

## Chapter 5

# Management of Diabetes Complications During and After COVID-19

**Mubeen Fatima**

*University of the Punjab, Pakistan*

**Safdar Hussain**

*University of the Punjab, Pakistan*

**Momal Babar**

*University of the Punjab, Pakistan*

**Nosheen Mushtaq**

*Riphah International University, Lahore, Pakistan*

**Tehseen Fatima**

*Government College University, Lahore, Pakistan*

### ABSTRACT

*At least 200 million people were affected by the corona virus (COVID-19) disease during the pandemic, and over 5 million deaths occurred by October 2021. In 2021, the International Diabetes Federation (IDF) reported that 537 million people worldwide were living with diabetes, and it caused 6.7 million deaths. Long-term COVID-19 patients endure a broad variety of physical and mental problems. People with long-term COVID-19 generally report low living quality, poor mental health, and unemployment on top of their suffering and problems. These patients may need long-term symptoms monitoring, social assistance, physical rehabilitation, and management of diabetes complications. Future health issues related to long COVID-19 and diabetes will need resilient healthcare systems to enable fast and effective solutions.*

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## **INTRODUCTION**

COVID-19, the epidemic has begun to significantly affect the world's population. This newly recognized disease is caused by a novel coronavirus known as SARS-CoV-2. This virus is homologous to existing coronaviruses, like the Middle East respiratory syndrome coronavirus (MERS-CoV) and severe acute respiratory syndrome coronavirus (SARS-CoV). It most commonly presents itself as an acute respiratory infection; nonetheless, it has the potential to impact several systems and can have far-reaching implications. SARS-CoV-2 infections can range from asymptomatic to respiratory disease, failure of more than one organ, and even death (Kingstone et al., 2020). Although the etiology, and problems of individuals with COVID-19 in the acute period, and demographic and clinical signs have been fully documented, the long-term repercussions of COVID-19 are mostly unexplained (Wiersinga et al., 2020).

In spring 2020, when COVID-19 sufferers were still experiencing signs weeks after their acute illness and shortly after the initial instances occurred, post-COVID syndrome, generally referred to as long-COVID, was first identified as a clinical entity. Post-COVID-19 illnesses are defined by the Centers for Disease Control and Prevention as any new, recurring, or persistent health issues that manifest themselves after the initial 4 weeks following COVID-19 infection. Long COVID (PCS) may be categorized into five groups based on symptom duration, the phase of quiescence, and the first onset of symptoms as depicted in Figure 1. Even in patients who had relatively minor bouts of acute sickness, the post-COVID syndrome manifests as a multi-system disorder (Greenhalgh, Knight, Buxton, & Husain, 2020). Even though there is some evidence to suggest that cytokines are behind the progression of post-COVID syndrome. Still further study is required to shed light on its pathophysiology (Alpert et al., 2020; Bhavana et al., 2020).

The body of evidence about the spectrum of post-COVID syndrome and the therapy of the condition is constantly growing, and this trend is expected to continue over the next several years. The symptoms of post-acute covid-19 may vary greatly. Even minor COVID-19 can cause long-term complications, most often coughing, chills, and exhaustion, which can reoccur and remit (Addison et al., 2021; Carfi, Bernabei, & Landi, 2020; C. Huang et al., 2021; Simani et al., 2021; Study, 2020). Other symptoms include chest discomfort, impairment in the senses of taste and smell, shortness of breath, migraines, neurocognitive problems, muscle aches and tiredness, gastrointestinal disturbance, rashes, metabolic disruption (such as poor diabetic management), thromboembolic disorders, stress, as well as other issues with mental health (Dasgupta et al., 2020). Skin rashes include vesicular, urticarial, maculopapular, as well as chilblain-like lesions (Casas, 2020). Post-infectious olfactory impairment, which may impact more than 60 percent of people with SARS-

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