EPAD
European Prevention of
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Prescreening for European Prevention of Alzheimer Dementia (EPAD) trial-ready cohort: impact of AD risk factors and recruitment settings

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Abstract:

Background: Recruitment is often a bottleneck in secondary prevention trials in Alzheimer disease (AD). Furthermore, screen-failure rates in these trials are typically high due to relatively low prevalence of AD pathology in individuals without dementia, especially among cognitively unimpaired. Prescreening on AD risk factors may facilitate recruitment, but the efficiency will depend on how these factors link to participation rates and AD pathology. We investigated whether common AD-related factors predict trial-ready cohort participation and amyloid status across different prescreen settings.

Methods: We monitored the prescreening in four cohorts linked to the European Prevention of Alzheimer Dementia (EPAD) Registry (n = 16,877; mean ± SD age = 64 ± 8 years). These included a clinical cohort, a research in-person cohort, a research online cohort, and a population-based cohort. Individuals were asked to participate in the EPAD longitudinal cohort study (EPAD-LCS), which serves as a trial-ready cohort for secondary prevention trials. Amyloid positivity was measured in cerebrospinal fluid as part of the EPAD-LCS assessment. We calculated participation rates and numbers needed to prescreen (NNPS) per participant that was amyloid-positive. We tested if age, sex, education level, APOE status, family history for dementia, memory complaints or memory scores, previously collected in these cohorts, could predict participation and amyloid status.

Results: A total of 2595 participants were contacted for participation in the EPAD-LCS. Participation rates varied by setting between 3 and 59%. The NNPS were 6.9 (clinical cohort), 7.5 (research in-person cohort), 8.4 (research online cohort), and 88.5 (population-based cohort). Participation in the EPAD-LCS (n = 413 (16%)) was associated with lower age (odds ratio (OR) age = 0.97 [0.95–0.99]), high education (OR = 1.64 [1.23–2.17]), male sex (OR = 1.56 [1.19–2.04]), and positive family history of dementia (OR = 1.66 [1.19–2.31]). Among participants in the EPAD-LCS, amyloid positivity (33%) was associated with higher age (OR = 1.06 [1.02–1.10]) and APOE ε4 allele carriership (OR = 2.99 [1.81–4.94]). These results were similar across prescreen settings.

Conclusions: Numbers needed to prescreen varied greatly between settings. Understanding how common AD risk factors link to study participation and amyloid positivity is informative for recruitment strategy of studies on secondary prevention of AD.

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