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The effects of Stepper exercise with visual feedback on strength, walking and stair climbing in individuals following stroke disable patients

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The objective of this study was to investigate the effects of Stepper exercise with visual feedback on strength, walking and stair climbing in stroke disable patients. Twenty-six patients following stroke were divided randomly into the Stepper exercise with visual feedback group (n=13), Stepper exercise group (n=13). Subjects in the experimental group received feedback through the mirror during Stepper exercise for 30 minutes, while those in the control group received Stepper exercise without visual feedback for the same amount of time, three times per week for a period of six weeks. Strength of hip extensor and knee extensor, 10 m walking test and 11 step stair climbing test were evaluated before and after the intervention. Strength of hip extensor and 10 m walking test in the Stepper exercise with visual feedback group showed significantly greater improvement, compared the Stepper exercise group ($p<0.05$). Strength of knee extensor and 11 step stair climbing in both Stepper exercise with visual feedback group and Stepper exercise groups showed significantly greater improvement after intervention ($p<0.05$), but did not show significant improvement between groups. Finding of this study demonstrates that Stepper exercise with visual feedback can be helpful in improving strength of hip extensor and 10 m walking test and also Stepper exercise may be helpful in improving strength of knee extensor and stair climbing ability by itself.

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