Nurses and Nurse Practitioners of British Columbia

Post-COVID-19 Condition

June 2023*

Background

The World Health Organization (WHO) declared the COVID-19 global pandemic on March 11, 2020. Since that time, there have been approximately 400,000 cases of COVID-19 illness in British Columbia, and more than 4.6 million cases to date across Canada.[i] Sadly, there have also been more than 51,000 deaths nationwide.[ii] In mid-2023 at the time of writing, more than three years after the COVID-19 pandemic was declared, COVID-19 activity levels have decreased and remain relatively stable across all provinces and territories. However, 'post-COVID-19 condition,' also known as 'long COVID-19,' continues to affect a large part of the population, with up to 15% of COVID-19 infected persons reporting symptoms three or more months after their initial infection with COVID-19.[iii] As well, according to a recent national survey, 1.4 million Canadian adults, 4.6% of the Canadian adult population, indicated that they experienced symptoms consistent with post-COVID-19 condition.[iv]

Research into post-COVID-19 condition has accelerated over the past several months[v] and the condition is now defined as a 'cluster of mid- and long-term symptoms and conditions that some people experience after recovering from acute SARS-CoV-2 infection.'[vi] According to the World Health Organization, those with post-COVID-19 condition may experience the same symptoms as their initial infection with COVID-19, or they may develop new ones after recovery.[vii] Most commonly, symptoms include cardiovascular symptoms, chronic dyspnea, breathlessness, cognitive dysfunction, depression and anxiety, exercise intolerance, fatigue, joint pain, sleep disturbance, and symptoms consistent with renal injury.[viii] However, others have reported symptoms such as chest pain, muscle pain, dry cough, persistent headache, rapid heartbeat, intermittent fever, loss of taste or smell, diarrhea, and rash.[ix] As well, post-COVID-19 condition is not a short-term condition; those who experience it see symptoms over long periods of time that may disappear and reoccur periodically.[x]

In 2021, one study monitoring long COVID-19 symptoms in Canadians found that out of more than 1000 adult participants who had previously recovered from initial COVID-19 infection, 80% still experienced symptoms more than three months post recovery, while 50% continued to experience symptoms beyond eleven months.[xi] As well, the United Kingdom's Office for National Statistics (ONS) has reported that approximately 24% of females and 21% of males with COVID-19 still experience symptoms up to five weeks after they initially tested positive, and 10% still experienced symptoms up to 12 weeks after, despite negative test results.[xii] Another study on the evolution of long COVID-19 out of the United States also found that of more than 270,000 COVID-19 patients, 36% of them still experienced symptoms six months following their initial infection.[xiii] Overall, many preliminary studies at this point in the pandemic estimate that between approximately 10% and 60% of a population may experience long COVID-19.[xiv]

At this time, it remains unclear who may experience post-COVID-19 condition after infection, however, current evidence suggests that females, individuals who were hospitalized from COVID-19 infection, individuals with underlying chronic conditions, and those who didn't receive at least two or more doses of a COVID-19 vaccine may be more susceptible to the condition.[xv] As well, a Swiss study which analyzed blood samples from COVID-19 patients identified age, initial severity and number of symptoms, history of asthma, history of chronic fatigue syndrome, and initial antibody response levels as contributors to higher risk of long COVID-19.[xvi] Additionally, while there are fewer studies of COVID-19 effects on children, research out of Italy notes that approximately 42% of children who tested positive for the virus experienced at least one symptom 120 days later, and the symptoms were debilitating enough that they affected their daily activities.[xvii] The symptoms seen in pediatric cases are similar to those found in adults, including fatigue, headaches, insomnia, joint pain, respiratory problems and heart palpitations.[xviii] However, observable data from emerging research shows that COVID-19 vaccination may likely reduce the risk of developing post-COVID-19 condition as well as the severity of symptoms when doses are administered to those already living with the condition.[xix] Based on this emerging research, a significant reduction in the incidence has been noticed.

Data on the long-term effects in COVID-19 patients continues to build, potentially yielding additional clues to this phenomenon as it becomes an increasing focus of interest. The Canadian COVID-19 Prospective Cohort Study (CANCOV) was the first Canadian study to look at one-year and two-year outcomes for those who experienced COVID-19 infection to help provide information to clinicians and policymakers around post-COVID-19 condition.[xx] To date the study has recruited more than 2000 participants from across BC, Alberta, Ontario and Quebec, and several areas of research are underway. Additionally, researchers across Canada and in post-COVID-19 interdisciplinary clinics continue to work with individuals experiencing post-COVID-19 condition to better understand the impacts of COVID-19 infection. These COVID-19 clinics utilize teams of specialists that may include cardiologists, neurologists, rheumatologists, psychiatrists, dermatologists, physiotherapists, and nurses. Generally, treatment at the clinics is based on the symptoms being experienced and may evolve as new science emerges.

In BC, these clinics can be accessed through the Provincial Health Services Authority Post-COVID-19 Interdisciplinary Clinical Care Network.[xxi] Since its inception in 2020, the network has received more than 7000 referrals and more than 3100 people have successfully received post-COVID-19 care and have been transitioned out of the program.[xxii] Additionally, the federal government has acknowledged the impact that post-COVID-19 condition continues to have on Canadians, and has invested $20 million over the next five years (commencing 2022) for research into post-COVID-19 condition, plus an addition $9 into the establishment of the Long COVID WEB program.[xxiii] The program currently seeks to support Canadians experiencing post-COVID-19 condition while conducting research into the physical, social, cultural, and environmental impacts on patients, their families, and communities.[xxiv]

As the long-term implications of COVID-19 continue to be studied it is imperative that nurses continue to stay up to date with evidence-based research on the effects of COVID-19 including post-COVID-19 condition. Current research demonstrates that there is an extensive list of potential symptoms, and that keeping up to date with COVID-19 vaccinations is key in preventing COVID-19 infection and subsequently post-COVID-19 condition. Nurses will play a central role in helping people to understand the process of recovery from COVID-19 illness and manage the ongoing symptoms they may experience. Because nurses are consistently voted amongst the most trusted of health professionals, they are ideally positioned to help educate the broader public about these lasting effects, and to emphasize why prevention is the best approach.

Key Messages

- 'Post COVID-19 condition' also known as 'long COVID-19' affects up to 15% of those who experienced COVID-19 infection and has affected/continues to affect approximately 1.4 million Canadian adults.
- Post-COVID-19 condition is defined as a 'cluster of mid- and long-term symptoms and conditions that some people experience after recovering from acute SARS-CoV-2 infection.'
- Most common symptoms associated with post-COVID-19 condition include cardiovascular symptoms, chronic dyspnea, breathlessness, cognitive dysfunction, depression and anxiety, exercise intolerance, fatigue, joint pain, sleep disturbance, and symptoms consistent with renal injury.
- Other widely reported symptoms associated with post-COVID-19 condition include chest pain, muscle pain, dry cough, headache, rapid heartbeat, intermittent fever, loss of taste or smell, diarrhea, and rash.
- While further research is needed to determine who may be more likely to develop post-COVID-19 condition, current evidence suggests that females, individuals who were hospitalized during their COVID-19 infection, individuals with chronic underlying conditions, and those who haven't received at least two COVID-19 vaccines may be more susceptible.
- Emerging science demonstrates that keeping up to date with COVID-19 vaccination is a very good way to prevent COVID-19 infection and may also prevent post-COVID-19 condition for those who do experience infection.

- The Canadian COVID-19 Prospective Cohort Study (CANCOV) is the first Canadian study to analyze the one- and two-year outcomes of people who have had COVID-19, to provide information to clinicians and policymakers in the hopes of improving the standard of care for those with post-COVID-19 condition.
- As community health leaders, nurses are ideally positioned to educate the public about COVID-19 prevention and to provide support for those affected by COVID-19 and post-COVID-19 condition.

Further Reading/Resources

- BC Provincial Health Services Authority: Post-COVID-19 Interdisciplinary Clinical Care Network
- Public Health Agency of Canada: Post COVID-19 Condition
- Long COVID WEB: A network supporting and conducting research into the Post-COVID Condition
- Long COVID Resources Canada
- COVID Long-Haulers Canada: Canada's Largest Online COVID Community

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