

Beneficial effects of “Tai Chi” on the elderly as a health-promoting sport

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Introduction

“Tai Chi”, a Chinese traditional marshal art, has spread all over the world as a health-promoting sport. This exercise consists of slow and continuous motions, long breathing, eye-hand coordination, and various rotational movements with weight-bearing nature. However, precise mechanism of the exercise has not been thoroughly clarified. In this study, we investigated the effect of “Tai Chi” on the physical functions in the community-dwelling elderly women and also studied electromyography (EMG) on an expert instructor.

Material and Methods

22 women, who were functionally independent, voluntarily participated in the standard “24-style Tai Chi” exercise in Fukuoka prefecture, southwestern part of Japan. The total course consisted of 14 sets of 90-min classes once a week for 3 months. Measurements of height, weight, isometric quadriceps strength, brisk walking speed for 10 m, trunk flexibility test, one leg standing with eyes closed, and functional reach were performed just before and after the course. We also examined surface EMG analysis on a Chinese instructor.

Result

After all, 20 women (58.4 ± 6.8 years) completed the entire course and significant improvements were observed in knee extension strength, gait speed, trunk flexibility, one leg standing, and functional reach ($p < 0.05$). These outcomes were supposed to be due to single-leg standing and half-squatting modality by examining EMG data on an expert, which would be the essential properties for enhancing muscle strength and body balance. These unique features can hardly be observed in western health-promotion exercises, such as bicycle ergometry or weight training.

Conclusion

“Tai Chi” practice significantly improved muscle strength, flexibility, and balance, which would be due to unique features of the exercise. This ancient marshal art should be recommended as a health-promotion sport for contemporary people.

Key word: Tai Chi, Muscle strength, Body balance, Health promotion, EMG