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Lockdown for Covid -19 Across the Nation

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ABSTRACT

As the number of Covid-19 cases nearby three a million, governments worldwide consider, lockdown as a one of the important way to control the epidemic. India has decided to follow this approach and has entered in a three-week of 2nd lockdown period. While there is widespread public support, and large population, questions arise how to the approach, effectiveness and cost of strategy. There should be travel restrictions after the lockdown, especially international travel. Should the entire country be opened at once or should we open states on a zone wise basis depending on the outbreak status? How do we sustain the economy, especially the livelihoods of poor and vulnerable, during multiple shutdowns? To Study the Different model adopted by different country to control COVID -19. I have studied different model adapted to control Covid-19.It is to be concluded after studying different model .Early intervention is the right approach: The Centre's lockdown decision at a low number of detected cases seems to be supported by the models. Be prepared for a long haul: Suppression strategy requires multiple lockdowns because the epidemic would likely return once the restrictions are lifted. So, governments and businesses should prepare an action plan for at least 12 months, until we have a viable vaccine to build immunity in everyone. India is developing nation has large population 137 million & limited health facilities hence limited lockdown in contaminated zone in India advisable.

Keywords: *Different Model, Early intervention, Haul, Pandemic.*

INTRODUCTION

Though definitive answers are difficult but there are several modelling studies on COVID-19 that can help. To that end, I have taken the five most recent and recognised studies to probe the effectiveness of the lockdown strategy. These studies assess the efficacy of various Non-Pharmaceutical Interventions or NPIs (interventions without medicine or vaccine) in containing the outbreak. Two are specific to China, two to India and one study has modelled the effect of various interventions in the UK and the US[1]. The Country has only 40000 Ventilator, one doctor per 11600 people, one hospital bed per 1,826 people and only isolation bed per 84000. The number of Coronavirus cases is still low with just 900 infected and 20 deaths up to 28 March 2020, but testing also marked behind other countries. Only 17000 tests carried out. Migrant workers, street vendors, contract workers, almost everyone in the informal sector — the bulk of the workforce — is being hit by this economic tsunami[2]. Or a country likes India, "it makes more sense to take preventive measures"[3]. Evidence suggests that once the virus starts circulating in the community, which means the source of infection can't be traced; the lockdown of an area to prevent infected persons coming in contact with others is efficient in curtailing its spread.

AIM

To Study the Diverse Model to Control the COVID -19.

OBJECTIVE

1. To compare the different model to control COVID -19
2. To study the effect of lockdown in India

MATERIAL AND METHOD

Study Model Implemented by Diverse Country to Control COVID -19

Study 1: Impact of NPIs to Minimize COVID-19 Mortality and Healthcare Demand in the UK and the US

The investigation, led by Imperial College London, has apparently influenced the strategy adopted by the UK and the US. The model tests two fundamental strategies: (a) Mitigation or herd immunity, which focuses on slowing, but not stopping, the spread. It relies on developing immunity in healthy population while protecting elderly who are most at risk, and, (b) Suppression, which aims to lessen case numbers to low levels and maintain it indefinitely through social distancing and lockdown. The investigation finds that the mitigation strategy would result in hundreds to thousands of deaths and would overcome the healthcare systems in the US and the UK. It, hence, finds the suppression strategy to be the most practical option. But, the main challenge of suppression is that lockdown needs to be executed sporadically until a vaccine becomes available, as the transmission is likely to return once involvement are relaxed.

Study 2: Consequences of NPIs for containing the COVID-19 Outbreak in China

This investigation, done by an International Team of researchers, models the effectiveness of various containment strategies used in China and validates the findings with actual case numbers. The investigation finds that without NPIs, there would have likely been 5 million COVID-19 cases in China, instead of 80,000. It also finds that China could have decreased the number of cases considerably had it acted early. For example, if Wuhan had been locked down and testing and isolation of complete and suspected cases begun in late December 2019 instead of late January 2020, China would have seen less than 5,000 cases and the chances of the pandemic would have decreased significantly. The study found a significant difference in the effectiveness of different NPIs. Early detection and isolation of cases followed by contact reduction and social distancing were found to be most helpful; travel restrictions had a comparatively lower impact. Though, a combination of all NPIs achieved the most robust and speedy result. It concludes that if, population contact resumes to normal levels, and the epidemic could rise again. Therefore, social distancing and improved testing and isolation should be continued for quite a few months, once lockdown and travel restrictions are lifted.

Study 3: The Effect of Human Movement and Safety Measures on the COVID-19 Epidemic in China.

This investigation uses real-time mobility data from Wuhan and detailed patient data from various parts of China to comprehend the role of travel restrictions. The study finds that travel limitations from the epicentre of the epidemic (Wuhan) were predominantly useful in the early stage of the epidemic. But once the epidemic was more prevalent, travel restrictions were less effective. The study also found a good correlation between improved testing and slows down of the epidemic.

Study 4: COVID 19 in India: Guidance from the India SIM Model

The research done by the US-based Center for Disease Dynamics, Economics and Policy (CDDEP), uses an India-specific model-India SIM-and data from China and

Italy to simulate the outbreak in India. It has simulated three scenarios-from least optimistic to most optimistic and has estimated country as well as state-level total cases and hospitalisation cases.

As per this model, without interventions, 300-400 million Indians can get infected by July. At the peak (between April and May 2020) 100 million individuals can be affected, of which about 10 million will be rigorous, and about 2-4 million will require hospitalisation. Social distancing, however, can decrease this peak by as much as 75%. In all circumstances studied by the model, the case number is likely to peak after April-end, and a reappearance of the epidemic can be expected in November/December. The investigation doesn't recommend an international travel ban or a national lockdown. It recommends lockdown of highly-affected states/areas, social distancing, large-scale testing, separation of COVID 19 patients from other patients in hospital (because of high chances of hospital outbreaks in India), temporary hospital facilities for severe cases and upgradation of hospital infrastructure including personal protective equipment and ventilators.

Study 5: Prudent Public Health Intervention Strategies to Control the Coronavirus Disease 2019 Transmission in India

A Mathematical Model-Based Approach.

The study was recently released by the Indian Council of Medical Research (ICMR). It aims to answer two questions: (a) Is it possible to prevent, or delay, the local outbreaks of COVID-19 through restrictions on travel from abroad, and, (b) If the community transmission has started, then to what extent can it be controlled through quarantine of symptomatic patients? The study has simulated various scenario of the outbreak in the four most populated metropolitan areas (Delhi, Mumbai, Kolkata and Bengaluru).

DISCUSSION

The study finds that travel restrictions have little impact on the outbreak as most asymptomatic patients would escape detection and cause onward transmission in the community. It, however, finds that it may be possible to interrupt the transmission of COVID-19 in India by aggressive quarantine of symptomatic cases (optimistic scenario). However, even in the pessimistic scenario of suboptimal quarantine, the peak cases can be reduced, resulting in the 'flattening of the curve'. This would reduce the peak demand on health services, but would have minimal effect on the overall number of cases. The study recommends enhanced surveillance of symptomatic patients followed by testing and quarantine to interrupt the transmission of COVID-19 in India. It is remarkable how closely all five studies agree with each other. It is, therefore, easy to summarise their findings and recommendations. From the above studies, the following can be concluded:

CONCLUSION

Early intervention is the right approach: The Centre's lockdown decision at a low number of detected cases seems to be supported by the models. Be prepared for a long drag: Suppression strategy involves multiple lockdowns because the epidemic would likely return once the limitations are lifted. So, governments and businesses should prepare an action plan for at least 12 months, until we have a viable vaccine to build immunity in everyone.

To avoid Lockdown, mass testing and social distancing is the only answer: Mass screening and social distancing have been identified as the most effective tool. China-specific studies show that decline in case numbers started with mass-testing. As China was able to detect and isolate the infected persons and their contacts quickly, it did not require a nationwide lockdown. Similarly, mass testing and social distancing have significantly controlled the

outbreak in South Korea. South Korea has developed rapid diagnostic tests (RDTs) that can give result in 10 minutes. It has set-up drive-through testing centres, testing tents, and is distributing at-home testing kits. Such RDTs are urgently required.

Travel restrictions without mass testing are ineffective: In all modelling studies, travel restrictions were found to be highly ineffective because most asymptomatic persons couldn't be identified at the port of entry. Without an effective method to detect all infected persons, travel restrictions have very little value. So, once travel restrictions are removed, mass screening with RTDs should be instituted at all airports and entry points.

State/hotspot lockdown more effective than national lockdown: A state/hotspot lockdown seems to provide a better trade-off between health and economy than a lockdown. So, it would be better to implement targeted lockdown in the next phase of the epidemic. Similarly, instead of opening the entire country at once, the status of the outbreak in states should prompt case-by-case decisions.

Social Support Programme is Essential

The experience of the last four days clearly shows that the informal sector, migrant workers, landless workers, poor women and children are the worst-hit in the lockdown. Governments must put in place a social support programme to provide them with essentials, including food and hygiene products. Health infrastructure: Last, we must invest in healthcare infrastructure quickly before the cases overwhelm us. Temporary hospitals, personal protective equipment, ventilators and mass production of test kits are urgently required. Likewise, regulators should rapidly clear all possible drugs that are helpful in the prevention and treatment of COVID-19. It is indispensable to understand that governments across the world are enforcing lockdown with a hope to triumph over the disease speedily, even if there is a short-term economic shock. But, what happens if the COVID-19 is not suppressed quickly? Are governments prepared for numerous lockdowns and the resulting financial setbacks? I guess that no government is even contemplating these scenarios. But as the above modelling investigations show, these are real potentials, and we must plan for these eventualities. The experience of the past pandemics is that it is better to be over prepared than underprepared. The cost of not planning ahead is just too high. Other countries went into a lockdown after there was an epidemic condition but for India we cannot afford to wait for the condition to reach that stage. India has large population 137 million and restricted health facilities therefore restricted lockdown in contaminated zone in India worthwhile.

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