

【Original Article】

Does Three Months of Tai Chi Yuttari-exercise Improve the Cardio-ankle Vascular Index? Randomized Controlled Trial

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Abstract

Objective: Several investigators have observed that Tai chi Yuttari-exercise improves the physical function in frail elderly people. However, the effect of Tai chi Yuttari-exercise in preventing arteriosclerotic disease has been unclear. The purpose of this study was to examine the effects of a three-month program of Tai chi Yuttari-exercise on the arterial stiffness.

Methods: Forty-seven elderly people 60 years of age and over were randomized to either an intervention group (n = 24) or a control group (n = 23). The intervention program performed Tai chi Yuttari-exercise once a week for three months. They were also instructed to perform the same exercise at home. The control group was not given any intervention. The cardio-ankle vascular index (CAVI), as an indicator of the arterial stiffness, physical compositions and physical functions were evaluated before and after the intervention period. We analyzed 46 people (24 people in the intervention group and 22 people in the control group) who could be followed up after three-month intervention. A two-way repeated measures of analysis of variance was used to compare the outcome variables.

Results: In the intervention group, subjects exercised for 2.9 ± 1.3 times per week. In the intervention group, a statistically significant improvement was observed in CAVI ($F = 4.41$, $P = 0.04$; pre: 8.52 ± 0.93 , post: 8.24 ± 0.89) and the grip strength ($F = 8.33$, $P < 0.01$; pre: 27.5 ± 5.8 kgf, post: 28.7 ± 6.2 kgf). There were no significant changes in the control group.

Conclusion: Tai chi Yuttari-exercise is a low-intensity exercise suitable for elderly people, and our findings suggest that performing Tai chi Yuttari-exercise approximately 3 times a week for 3 months leads to an improvement in arterial stiffness in elderly people. (UMIN Clinical Trials Registry number, UMIN000006991).

Key words: Tai chi Yuttari-exercise, arteriosclerosis, CAVI, elderly

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