Mild TBI and Post-Traumatic Stress Disorder: When Should Individuals Receive Cognitive Rehabilitation?

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Abstract
Mild traumatic brain injury (mTBI) and posttraumatic stress disorder (PTSD) often co-occur and share several symptoms, including cognitive difficulties. This overlap creates a difficult clinical scenario for cognitive rehabilitation. There are well validated interventions for individuals with PTSD alone and post-TBI cognitive deficits alone. However, it is unclear if symptoms of PTSD and cognition should be treated at the same time or separately in sequential order, given the strong intersection between PTSD and TBI. This review evaluated the available literature for the timing and type of intervention for individuals that have both conditions.

Research Question
For individuals who have comorbid mTBI and PTSD, does combined versus individual treatment of cognition and PTSD yield better cognitive outcomes?

Search for Evidence: Methods and Results
• Databases searched: PubMed, Academic OnFile, and ASHA SIG 2, in addition to hand searches
• Keywords and Medical Subject Headings (MeSH) terms: combinations of ‘cognitive rehabilitation,’ ‘cognition,’ ‘rehabilitation,’ ‘intervention,’ ‘traumatic brain injury,’ ‘mild traumatic brain injury,’ ‘mTBI,’ ‘posttraumatic stress disorder,’ ‘PTSD.’
• 10 studies were reviewed, 5 on treatment of one condition, 5 on treatment of both.
• Most studies were of military service members.
• Studies were appraised with consideration of study design, population, and ability for clinical application of findings.

Results: Treatment of One Condition
mTBI Approaches: Cognitive Strategy Training8, Compensatory Cognitive Training, Restorative treatments8, CogSMART5, Psychoeducation8.
Summary: There is a limited body of evidence, but there is not compelling evidence that PTSD symptoms restrict cognitive rehabilitation outcomes. A few studies indicated that individuals with mTBI and PTSD benefit from traditional cognitive rehabilitation approaches. In other words, special modifications may not be necessary.

Results: Treatment of Both Conditions
mTBI + PTSD Approaches: Cognitive Processing Training - Cognitive Only9, concurrent cognitive rehabilitation and cognitive-behavior therapy (CBT)10,11, SMART-CPT (pilot data only; main results pending)12.
Summary: Studies of these specific approaches are in the early stages. These treatments appear to improve symptoms of both condition, but strong conclusions or applications of these treatments are still evolving.

Clinical Application and Future Directions
There is currently no defined standard of care for cognitive rehabilitation of individuals with comorbid mTBI and PTSD. Hypotheses have been proposed that concomitant PTSD may negatively affect participation in and outcomes of cognitive rehabilitation for mTBI. However, this is not well supported. While traditional cognitive rehabilitation approaches for deficits from mTBI alone can be effective for individuals with mTBI and PTSD, there is preliminary evidence that combined or hybrid approaches may be more effective. Future research may benefit from directly comparing the effectiveness of traditional versus hybrid approaches, using the traditional approaches as a control group. Comparisons between the intervention approaches may lead to better informed treatment planning and improved cognitive rehabilitation outcomes.

References: