



Age differences in the association between sleep and Alzheimer's disease biomarkers in the EPAD cohort

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Introduction: We aimed to determine the independent association between sleep quality and Alzheimer's disease (AD) biomarkers, and whether the associations differ with age.

Methods: We included 1240 individuals aged ≥ 50 , without dementia from the European Prevention of Alzheimer's Disease v1500.0 dataset. Linear regression was used to examine Pittsburgh Sleep Quality Index (PSQI) scores against cerebrospinal fluid (CSF) phosphorylated tau/ β -amyloid ratio (p-tau/A β 42) for the entire sample and via age tertiles. Models controlled for demographic, clinical, genetic, vascular, and neuroimaging variables.

Results: For the youngest age tertile, shorter sleep duration and higher sleep efficiency were associated with greater p-tau/A β 42 ratio. For the oldest tertile, longer sleep latency was associated with greater p-tau/A β 42.

Discussion: Differential relationships between sleep and AD pathology depend on age. Short sleep duration and sleep efficiency are relevant in middle age whereas time taken to fall asleep is more closely linked to AD biomarkers in later life.

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