

Conference Presentation Abstract

Title:

Working Memory Training for Patients with Acquired Brain Injury: Effects in Daily Life

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Summary:

Working memory deficits are common after brain injury and have important implications on patients' functioning in daily life. Working memory and executive functions are considered a prerequisite for goal-directed and purposeful cognitive functioning. Research by Klingberg et al show the possibility to improve working memory by training. Improvement has been shown in a variety of groups however not yet on patients with moderate to severe brain damage. The overall aim of this study was to examine if patients with moderate to severe brain damage benefit from working memory training in managing daily life challenges. A working memory training programme was adapted based on current research and clinical expertise. A prospective cohort study in naturalistic setting was arranged. Subjects were 18 patients with brain injury acquired in adulthood, mean 47,5 years, mean time post onset was 7 years.

The programme consists of three components. 1. Working memory training with a computer software (ReMemo© from Cogmed Cognitive Medical Systems AB, Stockholm, Sweden). 2. Peer support as in the opportunity to interchange experiences of working memory training, deficits and strategies was offered to participants. 3. Education was given to participants aiming to enhance self-awareness and knowledge about compensatory strategies.

The following outcome measures were used. Statistics from the ReMemo computer software. Cognitive Failures Questionnaire (CFQ). Canadian Occupational Performance Measure (COPM). A diary on the comments of participants. A semi-structured interview at the individual follow-up. All participants improved on training index generated by ReMemo. Type of injury (stroke, tumor, trauma), age or time post brain injury did not affect the size of improvement. Start index ranged from 45-85 and max index ranged from 75 -110. Patients with low start index showed a greater improvement. Self-assessment with CFQ (start score M=54,2) showed a tendency of improvement post training and at a 6-month follow up. COPM and the qualitative data indicate that patients experienced improvement in daily life. There seems to be no correlation between the reported improvement in daily life functioning and the size of improvement on ReMemo. Patients reported on a growing knowledge about the cause of difficulties and a readiness to use strategies when meeting challenges in daily life. These and further results will be presented.

Learning Objectives:

Clinical points: It is meaningful to use the ReMemo software in working memory training with patients with moderate to severe BI. Patients with BI may benefit from working memory training irrespective of age, time post injury or severity of cognitive dysfunction. Qualitative data indicate that the setting of training is important. Education and peer support in addition to computer training is as important according to reports from participants. Participants report positive effects in daily life after training.