

## COVID Awareness Issue

### **Benefits of an Early Lockdown: A Doctor's Perspective**

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“The lockdown is a total failure!”, the 75-year-old gentleman exclaimed indignantly. His outburst was justifiable, for, despite being in complete isolation in his house for 3 months, he had been diagnosed with COVID pneumonia. However, what he did not realize was that despite his age and co-morbidities, he passed through most of the illness unscathed, without requiring ventilation, ICU, or high-end medicines. Was he just one of the lucky ones? We are seeing several elderly and high-risk individuals who are recovering well from an infection that has been proven fatal to many. Has the virus mutated to become less dangerous in our country? Is our population more resistant to its lethal effects because of the protective immunity offered by childhood BCG/ MMR vaccinations or because of innate immunity that we have developed after being exposed to so many varied infections in the past? Yes, these are hypotheses that can be put forward. But, I believe what has also helped tremendously is the initial lockdown that our country went through.

No doubt the lockdown had its issues; issues of a downward spiraling economy, issues of homeless migrant workers, issues that should have been addressed before the lockdown was announced; but to say that the lockdown was a complete failure in containing the disease, would not be right. Yes, the number of cases has been on a rise. But that was inevitable, given a highly densely populated country of 1.3 billion people, many of whom are living in conditions that cannot accommodate social distancing, hand hygiene, or even good nutrition; as well as given a virus that transmits through humans so efficiently.

But what has worked in our favor is the fact that the lockdown gave us time to understand the disease better and build up our medical armamentarium against it. It gave doctors and researchers a fair chance to discern the pathogenesis, complications, management, and prevention of the disease. In March, clues to how the virus behaves in the human body, why or how it causes complications of ARDS, Pulmonary thromboembolism, Acute coronary syndrome, Multi-organ failure, etc were little known; a situation that was faced by Italy, Spain, the USA, and the UK. The UK, with a population of 6.66 crores, has 2.95 lakh people infected and 45,318 dead, as of today (July 21st, 2020); (mortality rate ~ 15%). Similar numbers exist in Italy and Spain. The USA, with a population of 33 crores, has 39 lakh infected and 1.43 lakh dead. India, with a population of 138 crores, has 11.6 lakh infected and 28,084 dead (mortality rate ~2.5%). If India, with the magnitude of its population, its socio-economic structure, and its health facilities, had faced a situation that was faced by these countries in March 2020, then, not just the numbers, but deaths also would have been much much higher than what it is at present.

Some knowledge that we have gained about the SARS-Cov-2 virus in the last 3 months, that we were unaware of in February/ March of 2020:

- In the early months, the inhaled virus was believed to mainly target the lungs, causing viral pneumonia and acute respiratory failure. Ventilation of the lungs was assumed to be the main management strategy for the severely ill. But in many, it did not seem to help at all. Now we know that a majority of patients suffer from an inflammatory involvement of blood vessels in the lungs (as well as other tissues), which leads to excessive clotting of blood, termed thrombosis. Thrombosis in pulmonary arteries causes decreased uptake of oxygen from the lungs into the blood. If severe, it can be life-threatening. Protocols now lay down the use of blood thinners like heparin or aspirin in such patients, both as prophylaxis and treatment; and close monitoring of all patients for the development of such life threatening processes is now being routinely done.
- Earlier, it was believed that COVID 19 causes the substantial disease to the lungs only. We now know that extra-pulmonary manifestations like myocardial dysfunction, acute coronary syndrome, acute kidney or liver injury, intestinal ischemia, digital ischemia, hyperglycemia, encephalitis, stroke, etc, maybe the initial presentation.
- In China, there were early reports of patients dropping dead on streets or dying before they could reach hospitals. It is believed that they were suffering from a phenomenon termed 'silent hypoxemia', wherein, the levels of oxygen in their bodies were falling to extremely critical values (of 50-60%) without them

becoming symptomatic. This phenomenon is still being researched by scientists. Being aware of it, doctors now ask infected individuals to monitor their blood oxygen levels regularly at home using a simple device called a pulse oximeter. They are advised to contact their physicians if levels drop to less than 93%, irrespective of presence or absence of symptoms, and hence, severe infection is caught at a much earlier stage.

- We are now aware that after the first phase of infection, the illness goes through a second phase of inflammation. This is a normal defense mechanism of the body to eliminate the virus. But in several patients, this inflammatory process goes into a hyperactive response that causes damage not only to the virus but to the patient's body as well. So, we now focus also on the post-viremic phase, when most patients become asymptomatic, and monitor them for chances of delayed life-threatening inflammatory complications.
- The most undeniable benefit of a late peak is the availability (albeit still in the research or restricted use phase) of several drugs or therapies. Anti-viral drugs like Remdesivir and Favipiravir, anti-inflammatory drugs like Corticosteroids, immunomodulatory drugs like Tocilizumab and Itolizumab, as well as convalescent plasma therapy give us much hope for patients with moderate to severe illness. Added knowledge of which stage of illness each drug is most effective in, makes us better equipped to use each to its full benefit.
- Time lag has also ensured better availability of different diagnostic test kits.

These are but a few examples of how we, as doctors, feel so much better equipped to save lives today. There is also the theory that the lockdown has helped to decrease viral exposure and hence the viral titer in people who have got infected.

Let me give you the example of the gentleman I mentioned above. He is 75 years old and suffers from CAD, Hypertension, Diabetes Mellitus, Dyslipidemia, and Chronic kidney disease. He had isolated himself at home completely for 3 months, with his wife, with no visitors or house help, and had taken all precautions regarding the handling of parcels, groceries, and the like. Yet, in mid-June, when the gentleman developed a low-grade fever, backache, and a dry cough, the inevitable fear crept into the minds of all the family members. Despite the COVID 19 RT PCR throat swab test coming negative, he was put on relevant antibiotics, vitamin and mineral supplements, his oxygen saturation levels and vital parameters were monitored. His blood tests revealed an elevated inflammatory marker called CRP, and a CT scan of his chest showed bilateral pneumonia. Given his high-risk profile, he was admitted to the

hospital, put on prophylactic anticoagulants, and corticosteroids were given when his oxygen levels dropped. His second COVID test also came negative, but he was still treated as a COVID patient, as the test may be negative in 30%. He improved by the 12th day. On discharge, a Rapid Antibody Test for COVID was positive, confirming the diagnosis of COVID 19 pneumonia. He is now on prophylactic anti-coagulants at home with monitoring of vitals and blood parameters.

What helped this high-risk gentleman from developing what could have been a full-blown COVID disease? The early and high suspicion of the illness due to the clinical picture despite negative tests, the right diagnostic work-up, the correct and timely treatment, proper monitoring for the severity of the disease, and the use of prophylactic drugs to prevent long term and delayed complications; along with, what was figured, a low viral titer due to a low level of exposure.

There are many more such cases, elderly or high-risk or younger patients with severe illness, who are showing a much better response than we would ever have thought possible in earlier times. Some have received plasma therapy, some have recuperated after anti-viral or tocilizumab or a combination of therapies, and many have been prevented from developing life-threatening complications.

We would have lost many precious lives if our knowledge of the disease was not what it is today; a most definite outcome had the lockdown not been enforced in those early months. Yes, we have peaked late, but we have peaked much better equipped to fight the disease and save lives. We can hope that things will only improve from here, as we move forward in our war against this dreaded enemy; an enemy that has managed to topple the lives and livelihoods of people the world over.

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