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## Differences between First wave and Second wave of COVID-19 in India



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Sir

The recent wave of corona virus is spreading like a ‘tsunami’ in India. As on April 23, 2021, the COVID-19 cases have crossed the 15.9 million, with 1,85,000 deaths. The 2nd wave is evolving at a phenomenal speed as compared to the 1st wave. There could be several factors responsible for the increased number of cases in the second wave. It is observed that the mutant virus has more effective transmission capability and its incubation period is also lesser. There has been a widespread disregard to the ‘Covid Appropriate Behaviours or CAB’ by the public and the quality of masks used are highly variable. N-95 masks are not much favored masks

**Table 1**  
 Differences between the First and the Second wave of COVID-19 in India.

	FIRST WAVE	SECOND WAVE
Causative organism	SARS-Cov-2 virus	Several mutants of SARS-Cov-2 virus
Knowledge about the disease	Less	More
Symptomatology	More related to respiratory system	Newer symptoms like Gastrointestinal etc. adding
Presentation	More severe	Lesser intense
Shortness of breaths	Less cases with breathlessness	More cases with breathlessness
Age profile of the patients	More older population	More younger population
Comorbidities	Patients with comorbidities affected more	Less
Drug availability	Acute shortage and black marketing	Available in the hospitals and pharmacies
Health care workers	<ul style="list-style-type: none"> <li>•Lesser trained people</li> <li>•Fear of acquiring infection</li> <li>•Not vaccinated</li> </ul>	<ul style="list-style-type: none"> <li>•More trained increased</li> <li>•Lesser fear to acquire infection</li> <li>•Mostly vaccinated</li> </ul>
Bed capacity	Limited	Enhanced
Ventilator beds	Less than 25000	Increased to more than 50000
Laboratory testing	Only one laboratory in January 2020	More laboratories in Private and Government center
PPE	Scarcity	Plenty one million PPE produced
Vaccine	Not available	Three approved vaccines available
Treatment affordability	<ul style="list-style-type: none"> <li>•Increased test price</li> <li>•Increased treatment cost and PPE</li> </ul>	<ul style="list-style-type: none"> <li>•Markedly reduced test price</li> <li>•Reduced treatment cost and PPE</li> </ul>
Oxygen requirement to the patient	Less	More
Requirement of mechanical ventilation	Less	More
Disease Spread	Slower	Much faster
Plasma Therapy	Limited	Much more
Death rate	Higher	Lower
Positivity rate	Lower	Much higher

in India, due to their higher costs and the majority public are using either the indigenous masks made of clothes or are repeatedly using the same and worn out masks. The sharp rise can also be attributed to the higher testing; but, the doubts have been raised about the quality of testing as several cases of positive Covid-19 symptoms are reported as negative on the RT-PCR test.

There are several obvious differences in the first and the second wave (Table 1). In the 2nd wave the paediatric and younger individuals are getting infected, in addition to older ones [1]. The symptoms of COVID 2nd wave are also variable, especially gastrointestinal [2].

### Indian perspective

It has been stated that several factors could have led to rise in reproduction number (R0) in India. If the number of COVID-19 cases rises on day to day basis with the current phenomenal speed; there will be the exhaustion of resources and manpower. There is an acute shortage of hospital beds, oxygen supply, medicines, and ventilators across the country for COVID-19 patients. Although there is no significant percentage increase in the death rate in the second wave, but due to alarmingly high number of infections, the total death numbers are disappointingly high [3]. Therefore, there is an

urgent need for temporary but timely establishment of the hospitals that can save thousands of lives. Since, there no end to this clamity visible in the near future, the population has to learn to live with it in the most careful and safe manner and follow the CAB strictly. It is obvious that the prevention is better than cure for this disease and all the possible measures such as engagement and participation of public in controlling the disease, strict implementation of COVID Appropriate Behaviors (i.e, social distancing, use of face masks, and hand sanitation), mini lockdowns, night curfews, micro containments, etc must be implemented and observed by the Public.

#### Author's statements

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#### Declaration of competing interest

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