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Tai Chi training improved dual tasking performance in chronic stroke survivors: A randomized controlled trial

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Statement of the Problem: Tai Chi training has been shown to improve dual tasking performance in healthy older adults. This randomized controlled trial is the first study investigating the effects of Tai Chi training on dual tasking performance in chronic stroke survivors and compared with those of conventional exercises.

Methodology: Chronic stroke survivors recruited were randomized into Tai Chi exercise or control groups. Subjects in Tai Chi group were trained with simplified Yang style Tai Chi for 24 sessions, while exercise group received an equivalent amount of conventional exercises. No training was given to controls. Assessments which were conducted before, after and 1 month after the intervention, included auditory Stroop test, turning-while-walking and a dual-tasking test (combination of the two tasks). Outcome measures were composite score for the auditory Stroop test, completion time, turning duration and number of steps to turn for the turning-while-walking test.

Findings: 47 subjects participated in this study (Tai Chi: n=15, exercise: n=17, controls: n=15). No adverse effect related to the training was reported. Composite score in dual tasking significantly improved after intervention ($p=0.044$) and further enhanced in the follow up period ($p=0.014$) in Tai Chi group. The completion time in dual tasking also decreased ($p=0.029$). Significant improvement was found only in single tasking conditions in the exercise group ($p=0.018$) and controls ($p=0.035$). However no significant effect between subjects was found.

Conclusion & Significance: Tai Chi training improved dual tasking performance in chronic stroke survivors, while no such change was found in the exercise and control groups. Tai Chi practice may provide a choice for the rehabilitation of stroke survivors.

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