

Physiotherapy and Parkinson's

Introduction

Parkinson's is a chronic, progressive neurological disease for which there is no treatment or therapy to slow or stop the progression of the disease. The prevalence of Parkinson's in the UK has been estimated to be 1 in 500, amounting to approximately 127,000 people living with the disease in the UK. The prevalence increases to 1 in 100 over the age of 65 years and 1 in 50 over the age of 80 years (Macdonald et al, 2000).

Medications and devices address only the symptoms. Parkinson's is the second most common neurological condition after Alzheimer's disease, costing the NHS an estimated £2 billion annually (Fineberg et al, 2013).

Despite advances in medical research, the natural course of the disease, gait and balance worsen over time, progressively leading to major disability (Franzén et al, 2009). The European Physiotherapy Guideline for Parkinson's Disease (2014) has extremely useful information on the measurement, progression and treatment of the disease for physiotherapists and commissioners.

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Falls in Parkinson's

The estimated prevalence of falls in those with Parkinson's ranges from 40% to 90% (Kelly et al., 2012), with about half of those falls occurring when walking. The most common reason for hospital admissions is falls (Temlett and Thompson, 2006).

People with Parkinson's are more likely to have impaired stride-to-stride control, leading to an increased risk of recurrent falls. Studies showed that people with Parkinson's have a greater than two-fold increased risk of fractures and more than 3 times greater risk of hip fractures compared to non-Parkinson's patients after adjusting for age and gender (Schaafsma et al, 2003).

How effective is physiotherapy in Parkinson's?

Tomlinson et al (2013) reviewed 39 randomised controlled trials, involving 1827 patients showed that Physiotherapy was effective in improving the majority of walking outcomes, with significant improvements demonstrated in walking speed, walking endurance and freezing of gait. Improvements were also observed in mobility and balance with physiotherapy as well as improvements in the severity of Parkinson's (using UPDRS scale).

The authors of the review noted that the majority of the studies assessed the effects of physiotherapy over the short-term (less than 3 months). However, the long-term benefits of physiotherapy for people with Parkinson's is being

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confirmed in some recent studies awaiting publication. For example, an RCT of 210 patients with Parkinson's over 12 months, showed that there was a significant reduction in the rate of falls and the severity of Parkinson's in both physiotherapy treatment groups over 12 months. The rate of falls was reduced from 18.6 falls per patient in the control group to 6.58 in the MST and 2.79 in the PST physiotherapy groups (Morris et al, 2014). An even larger study (the PDSAFE trial) should recruit 600 participants and publish in early 2016.

The long-term benefits of physiotherapy were also assessed by Frazzitta et al (2013). In a preliminary study of 20 patients who underwent a 4-week intensive physiotherapy programme, balance and gait speed was demonstrated to have improved significantly after the treatment programme. At 1-year follow-up control, walk and Comfortable-Fast gait speeds remained significantly better than baseline measures.

The cost-effectiveness of physiotherapy for Parkinson's is unclear. Fletcher et al. (2012) performed a cohort study demonstrating a greater than 80% chance that such interventions were cost-effective, assuming the benefits seen over the six-month duration of the study were maintained in the long-term, but without such long-term follow-up it is difficult to draw robust conclusions and rule out confounding effects. Once again, the longer-term studies currently running should confirm or contradict Fletcher et al's findings within a few years.

Studies have demonstrated the short and long-term effectiveness of physiotherapy in Parkinson's

The rate of falls was significantly reduced from 18.6 per patient in the control group vs 6.58 and 2.79 in two physiotherapy groups.

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