

CORRELATION BETWEEN BALANCE AND FUNCTIONAL CAPACITY IN THE ALZHEIMER'S DISEASE (ABSTRACT)\*. **DISSERTATION. SÃO PAULO, 2006.**

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Alzheimer's disease (AD) causes cognitive and functional decline and behavioral modification. Few studies however, show the correlation between motor function loss, more specifically balance, and its consequence in the functional ability and the occurrence of falls for this population.

The goal of the present study was to obtain the correlation between balance and functional ability and to verify the correlation between these two variables with the occurrence of falls.

The present series consisted of 40 subjects without cognitive impairment (control group) and 48 AD patients (25 in the mild stage and 23 in the moderate stage) with more than 65 years, of both sexes. Subjects were evaluated with the Berg Balance Scale (BBS) and the Disability Assessment for Dementia (DAD) scale for functional ability. Subjects also answered a questionnaire about fall occurrence over the previous year. Other factors that may have influenced balance and functional ability and may be associated with falls such as visual impairment, depression and the use of medication were taken into account.

Subjects with moderate AD showed a significant difference in balance ( $p=0.001$ ) as well as low functional ability, which is progressive and proportional to the stage of the disease. In relation to falls, AD subjects had

more tendency to fall than the control group, however this difference was not statistically significant (control group 45%, AD group 50%). There was no difference in the balance and functional ability when comparing subjects that fell with those that did not in relation to disease stage. Considering the control group, there was a moderate correlation ( $-0.640$ ,  $p<0,001$ ) between number of falls and the DAD scale score, and mild correlation between falls and balance ( $-0.383$ ,  $p=0.015$ ). In the mild group, it was found correlation only between DAD (effective performance item) and balance ( $-0.474$ ,  $p=0.017$ ) and in the moderate group, it was only observed a moderate correlation between falls and balance ( $-0.613$ ,  $p=0.045$ ). There were no other correlation.

We suggest that there is a decline of balance related to AD that is proportional to the clinical progression of the disease and it is a factor, albeit not the most relevant factor, associated to the occurrence of falls in the AD population. The loss of functional ability is associated with the disease's progress but not to a higher occurrence of falls. Finally the deficit of balance, in on itself, was not enough to determine a functional ability decline in subjects with AD.

**KEY WORDS:** Alzheimer's disease, musculoskeletal equilibrium, daily living activities, accidental falls, aged.

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