

Feasibility, safety and efficacy of telerehabilitation in mild-to-moderate Parkinson's disease patients: an open label, pilot study

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Introduction: Besides pharmacological treatment, Parkinson's disease (PD) patients frequently engage rehabilitation for management of motor and nonmotor symptoms [1]. During Covid-19 pandemic, access to outpatient and inward rehabilitation programs has been markedly limited, consequently telerehabilitation gained popularity [2-3].

Objective: To evaluate the feasibility, safety and efficacy of telerehabilitation in mild-to-moderate PD patients.

Methods: Sixteen PD patients, aged 64±10 years with H&Y score <3 and without gait disturbances, referring to our Movement Disorders Centre were recruited for a 5-week telerehabilitation program, consisting of 1 remote visit with a therapist and a minimum of 2 sessions of at least 30-min of self-conducted exercises per week. Patients received video tutorials of the exercises and were asked to keep a diary of sessions. At baseline (T0) and after the intervention (T1) patients were remotely assessed by means of the MDS-UPDRS part I-III, PDQ-39, FIM and FAB scales. Acceptable compliance to the program was defined as at least 60% matching of frequency and duration of self-conducted sessions, whereas optimal compliance was set at >80% matching. Wilcoxon test was used to assess change from baseline for clinical and functional scores.

Results: Of 310 overall rehabilitation sessions, 257 matched duration criteria (82.9%) and 81% of weekly sessions matched frequency criteria. When considering single patients, 11 patients (68.8%) reached optimal cut-off and 13 (81.3%) reached acceptability. Two patients experienced a mild self-limiting adverse event during a single supervised session and no adverse events were reported during self-conducted sessions. Wilcoxon test showed a significant reduction of MDS-UPDRS total score (p=0.001) and MDS-UPDRS-III score (p=0.003) with a mean decrease of 5.47±4.94 and 3.65±3.44, respectively. No significant difference were found between T0 and T1 for the other clinical scores.

Conclusions: Our study demonstrates that telerehabilitation is a feasible, safe and effective instrument for management of PD in mild-to moderate stage.

References

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