

COVID-19; “The Peaks”**Sudhir Gupta¹, Dipti Chand²**

The first peak of covid-19 catapulted health-care professionals onto the front lines in response to the crisis without any clear guidelines to manage a disease that was unknown to the world, impelling to deal with it in a varied manner. The epidemiological dynamics of the COVID-19 changed ominously over the course of months. It caused unprecedented chaos worldwide, critically affecting existing global power equations, economies, government actions and the nationalist spirit.

The brutal second peak of the COVID-19 pandemic threw the health-care system into a frenzy, forcing to deal with the acute shortage of beds, supplies including covid specific drugs and oxygen. We witnessed increasing illness, unpredictable outcomes, and devastating socioeconomic disruptions.

As per the WHO Coronavirus (COVID-19) Dashboard, dated 30 June '21, there have been 18,15,21,067 globally confirmed cases of COVID-19, including over 39,37,437 deaths. In India till 30 June there have been 3,03,62,848 cases with 3,98,454 deaths¹, the second highest after USA.

A review of the disease pattern of COVID-19 in last few months of resurgence and comparative studies highlighted the differences in the presentation of the disease and clinical outcomes. The second peak affected the younger population more than that seen with the first wave. The healthcare systems were overwhelmed with the rapid spate of serious new cases requiring urgent medical attention, a challenge and responsibility that was successfully shouldered with Government Medical College, Nagpur catering to a sizeable population. As per “Government of India” guidelines, the asymptomatic and mildly

symptomatic cases were isolated in COVID CARE Centres (CCC) and at home, with they being monitored by the Community Health Care workers. Moderate and severe category Covid-19 patients requiring oxygen were advised hospitalisation in High Definition Units and Intensive Care Units of the institute.² Sustainable solutions have been implemented while emerging out of the second wave. However Mucormycosis “an angio-invasive fungal infection” increased the burden of suffering amidst the deep Covid crisis. It is associated with high morbidity and mortality. Amphotericin B the main anti-fungal drug used in treatment, is still running low on stocks due to the sudden heavy demand.

We need an aggressive containment strategy to reduce the number of cases and deaths. If we vaccinate a substantial part of the at-risk population in the coming months, then the third wave could wind up being a third bump rather than the horrific wave that was witnessed in the second peak.

The State Health Departments have already started preparing to augment existing healthcare facilities for children, especially the ICUs and High Dependency Units (HDU) that provide specialised healthcare services. Paediatric intensive care facilities are being strengthened to ensure expert treatment for children in the event of a third wave.

While doing this, it is imperative to step up testing to isolate people as soon as possible. The prime minister has announced an oxygen generation plant in every district hospital.

When a virus is widely circulating in a population and causing many infections, the likelihood of the virus mutating increases. Repeated mutation of the coronavirus is a matter of concern and the third wave could be marked by a genetically mutated virus that could spread faster than the delta virus. Vaccines are a critical tool in the battle against COVID-19³. Repeated mutations may reduce the efficacy of the vaccines. Hence it is imperative that we take all

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measures to stop the spread of the disease. Manufacturers and the programmes using the vaccines may have to adjust to the evolution of the COVID-19 virus : for example, vaccines may need to incorporate more than one strain when in development, booster shots may be required, and other vaccine changes may be needed.

In a statement recently, the Union Health Ministry on the findings of INSACOG [Indian SARS-CoV-2 Genomic Consortia]³, has alerted and advised Maharashtra, Kerala and Madhya Pradesh regarding the Delta Plus variant of COVID19 being found in some districts in these States. The Delta Plus variant is characterised by the K417N mutation in spike protein that helps the virus gain entry into the human cell. The variant is believed to be more transmissible and has been labelled as “Variant of Concern”. The Delta variant has been found in 80 countries, where as the Delta Plus Variant has been detected in nine countries including the US, the UK, Portugal, Switzerland, Japan, Poland, Nepal, China and Russia. Reportedly both the Indian Vaccines (Covishield & Covaxin) currently in use in the national programme are effective against the variant; but to what extent and what is the proportion of antibody titers they produce, the information would be available shortly.”

The Spanish flu - deadly influenza pandemic was caused by the H1N1 influenza A virus. It lasted from February 1918 to April 1920, and infected 500 million people - about a third of the world's population at the time in four successive waves. The close quarters and massive troop movements of World War I hastened the pandemic, and probably both increased transmission and augmented mutation. The death toll was estimated to have been somewhere around 50 million, making it one of the deadliest pandemics in human history. The 1918 flu pandemic in India was especially deadly, with an estimated 12.52 million deaths in the last quarter of 1918 alone. The second wave of the 1918 pandemic

was much more deadly than the first. The third wave of 1919 was less severe than the second wave but still much more deadly than the initial first wave. The fourth wave of 1920 occurred in isolated areas including New York City, Switzerland, Scandinavia, and some South American islands with local deaths almost twice the number of those during the first wave in spring 1918. The epidemiologist believe that this Covid 19 Pandemic may behave in the same manner. Additionally we have been hit by the surge in Diabetes, Mucormycosis and some cases of Avascular necrosis of hip joint due to rampant use of steroids in the second peak.

Japan has been gearing up to host the Olympics in July' 2021 as fresh infections had been steadily declining after three peaks in last one year. However, things started to change from mid-April when it was hit by the fourth wave of the Covid-19 pandemic. On May 8, Japan's Covid-19 cases topped 7,000 for the first time since mid-January and currently, the country's seven-day average stands at 4,449, according to Johns Hopkins University. Many Japanese are opposed to holding them this year.

India may also be headed towards the third and fourth wave of the coronavirus, which could cause irreparable damage to its population and economy. It can only be stopped by public awareness, sacrifice and cooperation.

And we may still have to deal with “Long COVID” - the lingering symptoms of fatigue, headaches, brain fog and shortness of breath, to name a few that can persist weeks, sometimes months, after a coronavirus infection that may affect as many as 35 percent of people after testing positive for the virus.⁴

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