

日本老年学会合同ポスターセッション

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[GP4-5]Cognitive function-related changes due to masticatory behavior modification: Two randomized controlled studies by age

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[Purpose]

In an aging society, it is socially significant to prevent cognitive decline in older adults. In addition, there is little evidence to verify whether the effect of chewing well on cognitive function differs depending on the age of the subjects.

[Materials and methods]

Two randomized controlled trials (RCT) were performed, one in young adults aged 22-35 years and one in older adults over 65 years old. The intervention group used bitescan® (SHARP Inc.) with every meal for 30 days to change their chewing behavior to chewing well. The control group was allowed to continue their daily dietary habits. The ear and linked to a smartphone to monitor mastication in real time and promote changes in masticatory behavior according to the individual. Baseline and after the intervention, all participants were assessed for body composition (Inner Scan Dual, Tanita, Co.), cognitive function (CogEvo®, Total Brain Care Inc.), CogEvo® was used to determine the level and score of the five components of cognitive function: disorientation, attention, memory, planning, and spatial awareness. Masticatory behavior was assessed for the number of chews and the meal time by consuming one rice ball (100g). We evaluated whether changes in masticatory behavior affect cognitive function in young and older adults using two-way ANOVA and post hoc tests. We evaluated whether changes in masticatory behavior affect cognitive function in young and older adults using two-way ANOVA and post hoc tests. We evaluated whether changes in masticatory behavior affect cognitive function in young and older adults using two-way ANOVA and post hoc tests. We evaluated whether changes in masticatory behavior affect cognitive function in young and older adults using two-way ANOVA and post hoc tests.

[Result and discussion]

Twenty-one and 20 younger adults and 25 older adults were assigned to the intervention and control groups, respectively, in each RCT. No significant differences in body composition were found in either group between the baseline and second assessments. Chews and meal time increased significantly only in the intervention group for older adults. Both age groups showed higher values for the second time in the planning test of cognitive functions ($p < 0.001$). The intervention group was significantly higher than the control group in memory ($p = 0.013$) for older adults, although there were no significant differences for younger adults. The second assessment scores were higher than the first in both the younger and older adult groups for other cognitive functions, but the effect of the intervention was not revealed. These results suggest that changing masticatory behavior may affect memory and planning and that the effects may be recognized as especially pronounced in older adults.

(COI disclosure: none)

(Niigata University Ethics Review Board approval number 2020-0478)