

# Feasibility study of an **intensive multi-strategy rehabilitation program** for Parkinson disease

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## BACKGROUND

Parkinson's disease (PD) still presents many challenges in its management for both patients and health care professionals. Increasing research suggests that intensive rehabilitation programs can provide both short and long-term benefits to individuals with PD and their caregivers. Given the variety of rehabilitation programs that exist, the true acceptability and use of these programs is still limited.

## OBJECTIVE

To assess the **feasibility of an intensive multi-strategy rehabilitation program** for individuals with Parkinson disease (PD) and to evaluate the **responsiveness of multiple outcome measures** that could be candidates to be applied on confirmatory trials.

## METHODS

We conducted an exploratory feasibility study in individuals diagnosed with idiopathic PD. Feasibility was assessed by level of adherence to the program. Participants were recruited from a Movement Disorders Unit (Campus Neurológico Sénior - CNS) based on their balance and gait impairments.

Participants were assessed with the MDS -UPDRS (part III), Pull-test, Timed-up and go (TUG), Balance Berg scale, and Schwab & England Scale. Our intervention consisted of at least 2 hour individual physiotherapy sessions per day, 3 times a week for at least 4 weeks.

## METHODS (CONT.)

The program consisted of practicing stepping, gait and balance multitask activities with different kinds of motor and cognitive tasks progressively introduced. Focused attention and multitasking was also explored with resistance training using plurisports adapted to PD, such as boxing, dancing and swimming. The duration and intensity of rehabilitation exercising was adjusted to patients's individual cognitive and physical levels.

## RESULTS

The participants included 6 woman and 7 men, mean age of 72.5, Hoehn and Yahr stages 2 to 4 and with a mean disease duration of 7 years.

**Every participant completed the program with no relevant adverse effects and according to the protocol.**

The outcomes with larger effect size were the MDS-UPDRS (Part III) (with 0,78 Cohen's effect size); Berg balance scale (0,25 Cohen's effect size); Timed Up and Go (0,25 Cohen's effect size); Pull test (0,07 Cohen's effect size) and Schwab and England (0,03 Cohen's effect size).

## CONCLUSION

Our results suggest that this intensive rehabilitation program had a **high adherence level** and appears to be **feasible for these individuals with moderately severe PD**. Our results also suggest that the most responsive outcome measure for an intervention with these characteristics is the MDS-UPDRS (Part III)