Physiother Rehabil 2018, Volume 3
DOI: 10.4172/2573-0312-C1-003



## Clinical Pilates as a potential rehabilitation method for improving balance in patients with multiple sclerosis

**Sofia Lampropoulou**[1], **Kourakou Stavroula**[2], **Kalivioti Christina**[2] and **Grimani Anastasia**[2]
[1]University of Nicosia, Cyprus
[2]Technological Educational Institute of Western Greece, Greece

**Purpose & Aim:** Clinical Pilates seems to have a positive effect in muscle strength, core stability, flexibility and balance in elderly people and women. However, as research in patients with neurological conditions is limited this study aimed to examine whether Clinical Pilates could improve balance, fatigue and general health of people with multiple sclerosis (MS).

**Methods/Analysis:** A convenient group of 11 ambulatory female patients (49±11 years) with MS participated in this experimental control, single blinded design study. They were randomly allocated to the experimental Clinical Pilates or control group (conventional physiotherapy exercises). Both groups were undertaken 24 rehabilitation hourly sessions (2 sessions/week for 12 weeks) and once every 8 sessions they were assessed for their balance by the mini balance evaluation systems test (mini-BES Test), and the functional reach test (FRT), for the feeling of fatigue by the fatigue severity scale (FSS) and for their generic health by the Health survey questionnaire (SF-12). Mixed measures ANOVA and Wilcoxon signed rank test were used for changes in mini BES Test, FRT, SF-12 and FSS.

**Results:** Following the rehabilitation program, balance was improved as it was measured with mini BES Test ($F(3, 27)=20.82$, $p<0.001$), and FRT ($F(3, 27)=6.23$, $p<0.001$). However, no differences were found between control and experimental group for mini BES Test ($F(3, 27)=2.20$, $p>0.05$), or FRT ($F(3, 27)=2.38$, $p>0.05$). Generic health did not change ($p<0.05$) in any group, but the feeling of fatigue showed significant reduction in both the experimental ($Z=-2.20$, $p<0.05$) and control group ($Z=-2.02$, $p<0.05$).

**Discussion & Conclusions:** Reactive postural control, anticipatory movements and sensory orientation were improved following the Clinical Pilates program, indicating the effectiveness of this method in improving static and dynamic balance as well as fatigue. The absence of differences between conventional physiotherapy and Clinical Pilates may have been masked by the small sample size and the participation of only ambulatory patients.

lampropoulou.s@unic.ac.cy