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3 July 2025

Study finds high rates of long-term neuropsychiatric symptoms in COVID-19 survivors

New research led by the University of Cape Town (UCT) found a high burden of persistent neuropsychiatric symptoms in South African COVID-19 survivors, even up to two years after infection.

Despite extensive testing, the researchers found no reliable early blood biomarkers to predict who would develop long-term issues such as memory problems, cognitive impairment, anxiety or fatigue.

The research, recently published in *Brain, Behavior, & Immunity – Health*, is among the first from an African setting to rigorously examine long-term neurological and psychological outcomes of COVID-19. The findings raise critical concerns about the lasting impact of the virus on mental and cognitive health, particularly in low- and middle-income countries (LMICs) with limited post-COVID care resources.

The study assessed 97 people from Cape Town who tested positive for COVID-19, with follow-ups conducted between six months and two years post-infection. Participants were drawn from all severity categories, including hospitalised and asymptomatic cases, and nearly all were unvaccinated at the time of infection.

Key findings include:

- More than half had problems like memory loss, trouble focusing, or feeling mentally tired.
- 44% had signs of poor memory or thinking on a special phone test.
- One in four had symptoms of anxiety.
- Over half said they felt tired all the time, even after resting.
- Many said they struggled with finding words or felt "foggy-headed."

"These findings confirm that the shadow of COVID-19 lingers far beyond the acute illness, especially in the form of cognitive and psychological distress," said Professor Jonny Peter, the study's lead investigator and head of the UCT Lung Institute's Allergy and Immunology Unit.

The research team conducted detailed blood analyses at peak illness and follow-up using advanced proteomic and cardiovascular biomarker panels, including inflammatory and renin-angiotensin system (RAS) markers. Despite this extensive profiling, the study found no statistically significant associations between early serum biomarkers and later neuropsychiatric symptoms.

"The biology of post-COVID-19 neuropsychiatric symptoms is complex. Our results suggest it may not be easily predicted by blood-based biomarkers, at least not the ones currently in use," said Professor Peter. The study's results challenge ongoing global efforts to identify simple diagnostic tests to screen for long COVID-related cognitive and mental health complications.

Until now, most studies of long COVID have originated from high-income countries. This UCT-led study helps close a significant knowledge gap by offering data from an LMIC context.

Previous studies have estimated the prevalence of long COVID in South Africa to range from 24% to 67%. This new study not only confirms those numbers but goes further by evaluating neurocognitive outcomes objectively.

The authors call for an integrated, multidisciplinary approach to extended COVID care, including mental health support, cognitive rehabilitation, physiotherapy and occupational therapy.

"There's no one-size-fits-all treatment. But what's clear is we need to take patients seriously, especially those who report memory loss, word-finding issues or persistent anxiety," said Peter.

The economic implications are profound. With a median participant age of 48 and many still in the workforce, cognitive deficits like memory impairment and fatigue can reduce productivity, increase reliance on health services, and limit return to full employment.

The study was supported by the South African Medical Research Council.

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