(S14) EFFECTIVENESS OF BALANCE DISORDERS REHABILITATION TREATMENTS IN MULTIPLE SCLEROSIS PATIENTS: A PILOT RANDOMIZED CONTROLLED TRIAL ASSESSING THE WII BALANCE BOARD GAMING SYSTEM

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**Background:** Balance disorders are frequently observed in patients with multiple sclerosis (MS), leading to impaired balance and increased risk of falls. New rehabilitation approaches are crucial in order to improve the efficacy of interventions and to stimulate patients’ attention during the rehabilitation treatment. **Objectives:** The aim of the study was to compare the efficacy of balance disorder rehabilitation in MS patients with a portable and widely available force platform (Wii Balance Board) versus a traditional rehabilitation program. **Methods:** MS patients with balance disorders were selected among those followed as outpatients at AISM Rehabilitation Centre (Italian Multiple Sclerosis Society). Thirty-six patients were selected and randomized into two groups: Wii Balance Board group (Wgroup, 18 participants) and control group (Cgroup, 18 participants). All participants were evaluated with the Expanded Disability Status Scale (EDSS), Ambulation Index (AI), Berg Balance Scale (BBS), Modified Fatigue Impact Scale (MFIS), and stabilometric recording under two conditions, open eyes (STABOE) and closed eyes (STABCE), at T0 (beginning of rehabilitation program) and T1 (end of rehabilitation program). All participants underwent rehabilitation treatment (12 sessions, 60 min each) with a standardized protocol for the Cgroup and a Wii Balance Board protocol for the Wgroup. The primary outcome was the BBS score, and secondary outcomes were AI, MFIS score, STABOE, and STABCE. Statistical analysis was performed to assess differences between T0 and T1 and between the Wgroup and the Cgroup. **Results:** Data for the Wgroup showed statistically significant differences between T0 and T1 for all outcomes considered (P < .001 for AI, MFIS, and BBS; P < .05 for STABOE and STABCE). Data for the Cgroup showed statistically significant differences between T0 and T1 for AI and MFIS (P < .05), while non–statistically significant differences were found for BBS, STABOE, and STABCE. **Conclusions:** Balance rehabilitation treatment with a portable, widely used force platform appeared to be a useful tool in improving balance skills in people with MS. The results of this study will serve as the basis for a larger trial in order to better differentiate efficacy among traditional rehabilitation techniques and new approaches.

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