COVID-19 Pandemic - Call for National Preparedness

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An outbreak of unusual respiratory disease recognized in December 2019 from Wuhan, China, was caused by infection by a novel coronavirus, initially named 2019-nCoV by World Health Organization (WHO).1,2 On 30th January 2020, this outbreak was declared a Public Health Emergency of International Concern as geographic footprint of this virus expanded to involve many other countries. On February 11, 2020, WHO renamed the disease as coronavirus disease 2019 (COVID-19).3 On the basis of a phylogenetic analysis of related coronaviruses, 2019-nCoV was designated as severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) by the Coronavirus Study Group (CSG) of the International Committee on Virus Taxonomy.4 On 11th March 2020, Director General of WHO has declared COVID-19 to be a global pandemic.5 It is the first pandemic to be caused by a coronavirus. COVID-19 affects people of all ages but older people (more than 60 years) and those with underlying medical illness like cardiovascular disease, chronic respiratory disease or cancer are at higher risk of getting severe infection.6 The death rate is 3.4%.7

As of 17th March 2020, 136 countries and territories have reported cases of COVID-19.8 There are 179112 confirmed cases and 7426 deaths reported globally.9 Major countries outside China which have recorded high number of cases are South Korea, Italy, Iran, Japan, France, Germany and Spain. The total number of cases and deaths outside China has overtaken the total number of cases in China.

First confirmed case of COVID-19 from India was diagnosed on 30th January 2020 in Kerala in a medical student who had returned from Wuhan. Subsequently 2 other cases were reported from Kerala. All the 3 cases were successfully managed and discharged. As of March 17th 2020, a total of 142 cases of COVID-19 and 3 deaths have been reported in India.10

The leading International scientific journals like the New England Journal of Medicine, British Medical Journal, Lancet, JAMA, Annals of Internal Medicine, etc have published fast tracked original articles published by the institutes and scientists handling theses patients to dissipate this experience amongst the medical community.11,12 Sharing of information has been a key factor during this outbreak and it has surely had effect on health systems, social services and economic activity.

Although most viral infections may present with similar symptoms, the virus responsible for COVID-19 is different with respect to community spread and severity.13,14 It is a highly contagious virus that spreads 2–4 times as rapidly as the flu, has a long incubation period of up to 14 days and can be transmitted by people with mild or perhaps no symptoms. It can survive on contaminated surfaces as well. All of which make it very, very tough to contain. Considerable efforts to reduce transmission will be required to control outbreaks.

WHO has defined four transmission scenarios for COVID-19:

1. Countries with no cases (No cases);
2. Countries with 1 or more cases, imported or locally detected (Sporadic cases);
3. Countries experiencing cases clusters in time, geographic location and/or common exposure (Clusters of cases);
4. Countries experiencing larger outbreaks of local transmission (Community transmission).

India is at stage 2 of transmission. We need to increase the level of preparedness, alertness and response to identify, manage and care for cases of COVID-19.15 Government of India has invoked powers under the Epidemic Diseases Act, 1897 to enhance preparedness, alertness and response for cases of COVID-19.

Strategic preparedness and response plan for COVID-19 by WHO aims to slow and stop transmission, prevent outbreaks and delay spread while providing optimized care for all patients especially the seriously ill.16,17

Simple measures like hand hygiene, respiratory etiquette, social distancing, and masks for symptomatic individuals help to prevent spread of the virus. Banning of mass gatherings, school and university closure, workplace closure and public health quarantine has been undertaken. People traveling to countries abroad might come in contact with people affected with COVID-19 during their stay or even while in transit at the airports. Within these countries, few countries have reported very large number of cases and deaths putting passengers from these countries particularly at higher risk of infection.18 All incoming travelers, including Indian nationals, arriving from or having visited China, Italy, Iran, Republic of Korea, France, Spain, Germany, UAE, Qatar, Oman and Kuwait are quarantined for a minimum period of 14 days. Starting from 13 March 2020, all existing visas, except diplomatic, official, UN/International Organizations, employment, project visas, stand suspended until 15 April 2020. All international Passengers entering India are required to furnish duly filled self-declaration form and undergo Universal Health Screening at the designated health counters at all points of entry (international airports, seaports and ground crossings). Persons with symptoms are made to undergo further medical checks and isolation for strict infection control. Collection and transportation of samples for laboratory testing and appropriate medical care is rendered to them. Contact tracing is performed rigorously.
done to identify, assess and manage people who have been exposed to a patient with COVID-19 to prevent onward transmission. Contact tracing includes identification of extended social networks and travel history of cases during the 28 days after onset of illness.

As we move ahead, we need to increase our level of preparedness to identify, manage and care for new cases of COVID-19. The healthcare facilities have to train the outpatient and emergency department staff in screening and isolating potentially infectious patients and identify and transfer cases safely, without disease transmission. Standard precautions should be adhered to in high volume emergency departments to prevent transmission from ill patients to health care workers and other patients by having a separate triage area.

While home care is advocated for mild cases to avoid overwhelming healthcare facilities, there should be close monitoring for high risk cases and referral system in case of deterioration. Hospitals should be ready for surge of cases and have a plan ready for surge facilities. Adequate stock of medicine, materials and protective gears is desirable. Training drills for staff on personal protective equipment use, cleaning and disinfection are required for infection control and prevention. As of 14th March, there are 52 laboratories identified by the Indian Council of Medical Research for testing of COVID-19. A total of 57 laboratories have been identified to support sample collection and referral. Local health authorities with involvement of private and public hospitals have isolation beds ready and quarantine areas identified. Awareness raising, risk communication and active engagement of the community is being undertaken to decrease misconceptions and counter misinformation. Positive campaign helps to empower the public and avoid panic situation especially when there is information overload on various social media platforms.

Successful handling requires collaborative efforts between society, Municipal Corporation, Government, Public health experts and Healthcare professionals.

As we are a very large country, we can anticipate various limitations as regards containment of infection. Social distancing, isolation and home quarantine are difficult due to small homes and many family members staying together. Working from home is not an option for most people who earn daily wages. The tests for COVID-19 presently are available at few authorized laboratories. However, once private laboratories are permitted to carry out tests, the number of positive patients may see an upward trend. As more sick patients get admitted there can be an increased demand for Intensive care facilities and ventilators.

The Research and Development roadmap for COVID-19 outlines research priorities in 9 key areas. These include the natural history of the virus, epidemiology, diagnostics, clinical management, ethical considerations and social sciences, as well as long-term goals for therapeutics and vaccines.

There is still much to discover about the disease and its impact in different contexts. As healthcare professionals, we need to understand the facts and strategize our response to handle this crisis effectively. We need to protect ourselves and paramedical staff with required personal protection to avoid getting infected. We need to focus our efforts should be directed to flatten the pandemic by taking actions to slow the spread. This will help us to minimize the overwhelm of medical services.

As COVID-19 is a new disease that is distinct from previously encountered viral pandemics, preparedness, readiness and response actions will continue to be driven by rapidly accumulating scientific and public health knowledge.

References

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