Working Memory Training in Patients with Chronic Schizophrenia: A Pilot Study

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Background. There is evidence that patients with schizophrenia suffer from decline in working memory performance with consequences for psychosocial outcome.

Objective. To evaluate the efficacy of a computerized working memory training program (*BrainStim*) in patients with chronic schizophrenia.

Methods. Twenty-nine inpatients with chronic schizophrenia were assigned to either the intervention group receiving working memory training (N=15) or the control group without intervention (N=14). Training was performed four times a week for 45 minutes during four weeks under neuropsychological supervision. At baseline and followup all participants underwent neuropsychological testing.

Results. Pre-post comparisons of neuropsychological measures showed improvements in visual and verbal working memories and visual short-term memory with small and large effect sizes in the intervention group. In contrast, the control group showed decreased performance in verbal working memory and only slight changes in visual working memory and visual and verbal short-term memories after 4 weeks. Analyses of training profiles during application of BrainStim revealed increased performance over the 4-week training period.

Conclusions. The applied training tool BrainStim improved working memory and short-term memory in patients with chronic schizophrenia. The present study implies that chronic schizophrenic patients can benefit from computerized cognitive remediation training of working memory in a clinical setting.

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