

A Deep Analysis on the Impact and Statistics of Covid-19 in Kerala, India – A Meta-Analysis Study

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Abstract:

Background: COVID-19 pandemic has pulled us all a few steps back, were we never shake hands or hug each other when we meet our friends and family after a gap, but instead we greet them by saying Namaste and joining our hands together. As we all know, COVID-19 spreads through air and the only way to shield ourselves is by maintaining a safe distance from one another.

Methodology: In order to conduct a meta-analysis on the number of COVID-19 cases in Kerala and India, the data was retrieved from various sites hosted by the government bodies. The data for analysis was collected from May 2020 to July 2020. The average number of days required to reach every 5000 fresh cases were also calculated using this data. COVID-19 has affected all the economy holistically regardless of financial, behavioral, or societal aspects.

Conclusion: Lifting of the lockdown in a step by step process keeping in mind the necessities for the nation was a thoughtful act, but the people who mistook this opportunity and did not remain in quarantine after coming from abroad was recognized as the reasons behind the sudden and uncontrolled rise in the number of COVID-19 cases in Kerala, India. The government authorities had no other option but to lift the restrictions to reduce the economic burdens that had already affected the daily wage worker and farmers prompting them to give up their lives.

Key words: COVID-19; impact on society during COVID-19; behavioral impact of COVID-19; government policies against COVID-19; measures adopted by the government; COVID-19 Statistics; Infection rate and Data analysis

INTRODUCTION:

COVID-19 has emerged to become the most feared pandemic that humanity has ever seen. The initial set of COVID-19 patients were observed in people who visited a local market in Wuhan, China.¹ The novel corona virus disease 19 (COVID-19) is a communicable disease that affects the human beings of all origins commonly, and depicts a variety of signs and symptoms. Some infected people remain asymptomatic or carriers while the others show mild to severe respiratory symptoms.¹

According to the reports of the World Health Organization (WHO as of April 2020) the COVID-19 has affected more than 200 countries globally, with a total of 2164111 active cases and 146,198 people killed due to COVID-19. COVID-19 has spread drastically across countries owing to numerous health, economic, environmental, behavioral and social disputes.² This study conducts a meta-analysis on the impact and statistics of COVID-19 cases in Kerala, India, emphasizing on the government norms imposed to restrict the spread of COVID-19.

OBJECTIVES:

- To analyze the reason for the sudden increase in the number of COVID-19 cases in Kerala, India.
- To emphasize on the impact of COVID-19.
- To compare the outcome regarding the implementation of guidelines by both the central and state government to minimize the communal spread of COVID-19 in the initial phase and the relaxation phase consecutively, and
- A meta-analysis on the statistics of COVID-19 in Kerala, India.

IMPACT OF COVID-19:

Causing a pandemic, COVID-19 has created numerous impacts on a variety of domains. The main impact to be noted is the economic impact which affected different small scale businesses and the start-up companies. It also has affected the big market as well bringing the stock rates lower than usual. Many organizations and companies have shut down. Many people became jobless and are striving for survival.

The non-resident Indian citizens were compelled to return back. The reason behind these are, the fall in the financial aspects as there were no works done during the complete lockdown period that is from 29th March 2020 to 5th May 2020 in India. The nation was on stand still during that period.¹ The government has extended the dues on repay of all sorts of loans and taxes for a period of three months, as a measure to reduce the economic burden of its fellow beings.

The next on focus was the behavioral impact of people during the complete lockdown. As discussed above, many companies had to close down and relieve their employees from work permanently, which developed stress among the working class people. The attitude of the working population started altering as they remained jobless for more than one month, and there were no new vacancies opened as well.¹ The lifestyle of people started changing without any discrimination of rich/poor, literate/illiterate and urban/rural area.

The society impact hits third on the list. The modifications that the society accepted was unbelievable. All the purchases became online, education is through the online ports, meetings, functions and so on were held through the online ports. As the availability has become more easier, the impact has started to express itself in the area of overall health. People have got adapted to the trending new modes of availability, with least concern regarding their health. There is change seen in the relationships that existed in the society. Being at home made people aware of their neighbors and started participating in the community helps in their areas.² The usual busy mornings and late night returning routine was changed. The community as such has come together in supporting the affected families and protecting their area from containment.

The government has tried to support its citizens during the nationwide complete lockdown by supplying grains, pulses, and the essentials that are required to sustain a family of four members from starvation. The government had also allotted laundry products like dish washing soap, cleaning liquids, etc. Majority of the population used this allowances to hold back their families from surrendering to starvation and finally passing away. The outlook of people towards community work is becoming impressive.²

DATA COLLECTION

The data used for analysis in this paper is collected from Our World in Data, GoK Dashboard (Kerala) and Statista. The data on number of COVID-19 cases reported in India and Kerala is taken in the cumulative and daily format. The data on similar format was taken for few countries in order to compare the COVID-19 situation globally. All data collected were from 1st May 2020 to 31st July 2020.

DATA ANALYSIS

The total number of cases reported by India as on 31st July 2020 was 16,97,068. The distribution of the types of cases is given below:

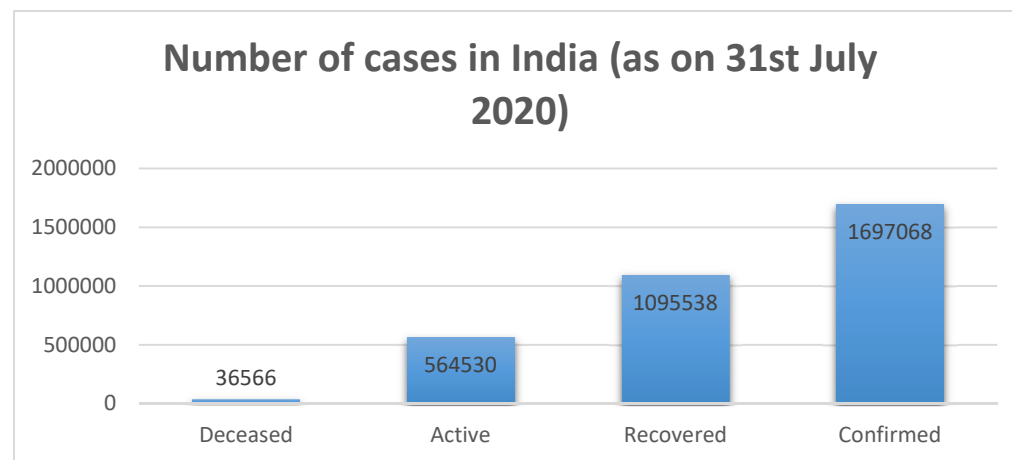


Figure 1: Number of cases in India in the category of Deceased, Active, Recovered and Confirmed (as of 31st July'2020)

In comparison with similar data as on 1st May 2020, the increase in cases can be shown as:

Table 1: Fold increase in number of cases in India over two months time.

	01-May	31-Jul	Fold
Confirmed	35043	1697068	48
Deceased	1147	36566	32
Active	26027	564530	22
Recovered	9068	1095538	121

The country was under lockdown till May and the relaxations brought to effect can be seen as the cause for such drastic increase in the number of cases. If we are to look at the percentage increase per month, it is 23.65% in April, 5.2% in May, 2.9% in June and 2.1% in July with an average of 13,423 new cases every day. A positive aspect of this data is that the increase in recovered cases is about 120 fold which reflects the efficient management of our health care facilities in the country. But in view of the spread of infection, our country is facing issues with containment. We can see the shift in trends of the case in India when compared globally in the below graph.

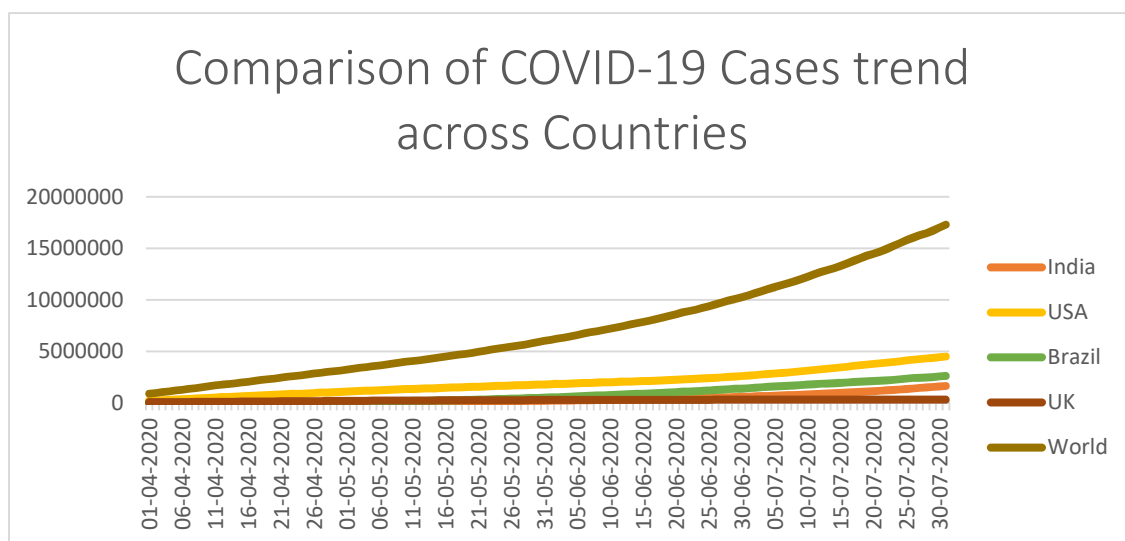


Figure 2: Comparison of trend in Confirmed COVID-19 cases across globe.

The upward lift in the number of cases in India is becoming prominent and closing on the graph with USA. Whereas many countries like Spain, Italy and UK, who were in the higher bars of COVID-19 infection have brought down their numbers considerably. In India, we can see the trend shift clearly when looked at the number of days it took to reach every 2 lakh cases.

Table 2: Measuring the number of days taken to increase the number of COVID cases in India (from 30th Jan to 31st Jul 2020)

No of days taken to reach every 2 lakh COVID-19 Cases in India from Jan 30 th (1st case in India)	
	Days
0 - 2 lakhs	126

2 - 4 lakhs	19
4 - 6 lakhs	12
6 - 8 lakhs	6
8 - 10 lakhs	5
10 - 12 lakhs	5
12 - 14 lakhs	5
14 - 16 lakhs	5

The infection is seen to spread faster all over the country. Until the lockdown period, the state of Kerala was well appreciated in controlling the spread of COVID-19 infected cases. But as the international barriers were slightly opened and the relaxation of lockdown regulations were issued, free movement of public was no more under restriction. The economic strain incurred by the public should be considered for their behaviour. Many small scale industries, shop owners and business men were left with no option but to get to field. The trend in Kerala is best represented in the graph below with the ups and downs of the recovery rate.

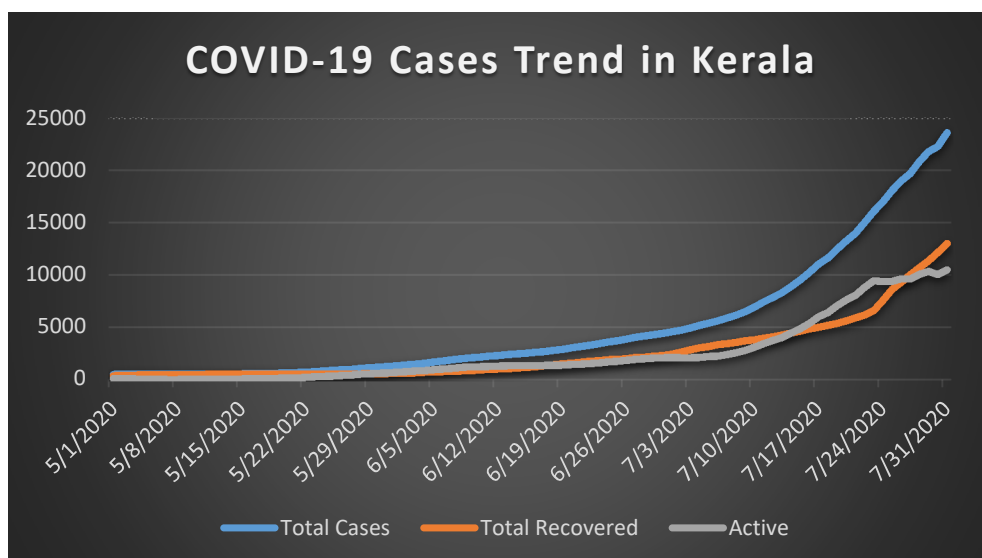


Figure 3: Trend in the number of COVID19 cases in Kerala (from May to July 2020)

On 1st May 2020, we could see the recovery rate was 78% whereas the recovery rate as on 31st July 2020 is 55%. On 1st May 2020 the state had 102 active cases whereas

on 31st July 2020 the number was increased to 10498. Almost a 100 fold increase. Let us have another view of the trends in Kerala by calculating the number of days it took to add every 5000 cases.

Table 3: Measuring the number of days taken to increase the number of COVID cases in Kerala (from 30th Jan to 31st Jul 2020)

No of days taken to reach every 5000 COVID-19 Cases in India (from 30-Jan-2020)	
	Days
0-5000	187
5000-10000	13
10000-15000	7
15000-20000	7
20000-25000	6

The days required to double the infected cases has been reduced to less than a week. This calls for extra precautionary measures to be taken by the public and follow the guidelines that the health departments are urging the citizen to follow. The fact that maximum number of cases affected by the infection belongs to the age group of 21-50, about 75%, gives a hope that the percentage of death reported will be considerably low since the age group has proved high recovery rate. Comparatively, the proportion of COVID-19 death in Kerala has recorded about 79% in the age group above 50. Many mathematical models have been in study to calculate the extend of COVID-19 spread but nonetheless the infection does not seem to limit itself to any measures. Societies all over the world are at high caution to limit the effects and spread of this infection. This study is to bring light on the current trend of infection rate that is on rise in India and the state of Kerala.

MEASURES ADOPTED BY THE GOVERNMENT:

Owing to the outbreak of COVID-19, the central and state governments of India has taken swift measures to control the spread of the pandemic. COVID-19 was stated as a “notified disaster” by the Indian Government and proper preparatory measures were implemented with rise in the increasing number of positive cases in the neighboring countries. Under section 6 (2)i of the Disaster Management Act, 2005, a complete lockdown for 55 days was implemented with effect from 25th March 2020 by the Prime Minister of India. Measures including awareness, statistical and quantitative analysis, healthcare monitoring by trained work force, and community surveillance were strictly followed under the guidance of The Ministry of Health and Family Welfare of India.⁶ With such a vast population, the fight against COVID-19 was indeed challenging for the Indian government.

A website with all updates and plans regarding COVID-19 was made available by the Indian government. This website was updated on regular basis with the total number of COVID-19 cases on a daily basis that mentioned the active, recovered and death indices. Furthermore, MOHFW was also created an alert helpline numbers that remains active 24/7 hrs. per week to guide and support the citizens of India during this scenario. The launching of “Arogya Setu” mobile app was an effective application by the Indian government, as it helped to track the route map of positive cases.⁷ Safety measures for the entire citizen were completely ensured by increasing production and importing of personal protection materials. India has undertaken multiple strategies to control the spread of COVID-19 including domestic and international travel restrictions. Strict observation for COVID-19 cases were made mandatory across all entry and exit points including airports, country border and seaports. Passengers were been screened and quarantined with regular follow up. All positive cases were transferred to isolation wards with supportive medical fraternity. Simultaneously India adopted intensive testing facilities with more than 310 government laboratories and 111 private laboratories. This helped in proper intervention in spread of COVID-19.⁸

Several measures were undertaken by the central and state government to provide relief to COVID-19 affected victims. All the regulatory laws were relieved including tax laws, loan schemes etc. and supporting scheme, insurance coverage was extended to all front line health workers. Promotion of online services for essential good supplies and necessary items were promoted during lockdown. Social gatherings were completely banned and all educational institutions were closed temporarily.

During the lockdown period India has witnessed a standing phase of COVID-19 cases, but due to unprecedented decline in economic activities the lockdown was withdrawn and the restrictions were extended only to threatened/containment zones. These wartime protocols put forth by the Indian government was beneficial in controlling the spread of COVID-19 at the initial phases. But due to the increasing economic uncertainties the government was forced to withdraw the nationwide lockdown and provide relaxation at various sectors of society. The entire states of India were categorized into red, orange and green zones, to determine the kind of restrictions placed on the society as well as monitor the COVID-19 status. This negative impact on economic condition demanded the government as well as people to restart their source of income generation. A steady rise in COVID-19 cases were witnessed from the beginning of June 2020. Similar to other affected countries, the economic impact had a drastic effect on several sections of the society including labour mobility, global supply chain, retail and consumer industry, tourism.

CONCLUSION:

The novel CoronaVirus Disease 2019 (COVID-19) has marked its presence holistically. The pandemic has not left any area unaltered. Its impact is growing more intensely and the people have started to accept and move along COVID-19, adopting the measures to protect themselves. When we look at the statistics of COVID-19 in Kerala, the days taken by the COVID-19 to infect every 5000 people has drastically reduced from 187 days at the initial phase to less than six days in the relaxation phase. It is evident that the number of cases in India is on the rise, the death rate is comparatively less threatening and the recovery rate is found to be reassuring. India, a country with smattering healthcare resources compared to its population, is holding up the health of its citizen at a tolerable limit. The policies and restrictions that the government takes in the next few months is crucial for the health and economic-societies future of India.

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