

# Dementia patients are at greater risk for COVID-19, particularly African Americans and people with vascular dementia

March 15 2021, by Michael S. Jaffee and Steven Dekosky

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New research is shedding light on how dementia can increase people's risk for developing COVID-19, particularly among two groups: African

Americans and people with vascular dementia.

The headline findings of a [recent study](#) revealed that [dementia patients](#) overall face twice the risk for developing COVID-19 as adults without [dementia](#). But two other results from that study deserve more attention than they have received so far.

One is that African Americans with dementia had three times the risk of developing COVID-19, and when they did, it was more likely to be life-threatening. African Americans with both dementia and COVID-19 had a higher hospitalization rate than [white patients](#) with dementia—73% compared with 54% – and a higher death rate—23% compared with 19% for whites. In view of the health disparities already borne by people of color, this is particularly troubling.

The study also found that patients with [vascular dementia](#) had the highest risk among dementia patients for COVID-19. This type of dementia is associated with strokes or small [blood](#) vessel damage, resulting in lower blood flow to the brain's white matter, and injuries to the connections among neurons. This damage is visible on MRI scans. If enough damage occurs, cognitive function can be impaired.

We are both neurologists; one of us is also a [psychiatrist](#) and the other [the deputy director](#) of the McKnight Brain Institute at the University of Florida. We find the study intriguing, if not definitive. It is, at the very least, a step toward understanding the connections between dementia and an increased predisposition to acquiring COVID-19.

### **Danger to the blood vessels**

There is evidence that COVID-19 [causes a number of vascular changes](#) throughout the body. It targets the lining inside [blood vessels](#)—the endothelium—and contributes to blood vessel injury and inflammation.

These injuries, in turn, can lead to blood clots in the lungs and in the toes, a condition called "[COVID toes](#)."

One of the big questions raised by the study is: What effect might these vascular changes from COVID-19 have on the brain?

Although it's rare for COVID-19 to invade the brain directly, [blood vessel inflammation in the brain](#) has occurred in some patients.

Widespread brain inflammation in a patient can manifest as declining alertness, focus and awareness of the environment, a condition known as [encephalopathy](#) or delirium. Vascular and inflammatory factors are already known to contribute to dementia, even without a viral infection. Additional damage from an infection can cause worsening blood vessel damage and inflammation leading to lower blood flow and resulting in additional brain injury (ischemia) and small strokes.

These two facts may support the study's claims regarding the risk of poorer outcomes in dementia patients with COVID-19 infections.

### **Some questions to consider**

The study was based on data collected in the U.S. from February to August 2020 from 360 hospitals, more than 300,000 [health care providers](#), and 1,064,960 patients with all types of dementia. The group included 15,770 patients diagnosed with COVID-19, 810 of them with dementia.

[In their statistical analysis](#), the researchers controlled for older age and whether the patient lived in a nursing home, both of which are independently associated with increased COVID-19 risk and poorer outcomes. They also took into account whether patients were known to have cardiovascular disease and diabetes. Even when controlling for these factors—that is, statistically removing them from the risk

calculation—dementia patients still had twice the risk.

The study does have some limitations, however.

Its [statistical analysis](#) was based completely on medical diagnostic codes from electronic medical records. Were all clinicians using exactly the same criteria in making their diagnosis as compared with dementia specialists? We do not know. Also, the diagnostic codes don't provide information about the severity of dementia. And a significant overlap exists among dementia subtypes. It is not uncommon that a patient diagnosed with Alzheimer's disease also has significant cerebrovascular disease that contributed to cognitive impairment.

The data is also from the first six months of the pandemic, and treatment strategies for COVID-19 have evolved since then, resulting in better outcomes.

## **Protecting vulnerable patients**

Dementia patients already are at higher risk for COVID-19 because they may live in close-quarter, chronic-care facilities. Many may not be able to advocate for themselves, nor understand the need to wear masks and socially distance. This could further predispose them to becoming infected.

As we study the special risks COVID-19 presents to those with dementia, health care providers must make certain they take the basic steps to protect these most vulnerable patients.

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