

Effect of Core Exercises on Motor Function Recovery in Stroke Survivors with Very Severe Motor Impairment

ABSTRACT

Paresis of the upper and lower limbs is a typical issue in stroke survivors. This study aims to determine whether core exercises help stroke survivors with very severe motor impairment recover their motor function. This study employed a within-subjects design. Eleven hemiparetic stroke patients with very severe motor impairment (FMA score < 35) and ages ranging from 24 to 52 years old were enrolled in this study. All participants engaged in supervised core exercise training twice a week for 12 weeks. The main outcome measures were Fugl-Meyer Assessment Lower Extremity (FMA-LE) and Fugl-Meyer Assessment Upper Extremity (FMA-UE), which were measured before training and at intervals of four weeks during training. Repeated measures ANOVA was used to analyze the effect of core exercises on motor function performance and lower extremity motor function and upper extremity motor function recovery. There were significant differences in the mean scores for motor function performance, lower extremity motor function, and upper extremity motor function throughout the four time points. A post-hoc pairwise comparison using the Bonferroni correction revealed that mean scores significantly increased and were statistically different between the initial assessment and follow-up assessments four, eight, and twelve weeks later. This study suggests that 12 weeks of core exercise training is effective for improving motor function recovery in patients with very severe motor impairment.