

Effects of Interval Walking Training on Healthy Life Expectancy and Oral Function in Older Adults

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Abstract:

In an aging society, extending healthy life expectancy and preventing the need for long-term care are critical issues. Decline in oral function is associated not only with dysphagia but also with reduced social participation. However, the effects of exercise interventions on oral function and periodontal status remain insufficiently investigated. This study examined the effects of interval walking training (IWT) on oral function in middle-aged and older adults.

Participants were community-dwelling individuals aged 50 years and older, including an intervention group (n=136; mean age 66.7 years) who performed IWT and a control group (n=49; mean age 65.5 years) with no regular exercise habits. Assessments were conducted at baseline and after 6 months. Physical measures included BMI, peak aerobic capacity, and lower limb muscle strength. Oral assessments included number of functional teeth, periodontal status, occlusal force, masticatory performance, tongue pressure, and oral dryness. The intervention group was instructed to perform IWT consisting of alternating 3-minute bouts of fast walking at $\geq 70\%$ of peak capacity and slow walking at $\leq 40\%$, for at least 30 minutes per day, 4 or more days per week.

At baseline, there were no significant differences between groups in age, sex, number of teeth, periodontal status, tongue pressure, masticatory performance, or oral dryness, although occlusal force tended to be higher in the control group. After 6 months, the intervention group showed a significant improvement in occlusal force ($F=4.0$, $p=0.04$). No significant changes were observed in tongue pressure, masticatory performance, oral dryness, or periodontal status. Ongoing analyses are examining the relationship between changes in physical function and oral function.