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COVID-19: A global red alarm!!!

Salome Jadhav and Prafullata Natekar

Abstract

Coronaviruses were first discovered in the 1930s when an acute respiratory infection of domesticated chickens was shown to be caused by infectious bronchitis virus. Human coronaviruses were discovered in the 1960s. They were isolated using two different methods in the United Kingdom and the United States isolated from a boy a novel common cold virus. Other human coronaviruses have since been identified, including SARS-CoV in 2003, HCoV NL63 in 2004, HCoV HKU1 in 2005, MERS-CoV in 2012, and SARS-CoV-2 in 2019

According to WHO, a pneumonia of unknown cause detected in Wuhan, China was first reported to the WHO Country Office in China on 31 December 2019. The outbreak was declared a Public Health Emergency of International Concern on 30 January 2020. On 11 February 2020, WHO announced a name for the new coronavirus disease: COVID-19.

By the midst of 2020 February WHO, declared A GLOBAL EMERGENCY, since this virus showed its prevalence and the incident rates too started rising in many part of the globe. Rapidly and gradually it invaded and world saw an epidemic turn into a pandemic which created a evoke in the whole world.

From "Wuhan virus" to "novel coronavirus-2019" to "COVID-19 virus," the name of the new coronavirus that first appeared in China has been evolving to its now official designation: SARS-CoV-2 (severe acute respiratory syndrome coronavirus 2). There are several different types of human coronaviruses, including coronavirus disease 2019 (COVID-19) and the Middle East respiratory syndrome (MERS) and severe acute respiratory syndrome (SARS) coronaviruses.

The Mumbai has become an epicenter in India crossing even the mark of 50,000 cases of even the Wuhan city Moscow

- The active cases in India is 1,41,842 and the death occurred are 8,498 and the recovered cases are 1,47,195 and the total confirmed cases and the total confirmed cases till yet is 2,97,535 mark
- This remarkably depicts that 47.7% are active cases and 49.5% stand up to the recovery rate and fatality rate upto 2.8%

Keywords: Corona, COVID-19, Pandemic 2020

Introduction

2020 has been a prime year wherein the whole globe has experienced a rolling dark episodes of vast calamities which has paused human life and worst among it wherei, the whole world including INDIA had to face was spread of NOVEL CORONAVIRUS (COVID-19) which has lead the whole mankind into threat and fear.

Coronaviruses are a large family of viruses that are known to cause illness ranging from the common cold to more severe diseases such as Middle East Respiratory Syndrome (MERS) and Severe Acute Respiratory Syndrome (SARS).

The virus causing the current outbreak of coronavirus disease has been named "severe acute respiratory syndrome coronavirus 2" (SARS-CoV-2). The manuscript describing the name also reports the work of the ICTV Coronaviridae Study Group (ICTV-CSG) that determined the virus belongs to the existing species, severe acute respiratory syndrome-related coronavirus.

How this spread started in India

India had experienced its first case in Pathanamthita district in Kerala wherein a couple had a travel history of Italy and later on in many parts of India due to travel history of people from the affected countries like China, Italy, Spain, USA and many other European countries and later on created an evoke in each and every nook and corner of India.

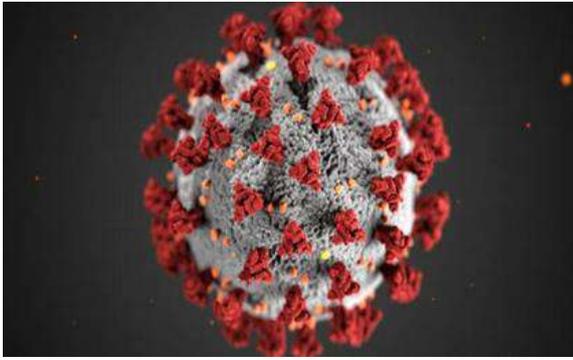


Fig 1: Coronavirus (COVID-19)

Incubation period of the virus

Once a person has contracted coronavirus, it can take 2–14 days for symptoms to appear. The average incubation period appears to be roughly 5–6 days.

Viability of coronavirus

According to the studies made on the stability of the virus at different temperatures and relative humidity on smooth surfaces. The dried virus on smooth surfaces retained its viability for over 5 days at temperatures of 22–25°C and relative humidity of 40–50%, that is, typical air-conditioned environments. However, virus viability was rapidly lost at higher temperatures and higher relative humidity (e.g., 38°C, and relative humidity of >95%). The better stability of SARS coronavirus at low temperature and low humidity environment may facilitate its transmission in community in subtropical area during the spring and in air-conditioned environments.

Action of the virus

Phase 1: Cell invasion and viral replication in the nose

Phase 2: Replication in the lung and immune system alerted

Phase 3: Pneumonia

Phase 4: Acute respiratory distress syndrome, the cytokine storm, and multiple organ failure

Etiology of disease

1. It is caused by a zoonotic virus i.e. Corona virus and which is named today as COVID 19. The main route of transmission of SARS CoV infection is presumed to be respiratory droplets. However, the virus is also detectable in other body fluids and excreta.
2. it occurs via contact from an infected person or sharing things with infected person so basically taking this point into consideration social distancing norms are practiced as a measure to tackle its spread
3. The virus appears to spread easily among people, and more continues to be discovered over time about how it spreads. Data has shown that it spreads from person to person among those in close contact (within about 6 feet, or 2 meters).
4. The virus spreads by respiratory droplets released when someone with the virus coughs, sneezes or talks. These droplets can be inhaled or land in the mouth or nose of a person nearby.
5. Can also spread if a person touches a surface with the virus on it and then touches his or her mouth, nose or eyes, although this isn't considered to be a main way it spreads.

Risk factors

Risk factors for COVID-19 include:

- Recent travel history or residence in an area with ongoing community spread of COVID-19 as determined by ICMR or WHO
- Close contact (within 6 feet, or 2 meters) with someone who has COVID-19 for more than 5 minutes or being coughed or sneezed on by an infected person
- Weaker immune system specially aged older people above 60 years and children
- Health workers
- People having chronic disorder like hypertension, diabetes mellitus, asthma, kidney disorder, tuberculosis, HIV (i.e. people with weak immunity)

Signs and symptoms of COVID-19

Unlike any other disease, this is a viral infection effecting specifically the lungs and the respiratory systems, making the person uneasy due to less oxygen saturation level in body and breathlessness due to congestion in the alveoli, whereas it can be SYMPTOMATIC as well as NON-SYMPTOMATIC in few. Symptoms can affect the airways and lungs, although this may vary from person to person.

According to 2020 research, the prevalence of some of these symptoms appears to be:

Symptoms	Prevalence
Dry cough	60.4%
Shortness of breath or breathing difficulties	41.1%
Fever	55.5%
Muscle pain (myalgia)	44.6%
Headache	42.6%
Sore throat	61.2%
Smell and taste disturbance and fatigue	64.4%

The Centers for Disease Control and Prevention (CDC) state that a person with COVID-19 can experience a wide range of symptoms, often including a dry cough and shortness of breath.

A dry cough is a common early symptom of coronavirus infection

In case of a SYMPTOMATIC patient, one will have following clinical manifestations;

Most common symptoms

- fever
- Dry cough
- Tiredness

Less common symptoms

- aches and pains
- sore throat
- diarrhoea
- conjunctivitis
- Headache
- loss of taste or smell
- a rash on skin, or discolouration of fingers or toes

Serious symptoms

- difficulty breathing or shortness of breath
- chest pain or pressure
- loss of speech or movement

On average it takes 5–6 days from when someone is infected with the virus for symptoms to show, however it can take up to 14 days.

Difference between pre-symptomatic and asymptomatic phase

According to CDC, it states that symptoms can show up in patients with COVID-19 two to 14 days after exposure. But there are two terms with likely minor difference which is often confused i.e. presymptomatic and asymptomatic

Pre symptomatic phase refers to the initial phase of the developing symptoms in a disease and Asymptomatic phase is when a person does not have symptoms but is infected with a virus,”

According to the epidemiological trade analysis, 25% to 45% of people who are infected with COVID-19 likely don't have symptoms but they can transmit to someone who is uninfected even when they're without symptoms. One may be more contagious in the presymptomatic stage of the virus, before you start showing symptoms.

Essentially, the term asymptomatic is not associated with time, while presymptomatic is. The Centers for Disease Control and Prevention (CDC) estimates that 35% of all people with COVID-19 are asymptomatic, but says that those people are just as infectious as those with symptoms. The CDC also estimates that 40% of transmission happens before people feel sick.

Complications

- Pneumonia and trouble breathing
- Organ failure in several organs
- Heart problems
- A severe lung condition that causes a low amount of oxygen to go through your bloodstream to your organs (acute respiratory distress syndrome)
- Blood clots
- Acute kidney injury
- Additional viral and bacterial infections

Ways of preventing COVID-19

Early detection and isolation is one of the major keys to prevent the spread of COVID-19

Since till the present time, there is no any antidote found to treat this virus. Many countries in the world has led in their race to invent a vaccine for the Coronavirus. No antidote for this has become a great alarm to everyone across globe because it can't be treated as other diseases and this has led to many concerns regarding one's health.

Till then the vaccine is developed, one can only tackle this out by as follows:

- **Social distancing:** Since, avoiding contact with people can be most effective in these times of pandemic because this is a viral infection which has it's transmission from infected person to another person and many patients even after having an invasion of virus won't show symptoms. This is basic principle every country in the globe has used and standardized many curbs of lockdown
- **Having appropriate knowledge about COVID-19:** it's better to have an appropriate and accurate knowledge about this virus because **HALF KNOWLEDGE CAN BE DANGEROUS** This means that every individual should be educated about the essential basics of it's transmission, it's route, it's symptoms and to report those symptoms as soon as possible and maintain a self-isolation. Because of this our government has started to make this topic social

and educated people via 30 second phone caller tune, banners, advertisements so that each and every individual may be aware about this virus

- **Early detection and self isolation:** identifying any abnormalities in own self according to the symptoms suggested by the WHO and ICMR and detect the various as soon as possible and self-isolate and maintain an appropriate distance and safety measures to avoid transmission of the virus to others i.e. wearing mask, self-isolation, i.e. quarantine, avoid sharing of commodity with others, maintaining an 1 meter distance from others, wearing mask even while visiting doctor.
- **Boosting ones immune system:** Immune system plays a major role in combating this virus. So, in ordinance to develop one's immunity, Indian ministry if AYUSH has made on many points to boost up immunity of an individual.
- **Having a well-balanced diet:** Diet including all essential requirements of the body for it's appropriate defense mechanism and homeostasis can help in protecting one's body from virus infection.
- **Proper lifestyle management:** Avoiding contact or mingling with neighbors even avoiding visits to crowded places, avoiding junk food etc. can be a way to prevent this virus.
- **Avoiding all rumors:** Avoid falling prey to any rumors regarding COVID-19, on social media forwarded messages videos and preventing panic and commotion within self and the community.

Exercise and yoga

Exercise has always been effective in all disease, science it makes our body stronger to fight against any disease.

- **Maintaining a good mental health:** Lockdown can tremendously affect mental health due to various reasons like lost job, money inflation, less social exposure, etc. it essential to maintain a good mental hygiene because a weak or worried mind makes the body weak. Proper and stable mental health helps to create an optimistic environment and help out body to fight against the virus.
- **Special care of risk associated people:** Immunosuppressant patients and patients with various chronic disease and also of some peculiar age groups i.e. old aged people and children who have less immunity are most prone to this virus. So such individuals should be given a special care so as to avoid contracting the disease and prevent it's adversity.

Lockdown: An effective solution for maintaining social distancing

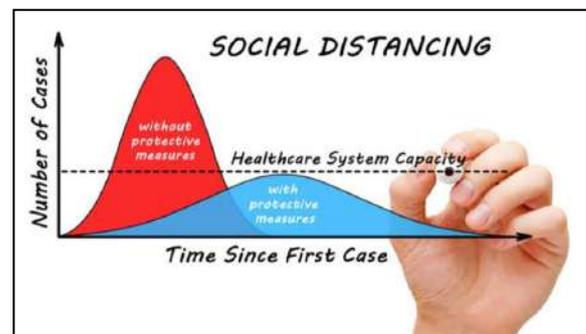


Fig 2: How the lockdown affects the number of COVID-19 cases

One of the best and effective solution to prevent it's spread was avoid social contact with others i.e. social distancing since no antidote has been yet discovered for it's prevention so many countries on the globe accepted this way to tackle this out to maintain social distancing

Challenges by COVID-19

Most of the India's population is in the rural area, and the challenges faced by rural India can be broadly grouped into:

- **Livelihood challenges** (agriculture and allied sector and non-farm livelihoods in the informal/unorganized sector),
- **Entitlement challenges** (food - Public Distribution System and relief - state-sponsored, water, and cash), and social and
- **Behavioural challenges** (awareness, fear/panic, rumors, domestic abuse, and discrimination)

Whereas population in the urban areas were also affected with many daily wage earners effecting and migrants who were unable to go to their homes and stay in congested areas with no money or food to survive

- **Loss of jobs** : many local till professional workplaces had to shut down due to Lockdown and as a preventive measure against COVID-19
- **Many migrants stuck in unknown places:** Due a emergency Management of national wide lockdown, many migrants were left with no options of returning to their home land and this led to lot of evoke, rage, frustration in the migrant community.
- **Starvation:** many people had with daily eating had to suffer and many of them had to starve in for food due to lack of money and lack of all basic facilities and amenities.
- **Congested living condition:** Many part of the cities like Mumbai had to see this as a main problem since many had to live in Congested housing condition wherein social distancing is negligible.
- **Economic crises:** Many people were left jobless and this led to economic inflation. Many companies due to economic shut down were unable to pay their employees.
- **Domestic violence:** Due to many days of lockdown, it had a severe impact on the psychology of individual, whereas may be due to this there has been an increasing spike of domestic violence cases in this tenure.
- **Poor mental health:** Due to no jobs, as it's said AN IDOL MIND IS DEVILS WORKSHOP, for sure this might be the reason wherein many people have psychological disorders and suicidal thoughts this lockdown.

Precaution / Preventive measures

According to MINISTRY OF HEALTH AND FAMILY WELFARE this has been a key word in this pandemic the

protect oneself and loved ones.

"STAY HOME. SAVE LIVES."

Help stop coronavirus by 5 ways!!!!!!!

- 1) STAY home
- 2) KEEP a safe distance
- 3) WASH hands often
- 4) COVER your cough
- 5) SICK? Call the helpline (as per Ministry of health and family welfare issued by each state)

General public health information, issued in public interest by the MINISTRY OF HEALTH AND FAMILY WELFARE are as follows;

- Protect yourself and others around you by knowing the facts and taking appropriate precautions. Follow advice provided by your local public health agency.⁴⁵

1. To prevent the spread of COVID-19

- Clean your hands often. Use soap and water, or an alcohol-based hand rub.
- Maintain a safe distance from anyone who is coughing or sneezing.
- Don't touch your eyes, nose or mouth.
- Cover your nose and mouth with your bent elbow or a tissue when you cough or sneeze.
- Stay home if you feel unwell.
- If you have a fever, cough and difficulty breathing, seek medical attention. Call in advance.
- Follow the directions of your local health authority.
- Avoiding unneeded visits to medical facilities allows healthcare systems to operate more effectively, therefore protecting you and others.

2. To increase body's capability to resist infection from virus

- Having an appropriate knowledge about the guidelines and measures stated by the AYUSH MANTRALAYA, to increase body's resistance against virus or any other ailments
- Boosting up one's immunity
- Adequate dieting pattern and lifestyle management
- Healthy mental hygiene, create a healthy mind and soul
- Exercise and keeping in check on blood pressure and diabetes
- Special preference of care to people with chronic disorder or who have to make frequent visits to hospitals. i.e. cancer patients for chemotherapy, dialysis patient etc.

3. Keeping one's mental health hygienic and coping up with stresses

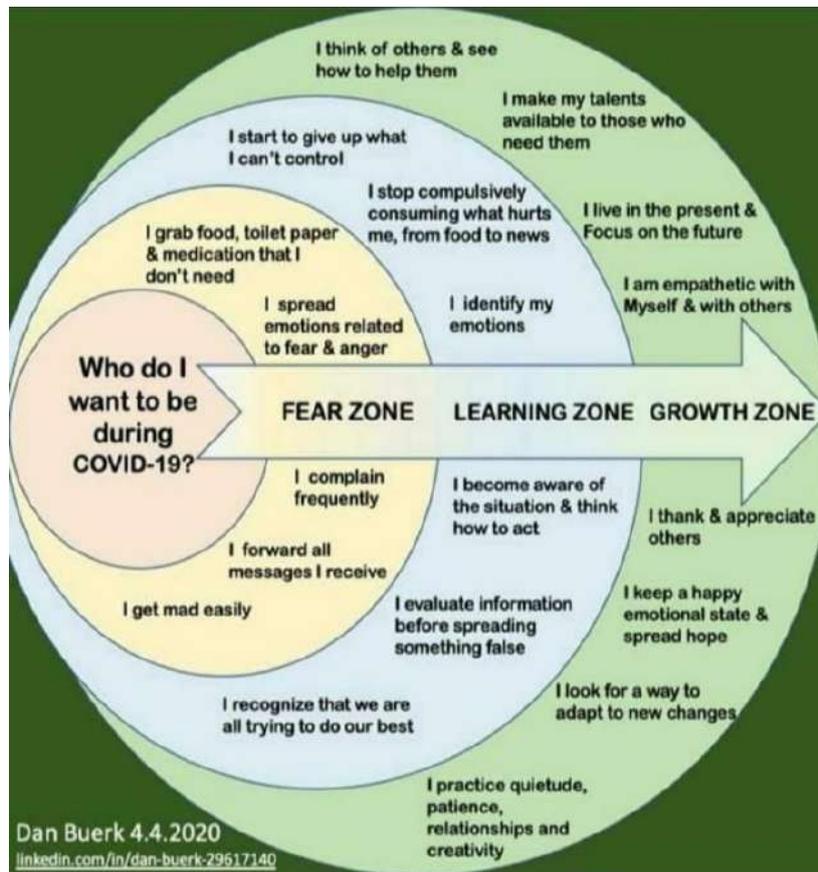


Fig 3: Who do I want to be during COVID-19?

4. Self-isolation on early detection of sign and symptoms. i.e. home quarantine and maintaining an adequate distance of 1 meter from everyone at home and avoid sharing accomodites

Role and importance of immunity

COVID-19 can result in a minor infection, provided you have a robust immunity and do not engage in activities like smoking or vaping to combat the onslaught of the virus.

Ways to boost immunity

Various ways to improve one’s immunity is as follows;

- **Improve Your Diet**
The food you eat plays a key aspect in determining your overall health and immunity. A low carb diet will help slow down diabetes and focus on a protein-rich diet to keep you in good shape. And regularly consume vegetables and fruits rich in Beta carotene, Ascorbic acid & other essential vitamins, Omega 3 & 6 fatty acids, natural immunity supplements i.e. ginger, amla, turmeric. Probiotics like Yoghurt, Yakult and fermented food are also excellent sources to rejuvenate the composition of gut bacteria, which is important for nutrient absorption by the body. These are good options for the older generation too.
- **Don’t Compromise on Sleep**
Good snooze time for 7-8 hours is the best way to help your body build immunity; lesser sleep will leave you tired and impair your brain activity, bodily functions that will have a direct impact on your immunity.
- **Stay Hydrated**
Drink up to 8-10 glasses of water every day, to stay hydrated. Hydration will help flush out the toxins from

the body and lower the chances of flu. Other alternatives include juices made of citrus fruits and coconut water, to beat the heat.

- **Don’t Skip on Exercise**
A good diet should be followed by an exercise routine. Remember to exercise regularly; even light exercise will go a long way in releasing the toxins from your body. It is recommended to exercise for 30 to 45 minutes, depending on your stamina. Regular exercise improves metabolism, which has a direct correlation with body immunity.
- **Destress Yourself**
The prolonged period of staying indoors has its implications on one’s mental wellbeing. The growing anxiety around the pandemic is another concern that is affecting millions across the globe. While the uncertainty might be overwhelming, there are few steps we can follow regularly to help relieve our stress, stress is known to have an adverse effect on immunity.
- **Practice meditation**
The best way to relieve stress is through meditation, it is a tried and tested activity to calm the nerves.
- **Avoid Smoking, alcohol and other addictive substances**
Certain habits like smoking, alcohol consumption and substance abuse have a direct correlation between weakened body defenses and respiratory illnesses. Engaging in smoking and vaping is proven to weaken your lung capacity and destroy the cells lining your respiratory tracts, these cells are crucial to fight viruses that enter through your nasal orifices.
- **Travelling**
Avoid all kinds of non-essential travels. Most COVID-

19 positive cases are imported cases, which later spread to the communities.

- **Supplements and immunity boosting foods**

The need of the hour is a quick boost to your immunity system to keep it fighting fit. Some hero ingredients are as follows;

Vitamin C

This particular vitamin is a crucial participant in the army of immunity. It helps prevent the common cold. It acts as a powerful antioxidant and protects against damage induced by oxidative stress.

Vitamin D

Vitamin D supplements have a mild protective effect against respiratory tract infections.

Zinc

Zinc is a vital component to WBC (white blood corpuscles) which fights infections. Zinc deficiency often makes one more susceptible to flu, cold and other viral infections.

Turmeric and Garlic

The bright yellow spice, Turmeric, contains a compound called curcumin, which boosts the immune function. Garlic has powerful anti-inflammatory and antiviral properties which enhances body immunity.

The Ministry of AYUSH has recommended the following self-care guidelines as preventive measures and to boost immunity with special reference to respiratory health.

- Drink warm water throughout the day.
- Practice Meditation, Yogasana and Pranayama.
- Increase the intake of Turmeric, Cumin, Coriander and garlic.
- Drink herbal tea or decoction of Holy basil, Cinnamon, Black pepper, Dry Ginger and Raisin.
- Avoid sugar and replace it with jaggery if needed.
- Apply Ghee (clarified butter), Sesame oil, or Coconut oil in both the nostrils to keep the nostrils clean.
- Inhale steam with Mint leaves and Caraway seeds.
- While the battle against the Covid-19 pandemic is fought by our health care workers, we can do our bit by limiting our exposure to the virus by staying indoors, social distancing, eating healthy, hydrating and following basic hygiene protocol.

Myth-Busters

These are the facts

- Cold weather and snow CANNOT kill the Corona Virus.
- Hand dryers are NOT effective in killing the corona virus.
- There is NO evidence that regularly rinsing the nose with saline has protected people from infection with the coronavirus.
- The coronavirus CAN be transmitted in areas with hot and humid climates.
- Ultraviolet light SHOULD NOT be used for sterilization and can cause skin irritation.
- Garlic is healthy but there is NO evidence from the current outbreak that eating garlic has protected people from the coronavirus.
- The coronavirus CANNOT be transmitted through

mosquito bites.

- Thermal scanners CAN detect if people have a fever but CANNOT detect whether or not someone has the coronavirus.
- Antibiotics DO NOT work against viruses; antibiotics only work against bacteria.
- There is NO evidence that companion animals/pets such as dogs or cats can transmit the coronavirus.
- Spraying alcohol or chlorine all over your body WILL NOT kill viruses that have already entered your body.
- To date, there is NO specific medicine recommended to prevent or treat the coronavirus.
- Taking a hot bath DOES NOT prevent the coronavirus.
- Vaccines against pneumonia, such as pneumococcal vaccine and Haemophilus influenzae type b (Hib) vaccine, DO NOT provide protection against the coronavirus.

Medical management of COVID-19

Awareness about the virus: Having an apt knowledge about COVID-19 and the signs and symptoms and transmission way etc. It's very essential to be aware of adequate and correct knowledge regarding the virus.

Eliminating rumors: Rumors these day are on a spike too via various social media platforms in forms of messages about various ways of curing from disease, about fake news, about using specific drug, about Lockdown curbs etc. This all create an unprecedented havoc among the citizens.

Early detection and self-care: Acknowledging the signs and symptoms and detecting it appropriately in oneself and self-isolation and self-care proves to be very effective in management.

- If you feel sick you should rest, drink plenty of fluid, and eat nutritious food
- Stay in a separate room from other family members, and use a dedicated bathroom if possible.
- Clean and disinfect frequently touched surfaces.
- Everyone should keep a healthy lifestyle at home.
- Maintain a healthy diet, sleep, stay active, and make social contact with loved ones through the phone or internet.
- Children need extra love and attention from adults during difficult times.
- Keep to regular routines and schedules as much as possible.
- It is normal to feel sad, stressed, or confused during a crisis.
- Talking to people you trust, such as friends and family, can help.
- If you feel overwhelmed, talk to a health worker or counsellor.

Medication

- If you have mild symptoms and are otherwise healthy, self-isolate and contact your medical provider or a COVID-19 information line for advice.
- Seek medical care if you have a fever, a cough, and difficulty breathing. Call in advance.
- Currently there is no specific antiviral treatment for COVID-19. However, similar to treatment of any viral infection, these measures can help:
- While you don't need to stay in bed, you should get plenty of rest.
- Stay well hydrated.

- To reduce fever and ease aches and pains, take acetaminophen. Be sure to follow directions. If you are taking any combination cold or flu medicine, keep track of all the ingredients and the doses. For acetaminophen, the total daily dose from all products should not exceed 3,000 milligrams.

Role of nurse in effective management

The WHO has confirmed in May last year that 2020 would be dedicated to nurses and midwives

Nurses play a pivotal part in achieving the healthcare goals by being the most important link in the process of health care delivery. Their work ranges from providing not only highly specific technical care, but also coordinating the work of other health care professionals to meet patient care goals

- Nurses are important in managing a health crisis because they are a vital link between the patient and the rest of the health care team.
- They are with their patients for their whole shift, and through assessment and critical thinking are able to notice subtle changes in their patients that could indicate they are decompensating or getting worse, or getting better.

Having a frequent vital check of the patient, the schedule issued by the ICMR is as follows

Type of patient	Temperature check	SpO ₂
ICU admitted patient	Compulsory Constant check	Compulsory Constant check
Patient with oxygen support	Every 2 hourly	Every 2 hourly
Symptomatic patient in ward	Every 4 hourly	Every 4 hourly
Asymptomatic patient in ward	Every 8 hourly	Every 8 hourly

it's very essential to provide special care for patients with temperature more than 100° F and spO₂ less than 94 % and if this continues even after providing oxygen support if this remains same, immediate make arrangements to transfer patient to ICU. Keeping this in constant check according to the guidelines, it's able to determine the human response to the medical problem.

- Nurses relay their assessment findings to providers, they are able to determine if respiratory therapy needs to be called, they are able to assess the patient's response to medical treatments, and they educate the patients, along with providing a listening ear or a calming touch.
- Also, nurses play an essential role in managing the ward, ICU by keeping in account of all medication, emergency trolley ready and keeping in check of the oxygen cylinders and it's proper working, check whether the ward is been clean and no one enters the premises.
- One of the first things is having enough proper PPE to use while working. Health care workers are implementing other strategies to help protect themselves against risk, including changing out of their work attire before entering their homes, showering as soon as they get home, and many health care providers are also isolating themselves into a separate room of their home, away from other family members to try to

protect their family members as best they can. And of course, meticulous hand washing

The entire nursing community is in the risk zone & we have all seen the unprecedented levels of overwork by nurses, particularly those in intensive care units, those in management or those most directly involved in the response to the COVID-19 pandemic, oftentimes without adequate rest and recuperation, without support and assistance, with limited considerations for their mental health and wellbeing. However, these responsibilities, accountability and challenges are so willingly and happily accepted by nurses.

Effective usage of PPE kit

Importantly the effective usage of PPE KIT and the way of using and it's disposal and it's usage viability it's essential to be known;

Always follow the protocol given by the government and PPE is not an alternative to hand washing etc. hand hygiene practice is a must to be practiced meticulously.

PPE is just a protective gear designated to protect the exposure from any biological agent.

Biomedical waste management

Appropriate waste disposal is of great importance to prevent infection from further spreading. Emphasis of biomedical waste management is essential to avoid cross infection to other health care workers, sanitation workers. All the published guidelines as to be followed and every nurse has an important role of having knowledge about the same and keeping in check whether is practiced appropriately.

- Used goggles, face shield, splash proof apron, Plastic coverall, nitrile gloves, etc. has to be disposed in the red bag.
- Mask (Triple layered medical mask, N95 mask etc.), head cover, disposal linen gown, non-plastic or semi plastic covers etc. has to be disposed in.
- For next usage of goggles, it must be soaked in freshly prepared 1% hypochloride solution for 10 minutes and then rinsed with tap water and later after drying wrap it in paper and keep it in safe place. Every health worker should be provided with individual goggles.

As per existing rules

- Colour coded bins / bags / container - segregation if waste
- Double layered bags (using 2 bags) - adequate strength and prevent leakage
- Dedicated collection bin labelled as "COVID-19 WASTE" in separate storage bins.
- Bags / bins / trolleys labelled COVID 19 WASTE for transporting waste from ward to disposal site.
- Maintain record of Waste generation / segregation / collection / disposal

Disinfection of the area

Cleaning of the disposal area

- Dedicated staff wearing PPE according to guidelines for the waste disposal from COVID-19 areas.
- Disinfect disposal area and all bins / trolleys with 1 % hypochlorite Solution
- Supervision should be undertaken by sanitary inspector / facility/ manager/ operator.

Environmental cleaning and surface disinfection of room

while patient is admitted

- Before starting disinfection: seal off contaminated area, wear PPE and rinse buckets with hot water.
- Disinfection:
 - ★ 1% sodium hypochlorite Freshly prepared for each use
 - ★ Contact time of at least 10 minutes 70% alcohol: isopropyl or ethyl alcohol - for delicate instruments (thermometer, stethoscope, bp cuff, etc.)
- Apply disinfectant to surfaces using damp cloth. Do not use spray pack (uneven coverage, aerosol generation)
- Use already sweeping motion, do not splash (prevent aerosol generation)
- Remove curtains / fabric/ quilts for washing: hot water. Laundry cy me with detergent or bleach in water at 70-degree Celsius for at least 25 minutes.
- Mop floor and wipe down all accessible surface of floor, furniture, fitting, windows, all surfaces of bed and mattress with 1% hypochlorite
- Wipe all high-touch surfaces with 1 % hypochlorite or 70% alcohol.
- Discard cloth / absorbent cleaning items (mop head, wiping cloths) into biohazard bags after cleaning and disinfecting each area. Fasten bags with cable ties
- Disinfect the buckets by soaking in 1% hypochlorite solution.

Terminal disinfection after patient expires/ is discharged / is shifted

- Fogging with HO bases disinfectant (20% solution in distilled water)
- Time : 30 minutes of contact
- After completion of fogging keep the room closed for 45 minutes for the mist to settle down.
- Once again, wipe all surface with clean duster.

Conclusion

Coronavirus now trendingly, known as **COVID 19** is declared as a global pandemic by the WHO considering it's increasing spike and number of people succumbed by this virus endangering the lives of many. It spreads via contact with the infected ones or contact with things they are in contact with. Taking this point into consideration, many social distancing norms has been imposed by various countries across the globe.

Effective awareness and self-protection and self-consciousness, social distancing can be useful and of great worth these days. These phases have no doubt increased the value of life in many, and increased the importance of immunity in one's lives. The only light in this dark tunnel of pandemic is just VACCINE. Whereas the "RACE OF VACCINE" continues by many countries in the world including India.

Perhaps, this pandemic has taught mankind the importance of health consciousness, hand hygiene and avoiding any negligence towards one's health.

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