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Title: Effect of Traumatic Brain Injury (TBI) and Post-Injury headache on employment and marital status of Veterans of Iraq and Afghanistan wars and comparison to deployed controls without TBI

Category: Post-traumatic Headache, TBI, and Concussion

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Background:

Traumatic Brain Injury (TBI) is a major problem of the recent Iraq (OIF) and Afghanistan (OEF) conflicts occurring in 15-20% of deployed soldiers. In addition to the medical and headache aspects, TBI produces psychosocial problems that may impair employment and marital relationships. This study deals with 67 veterans with deployment-related TBI (D-TBI) and matched controls without DTBI, comparing marital and employment status and evaluating the relation of headache and of severity of TBI to these parameters.

Methods:

All subjects were veterans of OEF/OIF who had entered Operation New Dawn (OND), a VA program for deployed Veterans. between 6/2008 and 4/2011 at the OKC VAMC. Of 5743 veterans who joined OND, 1325 had suffered a D-TBI. The first 500 D-TBI subjects seen (TBIS) were frequency matched by age, sex, race, and time of deployment to controls (CS) drawn from the 4318 OND participants who had not suffered a D-TBI. Sixty seven male TBIS /CS pairs, who were 2-11 years post-TBI, were drawn randomly from this pool. All TBIS and CS were interviewed by telephone to determine marriage and employment status, post-concussion symptoms, headache status, depression and PTSD. Fisher's Exact tests were used to compare marital and employment status of TBIS and CS and evaluate the contribution of severity of headache and of TBI to these parameters.

Results:

Subjects ranged from 25-60 in age and 80% were rank e-5 and above at service discharge. There were 39 TBIS/CS pairs that were 2-7 years post-TBI and 28 pairs 8-11 years post TBI. At 2-7 years post-TBI (for the TBIS), 35.9% of TBIS and 10.3% of CS were unemployed ($p=.014$). At 8-11 years post-TBI 50.0% of TBIS and 7.1% of CS were unemployed ($p=.0007$). With regard to marriage, at 2-7 years post-TBI 31% of TBIS and 26% of CS were divorced, while at 8-11 years, 25% of TBIS and 21% of CS were divorced ($p=NS$ for both). No significant differences were detected between TBIS and CS for associations of frequency of headache or severity of TBI with marital or employment status.

Conclusion:

In comparing TBIS and matched CS, the occurrence of a D-TBI is associated with significantly lower rate of successful employment 2-11 years after TBI. Comparison of 2-7 and 8-11 year periods after TBI demonstrated that this difference did not change with time. There was no significant difference found between TBIS and CS with regard to marital status over the 8 year period.. No significant associations were found that would suggest frequency of post-injury headache or severity of TBI is related to changes in marital or employment status when TBIS and CS are compared for these parameters.