

‘Pros and Cons’ of COVID-19 Pandemic with reference to Reproduction Factor, Mortality and Vaccination Program in India

ShashiBhushanShashi

Department of Zoology, MKS College, Chandauna, Darbhanga-847303, India

Abstract

Coronavirus has spread to 192 countries. So far the mortality rate, it depends on reproductive number which is a way of rating coronavirus or any disease's ability to spread. R is the number of people that one infected person will pass on a virus to, on average and collectively called as reproduction factor (RF). This means, on average, one person will spread coronavirus to 15 others. Coronavirus, would have a reproduction number of about three if no action was taken to stop it spreading as seen during wave-2 specially in comparison to wave-1. The reproduction rate seriously corroborated the mortality rate in India particularly in the wave-2. There are many reasons behind this including ignorance of WHO guidelines too in various ways. The paper advocates at a glance knowledge on such reasons and ‘Pros and Cons’ for reproductive factors (RF) and high mortality including vaccination program in India during covid pandemic.

Keywords: Pros & Cons, Covid-19 Pandemic, Reproduction Factor (RF), Mortality, Wave-2, WHO Guidelines, Fallacy, Awareness.

Introduction

India is a large secular country of 130 crores of huge population with one which is equal to the populations of 87 countries as well as 87 country heads (Prime Minister/President). This includes 48 countries of Europe having 75 crores population and 39 countries of North America having 59 crores population (Table 1).

Table 1: Comparative Chart showing reasons behind Covid Management (Up-to May 10, 2021)

Source: Programme DNA, Zee News (To up to date on 31 May, 2021)

Islands	Total Countries	Total Covid Cases	Total Mortality	Total Population
Europe	48	4.45 Crores	10.11 Lacs	75 Crores
North America	39	3.82 Crores	8.86 Lacs	59 Crores
Total	87	8.27 Crores	18.71 Lacs	134 Crores
India	01	2.27 Crores	2.46 Lacs	130 Crores

The reproductive factor depends as our behaviour changes or as immunity develops (Hajinasrollah *et al.*, 2021 and Shashi, 2020). Mathematical modellers at Imperial College London attempted to track how the number changed as isolation, social distancing and the full lockdown were introduced in spring of 2020 (<https://www.bbc.com/news/health> and Shashi, 2020). Before any measures came in, the reproductive number was well above one and the conditions were ripe for a large outbreak. Successive restrictions brought it down, but it was not until full lockdown that it was driven below one.



Fig.1: Showing Daily Report of May, 2021

Materials and Methods

The present paper is based on the past and present scenario of Covid-19 wave-1 and wave-2 pandemic in India with the help of valuable and authentic resources through print and electronic newspapers, different reputed Indian TV Channel programs and different webpages returned from a Google search to contribute knowledge for mass people, students, scientists and academicians.

Results and Discussion

An reproductive value factor matters because above 1 means that the epidemic will grow exponentially, while below 1 means it is not growing and the disease will eventually stop spreading. We all want RF below 1 which shows that not enough new people are being infected to sustain the outbreak. RF can be brought below 1 once the infected persons transmit the disease to less than 1 person, on an average. This can be achieved when people gain immunity against the infection either via vaccine or herd immunity which is a stage where enough people become immune by getting infected naturally and fighting it that more people are not catching the infection. RF, on the other hand, is a measure of 1 person infecting the number of other persons in a population among whom the precautionary measures to avoid the infection are being followed strictly. In the case of COVID-19, the precautionary measures as per WHO guidelines include wearing masks in public, maintaining social distancing, washing hands regularly, wiping high-touch

surfaces frequently among others. If the RF is 3, this means that one infected person can pass on the infection to three more persons and those three will further infect three each on an average (Table 2).

Table 2: Reproductive Factor (RF) in different countries (Year 2021)

1. UK	0.7 and 0.9
2. Scotland's	0.8 and 1.0
3. Wales	0.6 and 0.9
4. Northern Ireland	0.75 and 0.95.
5. England	0.8 and 1.0
6. India	0.98 on 17 May & 0.82 on 25 May

During the initial days of the pandemic, in March and April, the RF value in the country was more than 2 which decreased to less than 1 in September. The latest R effective estimate for the country is 0.90. Regionally if we see, on Thursday, November 5, Himachal Pradesh recorded the highest RF value in India at 1.20. Haryana recorded the second-highest RF value at 1.19. This was followed by Delhi and Mizoram at 1.18, Ladakh at 1.08 and Chandigarh at 1.05. On the other hand, Karnataka recorded the lowest RF value in the country at 0.54. This was followed by Puducherry at 0.62, Nagaland at 0.66, Assam at 0.73, Bihar at 0.77, and Arunachal Pradesh and Tripura at 0.83. The experts warn against complacency that may set in among the public and the authorities as the RF goes below 1. This is because until the immunity is built against the virus, any negligence can result in an increase the reproductive factor. As per WHO, In India, from 3 January 2020 to 4:48pm CEST, 26 May 2021, there have been 27,157,795 confirmed cases of COVID-19 with 311,388 deaths and as of 25 May 2021, a total of 200,494,991 vaccine doses have been administered. From April to May 2021 the reproductive value increased slowly but steadily and jumped during the first fortnight in May 2021 with mortality rate. The per day infected cases and mortality rate in the Month May, 2021 showed the peaks in India (Table 3).

Table.3: Covid Infected Cases and Mortality/Day in May, 2021 in India

Date	Cases/Day	Mortality/Day
May 1	3,92,603	3673
May 2	3,69,957	3455
May 3	3,68,000	3417
May 4	3,82,691	3786
May 5	4,12,618	3982

May 6	4,14,433		3920
May 7	4,01,326		4194
May 8	4,09,300		4133
May 9	3,66,517		3748
May 10	3,29,517		3879
May 11	3,88,499		4200
May 12	3,62,406		4126
May 13	3,43,288		3999
May 14	3,26,123		3879
May 15	3,10,822		4090
May 16	2,81,860		4092
May 17	2,81,386	4106	
May 18	2,63,533		4329
May 19	2,67,122		3915
May 20	2,58,485		4206
May 21	2,54,288		4142
May 22	2,57,299		4194
May 23	2,40,766		3736
May 24	2,22,315		4454 (Highest Mortality)
May 25	2,08,992		4160
May 26	2,11,275		3841
May 27	2,11,298	3847	
May 28	1,69,064		3514
May 29	1,73,790	3617	
May 30	1,65,553	3460	
May 31	1,52,734		3128

The Decline of COVID-19 Cases in India Since May 9: Live India News 17 May 2021 and Death Peak on 24 May (Recovery Rate : 91.60 percent up to 31 May, 2021)<https://www.financialexpress.com/lifestyle/health/covid-19-coronavirus-cases-in-india-live-updates>

It is observed that after 15 May, 2021 the infected cases went in decreasing manner where the mortality rate was near about 4000(+--). This time now the cases reported to increase in rural areas of the country in different states rather than urban areas. The matter of discussion is now based on the following cause and behaviors during the wave-1 and wave-2 pandemic in India. The un-follow of World Health Organization pandemic guidelines and negligence of Covid behavior seen in all countries including India. The un-follow, negligence, mortality and much more slackness of mass of Indian people was cruelly highlighted by western media also and finally a panic stage was created among Indian people which is a matter of broad discussion. Vaccination is going on in India and on the date 20 Crore+ was vaccinated. The Indian Prime Minister called vaccine as weapon, fighting with Covid 19. In this way, however, the author believes to frame the

vaccines in following types which fulfill all the Covidbehavior requirements of the people and for the people.

Types of Vaccines:

Two types of vaccines are being focused by author on the basis of following two parameters:-

(A) Vaccine-1

(B) Vaccine-2

(A) Vaccine-1 : This is based on the basis of Covid Physical Ideal Parameters include-

1. Mask
2. Social Distancing
3. Remaining Corona Disciplinary Behaviors
4. Awareness

(B) Vaccine-2: This is based on the basis Covid Experimental Ideal Parameters include-

1. Testing
2. Tracing
3. Treatment
4. Covid Vaccine doses

All the vaccines are necessary to follow to each and every one right now.

‘Pros and Cons’ of Covid-19 Pandemic in India

Due to mutant variants, 2021 wave-2 coronavirus sprayed speedily in comparison to 2020 Wave-1 (Shashi, 2021). Government of India also notified World Health Organization guidelines time to time on national level followed by state governments for the people and to the people of India. But due to mass carelessness and mass corona negligency and indiscipline behavior, the reproductive rate became high to highest and people had on high risk of this pandemic, the mortality rate India became the highest ever. So, on the basis of several studies since 2020 wave-1, one can't ignore the following supportive reasons for this man-made tragedy which are as follows:--

1. Mass level avoiding tendency of Covidbehavior guidelines of WHO & GOI all over in India
2. Carelessness with Covid disciplines
3. Confusion created variously through political issue by political parties supported by some TV channels for TRP

4. Role of western medias and some Indian medias
5. Role of different platforms of Social Medias and climax of fake news & videos
6. Selective Media Reporting focusing on targeted particular urban areas only and also target to avoid rural areas
7. Conservative beliefs of some Indian community
8. Corona Disaster and unexpected system failures of states, union territories and GOI in total
9. Suspicion on plasma therapy treatment

In a vast country like India with a population of 130 crores, many appropriate steps were taken by Prime Minister Narendra Modi since the year 2020 to prevent the Indian people from coronavirus epidemic. During the wave-2 (including the statewise lockdown and unlock) the infection spread again and many steps are being taken as per the need even today under the guidelines of the Government of India. At the same time, under the vaccination program, Bharat Biotech's Covaxin and Serum Institute's Covishield vaccines are being administered free of cost in India from and on 16 January 2021, operating 3,006 vaccination centres on the onset. Each vaccination centre offered either Covishield or Covaxin, but not both. 165,714 people were vaccinated on the first day of availability. Prime Minister Narendra Modi received his first dose of coronavirus vaccine at Delhi's premier All India Institutes of Medical Sciences. After vaccination he said "Took my first dose of the COVID-19 vaccine at AIIMS. Remarkable how our doctors and scientists have worked in quick time to strengthen the global fight against COVID-19. I appeal to all those who are eligible to take the vaccine. Together, let us make India COVID-19 free!" he tweeted with a picture of him receiving the shot. He took the second dose of COVID-19 vaccine at the AIIMS, New Delhi after receiving his first dose of Covaxin on March 1. In a tweet he said 'Got my second dose of COVID-19 vaccine at AIIMS. Vaccination is among the few ways we have, to defeat the virus. If you are eligible for the vaccine, get your shot soon. Register on CoWin.gov.in. So Prime Minister has inspired for vaccination. Indian citizens and organizations are active in the efforts of the Government of India and

Prime Minister from vaccination to other help to prevent the corona epidemic. At the same time, due to many socio-religious and political misconceptions and fallacy, WHO's set guidelines for the prevention of coronavirus and now various types of human-caused obstacles in vaccination are also coming. And all these things are being exposed in time by the print and electronic media. For example, an 18-year-old engineering student from Telangana's Nalgonda has chosen to isolate himself on a tree to prevent himself from infecting his family with Covid-19. Ramawat Shiva Naik, who studies at a college in Hyderabad, has spent 11 days on a tree near his home in Kothanandikonda village in Adavidevulapally Mandal. (<https://www.tribuneindia.com/news/nation/covid-positive-telangana-youth-spends-11-days-on-tree-254153>)(Fig.2).



Fig.2: Showing 18 Years old Engineering Boy of Telangana, India Ramawat Shiva Naik isolated himself on tree for 11 days.

Similarly, in Parwalyavillage of Bhopal (Madhya Pradesh), which is at a distance of 25 km from Madhya Pradesh, the villagers converted the 'Panchayat Building' into a quarantine center in spite of following the norms of being home quarantined and the report came negative after conquering Corona through masks, social distancing, scientistsetc. This is what the police station in-charge GirishTripathi

and villager Rahul PatidartoldZee News Program DNA and some other channels. Not only this, the residents of the village here had already taken the first dose of the vaccine. According to the information, there were 27 corona patients in this village in March-April, 2021 and now this village has become a corona free village. Another example is the village of WazirpurinGurugram (Haryana) with a population of 4000. The people of this, taking lessons from Covid Wave- 1, put up barricades from place to place in the village and maintained the movement in the village only after the corona test. As a result, due to this awareness in Covid Wave- 2, the corona did not spread in their village. On the other hand, such unsung heroes also came to the fore who during the Corona period, from free transportation of oxygen cylinders, concentrators, medicines *etc.* to free patients by car, to the dead corona patients in cremation and helped in various ways. Such UnsungHeros are-SatishArora (Chandausi, Uttar Pradesh), Amit Kumar (Jaunpur, Uttar Pradesh), Shakeelji (Municipal, Gujarat), the famous actor SonuSood*etc.* In order to encourage vaccination in the Muslim settlement of Hayaghat block in DarbhangaBihar, the administration sat down and took cooperation from the Imams whereas 'Vaccine Express' is working for vaccination in different municipal wards of Darbhanga, Bihar in a schedule manner.Together, it was resolved to identify the anti-social elements who spread the rumor of not taking the vaccine. On the other hand, America and other countries like to encourage vaccination with prizes, lottery *etc.* In Chennai's Colvam, the chance of getting the vaccine up to Gold Coins, Mixies and Scooty is being given (dainikbhaskar.com , 8 June 2021). Overall, the Government of India, in addition to the State Government, social organizations, print and electronic media like News 24, Zee Media, News 18 importantly are working repeatedly to encourage measures to prevent corona infection and to avoid social media and other rumors and to promote free vaccination. Secular India, Indian Sanatan Culture, political rivalry, religious superstition and above all, lack of scientific temper have spoiled the image of India in this Corona period also. Divine intervention in people started worshipping by making a temple of "Goddess Corona Devi" has come up in

Coimbatore to stop the infection of corona (Fig.3) the same concepts like God's charisma and treatment of corona with cow urine(Gomutra), by the grace of Ganga Maiyahelped to be carelessness and finally increasedepidemic.



Fig.3: Showing Corona Temple of Coimbatore in India (Seeking Divine Intervention)

Likewise after 3 deaths from corona in ShukulpurJoohi Village of Pratapgarh, UP,some people tried to establish Corona Mata Temple when local administration has arrested some people and set up enquiry against this (Fig.4).



Fig.4: Showing Tried to establish Corona Mata Temple in ShukulpurJoohi Village of Pratapgarh, UP,India

The situation of political resonance was that first a political party promoted the vaccine by calling it water, and on the other hand, tried to bake its political bread by promoting things like BJP vaccines, as a result of which the corona infection rate and death graph become increase. It is also a burning fact that about 70-75% of India's scientific temper is still there, due to which it has become a habit to ignore technical advice. As a result, several Professors and University Staff died

during Wave-2 of Corona at Aligarh Muslim University. It is to be known that the trial of corona vaccine was also done in AMU itself, but due to skeptical ideologies and superstitions, enthusiasm was not shown here in vaccination and fallacy like death after the happy day of the vaccine, the death of the coming breeds, the deterioration of the coming breeds, the increase in excess, *etc.* superannuated within the particular regions. The political rivalry reached its climax when the prescribed so called controversial various toolkits were exposed, a fabric of mischievousness was woven by defaming the people of one's own country. In daily TV debates by various TV channels, bypassing the news of prevention and awareness from Worldwide Pandemic, only trying to spread panic by keeping worry and anxiety in the center. On the May 21 program of News18 India TV Channel's program 'BhaiyajiKahin', the neurologist of AIIMS has stressed on not to spread panic and to debate on prevention and awareness only. In the same News24 program 'MahaulKyaHai', when talking to the farmers of Haryana and Punjab since May 21, the farmers underlined the statement like 'JakoRakheSaiya Maar Sake Na Koi' while calling the vaccine unimportant and said that Corona is nothing but a rumour. In Bhagwanpur, Begusarai Bihar, stones and sticks were pelted on the vaccination team and a total of 47 villages in Bhimpur block of Betal Madhya Pradesh clashed over the issue of not taking the vaccine due to various confusing man made regions. Same avoiding conditions may be seen in Tetaria village of Dumka, Jharkhand whereas people of Pawni village of Nagpur, Maharashtra avoid to wear even mask also. On the other side in the ongoing war against Corona, the health department teams are risking their lives to defeat the invisible virus. The health department team had to struggle a lot in reaching Sarteyola, a remote panchayat of Karsog in Mandi district of Himachal Pradesh. In fact, the team was going to Sarteyola to administer the vaccine to the people unable to walk. This included the request of Pharmacist Mahunag Ramesh Verma, Female Health Worker Kunho Kala Thakur and Health Sub Center Chindi. The road was damaged due to road construction. The team decided to go to Sarteyola for vaccination and crossed the dhak by sitting in the paw (bucket) of JCB (Fig.5).



Fig. 5: Vaccination through JCB in Himachal Pradesh, India

The spirit of the health department team is being appreciated. The team vaccinated about 12 elderly people unable to walk. The elderly have breathed a sigh of relief with the corona vaccine being installed at their doorsteps. For this, the local head TilakVerma has thanked the team of Health Department including BMO Karsog. PradhanTilakVerma told that vaccination was done in remote PanchayatSarteyola. The road is being built due to which the roads have become bad. The Health Department sent a team for vaccination to this inaccessible Panchayat. CMO Dr. Devendra Sharma has also patted him on the back for this courage of the team. So, this is also happening in India (<https://www.amarujala.com/shimla/health-department-team-reached-panchayat-for-vaccination-after-crossing-hill-on-jcb>).

Many more Pros & Cons examples are still in news highlights but it is time to live with corona, learn with corona and aware with social media as well as corona with taking vaccine as weapon. **Conclusion**

Today the rate of corona infectionis minimizing andrecovery rate came to around 95 percent in India but mortality rate is still more or less fluctuating. Along with this, the process of unlocking is also being adopted by the states as per the need. In such a situation, all Indians should be ready to get vaccinated to prevent corona infection. According to the famous poet Gulzar, to avoid covid, people will have to go to the chaupal of the village and explain why vaccine is necessary. 'There is a way to avoid covid, it is easy to get it, vaccines are there, you too will be safe, the country too, it is easy to live together'. Also we all should use masks, obey social distance and hand sanitization (Rina, 2020). We should strengthen the 'Swachh Bharat Mission' because by keeping the environment clean which will help us to defeat any other germ or virus including Corona (Rina, 2020). It is equally important for us to avoid any political and social media propaganda as much as from religious and social fallacy, evils and superstitions. It is important to

remember that there is a medicine to prevent disease and vaccine to prevent corona. Let's protect the population of 130 crores, prosper our slogan should be 'Every One Aware One'.

Conflict of Interest

The author declares no conflict of interest anyway, anyhow.

References

Amar Ujala, 2021. Health Department Team Reached Panchayat For Vaccination After Crossing Hill On JCB. <https://www.amarujala.com/shimla/health-department-team-reached-panchayat-for-vaccination-after-crossing-hill-on-jcb>

BBC News, 2021. Coronavirus: What is the R number and how is it calculated? <https://www.bbc.com/news/health>.

FinancialExpress, 2021. <https://www.financialexpress.com/lifestyle/health/covid-19-coronavirus-cases-in-india-live-updates>

Hajinasollah, E., Oshida, B., Zamani, A., Shadidi, R., Mirhashemi, H., Soori, M., Rashnoo, F and Peyvandi, H.MD. 2021. Int. J. Pharma. Sci. Inv., 43-47.

Rina, K. 2020. Impact of environment due to SARS-CoV-2 in India. Biogloblia, 7(1):54-61. www.biogloblia.in

Rina, K. 2020. 'Social Distancing: Satarkta Hati Durghatna Ghati'. International Research Vision, 6(1):31-34. www.biogloblia.in

Shashi, S.B. 2020. Isolation, Quarantine, Epidemics and COVID-19: History and Traditional Knowledge-A review. Shodh Sanchar Bull, 10(39):246-252.

Shashi, S.B. 2020. Food Habits, Immunity and Myths with reference to Covid-19. Shodh Sarita, 7(27):139-145.

Shashi, S.B. 2021. Impact of Hypoxia and mortality during the COVID-19 wave-2 in India. World J. Pharm. Life Sci, 7(6):80-83.

The Hindu, 8 May, 2021. Coronavirus. India records over 4000 deaths for second day in a row. <https://www.thehindu.com/news/national/coronavirus-india-records-over-4000-deaths>

Worldometer, 2021. <https://www.worldometers.info/coronavirus/country/india/#graph-deaths-daily>