Cognitive and functional performance of elderly with Alzheimer's disease after program of physical activity #84

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The neurophysiologic feature of Alzheimer's disease (AD) is the formation of senile plaques and decrease of acetylcholine causing neuronal death, decline of cognitive performance and functional capacity. The physical activity (PA) brings benefits in these functions. The aim of the study was to analyze the cognitive profile and functional capacity of elderly with AD after PA. Twelve elderly with AD (mean age: 79±7.9 years old), five of the Training Group (TG), and seven of the Control Group (CG), from the Program of Cognitive and Functional Kinesiotherapy in Elderly with AD (PRO-CDA), for six months, three times a week for 60 minutes per day. Functional capacity was evaluated using agility tests and dynamic balance (AGIL), flexibility (FLEX) and Mini-Mental State Examination (MMSE) to cognitive functions. For data analysis was used the Wilcoxon test for the MMSE and Anova Two Way for AGIL and FLEX. The mean of pre and post training were, respectively, TG (FLEX 51.4; 50.8; AGIL 66.8; 57.2; MMSE 17.8; 16.6) for CG (FLEX 48.1; 48.7; AGIL 48.7; 56.8; MMSE 14.2; 11.4). The Wilcoxon test showed significant deterioration to the CG in post evaluation ($p<0.04$), and maintenance of TG on cognitive status. ANOVA showed significant difference between groups in AGIL ($p<0.03$). On Maintenance of flexibility and MMSE was significant improvement in agility for the TG, while the CG was worsened in agility, and MMSE. Possible neurophysiological mechanisms that contributed to maintenance of the cognitive performance, regular practice of PA include improvement in cerebral blood flow, increased synthesis of neurotransmitters and neurotrophic factors.

Key words: Alzheimer´s disease, Physical activity, cognitive.