

VIEWPOINT

**This is not the last wave of COVID-19, it seems to be**

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**Abstract**

Presently, several countries are facing third wave of COVID-19 pandemic while others second; most of the countries are passing through the different stages of second or third wave with varying degree of intensity. Pakistan faces the third wave of SARS CoV-2 infection. Number of the new reported cases and deaths are rapidly rising. Though the vaccination drive has started but the pace is very slow. The Third wave may further hamper the drive. At this point in time less than 1% of population is immunized against COVID-19. There is long-way to get 60-70% population immunized and reach the level of herd immunity through vaccination/infection. Situation indicates this is not the last wave and raise the alarm that there may be waves to occur in future.

**Keywords:** *COVID-19, pandemic waves, Pakistan, SARS CoV-2,*

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COVID-19 is caused by the SARS CoV-2; till date the SARS CoV-2 is affecting 220 countries and territories in the world. (1) Presently, several countries are facing third wave of infection while others second; most of the countries are passing through the different stages of second or third wave. In several countries second wave is/was more aggressive like tsunami, in others third wave was/is comparably hard-hitting. (2-8) (Figure 1, 2, and 3)

Figure 1 Daily New Cases of SARS CoV-2 till April 24 reported in India

Daily New Cases in India

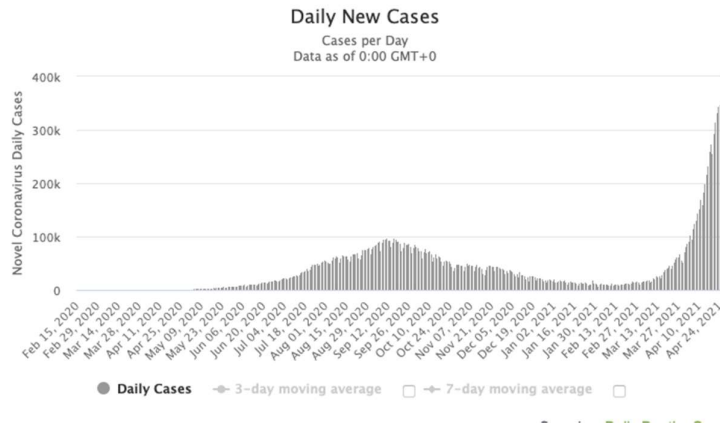


Figure 2 Daily New Cases of SARS CoV-2 till April 24 reported in United Kingdom (UK)

Daily New Cases in the United Kingdom

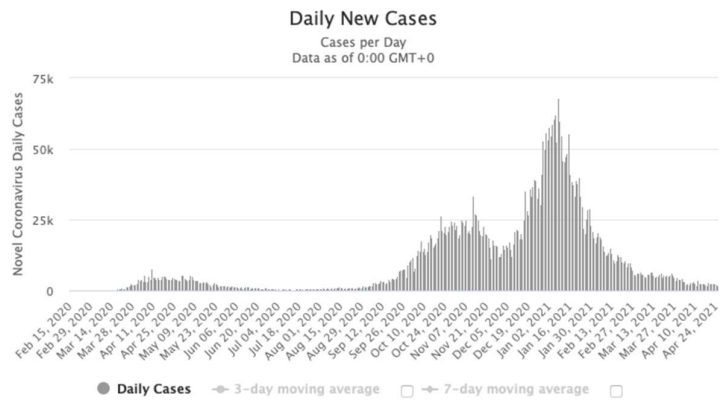
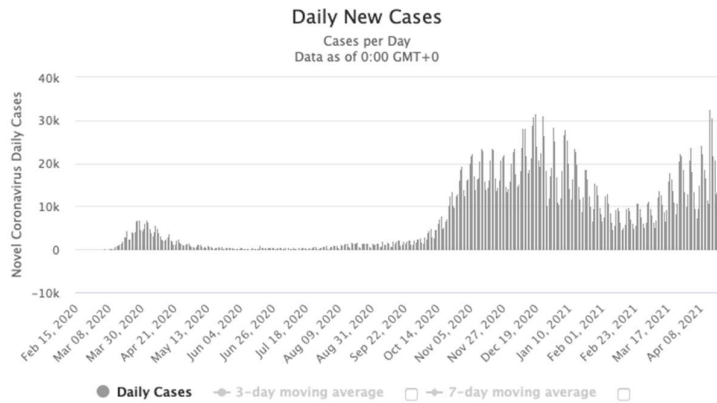


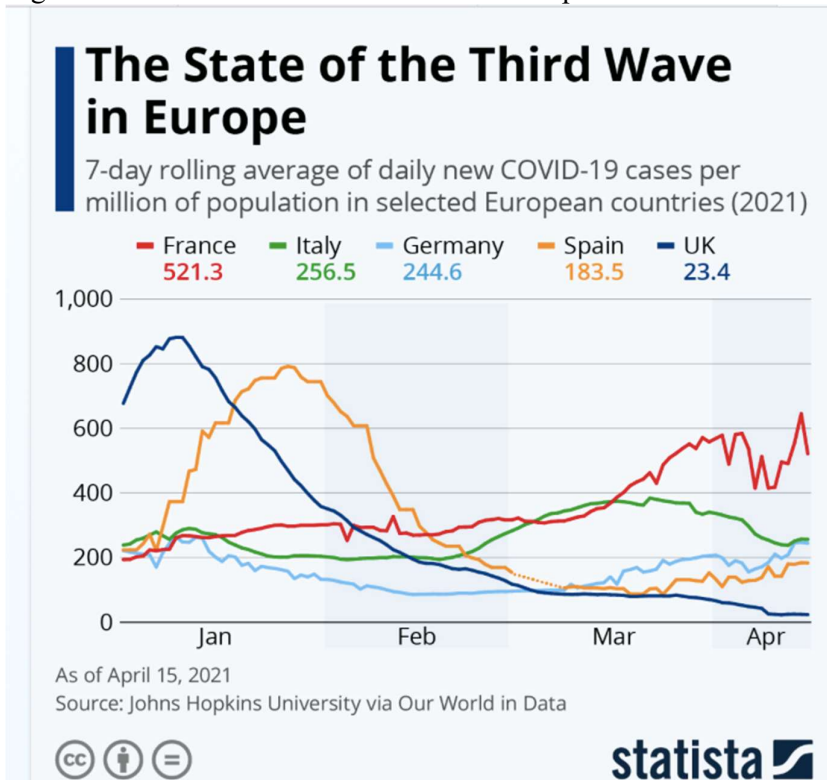
Figure 3 Daily New Cases of SARS CoV-2 till April 24 reported in Germany

Daily New Cases in Germany



Some countries within the region are at different stage of third wave for example Europe. (Figure 4) In thickly populated countries like India wave is at different stages in different provinces at one point in time.

Figure 4. The State of the Third Wave in Europe



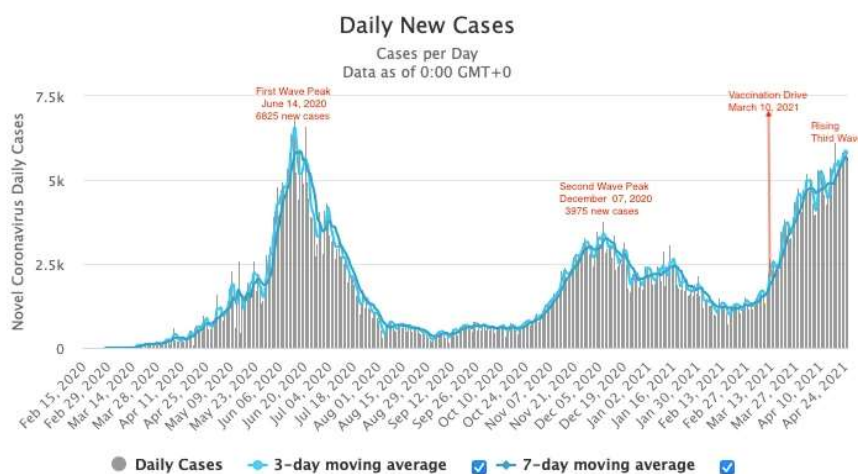
The most severe pandemic in the history was 1918 influenza pandemic infected 500 million people globally and killed 20-50 million as per estimate. This pandemic occurred in United State of America (USA) in three waves, the first wave in spring 1918, the second wave in fall 1918 and third wave in winter 1918; the second wave was extremely fatal. (9)

Waves are observed in the sea usually preceded by trough reached to peak. The term was first used in 1889-92 influenza epidemic that had different phases over years. (9-10) Initially, it was not certain whether SARS CoV-2 infection will recur in phases, or there will be sporadic outbreaks or disappeared completely. (9) But the modelling explained multi-wave pandemic dynamics. (11) It seems to be true.

The Third wave of SARS CoV-2 infection is in progress in Pakistan. Till April 25, 2021, more than 800 thousand new cases and more than 17 thousand deaths were reported. (1) (Figure 5)

**Figure 5 Daily New Cases of SARS CoV-2 till April 24 reported in Pakistan**

Daily New Cases in Pakistan



The current population of Pakistan is around 224.5 million. (12) Keeping the current population in mind and the reported cases of SARS CoV-2, only 0.36% of population got infected. It is likely possible there might be more population got infected as asymptomatic patients and patients with mild disease may not be reporting to the healthcare facilities and there in no proper mandatory contact tracing mechanism in place. This may be supported by the study of seroprevalence COVID-19 of urban population done in Karachi; estimates are at 8.7% from low prevalence area to 15.1% from high prevalence area. (13) By the March 31, 2021 less than 1% of population was immunized against SARS CoV-2 infection. (14) The Third wave may also hamper the vaccination drive.

There is long-way to get 60-70% population immunized and reach the level of herd immunity through vaccination/infection. Keeping current situation in mind, the country may face more waves of SARS CoV-2 in future; one may not know the intensity of incoming ways. Authority has to remain alert.

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