

Objective: Obstructive sleep apnea (OSA) may be a modifiable risk factor for late-life cognitive impairment. We previously demonstrated that non-Hispanic Black older adults are less likely to be diagnosed with OSA despite having equal or greater health risk for OSA compared to non-Hispanic White older adults, and this disparity in diagnosis was strongest among individuals with lower education. Here, we aimed to determine 1) whether there are racial differences in continuous positive airway pressure (CPAP) treatment, 2) how CPAP treatment may influence OSA-cognition associations, and 3) whether CPAP differentially influences OSA-cognition associations across racial groups.

Participants and Methods: Cross-sectional data were obtained from 424 socioeconomically diverse community-dwelling adults ages 55-83 (63.4±3.2 years, 41.7% male, 53.5% Black) from the Michigan Cognitive Aging Project. Physician-diagnosed OSA and current CPAP use were self-reported. Global cognition was operationalized as a composite of five factor scores derived from a comprehensive neuropsychological battery. Racial group differences were investigated with chi-square and Fisher's exact tests with statistical significance set at the .05 level. Associations between OSA and cognition (adjusted for age, gender, race, and years of education) were investigated with linear regressions. Subsequent models isolated effects of uncontrolled OSA by excluding individuals using CPAP. Racial differences in OSA-cognition associations were investigated with race-stratified models.

Results: Fewer Black participants (9.2%) reported diagnosed OSA compared to White participants (12.3%; $\chi^2(1, N=424) = 5.314, p = .021, \phi = .112$). In the whole sample, 47.3% of participants with diagnosed OSA reported CPAP use, and this proportion did not differ across race ($\chi^2[1, N=86] = .048, p = .826$). In the whole sample, OSA diagnosis was only associated with cognition when CPAP users were excluded (excluding CPAP users: $\beta = -.085, SE = .037, p = .024$; including CPAP users: $\beta = -.067, SE = .036, p = .062$). In race-stratified models, diagnosed OSA was only associated with cognition among Black participants, and this association was stronger when CPAP users were excluded (excluding CPAP users: $\beta = -.142, SE = .060, p = .018$; including CPAP users: $\beta = -.126, SE = .058, p = .030$). Diagnosed OSA was not associated with cognition among White participants, irrespective of whether CPAP users were included (excluding CPAP users: $\beta = -.084,$

$SE = .068, p = .215$; including CPAP users: $\beta = -.056, SE = .064, p = .378$).

Conclusions: Our findings support CPAP treatment as a potential intervention to mitigate late-life cognitive impairment among those with OSA. Despite being less likely to receive a diagnosis of OSA, Black older adults were equally likely to engage in CPAP treatment as White older adults when diagnosed. The detrimental impact of OSA on cognition may be more salient among Black older adults, which may reflect racial disparities in cardiovascular risk and/or resources that promote cognitive reserve. However, CPAP appears to be an effective treatment to reduce OSA-related cognitive impairment for Black older adults, highlighting the critical importance of diagnosis and treatment in this group. Intervention efforts that abate racial inequalities in access to quality healthcare in order to facilitate acquisition of a formal OSA diagnosis and CPAP treatment may help to reduce preventable cognitive health disparities among older adults.

Categories: Sleep and Sleep Disorders

Keyword 1: minority issues

Keyword 2: aging disorders

Keyword 3: sleep disorders

Correspondence: Afsara B. Zaheed, MS
Department of Psychology, University of Michigan
Michigan afsaraz@umich.edu

Paper Session 20: COVID related topics

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Town & Country Ballroom D

Moderated by: Lucette Cysique

1 Perceived Cognitive Impairment in High School Students in the United States During the COVID-19 Pandemic

Ila A. Iverson¹, Charles E. Gaudet, III^{2,3,4}, Nathan E. Cook^{2,3,4}

¹University of British Columbia, Vancouver, BC, Canada. ²MassGeneral Hospital for Children

Sports Concussion Program, Boston, MA, USA.

³Harvard Medical School, Boston, MA, USA.

⁴Spaulding Rehabilitation Hospital, Charlestown, MA, USA

Objective: The Youth Risk Behavior Survey (YRBS), conducted by the United States Centers for Disease Control and Prevention (CDC) in 2019, revealed that a large percentage of boys (30%) and girls (45%) reported serious difficulty concentrating, remembering, or making decisions as a result of a physical, mental, or emotional problem. In 2021, the CDC conducted the Adolescent Behaviors and Experiences Survey (ABES). The ABES included similar methodology and content as the YRBS. This study analyzed ABES data to examine correlates of perceived cognitive impairment among high school students in the United States during the COVID-19 pandemic.

Participants and Methods: The ABES was a one-time, online survey that was conducted to assess and evaluate the challenges that high-school aged youth experienced during the COVID-19 pandemic. Students' perceived cognitive impairment was assessed using the same question used in the 2019 YRBS: 'Because of a physical, mental, or emotional problem, do you have serious difficulty concentrating, remembering, or making decisions?' Response options were binary: 'Yes' or 'No.' The students' responses were evaluated in relation to nine adversity, mental health, and lifestyle variables.

Results: Participants were 6,992 students, age 14 to 18, with 3,294 boys (47%) and 3,698 girls (53%). A large proportion endorsed experiencing serious difficulties concentrating, remembering, and making decisions (45%). Girls (56%) were significantly more likely to endorse perceived cognitive impairment compared to boys (33%) [$\chi^2(1)=392.55$, $p<.001$; OR=2.66, 95% CI=2.41-2.93]. Youth who reported that their mental health was poor most of the time or always were very likely to report perceived cognitive impairment (boys: 67%; girls: 81%). Binary logistic regressions were used to examine the associations between perceived cognitive impairment, adversity, and lifestyle variables while controlling for mental health. These analyses were conducted separately for boys [$\chi^2(9)=596.70$, $p<.001$; Nagelkerke $R^2=.24$] and girls [$\chi^2(9)=883.35$, $p<.001$; Nagelkerke $R^2=.30$]. After controlling for current mental health, significant independent predictors of

cognitive problems in boys and girls included: a lifetime history of discrimination based on race or ethnicity, lifetime history of being sexually assaulted or abused, lifetime history of using illicit drugs, being bullied in the past year, current marijuana use, and getting insufficient sleep (5 or fewer hours per night). Participation in sports and exercising regularly were both independently associated with lower rates of cognitive impairment.

Conclusions: Perceived cognitive impairment was endorsed by a strikingly high percentage of high school students in 2021 during the COVID-19 pandemic. More than half of high school aged girls and one third of boys reported having serious difficulty concentrating, remembering, and making decisions. These rates are considerably higher than in 2019. Current mental health, unfair treatment because of race or ethnicity, being sexually assaulted, being bullied, drug use, and insufficient sleep were associated with perceived cognitive impairment. Indicators of a physically active lifestyle (participation in sports and exercising regularly) were associated with lower rates of cognitive problems.

Categories:

Assessment/Psychometrics/Methods (Child)

Keyword 1: adolescence

Keyword 2: assessment

Keyword 3: learning

Correspondence: Ila A. Iverson, University of British Columbia, iiverson121319@gmail.com

2 Neuropsychological Test Performance Following Acute COVID-19 Infection Recovery: A Case Control Study

Theone S. E. Paterson¹, Kristina M Gicas²

¹University of Victoria, Victoria, BC, Canada.

²York University, Toronto, ON, Canada

Objective: Cognition has been identified as an area of priority in examining health impacts of COVID-19 infection, and evidence suggests the virus invades the brain, with potential for long-term cognitive impact. Studies utilizing screening measures have reported cognitive sequelae (e.g., attention disorder, executive dysfunction) of the post-COVID-19 condition (i.e., long-haulers). More extensive examination of cognitive difficulties via comprehensive