Feasibility and Initial Results of a Randomized-Controlled Computer-Based Cognitive Training Trial in Individuals with Parkinson’s Disease

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Objective: This study evaluates the feasibility and efficacy of computer-based cognitive training programs in individuals with Parkinson’s disease (PD). Method: Individuals with a diagnosis of PD with Mild Cognitive Impairment (MCI) were randomly assigned to 8 weeks of a computer-based cognitive training program—Posit’s Brain Fitness (auditory processing and speed; \( n = 4 \)) or InSight program (visual processing and speed; \( n = 4 \))—or an active control condition (\( n = 3 \)). Outcomes were assessed at baseline and immediate follow-up. Results: Compliance analyses revealed that only 55% of participants completed the program, with participants completing about 66% of their respective programs on average. Individuals completing the Posit programs saw an average improvement rate of about 17% over the course of the study. Percent compliance and Posit’s improvement scores were non-significantly, positively correlated with one another (\( r = .661 \)) but generally not associated with cognitive and mood outcome measures, with the exception that higher improvement scores were significantly related to lower depression from baseline to immediate post (\( r = -.791, p < .05 \)). In repeated measures analyses, significant improvement in depression was seen for individuals receiving Brain Fitness compared to those receiving InSight or the control intervention, \( F(2, 3) = 17.48, p = .022 \). Conclusion(s): Adherence was a challenge to successful dissemination of at-home computer-based cognitive training programs. Improvement on auditory and processing speed tasks predicted lower depression, raising the possibility that successful engagement in training programs can lead to improved mood. Ongoing data collection will allow for increased statistical power to detect changes and further evaluate the relationship between compliance and outcomes.