

Corona Pandemic - To War Against COVID-19 or To Live With COVID-19

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Abstract

On an auspicious day of Eid-ul-Fitr the 25th May 2020 India got Jersey no-10, an extremely popular number in the sports arena. India holds the 9th position among the countries affected by the COVID-19 Pandemic as on 28th May 2020. Government of India confirmed a biggest 24 hrs spike of 7713 cases on 29th May 2020 to reach a total tally of 168,780. The death total crossed the number of 4978. Thus the case count quadrupled and deaths tripled in the first 25 days since 1 May 2020 when special trains started ferrying labourers from the badly effected cities to their native villages, followed within a week bringing back by flights Indians and expatriates from abroad. The overall recovery rates have reached around 48.5% of the affected cases to a total of 82,000 on date. While the public health professionals in the country do not feel we are fighting against any enemy but highly infectious virus infection that we don't know much about and neither there is established treatment or prevention except simple epidemiological ways of minimizing the transmission through social distancing, wearing masks when mingling with others, hand hygiene and cough etiquette. On the other hand, our political and bureaucratic seem to understand a war metaphor when it comes to confronting great challenges. But this COVID-19 pandemic is neither a war nor, a known enemy to strategize the victory. Today we are experimenting many options of treating serious patients in dedicated hospitals protecting the health personnel attending them using personal protective equipment (PPE). While global and national efforts are being made aggressively to make an effective vaccine available or over next 6-12 months the community spread of infection will lead to herd immunity as against many other viruses like SARS, NIPHA, MERS etc. that we have learnt to live with. Basically, I would drive a message home that we do not have to fight or win any war as much as we need to learn to make peace with its existence in our world for long.

Keywords: COVID-19 • SARS-Cov-2 • Pandemic • Global War • Invisible Virus • Vaccines • Gratitude

Introduction

In my 52 years long experience in Indian Public Health, mostly in the country have never witnessed the government of India garnering such a collective attention against any epidemic, as I see being done during the last 20 weeks of this lockdown. I would personally be very contented if the Indians emerge from this lockdown knowing how to change being very social people, coming together for in the pretext of festivals, worshipping, sandy days etc. to keep social distancing of about a meter at least, revive the practice of washing feet and hands returning from outside, of course with use of soap and enough of rubbing and wear a mask properly like Jain Muni's would be a well-spent time money and communication efforts. If our media and interpersonal communication focus about how to sanitise vegetables bought from the market or delivered to our homes by aggregators in urban areas would be another feather in the cap. If only we were successful in driving home basic "sanitisation drill" or cough etiquette to follow returning from essential outing, it would have an achievement. Most importantly the lock down helped streamlining the supplies of ventilators, PPE kits and N95 masks initialling importing and slowly embarking on to indigenize production of all these items. Today we do not have to import any of these times that we did till April 2020.

The pandemic initially shook all of us, but the adversity provided a learning opportunity. We stand shattered and humbled by a microorganism that is hardly visible. We quickly learned to stay interconnected and

interdependent, took ownership and responsibility for our actions. We learnt a lesson of not to ignore our linkages with animals and the environment. A popular traditional quote says, "Gratitude is an antidote for anxiety, depression, and uncertainty". So also, the scientific Research endorses the fact that gratitude can boost our immune system. I tend to look how the worst has brought the best in most Indians in this time of need to support the daily wage earners. I saw gratitude taking forms of sharing money, food, time, attention, ideas, and kindness with those who are deprived of these, that made a difference too many lives. It is a poignant reminder, that our circumstances do not define our lives so much as what we can make of those circumstances.

On 30 January 2020, the first case of the COVID-19 was confirmed in Kerala, India that had originated from China. A total 200,000 cases were staring us on Tuesday the 2 June 2020. The progress from 100,000 to 200,000 took just 14 days as against the first 100,000 taking about 110 days. Total recoveries from illness until 2 June was more than 95,000 and recorded deaths were 5,598 in the country. India currently has the seventh largest number of confirmed cases globally with number of cases breaching the 100,000 mark on 19 May 2020, 150,000 on 27th May and 200,000 on 2 June 2020 [1]. India's case fatality rate is relatively lower at 2.8%, against 14.9% in UK, 13.6% in Italy, 10.8% in Spain, 2.4% in USA and 0.9% in Russia and a global average of over 6% as of 2 June 2020 [2]. The COVID test positivity rate has gone up from 5% during 7 May to 21 May to 6.41% between 19 May to June 1. Four states of Maharashtra, Delhi, Tamil Nadu, and Gujarat account for 2/3 of the total cases. Nine cities of Mumbai, Delhi, Ahmedabad,

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Chennai, Pune, Kolkata, Surat, Hyderabad, and Bengaluru account for nearly two thirds of all reported cases in the country. The virulence of the virus has been highest in Ahmedabad with 118 deaths per million population and case fatality rate (CFR) of 6.9% and the lowest in Bengaluru where the death rate is just 1 per million population with a CFR of 3.3 indicating the dominance of cases in cities may be due to international arrivals, high density of the population especially in slums, and case fatality depended upon the case management protocols and practices (Table 1).

Table 1. Case fatality rate per million population by major cities affected in India.

City	Deaths per 1 million population	CFR (%)
Ahmedabad	118	6.9
Mumbai	83	3.1
Pune	55	4.4
Delhi	32	2.6
Kolkata	23	6.4
Chennai	16	0.9
Surat	10	3.9
Hyderabad	2	1.3
Bengaluru	1	3.3

A comparison with international cities like New York where the attack rate is 20,000 per million population the worst effected Indian city of Mumbai has an attack rate of 2259 per million population and the national capital of Delhi has an attack rate of 869 per million population and the home city of the author Bengaluru has an attack rate of just 37 per million population [3].

On 3 June 2020 WHO bulletin said that more than 100 000 cases of COVID-19 were reported to WHO for each of the past 5 days. The Americas continues to account for the most cases, especially Central and South America, are witnessing accelerating epidemics. The number of cases also increased in the Eastern Mediterranean, South-East Asia, and Africa, though in small numbers [2].

The pandemic status and the efforts country has made are commended by Michael Ryan, chief executive director of the World Health Organisation's health emergencies programme, saying that India had "tremendous capacity" to deal with the coronavirus outbreak and, as the second most populous country, will have enormous impact on the world's ability to deal with it. There are critiques in the country who express their concerns worrying about the economic devastation caused by the lockdown. They fear that the exodus of the migrant labours from the cities fearing the spread of the disease to ill-equipped rural India. Financial difficulties of micro and small enterprises, farmers and the self-employed, who are left with no livelihood as the transportation access to markets and trade has come to stand still are the other concerns. Positive comments like the lockdown has slowed the growth rate of the pandemic of 6 April of doubling every 6 days, to a rate of doubling every 8 days and to 14 days by end May 2020 are on an encouraging note.

The Oxford COVID-19 Government Response Tracker (OxCGRT), noted Indian Government's swift action, emergency policy making, emergency investment in healthcare, fiscal measures, investment in vaccine research and active response to the situation, and gave a score of "100" for its strictness [3] in its report based on data from 73 countries [4,5].

The outbreak has been declared as an epidemic in most of the states and union territories that have evoked the Epidemic Diseases Act, 1897. The

educational institutions, wholesale markets, Weekly- Sandies where people gather and either sell or purchase their products directly to the customers and many commercial establishments have been shut down. India has suspended all tourist visas and cancelled all domestic travel avenues like trains and bus services due to the linking of most the confirmed cases to other countries and states and metropolitan state capitals and big industrial cities. The people do not understand what they need to do to keep their families safe and majority are petrified that they will inadvertently bring the virus home in a post-lockdown period. While the politicians and Bureaucrats and clinicians talk about fighting and defeating the virus, the epidemiologist, Public Health Professional and Physicians in general are searching survival tips and better case management practices.

On 22nd March India observed a symbolic 14-hour voluntary public curfew. This was followed by a formal lockdown in 75 districts where COVID-19 cases had occurred as well as all major cities. Soon on 24 March, the Prime Minister ordered a nationwide lockdown for 21 days. Reviewing the situation and gains of the lock down on 14 April, the country decided to extend the ongoing nationwide lockdown till 3 May. On 1 May, the nationwide lockdown across the country was further extended by two more weeks till 17 May, and before that period ended lockdown was further extended till 31 May. The first week of June saw some states giving relaxation in the lock down conditions like allowing standalone shops, inter-district movement of the labours etc. we are already seeing increase in daily new cases touching almost 9000+ per day [6-8].

Materials & Methods

Data collection

This paper uses the data from Ministry of Health & Family Welfare, GOI India daily, either from MOH & FWs website or other websites like Wikipedia, Google. I have also used the data as reported in daily new papers, mainly Times of India, Bangalore, and Mumbai editions and other national English dailies and regional vernacular print media in southern states.

Study setting & sampling

The study covers entire country by major states and cities setting. As secondary data from websites and newspapers was used no sampling was done.

Results

India reached a case load of 245,670 as on 5th June 2020 with a record number of 9887 cases in the last 24 hours [1]. The number of deaths touched a figure of 6642. This got us the 5th position worldwide pushing Spain to 6th position globally. The Global numbers stand at 6.85 million+ cases and deaths at 398,000+ in 188 countries affected [2] as of early morning of 7th June [2]. While 2.5 million + have recovered from the disease worldwide, in India the number of recovered patients is at around 80,000 as on date [7]. Looking at the path India took to No-10 on 25th May and No-9 on 27th May and 5th position on 6th June in the world Pandemic following key points come to light (Figure 1).

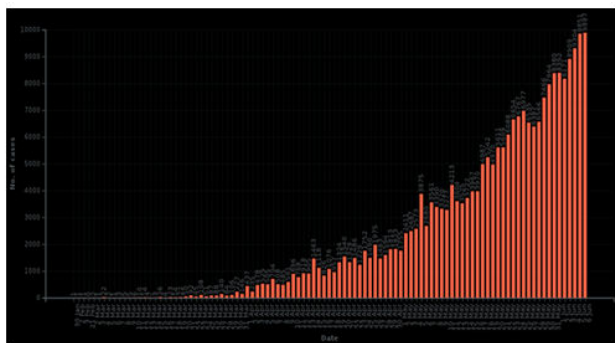


Figure 1. Daily new cases of COVID-19 in India 30 Jan to 6th June 20.

The daily increase rate was around 5.6% as of 23 May 2020 and has come down to 4.4% on 6th June 2020 [3]. In the same period the case fatality has increased from 3.8% to 4.6%. The confirmatory testing rates have been low in India for want of testing kits. While a total of 4,666,386 samples have been tested, as of 5th June 246,628 individuals have been confirmed positive (**Figure 2**). Given the size of the country if universal testing is possible out case load may go up further as the proportion of asymptomatic cases is high (**Table 2**).

Table 2. Confirmed cases, deaths, and recoveries by state and union territory as on 6 June 2020.

Sl. No.	State/Union Territory	Total cases	Deaths	Recoveries	Active cases	
2	Andhra Pradesh	4303	73	2576	1654	CCFR-2.8%
4	Assam	2153	4	498	1651	--
5	Bihar	4596	29	2225	2342	--
6	Chandigarh	304	5	222	77	--
7	Chhattisgarh	879	2	244	633	--
9	Delhi	26334	708	10315	15311	CCFR-6.25%
10	Goa	196	0	65	131	--
11	Gujarat	19094	1190	13003	4901	CCFR-8.4%
12	Haryana	3597	24	2134	1439	--
13	Himachal Pradesh	393	5	189	199	--
14	Jammu & Kashmir	3324	36	1086	2202	--
15	Jharkhand	881	7	410	464	--
16	Karnataka	4835	57	1688	3090	CCFR-3.2%
17	Kerala	1699	14	712	973	--
20	Madhya Pradesh	8996	384	5878	2734	CCFR-6.1%
21	Maharashtra	80229	2849	35156	42224	CCFR-7.5%
26	Odisha	2608	8	1604	996	--
28	Punjab	2461	48	2069	344	--
29	Rajasthan	10084	218	7359	2507	CCFR-2.9%
30	Sikkim	3	0	0	3	--
31	Tamil Nadu	28694	232	15762	12700	CCFR-1.5%
32	Telangana	3290	113	1627	1550	--
33	Tripura	692	0	173	519	--

34	Uttarakhand	1215	11	344	860	--
35	Uttar Pradesh	9733	257	5648	3828	CCFR-4.36%
36	West Bengal	7303	366	2912	4025	11.1%
Total- India		236657*	6642	114073	115942	--

All states except Lakshdweep Islands an Union Territory have reported cases as of 6 June 2020

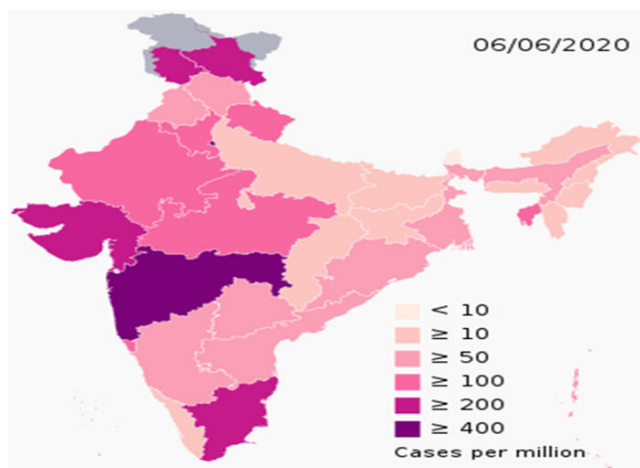


Figure 2. India map showing the case attack rate per million populations by States.

The contribution of cases and deaths: As shown in **Table 1**, Maharashtra one of the better off- state, in the country contributes to nearly one thirds (37%) of total cases and 41% of deaths so far. The map above shows the attack rate per million population. The other key sates contributing the misery are Maharashtra with an attack rate of over 400 per million population leads, followed by Tamil Nadu, Gujarat (200-400/million population), and Delhi. The four states of Maharashtra, Tamil Nadu, Gujarat, and Delhi accounted for 68% of the total coronavirus cases in the country.

Discussion

Daily new cases

The first case of the COVID-19 pandemic in India was reported on 30 January 2020, originating from China. The confirmed case number reached 100 on 15 March 2020 and increased to 1000 by 28th March 2020. By 5th April, the no of deaths due to COVID-19 reached 100. The next milestone of 10,000 cases was reached on 14th April. The number of deaths reached 500 on 19th April. The number of confirmed cases reached 50,000 7th May and by 19th May the number overshot 100,000. This number reached 150,000 on 27th May 2020 and 168,780 on 29th May 2020 as against a total of 5.92 million cases worldwide. Daily new cases have been increasing consistently by around 5% in the last 15 days. Indian contribution from a few hundred a day has increased to nearly 8000 (4.8%) on 29th May 2020 and almost 10,000 as of 6th June 2020. India accounts for 6929 (1.74%) deaths out of global number of 399,000 deaths [3]. The case fatality rate had remained round 3% for long and has gone up from 3867 on 24th May to 6929 on 6th June. In terms of the proportion it has been oscillating between 4-4.6% in the last one fortnight (**Figure 3**) [7].

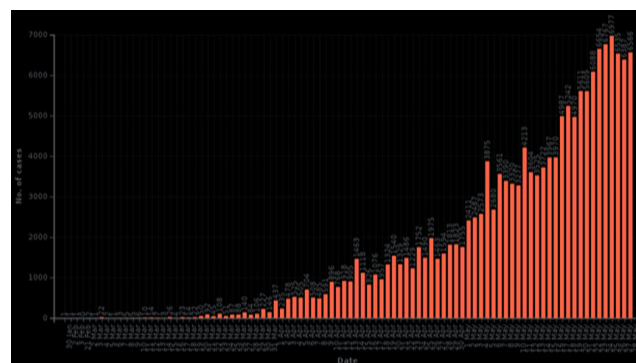


Figure 3. No of cases by day from 30th Jan to 6 June 2020.

Cities contribute majority to misery

Mumbai, India's financial hub, witnessed over 46,080 (21%) of total cases in the country. Mumbai was among the world's six cities recording the highest COVID-19 cases as of 6th June 2020. Mumbai followed by Delhi (26,334), Chennai (19,809), Ahmedabad, Indore, Pune, Jaipur, Hyderabad, and Agra are the top cities contributing for the COVID -19 cases in India. Majority of these cities have continued the lockdown no 5. The density of the population particularly in slums (anywhere between 20-40% of each city population lives in such slums) and environmental hygiene especially availability of clean water round the clock in these cities pose a big challenge for maintaining social distancing and hand washing practices.

Case Fatality & Completed Case Fatality Rates (CFR & CCFR)

Overall case fatality rate (CFR) in India has been around 2.8% as on 6 June 2020 and the CCFR works out to 5.5%. The CFR reached a high of 3.5% on 13th April and 6th May, thereafter it is decreasing daily to reach a level of 2.8% on 6th June 2020. The inter-sate differences comparison of fatality rate indicates that it has been highest in Gujarat (6.23%) followed by Maharashtra (3.21%).

The epidemiologists in India opine that completed case fatality rate (CCFR-where the cases ended in recovery or death are considered in the denominator as against total deaths in numerator) is a better measure of the cases fatality and also the quality of care. As against the national average of 5.5% the CCFR in West Bengal (11.1%), Gujarat (8.4%), followed by Maharashtra (7.5%) and Delhi (6.25%), and Madhya Pradesh (6.1%) was much higher. The same in Tamil Nadu (1.5%) was the least. The case fatality in Ahmedabad has been highest at 6.9%, followed by Kolkata (6.4%) and Pune (4.4%), Surat (3.9%), Bengaluru (3.3%) and Mumbai (3.1%) among the cities despite availability of better health services. The CFR has been less than 1 (0.9%) in Chennai. This reflects the case management practices and outcomes of COVID-19 vases in these cities. At 115 deaths per million populations Ahmedabad is worse than Mumbai with 80 deaths per million and Bengaluru just 1 death per million populations is the best city as of now.

International comparison indicates that the case fatality rate in India has been the lowest at 2.9% compared to France (15.6), Italy (14.3), Spain (14.2)

UK (10.2), Brazil (6.2), USA (5.9), Germany (4.7). Only Turkey (2.8) and Russia (1) have better case fatality rates [2]. This may be due to greater population of elderly in those countries who are at a larger risk. This may also point to the fact socio-economic and medical advancement has little relevance in saving the lives due to the disease as at the present treatment protocols are yet to be firmed up and outcomes are also varying. Many options like plasma therapy, different antiviral drugs are being tried & tested.

Recovery rate

Good news is that the recovery rate has been rising, but the number of new cases is still more than the new recoveries, thus the number of active cases is also increasing. The recovery rate was 21.8% in USA as compared to 48.5% in India [2].

Diagnostic testing by population size

Measuring the test (PCR-RT) conducted as a proportion of people exposed and at risk is an indication of how extensive the country's response. Given the size of the population and want of availability of indigenous kits has hit us badly. The country has been able to test only about 2.1 per 1000 of the population using the criteria of symptomatic, international travellers, domestic travellers for high case reporting states and the health professionals attending the cases or doing community services [9]. While Russia stands on the top by testing nearly 60 per 1000 population, followed by Italy (56), USA (41.7), Spain (41.1), Germany (37.6), UK (31), Turkey (21.4) France (12.7) and only Brazil (0.6) is lower than India. The situation has though improved in the last 2 week where the overall testing capacity has improved to over 100,000 samples per day due to establishment of many laboratories both in public and private (609 testing labs -431 public and 178 private) across the country, though the spread is mainly in urban areas. Distribution of TrueNat machines and procurement of COBAS-8800 machines are part of the Centre's intelligent testing strategy apart from utilising the capacity of labs across the country. The private sector laboratories will be supporting at the railway stations and Airport for domestic high risk category incoming travellers' tests soon by pool sampling method where samples of five individuals are tested in one go [1].

Successive policy, planning & implementation

The over-all response of Government of India and state governments to COVID-19 has led to slow transmission, but the recent relaxation has already damaging the gains in the last one week. The country promoted aggressively Hand washing, surface cleaning, social distancing, home quarantine, cough etiquette and mandatory use of face mask in public.

Social distancing: Social distancing was considered as most important way of infection control from the beginning of the pandemic and actions intended to slow the spread of disease by minimising close contact between individuals. The country-imposed travel restrictions; and closed the schools, offices, factories, stadiums, Gyms, theatres, or shopping Malls. The state Government also banned the gathering of more than 20 persons, marriages, most importantly closed worship places where Indians are known to throng every day. Advice started a keeping one arm length and soon increased to 2 meters from each other's. It did pose a problem in most of the urban poor localities and slum dwellers as there was hardly any room in cramped houses. Mostly the near impossible situations like small houses in poor and middle-class communities distancing measures failed in some areas that contributed to the spread of the pandemic. The use of the term "social distancing" had led to implications that people to complete social isolation [6]. Many people stuck to old mythologic al tele-serials that kept them occupied. But youngsters and so-called modern people failed to stay in contact through alternative means like tele-conversations, video-conferencing etc. resulting in depression and anxiety among them.

Hand washing: Hand washing the first recommended practice to prevent the spread of the disease got promoted well and convinced people to wash

hands often with soap and water for at least twenty seconds. The key challenge was to add to the existing practices of hand washing after going to the toilet (ablution) or when hands are visibly dirty; before and after eating. The new epidemiological requirement of washing hands after touching surfaces, walls, lift buttons after blowing one's nose, coughing, or sneezing as outside the human body, the virus is killed by household soap was not easy. Using an alcohol-based hand sanitizer with at least 60% alcohol when soap and water were not readily available was also suggested. That increased the consumption of sanitizers among urban middle- and upper-class people for a short time only. The risk of using alcohol based sanitizers and the cost limited its use except in official meetings and entry to Malls and government offices [6].

Surface cleaning: Surfaces of the household items like dining table, furniture, doors, windows, lifts etc. were advised to be decontaminated with 0.1% sodium hypochlorite solution. The health facilities, day cares, airports, railway stations, bust stands, homes, offices, shops etc. were asked to be disinfected [10].

Face masks: The country was bit late in encouraging the use of face masks or cloth face coverings more generally by members of the public to limit the spread of the virus by asymptomatic individuals as a precautionary principle. The fact that WHO also was not firm in its guidelines added to the relaxed approach [10]. The urgency was not shown initially because of extremely strict lock down that forbid people from going out. Once the lockdown got a bit relaxed wearing masks when out of home has become mandatory. The non-availability of surgical and N95 masks for those who were infected also contributed and continue to be a challenge even now. Therefore, homemade multi-layer mask were advised as such mask can limit the volume and travel distance of expiratory droplets dispersed when talking, sneezing, and coughing. N95 masks were used by health professionals in contact with infected patients.

Respiratory hygiene: Spitting in public and coughing without covering the mouth and nose is a common practice in India. Apart from use of masks people were asked to cover the mouth and nose with tissue papers and discard the immediately in dedicated dustbins

Introduction of Arogya Setu: Arogya Setu Introduced on 2nd April 2020 is an open-source Indian COVID-19 Contact tracing, Syndromic mapping, and Self-assessment digital service, primarily a mobile application. It was developed by the National Informatics Centre under the Ministry of Electronics and Information Technology. The app was downloaded by 100 million people mainly in cities in first 40 days. On 26 May 2020, the government made the source code for android app public on Github which will be followed by IOS and API documentation. The Government has also launched a bug bounty program that uses the smartphone's GPS and Bluetooth features to track the coronavirus infection. The app is available for Android & iOS mobile operating systems with Bluetooth, and tries to determine the risk if one has been near (2 meters) a COVID-19 - infected person, by scanning through a database of known and registered cases given a unique identity number across India. The app has been made mandatory recently for all going out of home. Using the app more than 1500 potential hotspots were predicted and approximately 4000 hotspots at the sub-post office level have been identified that has helped to trace 24% of contacts allowing for rapid treatment and control of spread [11].

Fresh Desk: Launched as Step One, to a two-month-old telemedicine initiative is an effort of a voluntary group to support the State governments to respond to over a million phone calls and 5,000 high-risk COVID-19 cases. It has roped in more than 6,000 volunteer doctors for consultations over the phone across eight states. Coordinated by 21 start-ups across segments like tech, cloud telephony, funding, and telemedicine this has helped the state administrations battling COVID-19 through dedicated COVID-19 helplines where calls would be made by those experiencing symptoms. The government departments had faced the problem of staffing each call centre by a workforce of 40 to 50, which was inadequate to the number of suspected cases [12].

Step One has allows the callers to punch in their symptoms using a telephone and based on whether or not multiple symptoms were being reported by callers, the system signals whether or not a patient is required having a doctor call them back. It responds to over to 50,000 calls every day. About 10% of these calls receive a call back from a doctor based on symptoms reported. Once a call is made, software helps to raise tickets with phone numbers, symptoms, language preferences, and a caller's contact tracing details in case their tests turn out positive. Of the 6,000 volunteer doctors, nearly 800 take tickets daily depending on the traffic in multiple local languages (English, Hindi, Kannada, Marathi and Telugu).

Other infectious diseases: Our low fatality rate and slow transmission with less than 5% of cases needing hospitalization and hardly 1% needing ventilators support may reflect inherent resistance our population got from dozens of other rampant diseases like TB, Influenza (H1N1, H5N1), measles, pertussis and Nipa virus and Ebola virus infections in the recent years. Maybe we get resistance from high temperatures, or polluted air and water in the world.

Development of In-country Capacity: Various Indian PSUs, firms and start-ups, repurposed their production lines to manufacture general PPEs, full body suits and ventilators. Maruti Suzuki, in collaboration with AgVa Healthcare, has committed to supply 10,000 ventilators by June 2020 Starting from importing of Masks, PPEs, Test kits and ventilators in early March India is now producing around 200,000 PPE kits and 250,000 N95 masks per day.

What we could have done better: Institutional quarantine vs. Self-isolation

The country should have opted for institutional quarantine right from the beginning for the international travellers from infected countries and thus suspected to have been infected with no symptoms or signs. Instead those who had returned from a country or region with widespread transmission and the ones who were exposed to known cases of COVID-19 were advised to self-quarantine for 14 days from the time of last possible exposure. Though the strongest self-quarantine instructions were issued to such high-risk groups, the monitoring of the compliance was poor. Due to monitoring inadequacy quiet, a few lapses occurred that led to quick spread of the diseases. Notable among them are Tablighi Jamat conference in Delhi, Padrayanpura in Bengaluru, and a pharmaceutical company in Nanjangud in Karnataka's Mysuru district, Dharavi slums in Mumbai.

Contact tracing

Contact tracing is assigned to regular staff of Health and Integrated Child Development Scheme at community level. We also know that contact tracing is not a general enquiry. Given their educational standards and minimum exposure to the skill of contact tracing, we see a great limitation in basic commitment and understanding about the need and the urgency to put in requisite efforts. The community's response to their inquiry may also have been casual due to familiarity as they see them day in and day out and do not consider them as professionals. A better equipped dedicated staff (social scientists) might do better [10].

Research and treatment

Different options were tried of treatment in India. a combination of anti-malaria, anti-swine flu and anti-HIV drugs resulted in the recovery of three patients in March. The National Task Force for COVID-19 recommended the use of hydroxychloroquine for the treatment of high-risk cases on 23 March, but it is still not accepted as a standard treatment.

Testing

RT-PCR test: The standard method of testing is real-time reverse transcription polymerase chain reaction (rRT-PCR) is the gold standard for diagnosis of COVID-19. The test is done on respiratory samples obtained by

a nasopharyngeal swab, a nasal swab or sputum sample. Results are generally available within one to two days. The capacity was limited to start with and available mostly in state capital and other major cities. As of 1 June 2020, around 100,000 tests are being carried out in India every day (100,180 tests on June 1, 2020). Starting with average daily testing capacity (based on weekly data) of 0.001 per 1000 population it has reached a stage of 0.08 per 1000 population as of 1 June 2020. This compared to USA (1.16/1000) and Italy (1.06) is low [9].

Antibody testing kits: Quick blood tests for antibodies if the population is immune appeared simple logic. Unfortunately, most of the existing tests are unreliable. The reliability depends upon when the timing in the course of infection the test is done. Current evidences indicate that if the less than 1% of the population is infected, we are more likely to get wrong results up to 53%. If around 5% of the population is infected, then the reliability may improve to over 80% and go on improving and reach around 99% only the infections rate is over 50%. India imported 650,000 rapid antibody test and RNA extraction kits from China in Mid-April 2020. After 2 days' of use the same was banned as the kits did not meet the quality standard and gave a much lower accuracy that were expected to. As of 6th June, the country has tested about 4.7 million tests at the rate of 3450 tests per million population with 5.29% tests turning positive. This needed to be better. The number of laboratories has increased in recent weeks, but the sample pending is also to the tune of 20-25% in different states [9].

The Indian government has partnered with domestic industry for indigenous production of swabs for testing COVID-19 and more than 200,000 swabs are now being manufactured per day. Fourteen of the 28 RT-PCR testing kits approved by ICMR validation centres are locally produced. An indigenous manufacturer has also developed a viral extraction kit. A completely indigenous IgG ELISA test for antibody detection of SARS-CoV-2 has been developed and validated by NIV, thus the country is moving towards self-reliance in testing to move towards community based sero-surveillance.

Over enthusiastic pushing natural immunity boosters

Indian system of medicine and more so social media started promoting measure to improve the immunity aggressively. Suggestions of drinking hot water, use of Vinegar, ginger, Lemon, sugarcane were almost taken as curative measure, but the advocate themselves knew and clearly informed that they only improve immunity if practices regularly

Temperature theory

May be public health experts got complacent of the global studies and theory (sensitivity of the virus to temperature over 28 degree Celsius) that COVID-19 virus survive better between -2 to 20 odd degree Celsius and since by the time Pandemic stuck us our temperatures were soaring at least in southern states. And by now the temperature ranges are between 30- 48 degree Celsius. Thus, our hope got shattered as temperature factor has not influence the Pandemic in India. In fact, more cases are reported more from hot and humid states and cities.

Where do we stand today?

The global experience and National experts and scientists are of the opinion today that corona will remain a part of our lives for a long time. Accepting this as a fact we cannot allow country's population lives confined to corona. The approach of treating corona as an enemy to be defeated was probably over ambitious. When the country lauded the efforts of our doctors and medical staff fighting against corona, by banging pots and pans or lighting candles or torches simultaneously across the country on a given time, some ardent supporters might have thought that the sound waves and light rays would dispel the virus.

At one level, it is difficult to believe that such a fundamental dislocation of our way of life can pass by without leaving a deep imprint on our future

behaviour. On the other hand, many previous pandemics, such as Spanish Flu, which led to the death of 18 million people in 1918, have been erased from our memory.

One can only hope to see the possibilities of behaviour change -outwards among some, and among a change in mindsets that can lead to changes in the way we act. The change cannot be unidirectional or uniform and any projections for the future must take this into account. As restrictions lift, there is a strong possibility of some people embracing everything that has been currently denied with a vengeance. I am sure as a direct consequence of the pandemic, changes will come from the interaction of many variables, including our response to it.

Conclusion

India, the second largest country has managed to "distribute" or smoothen the COVID-19 curve so that even as cases continue, there is no big spurt in growth of infection with efforts focussed on reducing number of deaths by early detection, improved health infrastructure and effective clinical management. Increasing transmission or a rise in positivity rate is a concern but we are hopeful that like H1N1, Nipa virus, Ebola virus and other virus epidemics in the country the COVID-19 pandemic will also subside soon. We will be able to strike a balance between some level of immunity, vaccine, and medications.

Number of deaths today may make COVID-19 look as a modest health risk. Many are already feeling that the country imposed terrible misery through draconian shutdowns to combat it. Millions of Indians die every year of various causes. TB alone claims 450,000. So was the fear of HIV/Aids, Cholera, and Malaria in the last decade. But we did not respond to them by locking down the economy. We learnt to live with all communicable diseases by controlling and eradicating where feasible.

Now apart from Pandemic the country has to deal with carry-forward problems like unemployment, reduce salaries and wages, rural distress, worsening malnutrition and the limited government resources that may lead to reduce social services like supplementary feedings for children, pregnant and nursing women in rural and urban slums through ICDS scheme, mid-day meals in primary schools. This may lead to increased load on Nutrition Rehabilitation Centres (NRCs) attached to all district hospitals that serve Severe Acutely Malnourished (SAM) children.

For many weeks, the over-all sense of the Indian response to COVID-19 was largely positive, but we are standing on the brink as last few days the number of daily increases in cases is over 5000 every day. Though the overall number of cases and deaths are increasing but our increase is small compared to many other countries continue to be low. For a country with poor health care especially in public sector, the way we put out acts together is highly appreciable. Thankfully, the pandemic hit the urban areas first, where dedicating hospitals and mobilizing other resource quickly was possible. The contribution of Lock-down in this preparedness cannot be overlooked. The fact that millions of migrant labourers are moving back to their home villages throws a big challenge to the system in the coming weeks. The exponential nature of the pandemic does not allow us to be proclaiming that we have controlled either the cases or the deaths. We had a relatively slow start in comparison to many other countries, but we find now ourselves in the unenviable position where we timing the unavoidable easing of restrictions with a potential surge not only in numbers of cases but also in the number of districts generating cases. Slowing down the rate of transmission certainly did have the advantages, for it allowed our health system to better prepare itself, but if the numbers continue as we see in last one week then even that capacity will get overwhelmed and may also fall short particularly take care of the severe cases needing ventilators in remote rural areas.

Way Forward

The country's administrative system must now shift focus from lockdowns to massive testing, tracing, and isolating COVID-infected people. An important element of a scaled-up testing strategy is to use a combination of PCR tests, antibody tests, and at-home testing. High-quality and reliable antibody tests will be crucial for identifying pockets of infection at a large scale and to identifying those with immunity. Ensuring the faster turnaround time for COVID-19 testing to inform an effective and accountable policy response is the need of the time. Introducing and taking to scale the recent ICMR recommended an IgG ELISA test, is a good step towards including the use of antibody testing as part of an overall testing strategy. The pooling of RT-PCR samples is a cost-effective and will help ramp up testing within the resources available. This strategy will add value for surveillance of migrant workers and passengers in institutional quarantine. We should scale-up safe at-home sample collection for COVID tests soon.

This will require a major change of administrative effort and commitment for increased budget from 1-2% of GDP to at least 5% annually. As there are no ideal solutions exist, we must shift to less flawed measures. We should follow 4 T's Tracing, Tracking, Testing and Treatment, One W- wear masks, One- H-Handwash and One F-Follow social distancing and pursue our goals." We need to adjust to a life where we manage ourselves in a sensible manner, go out for our work but maintain social distancing, hand wash practices, use masks in congregations and adhere to cough etiquette"

It is time to quickly move back to new normal schedule subject to hand hygiene cough etiquettes and social distancing. Since most of the case contribution is from a dozen cities, that are economic hubs and form India's economic hubs prolonged lock downs or Curfews are not sustainable. Identification of super-spreaders, local hyper-clusters at ward levels, and take defined containment measures in them and in buffer zones within them. Such efforts will allow effective surveillance by testing, contact tracing, treatment and limit disrupting a large population from working and earning their livelihood. This will secure better cooperation from the population. Success in these high-risk populations will also help return of migrant labour work force for construction and factories. The resources being spent on migrant workers can also be minimized.

The nutrition challenges cannot be addressed by the governments alone. Community based management of acute malnutrition through panchayats need a big push. Information technology (IT) may able to help in tracking the women, children, elderly who need counselling, information and most importantly material or financial support coupled with ensuring comprehensive primary health care, immunization, health promotion, monitoring additional and frequent hand washing, cough etiquette, making available services at the community level, through Health and Wellness Centres

References

1. Ministry of Health & family Welfare, GOI, COVID data Updates-NHM, MOH & FW New Delhi, India.
2. WHO Coronavirus Disease (COVID-19) Dashboard, Data last updated: 07/06/15, 5:01 pm EST
3. COVID-19_Pandemic_in_India <https://en.wikipedia.org/wiki/> Daily updates till 7th June 2020.
4. COVID-19. State specific websites of National Health Missions.
5. Coronavirus Government Response Tracker | Blavatnik ...www.bsg.ox.ac.uk › research › research-projects › corona
6. Time of India, Bengaluru edition date 25th-May to 7th June 2020 <https://timesofindia.indiatimes.com/city/bangalore>
7. John Hopkins University website 25th- 28th May 2020, <https://coronavirus.jhu.edu/>

8. TOI, Bengaluru, Delhi, and Mumbai editions from 1 February 2020 till 7th June 2020. <https://timesofindia.indiatimes.com/archive.cms>
9. COVID-19: Are India, others testing enough to get a true measure of spread? Business World 15th July 2020.
10. <https://www.who.int/emergencies/diseases/novel-coronavirus-2019/technical-guidance-publications>.
11. https://en.wikipedia.org/wiki/Aarogya_Setu
12. www.freshdesk.com

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