

Putting Research to Work for Military Families



Focus:
Multiple
Branches

Risk Factors for Post Concussion Symptom Reporting After Traumatic Brain Injury in U.S. Military Service Members

Lange, R. T., Brickell, T., French, L. M., Ivins, B., Bhagwat, A., Pancholi, S., & Iverson, G. L. (2013). Risk factors for post concussion symptom reporting after traumatic brain injury in U.S. Military service members. *Journal of Neurotrauma*, 30(4), 237-246. doi:10.1089/neu.2012.2685

SUMMARY: One hundred twenty-five U.S. Military Service members who sustained a traumatic brain injury (TBI) underwent neurocognitive testing and completed brief psychological measures to identify factors associated with post concussion symptom reporting. Post concussional disorder symptom reporting was strongly associated with possible symptom exaggeration, poor effort, depression and traumatic stress.

KEY FINDINGS:

- Participants with less severe body injuries and/or less severe brain injury had a greater risk for meeting post concussional disorder criteria (e.g., headache, dizziness, sensitivity to light and sound).
- Depression and traumatic stress symptoms were strongly associated with post concussive symptom reporting.
- Post concussional disorder symptom reporting was strongly associated with possible symptom exaggeration and poor effort; more than half of those who screened positive for post concussional disorder experienced failure in effort testing.
- Post concussive symptom reporting rarely occurred in the absence of depression, traumatic stress, symptom exaggeration, or poor effort; only 6% of the participants met post concussional disorder in the absence of one of these four factors.

IMPLICATIONS FOR PROGRAMS:

Programs could:

- Educate families that the symptoms they see in their Service member (e.g., headache, dizziness) could be due to a range of factors, and a formal assessment by appropriately trained providers is important
- Provide families and Service members with additional mental health resources and referrals when post concussional symptoms are reported
- Offer workshops during reintegration to help families and Service members adjust to the Service member's return, especially when the deployment has included combat exposure

IMPLICATIONS FOR POLICIES:

Policies could:

- Recommend partnerships among military-based and community-based programs to help military families feel more comfortable participating in mental and physical health services that are not on installations
- Continue to support programs for identification and prevention of traumatic brain injuries among Service members
- Recommend training for community providers to educate them about unique factors that contribute to marital strain for military couples who have experience traumatic brain injuries

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METHODS

- U.S. Military Service members who sustained a traumatic brain injury (TBI) and were evaluated at Walter Reed Army Medical Center one month to four years post-injury between 2002 and 2008 were asked for permission to use their clinical data for research purposes.
- TBI severity was classified based on duration of loss of consciousness and post-traumatic amnesia.
- The sample was divided into two groups: 65 patients who met DSM-IV diagnostic criteria for post concussional disorder and 60 who did not meet these criteria.
- Participants completed several neuropsychological measures, a checklist of PTSD symptoms, a checklist of psychological symptoms, and the abbreviated injury scale that classified bodily injury.

PARTICIPANTS

- One hundred twenty-five U.S. Military Service members participated in this study. Participants' average age was 29.6 years (SD = 8.9, range = 18-56).
- Seventy-four percent of injuries were sustained during OIF, 19% as a result of non-combat activities, and 6% during OEF.
- Forty-six percent had uncomplicated mild traumatic brain injury (MTBI), 25% severe TBI, 18% moderate TBI, and 11% complicated MTBI.

LIMITATIONS

- Several known factors associated with post concussional disorder were not included, limiting the ability to draw conclusions from these findings.
- Information regarding external incentives or compensation status was not available, and these may have influenced symptom reporting.
- PTSD and depression were assessed using self-report instead of more sophisticated means of assessing these diagnoses (e.g., medical provider).

AVENUES FOR FUTURE RESEARCH

Future research could:

- Replicate the study and incorporate information on the methods (e.g., external incentives for post concussional disorder symptoms) to better understand the design of the study
- Examine changes in post concussional disorder over time
- Gather data on family members' reports of Service members' functioning and symptoms after a traumatic brain injury

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