PHYSICAL ACTIVITY LEVELS IN MILD AND MAJOR NEUROCOGNITIVE DISORDERS

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BACKGROUND AND AIMS

The physical exercise is well-known for its protective effects on metabolic, cardiovascular and mental health. Due to the increase of the population over 60 years, prevalence of MCI and AD is growing. Considering the relationship between sedentary behavior and increased prevalence in cognitive decline, it is necessary to recognize the physical activity levels in patients with neurocognitive disorders.

OBJECTIVES

To verify whether diagnostic of Mild Cognitive Impairment (MCI) and Alzheimer Disease (AD) can influence the level of physical activity.

MATERIALS AND METHODS

In a cross-sectional study, 79 seniors (MCI=18, AD=25, Healthy=36) were evaluated. International Physical Activity Questionnaire (IPAQ) was applied to access physical activity levels and Mini-Mental State Examination (MMSE) was used to evaluate global cognitive function. Kruskal-Wallis Test and ANOVA Oneway were utilized to compare the groups and multiple regression to investigate the relationship between diagnosis and IPAQ.

RESULTS

All groups were different in IPAQ ($X^2=9.4$; $p=0.009$), showing a gradient impairment in levels of physical activity according the cognitive decline. As expected, age, schooling and global cognition were different between AD and the other groups (Table1). Diagnostic predicts physical activity levels, even when controlled by age (Table2).

Table 1: Sample descriptive data

	Healthy (n=36)	MCI (n=18)	AD (n=25)	χ^2/F	p
Age (years)	75.2 $\pm$ 8.4	77.2 $\pm$ 6.6	80 $\pm$ 7.8	8.8 ^a	<0.001***
Schooling (years)	12 (4-29)	16 (3-20)	11.5 (1-23)	13.2 ^b	0.001***
IPAQ (MET/week)	883.5 (33-12.558)	852 (50-6.384)	462 (66-6.132)	9.4 ^b	0.009*
MMSE (score)	29 (22-30)	29 (19-30)	20 (10-28)	71.4 ^b	<0.001***

MET = Metabolic Equivalent. MMSE = Mini-mental state examination. Mean $\pm$ Standard Deviation. Median (minimum - maximum). χ^2 - Chi-squared. *difference between healthy, MCI and AD. **difference between MCI and AD. ***difference between healthy and AD. Level of significance; $p \leq 0.05$

Table 2. Multiple regression models

IPAQ Questionnaire			
R^2 adjusted = 0.112 p = 0.002			
	B	95%CI	p
Diagnostic	-375.50	-749.965, -1.503	0.04
Age	-47.5	-88.234, -6.872	0.02

B - Unstandardized coefficients. CI - Confidence Interval. Level of significance - (* $p \leq 0.05$)

CONCLUSIONS

Patients with neurocognitive disorders are more sedentary even in the beginning of the disease, with AD individuals achieve less than recommended by American College Sports and Medicine – ACSM (500-700 METs weekly) for health maintenance. Considering the protective effect of exercise in the brain, we strongly suggest that caregivers or members family encourage the elderly to do physical activity at least 150 minutes per week.

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