

Categories: Neuroimaging

Keyword 1: neuroimaging: structural

Keyword 2: neuropsychological assessment

Keyword 3: memory: normal

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Poster Session 09: Psychiatric Disorders | Mood & Anxiety Disorders | Addiction | Social Cognition | Cognitive Neuroscience | Emotional and Social Processing

9:00 - 10:15am

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Town & Country Foyer

1 Associations Between Alcohol-Related Problems, Neuropsychological Measures, and Financial Exploitation Vulnerability in a Low-Drinking Sample of Cognitively Unimpaired Older Adults

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Objective: In recent years, rates of alcohol consumption and alcohol use disorder have steadily increased among adults age 60 and older. Large studies have demonstrated that moderate-to-heavy alcohol consumption (>7 drinks per week) is a risk factor for developing various types of dementias. The effects of alcohol-related problems on cognition are less clear, and are particularly understudied in older adults. Similarly, while there is an established link between worse cognition and financial exploitation vulnerability in older adults, no studies have examined relationships between alcohol-related problems and financial

exploitation in this population. The current study therefore explores whether alcohol-related problems are associated with neuropsychological performance and financial exploitation vulnerability in a sample of older adults.

Participants and Methods: Participants were a community sample of cognitively unimpaired adults over the age of 50 (N = 55, Age M(SD) = 69.1(6.2), 74.5% female, Years of education M(SD) = 16.8(2.3)). Interested individuals were excluded if they reported current or past substance use disorders. Participants completed a laboratory visit that included a neuropsychological assessment. Measures included the NIH Cognition toolbox, CVLT-II, Digit Span, Trails A/B, Benson Complex Figure Recall, and Verbal Fluency: Phonemic and Semantic, from the Alzheimer's Disease Centers' Uniform Data Set (UDS) version 3. Participants completed the CAGE Alcohol Abuse Screening Tool and the Short Michigan Alcohol Screener Test – Geriatric Version (SMAST) to assess alcohol-related problems. Both measures are used as clinical screening tools to measure likelihood of a substance use disorder and produce a summary score (0-4 for CAGE, 0-10 for SMAST) tabulating symptoms of alcohol-related problems. Participants also completed the Perceived Financial Vulnerability Scale (PFVS) to assess financial exploitation vulnerability. As a significant number of participants reported no drinking and therefore no alcohol-related problems, negative binomial regressions were used to test associations between neuropsychological measures, financial exploitation vulnerability, and alcohol-related problems.

Results: After covarying for age and sex, SMAST was negatively associated with NIH toolbox total cognition (B(SE) = -.14(.07), $p < .05$) and marginally negatively associated with fluid cognition (B(SE) = -.07(.04), $p = .06$). Neither SMAST nor CAGE scores were significantly associated with performance on any other neuropsychological test ($ps = .13-.99$). SMAST was positively associated with financial exploitation vulnerability (B(SE) = .31(.16), $p = .05$); this effect remained significant after covarying for NIH total composite score in a secondary analysis.

Conclusions: In a community sample of cognitively unimpaired, low-drinking adults over the age of 50, more alcohol-related problems were associated with worse NIH toolbox cognition scores. Similarly, more alcohol-related

problems were associated with greater financial exploitation vulnerability, and this relationship was not driven by worse cognition. These results suggest that even low amounts of drinking and alcohol-related problems may be associated with cognition and financial exploitation vulnerability in cognitively unimpaired older adults. This study also corroborates the use of the SMAST over the CAGE in older adult populations that may be more sensitive to cognitive changes.

Categories: Addiction/Dependence

Keyword 1: alcohol

Keyword 2: computerized neuropsychological testing

Keyword 3: social cognition

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2 Pilot Study of a Cognitive Enhancement Intervention for Substance Abuse Recovery

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Objective: This was a pilot study testing a cognitive enhancement program to improve rate of cognitive recovery in early substance abuse treatment. It is hypothesized that if patients were able to accelerate the rate of cognitive improvement, they may be able to better engage in substance abuse treatment and potentially have better long-term outcomes.

Participants and Methods: Participants were 47 adults newly admitted to a residential substance abuse treatment facility (74.5% male, 76.6% white, mean age=34.5 years, education=12+ years). All were post-detox. All were being treated for opioid abuse, with the majority in treatment for polysubstance abuse. Participants were randomly assigned to either the intervention group (BrainHQ research cognitive training program) or active control group (inert computer games) and completed 3-4 training sessions per week for a minimum of 3 weeks. NIH Toolbox cognition battery was administered at baseline and endpoint.

Results: Regardless of study group, most participants had a significant improvement in cognitive performance across most subtests and composite scores of the NIH Toolbox cognition battery. The RAVLT and Oral Symbol Digit subtests had the greatest change ($p<.001$) for both groups, as well as a significant improvement ($p=.002$) in Cognitive Function Composite Score for both groups. The only difference between the control and intervention group was on the Pattern Comparison subtest, with the intervention group scoring significantly higher at endpoint ($p=.004$).

Conclusions: Although substance abuse is known to cause injury to the brain that may not be fully repaired by sobriety, cognitive recovery was significant in this group of patients during early inpatient treatment for opioid abuse. Although it has yielded significant effect in other patient populations, the BrainHQ program did not show a significant enhancement in cognitive recovery, compared to the active control group, in this pilot study of patients in treatment for opioid abuse. This study was limited by a small sample size and potential future variations should be considered, such as changes to intervention intensity and specific intervention exercises.

Categories: Addiction/Dependence

Keyword 1: addiction or dependence

Keyword 2: cognitive rehabilitation

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3 Neuropsychiatric Change and Childhood Adversity Levels in an Opioid Treatment Population

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Objective: Early life adversity is strongly correlated with a number of negative health outcomes, with some of the highest risks are related to later illicit drug use and substance use disorders (SUDs). Specifically, it has been found that an ACEs score of >4 confers a 7-10-fold risk of substance abuse. Subsequent research has identified a number of neurobiological effects of childhood trauma, including structural and