ORAL COMMUNICATION

A 12-week multimodal exercise program can improve physical and cognitive functioning risk factors for falls in community-dwelling older adults: preliminary results of a psychomotor intervention

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Introduction:
The lack of speed of information processing, balance, strength and agility are seen as determinants factors for falls in older adults. A psychomotor intervention uses the body and ovement as mediators, relying on the prevention of cognitive, sensory, perceptive, emotional and affective deterioration, exploring the neuroplasticity. Therefore, we hypothesized that a multimodal exercise program including sensorimotor and neurocognitive exercises could decrease the risk of falls.

Objectives:
The aim of present study is to analyse the impact of a psychomotor exercise program on determinants factors for falls in community-dwelling older adults who were fallers or were at high risk of falling.

Methods:
Eighteen older adults aged 74.1 ± 5.3 years attended the psychomotor exercise program. Speed of information processing was assessed by Trail Making Test (TMT) A and B (s). Balance, agility and lower body strength were assessed by Fullerton Advanced Balance (FAB) Scale (p), Timed Up and Go (TUG) (s), and 30-Second chair stand test (rep), respectively.

Results:
Wilcoxon or T-Test comparisons showed improvements from baseline to post-intervention on speed of information processing (TMT-A: 90.4 ± 30.0 vs. 68.1 ± 29.2, $p = 0.001$; TMT-B: 252.0 ± 90.1 vs. 189.8 ± 104.3, $p = 0.003$), balance (FAB Scale: 26.0 ± 5.6 vs. 30.8 ± 4.8, $p < 0.001$), agility (TUG: 7.2 ± 1.3 vs. 6.5 ± 1.1, $p = 0.001$), and lower body strength (30-Second chair stand test: 12.1 ± 3.2 vs. 17.8 ± 4.0, $p < 0.001$).

Conclusions:
This preliminary results suggested that the psychomotor intervention program is effective to decreases the risk of falling by improving determinants risk factors of falling, namely speed of information processing, balance, agility and lower body strength.

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