POSTER PRESENTATIONS

PP14

Effects of 4-Week Aquatic Treadmill Training on Gait Parameters, Balance Performance and Walking Endurance in Post-Stroke Individual: A Case Study

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ABSTRACT

Background and Objectives: The existing evidence supporting the efficacy of Aquatic Treadmill Training (ATT) on motor functions among stroke survivors remains insufficient, necessitating further research to understand its effects in this population. Thus, this study aimed to determine the effects of ATT on gait parameters, balance performance and walking endurance in post-stroke individuals. **Methods:** This is a case study involving a 43-year-old stroke patient who participated in a 4-week ATT program consisting of 12 sessions, 3 times per week, with each session lasting 30 minutes. Gait parameters were assessed using a movement analysis system (VICON NEXUS), balance performance was evaluated using the Berg Balance Scale (BBS), and walking endurance was measured using the 6-Minute Walk Test (6MWT). All outcome measures were assessed before training (week 0) and after training (week 4). Descriptive statistics were used to analyse all collected data. **Results:** Following the program, the patient demonstrated significant improvements in gait parameters, balance performance, and walking endurance. Specifically, cadence improved from 57.9 steps/min to 112 steps/min, gait speed improved from 0.25 m/s to 0.61 m/s, BBS score improved from 34/56 (medium risk of fall) to 51/56 (low risk of fall), and 6MWT distance improved from 102 m to 228 m. **Conclusion:** The findings from this case study suggest that ATT has a beneficial training impact on motor functions for stroke survivors and supports the potential efficacy of ATT as an intervention for individuals recovering from stroke.

Keywords: Stroke; Aquatic Treadmill Training; Hydrotherapy; Gait Parameters; Balance; Walking Endurance

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