Ochsner Health, New Orleans, LA, USA

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
Correspondence: Carolina Pereira, Ochsner Health, carolina.pereiraosorio@ochsner.org

12 Traumatic Brain Injury as a Moderator on Apolipoprotein-E Risk Associated with Earlier Onset of Alzheimer's Disease

Christina M Hollman[1], Benjamin Pyykkonen[2]
[1]Baylor College of Medicine, Houston, TX, USA. [2]Wheaton College, Wheaton, IL, USA

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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associated with earlier Alzheimer's disease onset.
Participants and Methods: Participants included 9,585 individuals with autopsy confirmed Alzheimer's disease pathology, that had available ApoE genotype data, TBI data, and clinician determined age of cognitive decline, representing disease onset. A 2x3 factorial ANOVA was conducted to compare the main effects of ApoE-e4 status and TBI history and the interaction effect between the two on disease onset. The analyses used three ApoE-e4 groups and two TBI groups. The groups included: (1) no ApoE-e4 allele; (2) one ApoE-e4 allele; (3) two ApoE-e4 alleles; (4) no TBI history, (5) positive TBI history.
Results: Results indicated a significant interaction effect between ApoE-e4 status and TBI history. Secondary analyses determined the driving force behind the interaction was the effect of ApoE-e4, which had a significant impact on the age of onset in both TBI groups, while TBI history only significantly impacted onset in individuals without an ApoE-e4 allele.
Conclusions: Contrary to prior research, these findings did not indicate TBI was significant in determining earlier onset. However, it is important to consider the large variability within the TBI group from the lack of differentiation between mild, moderate, and severe TBIs. Overall, these findings underline the greater risk and stronger impact that ApoE-e4 poses for Alzheimer's disease onset compared to TBI. The results of this study emphasize the importance of evaluating ApoE-e4 status for determining risk of earlier onset AD. Clinicians can better determine risk by considering patients' ApoE-e4 status alongside TBI history.

Categories: Dementia (Alzheimer's Disease)
Keyword 1: dementia - Alzheimer's disease
Keyword 2: apolipoprotein E
Keyword 3: traumatic brain injury
Correspondence: Christina M Hollman Baylor College of Medicine
Christina.Hollman@bcm.edu

13 Regional White Matter Hyperintensities are Associated with Cognition in Prospective Alzheimer's Clinical Trial Participants

Clarissa D. Morales[1], Dejania Cotton-Samuel[1], Kay C. Igwe[1], Patrick J. Lao[1], Julia F. Chang[1], Amirreza Sedaghat[1], Mohamad J. Alshikho[1], Rafael Lippert[1], Kelsang C. Bista[1], Kacie Deters[2], Molly E. Zimmerman[3], Adam M. Brickman[1]
[1]Columbia University, New York, NY, USA. [2]UCLA, Los Angeles, CA, USA. [3]Fordham University, New York, NY, USA

Objective: Previous research established that white matter hyperintensities (WMH), a biomarker of small vessel cerebrovascular disease, are strong predictors of cognitive function in older adults and associated with clinical presentation of Alzheimer's disease (AD), particularly when distributed in posterior brain regions. Secondary prevention clinical trials, such as the Anti-Amyloid Treatment in Asymptomatic Alzheimer's (A4) study, target amyloid accumulation in asymptomatic amyloid positive individuals, but it is unclear the extent to which small vessel cerebrovascular disease accounts for performance on the primary cognitive outcomes in these trials. The purpose of this study was to examine the relationship between regional WMH volume and performance on the Preclinical Alzheimer Cognitive Composite (PACC) among participants screened for participation in the A4 trial. We also determined whether the association between WMH and cognition is moderated by amyloid positivity status.
Participants and Methods: We assessed demographic, amyloid PET status, cognitive screening, and raw MRI data for participants in the A4 trial and quantitated regional (by cerebral lobe) WMH volumes from T2-weighted FLAIR in amyloid positive and amyloid negative participants at screening. Cognition was assessed using PACC scores, a z-score sum of four cognitive tests: The Mini-Mental State Examination (MMSE), the Free and Cued Selective Reminding Test, Logical Memory Test, and Digit Symbol Substitution Test. We included 1329 amyloid positive and 329 amyloid negative individuals (981 women; mean age=71.79 years; mean education=16.58 years) at the time of the analysis. The sample included Latinx (n=50; 3%), non-Latinx (n=1590; 95.9%), or unspecified ethnicity (n=18; 1.1%) individuals who identified as American Indian/Alaskan Native (n=7; 0.4%), Asian (n=38; 2.3%), Black/African American (n=41; 2.5%), White (n=1551 ; 93.5%), or unspecified (n=21; 1.3%) race. We first

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