

Physical activity and functional fitness in older adults with cognitive impairment

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INTRODUCTION

The aging process leads to inevitable life changes, and is characterized by a progressive loss of psychological and physiological functions (Daroff & Aminoff, 2003; Spirduso, 2005). Cognitive impairment is very common in the elderly, (Daroff & Aminoff, 2003) and ranges from mild to severe (e.g., mild cognitive impairment and Alzheimer's disease). Unfortunately, the information available about the physical activity and sedentary behavior of people with cognitive impairment is scarce. Therefore, the main objective of this study was to examine physical activity levels and functional fitness of older adults with cognitive impairment.

METHOD

Eighty-one nursing home residents (82.9 ± 7.8 years) from both genders participated in this study; 53 participants have cognitive impairment according to the Mini Mental State Examination (Guerreiro et al, 1994). Physical activity data were collected through accelerometer and the study included the results from participants with at least 3 valid days (including 1 weekend day) and a minimum wear time of 8 hr per day. Periods of at least 60 consecutive min of zero intensity counts were considered nonwear time. Functional fitness was evaluated by Berg Balance Scale, Functional Reach Test and some tests selected from the Senior Fitness Test. Simple reaction time was evaluated with the Deary-Liewald reaction time task. Statistical analyses were conducted with the statistical software PASW Statistical for Windows with significance level set at $p < 0.05$.

RESULTS

The sample of this study have extremely lower levels of physical activity and high sedentary behavior. In participants with cognitive impairment, the mean time in sedentary behavior and moderate physical activity was 9h32min/day and 1.1 min/day, respectively. The mean time spent in light physical activity was 88.8 min/day. Older adults without cognitive impairment (WCI) showed better results than the group with cognitive impairment (CI) in simple reaction time (WCI= 869.4 ± 439.2 ms, CI= 2185.0 ± 3965.3 ms, $p=0.031$), arm curl (WCI= 11.6 ± 4.9 rep, CI= 8.1 ± 4.9 rep, $p<0.01$), and timed up and go test with dual task (WCI= 26.8 ± 22.5 s, CI= 34.4 ± 25.4 s, $p=0.046$), although physical activity and sedentary behavior were not statistically different. Most variables of functional fitness were related positively with the amount of physical activity performed.

CONCLUSIONS

Functional fitness and physical activity levels are very low in nursing home residents with cognitive impairment. Intervention programs are needed as decrease physical fitness and physical activity is associated with difficulties in daily life activities and normal functioning of the elderly.

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