

were no consistent predictors of improvement, but several subtest-specific findings emerged. Specifically, (a) more comorbidities were positively associated with rate of fatigue reduction ($p = .04$), (b) longer duration since COVID-19 illness was positively associated with rates of memory improvement ($p = .02$), (c) older age, male sex, and more comorbidities were positively associated with rate of improvement in reaction time ($ps < .05$), and (d) more assessments completed was positively associated with rates of improvements in working memory ($ps < .05$). Response inhibition (12.5%), simple reaction times (16.7%), and working memory (16.7%) showed the lowest rates of improvement over time. Declines in cognition were infrequent, with 4.2 – 8.3% ($n = 1$ to 2) declining on measures of procedural reaction time, spatial processing, inhibitory control, or working memory.

Conclusions: At an average of >9 months following acute COVID-19 illness, we observed longitudinal improvements in cognitive fatigue as well as processing speed, memory, and spatial reasoning. Consistent predictors of recovery were not identified, although age, sex, comorbid conditions, and time since illness predicted rates of improvement in select domains. Further analyses with a larger sample size and more stringent analyses are needed to confirm and extend these findings.

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

Keyword 1: infectious disease

Keyword 2: computerized neuropsychological testing

Keyword 3: cognitive functioning

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52 Depressive Symptoms and Subjective Cognitive Decline in Individuals with COVID-19

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Objective: Many individuals with COVID-19 develop mild to moderate physical symptoms that can last days to months. In addition to physical symptoms, individuals with COVID-19 have reported depressive symptoms and cognitive decline, posing a long-term threat to mental health and functional outcomes. Few studies have examined the presence of co-occurring depression and subjective cognitive decline in individuals who tested positive for COVID-19. The current study examined whether having COVID-19 is subsequently associated with greater depressive symptoms and subjective cognitive decline when compared to healthy individuals. Our study also examined differential associations between symptoms of depression and subjective cognitive decline between individuals who have and have never had COVID-19.

Participants and Methods: Adults ($N = 104$; mean age = 37 years, 69% female) were recruited online from Ontario and British Columbia, Canada. Participants were categorized into two groups: (1) persons who tested positive for COVID-19 at least three months prior, had been symptomatic, and had not been ventilated ($N = 50$); and (2) persons who have never been suspected of having COVID-19 ($N = 54$). The Center for Epidemiological Studies Depression Scale (CES-D) and the Subjective Cognitive Decline Questionnaire (SCD-Q) were administered to both groups as part of a larger clinical neuropsychological evaluation.

Two separate linear regression analyses were conducted to examine the association of COVID-19 with depressive symptoms and subjective cognitive decline. A moderation analysis was performed to examine whether depressive symptoms were associated with subjective cognitive decline and the extent to which this differed by group (COVID-19 and controls). Participants' age, self-reported sex, and history of depression were included as covariates.

Results: The first regression model explained 17.2% of the variance in CES-D scores. It was found that the COVID-19 group had significantly higher CES-D scores ($\beta = .20$, $p = .03$). The second regression model explained 35.9% of the variance in SCD-Q scores. Similar to the previous model, it was found that the COVID-19 group had significantly higher SCD-Q scores compared to healthy controls ($\beta = .22$, $p = .01$). Lastly, the moderation model indicated that

higher CES-D scores were associated with higher SCD-Q scores ($\beta = .43$, $p < .01$), but there was no statistically significant group X CES-D score interaction.

Conclusions: These findings suggest that individuals who previously experienced a mild to moderate symptomatic COVID-19 infection report greater depressive symptom severity as well as greater subjective cognitive decline. Additionally, while more severe depressive symptoms predicted greater subjective cognitive decline in our sample, the magnitude of this association did not vary between those with and without a previous COVID-19 infection. While the underlying neurobiological and social mechanisms of cognitive difficulties and depressive symptoms in persons who have had COVID-19 have yet to be fully elucidated, our findings highlight treatment for depression and cognitive rehabilitation as potentially useful intervention targets for the post COVID-19 condition.

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

Keyword 1: cognitive functioning

Keyword 2: depression

Keyword 3: infectious disease

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53 Healthcare Quality, Race, and Neuropsychological Functioning in Black/African-American Individuals with HIV

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Objective: Rates of HIV are disproportionately high among Black individuals in the United States (CDC, 2020). Black individuals are at increased risk for neurocognitive impairment due to HIV (Marquine et al., 2016) and experience

health disparities including increased morbidity and mortality (Asari, 2018; Manly et al., 1998). We sought to examine the relationship between perceived quality of healthcare and neuropsychological functioning among people living with HIV (PLWH) who identify as Black compared to those who are non-Black.

Participants and Methods: 151 PLWH in the Los Angeles area (52% Black, age = 49.85 ± 10.54 , education = 13.23 ± 2.11 ; 87% cisgender men, 8% cisgender women, 1% transgender men, 3% transgender women) completed comprehensive neuropsychological (NP) assessments (from which demographically-corrected domain and global T-scores were derived), psychiatric and sociodemographic interviews, and self-report questionnaires, including a measure of perceived healthcare quality (i.e., QUOTE-HIV). Statistical analyses included chi-square, t-test, ANOVA, and stepwise linear regression.

Results: Only 14% of Black PLWH had private healthcare insurance (versus Medicare/Medicaid) compared to 33% of non-Black PLWH ($\chi^2=11.33$, $p<.01$). Black participants were significantly older than non-Black participants ($p<.01$), but did not differ on gender, education, income, CD4 count, or HIV viral load. Younger Black participants (based on a median split for age; $n = 23$) reported the lowest perceived quality of healthcare (i.e., QUOTE-HIV total performance score), while older Black participants ($n = 56$) reported the highest perceived care ($F = 3.80$, $p = .01$), but the same relationship was not observed in non-Black participants. In a stepwise multivariate regression model, including demographic and virological factors as well as healthcare quality, only household income and overall perceived healthcare quality (i.e., QUOTE-HIV total performance score) were significantly associated with Global NP T-scores among Black PLWH ($R^2=.12$, $F(1, 66)=4.46$, $p=.02$).

Conclusions: When assessing healthcare quality and healthcare experiences among people living with HIV, race and age are important to consider. Private healthcare coverage may be less accessible to people of color, and in a multivariate model, only income and healthcare quality significantly predicted neuropsychological functioning in Black PLWH. When examining HIV and health outcomes, the complex relationships among quality of healthcare and health disparities, neuropsychological functioning, and structural racism warrant further investigation.