Postural Sway Feedback for Patients With Impaired Balance Control

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One hundred sixty-seven patients with impaired balance control were taught to control position of the center of pressure (CP) with visual feedback during several computer games. The study revealed that postural disorders in the patients with some neurological diseases can be reduced as a result of the feedback postural sway training.

Objective: The aim of this study is to determine the effect of the postural sway feedback on the upright posture stability in patients with poststroke hemiparesis (PH), Parkinson’s disease (PD) and spinocerebellar ataxia (SCA). Participants: A total 167 patients including 55 patients with PH, 56 patients with idiopathic PD (prevalence of rigidity and hypokinesia) and 56 patients with SCA were investigated. All patients were randomly divided into two groups: the basic group of 148 patients who received complex therapy including postural sway feedback training and the control group of 39 patients who did not train the postural sway feedback.

Method: The patients stood on a force platform and learned to control position of CP with visual feedback during several computer games. A daily session lasted 20 min. The balance training consisted of 10 sessions. Results: The patients of the basic group improved their postural stability significantly more than the patients of the control group.

Conclusion: The results suggest that postural disorders in the patients with PH, PD and SCA can be reduced by biofeedback postural sway training. They also indicated that the including of the balance training in rehabilitation programs improves the cognitive and emotional state of the patients.

KEYWORDS: postural disorders; postural sway feedback; diseases of CNS.