



The effect of six weeks whole-body vibration training on the fear of falling and sleep quality of stroke patients

Poster Presentation

1Neda Rezvankhah Golsefidi * ; 2Maryam Panahibakhsh; 3Abedin Salehi Golsefidi

¹Department of Health and Sport Medicine, Faculty of Physical Education and Sport Sciences, University of Tehran, Tehran, Iran(n.golsefid@gmail.com)

²Department of Corrective exercise and sport injury, Faculty of Physical Education and Sport Sciences, University of Kharazmi, Tehran, Iran

³Department of Exercise Physiology, Faculty of Physical Education and Sport Sciences, University of Tehran, Tehran, Iran

Abstract

Introduction: Fall is a common consequence after stroke and may lead to fear of falling and reduce activity, which in turn results in an increased risk of further comorbidities. Various motor interventions have been studied for stroke patients. In recent years, the use of vibrating devices as a training device has increased for patients. The aim of this study was to investigate the effect of six weeks whole body vibration training on fear of falling and sleep quality of stroke patients.

Methods: In this clinical trial, 20 female patients were selected through convenience and random sampling and divided into experimental and control groups. The experimental group performed whole body vibration training program for 6 weeks and 3 sessions per week. Before and after the exercise program, fear of falling and sleep quality were measured using the Fall Efficiency Scale and the Pittsburgh Sleep Quality Questionnaire, respectively. Data analysis was performed using paired t-test with significance level of 0.05.

Results: The results showed that there is a significant difference between the fear of falling and sleep quality before and after whole-body vibration training in the experimental group ($p < 0/05$), while no significant difference was observed in the control group ($p > 0/05$). Therefore, it can be said that exercise intervention has significantly reduced the fear of falling and sleep quality in patients.

Conclusion: According to a result, this type of exercises is one of the most appropriate lifestyle activities that proposed for patients with stroke, which improves their sleep quality and fear of fall. Specialists can use this exercise as a complementary treatment along with medication for stroke patients.

Keywords

Stroke patients; sleep quality; fear of falling; whole body vibration training

Reference:

- 1.Goh, H.-T., et al., Falls and fear of falling after stroke: a case-control study. *PM&R*, 2016. 8(12): p. 1173-1180.
- 2.Zhang, Q., et al., Exercise intervention for sleep disorders after stroke: A protocol for systematic review and meta-analysis. *Medicine*, 2021. 100(17).
3. van Nes, I.J., et al., Short-term effects of whole-body vibration on postural control in unilateral chronic stroke patients: preliminary evidence. *American journal of physical medicine & rehabilitation*, 2004. 83(11): p. 867-873.
- 4.Figueiredo Azeredo, C., et al., Effects of whole-body vibration exercises on parameters related to the sleep quality in metabolic syndrome individuals: A clinical trial study. *Applied Sciences*, 2019. 9(23): p. 5183.