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Initial Impressions of Educational Group Teaching Compensatory Strategies For Traumatic Brain Injury

Leia Chapman

BACKGROUND & SIGNIFICANCE

- Patients with traumatic brain injury (TBI) can experience chronic impairments with attention & concentration, memory, and executive functions ^{1,2,3,4,5}
- Symptoms can significantly effect patients' daily lives, including vocational, educational, and/or social interactions ^{6,7,8,9}
- Examples of **academic consequences** of TBI can include⁹:
 - Difficulties with reading, mathematics, and written language
 - School support services needed
 - Poor school performance
 - High rates of being held back
- Examples of **social consequences** of TBI can include^{7,8}:
 - Reduced inhibition
 - Difficulty understanding social interactions
 - Losing meaningful relationships
- In addition to restorative treatment, **compensatory strategies** can be implemented to support patients' attention, memory, and/or executive function ^{11,12}
 - **External compensatory strategies:** Modify external aspects to compensate for symptom, such as environmental modifications ¹¹
 - **Internal compensatory strategies:** Exercises that facilitate tasks that use a specific cognitive ability. These strategies work to improve those abilities and high functions that depend on cognitive abilities ¹²
- Educational groups are used to help teach ways to implement strategies in daily living contexts
 - Group intervention has been shown to decrease the deficits seen in cognitive domains ^{13,14,15}

PURPOSE

- To examine the feasibility of implementing a group intervention program designed to provide cognitive training for patients with TBI who are returning to academic or vocational settings
- To examine the structure and delivery of the educational modules
- To determine if this group intervention service delivery model is viable for future research

METHODS

Procedures

- Four educational modules were developed by a graduate student clinical researcher with guidance from a clinical supervisor, using **evidence-based practice methodology** (i.e., evidence base, patient values and goals, clinical judgment)
- Educational cognitive training group met weekly for four weeks during the fall 2016 semester. Each educational session was approximately 1.5 hours in length
- Group participants answered a short survey following the four week intervention to evaluate program feasibility

Educational Modules

Attention & Managing Distractions	<ul style="list-style-type: none"> • External distractions • Internal distractions
Social Communication & Relationship Strain	<ul style="list-style-type: none"> • Strategies to help eliminate social difficulties
Memory & Planning	<ul style="list-style-type: none"> • Strategies for improve memory
Problem Solving & Learning	<ul style="list-style-type: none"> • Lifestyle for brain health • 7 step routine for problem solving
Self Advocacy	<ul style="list-style-type: none"> • Importance of advocacy • Who can be an advocate • Resources

Post-Intervention Program Feasibility Survey Questions

Which module did you find the most useful for your daily life?

Which module did you find least useful for your daily life?

Which strategy or strategies have you found most useful in improving your attention, memory, social communication and problem solving?

How useful were the strategies presented in this training?

How often do you use strategies presented in this training?

Do you have any suggestions for how this group could be improved for future participants?

RESULTS

Preliminary Impressions

- External distractions (e.g., sensitivity to light, environmental noise) seem to be one of the hardest cognitive impairments to cope with. Increase education in this area, particularly in regards to best use of technology (e.g., reducing or changing light on phones)
- Increase educational sessions about use of technology for cognitive support
- Continue educational sessions about note taking services or alternative note-taking such as video recording and audio notes
- Increase educational sessions about ways to approach self-disclosure without becoming a burden
- Continue education about reading physical books vs. ebooks
- Discussion among the participants was helpful. Continue this component of the modules
- Continue education about memory techniques

Summary of Survey Reactions

- Eliminating distractions was the most useful module
- Patients reported using taught strategies daily
- Patients reported an interest in attending sessions again
- Patients reported that they needed feedback during the sessions
- Patients suggested having a survey to complete during the last session as they had trouble remembering all of the modules by the time the survey came out

DISCUSSION

- This group intervention service delivery model for cognitive training is feasible and can be implemented on the UM campus for ease of access to students, veterans, and community members
- Qualitative survey data will be used to refine future sessions of this service delivery model
- Future studies will investigate the efficacy of teaching compensatory strategies in the group setting for students, veterans, and community members with TBI