Study provides Class 1 evidence for cognitive training efficacy in TBI

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Kessler Foundation researchers published results of a randomized clinical trial (RCT) of a cognitive intervention to improve learning and memory in individuals with traumatic brain injury (TBI) - the TBI-MEM trial. The treatment protocol, the modified Story Memory Technique (mSMT), was found to improve memory in adults with moderate to severe TBI, providing the first Class I evidence for the efficacy of this intervention in the TBI population. The article, "An RCT to Treat Learning Impairment in Traumatic Brain Injury: The TBI-MEM Trial," was e-published by *Neurorehabilitation & Neural Repair*. The authors are Nancy D. Chiaravalloti, Ph.D., Joshua Sandry, Ph.D., Nancy B. Moore, M.A., and John DeLuca, Ph.D., of Kessler Foundation.

Cognitive deficits are a common disabling consequence of brain injury that affect emotional, social and occupational functioning. As impaired memory after TBI is a result of impaired learning, rehabilitative interventions need to address the deficit in learning. This study examined the efficacy of the mSMT, a cognitive intervention, in the TBI population. Kessler researchers previously found the mSMT intervention effective in the population with multiple sclerosis.

Of the 69 participants with moderate to severe TBI enrolled in the study, 35 were assigned to the treatment group and 34 to the placebo group. All underwent neuropsychological assessments before and after treatment and at 6-month followup. Participants in the treatment group were randomized to a booster session or non-booster session group. The treatment group received the mSMT, a 10-session memory retraining protocol. The placebo group underwent memory exercises. A significant effect was found in the treatment group; no persistent effect was seen in the treatment cohort that had booster sessions of mSMT.

"We found that memory, as assessed with

standard memory tests, improved in the treatment group. Treated participants also showed an improvement in everyday functioning," said Dr. Chiaravalloti, director of Neuroscience & Neuropsychology and TBI Research at Kessler Foundation. "This extends the Class 1 evidence for efficacy of the mSMT to people with moderate to severe TBI. Further study is needed to develop strategies for extending the positive effects of this cognitive intervention in rehabilitative care."

The mSMT protocol has been translated into Spanish and is being used in the U.S., Mexico and Argentina. A Chinese translation has also been completed for use in upcoming studies.

More information: "An RCT to Treat Learning Impairment in Traumatic Brain Injury: The TBI-MEM Trial," DOI: 10.1177/1545968315604395

Chiaravalloti N, et al: An RCT to treat learning impairment in MS. Neurology 2013(81) DOI: 10.1212/01.wnl.0000437295.97946.a8S

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