A pilot study on the benefit of cognitive rehabilitation in Parkinson's disease

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Purpose : Patients with Parkinson's disease (PD) show inefficiencies in cognitive performance including working memory functions. Since these problems impact on quality of life and overall well-being, the current study was aimed at improving patients' situations by evaluating the computerized cognitive training tool, BrainStim. Method : A total of 19 healthy controls (HCs) and six patients with PD were included in the study. While all PD patients received cognitive training, the HC sample was subdivided into 12 subjects with training (HC-T) and 10 subjects without (HC-NT). Participants underwent a double baseline assessment, a post-training assessment, and a 3-month follow up on neuropsychological tests and self-report measures on fatigue and depression. Training was administered between the second baseline and postassessment. It comprised 16 supervised sessions according to a standardized training protocol over 4 weeks. Results : Significant improvements in verbal and visuospatial short-term and long-term memory were found in both training groups. In addition, the HC-T improved on mental speed, and verbal and visuospatial working memory. Both training groups showed stable results for all short-term visuospatial measures after 3 months. Further, the HC-T showed stable results for working memory, verbal, and visuospatial short-term and long-term memory. Conclusions : The efficacy of the applied computerized cognitive training tool BrainStim could be verified in patients with PD and healthy age-matched controls. The preliminary findings highlighted the suitability of a specific cognitive intervention to improve cognitive inefficiencies in patients with PD as well as in healthy older people. Further research on cognitive training in combination with PD drug therapy is needed to better understand the mutual interaction and to offer optimal therapeutic approaches to patients.

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