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Daily multidisciplinary intensive outpatient rehabilitation program versus home-based self-treatment program in Parkinson's disease: short-term preliminary results are influenced by baseline levels of motor impairment

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Introduction: Although there are several studies about improvement after intensive and multidisciplinary treatments in People with Parkinson's Disease (PwPD) on different domains and abilities [1, 2], there is no comprehensive information on the factors that may have the greatest impact on the response to rehabilitative treatment.

Objective: The main aim of the present study was to evaluate whether PwPD allocated to the multidisciplinary intensive outpatient rehabilitation treatment (Experimental Group=EXP) show different short-term effects on motor and/or cognitive domains than PwPD allocated to the home-based self-managed stretching treatment (Control Group=CTRL). In addition, our work aimed at exploring which baseline factors may have influenced the effects of either treatments.

Methods: 43 PwPD [19CTRL/24EXP; 23F/20M; Age(years): 69.6±6.5; mH&Y: 1.5-3; Disease Duration(years): 8.87±6.3] were enrolled. All subjects underwent a neurological and neuropsychological assessment at baseline (T0) and after 6 weeks of treatment (T1). Motor and overall cognitive functioning were assessed respectively by the MDS-UPDRS-Part III [3] and the Montreal Cognitive Assessment (MoCA Test) [4].

Results: EXP-PwPD had a reduction of 5.75 points compared to the CTRL-PwPD on MDS-UPDRS-Part III. This difference is more meaningful in those who were more compromised at T0 MDS-UPDRS-Part III scores. In fact, in the group with higher T0 motor score (MDS-UPDRS-Part III >40 -median score-), EXP-PwPD showed a significant improvement on motor symptoms at MDS-UPDRS-Part III (-10.12; p=0.014) with respect to CTRL-PwPD. The same difference is not significant (-3.29; p=0.15) in the group with T0 motor score lower than 40 points. No statistically significant effect has been found on MoCA score in the EXP-PwPD compared to the CTRL-PwPD (-0.34; p=0.6).

Conclusions: Our findings suggest that a daily multidisciplinary intensive outpatient rehabilitation treatment instead of home-based rehabilitation treatment may induce relevant motor improvement in PwPD. Remarkably, we observed that this improvement was significant in PwPD with more compromised motor functions at baseline.

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