Cognitive dysfunction is a prevalent non-motor feature of Parkinson’s disease (PD) that is associated with neural changes in the frontostriatal circuits. Specifically, difficulties in executive skills such as working memory, inhibition, and set-shifting are early cognitive changes associated with PD. Unfortunately, there are currently no standardized guidelines for cognitive rehabilitation treatment in PD.

The Parkinson’s Disease-Cognitive Rehabilitation for Executive functioning (PD-CoRE) program is a novel cognitive rehabilitation program that utilizes compensatory strategies to address executive dysfunction (i.e., inhibition, working memory, and task shifting) in PD. A pilot study was completed in 2016 investigating neuropsychological outcomes and patient satisfaction of the PD-CoRE program. Findings revealed a modest improvement in set-shifting and no changes in psychological functioning, which only took into account depression and anxiety symptoms.

Participants:
• Initial N=8
  • 3 excluded; 2 attrition and 1 incomplete questionnaires
  • Final N=5, 50% male
  • Mild PD who reported executive functioning difficulties
  • Mean age = 69.8 (range: 57-77)
  • Mean education = 15 years (range: 12-16)
  • Mean Montreal Cognitive Assessment = 24.4 (range: 23-26)

Method:
• PD-CoRE program
  • Weekly 1.5 hour group sessions over 6 weeks
  • Psychoeducation about PD and executive functioning
  • Introduction to the “I GOT IT!” model
    - Inhibit unwanted responses
    - Goal-setting
    - Organize steps to accomplish the goal
    - Test the steps
    - Identify barriers or difficulties
    - Tailor your solution
  • Interactive activities in-session
  • Weekly homework assignments
  • Pre- and post-treatment assessment

Statistical Analyses:
• Paired samples t-tests analyzed pre-post change scores, alpha <0.05.

Self-Report Measures:
• There was a statistically significant decline on the PDQ-39 (p=0.04).
• Relative improvements in mean scores were seen in perceived functional abilities, self-efficacy and life satisfaction.
• A relative improvement in mean score was seen in informants’ perception of functional abilities.

Results

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<th>Psychological and Functional Measure Scores</th>
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Conclusion
• Increased education and self-awareness regarding executive functioning may have increased sensitivity to cognitive difficulties.
• Reported external stressors unrelated to PD-CoRE may have impacted mood in this small sample of PD patients.
• Future research includes 3-month assessment to re-examine these areas in a longer term follow-up.
• Future research will evaluate additional PD-CoRE groups to increase sample size and generalizability of the program.

References

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