The effect of Virtual Reality-based Balance Training in Multiple Sclerosis

Eftekharadat B.¹; Talebi M.²; Eslamian F.³; Mohammadzade M.⁴; Babaei A.⁵

¹associated professor of physical medicine and rehabilitation, physical medicine and rehabilitation research center, Tabriz University of Medical Sciences
²associated professor of neurology, Neurosciences research center Tabriz University of Medical Sciences
³ assistant professor of physical medicine and rehabilitation, physical medicine and rehabilitation research center, Tabriz University of Medical Sciences
⁴ psychiatrist
⁵ resident of Physical Medicine and Rehabilitation, Tabriz University of Medical Sciences

Objective: To investigate the short term effects of 12 weeks balance training on postural stability in persons with multiple sclerosis.

Design: A randomized controlled trial.

Subjects: Thirty patients with multiple sclerosis were assigned randomly to training (n=15) or to a control group (n=15).

Methods: Participants stood over a dual force platform (Biodex Balance System) and performed visually guided weight-shifting movements. The task required subjects to gradually transfer weight between sides during a 12-weeks training period (2 training sessions per week), and the control group maintained their usual lifestyle.

Results: The trial was completed by 22 female and 8 male patients. After 24 sessions training the mean of Berg Balance scale and postural stability and Falling risk were 51.2 ± 3.2 and 0.36±0.19 and 0.87 ± 0.48 in the training group and 48.80 ± 8.24 and 0.68±0.4 and 2.47 ± 1.68 in the control group (respectively P=0.018, P=0.007 , P=0.004). During the whole 12 weeks training period, no differences were found in TUG but significant differences found in imbalance parameters between the two groups (BBS, postural stability, falling risk).