

resulting in downstream effects that reduce peripheral vascular risk factors and therefore reduce the risk of Alzheimer's disease as a result of neuroinflammation. Complete, APOE genotype results from human participants are still ongoing. Descriptive analysis is limited by human samples size.

**Categories:** Dementia (Alzheimer's Disease)

**Keyword 1:** dementia - Alzheimer's disease

**Keyword 2:** cerebrovascular disease

**Keyword 3:** genetics

**Correspondence:** Amanda Hewes, University of Maine, amanda.hewes@maine.edu, The Jackson Laboratory, amanda.hewes@jax.org

## 7 The Role of Depressive Symptomatology in Predicting Cognitive and Functional Decline in Memory Clinic Patients

Shuang Cai<sup>1</sup>, Andrew Kirk<sup>1,2</sup>, Chandima Karunanayake<sup>1,3</sup>, Devin Edwards<sup>1</sup>, Megan O'Connell<sup>1</sup>, Debra Morgan<sup>1,2,3</sup>

<sup>1</sup>University of Saskatchewan, Saskatoon, Canada. <sup>2</sup>Rural and Remote Memory Clinic, Saskatoon, Canada. <sup>3</sup>Canadian Centre for Health and Safety in Agriculture, Saskatoon, Canada

**Objective:** Depressive symptomatology has long been shown to be associated with the onset of dementia, though the exact form and directionality of this association remains unclear. While much research has gone into confirming this link, there has been little investigation into the effects of depression on dementia progression after diagnosis. The aim of this study is to investigate the relationship between depressive symptomatology and cognitive and behavioural decline over the following year.

**Participants and Methods:** In a Rural and Remote Memory Clinic, 375 patients consecutively diagnosed with mild cognitive impairment (MCI), Alzheimer's Disease (AD), or non-AD dementia completed the Center for Epidemiological Studies Depression Scale (CES-D) at first visit and one-year follow-up to assess depressive symptomatology. The same cohort were evaluated for cognitive and behavioural decline through the completion of five clinical tests performed at the first visit and

at one-year follow-up. Cognitive decline was assessed using the Mini Mental Status Exam (MMSE) and the Clinical Dementia Rating Scale (CDR). Neuropsychiatric symptoms were assessed using two subsets of data from the Neuropsychiatric Inventory (NPI severity and distress), both of which are completed by the patients' caregivers. Functional decline was assessed using the Functional Activities Questionnaire (FAQ). In both cognitive and functional decline, data were analyzed with linear regression analysis in the population subgroups of All Type Dementia (ATD, which includes MCI for this study) (N=375), Alzheimer's type dementia (N=187), and Mild Cognitive Impairment (N=74).

**Results:** In this study, we observed no correlation between CES-D scores at baseline and cognitive or functional decline over one year. However, we observed a significant positive correlation between changes in CES-D scores and NPI-severity scores over one year in patients with ATD (likely the most reliable observation from this study due to larger statistical power) and in the MCI subgroup, but not in the AD subgroup. This relationship may be attributable to a relationship between depression and neuropsychiatric symptoms in general, or to the fact that a person with dementia who exhibits more depressive symptomatology appears more impaired and causes greater distress in their caregivers, despite stability in the objective measures of their cognitive and functional status. This finding may indicate that intervention for depression is needed to alleviate caregiver burden when managing dementia patients.

**Conclusions:** Increasingly severe depressive symptomatology may exacerbate neuropsychiatric symptomatology but did not correlate with cognitive and functional decline in patients with dementia. More studies are needed to help delineate the relationship between depression and dementia progression.

**Categories:** Dementia (Alzheimer's Disease)

**Keyword 1:** dementia - Alzheimer's disease

**Keyword 2:** dementia - other cortical

**Keyword 3:** depression

**Correspondence:** Shuang Cai, University of Saskatchewan, shc482@usask.ca

## 8 Perspectives of Self, Stigma, and the Future Following Alzheimer's Disease

## Biomarker Disclosure in Cognitively Symptomatic Older Adults

Annalise Rahman-Filipiak<sup>1,2</sup>, Mary Lesniak<sup>1</sup>, Marie Milliken<sup>1</sup>, Sara Feldman<sup>3</sup>, J. Scott Roberts<sup>3,2</sup>, Benjamin M Hampstead<sup>1,2,4</sup>

<sup>1</sup>Research Program on Cognition & Neuromodulation Based Interventions, Department of Psychiatry, University of Michigan, Ann Arbor, MI, USA. <sup>2</sup>Michigan Alzheimer's Disease Research Center, University of Michigan, Ann Arbor, MI, USA. <sup>3</sup>School of Public Health, University of Michigan, Ann Arbor, MI, USA. <sup>4</sup>Mental Health Service, VA Ann Arbor Healthcare System, Ann Arbor, MI, USA

**Objective:** In the absence of treatments to halt or reverse symptoms of Alzheimer's disease, early detection may extend the window for meaningful treatment, advanced planning, and coping. Positron emission tomography (PET) scans for amyloid and tau are validated biomarkers of AD, yet results are rarely disclosed to participants due to concerns about negative impacts. While prior studies suggest limited anxiety, depression, or suicidality following biomarker disclosure, no study to date has examined broader psychological impacts of PET amyloid/tau disclosure to symptomatic individuals. Therefore, we explored post-disclosure changes in future time perspective (perceptions of limited time or possibilities left in the future), self-efficacy for managing symptoms, and perceived stigma as a function of result received.

**Participants and Methods:** Forty-three older adults (age = 72.0±6.2 years; education = 16.5±2.6; 88.4% White Non-Hispanic; 48.8% female) participated in the study, of whom 62.8% were diagnosed with mild cognitive impairment (MCI) and the remainder with Dementia of the Alzheimer's type. All participants underwent pre-disclosure biomarker education and decisional capacity assessment, followed by baseline measures. Participants demonstration decisional capacity completed an interactive disclosure session during which they received dichotomous results of their research positron emission tomography (PET) scans for amyloid and tau (elevated versus not elevated for each biomarker). Findings were discussed in relation to presence/absence of Alzheimer's disease, the etiology of their cognitive

difficulties, and risk for conversion or further decline. At baseline, immediately following disclosure, and at 1-week follow-up, participants completed several questionnaires: the Future Time Perspective (FTP) scale, a measure of how much the participant sees time as limited, the Self Efficacy for Managing Chronic Disease scale (SECD), and the Stigma Scale for Chronic Illness (SSCI-8), all of which were modified to apply to Alzheimer's disease and associated experiences.

**Results:** The main effects of time ( $F=1.10$ ,  $p=.334$ ,  $\eta_p^2=.026$ ), biomarker status ( $F_{(1)}=3.10$ ,  $p=.086$ ,  $\eta_p^2=.070$ ), and the time by biomarker status interaction ( $F=0.39$ ,  $p=.661$ ,  $\eta_p^2=.009$ ) on FTP score was not significant. Though neither time ( $F=0.07$ ,  $p=.933$ ,  $\eta_p^2=.002$ ) nor the time by biomarker status interaction ( $F=2.16$ ,  $p=.122$ ,  $\eta_p^2=.050$ ) effect on SECD was significant, being biomarker positive (A+T-/A+T+) was associated with lower self-efficacy ( $F_{(1)}=5.641$ ,  $p=.022$ ,  $\eta_p^2=.121$ ). Neither main effect for time ( $F=0.15$ ,  $p=.853$ ,  $\eta_p^2=.004$ ) or biomarker status ( $F_{(1)}=0.35$ ,  $p=.558$ ,  $\eta_p^2=.009$ ) on SSCI-8 was significant. The time by biomarker status interaction was significant ( $F=4.27$ ,  $p=.018$ ,  $\eta_p^2=.096$ ), such that biomarker negative participants experience a transient increase in perceived stigma directly after disclosure that resolves one week later, and biomarker negative participants experience the opposite pattern.

**Conclusions:** Findings suggest that individuals who receive biomarker positive results may feel less competent to manage their symptoms compared to those who are biomarker negative, emphasizing the need for post-disclosure interventions targeting self-efficacy. The effect of disclosure on perceptions of time being limited and on perceived stigma were minimal, even when those results indicate evidence of Alzheimer's disease and risk for clinical progression. These results further support the safety of biomarker disclosure procedures. Future studies should provide longer-term assessment of psychological, behavioral, and clinical outcomes following Alzheimer's disease biomarker disclosure.

**Categories:** Dementia (Alzheimer's Disease)

**Keyword 1:** dementia - Alzheimer's disease

**Keyword 2:** mild cognitive impairment

**Keyword 3:** positron emission tomography

**Correspondence:** Annalise Rahman-Filipiak, PhD, Research Program on Cognition & Neuromodulation Based Interventions,

Department of Psychiatry - Neuropsychology Section, University of Michigan, Ann Arbor, MI; Michigan Alzheimer's Disease Research Center, Ann Arbor, MI. rahmanam@umich.edu

## 9 Predictive Ability of the Performance Assessment of Self-Care Skills (PASS) in a Sample of Predominantly Low-Income, Community Dwelling, African American Older Adults

Ashlyn Runk<sup>1</sup>, Meryl A Butters<sup>2</sup>, Andrea Rosso<sup>3</sup>, Tamara Dubowitz<sup>4</sup>, Wendy Troxel<sup>4</sup>, Juleen Rodakowski<sup>5</sup>, Tiffany L. Gary-Webb<sup>3</sup>, Ann Haas<sup>4</sup>, Bonnie Ghosh-Dastidar<sup>4</sup>, Andrea M Weinstein<sup>2</sup>

<sup>1</sup>Louisiana State University, Department of Psychology, Baton Rouge, LA, USA. <sup>2</sup>University of Pittsburgh, School of Medicine, Department of Psychiatry, Pittsburgh, PA, USA. <sup>3</sup>University of Pittsburgh, School of Public Health, Department of Epidemiology, Pittsburgh, PA, USA. <sup>4</sup>RAND Corporation, Pittsburgh, PA, USA. <sup>5</sup>University of Pittsburgh, School of Health and Rehabilitation Sciences, Department of Occupational Therapy, Pittsburgh, PA, USA

**Objective:** Mild decline in independent functioning is a core diagnostic criterion for Mild Cognitive Impairment. Performance-based assessments have been considered the gold standard to identify subtle deficits in functioning. Existing assessments were largely designed using demographically homogenous samples (white, highly educated, middle class) and often assume tasks are performed similarly across populations. The current study aimed to validate the utility of the Performance Assessment of Self-Care Skills (PASS) in determining cognitive status in a sample of predominantly African American, low-income older adults.

**Participants and Methods:** Cognition and functional capacity were measured in n=245 older participants (aged 50+ years) who were recruited from a larger community study located in Pittsburgh, PA. Cognitive status was defined by a mean split on the Modified Mini Mental Status Examination (3MS) score (84/100). Participants above the cutoff were classified as unlikely cognitive impairment (UCI) and those below classified as potential cognitive impairment (PCI). Functional capacity was

assessed using the number of cues provided on three PASS subtasks: shopping, medication management, and critical information retrieval (higher score = worse functioning). Self-reported cognitive and functional decline was assessed via the Everyday Cognition (ECog) questionnaire (higher score = greater decline). Generalized linear models compared performance scores between groups adjusting for literacy (WRAT3), age, and education. Receiver operating characteristic curve (ROC) analyses were run for select functional performance scores to assess their predictive ability in discriminating between PCI and UCI. **Results:** Compared to the UCI group (N = 179), the PCI group (N = 66) was older (68 vs. 65 years,  $p = 0.05$ ), less educated (11 years vs. 12 years,  $p < 0.01$ ), had lower WRAT3 z-scores (0.19 vs. -0.55,  $p < .01$ ), and required more cues on the shopping (4.33 vs. 8.54,  $p < 0.01$ ) and medication management PASS subtasks (2.74 vs. 6.56,  $p < .01$ ). Both groups reported elevated levels of subjective cognitive complaints on the ECog (1.46 vs. 1.56,  $p = .09$ ) and performed similarly on the critical information retrieval PASS subtask (0.25 vs 0.54,  $p = .06$ ). When discerning between UCI and PCI groups, the PASS Shopping subtask had an optimal cut-off score of 4, sensitivity of 0.86, specificity of 0.47, positive predictive value (PPV) of 0.37, and area under the curve (AUC) of 0.71. PASS Medication Management had an optimal cut-off score of 3, sensitivity of 0.77, specificity of 0.56, PPV of 0.39, and AUC of 0.74.

**Conclusions:** Subjective functional decline and performance on the critical information retrieval subtask were not associated with cognitive groups. PASS shopping and medication management had moderately high AUCs, suggesting they can reliably distinguish between groups. However, both tasks also exhibited low PPVs, low levels of specificity, and high levels of sensitivity, making them strong "rule-out" tests but poor "rule-in" tests in this sample. Because accurate assessment of functioning is useful for MCI and critical to dementia diagnosis, it is imperative we understand how these tasks function across different populations. Future work should 1) validate measures of functional ability across different populations and 2) develop population-appropriate assessments for use in clinical and research settings.

**Categories:** Dementia (Alzheimer's Disease)

**Keyword 1:** everyday functioning