

system and to internet connectivity, along with proficiency in English. Cognitive performance was measured using Defense Automated Neurobehavioral Assessment (DANA) from AnthroTronix. Welch's 2-sample t-test was used to compare cognitive performance among those with and without COVID-19.

Results: The sample was comprised primarily of COVID+ (59%), female (59%), and Caucasian (50%) participants that were generally well educated (77% with a bachelor's degree), and had ≥ 1 COVID vaccination (95%). About 50% of the sample reported symptoms of depression and mild anxiety. Results were not indicative of significant differences between COVID+ and COVID- groups at baseline: Simple Reaction Time (Immediate; $M = 5.62$; $p = 0.81$), Code Substitution ($M = 1.25$; $p = 0.77$), Procedural Reaction Time ($M = -7.26$; $p = 0.49$), Spatial Processing ($M = -3.14$; $p = 0.50$), Go No Go ($M = -1.37$; $p = 0.89$), Match to Sample ($M = 2.00$; $p = 0.57$), Memory Search ($M = -2.62$; $p = 0.75$), and Simple Reaction Time (Delayed; $M = 2.99$; $p = 0.81$).

Conclusions: Results indicate that cognitive performance at baseline does not differ based on COVID status, emphasizing the need for examination of longitudinal cognitive performance. Future directions include examining the impact of COVID disease severity and reinfection on cognition.

Categories: Infectious Disease (HIV/COVID/Hepatitis/Viruses)

Keyword 1: cognitive functioning

Keyword 2: medical disorders/illness

Keyword 3: memory disorders

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68 Subjective Cognitive Functioning Following Non-Severe COVID-19 Acute Infections: A Meta-Analysis

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Objective: Emerging evidence suggests that individuals recovering from COVID-19 perceive changes to their cognitive function and psychological health that persist for weeks to months following acute infection. Although there is a strong relationship between initial COVID-19 infection severity and development of prolonged symptoms, there is only a modest relationship between initial COVID-19 severity and self-reported severity of prolonged symptoms. While much of the research has focused on more severe COVID-19 cases, over 90% of COVID-19 infections are classified as mild or moderate. Previous work has found evidence that non-severe COVID-19 infection is associated with cognitive deficits with small-to-medium effect sizes, though patients who were not hospitalized generally performed better on cognitive measures than did those who were hospitalized for COVID-19 infection. As such, it is important to also quantify subjective cognitive functioning in non-severe (mild or moderate) COVID-19 cases. Our meta-analysis examines self-reported cognition in samples that also measured objective neuropsychological performance in individuals with non-severe COVID-19 infections in the post-acute (>28 days) period.

Participants and Methods: This study's design was preregistered with PROSPERO (CRD42021293124) and used the Preferred Reporting Items for Systematic Reviews and Meta-analyses (PRISMA) checklist for reporting guidelines. Inclusion criteria were established prior to article searching and required peer-reviewed studies to have (1) used adult participants with a probable or documented diagnosis of non-severe (asymptomatic, mild, or moderate) COVID-19 who were in the post-acute stage (>28 days after initial infection); (2) used objective neuropsychological testing to document cognitive functioning; and (3) include a self-report measure of subjective cognition. At least two independent reviewers conducted all aspects of the screening, reviews, and extraction process. Twelve studies with three types of study design met full criteria and were included (total $n=2,744$).

Results: Healthy comparison group comparison: Compared with healthy comparison participants, the post-COVID-19 group reported

moderately worse subjective cognition ($d=0.546$ [95% CI (0.054, 1.038)], $p=0.030$).

Severity comparison: When comparing hospitalized and not hospitalized groups, patients who were hospitalized reported modestly worse subjective cognition ($d=-0.241$, [95% CI (-0.703, 0.221)], $p=0.30$), though the difference was not statistically significant.

Normative data comparison: When all non-severe groups (mild and moderate; $k=12$) were compared to the normative comparison groups, there was a large, statistically significant effect ($d=-1.06$, [95% CI (-1.58, -0.53)], $p=0.001$) for self-report of worse subjective cognitive functioning.

Conclusions: There was evidence of subjective report of worse cognitive functioning following non-severe COVID-19 infection. Future work should explore relationships between objective neuropsychological functioning and subjective cognitive difficulties following COVID-19.

Categories: Infectious Disease (HIV/COVID/Hepatitis/Viruses)

Keyword 1: cognitive functioning

Keyword 2: infectious disease

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69 Influence of Cardiovascular Risk Factors on Neuropsychological Trajectories in Black/African American Adults Living with HIV

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Objective: Human immunodeficiency virus (HIV) type 1 (HIV-1), cardiovascular disease, and HIV-associated neurocognitive disorders (HAND) disproportionately affect Black/African American individuals compared to other racial and ethnic groups. Understanding the mechanisms of cognitive health disparities is essential for developing policy and health interventions to combat such disparities.

Cardiovascular risk factors/diseases are common comorbidities that likely contribute to cognitive health disparities among Black/African American people living with HIV (PWH), but their impacts on cognition longitudinally in this population are unclear. The current study examines the relationship between cardiovascular risk and cognitive functioning over time in Black/African American adults living with HIV.

Participants and Methods: A sample of 122 Black/African American adults with HIV (ages 25-68, $M=51.8$, $SD=7.7$; 98% on antiretroviral therapy; 91% with undetectable viral load) were selected from the Drexel/ Temple

Comprehensive NeuroHIV Center, Clinical and Translational Research Support Core (CTRSC; based at Drexel University College of Medicine) Cohort. They completed longitudinal visits (300 total visits, average follow-up time=4.9 years) that included clinical interviews, medical record review, biometric measurements, and comprehensive neuropsychological assessments. Cardiovascular risk factors of interest were body mass index (BMI), waist-to-height ratio (WHtR), and a total vascular risk burden score (VBS) representing five risk factors: obesity, central obesity, diabetes, hyperlipidemia, and hypertension. Based on a prior principal component analysis, three cognitive domains were examined: (1) verbal fluency, (2) visual memory/visuoconstruction, and (3) motor speed/executive functions. Mixed models were used to examine domain-specific cognitive trajectories in relation to baseline cardiovascular risk factors and changes in cardiovascular risk factors.

Results: Overall, cognitive test performance improved over time ($p<.003$). Baseline VBS was marginally associated with longitudinal change in verbal fluency ($p=.06$). Participants with low baseline VBS (0-1 risk factors) demonstrated improvement in verbal fluency ($p=.002$), while those with higher VBS (2-5 risk factors) demonstrated stability in verbal fluency. In contrast, greater increases in BMI and in WHtR predicted more favorable trajectories in motor speed/executive function (both $p<.001$). Patients with increasing BMI over time improved in this domain ($p=.02$), while patients with stable or decreasing BMI did not. A similar pattern was observed for WHtR change. No vascular risk factors were associated with trajectories of visual memory/visuoconstruction.

Conclusions: Higher total vascular risk burden was associated with less favorable verbal