India should ramp up its emergency medicine and critical care infrastructure to combat COVID-19

The COVID-19 pandemic has evoked dramatic global disruption as health and governmental agencies struggle to manage this historic medical event. The COVID-19 pandemic has placed immense burdens on healthcare systems globally.[1] WHO declared COVID-19, a pandemic on March 11, 2020, and has called for governments to take 'urgent and aggressive action' to change the course of the outbreak.[2]

India, the world's second most populous nation with more than 1.3 billion people, has reported 257 486 total cases and 7207 deaths as on June 7, 2020. The country is experiencing an exponential increase in COVID-19 cases after relaxing the nationwide lockdown and some cities have been declared as red zone and containment zones. The WHO has also mentioned that the future of the COVID-19 pandemic is dependent on the response of India and it has a tremendous capacity to handle the coronavirus outbreak as it has a history of eradicating pandemics such as smallpox and polio.[3]

The COVID-19 pandemic will stretch hospital resources all over the world. Emergency Medicine and critical care department in high-income countries are not immune, but those in low-income and middle-income countries are likely to be impacted more significantly.[4] The number of new cases in India are increasing by more than 5000 each day. Some metro cities are experiencing an exponential rise in cases and have become the epicentre of the pandemic. In the coming 4–6 weeks, the health infrastructure will be tested severely as the peak of COVID-19 is expected in the next few weeks from now. An analysis of medical infrastructure and other data of the top 10 affected countries shows that India lags far behind on the resources required to deal with a pandemic.[5] The COVID-19 crisis is creating a stressed situation in the Indian health system. Emergency medical and critical care systems in India are suffering from lack of essential resources, overload and severe working conditions, and the risk of contagion and transmission of the health professionals due to the scarcity of PPEs adds a substantial burden. India has a few weeks before the coronavirus outbreak hits its peak. Therefore, it is necessary to use this window of opportunity to create an enormous, affordable and accessible emergency medicine and critical care infrastructure across the nation.

The rapid increase in the number of cases of COVID-19 in China, Italy and Spain has highlighted how quickly emergency medicine and critical care infrastructure can be challenged to provide adequate care, and a significant number of the patients who required a ventilator went on to die of respiratory failure, despite maximal support. Initial reports suggest that COVID-19 is associated with severe disease that requires intensive care in approximately 5% of proven infections.[6] Appropriate ventilatory support is a main concern when preparing for, and responding to, viral respiratory disease outbreaks. Looking at the current COVID-19 pandemic, the prevalence of severe to critical hypoxic respiratory failure is 19%.[7]

The Brookings report suggested that if the number of cases spiral in India, it may need as many as 110 000–220 000 ventilators. It estimated that the number of ventilators today in the country is at a maximum of 57 000.[8] India is largely dependent on imported parts for ventilators and other critical care instruments. Most of the ventilator manufacturers in India have indicated their inability to ramp up production due to export restrictions on medical devices from China and Europe. The government should support Indian research and development institutes or companies for producing basic ventilators using indigenous design and components. This would help local manufacturers to mass-produce ventilators so that we do not face a situation like Italy where people died for want of treatment. Therefore, the government should prepare for handling increasing number of patients with COVID-19, and plans should be made at central and regional levels for how to manage optimally the potential surge in the need for respiratory care resources.

Protection of frontline healthcare workers during the ongoing coronavirus disease pandemic (COVID-19) is essential. The personal protective equipment (PPE) is one crucial way to both stop the spread of COVID-19 and keep the frontline healthcare workers safe from the pandemic. Shortage of PPE led to increased risk of infections in healthcare workers and increasing the availability of PPEs, and proper guidelines would significantly reduce transmission rates and help save lives.[9] The government should leverage the potential of Indian textile industries for ramping up production of PPEs.

India has around 9.26 lakh doctors for an entire nation of 1.3 billion and harrowing less than 20 000 of these 9.26 lakh doctors are trained in pulmonology, anaesthesiology, critical care and emergency medicine—the key departments require respiratory care and active life-saving intervention.[10] Under the National Board of Examination- Diplomate of National Board (DNB), around 12 000 specialist doctors just finished their final year theory paper of specialty exam in streams related to emergency medicine and critical care. As in the USA, the Indian government can give the degree as 'BOARD ELIGIBLE SPECIALIST' and later when they cleared the final exam, they can be called 'BOARD CERTIFIED SPECIALIST'. They would be an asset in this crisis time. Critical care medicine has a crucial role in public health emergencies. The government should initiate standardised trainings in various domains, such as emergency medicine, critical care, pulmonology, case management, infection control, safe testing and isolation protocols. This will enhance comprehensive skills to respond effectively and make teams better prepared to deal with health emergencies.[11]

Emergency medical and critical care services can play a significant role in designing and implementing an effective approach against COVID-19. Maximising these services during a pandemic by carrying out phone triage, home testing and telemedicine OPDs significantly decreases visits to hospitals and allows early identification of those with COVID-19. These activities contribute to the effort to contain the spread of disease.

India has to move speedily, marshal its financial and human resources, build temporary COVID-19 treatment facilities and procure necessary respiratory care equipment, including PPE, hospital beds, oxygen-flow masks and ventilators. Governments and policymakers must do all they can to prevent the scarcity of necessary resources.

India will need to address the decades of underinvestment in public health system and social health, which may leave it struggling at this time of crisis. This could be an opportunity for India to strengthen its social health for advancement of public health like never before.

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