Post-Acute Sequelae of COVID-19: What to do Next?

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The world suffered from the COVID-19 pandemic from December 2019 to date which results in the loss of many precious human lives. This creates a sense of insecurity and depression among those who lived without their loved ones. The first case of COVID-19 was reported in Pakistan in February 2020 which results in people being in quarantine for several months. Outdoor activities were closed and people had to work and study from home. Pakistan's government was able to manage the pandemic well and less mortality was reported compared to developed countries. However, people who suffered from SARC-2-COVID-19 still report health issues several months after recovery[1-3].

Health deficits are said to last in 32% to 87% of patients (even those with modest acute disease) after the acute period of infection[4]. It is classified as post-acute sequelae of COVID-19 (PASC), which is symptom persistence that lasts more than four weeks[5]. These can last for months and range in severity from moderate to incapacitating. Blood pressure swings, exhaustion, shortness of breath, intolerance to strenuous activity, forgetfulness, joint pain, fever, sleep and anxiety disorders, gastrointestinal disturbances, and palpitations are the clinical symptoms that typically persist[6]. Numerous COVID-19 survivors are unable to resume their usual active lives due to their post-infection disabilities, which has added another layer to this health disaster.

The pathophysiology of PASC following mild or moderate infection is still largely unknown, and targeted treatment approaches are lacking[3]. The impact of PASC will probably be profound as more than 400 million SARS-CoV-2 infections were counted globally by the World Health Organization in March 2022[3]. It is speculated that several organ tissue damages brought on by a virus may result in delayed symptoms[2]. Another theory is that chronic SARS-CoV-2 reservoirs may act as a trigger since some infected individuals do not quickly eliminate the virus[3]. RNA viruses, such as Hepatitis C and the Ebola virus, can survive after an acute infection. But there is not any concrete proof that these possible reservoirs play a part in PASC or response to post-infection vaccination[4].

According to certain research, children with acute COVID-19 and post-COVID-19 multisystem inflammatory disease both produce autoantibodies[5,6]. It is thought that autoimmune tissue damage may lead to PASC. According to Schultheiß et al study, 60% of patients with moderate corona, infections reported post-acute sequelae that persisted beyond 24 months, which is caused by increased plasma levels of IL-1b, IL-6, and TNF released by monocytes and macrophages[7]. The study conducted by the Biochemistry Department of Shalamar Medical and Dental College related to *Cytokines in Asthma and Long COVID-19 Symptoms* by Prof Dr. Anila Jaleel and her team (*in-press*) showed fluctuating levels of blood pressure and headache after three months in the majority of patients who recovered from COVID infection. Moreover, IL6 and IL-10 levels were elevated in some of these patients.

There is a dire need for basic health scientists and clinicians to work together and explore the causes and management of these patients which hampers their daily life activities and will affect the economic status of the country due to low productivity at the workplace.

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