

Associations Between Neuropsychiatric, Cognitive, And Motor Symptoms In A Mixed Neurodegenerative Disease Cohort

Daliah Ross¹, Megan Barker¹, Alyssa N. De Vito^{1,2}, Molly Split^{1,2}, Masood Manoochehri^{1,2}, Grace J. Goodwin^{1,3}, Sarah Prieto^{1,2}, Zachary J. Kunicki¹, Nicole Belanger^{1,2}, Claudine Narayan^{1,2}, Edward D. Huey^{1,2}.

¹Department of Psychiatry and Human Behavior, Brown University, Providence, RI, USA, ²Memory and Aging Program, Butler Hospital, Providence, RI, USA, ³University of Nevada, Las Vegas, USA.

Correlations between neuropsychiatric symptoms (NPS) and cognitive and motor changes revealed broad relationships between NPS and cognition, while panic/phobia was solely associated with motor changes and generalized anxiety was the only NPS related to both cognitive and motor changes in a mixed sample of individuals with Alzheimer’s disease and related dementias.

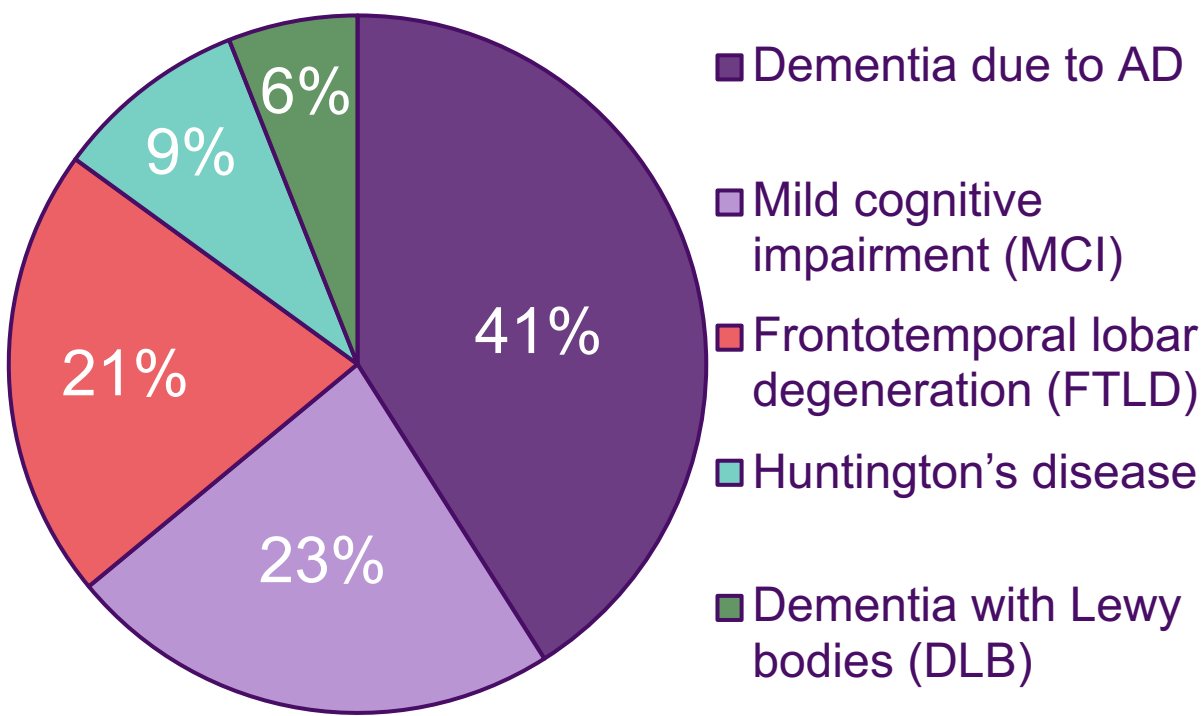
INTRODUCTION

- Neuropsychiatric (NPS), cognitive, and motor symptoms are core domains impacted in Alzheimer’s disease (AD) and related dementias (ADRD), though the overlap is relatively underexplored, particularly with respect to NPS.¹⁻³
- Better understanding of phenotypic profiles may assist in predicting underlying pathology.^{4,5}
- We used the Structured Clinical Interview for DSM-5 Research Version to better characterize the full spectrum of NPS in older adults/ADRD.⁶
- Clarifying NPS-cognitive-motor relationships may reveal early symptom co-emergence and shared mechanisms to improve treatment targets.

Aim: To characterize cross-domain symptom relationships in a mixed ADRD cohort

METHODS

- Participants:** 176 individuals
 - Age (years) $M=69.7, \pm 10.1$
 - 44.9%female
 - Education (years) $M=16.1, \pm 3.0$



NPS
factor analysis

- Emotional blunting/apathy
- Generalized anxiety
- Sleep disturbances
- Hypersomnolence
- Panic/phobia
- Agitation/aggression
- Obsessive-compulsive
- Depressed Mood

Cognition
clinician-rated

- Memory
- Orientation
- Executive functioning
- Language
- Visuospatial
- Attention
- Fluctuations

Motor
clinician-rated

- Gait
- Falls
- Tremor
- Slowness

- Analysis:** Partial correlation coefficients controlled for age, sex, and education.

RESULTS & CONCLUSIONS

Neuropsychiatric Factor	Cognitive Domain							Motor Domain			
	Memory	Orientation	Executive Functioning	Language	Visuospatial	Attention	Fluctuations	Gait	Falls	Tremor	Slowness
Emotional Blunting/Apathy	0.02	0.02	0.27	0.10	0.15	0.13	0.16	-0.03	0.03	-0.16	-0.10
Generalized Anxiety	0.16	0.08	0.10	0.10	0.26	0.04	0.12	0.06	0.09	0.06	0.18
Sleep Disturbances	0.12	0.04	-0.01	0.13	0.18	0.00	0.04	-0.02	0.07	-0.08	0.08
Hypersomnolence	0.02	0.14	0.30	0.08	0.34	0.02	0.16	0.08	-0.02	0.03	0.14
Panic/Phobia	0.05	0.07	-0.04	-0.09	0.04	0.02	0.08	0.19	0.09	0.21	0.18
Agitation/Aggression	0.09	0.02	0.14	0.17	0.17	0.08	0.18	-0.01	0.05	-0.11	-0.02
Obsessive-Compulsive	0.08	0.06	0.27	0.04	0.23	0.18	0.24	0.04	0.12	-0.06	0.00
Depressed Mood	0.14	0.07	0.11	0.06	0.21	-0.11	0.16	0.05	0.02	-0.03	0.12

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*Bold represents $p < .05$

Emotional blunting

Sleep disturbances

Hypersomnolence

Agitation/aggression

Obsessive-compulsive

Depressed mood

Generalized anxiety

Panic/phobia

NPS related to Cognition

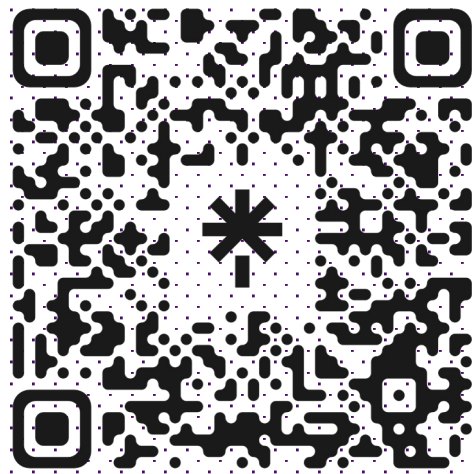
NPS related to Motor Symptoms

- This work highlights the potential utility of comprehensive disease phenotyping that may provide insights into shared neuroanatomical and pathological changes.
- Cross-domain relationships align with known clinical presentations in ADRD (e.g., anxiety and motor changes in DLB).
- Findings have implications for clinical trials that may target multiple disease domains, i.e., NPS and cognition.
- Future research may examine associations with neuropsychological performance and disease biomarkers.

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CONTACT



Daliah Ross, PhD
Brown University

daliah_ross@brown.edu

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