COVID-19: The battle of Maharashtra

"It is better to find your courage to make changes when you can choose to rather than being forced too. If you do not make a change, change will make you"

-Roy Bennett

Arrival of severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) pandemic with its beginning from December 2019 at Wuhan, China has made a forceful change in the world. As it ravaged through countries, it also unmasked the hidden crisis of their healthcare systems. India reported the first case of coronavirus disease-2019 (COVID-19) on January 30, 2020, and the count, till date, has crossed 10 million cases, second only to the United States of America (USA).[1,2] The health care budget in India, with a population of 135 crores, is 1.6% of the gross domestic product (GDP), as compared to USA, where it is 18% of the GDP with a population of 33 crores.[3-5]

Gravity of the Situation

Of the reported 10 million cases, approximately 2 million are from Maharashtra, which is a densely populated state. Steep rise of cases lead to an alarming situation for the healthcare system. Mumbai's high population density of 20,634 per square kilometer challenged all norms of social distancing. That left COVID-19 infected individuals with no choice other than hospital admission for isolation and/or treatment.[3]

This issue was addressed with the help of the municipal corporations by identifying and converting unoccupied but constructed buildings into isolation centers for mildly symptomatic or asymptomatic patients. Super-specialty buildings at medical colleges all over the state, built as part of an upgradation project, were converted into COVID-19 dedicated hospitals. Since coronavirus affects lungs and manifests with life-threatening acute respiratory distress syndrome, the availability of ventilators for such patients is of utmost importance. Every general ward bed was provided with oxygen supply and the number of intensive care units (ICU) was increased. Maharashtra has 18 government medical colleges with 500 ventilators, which was increased by three times to more than thirteen hundred in a span of six months. Authorized testing centers were only three to start with, which have now increased to 185 in the state. This Herculean task was largely made possible the will power of the Government and generous donations from the corporate sector.

Treatment Protocol

Since COVID-19 was a novel virus, extensive research to understand the pathophysiology of the disease was being conducted globally. Rapidly evolving understanding of the disease, multiple clinical trials, and different drugs like hydroxychloroquine, remdesivir, favipiravir, ivermectin with variable efficacy, made it difficult to have a universal protocol for disease treatment. Anti-coagulants such as heparin and steroids did prove their efficacy.[6-8] Availability of drugs, proper usage, and limitation of testing centers added to the burden of challenges that we had to overcome.

With time, however, our physicians and intensivists gained adequate experience to treat critically ill COVID-19 patients with the available medications. This is very well reflected in the reduction in mortality rate in India from 30% in March 2020 to 1.5% in December 2020.[1,9]

Task Force

As per the directions of the honorable chief minister of Maharashtra, a task force was set up to discuss and decide the protocol that would be followed in coordination with the Indian Council of Medical Research (ICMR). Evaluation of the overall situation in the state and acting as an advisory to the health ministry were its main functions. The task force guided administrative decisions and ensured smooth distribution of funds and manpower. Medical Education Department and government hospitals played a significant role in catering to the large population.

Doctors Beyond Duty

Increasing number of patients demanded more number of available beds and COVID-19 centers. Running a COVID-19 hospital needed adequately trained doctors and paramedical staff. An appeal was made to all the private Registered Medical Practitioners (RMPs) to volunteer their services for these centers through the Maharashtra Medical Counsil (MMC). About 4600 RMPs willingly provided their services and ensured successful functioning of these centres. This was a true example of the humanity of doctors for the society in the time of need.

Collaboration

Patients with different severity and manifestations of the disease were admitted to the hospitals of medical colleges. Since there were no fixed management guidelines, we decided to use the virtual platform to discuss and appropriately treat patients. Faculty from every medical college presented their patient data and put forward queries regarding the management of seriously ill patients. For possibly the first time in the history, senior professors of medicine, anesthesiology, and chest medicine from all the Government medical colleges of Maharashtra came together and discussed individualised management of patients. This brought about a lot of positive inputs, as evident by the reduction in mortality of critically ill patients. There were daily webinars, which brought multiple experienced minds together for the benefit and treatment of patients.

Postgraduate Residents and Interns – The Real Manpower

Management of COVID-19 wards and ICUs needed constant monitoring and expertise. Postgraduate (PG) students of Medicine, Anesthesiology, and Chest Medicine were falling short in numbers to manage newly formed wards and increasing number of patients. PGs from all the specialties enthusiastically took up the task of managing COVID-19 patients and practicing internal medicine irrespective of their chosen branch. Donning personal protective equipments (PPE) and doing their duty in the midst of summer was a mammoth task, which they all did gracefully, keeping the COVID-warrior flag high.

Vaccine Status

The most awaited prophylaxis for COVID-19 in the form of vaccines - Covishield and Covaxin were approved by the Drug Controller General of India on January 3, 2021 for emergency use. Covishield (Oxford University, AstraZeneca. Serum Institute of India) is a vector vaccine that uses a replication-deficient chimpanzee viral vector with a harmless adenovirus. Covaxin (Bharat Biotech) is an inactivated viral vaccine which destroys the pathogen's ability to replicate, but

allows to build an immune response by the host.[10] Vaccination has started all over India beginning with the health-care workers. COVID-19 pandemic has been a real-life combat for everyone and health-care workers were truly the warriors protecting the world. Hats off to all the doctors!

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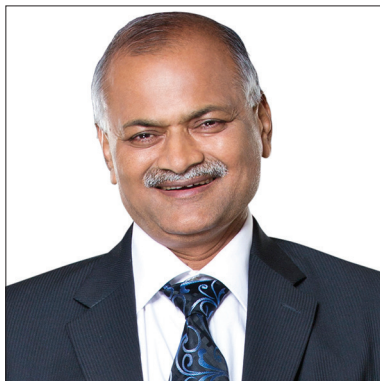E-mail: lahanetp@gmail.com

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About the author

Prof. Tatyarao P Lahane

Prof. TP Lahane is currently the Director of Medical Education and Research, Maharashtra State, India, and also oversees his ambitious "Cataract-free Maharashtra" program.

After completing MBBS and MS in Ophthalmology from GMC Aurangabad, he joined the SRTR Medical College Ambejogai (Rural Maharashtra) as an Assistant Professor in 1985. He knew the hardships of being born in a poor family, but life wanted to test him further. He developed bilateral chronic kidney disease in 1991, for which he needed a renal transplant, and that brought him to Mumbai. His mother donated him a kidney, and he underwent renal transplant in 1995, and ever since, he resolved to dedicate his life to fulfilling the needs of the economically and socially underprivileged strata of the society. He started conducting outreach camps at remote locations with poor medical and surgical facilities. He has thus far conducted 559 eye camps for the unprivileged and has helped provide state-of-the-art ophthalmic service at no cost. He worked as the Dean of the Grant Medical College and JJ Hospitals from 2010 to 2017. With his vision and administration skills, JJ Hospitals took a major leap forward into strategically investing in the best of infrastructure and highly skilled faculty. It is currently ranked the fifth best hospital in India. He must be the only ophthalmologist with a biopic movie on his life.

Prof. Lahane has given light to the life of over 1,50,000 patients with his sight-restoring surgeries, and has been decorated with the prestigious Padmashri award by the Government of India for his untiring services to the society in Ophthalmology. The life and times of Prof. Lahane continue to inspire us.

Prof. Lahane is the Nodal Officer for COVID-19 in Maharashtra and has fought the battle leading from the front. We are proud to have Prof. Lahane on the Editorial Board of IJO, and have him write the Guest Editorial recounting the battle that Maharashtra waged with COVID-19.