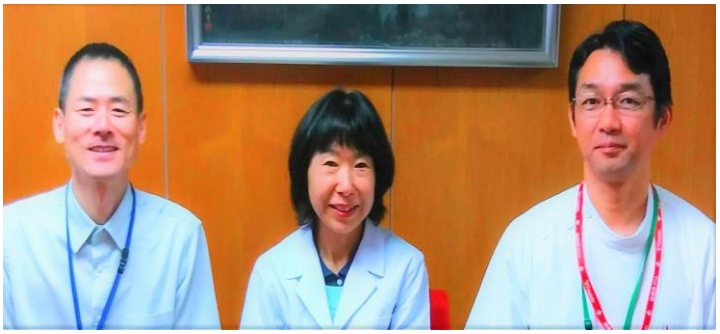

The effect of brain training which combines dancing and cognitive tasks

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Introduction: Numbers of people with dementia have been increasing worldwide. However, because there is no effective medication therapy, it is required to study preventive techniques and to widely spread the knowledge of those that are highly effective. Preventive techniques that have been regarded effective are aerobic exercise and memory tasks among which delayed recall tasks are considered to be especially functional. Therefore, we developed a technique combining dancing which is an aerobic exercise with delayed recall tasks. Verifying this technique is the purpose of this research.

Method: Elderly people living in the region were recruited through a public advertisement and we conducted 7 sessions combining dancing and cognitive tasks. For cognitive tests, the Matsui 10-word immediate recall, delayed recall, the Yamaguchi code conversion and word recall tests were used. A corresponding t-test was used for comparisons before and after.

Results: Among 35 participants, the data of 21 participants who participated continuously and on whom the corresponding t-test could be performed was analyzed. The average age of the subjects was 69.2 ± 5.3 years, among them were 1 male and 20 females.

Changes in the average scores went from 29.0 to 32.4 out of total of 40 for immediate recall, from 7.2 to 8.7 out of 10 for delayed recall, from 13.0 to 14.4 out of 50 for word recall (each $p < 0.05$) and from 56.7 to 63.0 out of 75 for code conversion ($p < 0.01$).

Discussion: Since dancing is an aerobic exercise, it improves the cerebral blood flow rate and increases the brain-derived neurotrophic factor which is a trophic factor of the brain. By further adding cognitive tasks, improvements of the memory's reproduction abilities which are the effects of training can be expected. In the course of this research, we were able to confirm a significant improvement of cognitive test scores according to the theory. In the future, we would like to further improve the accuracy of the technique and accumulate verification results.

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Biography

Kazue Sawami is a professor at Nara Medical University and completed her PhD at health science. Her research is about the cognitive abilities of elderly people. Current clinical trials below. UMIN000029749, 000025484.

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