HW4

Valerie Mac

February 24, 2017

First responders are an occupational group exposed to a wide variety of stressors at the workplace. With these stressors, these workers are at risk for a variety of health conditions, one of which is post-traumatic stress disorder (PTSD).(1) This particular disease is of great interest to occupational health providers and primary care providers of the general public due to the links between PTSD and cardiovascular disease.(2) Boscarino et al. developed the New York PTSD Risk Score to be used as a clinical tool for screening for PTSD during routine care that could estimate a patient's future risk for PTSD by identifying factors that lead to PTSD onset . (3) To develop this tool, extensive clinical data from a study of a random sample of adults exposed to the World Trade Center Disaster was utilized.

The predictor variables examined for the development of this index included trauma history, PTSD symptoms, depression symptoms, suicidal thoughts, sleep disturbances, access to care, gender, age, education level, race and ethnicity. The authors provide good justification for the examination of these variables based upon the literature and mention having a multifaceted approach in which the chosen variables for examination crosscut psychological, behavioral and biological domains. The variety of variables chosen for examination appears comprehensive, and the authors even included variables that are not traditionally thought to be linked to PTSD and included those variables a well. Some of the variables chose for examination were summary measures or smaller scales rather than just a single piece of information.

In the multivariate model building process, the authors examined different combinations of variables with the goal of creating the most parsimonious model with the most brief measurement scales, while estimating the area under the receiver operating characteristic (ROC) curve. Impressively, the authors used boostrapping techniques in their model validation, pulling 1000 random participants from the sample, and argue that this method is superior to using a training and internal validation data set. The final models were utilized to create risk score cut points guided by subgroups of identified key predictor variables. Then, external validation of the NY PTSD model was performed utilizing data from a study of patients with chronic pain, and then a second external validation study from a study of a group of patients who were seen at a level 1 trauma center.

These authors achieved an impressive sample of 3,298 adults, of which 270 met the DSM-IV criteria for PTSD, for the validation of the NY PTSD model. There is virtually nothing I would change about their systematic and thoughtful approach to the development of this scale with the exception of perhaps including a validation in an occupationally homogenous sample (i.e. first responders, veterans or active duty military) especially since the authors discuss the great interest of the Department of Defense in valid PTSD screening told.

This tool was recently developed and is still current for the modern healthcare environment. However, due to the age of the dataset used to develop the NY PTSD Risk Score, the generation, commonly known as "millennials" were not included in this sample because the oldest millennials would not have yet reached18 years of age. With the aging population and many millennials moving into military and first responder positions, validation in a more current data set may support its validity in early intervention efforts. This tool was developed as a brief screening tool for use in clinical practice, and although it was not specifically developed for use in clinical subspecialties including occupational medicine, or further testing and validation in current occupational groups is warranted.

References

1. Soo J, Webber MP, Gustave J, Lee R, Hall CB, Cohen HW, et al. Trends in probable PTSD in firefighters exposed to the World Trade Center disaster, 2001–2010. Disaster Medicine and Public Health Preparedness. 2011;5(S2):S197-S203.

2. Coughlin SS. Post-traumatic stress disorder and cardiovascular disease. Open Cardiovasc Med J. 2011;5(1):164-70.

3. Boscarino JA, Kirchner HL, Hoffman SN, Sartorius J, Adams RE, Figley CR. A brief screening tool for assessing psychological trauma in clinical practice: development and validation of the New York PTSD Risk Score(,). General hospital psychiatry. 2011;33(5):489-500.