A Tsunami of Cases: Challenges and Recommendations to Combat the Second Wave of the Pandemic in India

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Abstract

Objective: India, a developing country, was hit hard by the coronavirus disease 2019 pandemic, having reached the second position in the ranking of countries with the highest number of cases.
Methods: After reaching the peak of the pandemic in September 2020, the daily number of new cases due to the disease inexplicably began to decrease, despite the relaxation and non-compliance with the restriction measures. However, since March 2021, there has been a steady increase in the number of cases reported, signaling a very devastating second wave.
Results: The collapse of the Administration, collapsing of the health-care system, and insufficient vaccinations are the major causes of this condition. Understanding the factors involved and the sequence of events that led to the flattening of the contagion curve in India during the ending of 2020 is also essential, since it can helped guide the next steps in the fight against the virus.
Conclusions: Contributing a greater percentage of gross domestic product toward health care seems to be the way to go as the ultimate strategy for curtailing the second wave. The advantages India has over the first wave, vaccines and a year of experience with the disease, should not be overlooked and used to its maximum in fighting against this pandemic.

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Since March 2021, after an unjustified decline in daily case reporting, India has been facing an increase in the number of cases reported, signaling a very devastating second wave. The country, which had managed to flatten the curve with daily cases below 15,000 from January 15 to February 24 and the case fatality rate dropping from a peak of 3.4% on June 16 (the world rate on that day was 5.4%) to 1.4% on February 1 (the world rate was 2.2%),[1] recorded an all-time high of 2,95,158 cases in a day on April 21, 2021. In the second wave, the highest peak was achieved on May 6 with a daily case of 4,14,188. From late March to early May, the inflation of daily cases was 46,000 to 4 lakhs. This steep rise in cases is a major concern of the public health and as well as the medical community.

Among the reasons that could be responsible for this increase in the number of cases, there are the rampant violation of coronavirus disease 2019 (COVID-19) protocols, the spread of misinformation, and a sluggish vaccination rate. Premature laxity in following protocols among the public prevailed as the numbers kept declining after the peak of the first wave. Extravagant regional events, such as Kumbh Mela where 9,43,452 devotees took a dip in the holy Ganges amid rising cases,[2] are reasons for this reversion to rising cases.

Another reason could be the emergence of a new variant, as being inferred from the increasing false negatives in reverse transcriptase-polymerase chain reaction (RT-PCR) tests, the only diagnostic tool for COVID 19. The virus for which RT-PCR was designed has mutated and, hence, is not detected, giving a false negative result. Despite this, inadequate sampling, improper transport, and late swabs may also be the reasons for the same findings.[3]

Now that India has entered the second wave, it is extremely important to compare it with the first and move on with the lessons learned. On analyzing the first and the second wave of COVID-19, the Indian Council of Medical Research (ICMR) reported that there is no major shift in the age group affected or the death rate in the hospitalized patients. Only a marginal increase in infection among the younger population has been reported in the second wave. A higher proportion of asymptomatic cases and higher oxygen requirements, however, have been seen in the second wave.[4]

Methods

The first step toward making an intervention plan should be to identify the challenges. Briefly, these can be described as:

Collapsing Health-Care System

This exorbitant number of positive cases with inadequate beds, ventilators, and health-care staff has overwhelmed all of the health-care resources available. The entire country's health system is in jeopardy; with over 200,000 cases being reported every day, the supply of oxygen cylinders is not able to meet the incurring demand.[5] Strengthening infrastructure, arranging ventilators, stocking essential medicines, hiring more health-care workers and prioritizing their needs is required. In addition, current union health budget is still 0.34%, which demonstrates a massive gap in comparison to the recommended 2.4% gross domestic product (GDP)[6] by the National Health Policy; thus, there is a need to invest more for a better infrastructure to combat the current situation and be prepared for future pandemics. There is also a need to establish more dedicated COVID-19 hospitals, mobile COVID-19 services, and fever clinics at the community and district level to have better coverage. This pandemic situation also highlights an imminent need for more doctors, nurses, and other paramedics. Clinical Research programs and advanced clinical summer training should be conducted for doctors, nurses, and paramedics. This pandemic has highlighted the importance of establishing primary care hospitals in remote places to strengthen the rural health-care system providing health-care coverage to all. Regular awareness programs and camps are needed.

Inadequate and Inefficient Testing

Even with a large amount of testing done (12-13 lakh RT-PCR and 17 lakh rapid antigen test) each day falls short when compared with the population of the country. The Centre need to revamp the testing to up to 45 lakh per day to be more efficient in diagnosing positive cases, which is a key to prevent transmission.[7] To get more testing done, small testing centers should be opened in every ward, home testing kits should be made available free of cost or at a very low cost, camps and tutorial programs should be conducted on how to use those kits, and adequate sample collection with efficient storage and transport of samples should be followed to ensure fewer false-negative reports. Local people should get trained on taking swabs and on how to conduct the RT-PCR tests. With this, more technicians would be available to conduct more tests in a short period without the risk of false negatives due to existing technician burnout.

Inefficient Vaccination

A possible reason for the enormous surge in cases, despite launching vaccination campaigns in January 2021, could be that the vaccines were available only to those above 45 y, thus ignoring a major chunk of the Indian population. However, the new guidelines allowing vaccination of everyone above 18 y of age from May 2021,[8] provide a glimmer of hope. It needs to be ensured that each person in every age group is vaccinated. Eventually, door-to-door vaccination programs should be initiated to ensure 100% coverage. Every 500 meters, there should be 1 vaccine center. Government should give the vaccines free of cost. Private centers can provide the vaccine with a nominal charge. The respected authority should conduct regular surveillance in these vaccine centers in the wake of the increasing incidence of fake vaccination in India.[9,10]

Other challenges that have been less reported are lacunae in the data and research on the available COVID-19 database. Apart from COWIN (The national government's COVID database), there are many applications and software to store the reports of COVID-19 cases and vaccinations.[11] Every state has its software. To make the data more representative and interpretable, all these software should be merged into COWIN.

Results and Discussion

There is a need to initiate more government-run research teams that can study the gaps in the current reporting and management strategies so that newer guidelines can be established. This could be possible if proper reporting, recording, and availability of existing data are made and more research funds are allocated.

Therefore, the main message is that, with the higher rates of transmission and rapidly rising cases in the second wave, timely and effective action is required.

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