

Title: Validation of methods of working-memory training

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Abstract

Background: Progression prevention is the focus of the intervention, as Alzheimer's disease still has no fundamental therapeutic agent developed. Memory tasks such as on the internet and games are provided, but the effects are unclear. Therefore, a brain training method whose effect was shown by review was extracted, developed and verified. **Method:** Verified method is a brain training developed from music therapy and dance. As brain training, the effectiveness of training tasks such as dual-task (performing two tasks simultaneously) and n-back task (recall task for items shown n steps earlier) have been verified. Additionally, methods developed in this study utilized "ostinato", a rendition often used in music such as jazz. This method repeats a short phrase multiple times. As it has a trait which makes it easy to retain and recall, a repeated melody which speeds up is easily retained in memory. Analysis in that is a comparison between intervention and control. Cognitive tests and stress checks were compared with a paired T-test. **Result:** Data of 102 people were analyzed. In comparison to the control group, cognitive function was improved and distress was reduced in the intervention group ($p < 0.05$). Scores of all cognitive test items (immediate memory, recall delayed memory, color-code conversion, name remembrance) significantly improved. **Conclusion:** In order to smoothly spend daily life, working memory (ability to memorize and process information necessary for work and operating temporarily) is important. This method is suitable for elderly because immediacy, delayability, memory and information-processing are all essential to working memory.

Biography

Kazue Sawami is a professor at Nara Medical University. Her Ph.D. acquisition is a health science, and the recent study is the prevention of dementia in elderly people. Research currently being developed is the intervention by artificial intelligence, and support of the elderly by the information equipment remote control system. Results of their research group can be viewed at the following address. <http://www.g-nursing.com/katsudou.php>

This research is a collaboration with the Japan Street Dance Studio Association. Video transmission of the developed method attempts bidirectional communication with the elderly.

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