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Clarke, C.E. and Patel, S. and Woolley, R. and Ives, N.J. and Rick, C.E. and Dowling, Francis and Wheatley, Keith and Walker, Marion F. and Sackley, C.M. (2014) PD REHAB: a large pragmatic randomised controlled trial of physiotherapy and occupational therapy versus no therapy in mild to moderate Parkinson's disease. *Movement Disorders*, 29 (Supp.1). s600. ISSN 1531-8257

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19th International Congress of Parkinson's Disease and Movement Disorders

June 14-18, 2015

Sandiego, CA, USA

MDS 18th International Congress of Parkinson's Disease and Movement Disorders, Volume 29, June 2014 Abstract Supplement

Movement Disorders 2014
Stockholm, Sweden June 8-12, 2014.

PD REHAB: A large pragmatic randomised controlled trial of physiotherapy and occupational therapy versus no therapy in mild to moderate Parkinson's disease

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Objective:

To evaluate the clinical and cost-effectiveness of combined National Health Service (NHS) occupational therapy (OT) and physiotherapy (PT) for Parkinson's disease (PD) versus no therapy.

Background:

A Cochrane review found small benefits in motor function following PT in PD, but these did not translate into changes in quality of life (QoL). A Cochrane review of OT in PD found only two trials; these had inadequate data to reach any conclusions on efficacy. Further larger randomised controlled trials are needed.

Methods:

PD patients at 38 neurology and geriatric outpatients with limitations in activities of daily living (ADL) were eligible to be randomised to PT+OT or no therapy. Therapy incorporated an individual assessment and goal setting approach. The primary outcome was instrumental ADL measured using the Nottingham Extended Activities of Daily Living (NEADL) scale at 3 months post-randomisation. Secondary outcomes were: health-related QoL (Parkinson's disease Questionnaire-39, EuroQoL EQ-

5D), adverse events, and carer QoL (Short Form-12). Outcomes were assessed before randomisation and at 3, 9 and 15 months post-randomisation, using t-tests.

Results:

762 patients with mild to moderate PD were randomised to receive PT+OT (N=381) or no therapy (N=381). Contact time with therapists averaged 4 visits of 55 minutes each over 8 weeks. At 3 months, there was no difference in NEADL total score or PDQ-39 summary index between groups (Table 1). EuroQoL EQ-5D quotient was of borderline significance in favour of therapy. There was no difference in carer SF-12 physical component score, but less decline in carer SF-12 mental component score in the PT+OT arm. Sub-group analyses found no evidence of trends towards a therapy effect according to age, baseline NEADL score or disease severity.

Summary of Patient and Carer QoL Scores		
Outcome	Mean Difference (95% CI)	p-value
NEADL Total Score	0.5 (-0.7 to 1.7)	0.4
PDQ-39 Summary Index	0.007 (-1.5 to 1.5)	1.0
EuroQoL EQ-5D	-0.03 (-0.07 to -0.002)	0.04
SF-12: Physical Component Score	-0.6 (-2.3 to 1.2)	0.5
SF-12: Mental Component Score	-2.1 (-3.9 to -0.3)	0.02
Negative differences favour PT+OT arm, positive differences favour no therapy arm		

Conclusions:

PT+OT as currently practised in the NHS produced no beneficial effects on ADL or QoL in mild to moderate PD. Further work is required to: (1) establish whether existing NHS PT+OT is effective in more advanced PD and (2) identify, develop and evaluate alternative approaches. Alternative approaches could include different intensities as well as techniques or indeed, modes of delivery.

To cite this abstract, please use the following information:

Clarke, C.E., Patel, S., Woolley, R., Ives, N.J., Rick, C.E., Dowling, F., Wheatley, K., Walker, M.F., Sackley, C.M.; PD REHAB: A large pragmatic randomised controlled trial of physiotherapy and occupational therapy versus no therapy in mild to moderate Parkinson's disease [abstract]. *Movement Disorders* 2014;29 Suppl 1 :627