ORAL PRESENTATIONS
OP8

Game-Based Circuit Exercise Enhances Functions and Motivation Level of Stroke Survivors: A Randomised Controlled Trial

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ABSTRACT

Background and Objectives: Stroke survivors are commonly at risk of functional decline, which increases their dependency on activities of daily living and eventually affects their motivation. This study merged the 'usual circuit exercise' and enriched environment of training to evaluate the effects of game-based circuit exercise compared to conventional circuit exercise on lower limb strength, postural stability and motivation level of stroke survivors. This study also assessed whether the effects could be sustained at 12-, 24-, and 36-weeks post-trial. **Methods:** This research was randomized controlled trial involving 88 stroke survivors who received either a game-based circuit exercise (experimental group, n = 44) or a conventional circuit exercise (control group, n = 44) for 45 minutes, twice per week for 12 weeks. Interventions' outcomes were measured using the 30-second chair rise test (for lower limb strength), Dynamic Gait Index (for postural stability) and Intrinsic Motivation Inventory (for motivation level). **Results:** Data were analysed involving 88 participants (mean age ± standard deviation =57.1 ± 10.8 years; mean Montreal Cognitive Assessment score = 26.4 ± 3.4). Results showed significant time and effects interaction (p<0.05), with a small to large effect size between 0.05 and 0.99, for lower limb strength and motivation level following the two therapies. Stroke survivors in the experimental group performed better in postural stability endurance (p<0.05). **Conclusion:** Game-based circuit exercise appears comparable to conventional circuit exercise and may be a relevant alternative for enhancing post-stroke lower limb strength, postural stability and motivation level. The interventions' outcomes could be sustained at week 12, 24 and 36 post-trials.

Keywords: Stroke; Function; Motivation

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