care for mental health problems left military service within six months, a rate that is more than two times higher than the rate of attrition following treatment for any other ICD-9 illness category (1).

Psychiatric conditions are also important health concerns in operational environments. During Operation Iraqi Freedom (OIF), approximately 7% of all evacuations from the operational theater were listed as having a primary psychiatric diagnosis. Many studies have demonstrated the strong link between deployment experiences, especially combat, and a variety of adverse mental health, psychosocial, and occupational effects, including post-traumatic stress disorder (PTSD) (15-40% lifetime rate after combat), depression, substance abuse, job loss, unemployment, divorce, and severe spouse abuse (3-8). However, virtually all studies that have assessed the mental health effects of combat from prior wars, including the first Gulf War, were conducted years after Soldiers returned from the combat zone. A key methodological problem with these studies is the long recall periods following combat exposure. Available data also indicate that most service members with mental health concerns do not seek treatment, due to stigma and other barriers, although very limited research has been conducted in this area.

METHODS

To address these scientific questions, we initiated a large study in January 2003, the Walter Reed Army Institute of Research (WRAIR) Land Combat Study to assess the impact of current military operations in Operation Iraqi Freedom (OIF) and Operation Enduring Freedom (OEF)-Afghanistan on the health and wellbeing of soldiers and family members (9). This study involves both cross-sectional and longitudinal

design methods using anonymous surveys administered with informed consent under an approved research protocol. The study has focused on combat operational units, and over 25,000 surveys have been collected to date. Soldiers from multiple brigade combat teams, both Active Component and National Guard, as well as members of Marine Expeditionary Forces deploying to OIF and OEF have been surveyed before deployment, and / or after returning from deployment. Post-deployment assessments have been conducted at 3-4 months, 6 months, and 12 months after returning from deployment. The surveys include questions about deployment stressors, combat experiences, and unit climate variables such as cohesion and morale. Depression, anxiety, and PTSD are measured using validated self-administered checklists, including the PTSD checklist developed by the National Center for PTSD and the Patient Health Questionnaire (9). Other outcomes include alcohol use, aggression, and family functioning. The survey data are augmented with analyses of data from other sources, including the Department of Defense Post-deployment Health Assessment, administered to all service members as they return from deployment, and the Defense Medical Surveillance System, which includes electronic records of all health care visits among service members.

SUMMARY OF KEY FINDINGS

Initial findings from the Land Combat Study published in the New England Journal of Medicine in July 2004 (9) showed that 12-13% of Soldiers and Marines screened positive for PTSD and 16-17% screened positive for PTSD, depression, or anxiety when surveyed 3-4 months after returning from OIF. Since this publication, a number of brigade combat teams have been re-surveyed out to 12 months post-deployment. Rates of mental health problems showed modest increases at 12 months post-deployment compared with rates observed at 3 months post-deployment. Overall, 17% of Soldiers surveyed 12 months after returning from Iraq screened positive for PTSD, and 21% screened positive for PTSD, depression, or anxiety using widely accepted strict case definitions defined in the New England Journal of Medicine that requires endorsement of multiple symptoms at a moderate or severe range (resulting in a total score of at least 50 on a symptom scale that ranges from 17-85).

Overall, results of the surveys have been highly consistent among the various units studied after deployment to OIF, although some unit-level differences have been observed, largely related to the frequency and intensity of combat experiences. Definitive data regarding the impact of longer deployments or repeated deployments are not available, but in general higher rates of PTSD have been observed among units deployed for 12 months or more compared with units deployed for shorter time periods. The prevalence rates of PTSD are much lower following deployment to Afghanistan (6%) than deployment to Iraq. This is directly related to the lower level of combat intensity in Afghanistan. In parallel with the survey-based data there has been a substantial increase in military mental health care utilization among OIF veterans.

Alcohol misuse often is associated with PTSD, and our surveys have shown significant increases in reported alcohol misuse among Soldiers after returning from deployment to Iraq compared with Soldiers before deployment. Other outcomes include aggression and family functioning, and preliminary data indicates that there are likely deployment related effects in these areas, similar to what previous studies have shown. The strain of repeated deployments on Soldier and family well-being is evident in some units anecdotally.

One of the most important findings of the research relates to barriers to care in the military, particularly stigma. The study showed that Soldiers and Marines are not very likely to seek professional help if they have a mental health problem, and that they are concerned that they may somehow be treated differently if they do. Stigma includes factors such as being concerned that one will be viewed or treated differently by peers or leaders if they are known to be receiving mental health treatment. Other barriers to

care include not being able to get time off work or not having adequate transportation to get to the location where care is available. Stigma and barriers to mental health care are well-known problems in civilian treatment settings, especially among males, who are not as likely to seek help for a problem than females.

CONCLUSIONS AND RECOMMENDATIONS

Given the importance of PTSD and other mental health concerns among military service members deploying to OIF and OEF, as well as what we have learned about stigma and barriers to care, we have begun research projects focused on improving early identification and intervention, facilitating access to care, and evaluating programs that are being implemented by the Army and DoD, such as the post-deployment health assessments. Our ongoing research includes efforts to identify factors that predict high rates of mental health problems, identify gaps in service delivery, reduce stigma and barriers to care, and other efforts to help guide policy and to assure optimal delivery of services. We are evaluating assessment tools to provide effective methods of conducting psychological health screening in deployed troops which are cornerstones of facilitating access and early intervention, and improve methods for units to evaluate the behavioral health status at the unit level anonymously. Our research has shown that Soldiers are much more likely to report mental health problems 3-4 months after return from deployment than immediately on return from deployment, and as a result DoD has expanded the post-deployment health assessment program. We are also evaluating interventions such as psychological debriefing, and developing training modules for Soldiers, leaders, and health care providers. One of the most important aspects of our work is to assure that we provide the best services within the medical model of care, while conveying the message to our service members that many of the reactions that they experience after combat are common and expected. Helping to normalize these reactions is a key to stigma reduction and early intervention.

Considerations for improving access to care include co-locating mental health services in primary care clinics and improving awareness among primary care professionals of depression and PTSD evaluation and treatment. DoD and the Department of Veterans Affairs have collaborated on developing clinical practice guidelines for these conditions and have recommended routine screening in primary care. Standardized training of leaders and Soldiers about PTSD and other mental health effects of combat pre- and post-deployment are being developed, and further research and program evaluation is needed to ensure implementation of evidence-based practices. One of the most important things is to ensure there are adequate resources to support continued mental health and operational stress control services in the combat environment as well as to ensure that service members who are identified through post-deployment screening or who refer themselves after coming home (as well as their family members) receive timely evaluation and treatment.

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