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Short-term and long-term effects of treadmill training on the balance, functional capacity and quality of life in patients with Parkinson disease- A randomized clinical trial

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Objectives: To evaluate the short-term and long-term effectiveness of treadmill training in improving functional capacity, balance and quality of life (QOL) for Parkinson disease (PD) patients.

Design: A prospective, randomized, single-blind clinical trial.

Methods: A total of 20 mild to moderate PD patients were randomly split in case (11) and control (9) groups. Both the groups were evaluated for 3 times; at the time of inclusion, 2 months and 4 months later. We assigned Time Up and Go test (TUG) and 6 minutes-walk test (6MW) for assessment of balance and functional capacity. Additionally, the SF-8 healthy survey was filled out in an interview conducted by the expert.

Intervention: Treadmill exercises were performed in 10 weeks (2sessions/week). The program have been applied at moderate intensity with 60% of heart rate reserved (HRR) in 30 minutes. Wilcoxon Signed Ranks test and Freidman test were applied for short-term and long-term follow up analysis, respectively.

Results: Balance and functional capacity were significantly improved in case group after the intervention (TUG *P* value: 0.003, 6MW *P* value: 0.003). Moreover, long-term analysis revealed significant results as well (TUG *P* value: 0.001, 6MW *P* value: 0.004). Mental condition scores of SF-8 in cases were not statistically different in short-term follow up. However, analysis illustrated *P* value: 0.016 for long-term assessment. The intervention induced significant changes in physical condition scores in both follow ups (PC *P* value: 0.013).

Conclusion: This study provides considerable benefits of treadmill training in balance, functional capacity and QOL for PD patients.

Biography

Paria Arfa-Fatollahkhani is a medical intern of Iran University of Medical Sciences. Her enthusiasm to progress was intensified in the fields of neurology and neuroscience. Currently, he has an accepted paper, two submitted and another in progress.

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