Participation Mediates the Relationship Between Postconcussive Symptoms and Suicidal Ideation Among Veterans

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PURPOSE: Veterans with mild traumatic brain injury (mTBI) and associated symptoms are at risk for suicide. Post-concussive symptoms (PCS) may heighten risk for suicidal thoughts by limiting Veterans' participation, but the inter-relationships between PCS, participation, and suicide-related outcomes are poorly understood. The purpose of this study was to investigate whether participation mediates the relationship between PCS and suicidal ideation.

DESIGN: Cross-sectional, exploratory design. Veterans eligible for Veterans Health Administration (VHA) care at a single VHA healthcare site were recruited to participate using flyers, referrals from providers, and intake of new Veterans. Interested participants were screened for eligibility using the following inclusion criteria: 1) 18 years of age or older; 2) deployed post-9/11; and 3) a history of mTBI. Three hundred sixty-six veterans were screened, of whom 147 were eligible and 145 completed study measures.

METHOD: The Ohio State University TBI-Identification Method was used to establish mTBI diagnosis. We identified latent variables for PCS and participation using the Neurobehavioral Symptom Inventory and select domains of the Medical Outcomes Study Short Form-36 (i.e., Role Limitations due to Physical and Emotional Problems), respectively. We used the Beck Scale for Suicide Ideation to measure the presence of suicidal ideation. Latent variable path analysis was used to investigate whether participation mediated the relationship between PCS and suicidal ideation. All estimates were adjusted for age, gender, and presence of posttraumatic stress disorder.

RESULTS: Thirty-five Veterans in our sample (24.1%) endorsed suicidal ideation. Examination of model fit for the unconditional measurement model indicated good fit for the latent variables of PCS and participation. The structural model incorporating estimated relationships between 1) the latent post-concussive symptoms variable and the latent participation variable; and, 2) the latent participation variable and suicidal ideation exhibited good fit. The indirect effect estimate indicated that participation mediated the relationship between PCS and the presence of suicidal ideation (OR = 1.09, p = .011). More severe PCS were associated with lesser participation (β = -0.86, p<.001). In turn, lesser participation was associated with greater odds of suicidal ideation (OR = 1.08, p = .007).

CONCLUSION: PCS may heighten risk for suicidal thoughts among Veterans by limiting successful participation. It has been proposed that occupational therapy practitioners can help prevent Veteran suicide by supporting their engagement in meaningful and health-promoting activity, and by targeting suicide risk factors within their scope of practice. To the best of our knowledge, this is the first study to offer empirical support for such proposed suicide prevention efforts. While additional research is needed, results are promising and highlight a distinct role for occupational therapy in suicide prevention. Preventative services could mitigate suicide risk among Veterans with mTBI by 1) enabling sustained engagement in meaningful and health-promoting activity; 2) employing compensatory techniques to facilitate participation despite PCS; and, 3) working in multi-disciplinary teams to deliver treatments designed to reduce PCS.

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