【Practice Article】

Square-Stepping Exercise Program for Prevention of Falls and Improvement of Cognitive Function: JAEE Research Project "Evidence from Intervention Studies"

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Abstract

I have developed a novel exercise form named Square-Stepping Exercise (SSE) with colleagues. Through several investigations, including randomized controlled trials, we found that SSE is effective in preventing falls and improving cognitive function in older adults. A 5-year implementation of a project to disseminate SSE in a local municipality introduced the program to 11.3% older adults of the target population. Older adults who performed SSE obtained satisfaction from successful stepping and perceived activation of brain function. One of our previous studies found high long-term adherence to SSE; 63% of the original participants have continued SSE for 4 years. Their functional fitness level is maintained or significantly improved compared to that at baseline. Other researchers interested in SSE have investigated its effects on children or with music. Therefore, we established a non-profit organization (NPO) in 2007 to disseminate SSE efficiently, and have trained SSE instructors and leaders. By the end of 2015, 4,490 SSE instructors and leaders have been certified. Many municipalities have adopted SSE for preventive health projects in Japan. The SSE program has been introduced in 7 countries and regions. In response, we established a branch NPO office in 4 countries and regions, which also use SSE for preventive health projects. Research on SSE has been conducted in three countries. In conclusion, SSE can prevent falls and improve cognitive function in older adults. Long-term adherence is high and SSE can be implemented in real-world settings.

Key words: Square-Stepping Exercise, falls, cognitive function, dissemination

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