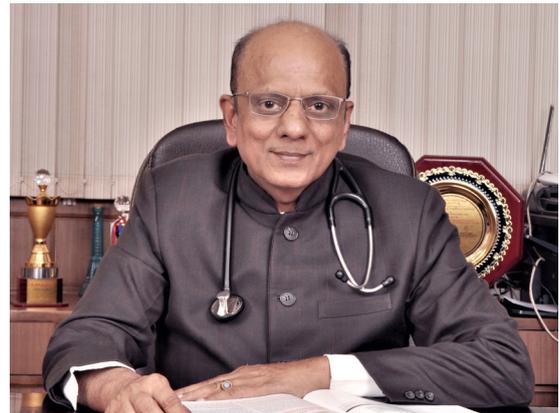


**COVID-19:** The medical fraternity is braving the enemy round-the-clock, at the cost of their own safety and great personal sacrifice.

*I salute them all!*

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The world is experiencing a public health crisis of the magnitude never experienced by the modern world since the Spanish Flu during the First World War. There is a global pandemic of the new coronavirus disease. Covid-19 was first reported as a “cluster of pneumonia cases of unknown cause” in Wuhan, China on 31st December, 2019. Since then, it has rampaged through continents and today more than 200 countries are in the grip of the disease. There are now almost 2.5 million cases globally (20.4.20) and this number continues to rise every day at an alarming pace. The global death toll has crossed 150,000 (20.4.20). There is no sign yet that the pandemic is flattening or leveling off. The United States has overtaken China, which was the epicenter of the pandemic and now tops the list of countries with highest number of total cases including total deaths.

India reported its first case of corona virus disease on 30th January this year. As on 20th April, India has 14255 active cases; 2841 persons have been cured or discharged and 559 deaths have been reported, as per data from the Ministry of Health and Family Welfare, Government of India. The state of Maharashtra has the highest number of cases followed by the states of Delhi, Rajasthan, Tamil Nadu and Madhya Pradesh.

At the time of writing this, India has extended its lockdown (implemented from 24th March midnight) till 17th May with the intent to break the chain of transmission.

The Health Ministry has issued guidelines on the management of Covid-19, including testing strategy, which are applicable to government and private hospitals both. All Covid-19 cases in India are being managed as per these guidelines.

It is mandatory for “all hospitals (Government and Private), Medical officers in Government health institutions and registered Private Medical Practitioners including AYUSH Practitioners, to notify such person(s) with COVID-19 affected person to the concerned district surveillance unit.” All practitioners are also required to get “the self-declaration forms (enclosed), who, within their knowledge, are having travel history of COVID-19 affected countries as per the extant guidelines and are falling under the case definition of COVID-19 (Suspect/Case).”

Triage is the first step in managing Covid-19 patients or persons suspected of having Covid-19.

Being a resource-poor country, India is following acuity-based triaging for its Covid-19 cases, which ensures that patients get the desired level of care with optimum utilization of resources. Being mindful of this, three categories of dedicated Covid hospitals have been defined under which

Covid-19 patients are being managed in India: Covid Care Centres (for mild or suspect cases), Covid Health Centres (for moderate infection) and Dedicated Covid Hospitals (for critically ill persons).

There are well-demarcated areas for confirmed and suspect cases in each hospital so that they do not mix; the entry and exit are kept separate as far as possible. All the three hospitals are linked to the surveillance team under the Integrated Disease Surveillance Programme (IDSP). Standard precautions - hand hygiene, use of personal protective equipment (PPE) - face masks (N95 or surgical), gloves, gowns, goggles - for their personal safety and strict infection prevention and control practices are strictly adhered to.

All cases are kept in isolation and treated symptomatically until the test results are available.

The Indian Council of Medical Research (ICMR), the apex health research body of India, has revised its testing strategy since the outbreak first came to light. Initially, “only close contacts of laboratory-confirmed Covid-19 cases, who develop respiratory symptoms within 14 days of home quarantine or those with a history of travel to Covid-19 affected countries within the last 14 days and who develop respiratory symptoms within 14 days of home quarantine” were tested.

But now, all symptomatic persons with travel history, symptomatic persons in contact with laboratory confirmed Covid-positive cases, patients with severe acute respiratory illness (fever, cough and/or shortness of breath) and symptomatic health care workers are tested for Covid-19. All asymptomatic direct and high-risk contacts of a confirmed case are also tested once between day 5 and day 14 of coming in contact with a Covid-positive patient.

“In hotspots and clusters and in large migration gatherings/ evacuees centres, all persons with influenza-like illness (fever, cough, sore throat, runny nose, headache, malaise) are tested with reverse transcription polymerase chain reaction (RT-PCR) if within 7 days of illness or antibody test if after 7 days of illness (If negative, to be confirmed by rRT-PCR).”

Some hospitals have set up makeshift **walk-in Fever Clinics** outside the main hospital building for triaging. Persons with fever and/or symptoms like cough, runny nose, sore throat are screened here to identify suspect cases, which are then referred to the appropriate Covid dedicated facility depending on the severity of the infection.

- Mild or very mild cases or suspect cases are managed at the **COVID Care Centers** set up in hostels, hotels, schools, etc. They are connected to one or

more Dedicated COVID Health Centres and at least one Dedicated COVID Hospital for referral purpose.

Persons who present with flu-like illness are tested for Covid-19 and are considered as “suspect cases” till the results are available. Those who test positive are moved into the “confirmed cases” section of the COVID Care Center. If test results are negative, the patient is treated symptomatically and discharged with advice to follow preventive health measures in addition to the medications prescribed. During his/her stay at the Care Center, if a Covid patient develops moderate or severe illness, then he/she is shifted to a Dedicated COVID Health Centre or a Dedicated COVID Hospital as the case may be.

- **Dedicated COVID Health Centers** have been established either in a separate block of a hospital or the entire hospital can be earmarked as a dedicated COVID Health Center. Private hospitals may also function as Dedicated COVID Health Centers.

Patients with pneumonia but with no signs of severe disease (respiratory rate 15-30 per minute, amount of oxygen in the blood (SpO2) 90-94%) are treated here. Such patients require oxygen support. Hence, these Health Centers are equipped with oxygen support. Patients who test positive are shifted to the “confirmed cases” section. Covid-negative patients are moved to a non-COVID hospital and managed there accordingly. If the illness becomes severe, the patient is shifted to a Dedicated COVID Hospital.

- The severe and critically ill patients who need ventilator support are treated at the **Dedicated COVID Hospitals**. These patients have severe pneumonia (respiratory rate >30 breaths/min, severe respiratory distress, SpO2 <90% on room air) or they are in acute respiratory distress or septic shock. These are potentially life-threatening conditions. In addition to oxygen support, these hospitals have fully equipped ICUs including ventilators. A patient who tests positive for Covid-19 remains in COVID-19 ICU and is treated as per standard treatment protocol. Patients testing negative are shifted to non-Covid hospital when they are clinically stable.

Dedicated COVID Hospitals act as the referral centers for the Dedicated COVID Health Centers and the COVID Care Centers. These can again be either a full hospital or a separate block in a hospital; a separate entry and exit is preferred. Private hospitals may also serve as COVID Dedicated Hospitals.

Doctors in India are using a combination of hydroxychloroquine and azithromycin to treat patients with severe disease. India has started using convalescent plasma therapy for Covid-19 patients who require intensive care on a trial basis.

Patients admitted to Covid Health Centres and Dedicated Covid Hospitals are discharged as per the Health Ministry discharge policy. A positive case is discharged only after two samples test negative within 24 hours and the chest x-ray is clear. All negative cases are discharged depending on their

diagnosis, but they are still monitored for 14 days after their last contact with a confirmed case.

India is still in the second stage of the pandemic. There is no community transmission yet; there are clusters of cases. Hence, India is following cluster containment strategy (contain the disease within a defined geographic “containment area” along with a “buffer area” of 5 km) to tackle the spread of the virus. Every district of the country has been divided into: Hotspot districts, Non-Hotspot districts with reported cases, and Green zone districts. India has 1919 dedicated Covid-19 hospitals with 1.73 lakh isolation beds and 21,800 ICU beds have been prepared (as on 17th April, 2020).

India is in the right direction; before the lockdown, the doubling rate was about 3 days; the doubling time has increased to 7.5 days (as on 19th April, 2020) for the last one week (17.4.20), as per the Health Ministry data. Doubling rate has improved in 18 states in the country compared to the national average indicative of a slight reduction in the rate of increase of cases there. Goa now has no active case.

Covid-19 is a novel entity and understanding about the disease is rapidly evolving. New information is emerging almost every day. We are still struggling to gain a foothold. We do not know how the pandemic will end or when will it end. It may even assume a seasonal nature. So far there seem to be no answers to these questions.

Covid-19 is a National Health Emergency. The medical fraternity is at the forefront of the war against the coronavirus in all affected countries. They are braving the enemy, hitherto unknown, round-the-clock, at the cost of their own safety and great personal sacrifice. Delhi has two dedicated COVID Government hospitals and all doctors, nurses and paramedics at these hospitals are working in two shifts for continuous 14 days followed by a 14-day break. During the break period, they are staying at hotels, away from their homes, so that they are not a risk to their families. Yet they stand resolute in the efforts to keep the pandemic under control.

I salute them all!

*Dr. KK Aggarwal:* Recipient of four National Awards (Padma Shri, Vishwa Hindi Samman, Dr B C Roy National Award and National Science Communication Award) and one State (Delhi Hindi Sahitya Samellan - Sahitya Shree Award 2007 - Doctor and Philosopher of Indian Culture), Three Limca Book of Record Holder in CPR 10, Gold Medallist, TEDx Speaker & Recipient of FICCI Health Care Personality of the Year Award 2016, President Confederation of Medical Associations of Asia and Oceania, President Heart Care Foundation of India, Group Editor in Chief IJCP Group, Past National President and Past Honorary Secretary general, Indian Medical Association, Past President Delhi Medical Association and IMA New Delhi Branch, Former Ethics Committee Member Medical Council of India, Former Chairman Ethics Committee Delhi Medical Council. [www.twitter.com/DrKKAggarwal](http://www.twitter.com/DrKKAggarwal) [www.facebook.com/drkkaggarwal](http://www.facebook.com/drkkaggarwal) [www.youtube.com/drkkaggarwal](http://www.youtube.com/drkkaggarwal) [www.kkaggarwal.com](http://www.kkaggarwal.com) [www.blog.kkaggarwal.com](http://www.blog.kkaggarwal.com)

