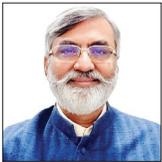


Viewpoint

Resurgence of COVID-19 in India - Challenges and solution

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Received : 09 April 2021

Accepted : 09 April 2021

Published : 29 May 2021

DOI

10.25259/IJMS_149_2021

Quick Response Code:



The COVID-19 pandemic continues to throw up new challenges. This is in spite of the global roll out of highly effective vaccines. So let us take a closer look at the current status and possible solutions that can help us overcome this menace.

As of March 31, 2021, the world had recorded 128,777,243 cases and 2,814,831 deaths due to COVID-19.^[1] This pandemic has changed almost everything about our lives and we are immersed in a new normal that is here to stay.^[2]

COVID-19 SECOND PEAK

As countries across the world face the second wave/peak of COVID-19, let us look at the five countries with the largest number of cases [Table 1].^[1] In terms of absolute numbers, India is ranked third. However, this gives a skewed impression. When we look at total number of cases per million of population, we have significantly lower numbers as compared to other countries. This is also true for the total deaths per million populations. We have previously pointed this out and is a reflection of the fantastic achievement of our country against COVID-19; significantly better than the western world.^[3]

COVID-19 MORTALITY IN INDIA

As India faces its second peak/wave, an important fact needs to be understood by all stake holders. COVID-19-related mortality continues to fall consistently, even when the number of cases is increasing [Table 2]. Status on March 28, 2021, was 68,206 daily new cases and 295 deaths. Comparing this to August 19, 2020 (comparable number of daily new cases – 69,196), the deaths were much higher at 900.^[1] This is also true for other time and incidence points between the first wave/peak and the second wave/peak. Clearly steps taken by the government as well as the health-care sector (infrastructure and personnel) have contained the effect of the pandemic and are saving more lives.

VACCINE

Availability of COVID-19 vaccine is a landmark that shall be remembered by history.^[4] So far, a total of 565 million doses have been given across 141 countries and 127 million people are fully vaccinated.^[5] As India rolls out the world's biggest vaccination drive, the objective is to overcome COVID-19 in the shortest possible time. Our current status is shown in Table 3. Interestingly, the maximum coverage of their population has been achieved by tiny Israel (with a population <1% of India's). One of the major challenges faced by the Indian vaccination drive is the fear

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Table 1: Five countries with highest reported incidence of COVID-19.^[1]

S. No.	Country	Total cases	Total deaths	Total cases/1 M pop	Total deaths/1 M pop
1.	USA	31,096,479	564,133	93,538	1697
2.	Brazil	12,664,058	317,936	59,265	1488
3.	India	12,148,487	162,502	8739	117
4.	France	4,585,385	95,337	70,133	1458
5.	Russia	4,536,820	98,442	31,078	674

Table 2: Daily COVID-19 cases and deaths in India.

Date	June 12, 2020	August 19, 2020	September 16, 2020	February 2, 2021	March 28, 2021
Relevance	Matching first trough numbers – during first wave	Matching current status – during first wave	First peak	First trough	Current status
Daily cases	12,375	69,196	97,859	11,000	68,206
Daily deaths	389	900	1,129	113	295
Daily deaths as % of daily cases	3.08%	1.30%	1.15%	1.03%	0.43%

Daily deaths are reducing – even when numbers of positive cases are increasing. This is a major achievement

Table 3: COVID-19 vaccine status in six countries.^[5]

Country	Total vaccine doses given (in millions)	Fully vaccinated (in million)	% fully vaccinated	Population
1 USA	146.0	52.6	15.82	332,447,357
2 China	111.0*	--	--	1,439,323,776
3 India	61.1	8.9	0.64	1,390,086,508
4 UK	34.1	3.67	5.38	68,151,503
5 Brazil	18.1	4.09	1.91	213,683,414
11 Israel	9.97	4.74	51.54	9,197,590

*No confirming data or details available

mongers having widespread influence through social media. As a result the current capacity for vaccine administration is underutilized, being as low as 27.9% of targeted coverage in Punjab as compared to 71.4% in Uttar Pradesh.^[6] Fortunately, vaccine hesitancy has now reduced to 7% in our country.^[7] This is reflected in the vaccination trends across India, as shown in Figure 1.^[5]

Vaccine hesitancy has been attributed to several reasons – including misconceptions among healthcare professionals. These include scepticism about the rapid development and availability of the vaccine (has the manufacturing process taken shortcuts and emergency authorization given without adequate data?); failure to protect against COVID-19 (efficacy); life-threatening side effects; role of mutation strains; influence of comorbidities; durability of benefit; and even whether the vaccine is necessary in the first place or not. Once again we would like to emphasize that misleading (and even downright fake) information floating on social media has contributed significantly in most instances.

Technological advances have allowed us to develop the vaccine at an accelerated pace with stringency that is more

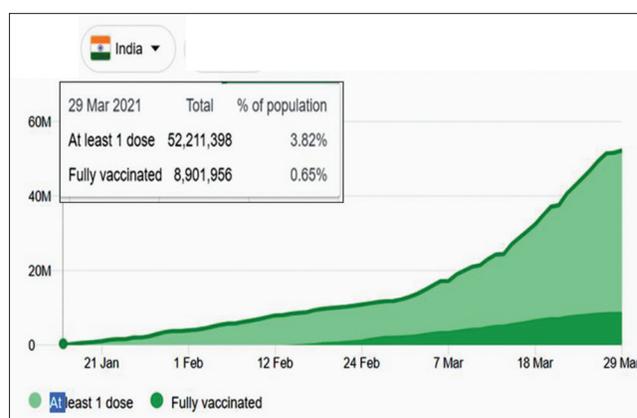


Figure 1: COVID-19 vaccination trends in India.^[5]

than in the past. This process is telescoped into a shorter time only because of novel technology that was not available earlier. Everyone should remain reassured that no short cuts have been taken.

Some people have raised questions about the emergency authorization given under trial mode. Such allegations

expose the lack of understanding about the authorization process. There is a need to distinguish normal marketing authorization and emergency authorization. Everyone agrees that current COVID-19 pandemic is an emergency. However, many are unaware of what regulations exist for emergency authorization. Anthony S. Fauci, Director of National Institute of Allergy and Infectious Diseases, USA, has clarified that emergency use authorization is possible when 50% of the patients in the vaccine trial have completed 30 days after the final dose.^[8,9] This was also the case for Covaxin (Bharat Biotech, India). Failure to understand this fact led to a significant unwarranted criticism of Drugs Controller General of India (DCGI) as well as of the manufacturer.^[10]

There is a vital difference in overall efficacy versus clinically meaningful efficacy when looking at COVID-19 vaccines. In India, we currently have two vaccines approved and a couple more whose data have been submitted to DCGI. Interestingly, Bharat Biotech is developing a COVID-19 vaccine that can be administered transnasally, which would be a game changer. When people discuss efficacy of 62% (CoviShield) versus 89% (Pfizer-BioNTech COVID-19 Vaccine), they are missing a very important point. These figures refer to overall efficacy for all aspects (prevention of death, serious infections, hospital admissions, moderate infections, mild infections). But is this what we should be looking at? What is clinically meaningful are the first three – prevention of death, hospitalization, and serious infections. For these, the efficacy is almost 100% for all the vaccines approved globally. Hence, the debate regarding which vaccine should be taken needs to be put to rest. All the citizens are recommended to take the first available vaccine at the first available opportunity. This is the only way to get maximum clinically meaningful protection (for self) and to make the pandemic to recede (for the globe).

To give a reality check, let us take the example of the well-established seasonal flu (influenza) vaccine.^[11]

Every year, a new flu shot needs to be developed against influenza virus (seasonal flu shot). Across the globe, 142 national centers from 113 countries track data on the influenza virus.^[12] Their job is to evaluate which of the virus strains are prevalent and what was the beneficial effect of previous vaccines. These data are then assimilated and consolidated at five World Health Organization collaborating centers in the USA, Japan, Australia, the UK, and China. Their job is to guess which strain of the virus will be responsible for the seasonal flu next year. Based on this analysis and the technical feasibility to produce a working vaccine in time for the forthcoming flu season, the new influenza vaccine is developed fresh twice every year. (Some viral strains expected to be prevalent in the flu season are consciously left out if the production process is too slow to allow the vaccine to be ready in time). And when this vaccine is used during

the flu season, its efficacy has varied from as little as 19% (in 2014–15) to as much as 60% (in 2010–2011) [Figure 2].^[12] In fact, as far as India is concerned, it has been reported that the total influenza (seasonal flu) vaccine efficacy was as low as 14.5%.^[13] These figures give us the true perspective as to how beneficial the available COVID-19 vaccines are and why those having vaccine hesitancy are grossly misinformed.

Life-threatening side effects: There is the small risk of severe allergic or anaphylactic reactions to the vaccine. European medical and UK health authorities have said that there could be some evidence regarding higher risk of thrombosis and low platelet counts, especially with CoviShield.^[14] The International Society on Thrombosis and Hemostasis has stated that all adults should still continue to be vaccinated against COVID-19. This statement has been made by them after taking into consideration the decisions by authorities in Iceland, Denmark, and Norway to stop AstraZeneca vaccine for their population. With social media spreading fear, we need to remember the fact that on one side are the small number of thrombotic episodes reported and on the other side are the well-documented millions of COVID-19 vaccine doses administered across the globe. So far, no evidence of a direct link has been established.

Other unanswered questions include the influence of comorbidities; implications regarding mutations of potential significance; and durability of benefit. Time will surely answer them in a robust and detailed manner.

However, three dramatic statements (Moderna mRNA vaccine can alter DNA by Washington Post; pandemic is over and there is no need to vaccinate against COVID-19 by ex-Pfizer VP and Chief Scientist; mass vaccination against COVID-19 is creating an uncontrolled monster that will end our species by a Belgian ex Gates Foundation veterinary scientist) made by those who were seeking publicity and had a hidden agenda of their own, have already been proven to be wrong.^[15-19]

REAL PROBLEM

As the COVID-19 pandemic is in resurgence in most parts of the world, several hypothesis and explanations have been

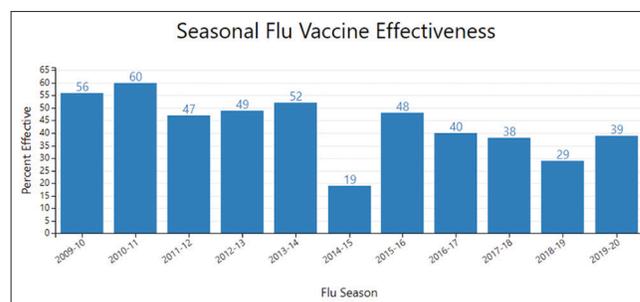


Figure 2: Efficacy of seasonal flu (influenza) vaccination.^[12]

touted. Variants, mutations, higher infectivity, and greater virulence have become buzz words on social media.^[20] However, the problem (and the solution) is much simpler. It is us people, the common man who is responsible. We have become casual about mandated precautions (COVID-19 fatigue). We have become very casual. Masks are often worn on the chin or totally missing. Physical distancing is not followed at public places. Social gatherings have increased. Failure to follow government regulations is rampant. Family physicians are experiencing increasing number of persons who come to their OPD with fever and other features of COVID-19. They also lament that the majority do not follow their instructions to do the RT PCR test to ascertain whether they are infected or not. They abhor the thought of being forced into home quarantine and instead choose to be super spreaders of the virus. Even the sealing of buildings and home quarantine enforcement needs policing and infected people find novel ways of circumventing the restrictions imposed. These are all features that could be clubbed under the umbrella of the Peltzman effect.^[21]

TAKE HOME MESSAGE

1. The COVID-19 pandemic is far from over and precautions must be continued by everyone – vaccinated and unvaccinated people.
2. India is experiencing a second peak that is bigger than the first one. However, the number of patients infected, having serious infections and dying because of COVID-19/ million population are one of the lowest in the world
3. Eligible people should take the COVID-19 vaccine at the first available opportunity
4. Efficacy of all available vaccines is almost 100% when clinically meaningful endpoints are considered – severe infection, hospitalization with need for oxygen therapy, intensive care requirements, and death
5. Vaccination gives maximum immunity and protection 2 weeks after the second dose
6. Benefits of vaccination far outweigh the potential risks for all groups of individuals
7. Social media is overflowing with incorrect, fake, or exaggerated misinformation about COVID-19 and its vaccination. Please do not fall prey to fear mongers
8. Only time can answer some of the questions regarding long-term effects of the vaccination
9. Everyone needs to cooperate in ensuring that national and local mandated regulations are followed in the strictest sense – for their own benefit as well as the benefit of fellow citizens.

Declaration of patient consent

Patient's consent not required as there are no patients in this study.

Financial support and sponsorship

Nil.

Conflicts of interest

Dr. Purvish Parikh is the Emeritus Editor; Dr. Sashank Joshi is the Editor-In-Chief; and Dr. Ashish Gulia is the editor of this journal.

REFERENCES

1. Available from: <https://www.worldometers.info/coronavirus>. [Last accessed on 2021 Mar 31].
2. Parikh PM. Clinical trials are gasping during the ongoing COVID-19 pandemic. *Cancer Res Stat Treat* 2020;3:356-8.
3. Parikh PM, Bapna A, Krishna MV, Mehta P, Aggarwal S, Gulia A. COVID-19 testing in India in comparison to the rest of the world. If Indian testing strategy was replicated in the other top 15 COVID-19 affected countries in the world, the status would be startlingly different. *Indian J Med Sci* 2020;72:107-9.
4. Parikh P, Singh R. Hot race for COVID-19 vaccines light at the end of the tunnel just got brighter. *Int J Mol Immunol Oncol* 2021;6:1-3.
5. Available from: https://www.support.google.com/websearch/answer/10339795?p=cvd19_vaccine_stats&hl=en-IN&visit_id=637535002584929170-3421704913&rd=1. [Last accessed on 2021 Mar 31].
6. Available from: <https://www.science.thewire.in/health/covid-19-vaccine-hesitancy-worries-centre>. [Last accessed on 2021 Mar 31].
7. Available from: <https://www.theprint.in/india/covid-vaccine-hesitancy-in-india-down-by-7-since-dec-3-to-wait-till-2022-to-decide-survey/589839>. [Last accessed on 2021 Mar 31].
8. Available from: <https://www.nih.gov/news-events/news-releases/statement-nih-barda-fda-emergency-use-authorization-janssen-covid-19-vaccine>. [Last accessed on 2021 Mar 31].
9. Available from: <https://www.blog.edenhealth.com/emergency-use-authorization-what-you-need-to-know>. [Last accessed on 2021 Mar 31].
10. Available from: <https://www.indiatoday.in/coronavirus-outbreak/vaccine-updates/story/covaxin-approval-row-how-india-approves-vaccines-explained-1756049-2021-01-05>. [Last accessed on 2021 Mar 31].
11. Available from: <https://www.scientificamerican.com/article/how-are-seasonal-flu-vaccines-made>. [Last accessed on 2021 Mar 31].
12. Available from: <https://www.cdc.gov/flu/vaccines-work/effectiveness-studies.htm>. [Last accessed on 2021 Mar 31].
13. Sullender WM, Fowler KB, Gupta V, Krishnan A, Purakayastha DR, Srungaram Vln R, *et al.* Efficacy of inactivated trivalent influenza vaccine in rural India: A 3-year cluster-randomised controlled trial. *Lancet Glob Health* 2019;7:e940-50.
14. Available from: <https://www.ema.europa.eu/en/news/covid-19-vaccine-astrazeneca-benefits-still-outweigh-risks-despite-possible-link-rare-blood-clots>. [Last accessed on 2021 Apr 07].

15. Available from: <https://www.isth.org/news/556057/isth-statement-on-astrazeneca-covid-19-vaccine-and-thrombosis.htm>. [Last accessed on 2021 Apr 07].
16. Available from: <https://www.reuters.com/article/factcheck-moderna-mrna-idUSL1N2M10IV>. [Last accessed on 2021 Apr 07].
17. Available from: <https://www.health.economictimes.indiatimes.com/news/diagnostics/no-need-for-vaccines-covid-effectively-over-ex-pfizer-vp/79445839>. [Last accessed on 2021 Apr 07].
18. Available from: <https://www.audacy.com/podcasts/shockwavenews-48883/episode-28-top-vaccine-scientist-warns-the-world-halt-all-covid-19-vaccinations-immediately-359370981>. [Last accessed on 2021 Apr 07].
19. Available from: <https://www.soundcloud.com/zdogcmd/vanden-bossche>. [Last accessed on 2021 Apr 07].
20. Purvish P, Prashant M, Shyam A. Important COVID-19 update new life-threatening syndrome in pediatric patients? *Int J Mol Immuno Oncol* 2020;5:42-3.
21. Available from: <https://www.theprint.in/theprint-essential/the-peltzman-effect-and-the-lessons-this-theory-on-road-accidents-has-for-covid-behaviour/634372>. [Last accessed on 2021 Apr 03].

How to cite this article: Parikh P, Joshi S, Gulia A. Resurgence of COVID-19 in India - Challenges and solution. *Indian J Med Sci* 2021;73(1):70-4.

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