

cognitive domains (memory, language, visuospatial abilities, planning, organization and divided attention). Cox proportional hazards models were used to assess associations between self-reported ECog items at baseline and progression to impairment. A total of 114 individuals progressed to impairment over an average of 4.9 years (SD=3.4 years, range=0.8-13.8). A subset of individuals (n=352) underwent repeat cognitive assessments for an average of 5.3 years. Mixed effects models with random intercepts and slopes were used to assess associations between baseline ECog items and change in episodic memory or executive function on the Spanish and English Neuropsychological Assessment Scales. Time in years since baseline, the ECog items, and the interaction were key terms of interest in the models. Separate models for both the progression analyses and mixed effects models were fit for each ECog item that included age at the baseline visit, gender, and years of education as covariates.

Results: More complaints on five of the eight memory items, three of the nine language items, one of the seven visuospatial items, two of the five planning items, and one of the six organization items were associated with progression to impairment (HR=1.25 to 1.59, ps=0.003 to 0.03). No items from the divided attention domain were significantly associated with progression to impairment.

In individuals reporting no difficulty on ECog items at the baseline visit there was no significant change over time in episodic memory (p>0.4). More complaints on seven of the eight memory items, two of the nine language items, and three of the seven visuospatial items were associated with more decline in episodic memory (ps=0.003 to 0.04). No items from the planning, organization, or divided attention domains were significantly associated with episodic memory decline.

Among those reporting no difficulty on ECog items at the baseline visit there was slight decline in executive function (ps=<0.001 to 0.06). More complaints on three of the eight memory items and three of the nine language items were associated with decline in executive function (ps=0.002 to 0.047). No items from the visuospatial, planning, organization, or divided attention domains were significantly associated with decline in executive function.

Conclusions: These findings suggest that, among cognitively normal older adults at baseline, specific complaints across several

cognitive domains are associated with progression to impairment. Complaints in the domains of memory and language are associated with decline in both episodic memory and executive function.

Categories: Dementia (Alzheimer's Disease)

Keyword 1: aging disorders

Keyword 2: cognitive functioning

Keyword 3: everyday functioning

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26 Religious Stress Coping, Memory, and Markers of Brain Pathology in Individuals with Autosomal Dominant Alzheimer's Disease from the Colombia-Boston Biomarker Study

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Objective: High levels of stress may increase risk for Alzheimer's disease (AD) dementia. Religious coping practices to deal with stress (i.e., prayer, having faith, attending religious services) may reduce risk of dementia. Studying religious stress coping in cognitively unimpaired individuals with autosomal-dominant AD (ADAD), who will develop dementia later in life, may inform us about the role of religious coping in modifying the clinical trajectory from preclinical to clinical stages of the disease. We examined religious stress coping in cognitively unimpaired mutation carriers from the world's largest ADAD kindred and its relation to markers of brain pathology and memory.

Participants and Methods: 16 cognitively unimpaired Presenilin-1 E280A mutation carriers and 19 age and education-matched noncarrier family members from the Colombia-Boston (COLBOS) Biomarker Study were included. A subsample (n=26; 13 cognitively unimpaired carriers) underwent amyloid and tau PET

imaging. Participants completed the Coping Strategies Questionnaire (CAE) that includes a subscale used to assess religious stress coping, where a higher score indicates more coping, and underwent memory testing using the Free and Cued Selective Reminding Test (FCSRT). The Geriatric Depression Scale (GDS) was used to assess depression. Mann-Whitney U tests were used to examine group differences in religious stress coping, brain pathology (i.e., cortical amyloid-beta, entorhinal and precuneus tau), memory, and depression. Nonparametric correlations were used to examine associations among religious stress coping, age, education, depression, memory, and pathology.

Results: Carriers had poorer FCSRT immediate free recall than noncarriers ($U=84.5$, $p=.024$). There was no difference between groups in CAE religious stress coping, other FCSRT memory scores, nor GDS score (all $p>.05$). Compared to non-carriers, carriers had more cortical amyloid ($U=152.0$, $p<.001$) and more precuneus tau ($U=123.0$, $p=.05$). In carriers, religious stress coping was positively associated with education ($r=.57$, $p=.022$), FCSRT immediate free recall ($r=.75$, $p<.001$), FCSRT cued recall ($r=.50$, $p=.047$), and FCSRT delayed recall ($r=.52$, $p=.038$). After controlling for education, religious stress coping remained positively associated with FCSRT immediate free recall ($r=.65$, $p=.009$), but not other FCSRT memory scores (all $p>.05$). Religious stress coping was not associated with age or GDS score regardless of controlling for education (all $p>.05$). In carriers, religious stress coping was negatively associated with entorhinal tau ($r=-.73$, $p=.005$) and precuneus tau burden ($r=-.58$, $p=.037$). The association between religious stress coping and entorhinal tau remained significant after controlling for education ($r=-.67$, $p=.016$), but not precuneus tau ($p>.05$). Religious stress coping was not associated with cortical amyloid regardless of controlling for education in carriers (all $p>.05$). None of the associations with brain pathology or memory were significant in the non-carrier group.

Conclusions: Religious stress coping was associated with better memory performance and a low AD pathology burden in individuals at genetic risk for developing AD dementia. Future studies with independent and larger samples should further examine religious stress coping strategies and their associations with other AD-related biomarkers, as well as with other risk and protective factors to better understand their

role at the preclinical and prodromal stages of Alzheimer's disease.

Categories: Dementia (Alzheimer's Disease)

Keyword 1: dementia - Alzheimer's disease

Keyword 2: cognitive functioning

Keyword 3: emotional processes

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27 Technology Use in Activities of Daily Living Amongst Older Adults Referred for Memory Clinic Evaluations

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Objective: The accurate assessment of instrumental activities of daily living (iADL) is essential for those with known or suspected Alzheimer's disease or related disorders (ADRD). This information guides diagnosis, staging, and treatment planning, and serves as a critical patient-centered outcome. Despite its importance, many iADL measures used in ADRD research and practice have not been sufficiently updated in the last 40-50 years to reflect how technology has changed daily life. For example, digital technologies are routinely used by many older adults and those with ADRD to perform iADLs (e.g., online financial management, using smartphone reminders for medications.) The purpose of the current study was to a) assess the applicability of technology-related iADL items in a clinical sample; b) evaluate whether technology-based iADLs are more difficult for those living with ADRD than their traditional counterparts; and c) test if adding technology-based iADL items changes the sensitivity and specificity of iADL measures to ADRD.