

Effect of Aerobic Exercise on Cognition and Motor - Process Skills in Elderly Persons With Cognitive Impairment

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We sought to establish the effects of aerobic exercise on cognition and motor-process skills in elderly persons with cognitive impairment. Seven elderly persons with cognitive impairment participated in three one-hour sessions of aerobic exercise per week for more than six weeks. A wireless heart rate monitor was used to check the intensity of the exercise and it was maintained over 60% of the maximum heart rate, lasting 45min. The cognitive scale for older adults (CSOA), which measures attention, memory, language, visuospatial function, executive function, and global cognition, was used to identify cognitive changes resulting from the aerobic exercise. Assessment of motor and process skills (AMPS) was measured motor and process skills in ADL performance. Cognitive changes were determined by analyzing the Wilcoxon signed-rank test, and changes in motor and process skills in AMPS were compared individually and statistically (Wilcoxon signed-ranks test).

Analysis of CSOA scores showed significant improvements in attention, memory, language, visuospatial function, executive function, and global cognition ($p < 0.05$). The results of the AMPS test demonstrated that three of the seven subjects showed clinically significant improvements in motor skills, and five participants showed statistically significant changes, and one participant showed clinically significant changes in process skills. Statistical analysis showed a significant improvement in process skills ($p = 0.03$).

In the present study, there were significant improvements in all cognitive areas of CSOA and process skills of AMPS through aerobic exercise in elderly persons with cognitive impairment. The results of the present study suggest that aerobic exercise is beneficial in preventing the decline of, as well as actually improving, cognition and the ADL ability of elderly persons with cognitive impairment.