Keyword 2: activities of daily living
Keyword 3: dementia - Alzheimer's disease
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10 Semantic Memory as a Predictor of Future Memory Decline

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Objective: To determine if the degree of split between phonemic verbal fluency and semantic verbal fluency at initial visit is predictive of decline in memory performance between initial evaluation and follow-up.
Participants and Methods: Data from a retrospective multidisciplinary memory clinic database at Spectrum Health was utilized. We examined data from 90 participants who had both an initial and follow-up evaluation completed (initial age = 77.1±4.7 years, follow-up age = 78.4±4.7 years, education = 13.9±3.1 years, race = 91% White, 7% Black, & 2% Hispanic, sex = 61% female, time between evaluations = 15.2±9.9 months). Patients who returned for follow-up did not meet criteria for dementia at time one. Split between phonemic and semantic fluency, termed the semantic-phonological delta (SPD) was measured at the initial evaluation by subtracting the Controlled Oral Word Association Test (COWAT; FAS) T-score from the Animal Naming Test (ANT) T-score. Change in memory score was defined in two ways: 1) subtracting the follow-up evaluation Repeatable Battery for the Assessment of Neuropsychological Status (RBANS) List Recognition Score (RBANS percentiles were converted to a scaled score) from the initial evaluation List Recognition Score (List Recognition Delta), and 2) computing the difference in the RBANS Delayed Memory Index Standard Score between the initial evaluation and the follow-up evaluation (RBANS Memory Delta).
Results: Average semantic fluency T scores were (M = 40.3, SD = 12.3) and phonemic fluency T scores were (M = 42.7, SD = 10.3) at initial evaluation. Bivariate correlations were used to determine the relationship between the clinical variables. SPD was significantly correlated with List Recognition Delta, $r(88) = .23$, $p = .026$, with greater discrepancies in verbal fluency scores associated with higher level of decline in List Recognition at follow-up. By comparison, Semantic Fluency performance itself at initial evaluation was not significantly correlated with List Recognition Delta, $r(88) = .17$, $p = .097$. The correlation between SPD and the RBANS Memory Delta was also not significant, $r(88) = .14$, $p = .166$. At follow-up evaluation, 39% of the sample received a diagnosis of Alzheimer's disease. Of those diagnosed with Alzheimer's disease, 66% had a negative SPD split at time one, performing worse on semantic fluency compared to phonemic fluency.
Conclusions: SPD is a better predictor of decline in RBANS List Recognition performance between evaluations than semantic fluency alone, with a larger negative SPD score (worse semantic fluency performance compared to phonemic fluency) at initial evaluation predicting decline in List Recognition performance at follow-up evaluation. SPD at initial evaluation was not significantly correlated with change in RBANS Delayed Memory Index score between evaluations. This may be because there are some patients who are similarly impaired in both semantic and phonemic verbal fluency at initial evaluation who later demonstrate progressive decline in memory retrieval due to hippocampal-sparing etiologies (e.g., vascular dementia). Overall, these findings are consistent with previous work suggesting that declines in the semantic memory system precede declines in episodic memory retention in conditions such as Alzheimer's disease.

Categories: Dementia (Alzheimer's Disease)
Keyword 1: memory disorders
Keyword 2: fluency
Keyword 3: dementia - Alzheimer's disease
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11 Evaluating a Comprehensive Care Management Program for Dementia: Three Years into the Care Ecosystem Program.

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Objective: Dementia prevalence and its costs to the health system continue to rise, highlighting the need for comprehensive care programs. This study evaluates the Care Ecosystem Program (CE) for dementia (memory.ucsf.edu/Care-Ecosystem) in New Orleans, LA and surrounding areas.
Participants and Methods: The sample consisted of persons with dementia (PWD) and caregiver (CG) dyads enrolled in the CE from February-2019 to June-2022. Participants had a dementia diagnosis, lived in the community, and had at least one emergency department (ED) visit or hospitalization in the year prior. Healthcare utilization data was collected through self-report and electronic medical records. Dementia rating scales (QDRS, NPIQ) and caregiver wellbeing questionnaires (ZBI-12; PHQ-9; Self-Efficacy) were collected at baseline, 6-months, and 12-months. Dyads received monthly calls providing individualized care-management. One-way repeated measures Anovas were performed to identify change in utilization and caregiver wellbeing at 6-months and 12-months compared to baseline. Partial η2 effect sizes and post-hoc Bonferroni were calculated. Healthcare utilization extreme outliers were winsorized to the 95th percentile and a p-value of .05 was set.
Results: A total of 150 dyads completed the program. PWD's age averaged 81 years (SD=8); they were mostly female (65%), White (63%), and had at least a High School education or higher (88%). CG's age averaged 65 years (SD=11.5); they were predominantly female (77%), White (63%), and had more than 12-years of education (70%). Half of the CGs were adult children (50%), followed by spouse/partners (41%). The QDRS indicated mild-moderate dementia severity, PWD had on average five neuropsychiatric symptoms, and Alzheimer's Disease was the most frequent diagnosis (35%).
A statistically significant decrease occurred in ED visits [F(1, 115)=14.970, p<.001, η2=.115] from baseline to 6-months (MD=1.043, p<.001) and 12-months (MD=.621, p<.001), while an increase was noted when comparing 12-month to 6-month data (MD=.422, p<.001). A similar pattern was observed for hospitalizations [F(1,115)=19.021, p<.001, η2=.142] were admissions were reduced significantly compared to baseline (6-month MD=.483, p<.001; 12-month MD=3.88, p<.001) and an increase was seen after the 6-month mark (MD=.095, p<.001). Caregiver self-efficacy significantly improved [F(1,115)=15.478, p<.001, η2=.119] from baseline to 6-months into the CE (MD=-1.457, p<.001) and was maintained a year after enrollment (MD=-1.474, p<.001). There were no differences in self-efficacy when comparing 6-month and 12-month data. Robust effect sizes were noted for all results previously reported. No other caregiver wellbeing measures showed significant changes over the three time points.
Conclusions: CE successfully reduces healthcare utilization and improves caregiver self-efficacy for PWD-CG dyads 6-months and 12-months after enrollment. The utilization increase noted from the 6-month to the 12-month mark does not surpass baseline rates. This pattern is also consistent with literature reporting that healthcare utilization rises with the progression of dementia. More research is needed to identify potential moderating factors in the relationship between dementia progression and utilization. Future research will also benefit from including control groups to further understand the impact of comprehensive care programs for dementia.

Categories: Dementia (Alzheimer's Disease)
Keyword 1: dementia - Alzheimer's disease
Keyword 2: caregiver burden
Keyword 3: quality of life
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12 Traumatic Brain Injury as a Moderator on Apolipoprotein-E Risk Associated with Earlier Onset of Alzheimer's Disease

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Objective: Prior studies have determined the Apolipoprotein-E (ApoE) e4 allele presents a greater risk for developing Alzheimer's disease and for earlier onset of cognitive decline compared to individuals without the gene. Research has also recognized that traumatic brain injuries (TBIs) with loss of consciousness increase the risk for earlier development of the disease. This study sought to determine the moderating factor of TBI history on ApoE-e4 risk

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