

Longitudinal trajectories of cognitive and functional decline across different dementia types and stratified subgroups of Alzheimer’s disease: a cohort study

#13248

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Progression trajectories differ across dementia etiologies and AD subgroups: AD, AD mixed dementia, and FTD show faster cognitive and functional decline, while functional assessment is particularly sensitive in moderate-to-severe and early-onset AD.

INTRODUCTION	METHODS	RESULTS	CONCLUSIONS	REFERENCES
Dementia is characterized by progressive decline in cognitive function and daily functioning, leading to increasing clinical and caregiving burden. Progression of dementia may vary by etiology, disease stage, age at onset, and education. This study compared longitudinal cognitive and functional trajectories across dementia types and stratified AD subgroups.	We analyzed 506 participants from PUMCH dementia cohort, including CN, AD, ADmix, VaD, FTD, and ADmimic groups. Longitudinal MMSE, MoCA, and ADL trajectories were estimated using linear mixed-effects models adjusted for demographic and clinical covariates. AD patients were further stratified by baseline CDR, age at onset, and education.	AD, ADmix, and FTD showed faster MMSE, MoCA, and ADL progression than VaD and ADmimic. Among AD patients, CDR=2+ was associated with faster ADL worsening, while early-onset AD showed greater functional decline than late-onset AD. Higher education was associated with better baseline performance but not slower decline.	Etiological diagnosis is important for prognosis in dementia. In AD, functional assessment may better capture progression in moderate-to-severe disease and early-onset cases. Education appears to confer baseline cognitive advantage rather than slowing disease progression.	[1] Jones RW, Lebec J, Kahle-Wroblewski K, et al. Disease progression in mild dementia due to Alzheimer disease in an 18-month observational study (GERAS): the impact on costs and caregiver outcomes[J]. Dement Geriatr Cogn Dis Extra, 2017, 7(1): 87-100. DOI:10.1159/000461577. [2] Tahami Monfared AA, Byrnes MJ, White LA, et al. The humanistic and economic burden of Alzheimer's disease[J]. Neurol Ther, 2022, 11(2): 525-551. DOI:10.1007/s40120-022-00335-x. [3] Roberson ED, Hesse JH, Rose KD, et al. Frontotemporal dementia progresses to death faster than Alzheimer disease[J]. Neurology, 2005, 65(5): 719-725. DOI:10.1212/01.WNL.0000173837.82820.9F. [4] Rascovsky K, Salmon DP, Lipton AM, et al. Rate of progression differs in frontotemporal dementia and Alzheimer disease[J]. Neurology, 2005, 65(3): 397-403. DOI:10.1212/01.WNL.0000171343.43314.6E. [5] Chaves ML, Camozzato AL, Köhler C, et al. Predictors of the progression of dementia severity in Brazilian patients with Alzheimer's disease and vascular dementia[J]. Int J Alzheimers Dis, 2010, 2010: 673581. DOI:10.4061/2010/673581.
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