

As we find ourselves in the midst of the third wave of the COVID-19 pandemic, I found myself feeling fatigued, drained, struggling with my attention and concentration and I started thinking about the neuropsychological effects of COVID-19.

Daniel Greenslade, a Clinical Psychologist in Benoni (MA Psychology, MA Neuropsychology (WITS)) discusses these effects.

Thank you, Daniel, for some interesting research and insights into the impact of COVID-19.

Pauline Mawson

Psychological & Neuropsychological Effects of COVID-19

Following the global arrival of COVID-19, never has the world been more united in research around one topic. This research has allowed insights into a novel virus, as never seen before in such a short space of time.

As is well known, COVID-19 has many physical effects on the body for those having contracted it. These include the typical flu-like symptoms of: a dry cough, sore throat, body-ache, headache, and at times fever and chills, together with diarrhoea (and other digestive system symptoms), and in more severe cases a shortness of breath and lowered blood-oxygen levels. However, the virus also commonly induces, in some people, some neurological symptoms, specifically a total loss of smell and/or taste as overt symptoms at the time. This does however indicate that the virus penetrates the blood-brain barrier and has a direct effect on the brain and subsequent neurological and neurocognitive functioning.

What is concerning is that these effects appear to be more than just on the level of sensory processing and various research has discovered more long-term neurological effects. Doctors in the United States of America discovered that 40% of patients with COVID-19 displayed neurological manifestations, and of those, more than 30% has impaired cognition (Budson, 2020). These effects have multiple causes, such as encephalitis, hypoxia, strokes (mainly due to clots seemingly caused by megakaryocytes), as well as the seemingly physical effects the virus appears to have on neurons themselves. Other research in the United Kingdom displayed that just over 10% of patients who have tested positive with covid-19, have had some diagnosable cerebrovascular event, which has a subsequent neurocognitive effect (Wilson, 2020).

These cognitive effects appear to be in the domains of Memory, Attention, Processing Speed, and Executive Functions; which research noted patients displayed subtle deficits for a period of time afterwards (of note; is that the research due to the nature of a novel-virus, is still in the very beginning stages). These also include the sensory deficits that were the original symptoms (smell and taste), with patients complaining about impaired senses post-infection (on a personal note a friend who had contracted COVID-19, during a dinner 4-months later was complaining that all food tasted bland since then, and she could now eat hot food, as she could not really taste it). This therefore highlights the long-lasting effects that COVID-19 has the potential to have from a neurocognitive perspective.

We as psychologists also know the extreme psychological effects that this has on people, which include the trauma of the diagnosis itself and the subsequent stigma that comes with it, together with the extreme trauma of people who contracted moderate-to-severe forms that affected their breathing and functionality, resulting in significant Post-Traumatic Stress Disorder (even for those that recovered fully physically), as well as the trauma of loved ones or people close to us who have been diagnosed and the innate fear that comes with that and the potential exposure (Serafini et al, 2020). This overall trauma and stigma create a complex psychological effect on all peoples.

And of course, there is the significant effect on us as healthcare workers, who by the very nature of our work, are often on the frontline and potentially vulnerable, and as such have the constant anxiety of whether we, in our daily quest to assist our patients, have been exposed and as such are at risk, and are a risk (Saladino, Algeri, and Auriemma; 2020).

Overall, through looking at research; and through seeing this effect in our family, friends, and colleagues; we are able to see the extreme effects of COVID-19 on our psychological and neurocognitive profiles, for those who contract it, as well as the side-line effects of the people around them and us in general as healthcare practitioners. It almost goes without saying that we need to take care of ourselves, and as the people in the forefront of the mental-health battle associated with COVID-19, that self-care is of utmost importance.

By: Daniel Greenslade

REFERENCES:

- Saladino, A; Algeri, A; Auriemma, V (2020). *The Psychological and Social Impact of Covid-19: New Perspectives of Well-Being. Frontiers in Psychology, Vol 11*
- Serafini, G; Parmigiani, B; Amerio, A; et al (2020). *The Psychological Impact of COVID-19 on the Mental Health in the General Population. QJM, Vol 113 (8)*
- Budson, A (2020). *The Hidden Long-Term Cognitive Effects of COVID-19. Harvard Health Blog, Oct 2020*
- Wilson, B; Betteridge, S; Fish, J (2020). *Neuropsychological Consequences of Covid-19. Neuropsychological Rehabilitation, Vol 30 (9)*

