What We've Come to Learn: The Effects of **COVID-19 on Mental Health**

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The past two and a half years have shaken up the way people communicate and interact, both personally and professionally. Many have experienced isolation, increased home/family demands, uncertainty and a decrease in face-toface contact. We've also seen an increased reliance on virtual communication, as well as dramatic changes to daily routines. Many of us had to significantly change the ways in which we carried out our work and supported our patients, all while trying to navigate a looming pandemic and its implications on business and play, not to mention the anxiety and fear that came with the unknowns: how long would the pandemic last?, when might you or a loved one become sick? and would life ever return to "normal"?

There have been many opinions regarding COVID-19, and there never seems to be a shortage of emerging information on the virus. However, as a mental health professional, I'm sure that the past two and a half years have caused a collective trauma. As with any trauma, significant mental health consequences remain.

Alongside COVID-19 headlines, discussions about mental health have also taken the forefront throughout the pandemic. We have seen it in the news or perhaps through a more personal lens—seeing it firsthand in ourselves, family members or friends. From the perspective of a mental health professional, the concerns about mental health and increased conversations on the subject are not all that surprising.

In mid-March 2020, COVID-19 hit, and social distancing (and masks) were quickly encouraged. For many families, March break had just begun, and the possibility of an extended March break was on the horizon. Within weeks, those possibilities became a reality when schools were shut down and moved to virtual platforms. Likewise, workplaces were forced to close and pivot to remote working models. Masking was no longer recommended—it became mandatory. The previously encouraged social distancing turned into isolation/ quarantining, and new information emerged daily (at times conflicting with the previous information). Handwashing, disinfectants, masks and hand sanitizer became necessities. The pandemic's beginning was marked by fear, confusion, questions, conflicting information and, in all honesty, chaos.

Naturally, many people became very anxious about the possibility of themselves or a loved one contracting COVID-19 and the potentially deadly consequences of the virus. These fears and anxiety were further fed by a lack of concrete information about the virus, not to mention the constant stream of fear-based media coverage.



While much of the anxiety and fear surrounding the COVID-19 virus is entirely understandable (valid even), mental health professionals (and anyone who has sought professional help for anxiety) know that anxiety feeds off fear. Specifically, avoidance and giving in to the anxiety/fear, including making overt efforts to avoid the anxiety (provoking stimuli to protect oneself from a perceived threat), actually cause an increase in anxiety. Likewise, depression and depressive feelings feed off of, and are made worse by, all of the actions and behaviours that depressed individuals engage in, such as socially isolating one's self; withdrawing from people and things that used to bring joy; losing interest/engagement in hobbies, sports and activities; pulling away from friends and family; and not leaving the house. When we consider those descriptions, they start to sound eerily similar to how many would describe their experience during the pandemic—socially isolating, spending more time at home, decreased participation in things one used to enjoy, avoiding certain situations or engaging in overt actions and behaviours to keep ourselves safe from contracting COVID-19.

When we lay it out, the perfect storm becomes clear: how the conflicting media reports and increased use of social media to share assumptions, fears and worries, daily uncertainty, unanswered questions, increased family/home demands, and following (necessary) recommendations of masking, isolating, social distancing, sanitizing, etc., quickly led to increased rates of anxiety and depression.

As if that weren't enough, many parents, kids and families were forced to be together 24/7. Parents and caregivers suddenly got an inside look into their children's and teens' day-to-day lives, moods and thinking. They had no alternative but to see behind the curtain into the thoughts, feelings and stresses their children and teens were experiencing daily. For many families, the situation inadvertently facilitated a version of "helicopter parenting" that didn't previously exist—a version of parenting and family life where the parents are always around, always watching and noticing things, further adding to the already increased stress levels that both caregivers and children/teens were experiencing.

Through this new, 24/7, inadvertent helicopter style of parenting that was thrust upon us, many caregivers started to notice potential symptoms in their children and teens (anxiety/ anxious tendencies, depression/depressive tendencies, strained social relationships and poor mental health in general). In other cases, anxious/depressive tendencies were emerging because of the situational factors of the pandemic. This noticing and increased awareness of their children's struggles caused many parents to become more and more concerned, which became further amplified as they read and saw the media's focus on and coverage of the "mental health crisis." Parents and caregivers were hearing catastrophic news coverage regarding the "youth mental health crisis," which caused more panic and worry. In many cases, parents and caregivers began to closely monitor and hover over their children and teens, only exacerbating the stress and anxiety levels within many households.

Over the pandemic, the converging of environmental, social, emotional, situational and behavioural factors have come

together and facilitated a decrease in overall emotional wellbeing, as well as increased concern and awareness of mental health in general.

While we begin to adapt to a new normal and live with/ post COVID-19, collectively, we will continue to face its may present as increased... effects. This presents some people with increased anxious or depressive tendencies, more health-related anxiety, decreased social skills and difficulty re-entering life outside one's home. For some individuals, a formal diagnosis of anxiety or depression might be fitting, while, for others, the term "anxious tendencies" or "depressive tendencies" might be a better description. However, regardless of whether a formal diagnosis is warranted, some people may benefit from engaging in psychotherapy sessions with a registered psychotherapist, registered social worker or psychologist to assist them in managing those feelings throughout the transition to a new normal/world post-COVID-19.

Despite the many difficulties of the pandemic, one of the good things to come out of COVID-19 is that, as a society, we have an increased understanding and awareness of the importance of mental health and mental health care, including the importance of proactive mental health care.

As professionals, we can help maintain this new focus on the need for mental health care (proactive care as well as treatment) by encouraging individuals to prioritize and care for their mental health just as they prioritize and care for their physical health and well-being.

COVID-19 and New-Onset Diabetes

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Over 605 million confirmed cases of COVID-19 and more than 6.4 million severe acute respiratory syndrome coronavirus-2 (SARS-CoV-2)-related deaths have officially been recorded by the World Health Organization (1). Individuals diagnosed with either type 1 or type 2 diabetes mellitus are associated with higher hospitalization and mortality rates when infected with SARS-CoV-2 (2). Although the majority of the literature has focused on diabetes as a significant risk factor for COVID-19 infection and hospitalization outcomes, recent studies have started exploring the relationship between COVID-19 infection and the development of new-onset diabetes.

Viruses such as enteroviruses, rubella, cytomegalovirus and hepatitis C viruses have been shown to contribute to the development of diabetes via molecular mimicry or cytolysis (3). From the 2002–2004 outbreak of SARS-CoV-1, it was understood that angiotensin-converting enzyme 2 (ACE2)

receptors are present on pancreatic beta cells, facilitating the entry of the virus into its host (4). A longitudinal study from China conducted in 2006 found that 10% of individuals with SARS-CoV-1 continued to have diabetes three years post-recovery (17). As both SARS-CoV-1 and SARS-CoV-2 are genetically similar, the data suggested that COVID-19 could induce new-onset hyperglycemia (3).

Pancreatic Beta-Cell Damage Caused by SARS-CoV-2 Infection

ACE2 proteins are expressed on pancreatic islet cells, allowing the direct binding and entry of SARS-CoV-2, leading to betacell cytolysis and impaired function (12). The mechanism and outcome of this is comparable to that of type 1 diabetes, as pancreatic beta cells are damaged and, occasionally, fully destroyed, resulting in a lack of insulin secretion (12).