

ASSOCIATION OF BALANCE SCORES WITH COGNITIVE FUNCTION IN OLDER ADULTS

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Previous research has reported an association between balance and cognitive function; however, there is a paucity of data on this relationship over time. This study examined the cross-sectional and longitudinal association between balance and cognitive function in 4,811 participants aged 65 years and older in the Cardiovascular Health Study (CHS). Cognitive function measures included the Modified Mini-Mental State Examination (3MSE) and Digit Symbol Substitution Test (DSST); measures were collected annually for six years, starting in 1992-1993. A tandem stance balance test was administered at baseline; this test was held for 5 seconds. Cross-sectional and longitudinal models were adjusted for demographics, behavioral and disease covariates. We found that participants with worse balance scores had lower cognitive function scores, and this effect was limited to participant who were above the median age (76 years) (*p*-value for interaction = 0.03 in a demographic-adjusted model). Participants 76 years and older who failed the balance test had an average adjusted decline of -0.97 (95% CI: 1.20, 2.29) 3MSE scores per year more than participants who completed the balance test. DSST showed similar results; participants with poor balance decreased -0.21 (95% CI: -0.37, -0.05) points per year more than participants who completed the balance test. The adjusted Cox proportional hazard model found participants with poorer balance had a higher risk of cognitive impairment over the six years (HR= 1.72 95% CI: 1.30, 2.29). A better understanding of the pathophysiological link between balance and cognition may inform strategies to prevent cognitive decline.

ASSOCIATIONS BETWEEN SMOKING AND COGNITIVE FUNCTION AMONG COMMUNITY-DWELLING U.S. CHINESE OLDER ADULTS IN CHICAGO

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Previous studies on smoking and cognition reported mixed findings. The inconsistent results are partially explained by the fact that they were limited to specific populations and using different cognitive function measurements. This association between smoking and cognition has rarely been studied in the rapidly increasing U.S. Chinese older adults. This study aims to determine if smoking status and smoking amount are associated with global cognition and cognitive domains in U.S. Chinese older adults. Data was extracted PINE. Five cognitive function tests (East Boston Memory Test, East Boston Memory Delayed Recall, Digital Backward test, Symbol digit Modality Test, and MMSE) were used to measure cognitive domains including episodic memory, working memory, and processing

speed. Five cognitive tests were converted to z scores and averaged to generate global cognition. Self-reported smoking status was used for generating smoking status and smoking amount (pack-years). Linear regression was used. The results showed that former smokers had lower global cognition ($b=-0.111$, $SE=0.053$, $p<.05$) and perceptual speed ($b=-0.185$, $SE=0.066$, $p<.01$) than never smokers; current smokers had lower global cognition ($b=-0.240$, $SE=0.060$, $p<.001$), working memory ($b=-0.340$, $SE=0.083$, $p<.001$) and perceptual speed ($b=-0.370$, $SE=0.075$, $p<.001$) compared with never smokers. Smoking pack-years is negatively associated with global cognition ($b=-0.003$, $SE=0.001$, $p<.001$), episodic memory ($b=-0.005$, $SE=0.001$, $p<.001$), and perceptual speed ($b=-0.004$, $SE=0.001$, $p<.001$). Findings revealed that among all smokers, current smokers had the worst cognition and heavier smoking was associated with worse cognition. Policymakers could take measures in lowering smoking amount among U.S. Chinese older adults to protect their cognition.

BEHAVIORS CHARACTERISTIC OF AUTISM SPECTRUM DISORDER IN OLDER ADULTS WITH COGNITIVE IMPAIRMENT

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Autism spectrum disorder (ASD) is commonly recognized by the time of adolescence, but is poorly understood in older adults. The possibility of late-life emergence of ASD has been poorly explored. In order to investigate late-life emergence of behaviors characteristic of ASD in MCI and AD, we surveyed caregivers of 142 older adults with neurodegenerative cognitive impairment using the Gilliam Autism Rating Scale-2. Participants with high autism index ratings (Autism 'Possible/Very Likely', $n=23$) reported significantly (statistically and clinically) younger age at onset of cognitive impairment than those who scored in the Autism 'Unlikely' range ($n=119$): 71.14 ± 10.9 vs. 76.65 ± 8.25 ($p = 0.034$). Additionally, those in Autism 'Possible/Very Likely' group demonstrated advanced severity of cognitive impairment, indicated by Clinical Dementia Rating Scale Sum of Boxes scores. Data demonstrate that ASD behaviors may appear de novo of degenerative dementia and such behaviors are more prevalent in those with early onset dementia. Further work elucidating a connection between ASD and dementia could shed light on subclinical forms of ASD, identify areas of shared neuroanatomic involvement between ASD and dementias, and provide valuable insights that might hasten the development of therapeutic strategies.

COGNITIVE IMPAIRMENT AND SELF-CARE AMONG CONGESTIVE HEART FAILURE PATIENTS IN AN OUTPATIENT CLINIC

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The burden of congestive heart failure (CHF) is the greatest among older adults. Cognition is important for carrying out self-care tasks such as monitoring sodium intake, but little is known about how cognition affects self-care in acutely ill CHF patients. We aimed to assess the association between cognition and self-care in CHF patients from an outpatient diuresis clinic. Cognitive function was measured using the Mini-Mental State Exam (MMSE) and other tests representing 5 cognitive domains. The Self-Care of Heart Failure Index (SCHFI), given to a subset of participants, consisted of 22 questions each scored on an ordinal scale of 1-4 with a total score ranging from 22-88; higher scores indicated better self-care. SCHFI questions were further categorized into maintenance, management and confidence sub-scores. Multiple linear regressions were used to analyze the association between neuropsychological test scores and SCHFI scores. A total of 68 CHF patients had complete SCHFI data, with a mean age of 65.6 years and a mean total SCHFI score of 70.9 points. Nine (13.2%) patients were cognitively impaired (MMSE<24). Older age, lower education and history of stroke were associated with cognitive impairment. After adjusting for age, education, diabetes, and depressive symptoms, no associations were observed between the other neuropsychological test scores and any of the SCHFI scores. Though findings suggest that cognition is not associated with self-care, the analysis may have been underpowered. Further evaluation of a greater number of CHF patients is needed to understand the implications of cognition on self-care and provide guidance for interventions.

CONTEMPLATIVE PRACTICES AND LATER LIFE MEMORY AMONG WOMEN

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Contemplative practices such as meditation, yoga, and prayer had been used as coping resources to reduce the adverse impacts of stressful life experiences. Despite emerging scholarship on the benefits of contemplative practices for cognitive health, scant research has examined the influence of such practices on both episodic and working memory among women in later life. While the use of private prayer outside of church or temple has been shown to have statistically significant positive effect on episodic memory among older adults, previous studies have relied on measures that fail to capture various aspects of meditative practices (e.g., mental imagery, relaxation). Drawing from the Study of Women's Health Across the Nation (n=2245) conducted during 2006-2008, this study investigates the effect of contemplative practices (e.g. meditation / imagery / relaxation technique, yoga, and prayer) on episodic and working memory. Multivariate regression model estimates suggests women who either used meditation, imagery or relaxation techniques had significantly better episodic ($b=0.61$, $p=0.001$) and working

memory ($b=0.32$, $p<0.05$) as compared to those who did not use those methods. Surprisingly, the influence of prayer on episodic memory was negative ($b=-0.36$, $p<0.05$), while the influence of yoga on memory was not statistically significant. Our findings underscore the need to incorporate meditative practices in non-pharmacological interventions that are designed to improve later life memory.

DO MEMORY PROBLEMS IN OLDER DRIVERS IMPACT DRIVING FREQUENCY IN METRO VERSUS NON-METRO COMMUNITIES?

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Perceived memory problems may cause older adults to limit functional activities such as driving. For those individuals living in non-metropolitan communities, greater distances between activities, lack of public transportation, and fewer support systems may make reducing driving frequency less feasible. We hypothesized that older adults in non-metropolitan communities would be more likely to continue frequent driving even if they also perceived memory problems. We used the National Health and Aging Trends Study to examine the association between reported memory difficulty and the frequency of driving. These data were then stratified by metropolitan versus non-metropolitan classification using both ordinal logistic regression and Chi-Squared testing. In both metropolitan and non-metropolitan communities, respondents were more likely to report reductions in driving frequency if they also reported memory problems. However, in both metropolitan and non-metropolitan communities, the majority of respondents reporting fair or poor memory continued to report frequent driving; and, there were no statistical differences in frequency of reported driving between metropolitan and non-metropolitan respondents. These analyses suggest that strategies are necessary in both metropolitan and non-metropolitan areas to help older drivers with perceived memory difficulties to recognize when they need to limit driving. Further research is necessary to determine which strategies are likely to be effective in metropolitan and/or non-metropolitan communities.

IMPACT OF COGNITIVE FUNCTIONING AND AGE ON PATIENT-REPORTED OUTCOMES IN PARKINSON'S DISEASE

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Cognitive impairment is prevalent in Parkinson Disease (PD) and increasing age is a PD risk factor. Age and cognition may impact patient-reported outcome measures (PROMs) level, reliability, or validity of responses. This study investigated the relative impact of cognitive function and age on PROMs in PD. Cross-sectional data (n=676) included assessments of age, cognition (Montreal Cognitive