

# Pilates: is it effective in treating balance issues in People with MS?

Faye Smith Neurological Physiotherapist, Dudley Rehabilitation Service

## Introduction:

- 50-80% of People with Multiple Sclerosis (PwMS) report balance problems (Cameron and Nilsaguard, 2018).
- It has been suggested that reduced balance and increased risk of falls is directly linked (Kaddoura et al, 2024).
- 56% PwMS reported at least 1 fall in 3 months, with falls risk peaking with an EDSS between 4.0 – 6.0 (Nilsagard et al 2015).
- Falls are estimated to cost the NHS £2.3 billion a year (NICE, 2013)
- Fear of falling itself can directly impact on social participation, physical activity and quality of life (QOL) in PwMS (Kalron et al 2018; Coote et al 2020).
- Pharmacological methods addressing mobility and balance issues in PwMS is not recommended (NICE 2022).
- Alternative holistic approaches encompassing Physiotherapy, including Pilates, is encouraged instead (NICE 2022).
- Pilates focuses on strengthening, coordination, balance, flexibility and resistance training (Roh, 2018).

**Aim: To critique literature exploring the use of Pilates to address balance issues in people with Multiple Sclerosis.**

## Case history:

- 63-year-old lady diagnosed with MS in 2010.
  - Expanded Disability Status Scale = 5
  - Number of falls = 3 falls in 6 months
  - Medication – Aubagio, Baclofen
  - Social History (SH) – lives in a bungalow, no longer works, enjoys Golf.
  - Berg Balance score = 32/56
  - 4 square step test = 17.5secs
  - Short-Activities-specific Balance Confidence Scale (ABC-6) = 30%
- PATIENT GOALS:** To reduce frequency of falls (on Ax average 1/month)  
To be able to confidently mobilise outside independently.  
To more confident and balanced to return to playing golf.

## Discussion :

- A multi-level assessment of a PwMS's balance is vital to identify falls risk and establish an optimal rehabilitation programme (Moore et al, 2018) as balance control has several complex components.
- Demyelinating lesions within different areas of the brain and spinal cord result in multiple symptoms that impact on gait and balance, often resulting in falls. (Cameron and Nilsagard, 2018).
- In particular, the slow response to postural disturbance associated with MS is likely to be related to reduced balance and falls (Halabachi et al 2017).
- Evidence suggests that the use of Pilates can be an effective tool when addressing balance in PwMS. (Abasiyanik et al, 2020; Bulguroglu et al, 2017; Gheitasi et al, 2021; Gungor et al, 2022; Kalron et al, 2017; Marques et al, 2020).
- Compliance with an exercise regime increases when completing a Pilates programme (Kalron et al, 2017).
- Face-to-face Pilates programmes versus self-directed programmes are preferential when addressing balance in PwMS (Abansiyanik et al, 2020; Gungor et al, 2022).
- However, it is recognised that home-based programmes allow opportunity to reduce exercise barriers for those with mobility and access issues.(Gungor et al, 2022).

Fig 1: Australian Physiotherapy and Pilates Institute PPI (2022)



## The MS Specialist Physiotherapist

- MS Physiotherapists leading a Pilates programme resulted in better balance changes in PwMS compared to non-therapist-led-Pilates (Kalron et al, 2017).
- NICE (2022) recommend specialist assessment, supervised progressive and graded resistance training with support from a MS physio, and then guiding PwMS to establish long-term strategies to maintain this exercise after their programme has ended) is needed in the management of MS (NICE, 2022).

Fig 2: Australian Physiotherapy and Pilates Institute (2024)



## Case Application and Post Treatment Outcomes

Berg Balance = 49/56    ABC-6 = 50%    4 square step test = 14.3 secs    All goals achieved and pt returned to golf.

## Conclusion:

- Balance issues are a common issue reported by PwMS.
- Pilates is an effective tool to address balance issues for PwMS, and where possible, initial introduction through Physio-led Pilates is preferential (Abasiyanik et al, 2020; Bulguroglu et al, 2017; Gheitasi et al, 2021; Gungor et al, 2022; Kalron et al, 2017; Marques et al, 2020).).
- MS physios have specialisms in postural alignment and muscle activation that is a key element in Pilates. Harnessing these skills allows for bespoke, progressive adaptive programmes to be offered to PwMS, a key recommendation from NICE (2022).
- It can be hypothesised that reducing balance issues can have a direct impact on reducing falls risk in PwMS.
- Research looking at Pilates programmes impact on falls risk in PwMS and financial impact this could have for the NHS, would be valuable.

## Further recommendations

- Further research looking at the effectiveness of Pilates classes as well as exercise periodicity is needed to support development of clinical protocols. This in turn would support the development of superior and cost-effective services for PwMS.

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