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COVID-19: All Questions Answered

WHAT IS COVID-19?

Coronavirus disease or COVID-19 ('CO' stands for 'corona,' 'VI' for 'virus' and 'D' for disease) is a disease caused by a new coronavirus. Since it was a previously unknown virus, it was called the "2019 novel coronavirus (nCoV)" and the disease was earlier known as nCoV. It was given the name COVID-19 on 11th February.

The name has been given in line with World Health Organization (WHO) guidelines previously developed with the World Organization for Animal Health (OIE) and the Food and Agriculture Organization (FAO). It is the WHO policy to not link the name to a person, animal, place or country. The WHO also refers to the virus as "the virus responsible for COVID-19" or "the COVID-19 virus" when communicating with the public.

WHAT DO YOU MEAN BY THE WORD CORONA?

The word 'corona' means crown or the halo around the sun. Heart is considered a crown. Therefore, the arteries that supply oxygen to the heart are also called coronary arteries. Under an electron microscope, the virus appears round with spikes poking out from its periphery; hence, the name coronavirus.

WHAT IS THE COMPOSITION OF THIS VIRUS?

It is a single-strand, positive-sense RNA genome that ranges from 26 to 32 kilobases in length; a beta coronavirus from Corona family.

WHAT ARE OTHER DREADED CORONAVIRUSES?

COVID-19 is one of the three deadly human respiratory coronaviruses. The other two are severe acute respiratory

syndrome coronavirus (SARS-CoV) and Middle East respiratory syndrome coronavirus (MERS-CoV).

COVID-19 virus is 75-80% identical to the SARS-CoV.

WHERE DID IT ORIGINATE?

It was first reported from Wuhan, China, on December 31, 2019 as pneumonia of unknown cause. The first case was informed to the world by Dr Li Wenliang who died on 6th February.

WILL THIS VIRUS SURVIVE HEAT?

The virus is likely to be killed by sunlight, temperature, and humidity. SARS was reported to have stopped around May-June, 2003 owing to more sunlight and more humidity.

IS COVID-19 A PANDEMIC?

As per WHO and the Centers for Disease Control and Prevention (CDC), pandemic declaration is likely. WHO says outbreak is "getting bigger", can spread worldwide and is "literally knocking at the doors".

On January 30, 2020, the International Health Regulations Emergency Committee of the World Health Organization declared the outbreak a "public health emergency of international concern (PHEIC)" within a month after the first reported cases, as a result of the signs of human-to-human transmission outside China.

On 21st February, the CDC said, "This new virus represents a tremendous public health threat".

On 22nd February, WHO said that it is concerned about the number of cases with no clear epidemiological link, such as travel history to China or contact with a confirmed case. Cases have been detected in Singapore,

South Korea, Taiwan, Vietnam, Hong Kong and Japan where the source of the infection is not known.

On 28th February, WHO raised the global risk for coronavirus to the highest level of alert “*We have now increased our assessment of the risk of spread and the risk of impact of COVID-19 to very high at global level*” (WHO).

CDC published an Interim Guidance for Healthcare Facilities, “*Preparing for Community Transmission of COVID-19 in the United States*” on 29th February.

WHAT IS A PANDEMIC?

- The WHO defines a pandemic as “the worldwide spread of a new disease”, “across several countries or continents, affecting a large number of people”.
- According to the CDC, “pandemic refers to an epidemic that has spread over several countries or continents, usually affecting a large number of people”.
- “Viral outbreak markedly different from recently circulating strains and humans have little or no immunity to it,” according to the UK’s Health and Safety Executive.

WHAT IS CORANXIETY?

Anxiety about falling ill and dying; avoiding or not approaching healthcare facilities due to fear of becoming infected during care; fear of losing livelihood; fear of not being able to work during isolation; fear of being dismissed from work if found positive; fear of being socially excluded; fear of getting put into quarantine; fear of being separated from loved ones and caregivers due to quarantine; refusal to take care of unaccompanied or separated minors; refusal to take care of people with disabilities or elderly because of their high-risk nature; feeling of helplessness; feeling of boredom; feeling of depression due to being isolated; stigmatization of being positive infection; possible anger and aggression against government; unnecessary approaching the courts, possible mistrust on information provided by government; relapses of mental illness in already mentally-ill patients; overstress on people to cover work of infected colleagues, quarantined for 14 days and insufficient or incomplete information leading to myths and fake news.

WHAT WILL HAPPEN IF THIS ANXIETY IS NOT TACKLED?

If this anxiety is not tackled, healthy people will buy masks, get the tests done, get hospitalized and

exhaust resources meant for persons who are actually at high risk.

WHAT IS THE REASON FOR ANXIETY IN YOUNGER POPULATION, WHEN DEATHS ARE FEWER IN PEOPLE BELOW 50 YEARS OF AGE?

The younger population has more fear of getting quarantined for 14 days or fear of losing their beloved elderly ones with comorbid conditions.

DOES COVID-19 AFFECT DOCTORS AND OTHER HEALTHCARE WORKERS ALSO?

As on 14th February, 1,716 medical workers have contracted the virus and 6 have died in China; 1,502 belong to Hubei province, with 1,102 from Wuhan. The number amounts to 3.8% of China’s overall confirmed infections as of February 11 with 0.3% deaths. On 18th February, the Director of Wuhan Hospital died. Over 3,000 workers have been involved so far. Two workers who were sent to Wuhan in January end to help build new hospital got infected.

WHAT IS THE SERIOUSNESS PROFILE OF COVID-19?

COVID-19 causes mild illness in 82%, severe illness in 15%, critical illness in 3% and death in 2.3% cases. About 6% patients admitted in ICU require mechanical ventilation, or died (*NEJM*).

WHAT IS THE MORTALITY RATE IN PATIENTS WITH NO COMORBID CONDITION?

Patients who reported no comorbid conditions had a case fatality rate of 1.4%.

HOW MUCH TIME DOES IT TAKE TO RECOVER FROM CORONAVIRUS DISEASE?

People with mild illness recover in about 2 weeks; those who are sicker may take 3-6 weeks to recover.

IN WHICH CASES IS IT RISKIER?

It caused death in 15% of admitted serious cases. About 71% deaths have occurred in patients with comorbidity (72,314 Chinese cases, largest patient-based study, *JAMA*).

WHAT IS THE CASE FATALITY RATE OF COVID-19?

Globally, the mortality rate for COVID-19 is 3.4% as estimated by the WHO on 3rd March, which is higher than previous estimates of about 2%.

- 3.8% nationwide

- 5.8% in Wuhan
- 0.7% in other areas
- NEJM report: Among 1,099 cases from China, a lower rate of 1.4% was noted. The death rate may be even lower, if there are many mild or symptom-free cases that have not been detected. The actual death rate could be like that of a severe seasonal flu, below 1%.
- Case fatality is 10% in Iran; probably they are underreporting mild cases.

WHAT IS THE CASE FATALITY RATE OF COVID-19 BY AGE?

Age	Death rate (Confirmed cases)	Death rate (All cases)
80+ years old	21.9%	14.8%
70-79 years old		8.0%
60-69 years old		3.6%
50-59 years old		1.3%
40-49 years old		0.4%
30-39 years old		0.2%
20-29 years old		0.2%
10-19 years old		0.2%
0-9 years old		No fatalities

This table represents the risk of dying if infected with COVID-19 for a person in a given age group.

(Source: <https://www.worldometers.info/coronavirus/coronavirus-age-sex-demographics/>)

WHAT IS THE CASE FATALITY RATE BY COMORBIDITY?

Percentage does not represent the share of deaths by pre-existing condition. It represents, for a patient with a pre-existing condition, the risk of dying if infected by COVID-19.

Pre-existing condition	Death rate (Confirmed cases)	Death rate (All cases)
Cardiovascular disease	13.2%	10.5%
Diabetes	9.2%	7.3%
Chronic respiratory disease	8.0%	6.3%
Hypertension	8.4%	6.0%
Cancer	7.6%	5.6%
No pre-existing conditions		0.9%

(Source: <https://www.worldometers.info/coronavirus/coronavirus-age-sex-demographics/>)

WHAT IS THE CASE FATALITY RATE OF OTHER VIRUSES?

- MERS: 34% (2012, killed 858 people out of the 2,494 infected)
- SARS: 10% (November 2002 - July 2003, originated from Beijing, spread to 41 countries, with 8,096 people infected and 774 deaths).
- Ebola: 50%
- Smallpox: 30-40%
- Measles: 10-15% developing countries
- Polio: 2-5% children and 15-30% adults
- Diphtheria: 5-10%
- Whooping cough: 4% infants <1 year, 1% children <4 years
- Swine flu: <0.1-4%
- Seasonal flu: 0.01%
- Number of flu deaths every year: 2,90,000 to 6,50,000 (795 to 1,781 deaths per day)

DOES IT AFFECT ALL SEXES?

Nearly 56% patients are males. Although men and women have been found to be infected in roughly equal numbers, the death rate among men has been noted to be 2.8%, compared with 1.7% among women.

DOES IT AFFECT ALL AGES?

- 87% aged 30-79 years
- 10% aged <20 years
- 3% aged >80 years

WHAT IS THE INCUBATION PERIOD OF COVID-19?

The incubation period (time between exposure and onset of symptoms) varies from 1 to 14 days, most commonly around 5 days. An incubation period of 24 days has also been observed. WHO said that it could point to a second exposure rather than a long incubation period. Hubei province local government on February 22 reported a case with an incubation period of 27 days.

WHAT ARE THE DIFFERENT NUMBERS FOR THE DISEASE?

- Mean time to symptoms: 5 days.
- Mean time to pneumonia: 9 days.
- Mean time to death: 14 days.
- Mean time to CT changes: 4 days.

- Reproductive number (R_0 or R not): Number of persons infected by one infected person - In COVID-19 it is 3-4; R_0 of flu: 1.2; R_0 of SARS: 2.
- Epidemic doubling time: 7.5 days.
- Epidemic doubling time in South Korea: 1 day, probably due to super-spreader.
- Epidemic tripling time in South Korea: 3 days, again due to a super-spreader.

WHAT IS THE POSITIVITY RATE IN CONTACTS WHO ARE TESTED?

The positivity rate for COVID-19 is as follows: UK 0.2%, Italy 5.0%, France 2.2%, Austria 0.6%, South Korea 4.3% and USA 3.1%.

WHICH COUNTRIES ONE SHOULD NOT TRAVEL TO?

The Ministry of Health & Family Welfare has advised Indian citizens to refrain from travel to China, Iran, Republic of Korea, Italy and Japan and advised to avoid nonessential travel to other COVID-19 affected countries.

Travel Alerts

- Level 1 in all countries (exercise normal standard hygiene precautions).
- Level 2 in all affected countries (exercise a high-degree of caution).
- Level 3 in all countries with secondary cases (reconsider need to travel).
- Level 4 in affected parts of China and South Korea, Iran, Italy (avoid travel).

IS IT A ZOOONIC DISEASE?

It is zoonotic and 55% cases with onset before January 1, 2020 were linked to Huanan Seafood Wholesale Market vs. only 8.6% of subsequent cases. The Chinese government put a ban on wild life trade until the epidemic is over. The virus is now spreading from person-to-person.

The new corona virus is a close relative of other bat coronaviruses. SARS-CoV was transmitted to humans from civet cats and MERS-CoV was transmitted by dromedary camels. Possible animal sources of COVID-19 have not yet been confirmed. In the case of the new coronavirus, the central hosts were probably bats; however, snakes and pangolins have been thought to be the intermediate hosts.

There is no evidence yet that companion animals can spread the disease.

WHAT ARE THE DIFFERENT TYPES OF TRANSMISSION?

There are three main types of transmission:

- Droplets, large $>5 \mu$ organisms - flu, coronavirus (COVID-19).
- Air-borne $<5 \mu$ organisms - TB, chickenpox, measles.
- Contact on the surface: COVID-19, SARS, Flu (It may be possible to contract COVID-19 by touching a surface or object that has the virus on it and then touching your own mouth, nose or possibly eyes).

WHICH IS MORE IMPORTANT: DROPLET PRECAUTIONS OR CONTACT PRECAUTIONS?

Both are important. However, contact precautions become more important in the event of community spread. During SARS outbreak, in Hong Kong, the contact precautions worked more than the droplet precautions.

CAN THE VIRUS BE TRANSMITTED FROM MOTHER TO THE BABY DURING PREGNANCY?

There is currently no evidence for intrauterine infection caused by vertical transmission in women who develop COVID-19 pneumonia in late pregnancy (*The Lancet*. February 12, 2020).

WHICH PART OF THE RESPIRATORY TRACT DOES THE VIRUS AFFECT?

COVID-19 virus affects both the upper and the lower respiratory tract.

- Upper respiratory tract infection (URTI) causes fever with sore throat and mild cough.
- Lower respiratory tract infection (LRTI) causes fever with cough, and breathlessness.

WHY ARE LRTIs MORE INFECTIOUS?

SARS is high inducer. When it infects the lower part of the lung, a very severe reaction occurs against it which leads to inflammation and scarring. In SARS, after the first 10-15 days, it was not the virus but the reaction of the body that was killing patients. Is this new virus like the MERS or SARS or is this some other type of virus – a milder coronavirus like the NL63 or the 229? It may be the mild inducer (Dr John Nicholls, University of Hong Kong).

WHAT IS THE CLINICAL PRESENTATION OF COVID-19?

- Clinically all patients have fever (subjective or evident). *No fever, no coronavirus.*

- 75% have cough
- 50% have weakness
- 50% have breathlessness
- Low total white count
- Deranged liver enzymes.

The illness starts with fever, followed by a dry cough. A week later, it can lead to shortness of breath, with about 20% of patients requiring hospital treatment.

COVID-19 infection rarely seems to cause a runny nose, sneezing or sore throat (observed in only about 5% of patients). Sore throat, sneezing and stuffy nose are most often signs of a cold.

HOW MANY NEED ADMISSION AND ICU CARE?

About 20% need ICU care and 15% of them are fatal. Cases categorized as critical have the highest fatality rate—at 49.0%.

WHAT IS THE TREATMENT?

Treatment is mainly symptomatic; though chloroquine, antiviral and anti-HIV drugs have shown some efficacy.

WHAT DO YOU MEAN BY PHEIC?

COVID-19 was declared a PHEIC on 30th January 2020, which means it is mandatory to report each human and animal case to WHO.

IS IT THE FIRST TIME THAT A PHEIC HAS BEEN DECLARED?

No, there have been five prior PHEICs:

- Swine flu: April 26, 2009 – August 10, 2010
- Resurgence of wild polio: May 2014
- Ebola: August 2014 (First PHEIC declared in a resource-poor setting)
- Zika: February 1, 2016 to November 18, 2016
- Kivu Ebola: 2018-20.

WHAT IS PUBLIC HEALTH EMERGENCY OF A STATE?

- Kerala declared it when it had three cases and later lifted it on 12th February.
- San Francisco declared it even without a case on 26th February.
- Washington declared a state emergency on 1st March.
- New York state declared a state of emergency on 7th March.

DID CHINA DELAY IN REPORTING OF CASES?

While there were 300 cases and 5 deaths with SARS before the Chinese government reported it to the WHO, there were merely 27 cases and no deaths with COVID-19 before it was reported to the agency.

Chinese authorities imposed lockdown measures on 10 cities in an effort to contain the outbreak of coronavirus and built a specialized hospital (Huoshenshan Hospital) in just 10 days as part of its efforts to fight coronavirus. A second facility with 1,500 beds is also being opened. During SARS in 2003, a facility in Beijing for patients was constructed in a week.

WHAT ARE LAB-CONFIRMED CASES?

Cases with positive throat swab test are lab-confirmed cases.

WHAT ARE CT-POSITIVE CASES?

CT-positive cases mean CT showing pneumonia like changes.

HOW IS THE TOTAL NUMBER OF CASES COUNTED?

The total number of cases includes lab-confirmed and CT-diagnosed cases. This was the criteria used from 12th to 19th February in China.

Before and after that, only lab-confirmed cases are counted.

The sudden jump in deaths and new cases on 12th February was due to inclusion of CT-diagnosed cases.

WHAT WILL BE THE ESTIMATED DEATHS IF CT-DIAGNOSED CASES WERE ALSO INCLUDED?

Around 5% deaths will be added to total deaths.

WHAT ARE THE POSSIBLE MODES OF SPREAD? MYTHS AND FACTS

- **Person-to-person:** The virus can spread from one person to another, most likely through droplets of saliva or mucus carried in the air for a distance of up to 6 feet when an infected person coughs or sneezes, or through viral particles that can be transferred on shaking hands or sharing a drink with someone who has the virus.
- **Casual exposure:** No; human-to-human contact requires prolonged contact (possibly 10 minutes or

- more) within 3-6 feet. But with contact transmission, this may not be applicable.
- **Currency notes:** The central banking authorities of China are disinfecting, stashing and even destroying cash in a bid to stop the spread of the coronavirus. People's Bank of China says that the cash collected by banks must be disinfected before being released to customers.
 - **Fabric, carpet and other soft surfaces:** Currently, there's no evidence.
 - **Hard surfaces:** Virus could be present on frequently-touched surfaces, such as doorknobs, although early information suggests viral particles would be likely to survive for just a few hours (WHO).
 - **Biometric attendance:** Biometric attendance has been suspended in Delhi, UP, Kerala and Bihar.
 - **Kissing:** Kissing scenes have been banned in movies in China. France has advised to cut back on "la bise", the custom of giving greetings with kisses, or air kisses, on the cheeks.
 - **Breath analyzer for alcohol:** Kerala exempted air crew from breath analyzer tests.
 - **Public gatherings:** Affected countries have banned death ceremonies and people gathering.
 - **Uncovered eyes:** The transmission is through mucus membrane contamination. One case got infected while using gown, but eyes not covered.
 - **Eating meat, fish or chicken:** It's not a food-borne illness but a respiratory illness. It cannot occur by eating any food or meat. However, it is always advised not to touch raw meat, eat raw meat or eat partially cooked meat to prevent meat-related food-borne illnesses. Eating fish and chicken is safe.
 - **Eating snakes or drinking bat soups:** No, eating wild animals cannot cause it. Handling their secretions can cause it.
 - **Handling wild animals or their meat:** Yes, if their secretions are handled.
 - **Semen:** We do not know; in patients infected with Ebola, the virus may persist for months in the testes or eyes even after recovery, and can infect others and keep the epidemic going.
 - **Sex, like Ebola and Zika:** We have no evidence yet.
 - **Goods from affected areas:** People receiving packages from China or other affected areas are not at risk of contracting the COVID-19 as the virus does not survive for long on objects, such as letters or packages.
 - **Pipes:** Ventilation system connects one room to the other. There has been concern that the coronavirus can spread through pipes.
 - **Stress:** Stress and anxiety suppress the immune system, thus rendering people more vulnerable to contracting the virus.
 - **Patients without symptoms:** Both SARS-CoV and MERS-CoV affect the intrapulmonary epithelial cells more than the upper airway cells. Transmission thus occurs principally from patients with known illness and not from patients with mild, nonspecific signs. However, *NEJM* has reported a case of COVID-19 infection acquired outside of Asia in which transmission appears to have occurred during the incubation period in the index patient, but the same has been challenged now.
 - **Corona beer:** It has nothing to do with coronavirus. It's a brand of beer.

WHAT IS NO CONTACT POLICY?

Greeting people by namaste, bowing or elbow touch. Corona Namaste is a no contact policy in public. Let's not shake hands; IMA and CMAAO promote the concept of Corona Namaste.

WHY DID THE CASES NOT OCCUR IN OTHER COUNTRIES IN THE INITIAL PHASE?

Initial serious illness in other countries was less as patients with breathlessness were unlikely to board and patients with mild illness or asymptomatic illness are less likely to transmit infections. For transmission, you require cough secretions or nasal discharge.

SHOULD WE BE AFRAID?

It's time for facts, not fear; for rationality, not rumors and for solidarity, not stigma.

WHAT IS THE HELPLINE NUMBER?

- The Helpline Number for coronavirus: +91-11-23978046
- The Helpline Email ID for coronavirus: ncov2019@gmail.com

WHAT IS A BIPHASIC INFECTION?

Coronavirus follows a biphasic infection wherein the virus persists and causes a different set of symptoms than those noted in the initial bout. The recovered person

can also develop other symptoms, including insomnia and neurological problems, said Angela Rasmussen, a Virologist at Columbia University. (*NY Times*)

WHAT DO THE TERMS “SPREADER” AND “SUPER-SPREADER” MEAN?

Spreader: An infected person with normal infectivity.

Super-spreader: An infected person with high infectivity can infect hundreds of cases in no time. What causes a person to become a super-spreader is not known; HIV person becomes a super-spreader if he or she is coinfecting with sexually transmitted infection (STI).

The examples are the first case in Wuhan, a female in the South Korea Daegu fringe Christian group Shincheonji Church where she infected more than 51. In the church, people shout out amen after every sentence the pastor says, pretty much every few seconds, at the top of their lungs. This sends respiratory droplets flying everywhere.

WHAT CAN BE THE CAUSE OF A CLUSTER OF CASES OR A HOT SPOT WITHOUT A SUPER-SPREADER?

People catching the virus from infected surfaces. We don't know how long the germs stay on surfaces, but similar viruses can live for a week.

WHAT ARE THE VARIOUS CLUSTERS OF CORONA VIRUSES?

- The largest cluster was Wuhan itself where over 5 crore people were locked down ending up with over 2,000 deaths.
- The second largest lockdown was in Japanese Diamond Princess ship where over 3,000 patients were locked up and 23% of them developed COVID-19 virus infection.
- The third example – the cult church in South Korea – where one lady infected with the virus spread it to other people attending the church and she also infected multiple people in a hospital where she was treated and one person later died.
- Shandong province in China reported of 207 cases of the new coronavirus in Rencheng prison as of February 20. A jail in the Zhejiang province reported 34 infections. All of them were inmates. A jail will behave like a ship and end up with 21% getting infected.

CAN THE COURT TAKE COGNIZANCE IN CORONAVIRUS EPIDEMIC?

- Despite CDC protest, 14 Americans infected with coronavirus on the Diamond Princess cruise ship shared a plane back to the US with healthy passengers, separated by plastic sheeting. (*New York Post*)
- A court temporarily prevented the US government from sending nearly 50 people infected with a new virus from China to a Southern California city for quarantine after local officials argued that the plan lacked details about protection of the community from the outbreak. (*Washington Post*)
- Hong Kong police has caught a part-time security guard at a shopping mall for allegedly writing on social media that multiple staff members had caught a fever and gone on sick leave. The messages caused panic and helped create paranoia. (*The Print*) The government blamed rumor-mongers for fuelling a run on goods at supermarkets.
- Singapore has announced severe penalties for non-compliance of the quarantine order, including fines or jail time.
- Prosecutors may investigate the founder and top leaders of Shincheonji Church of Jesus. Its members account for >60% of confirmed cases in the country. They may be probed on murder and other charges for failing to provide an accurate list of church members and by interfering with the government's efforts to fight the outbreak.
- **IPC: Section 270 in the Indian Penal Code:** *“Malignant act likely to spread infection of disease dangerous to life.—Whoever malignantly does any act which is, and which he knows or has reason to believe to be, likely to spread the infection of any disease dangerous to life, shall be punished with imprisonment of either description for a term which may extend to two years, or with fine, or with both.”*

DID IT ORIGINATE FROM THE WUHAN BIOTERROR LAB?

This is unlikely; nobody will produce a bioweapon to be used on themselves or without simultaneously making an anti-weapon or antidote. It's a myth that the virus was part of China's "covert biological weapons program" and may have leaked from the Wuhan Institute of Virology and was linked to the suspension of a researcher at Canada's National Microbiology Lab.

IS IT TRUE THAT CHINA KILLED 20,000 COVID-19 PATIENTS?

This is fake news linked to a diversion to a sex site.

IN INITIAL DAYS, DOES IT HAVE HIGH VIRAL LOAD?

Detection of COVID-19 RNA in specimens from the upper respiratory tract with low CT values on Day 4 and Day 7 of illness suggests high viral loads and potential for transmissibility (*NEJM*).

WAS DIAMOND PRINCESS CRUISE SHIP QUARANTINE A SUCCESSFUL MODEL?

The on-ship quarantine appears to have failed as 23% of the ship passengers got infected; 705 cases got the virus (they tested positive for the virus); there were 6 deaths and 36 patients were still serious as on 1st March. This would mean $6 + 36 \times 15 = 1-12$ cases will die.

Contacts and suspected cases are placed under a 14-day quarantine period. If placed together, if anyone is diagnosed with the infection during that period, the quarantine will add another 14 days.

The longer several thousand people are placed together, waves of infection are propagated.

A better way to quarantine is to divide the people into smaller groups and quarantine them separately. Why quarantine children <15 years of age when the virus is not risky for them and why not separate elderly people with comorbid conditions at high risk of death and quarantine them separately in one to one or small groups.

HOW LONG WAS THE QUARANTINE ON THE SHIP?

Fourteen days for the passengers and another 14 days for the crew who took care of the people during the first 14 days.

WHAT ARE DIFFERENT WAYS TO CONTROL THE INFECTION IN THE COMMUNITY?

- **Lockdown in China:** Unprecedented quarantines across Hubei, locking in about 56 million people, to stop it from spreading; Results 2% deaths.
- **Locking of a village in Vietnam:** More than 10,000 people in villages near Vietnam's capital placed under quarantine on 13th February after 6 cases of the new coronavirus were identified there. These cases did not become a hotspot probably; there was no super-spreader in those cases. Only 16 cases so far.

- **Kerala model of containment in India:** Hospital one-to-one quarantine of infected patients and individual home quarantine of contacts. They could contain the virus in the state.

WAS IT CORRECT FOR INDIA TO HAVE CULTURAL EVENINGS BY QUARANTINED PEOPLE BROUGHT FROM CHINA?

It was risky to allow people to celebrate and have cultural programs during quarantine. As was seen in India, people danced together with surgical masks during quarantine period.

IS THERE A ROLE OF QUARANTINE IN THE SUNLIGHT?

Quarantine patients like TB sanatoriums with both sun-balconies and a rooftop terrace where the patients would lie all day either in beds or on specially designed chairs.

WHAT IS THE PROTOCOL AT THE TRIAGE SECTION OF EMERGENCY ROOM?

Surgical 3-layered mask for patients; Isolation of two beds with at least 3 feet distance; cough etiquette; hand hygiene for all.

WHAT ARE DIFFERENT PRECAUTIONS?

- **Droplet precautions:** Surgical 3-layered mask for patients, their contacts and healthcare workers, in an adequately ventilated isolation room; healthcare workers caring with secretions should use eye protection, face shields/goggles. Limit patient movement, restrict attendants and observe hand hygiene.
- **Contact precautions:** Use gown, mask, goggles, gloves when entering room; remove before leaving the room; dedicated equipment/disinfection after every use; care for environment - door knobs, handles, articles, laundry; avoid patient transport and practice hand hygiene.
- **Airborne precautions when handling virus in the lab and while performing aerosol-generating procedures:** Room should be with negative pressure with minimum of 12 air changes per hour or at least 160 L/sec/patient in facilities with natural ventilation. There should be restricted movement of other people and gloves, long-sleeved gowns, eye protection and fit-tested particulate respirators (N95 or equivalent, or higher level of protection) should be used by all.

WHAT ARE THE PRECAUTIONS FOR THE GENERAL PUBLIC?

- Strict self-quarantine if sick with flu-like illness: 2 weeks.
- Wash hands often and for at least 20 seconds with soap and water or use an alcohol-based hand sanitizer.
- Avoid touching eyes, nose, and mouth with unwashed hands.
- Avoid close contact: (3-6 feet) with people who are sick with cough or breathlessness.
- Cover your cough or sneeze with a tissue, then throw the tissue in the trash.
- Clean and disinfect frequently touched objects and surfaces.

WHICH MASKS SHOULD BE USED BY HEALTHCARE PROVIDERS AND PATIENTS?

- For patients and close contacts: Surgical 3-layered masks.
- For healthcare providers when handling respiratory secretions: N95 masks.

WHAT ARE THE LAB TESTS?

There are two ways to detect a virus: through the genetic material DNA or RNA or to detect the protein of the virus. The rapid tests look at the protein. It takes 8-12 weeks to make commercial antibodies. Currently, PCR is being used which gives a turnaround in 1-2 hours.

WHAT ARE FALSE-POSITIVE AND FALSE-NEGATIVE RESULTS?

- Polymerase chain reaction (PCR) tests may detect the remains of the measles virus months after people who had the disease stop shedding the virus.
- Negative test can come if the test is not done properly, or the samples are stored at a temperature at which the virus deteriorates. A throat swab may miss the virus that is present elsewhere in the body.
- A test is positive if the virus is present on the swab in sufficient quantities at the time of swabbing the person. A negative test is not a confirmation that there is no more virus in that person.

CAN YOU GIVE AN ANALOGY OF A NEGATIVE TEST?

A jam jar with mold on top; clearing the surface might suggest that the jam is now mold-free, but the jar may still contain mold that continues to grow.

WHAT SAMPLE SPECIMENS SHOULD BE COLLECTED?

Samples should be collected from both the upper respiratory tract (URT; nasopharyngeal and oropharyngeal) and lower respiratory tract (LRT; expectorated sputum, endotracheal aspirate or bronchoalveolar lavage). Use viral swabs (sterile dacron or rayon, not cotton) and viral transport media.

CAN IT BE DONE BY PRIVATE LABS?

Not yet in India. In the US, in January, all testing had to be done in CDC laboratories. However, on February 4, the US FDA issued an emergency-use authorization for the CDC's COVID-19 Real-Time RT-PCR Diagnostic Panel, allowing its use at any CDC-qualified laboratory in the US.

WHAT PRECAUTIONS TO TAKE IN THE LAB?

Biosafety level (BSL) 2 (3 for viral culture labs).

WHY DID THE PHARMA COMPANIES NOT MAKE SARS VACCINE?

- With SARS, in 6 months the virus was gone, and never came back. Companies may not spend millions to develop a vaccine for something, which may never come back.
- The UN agencies should have initiated the development of vaccine against coronavirus, SARS or MERS strain. If that was available, it might have reduced the case fatality of COVID-19.

CAN IT CAUSE SECONDARY INFECTION?

Secondary infection, such as *Escherichia coli*, is most likely the cause of death of the patients in Hong Kong and the Philippines.

IS THERE ANY PROVEN TREATMENT?

No, there is no proven treatment.

WHICH ANTIVIRALS HAVE BEEN TRIED?

A combination of lopinavir and ritonavir showed promise in lab in SARS. Combination of lopinavir, ritonavir and recombinant interferon beta-1b was tried in MERS.

HAVE WE BEEN ABLE TO RECREATE LAB-GROWN VERSION OF THE VIRUS?

Scientists in Australia have reportedly recreated a lab-grown version of COVID-19.

IS CHLOROQUINE EFFECTIVE?

Chloroquine had potent antiviral activity against the SARS-CoV; it has been shown to have similar activity against HCoV-229E in cultured cells and against HCoV-OC43 both in cultured cells and in a mouse model.

IS THERE ANY ROLE OF ANTI-HIV DRUGS?

- In Thailand, oseltamivir along with lopinavir and ritonavir, both HIV drugs, have been used successfully.
- The Drug Controller General of India (DCGI) has approved the “restricted use” of a combination of drugs (lopinavir and ritonavir) used widely for controlling HIV infection in public health emergency for treating those affected by novel coronavirus.
- Arbidol, an antiviral drug used in Russia and China for treating influenza, could be combined with darunavir, the anti-HIV drug, for treating patients with the coronavirus.

WHAT IS THE ROLE OF EXPERIMENTAL DRUG “REMDESEVIR” FROM GILEAD SCIENCES INC.?

Trials have started on 6th February, in China and late February in USA.

WHAT OTHER TREATMENTS HAVE BEEN TRIED?

- Povidone-Iodine (PVP-I) mouthwashes and gargles significantly reduce viral load in the oral cavity and the oropharynx. PVP-I has high potency for viricidal activity against hepatitis A and influenza, MERS and SARS.
- In SARS, people were put on long-term steroids ending with immunosuppression and late complications and death. The current protocol is short-term treatment.
- Pneumococcal vaccine and *Haemophilus influenzae* type b (Hib) vaccine do not provide protection against COVID-19.
- Regularly rinsing the nose with saline does not protect people from infection with COVID-19 or respiratory infections although it hastens recovery from the common cold.
- There is no evidence that using mouthwash will protect you from infection with COVID-19 although some brands of mouthwash can eliminate certain microbes for a few minutes in the saliva in your mouth. Keeping your throat moist, avoiding spicy food and loading up on vitamin C cannot kill the virus.

- There is no evidence that eating garlic protects people from COVID-19.
- Sesame oil does not kill the new coronavirus. Chemical disinfectants that can kill the COVID-19 on surfaces are bleach/chlorine-based disinfectants, either solvents, 75% ethanol, peracetic acid and chloroform.
- Antibiotics do not work against viruses.

WHO IS MORE VULNERABLE?

People with pre-existing medical conditions (such as asthma, diabetes, heart disease) appear to be more susceptible to become severely ill with the virus.

WHAT ARE VARIOUS FAKE NEWS IN CIRCULATION ABOUT THE NEW CORONAVIRUS DISEASE?

COVID-19 linked to Donald Trump, US intelligence agencies or pharmaceutical companies. Avoiding cold or preserved food and drinks, such as ice cream and milkshakes, for at least 90 days can help. Experts have been aware of the virus for years: The virus is not new, its two deadly forma have already caused SERS and MERS in the world. These types of viruses will keep on coming.

WHAT IS THE ROLE OF CMAAO AND OTHER MEDICAL ASSOCIATIONS?

Get prepared for containment measures, including active surveillance, early detection, isolation and case management, contact tracing and prevention of spread of the virus and to share full data with WHO. All countries should emphasize on reducing human infection, prevention of secondary transmission and international spread. Intensify IEC activities.

CMAAO IMA FOMA MAMC Recommendations

- Price control of PPE
- Accreditation of private labs for testing
- Private insurance should cover the infection
- IEC and CME activities to be intensified
- Allow paid leaves for airborne and droplet infections
- Allow teleconsultations in flu-like diseases
- CSR funds for vaccine research
- Surgical three-layered masks at public places
- Start National program on respiratory secretions borne illnesses
- Incorporate respiratory infection control under Swachh Bharat Abhiyan in India

HOW TO SUSPECT A CORONAVIRUS CASE?

CDC has already revised its criteria to guide evaluation of PUI (person under investigation) for COVID-19:

- Fever or signs/symptoms of lower respiratory illness (cough or shortness of breath) AND Any person, including healthcare workers who has had close contact with a laboratory-confirmed COVID-19 patient within 14 days of symptom onset
- Fever and signs/symptoms of a lower respiratory illness (cough or shortness of breath) requiring hospitalization AND history of travel from affected areas (China, Iran, Italy, Japan, South Korea) within 14 days of symptom onset
- Fever with severe acute lower respiratory illness (pneumonia, ARDS) requiring hospitalization and no alternative explanatory diagnosis (e.g., influenza) AND no source of exposure has been identified.

WHAT IS A PROBABLE CASE?

A suspect case with inconclusive testing for COVID-19 or testing was positive on a pan-coronavirus assay.

WHAT IS A CONFIRMED CASE?

A confirmed is a person with laboratory confirmation of COVID-19 infection, regardless of clinical signs and symptoms.

WHAT IS UNCOMPLICATED ILLNESS?

Patients with uncomplicated upper respiratory tract viral infection may have non-specific symptoms such as fever, cough, sore throat, nasal congestion, malaise, headache and muscle pain.

The elderly and immunosuppressed may have atypical symptoms. These patients have no signs of dehydration, sepsis or shortness of breath.

WHAT DO YOU MEAN BY CLOSE CONTACT?

Close contacts are people providing direct care to patients, working with infected healthcare workers, visiting infected patients or staying in the same close environment, working together in close proximity or sharing the same classroom environment with an infected patient, traveling together with infected patient, living in the same household as an infected patient. The epidemiological link may have occurred within a 14-day period prior to or after the onset of illness. But once the community spread occurs, the definition will no longer be correct.

WHAT IS THE DEFINITION OF DIFFERENT CASES?

- Primary case: Who got infected first in Wuhan in China.
- Secondary case: When the primary cases infected the second person and tertiary when the secondary cases transmitted infection to another person.

Primary case: The first case in Wuhan in late December.

Index case: The first case in any country or province.

WHAT IS COMMUNITY SPREAD?

Community spread means when the infection spreads without any contactable contact. Once that happens, closing borders will not contain the virus. All cases with flu-like illness will be presumed to be COVID-19 and only those with breathlessness will be tested.

WHAT ARE MITIGATION GUIDELINES?

- Universal nonpharmaceutical interventions including personal practices, covering coughs and washing hands, and community and environmental measures such as surface cleaning.
- Universal community measures including social distancing, or limiting contact in face-to-face settings, closing schools, telework or tele schools for children, and recommending to modify, postpone, or cancel mass gatherings.
- In healthcare system triaging patients, conducting patient visits via telemedicine, and delaying elective surgeries.
- Commercial labs need to pitch in for testing.
- Better to be overprepared than underprepared.
- The testing criteria may change to testing only symptomatic cases and admitting cases only with breathlessness. (*Probably Iran is doing this*)

WHICH ARE THE HIGH RISK PLACES?

China, Macau, Hong Kong, Taiwan, South Korea, Singapore, Italy, Iran and Japan.

WILL IRAN BE THE NEXT CHINA?

- With 54 deaths in Iran, looks like that Iran government is hiding the true extent of the outbreak. If the virus kills about 2% of known victims, then the number of cases should be 2100. In fact the death rates outside china are 1% and in that case the number will be much higher in Iran.

- Cases in Iraq, Afghanistan, Bahrain, Kuwait, Oman, Lebanon, United Arab Emirates and Canada have been linked to Iran. Millions of religious pilgrims, migrant workers and others cross the borders of Iran. This is one of the biggest causes for worry in what threatens to become a global epidemic.

WILL AFGHANS BE THE NEXT SOURCE OF CARRYING INFECTION IN INDIA?

- Religious pilgrims, migrant workers, businessmen, soldiers, etc., move constantly across Iran's borders, often crossing into countries with few border controls, weak and ineffective governments and fragile health systems.
- Many Afghans are coming to India on a daily basis on health visa and many of them come via Iran. It is likely many of them would carry the virus to India.

WHAT IS THE ROLE OF 14 DAYS QUARANTINE?

Quarantines and travel restrictions currently in place in many counties, intend to break the chain of transmission. Public health authorities may recommend other approaches for people who may have been exposed to the virus, including isolation at home and symptom monitoring (usually for 14 days), depending on level of risk for exposure. (*Harvard Medical School*)

SHOULD I WEAR A FACE MASK TO PROTECT AGAINST CORONAVIRUS?

Currently, face masks are not recommended for the general public. Some health facilities require people to wear a mask if they have traveled from the city of Wuhan, China or surrounding Hubei province, or other affected countries or have been in contact with people who did or with people who have confirmed coronavirus.

For those with respiratory symptoms like coughing or sneezing, wearing a mask helps protect others. This may help contain droplets with any type of virus, including the flu, and protect close contacts (anyone within 3-6 feet of the infected person).

SHOULD SOMEONE WHO IS IMMUNOCOMPROMISED WEAR A MASK?

Only if you are attending a public gathering. However, if your healthcare provider advises you to wear a mask in public areas as you have a vulnerable immune system, follow his advice.

SHOULD I ACCEPT PACKAGES FROM CHINA?

There is no reason to suspect that packages from China carry COVID-19. This is a respiratory virus like the flu. We don't stop receiving packages from China during their flu season. The same applies here.

CAN I BE INFECTED WITH THE CORONAVIRUS BY EATING FOOD PREPARED BY OTHERS?

COVID-19 and other coronaviruses have been detected in the stool of certain patients, so the possibility of occasional transmission from infected food handlers cannot be completely ruled out. The virus would likely be killed by cooking the food.

SHOULD I TRAVEL ON A PLANE IF I HAVE FEVER?

Of course, if anyone has a fever and respiratory symptoms, that person should not fly if possible, but anyone who has a fever and respiratory symptoms and flies anyway should wear a mask on an airplane.

WHAT SHOULD PEOPLE DO IF THEY THINK THEY HAVE CORONAVIRUS, OR THEIR CHILD DOES? GO TO AN URGENT CARE CLINIC? GO TO THE ER?

Call your doctors instead of rushing to emergency room (ER).

CAN PEOPLE WHO RECOVER FROM THE CORONAVIRUS STILL BE CARRIERS AND THEREFORE SPREAD IT?

There is no current evidence.

ARE WE MISSING INFECTIONS IN INDIA?

We do not know. In Iran, the country missed hundreds of cases till two persons died. In fact, the first case was the one who died.

CAN PEOPLE WHO RECOVER FROM A BOUT WITH THE NEW CORONAVIRUS BECOME INFECTED AGAIN?

- The Japanese government has reported of a woman in Osaka who had tested positive for the coronavirus for a second time, weeks after recovering from the infection and being discharged from a hospital. With similar reports from China, the case in Japan has raised some questions. Reinfections are common among people who have recovered from coronaviruses that cause the common cold.
- Reinfection in a short time is not likely. Even the mildest of infections should confer at least short-

term immunity against the virus in the recovering patient. It is possible that the “reinfected” patients still had low levels of the virus at the time of discharge from the hospital, and testing failed to detect it.

- Even if there are occasional cases of reinfection, they do not seem to be occurring in numbers large enough to be a priority.

HOW LONG DO THE ANTIBODIES LAST?

Research with MERS has shown that the strength of the immune response depends on the severity of the infection. However, even in those with severe disease, which should yield the strongest immune responses, the immunity seemed to disappear within a year.

WHY SARS NEVER ENTERED INDIA EXCEPT FOR A FEW CASES IN NEIGHBORING COUNTRIES?

Either cases were not detected or by the time it reached India there was already summer.

ARE ANTIBODIES PROTECTIVE?

On February 13, a Chinese senior health official called on people who had recovered from the new coronavirus to donate blood plasma, as it could contain proteins that could be used to treat sick patients, according to *The New York Times*.

WHEN SHOULD I SUSPECT CORONAVIRUS CASES IN INDIA?

Suspect coronavirus infection in H1N1-negative flu-like illness.

WHAT IS ENVIRONMENTAL DISINFECTION?

According to the CDC, routine cleaning and disinfection procedures are appropriate for COVID-19 virus. Products approved by the Environmental Protection Agency (EPA) for emerging viral pathogens should be used.

- SARS and MERS have been found to persist on surfaces, including metal, glass or plastic, for as long as 9 days if it had not been disinfected, reported a research published in *The Journal of Hospital Infection*.
- Human coronaviruses can be inactivated by surface disinfection procedures with 62-71% ethanol, 0.5% hydrogen peroxide or 0.1% sodium hypochlorite or with bleach within one minute.

FROM THE DESK OF THE GROUP EDITOR-IN-CHIEF

- For SARS, the persistence on surfaces ranged from less than 5 minutes to nine days.
- According to the CDC, the flu virus can persist on some surfaces for as long as 48 hours and infect someone if the surface has not been cleaned and disinfected.

IN WHICH CONDITIONS SEASONAL FLU IS MORE DANGEROUS?

The flu is more dangerous to young children. Children infected with the new coronavirus tend to have mild or no symptoms. It is also dangerous for pregnant women. Whether the COVID-19 poses a serious threat to pregnant women is not clearly known.

HOW MANY PEOPLE DIE OF SEASONAL FLU?

As of February 22, in the current season, there have been reports of around 32 million cases of flu in the United States, 310,000 hospitalizations and 18,000 deaths, according to the CDC.

CAN THE WARM ATMOSPHERE KILL THE VIRUS?

Coronavirus may retreat as the weather warms, just like influenza. But this is a new virus, and there is no information about how the weather might affect it.

Even if the virus decreases in the spring, it might rebound in the fall, as the weather cools. This pattern is often seen in severe flu seasons.

CAN DENGUE COEXIST WITH COVID-19?

In Thailand, a 35-year-old man who was diagnosed with dengue and COVID-19 died. In combination with the emerging infectious disease, it created complications, leading to multiorgan failure.

WHAT IS THE PREPAREDNESS IN INDIA?

The two designated nodal hospitals in Delhi are RML and Safdarjung. Both have an OPD of thousands of people. Ideally, such OPDs should be held at places where there is no mix up with other types of patients.

DO WE HAVE A CHINA LIKE MAKE-SHIFT HOSPITAL LIKE FACILITY IN INDIA?

Not so far.

HOW IS THE INDIA GOVERNMENT COORDINATING WITH THE IMA?

I am not aware of any such meeting.

HOW MANY INDIANS GOT CORONAVIRUS IN THE DIAMOND PRINCESS SHIP?

Sixteen Indian citizens on board the Diamond Princess ship tested positive for the new coronavirus.

WHAT IS THE ROLE OF ARMY IN CONTAINMENT OF ANY EPIDEMIC?

In March 2016, there was the biggest military mobilization in Brazil's history: 2,20,000 army, navy and air force personnel jumped into action, with 3,15,000 public officials. The enemy was *Aedes aegypti* mosquito which is believed to be responsible for the spread of the Zika virus.

WHAT CAN HAPPEN IF THE DISEASE SPREADS IN A CITY?

- Like Diamond princess ship, quarantine will lead to 23% getting infected.
- Like the 1200 people who attended church, 14% of them have exhibited cough and other symptoms.
- China locked down 5 crore people with self-quarantine policy, 80,000 got infected (0.0016% of the community) and 2760 deaths (0.0000552% of the population) were reported.
- 6,47,406 people close contact with infected patients (1:8 patients).

WHAT IS THE EXPECTED NUMBER OF CASES IN DELHI IN A WUHAN-LIKE SITUATION?

- Total expected positive in 1.67 crore population = 26,720
- Likely contacts: 2,13,760
- Expected serious cases = 20% = 4,008
- Likely deaths: 926
- At risk 60+ population in Delhi = 11,64,147

WHAT WILL BE THE PREPAREDNESS NEEDED THEN IN DELHI?

Four thousand coronavirus beds (15% of patients); self-quarantine of 17-20,000 patients; no admission for patients without breathlessness; paid teleconsultation of mild cases; ICU beds with ventilator care 3% (801 beds); Listing of hospitals with ECHMO machines; PPE 5 per patient (20,000 per day); Surgical masks usage: 2,13,760 per day; Hand sanitizers: at least 2 lac per day; Healthcare providers dedicated with coronavirus handling training: 20,000; 250 persons

trained in handling dead bodies of infected cases; 500-1,000 dedicated mental health counselors to tackle coronavirus anxiety; 20 coronavirus spokesmen to speak the same language; Price cap of masks, other related diagnostics and PPEs; censoring of myths and fake news on social media and earmarked and segregated areas for coronavirus triage: suspect but not serious; suspect and serious; confirmed but not serious and confirmed and serious.

WHAT IS THE ROLE OF CMAAO IN COVID-19?

CMAAO has been covering the disease daily since it first came to notice and has issued timely alerts about COVID-19.

- 26th December 2019: Viruses like SARS detected and Chinese scientists alerted the world about it.
- 3rd January 2020: Transition from human-to-human raised concern.
- Despite this, on January 5, the Wuhan administration mentioned that the illness doesn't seem to unfold from people to people. China lastly formally confirmed on January 20 that the coronavirus was spreading from human-to-human.
- 7th January: WHO to monitor China's mysterious pneumonia of unknown virus outbreak
- 8th January: CMAAO warns Asian citizens traveling to China over mystery pneumonia outbreak.
- 10th January: It's a new strain of coronavirus in the China pneumonia.
- 13th January: China Virus Outbreak Linked to Seafood Market.
- 15th January: 1st Case of China Pneumonia Virus Found in Thailand outside China.
- 21st January: New China coronavirus can spread between humans.
- 22nd January: New China virus now in US, Thailand, Japan, South Korea and Taiwan: Will India or other Asian countries be spared?
- 23rd January: Coronavirus: Will it be declared as International Public Health Emergency by WHO
- 24th January: Coronavirus 1st death outside Wuhan Epicentre is reported. WHO Decision: Coronavirus is spreading, but the organization says it is not a global emergency.
- 25th January: Indian Govt. should pay for the treatment of India trapped in China with coronavirus.