

Mobility problems in PD – gait, balance, posture and transfers – can badly affect quality of life. Dr Bastiaan Bloem discusses how physiotherapy might be of more benefit once treatment has been proven

maximising mobility

Mobility problems and quality of life issues are closely intertwined for people with PD. In the early stages of the disease, patients mostly complain about their tremor. However, as the disease progresses, mobility problems – including difficulties with walking, maintaining a good balance, posture and ability to make transfers – become increasingly important.¹ Gait becomes progressively impaired, with slowing, shuffling and freezing. Recurrent falls typically emerge some 5–10 years after onset of first symptoms. Many falls result from sudden changes in posture – in particular, turning movements – or attempts to perform more than one activity simultaneously, including seemingly simple actions such as walking while carrying objects. These falls commonly lead to fractures – mainly of the hips – and other injuries such as bruises or skin lacerations, which can be a major source of discomfort to patients. Normal upright posture begins to change and there is a progressive reduction in the range of movements. Getting out of bed or up from a chair can become increasingly problematic.

Independent movement

Many patients report that gait impairment, falls, loss of mobility and reduction of social activities have an important negative influence on their quality of life.² This can mean loss of independence, made worse by a fear of falls, forcing patients to further reduce their physical activities.³ This immobility is associated with various secondary adverse consequences, including constipation, pressure sores, poor sleep and osteoporosis. The loss of mobility also interferes with social contacts and some patients may become virtually isolated. General physical fitness will also be

reduced, which can increase the risk of cardiovascular morbidity or mortality. Not surprisingly, patients often report that gait impairment, falls, loss of mobility and reduction of social activities are the main determinants that negatively influence their quality of life.^{2,4} Quality of life, in terms of regained mobility and independence, should be a key outcome measure in clinical trials investigating novel preventive or therapeutic strategies.

Management strategies

There is an urgent need for improved treatment strategies because gait impairment and postural instability respond poorly to current medical management.¹ Dopaminergic medication is often ineffective and can aggravate falls by causing dyskinesias, freezing, orthostatic hypotension or neuropsychiatric side-effects. Sedative drugs must be avoided whenever possible, as these increase the risk of falls.³ Stereotactic neurosurgery is a promising new treatment, but at present patients with marked mobility impairments that respond poorly to medication remain unsuitable candidates for this treatment.

Physiotherapy might provide additional benefit in improving the movement ability of people with PD and thus improve their quality of life.⁵ Findings from the Physiotherapy Evaluation Project (PEP) have clarified that mobility problems – with gait, balance, posture and transfers – represent the four core areas of intervention within physiotherapy practice.⁶ Examples of commonly used treatments include muscle strengthening, balance and gait training, or movement and behavioural strategies. Physiotherapists can teach patients to compensate for their disabilities by employing different motor control strategies. They can also teach people to

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transfer more safely (for example into or out of a bed), improve and maintain physical fitness and posture, and maximise the use of assistive devices.⁵ As a consequence, functional activities can improve, the number of falls and injuries may be reduced, nursing home admission may be delayed or prevented and drug therapy or neurosurgery can be supported. Indirectly, such effects can improve the patients' quality of life and can reduce the burden of care for their partners and other caregivers.

Surprisingly, the referral rates for people with PD to physiotherapy remain low in many countries, perhaps because of a perceived lack of effectiveness among treating physicians. Indeed, systematic reviews of clinical trials found little evidence to affirm the effectiveness of physiotherapy.^{7,8} However, because of the poor methodological quality of most of the studies, these reviews could neither prove nor deny that physiotherapy had clinically relevant effects. An additional problem is that individual physiotherapists often lack sufficient expertise or formal training in treating people with PD.

Scientific evidence

To legitimise more widespread use of physiotherapy, a rigorously designed trial is needed to explore the effectiveness of physiotherapy. One such trial – the RESCUE (Rehabilitation in Parkinson's Disease Strategies For Cueing) study – is currently being executed in Newcastle, Amsterdam and Leuven to study the methodology and effects of different cueing techniques for patients with PD. Also, an international steering committee of recognised experts from all relevant disciplines – including physiotherapy, neurology, geriatrics and rehabilitation – has prepared a protocol for a study to evaluate the effects of physiotherapy in PD. This trial is the PROMISE study – Parkinson Rehabilitation Outcome, Multicentre Intervention Study in Europe and is supported by a research grant from the UKPDS. To avoid the shortcomings of prior studies, the trial has been carefully designed according to the CONSORT (Consolidated Standards of Reporting Trials) guidelines. The active treatment will follow the guidelines for 'best practice' physiotherapy treatment.⁶ An adequate sample size will be assured through collaboration between multiple

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centres in the UK – led by Professor Ann Ashburn, University of Southampton. We are currently seeking funding for PROMISE and hope to report more about important developments in due course. ●

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