

Cognitive impact of COVID-19 often worse than a stroke or lead poisoning

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Governments around the world are letting COVID-19 rip through their populations. Besides the terrible toll in deaths, which officially stands at over 4.2 million, this policy is condemning millions more to severe long-term health problems.

A growing body of research has pointed to the serious neurological impact of a COVID-19 infection. Last month, a major study led by Imperial College London, “Cognitive Deficits In People Who Have Recovered From COVID-19”, provided an alarming confirmation of these effects.

Published in *The Lancet*, the study reveals that people who recover from COVID-19 are more likely to score substantially lower on IQ tests than they were before they were infected, with the impact increasing with the severity of the illness.

Using records from the ongoing Great British Intelligence Test, the researchers analysed the cognitive test scores of 81,337 people, of which 12,689 indicated they had experienced or suspected they had experienced a COVID-19 infection. Forty-four were hospitalised on a ventilator, 148 were hospitalised without a ventilator, 173 received medical assistance at home, 3,386 had symptoms which they self-managed at home, 8,938 had no noticeable symptoms and 68,648 were not ill.

The study found that people hospitalised with COVID showed “substantial” cognitive performance deficits, with those placed on a ventilator losing roughly seven IQ points, and those not ventilated losing roughly four.

Putting this in perspective, the “score reduction for the hospitalised with ventilator sub-group was greater than the average 10-year decline in global performance between the ages of 20 to 70 within this dataset. It was larger than the mean deficit of 480 people who

indicated they had previously suffered a stroke.”

Half a million people have so far been hospitalised with COVID-19 in the UK.

Even those who were not hospitalised showed “small” but “statistically significant” performance deficits in the *Lancet* study. People who experienced respiratory difficulty lost between one and two IQ points. This is roughly equivalent with the effects of lead poisoning.

A study of 24,000 COVID patients published last June found that breathing problems affected 23 percent of infected people, broadly confirmed across multiple sources. The UK has recorded close to six million COVID-19 cases. On this rough calculation, close to 1.4 million people have had their cognitive function significantly impaired.

Deficits were most pronounced for tests which “tapped cognitive functions such as reasoning, problem solving, spatial planning and target detection whilst sparing tests of simpler functions such as working-memory span as well as emotional processing.”

The researchers suggest, “recovery from COVID-19 infection may be associated with particularly pronounced problems in aspects of higher cognitive or ‘executive’ function, an observation that accords with preliminary reports of executive dysfunction in some patients at hospital discharge”.

These findings “accord with reports of long-COVID, where ‘brain fog’, trouble concentrating and difficulty finding the correct words are common.”

According to the Office for National Statistics (ONS), 945,000 people in the UK are currently living with Long COVID, defined as persistent symptoms lasting more than four weeks after infection. This includes 11,000 children aged 2-11 and 23,000 children aged 12-16. There are 380,000 people who have suffered the

effects of Long COVID for more than a year.

A link between severe respiratory disease requiring hospitalisation and negative cognitive effects is not new. The study's authors explain: "previous studies in hospitalised patients with respiratory disease not only demonstrate objective and subjective cognitive deficits but suggest these remain for some at 5-year follow-up." They describe the impact on ventilated patients as "not altogether surprising".

However, they add, "the scale of deficits in cases who were not put on a ventilator, particularly those who remained at home, was unexpected".

A compilation of the *World Socialist Web Site's* coverage of this global crisis, available in epub and print formats.

Addressing the rigour of their results, the scientists explain, "Our analyses provide converging evidence to support the hypothesis that COVID-19 infection is associated with cognitive deficits that persist into the recovery phase." The observed deficits "could not be explained by differences in age, education or other demographic and socioeconomic variables, remained in those who had no other residual symptoms and was of greater scale than common pre-existing conditions that are associated with virus susceptibility and cognitive problems."

Placing the findings in the context of the UK government's policy of herd immunity by mass infection, lead researcher Dr. Adam Hampshire told psychology and neuroscience website *PsyPost*, "We need to be careful as it looks like the virus could be affecting our cognition. We do not fully understand how, why, or for how long, but we urgently need to find out..."

"I think it is fair to say that those of us who have been analysing data such as this are somewhat nervous at the decision to let the pandemic run its course within the UK."

The study's authors collectively stress that these results "should act as a clarion call for further research... to plot recovery trajectories and identify the biological basis of cognitive deficits in SARS-COV-2 survivors."

A recent review of such research by the journal *Nature* charts the growing biological evidence base for COVID's neurological symptoms, which it notes "appeared in 80% of the people hospitalized with COVID-19 who were surveyed in one study".

Experiments and studies have demonstrated the virus' ability to infect astrocyte cells which perform important functions in the brain and pericyte cells which are important to brain blood flow. COVID-19 can also prompt the production of "autoantibodies" which attack the body's own tissues.

The *Nature* article refers to a preprint study led by the Wellcome Trust, "Brain imaging before and after COVID-19 in UK Biobank", which found a loss of grey matter in several areas of the brain among those who had recovered from COVID-19. The loss particularly affected the areas concerned with sense of smell and taste.

That the resources have not been made available for scientists to submit these questions to vastly more extensive research at this stage of the pandemic, as the basis for preparing effective treatments, is an abject failure of capitalist society. That reference to these grave health risks is largely suppressed in the media and political discussion, in service to the mantra of "learning to live with the virus", is an immense social crime. To sustain profits, millions more people are being exposed to a virus whose known effects are frequently devastating and whose full consequences for a person's health are still being explored.

A rational response to the pandemic, aimed at preserving life and health, is scientifically possible. But it can only be implemented through a socialist transformation of society, which takes its immense resources out of the hands of a tiny, sociopathic oligarchy and places them under the democratic control of the working class.



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