

Association Between APOE4 And Depressive Symptoms In Cognitively Healthy Older Adults And With Mild Cognitive Impairment

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Mild Cognitive Impairment (MCI) is strongly associated with a threefold increase in depressive symptoms, highlighting the vital need to address mood management alongside genetic susceptibility.

INTRODUCTION	METHODS	RESULTS	CONCLUSIONS	REFERENCES
Population aging in Brazil presents significant challenges, including a high prevalence of depressive disorders among older adults. Depression is a modifiable risk factor for developing dementia, including Alzheimer's disease (AD). The ε4 allele of Apolipoprotein E (APOE4) is associated with a higher risk of AD, but its relationship with depressive symptoms remains poorly understood. This study aimed to explore the potential association between APOE4 and depressive symptoms in cognitively healthy older adults and those with mild cognitive impairment (MCI) in a Latin American country.	This cross-sectional, analytical study evaluated 181 participants: 123 cognitively unimpaired (CU) and 58 with MCI. We analyzed depressive symptoms and APOE4 carrier status. 181 participants Cognitively unimpaired n = 123 Mild Cognitive Impairment n = 58 Sociodemographic questionnaire Income, lifestyle, education Depressive symptoms via Geriatric Depression Scale (GDS-15) APOEε4 (carrier status) Genetic typing Cognitive performance ACE-R + Clinical Dementia Rating (CDR) ANCOVA Independent effects on ACE-R RStudio - p < 0.05 Approved IRB: 64200522.5.0000.5504	Depressive symptoms Higher in MCI group Depressive symptoms Higher in MCI group ★ p < 0,001 41.4% 13.8% MCI CU APOE4 carrier Trend in MCI (non-significant) APOE4 carrier Trend in MCI (non-significant) p = 0,116 39.7% 26.8% MCI CU As expected, MCI participants showed higher prevalence of depressive symptoms (41.4% vs. 13.8%) and a non-significant trend toward greater APOEε4 frequency (39.7% vs. 26.8%) compared to cognitively unimpaired individuals. ACE-R score ANCOVA analysis of covariance Depressive symptoms ↓ ACE-R Independent effect no interaction APOEε4 (carrier status) ↓ ACE-R Independent effect no interaction Age and Education Older age → ↓ ACE-R Negative predictors of performance Less schooling → ↓ ACE-R Physical Activity ↑ ACE-R Protective effect	Both depressive symptoms and APOEε4 carriership were independently associated with poorer cognitive performance, even after accounting for age, years of education, and general health status. These findings advance the understanding of how genetic and neuropsychiatric factors interact in cognitive aging, while contributing to the limited evidence from Latin American populations. The results further support the development of multidimensional strategies for early identification and management of modifiable risk factors for cognitive decline in the context of population aging in low- and middle-income countries.	Scan the QR Code to access the full list of references. CONTACT mcrzucato@estudante.ufscar.br danilobarroso@estudante.ufscar.br arialex.r@gmail.com ceciliapopolin@gmail.com pvictoriano@estudante.ufscar.br mcominetti@ufscar.br