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Rehabilitation treatment in painful shoulder in Parkinson's disease: outcome research

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Introduction: This study is focused on treating patients with Parkinson's disease and associated shoulder pain due to the high incidence of this problem, which causes elevated levels of disability of upper limbs.

Objective: The objective is to evaluate the efficacy of rehabilitation treatment aimed at treating painful shoulder in Parkinson's disease patients, monitoring improvements in shoulder conditions and how much shoulder disabilities influence daily activities, quality of life, mood-behaviour and balance in relation to gait and static.

Methods: Eight participants (five males and three females) with a mean age of $67,25 \pm 10,57$, diagnosis of Parkinson's disease (PwPD) and an associated painful shoulder, H&Y ≤ 2 , no other diseases, were enrolled at "Policlinico Umberto I" in Rome. The following outcome measures were used: Berg Balance Scale (BBG), Disability of the Arm, Shoulder, and Hand (DASH), Parkinson's Disease Questionnaire-39 (PDQ-39), Short Form Health Survey-12 (SF-12) and Community Integration Questionnaire Revised (CIQ-R), Medical Research Council (MRC) and the shoulder range of motion (R.O.M.) was assessed. Physiotherapy programmes are based on 10 sessions with a biweekly frequency of 50-60 minutes for each patient.

Results: Data were statistically significant at the end of the treatment ($p < 0.05$) for results concerning active shoulder movements: flexion, abduction, external rotation on transverse plane, and external rotation on sagittal plane, internal rotation on sagittal plane. Statistically significant data in passive shoulder movements are external rotation on transverse plane, external rotation on sagittal plane and internal rotation on sagittal plane. Most improved muscles in terms of strength are: rotator cuff, serratus anterior and pectoralis major. As regards evaluation scales, BBS, DASH, PCS12, CIQ-R total scores are statistically significant.

Conclusions: Conclusions show effectiveness of this rehabilitative approach. This is determined by results obtained in mobility, strength and scales for assessment of balance, quality of life, mood-behaviour and activities of daily living.