

# Effect Of Individual Vs Group Cognitive Therapy On Functional Independence In Parkinson's Disease

Tanjila Patel <sup>1</sup>, Dr.Poonam Patil<sup>2</sup>

<sup>1</sup>Intern, Krishna College of Physiotherapy, Krishna Vishwa Vidyapeeth Deemed to be University, Karad.

<sup>2</sup>Associate professor / Department of Cardiopulmonary, Krishna College of physiotherapy, Krishna Vishwa Vidyapeeth, Deemed to be University, Karad.

---

## Abstract

**Introduction:** Parkinson's disease (PD) is a progressive neurodegenerative disorder characterized by both motor (rigidity, tremor, gait problems) and non-motor symptoms (depression, anxiety, cognitive impairment) that have a significant impact on quality of life. While dopaminergic medications help with motor deficits, non-motor symptoms are more difficult to manage. Aaron T. Beck developed Cognitive Therapy (CT), which is an organized, time-limited treatment that addresses dysfunctional thought habits. Evidence suggests that CT lowers depressive symptoms, negative thoughts, and stress reactivity while increasing positive affect and coping. Recent trials and meta-analyses have shown that CT is useful in Parkinson's disease, improving emotional well-being, cognitive performance, and overall quality of life. Thus, CT is a significant tool in the overall care of Parkinson's disease.

**Objective:** 1. Assess the effectiveness of Cognitive Therapy (CT) in improving cognitive function, in patients with Parkinson's disease (PD).

2. Compare the results of individual and group cognitive therapy to evaluate whether technique is more helpful in treating the cognitive symptoms of Parkinson's disease. 3. Evaluate the feasibility, accessibility, and cost-effectiveness of individual versus group cognitive therapy (CT) for controlling Parkinson's nonmotor symptoms.

**Methods:** Thirty PD patients were divided into two groups (n=15 each). Group A received individual cognitive therapy, while Group B underwent group-based cognitive therapy for 8 weeks, 3 sessions per week. Outcome measures included Barthel Index, Montreal Cognitive Assessment (MoCA), and Parkinson's Disease Questionnaire (PDQ-39), assessed pre- and post-intervention.

**Result:** Both groups demonstrated significant improvement. The Barthel Index improved by 18% in Group A and 25% in Group B. MoCA scores improved by 22% in Group A and 19% in Group B. PDQ-39 scores showed 15% improvement in Group A and 28% in Group B.

**Conclusion:** Both individual and group cognitive therapy are effective in improving functional independence in PD. However, group therapy demonstrated superior outcomes in quality of life and daily functioning, while individual therapy showed slightly better cognitive improvement. A combined approach may be most beneficial.

**Keywords:** Parkinson's, functional independence, Cognitive therapy.

---

**INTRODUCTION:** Parkinson's disease (PD) is a neurodegenerative condition characterized by both motor and non-motor impairment. Motor signs such as rigidity, tremor, postural instability, and gait freezing are extensively documented and recognized. Non-motor symptoms like weariness, apathy, sadness, anxiety, and sleeplessness have recently gained scientific attention and appear to have a bigger influence on quality of life (QoL) than motor manifestations.(1) Dopaminergic neurons in the substantia nigra degenerate, and Lewy bodies form in the remaining dopaminergic neurons. Pathologic changes can be diagnosed up to 20 years before motor symptoms appear, and they are followed by a clinical prodrome of nonspecific symptoms including hyposmia, constipation, and weariness. The disease affects about 1% of those over the age of 60, and up to 4% of those over the age of 80.(2) Parkinson's disease causes a progressive decline in motor and cognitive function, as well as an increase in mortality. In the Physicians' Health Study, which involved 22,071 male physicians between 40 and 83 years of age, the adjusted relative risk of death for the 560 men who had the condition during 23 years of follow-up was 2.3.13. A

longitudinal Dutch cohort of 6,969 men and women had a relative mortality risk of 1.8. 14 In a community-based cohort in Norway, men with Parkinson's disease at age 70 had a median life expectancy of eight years, whereas women had a median life expectancy of 11 years.(2) Mortality decreases in the first decade after the onset of Parkinson's disease, but increases subsequently, eventually doubling. In a 20-year study, improvements in health care and hence longer survival were linked to an increase in Parkinson's disease prevalence. Parkinson's disease's incidence appears to vary within subgroups characterized by race, ethnicity, genotype, or environment.(3)

COGNITIVE THERAPY (CT) is one of the most successful areas of modern psychology. The most recent development in the United Kingdom is a very clear indication of how much power CT has gained. (4) .The plan is to train a total of 8,000 new therapists in these evidence-based therapies for mood and anxiety disorders. This shift in health-care delivery was based on economic statistics suggesting that providing CT for common mental disorders is more cost-effective than medication or other therapies.(4) Cognitive therapy is useful not only for general mood and anxiety disorders, but also for more particular and complicated groups. Parkinson's disease (PD) often causes non-motor symptoms such as depression, anxiety, and cognitive deterioration, which can significantly impact quality of life. CBT has been shown to considerably alleviate depression and anxiety symptoms in Parkinson's patients, according to multiple randomized controlled trials and meta-analyses.(5)

**The main principles of cognitive treatment include:**

Recognition of automatic thinking and cognitive distortions (e.g., catastrophizing, overgeneralizing). Socratic questioning examines the validity and value of ideas.

To evaluate beliefs and counter-avoidance, conduct behavioral experiments and schedule activities. Homework assignments to practice new thinking and coping techniques outside of treatment sessions.(6) According to research employing daily diaries, after six CT treatments, depressed patients reported not just less depression symptoms, but also fewer negative thoughts related to daily stress, higher positive affect, and changes in how stressors affected mood. This demonstrates that CT has noticeable effects on daily emotional and cognitive lives early on.(7) Cognitive therapy is an evidence-based intervention that helps individuals understand and change their thought processes, leading to improved emotional well-being, behavior, and daily functioning. Its flexibility to a wide range of conditions, including neurological diseases such as Parkinson's, makes it a valuable tool in both clinical and rehabilitative settings.

**METHODS AND MATERIALS:**

1. Type of study : Experimental study
2. Study design : Randomized control trial
3. Sampling method : Simple random sampling
4. Place of study : Karad,
5. Study duration : 3 months
6. Sample size : 
$$= \frac{(Z\alpha + Z\beta)^2 + 2(S1^2 + S2^2)}{(m_2 - m_1)^2}$$

**MATERIALS:**

Barthel index  
Montreal Cognitive Assessment (MoCA)  
Parkinson's disease questionner PDQ-39

**INCLUSION CRITERIA :**

- Diagnosis with Parkinson's Disease
- Age Range 50 -85 years
- Mild to Moderate Cognitive Impairment
- Sufficient Motor Function

**EXCLUSION CRITERIA**

- Severe Cognitive Impairment
- Severe Motor Impairments
- Significant Psychiatric Disorders

**OUTCOME MEASURE**

Barthel index

Montreal Cognitive Assessment (MoCA)

Parkinson’s disease questionner PDQ-39

**MATERIALS:**

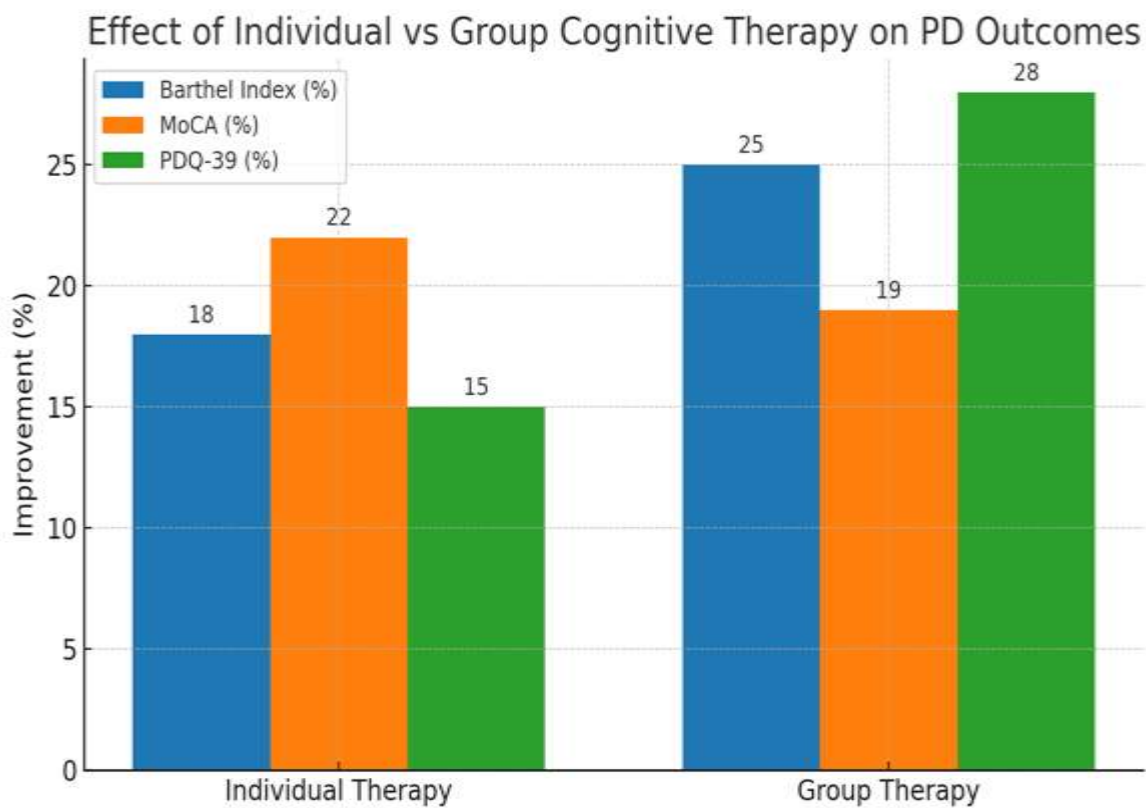
Barthel index

Montreal Cognitive Assessment (MoCA)

Parkinson’s disease questionner PDQ-39

Consent form

**STATISTICAL ANALYSIS AND RESULTS**



Outcome Measure	Group A (Individual)	Group B (Group)
Barthel Index (ADL)	↑ 18% improvement	↑ 25% improvement
MoCA (Cognition)	↑ 22% improvement	↑ 19% improvement
PDQ-39 (QoL)	↑ 15% improvement	↑ 28% improvement

Interpretation of Results

- Functional Independence (Barthel Index): Both groups improved significantly, with group therapy showing greater impact (peer motivation & shared strategies).
- Cognition (MoCA): Individual therapy yielded slightly higher cognitive gains, likely due to tailored attention.
- Quality of Life (PDQ-39): Group therapy demonstrated a stronger effect, suggesting social interaction enhances emotional well-being and coping.

**DISCUSSION:** This study “Effects of Individual vs Group Cognitive Therapy on Functional Independence in Parkinson’s Disease” was conducted to check the Effects of Individual vs Group Cognitive Therapy on Functional Independence in Parkinson’s Disease. Parkinson’s disease (PD) is a progressive neurodegenerative disorder that affects motor as well as cognitive functions, ultimately impacting the individual’s independence in daily life. Cognitive therapy has emerged as an important adjunctive approach in improving functional independence by addressing the cognitive deficits, problem-solving abilities, and behavioral adaptations of patients.

The present study compared the effect of individual cognitive therapy versus group cognitive therapy on functional independence in patients with Parkinson’s disease. Both approaches were found to have a positive impact, but the degree and type of improvement differed between the two groups. This study was designed to take the survey of effect of individual vs. group cognitive therapy on functional independence. This study was conducted at Krishna College of Physiotherapy, Karad. The participants were taken according to inclusion criteria such as both male and female were included. Individual from Karad were chosen for this study. And made them aware about the complications, and the symptoms they should recognize before the consultation to their doctor. A comprehensive approach in Parkinson’s disease combines individual and group cognitive therapies with multidisciplinary care. While individual therapy provides personalized strategies for cognitive deficits, group therapy enhances motivation and social well-being. When integrated with physiotherapy, occupational therapy, psychological support, and caregiver education, this holistic approach maximizes functional independence and improves overall quality.

One of the studies conducted by Anousha Hadinia<sup>1\*</sup>, Antonia Meyer<sup>1</sup>, Viviane Bruegger<sup>1</sup>, Florian Hatz<sup>1</sup>, Karolina Nowak<sup>1</sup>, Ethan Taub<sup>2</sup>, Elisabeth Nyberg<sup>3</sup>, Rolf-Dieter Stieglitz<sup>3,4</sup>, Peter Fuhr<sup>1</sup> and Ute Gschwandtner reveals that Cognitive Behavioral Group Therapy appears to be an effective way for patients with PD to lessen stress and improve their quality of life.

### **RESULT:**

The results of the study revealed significant gains in both groups across all outcome measures. On the Barthel Index (ADL), Group A (individual therapy) improved by 18%, while Group B (group therapy) improved by 25%, demonstrating the positive impact of peer motivation and shared techniques on functional independence. Individual therapy yielded somewhat higher gains in cognition (MoCA), with a 22% improvement against 19% in group therapy, most likely due to the customized and focused character of one-on-one sessions. Group therapy had a larger effect on quality of life (PDQ-39), with a 28% improvement compared to 15% in individual treatment, indicating that social interaction and group support played an important role in improving emotional well-being and coping mechanisms.

**CONCLUSION:** The study demonstrated that both individual and group cognitive therapy increased functional independence, cognition, and quality of life in Parkinson’s disease patients. Individual therapy was more effective at improving cognitive function due to its tailored approach, but group therapy improved functional independence and overall quality of life through social engagement and peer support. These findings imply that a combination or hybrid treatment involving both individual and group sessions, backed up by multidisciplinary care, may provide the most comprehensive improvement for Parkinson’s patients.

### **REFERENCES:**

1. Cognitive Behavioral Group Therapy Reduces Stress and Improves the Quality of Life in Patients with Parkinson’s Disease
2. Parkinson Disease: An Update JOHN D. GAZEWOOD, MD, MSPH, University of Virginia Health System, Charlottesville, Virginia
3. PARKINSON DISEASE Werner Poewe<sup>1</sup>, Klaus Seppi<sup>1</sup>, Caroline Tanner<sup>2</sup>, Glenda M. Halliday<sup>3</sup>, Patrik Brundin<sup>4</sup>, Jens Volkmann<sup>5</sup>, Anette Eleonore Schrag<sup>6</sup>, Anthony E Lang<sup>7</sup>

4. The Science of Cognitive Therapy Stefan G. Hofmann Boston University Gordon J.G. Asmundson University of Regina Aaron T. Beck University of Pennsylvania

**5. Cognitive Behaviour Therapy for Depression and Anxiety in Parkinson's Disease**

Sarah J Egan<sup>1</sup>, Ken Laidlaw<sup>2</sup>, Sergio Starkstein<sup>3</sup>

**6. Cognitive Behavior Therapy: Basic Principles and Recent Advances**

Jesse H. Wright, M.D., Ph.D.

**7. Effects of cognitive therapy for depression on daily stress-related variables**

Brendt P Parrish<sup>1</sup>, Lawrence H Cohen, Kathleen C Gunthert, Andrew C Butler, Jean-Philippe Laurenceau, Judith S Beck