Second Wave of COVID19

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Few had expected the second wave of the Coronavirus disease, or Covid-19, to sweep across India. Like the 1918-20 Spanish flu, the second all-India surge of the Covid-19 pandemic has been more devastating than the first. It has also appeared to be different from last year's surge in several ways, increasing worries and anxiety.

In news: Third Covid wave inevitable, didn't foresee current ferocity: Scientific Advisor to PM
Placing it in syllabus: Disaster Management
Dimensions

- What are waves in a pandemic?
- How is the second wave different from the first?
- What factors led to increased caseload and fatality in India during the second wave?
- Will there be a third wave ?

Content:

What are waves in a pandemic?

- A Wave in a pandemic is generally used to define the rising and declining trends of infections over a period.
- However, there is no official definition of what it constitutes
- Since the new cases often rise gradually to reach a peak before it declines slowly, it resembles the shape of a wave.
- The term wave is often used to describe a period when infection or a disease rises and comes down, and resurge again later after a period of quiet.
- The theory was that the infected population develops some degree of herd immunity to the existing virus,

which then undergoes a minor genetic change that allows it to recirculate and reinfect the population.
- But critical to the theory of “waves” is a “pause” in infections, where the virus dies down.

How is the second wave different from the first?

Speed of transmission:

- The second wave is spreading much, much faster than the first wave
- Across India, doctors believe one of the features of the second wave is greater infectiousness of the virus.

Variants and mutations:

- Many experts believe the surge is partly fuelled by new strains of the coronavirus, including a more infectious homegrown variant found in 61% of samples genome sequenced in Maharashtra, the worst hit state.
- Scientists have detected numerous mutations in the SARS-CoV-2, the coronavirus that causes Covid-19. Some of these mutations have produced what they call **Variants of Concern (VOCs).**
- India has reported such VOCs from several states including the worst-impacted ones by the second wave of Covid-19 pandemic.

More fatality in younger patients:

- In the first wave of the pandemic till December, even though 60% of the infections wew found in those below 45, the age group did not report many deaths.
- According to a report on mortality data by the Union health ministry at least 55% of those who died of Covid-19 first wave were aged above 60 years.

More severe illness and progression:

- Some doctors have observed differences in the clinical

manifestations of the coronavirus disease in the second wave
- Lung damage was occurring earlier among patients – instead of the second week of the illness, it was manifesting in four to five days.

Rise in false negatives on RT-PCR test:

- A high resolution computed tomography in patients who tested negative on RT-PCR test later revealed that the infection had spread to the lungs.
- Patients who tested negative on the RT-PCR test, which is considered the gold standard for Covid-19 diagnosis, are showing symptoms of it nonetheless.

What factors led to increased caseload and fatality in India during the second wave?

- **Social Factors**

Protocol Fatigue:

- When cases started declining, people just broke out of the covid protocol.
- Assuming the worst was over, people did not follow appropriate preventive behaviour such as wearing a face mask, washing hands regularly and maintaining social-physical distance.
- Across India, gatherings began becoming large particularly January 2021 onwards, giving a way for the virus to spread uncontrollably.

Urban Mobility:

- India has recorded over 1.2 crore cases of Covid-19 yet the pandemic is still mostly concentrated around cities, especially the bigger cities.
- These cities have greater mobility giving more opportunities for the virus to spread from one person to

another when the guard is lowered.

- **Factors related to Government Response / Policies**

Mixed Public Messaging by Government:

- The queues outside polling booths and gatherings at the election rallies of all the parties defied Covid-19 protocol.
- This sent a confusing message to the public and also the grassroots-level functionaries of the government. It weakened the vigil against the pandemic.

Relaxed Containment Zones:

- With the decline in cases, the marking of the containment zone became less strict.
- In cities, the government has asked civil authorities to adopt **micro-containment**, with perhaps just a floor or a house defined as a containment zone.
- Earlier, an entire apartment or area would be made a containment zone, reducing the chances of transmission of the virus.

Failure of Vaccination Policy:

- India also failed to vaccinate its population aggressively.
- The slow pace of vaccination resulted in vaccinating only about 2% of India’s population when the second wave hit, which is inadequate to achieve herd immunity in any pandemic.
- News reports also suggest severe shortages of vaccines when the demand shot up after the cases started increasing.
- **Health Infrastructure related factors**

Insufficient Healthcare infrastructure:

- India also failed to seize the opportunity to augment its healthcare infrastructure.

- For Example: Oxygen shortage and lack of beds in Hospitals.

Increased Testing:

- Increased testing is another reason why India is detecting more cases in the second wave of the Covid-19 pandemic.
- The sero-surveys have shown that India had greater Covid-19 exposure than revealed through confirmed cases of coronavirus infection on the basis of laboratory tests.
- Earlier people were reluctant to go for Covid-19 tests but now easier availability of Covid-19 testing, improved disease-management in hospitals and rollout of Covid-19 vaccination programme has made people more confident about opting for the test.
- **Virus Related Factors**

Greater transmission by Asymptomatic Persons:

- In India, 80-85% of the population are asymptomatic.
- Asymptomatic (showing no symptoms) person, who carries the virus, would have spread the infection.

Mutations:

- Besides the human factors, the evolution of coronavirus is among the major reasons for the second wave.
- Some of the mutations in SARS-CoV-2, the coronavirus that causes Covid-19, have become the Variants of Concern (VOCs).
- These are variants for which there is evidence of an increase in transmissibility, more severe disease (increased hospitalizations or deaths), significant reduction in neutralization by antibodies generated during previous infection or vaccination, reduced effectiveness of treatments or vaccines, or diagnostic detection failures.

- The **L452R mutation** found in the **variant B1.671**, first detected in India, too has been associated with increased infectivity.

Will there be a third wave?

- As per the scientific evidence available till now, it is difficult to predict how many waves of Covid-19 India will have. Mutation characteristics of the virus will decide the future waves of this pandemic.
- The Principal Scientific Advisor to the Prime Minister said a third wave of Covid-19 was inevitable given the high levels of the circulating virus and that they couldn’t predict a time frame for it.
- He also said previous infections and vaccines could cause the coronavirus to further mutate in order to survive. Therefore, we should be prepared scientifically to take care of that.

Mould your thought: What is meant by a wave in Pandemics? What are the differences observed in the second wave of covid in India? Why has the second wave of Covid Pandemic in India spread so extensively?

Approach to the answer:

- Introduction
- Define a wave in a pandemic
- Discuss the key differences observed between the two waves
- Discuss the factors which lead to the spread of second wave
- Conclusion