

COVID-19 Infection And African Americans - Impact On Cognitive Health

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While the COVID-19 pandemic has negatively impacted millions of people regardless of their race, ethnicity, or socioeconomic status, African Americans have been disproportionately affected by higher rates of infection, severity of illness, and risk of death than many other populations. Well before the pandemic made its appearance, physicians, medical researchers, and public health providers grappled with the effects of other diseases that incommensurately affect African Americans such as high blood pressure, diabetes, and cardiovascular disease.

For example, African Americans are 60 percent more likely to be diagnosed with diabetes than Caucasian Americans, suffer more lung disease, develop high blood pressure much earlier in life than Caucasians along with much higher blood pressure levels, and have nearly double the risk of a first-time stroke over their Caucasian counterparts. Moreover, compared to white Americans, African Americans are at a greater risk for cognitive decline associated with aging and suffer from Alzheimer's disease at double the rates of Caucasians.

These statistics are particularly concerning when you consider that diabetes, high blood pressure, and cardiovascular disease are in themselves risk factors for cognitive decline, as these conditions can all have detrimental effects on blood flow to the brain as well as directly damage brain tissue itself. Add to this already alarming picture the cognitive deficits that can accompany COVID and the risk landscape becomes even bleaker.

Knowledge is the best way to prepare to learn how to lessen these risks, so let's take a look at what we know about cognitive decline in the African American population after COVID and what we might do about this. First of all, there are many quite reasonable theories as to why African Americans are at greater risk for both earlier cognitive age-related decline as well as worse outcomes from COVID. Many of these risks are related to disparities in the ability to access health care and health care specialists, differences in health education, living in areas that are more polluted in terms of air quality, and less access to high-quality nutrition among others.

Risk Of Cognitive Decline Post-COVID And African Americans

But results from the 2020 Harvard Aging Brain study show even though African Americans are twice as likely as their white counterparts to develop Alzheimer's disease, the rate of cognitive decline after diagnosis was faster than whites, even after the researchers controlled for socioeconomic status, education, age, sex, and other variables. Study results like these have led many scientists to posit genetic differences, in addition to environmental and socioeconomic factors, that put African Americans at greater health risk.

Cognitive impairment presents differently [after people have had COVID](#) and then recovered,

regardless of their race, depending on whether their COVID illness was severe or milder. In people who had severe illness and required ICU hospitalization for acute respiratory failure from any cause (not just COVID), one-third of those people will show brain damage that is comparable to someone who has suffered a traumatic brain injury. In addition to the brain damage that may have occurred in these patients due to lack of oxygen, COVID can also directly damage the brain when patients suffer from encephalitis (inflammation of the brain tissue) as well as inflict brain damage as seen in a number of these patients who also suffered a stroke. The cognitive effects from severe COVID illness are not subtle and include such potentially devastating symptoms such as lapses in memory, difficulty paying attention, problems managing finances, understanding written materials, and even carrying on conversations with loved ones.

But what about those people who had COVID that was much less severe and went on to completely recover? A group of Chinese [physicians examined 29 patients](#) who had apparently fully recovered from COVID, and to their surprise discovered that on testing, these patients had problems in sustaining attention, a definite marker of cognitive impairment. The researchers thought that inflammation was to blame but other scientists are questioning whether silent strokes may have occurred in these people, damaging that part of the brain known as the “white matter” which is crucial for the ability of attention to be preserved.

African Americans’ Risk Of Alzheimer’s Post-COVID

Even more troubling is this idea that some researchers are posing: Could these silent strokes, inflammation, and other consequences of COVID put survivors at high risk for the development of Alzheimer’s disease at a later date? Many [scientists think this is a real possibility](#) and given African American’s already increased risk for the development of cognitive decline, combined with worse outcomes when this population does contract COVID, this is a worrisome possibility indeed.

Patients of any race who already have dementia (and remember that African Americans already have [double the risk of contracting Alzheimer’s](#) than whites) have twice the risk of developing COVID-19. But African Americans who had dementia had three times the risk of contracting COVID, and when they did become ill with the virus, had both higher rates of hospitalization and death than did whites. In a large study involving the retrospective examination of health records of 62,354 individuals who had COVID, researchers found that in those patients who had no previous history of psychiatric illness, their [COVID diagnosis was associated with an increase](#) in the incidence of a first time psychiatric disorder in the 14 to 90 days following their COVID diagnosis.

Frontline clinicians are also reporting [new-onset cases of neuropsychiatric illnesses](#), including mania and delirium, in association with a COVID diagnosis. Although various groups such as those with pre-existing psychiatric disorders have been identified at a [greater risk for suicide during the pandemic](#), principally due to lockdown stressors associated with attempts to control the spread of disease, the virus directly affects the brain and in some patients, induces new psychiatric illnesses which can involve suicidal ideation or attempts.

Although neurological adverse effects of the various COVID vaccines are certainly possible, the [scientific consensus is that such events are rare](#). The clinical and research evidence seems to clearly suggest that infection with the virus itself poses a much greater immediate and ongoing risk to patients, and African Americans in particular, than the risks from the vaccine. Historically, people of color, including African Americans, have been underrepresented in vaccine trials, and this underrepresentation holds for the vaccine trials conducted on the COVID vaccines. However, the [Pfizer](#) and [Moderna](#) initial COVID-10 vaccine trials were more diverse than previous trials and the safety of the vaccines as well as efficacy were similar between people of color and white participants in the trials.

COVID And The Big Three Underlying Conditions

For African Americans, it remains imperative that underlying conditions such as obesity, high blood pressure, and cardiovascular disease be addressed, both from a preventative standpoint as well as aggressive symptom control in those patients who have already developed any or all of these diseases. In the United States, African American women have the highest rates of obesity compared to other groups, with an alarming 4 out of 5 African American women meeting the criteria for obesity (BMI [Body Mass Index] greater than or equal to 30) or overweight (BMI of 25 to less than 30). Not only does being obese or overweight put people at a much greater risk for developing conditions such as diabetes, high blood pressure and cardiovascular disease that can put people at risk for a bad COVID-19 outcome, obesity itself is a major risk factor for severe COVID disease.

According to a new study published July 1, 2021 in [Preventing Chronic Disease: Public Health Research, Practice and Policy](#), obesity was the number one risk factor, followed by diabetes with complications, and anxiety disorders as the top three risk factors for developing severe COVID disease. This study was impressive as the numbers of patient medical records examined was very high, consisting of 540,667 adults who were hospitalized with COVID-19 from March, 2020 to March 2021 and included 94,670 (17.5%) Black patients with a median age of 66 years across all U.S. Census regions.

Diabetes, similar to obesity, disproportionately affects African Americans, both men and women, with African Americans being twice as likely as non-Hispanic whites to die from diabetes. Anxiety disorders are among the many mental health problems that Black Americans face, and they are a full 20 percent more likely to experience a serious mental health problem than the rest of the population. These three factors alone, obesity, diabetes and anxiety disorders, place the African American population at high risk for developing severe COVID disease.

COVID, Inflammation And CRP

Related to all of this is something known as CRP, a protein made by the liver, which increases when inflammation is present in the body. When someone contracts COVID-19, the virus causes widespread inflammation and CRP levels rise. People with more severe disease usually display higher levels of CRP in their blood than patients who are less ill. CRP levels generally

fall back to normal as the patient recovers. But now, it appears that inflammation, along with its corresponding elevated CRP levels, is persisting in some people who were thought to have fully recovered from COVID. This syndrome, known as multisystem inflammatory syndrome, was first seen in children, but has now been identified in adults as well.

Some mental health clinicians are also beginning to see clients, particularly African American men, who had COVID and supposedly recovered months before, but are then are coming as referrals from their primary care physicians because their doctors suspect bipolar disorder, depression or even early onset Alzheimers. Measurement of these clients' CRP levels show elevations, indicating that these clients were presenting with some variation of continuing disease. When these clients were sent back to their primary care physicians or rheumatologists (if they were being treated for arthritis) and were treated in a way that brought those CRP levels back down, these clients' cognitive symptoms improved. So control of inflammation appears to be a crucial factor in both decreasing risk for developing severe COVID and prevention of psychological and psychiatric symptoms.

There is also promising evidence that the the SSRIs (selective serotonin release inhibitors), a class of medications commonly used to treat many mental health disorders, including anxiety, depression and obsessive compulsive disorder (OCD), may work to dampen down the hyper-immune response that often occurs with COVID-19 infections. In particular, the SSRI drug fluvoxamine (brand name Luvox), used to treat OCD, has been shown to reduce the inflammatory cytokine molecules which are released into the body with a COVID infection. These medications are under utilized and could play an important part in damping down the inflammation seen in acute COVID infections and in post-infection neuroinflammatory conditions.

Recommendations

Given the likelihood of long-term neuropsychiatric consequences of COVID including cognitive decline, African Americans remain at particular risk. Avoidance of infection by vaccination, control of any ongoing inflammation, ongoing management of underlying conditions such as obesity, diabetes and cardiovascular disease, as well as prudent social distancing and other preventative measures are essential to ensure the physical, emotional, and mental health of this very vulnerable population is protected.

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