Effects of diabetes and depression on cognitive function in patients with dementia due to Alzheimer’s disease, vascular disease or mixed dementia (3D study)

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Objective: To examine the patterns of cognitive functioning in individuals diagnosed with dementia, diabetes, and depression (DDMD) as compared with dementia plus diabetes (DDM), or dementia plus depression (DD), and healthy controls.

Design: Cross-sectional study.

Setting: Community-based sample from Mexico City.

Participants: Elderly with Alzheimer's disease (AD), vascular dementia (VaD) and Mixed type dementia MD, of aged 60 and older.

Measurements: All subjects underwent global neuropsychological assessment via the Mini-Mental State Examination (MMSE), and assessment for depressive symptoms via the Center for Epidemiologic Studies Depression Scale. Diabetes diagnoses were confirmed by blood glucose measurements, and treatment.

Results: A mixed-effects repeated measures analysis of covariance indicated significant differences in cognitive functioning between the study groups. In particular, our results showed that patients with a diagnosis of dementia and depression (DD) showed greater cognitive dysfunction compared to controls, but to a lesser degree in patients with dementia and diabetes (DDM). Subsequent comparisons indicated that persons with vascular dementia and co-morbid depression and diabetes have significantly inferior cognitive performance than those with dementia alone or the control group.

Conclusions: These results suggest that concurrent depression or diabetes mellitus adversely affects cognitive performance in patients with dementia. These findings highlight the potential importance of identifying depression and diabetes in patients with dementia.

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