

Association of depression with Alzheimer’s disease plasma biomarkers in cognitively normal participants by race and ethnicity

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INTRODUCTION

- Depression may precede and be a risk factor for Alzheimer’s disease (AD).
- Objective: Investigate the relationships between depression and AD plasma biomarkers in cognitively normal (CN) Hispanic, non-Hispanic Black (NHB), and NH white (NHW) participants.
- Plasma biomarkers include the amyloid-beta (A β) 42/40 ratio, phosphorylated (p) Tau-181, pTau-217, total tau, and neurofilament light (NfL).

METHODS

- Discovered datasets on the Global Alzheimer’s Association Interactive Network (GAAIN).
- Ascertained depression via the Geriatric Depression Scale (GDS).
- Applied the CentiMarker (CM) method to linearly transform raw biomarker values by study.
- Conducted multivariate linear regressions between GDS scores and each plasma biomarker, adjusting for age, sex, years of education, and apolipoprotein E ϵ 4 allele (*APOE* ϵ 4) positivity.

RESULTS Multivariate linear regressions between GDS and plasma biomarkers in the CentiMarker (CM) scale, adjusting for age, sex, years of education, and *APOE* ϵ 4 positivity.

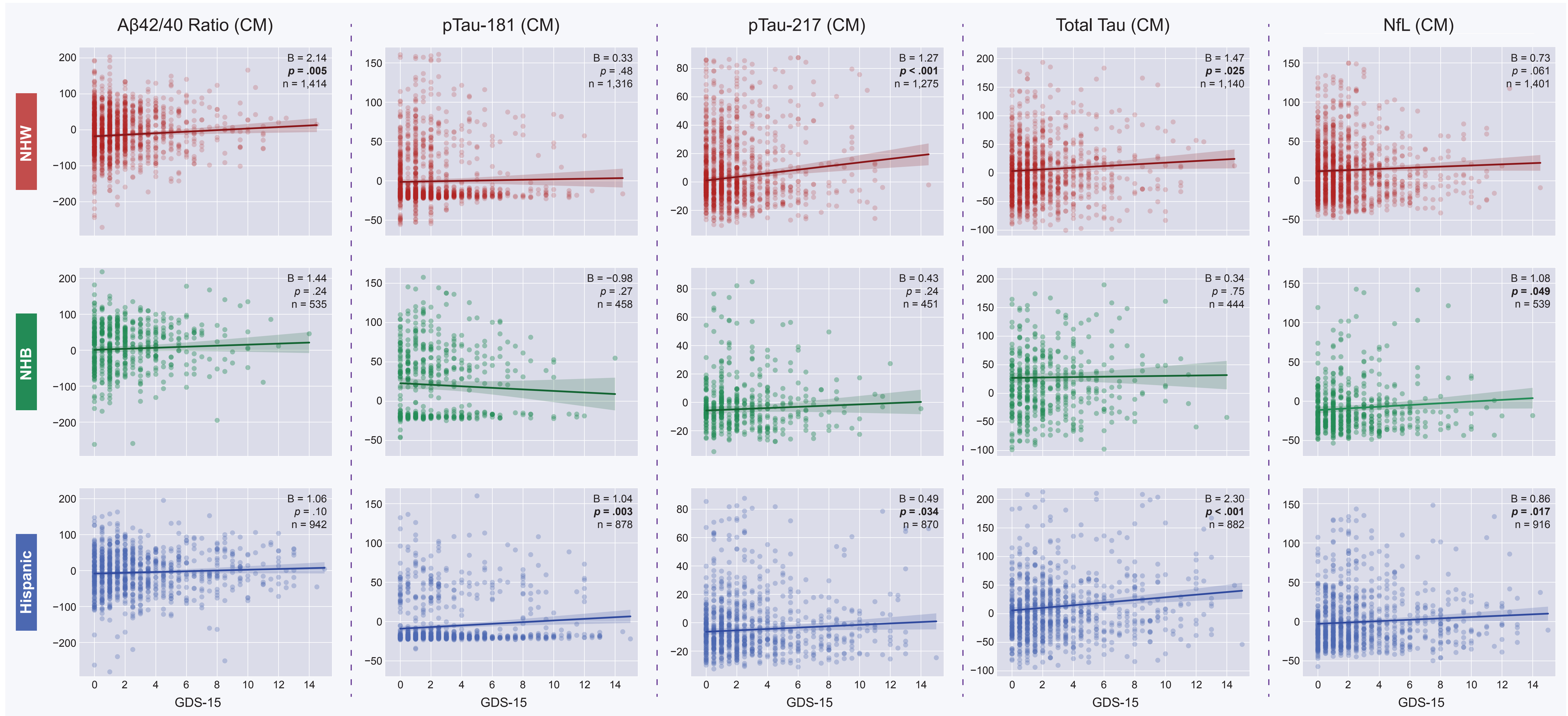


TABLE Descriptive statistics of the combined dataset.

Cohort	Subj. (#)	ADNI (#)	HABS-HD (#)	Female (%)	Mean Age	Mean Edu.	APOE ϵ 4 + (%)	Mean GDS
NHW	1,714	714	1,000	58.0%	70.6	16.1	29.4%	1.6
NHB	570	125	445	70.9%	64.0	15.4	39.6%	2.2
Hispanic	973	69	904	68.3%	63.1	10.8	19.8%	2.9
Total	3,257	908	2,349	63.3%	67.2	14.4	28.3%	2.1

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Source Studies



DISCUSSION

- Worsening depressive symptoms were associated with the A β 42/40 ratio, pTau-217, and total tau in NHW CN participants; with pTau-181, pTau-217, total tau, and NfL in Hispanic participants; and with NfL in NHB participants.
- These data suggest a biological influence of depression on AD pathology and neurodegeneration.
- Investigating neuropsychiatric conditions and racial and ethnic differences before the onset of cognitive impairment may be important in targeted AD and dementia prevention.

Learn more about GAAIN’s data sharing platform at www.gaain.org.