Neuropsychological performance differences between two groups of probable-AD patients from different areas of Brazil

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ABSTRACT. During normal aging there are some cognitive and behavioral changes similar to those observed in a transitional state or mild cognitive impairment (MCI) and early onset dementia, making it challenging for health care professionals to reach an accurate and reliable diagnosis. Objective: The current study examined the performance of two different groups of patients diagnosed with probable Alzheimer's disease (AD) on a neuropsychological test battery. Methods: Twenty-two AD patients from Brasília-DF (AD1) and thirty-four AD patients from Palmas-TO, northern Brazil (AD2), were selected and a short neuropsychological battery administered. To verify the reliability of these previous diagnoses of AD, both groups of patients were compared with a group of healthy controls. Results: AD patients showed cognitive deficit but scores were lower for the AD2 group compared with the AD1 group considering the cut-off point. Notably, patients from the AD1 group were older ($p=0.004$) and had less formal education ($p<0.001$) than those from the AD2 group. Comparing different cognitive domains between AD groups, *post hoc* analysis showed that the AD1 group was characterized by deficits in episodic memory retrieval ($p<0.001$), semantic memory ($p<0.001$) and verbal fluency ($p<0.001$). In contrast, the AD2 group showed lower scores in attention ($p=0.007$), executive functioning ($p<0.001$) and working memory ($p<0.001$). Conclusion: This pattern suggests that the Palma group of patients had a neuropsychological profile that was inconsistent with AD. Although the results of this study have important clinical implications, the effects of age, education, and gender on cognitive performance should be explored further.

Key words: dementia, cognitive impairment, Alzheimer's disease, neuropsychological assessment, diagnosis.