Abstract

Objective: To systematically review the available evidence on the efficacy of walking training associated with virtual reality-based training in patients with stroke. The specific questions were: Is walking training associated with virtual reality-based training effective in increasing walking speed after stroke? Is this type of intervention more effective in increasing walking speed, than non-virtual reality-based walking interventions?

Method: A systematic review with meta-analysis of randomized clinical trials was conducted. Participants were adults with chronic stroke and the experimental intervention was walking training associated with virtual reality-based training to increase walking speed. The outcome data regarding walking speed were extracted from the eligible trials and were combined using a meta-analysis approach.

Results: Seven trials representing eight comparisons were included in this systematic review. Overall, the virtual reality-based training increased walking speed by 0.17 m/s (IC 95% 0.08 to 0.26), compared with placebo/nothing or non-walking interventions. In addition, the virtual reality-based training increased walking speed by 0.15 m/s (IC 95% 0.05 to 0.24), compared with non-virtual reality walking interventions.

Conclusions: This review provided evidence that walking training associated with virtual reality-based training was effective in increasing walking speed after stroke, and resulted in better results than non-virtual reality interventions.

Keywords

Cerebrovascular disease; virtual reality; gait; systematic review, rehabilitation