

# COVID-19 Lockdown Strategy: Implications for Respiratory Infection Outbreaks in Future

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**Keywords:** Global effect, Pandemic, Precaution

## INTRODUCTION

The current COVID-19 pandemic is undoubtedly the most impactful medical event in current time. Being in the era of advanced medical technologies, robust communication and transport systems, it also seems to be the most closely observed one. The information provided by its global progression and its response to various efforts to control it might help us better prepare against any such outbreaks in future [1].

### Progression of COVID-19 Pandemic in India

China reported an outbreak with a novel infection to World Health Organisation (WHO) in December 2019 which was labelled public health emergency of International concern in January 2020. India reported its first case on 30<sup>th</sup> January 2020, imported from China. Soon, various major public health measures were implemented in India. Thermal screening of air passengers coming from affected countries was started in January 2020, followed by restrictions on travel to and from affected countries. Month of March witnessed implementation of self-monitoring, isolation and quarantine for variable sets of International travellers followed by suspension of entire incoming International traffic on 19<sup>th</sup> March. Meanwhile at community level, institutions and establishments were closed, infection control measures were introduced and nationwide lockdown was administered starting from 25<sup>th</sup> March 2020 [2].

Despite these measures, this exclusively imported infection steadily widened its grip over India. The number of confirmed cases in the country, from reporting of the first case, at fortnightly intervals were 3,3,114,1250, 12000 and 35000 [3]. Most of the initial cases were noticed in major cities and traced to be linked with International travel early during month of March, related with commercial or religious activities [4]. Meanwhile, the country started facing the formidable fallout of nationwide lockdown, predominantly, livelihood of socioeconomically vulnerable population, economic slowdown, haphazard stranding of Indians in foreign land etc., [5]. Several steps were introduced, demonstrating innovative use of technology, community participation and mobilisation of alternate resources to manage these issues in testing times [6].

### Exploratory Analysis of the Situation

The understanding about the outbreak improved with gradual availability of data from affected regions. Similar to other respiratory viral infections, a significant proportion of confirmed cases were noticed to be completely asymptomatic [7]. This information immediately rendered the reliance on thermal screening to be alarmingly doubtful. Evidently, before the shutdown of International air travel, asymptomatic cases kept entering and visiting to any regions of the country. However, initial cases were noticed in major cities because of higher probability of detection at areas with better public health system. The rate limiting step in this situation seemed to be the exit of these carriers from the cities where they entered

the country. While suspension of International air travel terminated addition of fresh imported cases, the instantaneous action left huge number of travellers scarily stranded without any time margin to plan anything about it. Similarly, while nationwide lockdown restricted the explosive escalation of infection, this was at the immense cost of hindering the livelihood of one of the world's largest populations, with resultant loud outcry.

While the various efforts were clearly effective and widely acknowledged, the biologically advantageous virus still managed to emerge as a dreaded public health threat by May 2020 [3,8]. A situation analogous to escape of an intelligent mice from a high-end bear-trap installed to confine it!

### Implications for Future Respiratory Infection Outbreaks

Following are few inferences from stated background, which may guide us to better prepare for such outbreak in future. As soon as such an International outbreak is declared, following measures should be immediately implemented:

- Suspension of nonessential International movement (tourism, social, commercial, educational, religious etc.,).
- Return of all travellers based in country, mandatorily within the period of next 2 weeks.
- Retrospective tracing of the travellers from affected countries during last 3-4 weeks.
- Creation of quarantine and healthcare facilities close to all ports of International entry. Strict sealing of the borders of the respective cities.
- This might concern the residents of these few cities but shall certainly ensure continued livelihood for the major part of population.

Every International traveller should be considered infected and not allowed to leave the city till the post-quarantine testing is negative. While the capacity building progresses, the initial focus should be on mandatory quarantine, monitoring and postquarantine testing. Thermal screening has limitations.

In the rest of country, suspension of all leisure and recreational activities, establishments. Switching to digital mode for all education and professional activities. Infection control measures (social distancing, hand hygiene etc.,) to be followed during unavoidable onsite activities.

If nature provides equal survival opportunity to all organisms, virus is certainly expected to give a tough fight to humans. It appears that human constantly need to refine their effort with their experiences and wisdom, to navigate through such battles of survival.

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**PLAGIARISM CHECKING METHODS:** [\[Jain H et al.\]](#)

- Plagiarism X-checker: May 14, 2020
- Manual Googling: May 20, 2020
- iThenticate Software: Jun 10, 2020 (1%)

**ETYMOLOGY:** Author Origin

Date of Submission: **May 13, 2020**  
 Date of Peer Review: **May 14, 2020**  
 Date of Acceptance: **May 26, 2020**  
 Date of Publishing: **Jul 01, 2020**

**AUTHOR DECLARATION:**

- Financial or Other Competing Interests: None
- Was Ethics Committee Approval obtained for this study? NA
- Was informed consent obtained from the subjects involved in the study? NA
- For any images presented appropriate consent has been obtained from the subjects. NA