



**THE SYMPTOMS, CONTAGIOUS PROCESS,
PREVENTION AND POST TREATMENT OF COVID-19**

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Abstract:

The aim of this paper is to discuss the symptoms, contagious process, prevention and post treatment process of Covid 19. The findings of this paper established that Covid 19 has some symptoms like cough, sneeze, coldness, high fever, throat pain, vomiting with diarrhoea, running nose, stomach problem, loss of taste and smell, headache, breathing problems etc. The contagious process of this virus is like diffusion from person to person, contamination from surface, spread by sneezing, coughing and shaking hands etc. The prevention process of this virus is like maintaining social distance, washing of hands regularly, avoid touching nose, mouth and eyes, covering mouth and nose while coughing and sneezing, wearing masks, avoid eating and drinking in public places, staying at home and wearing PPE etc. No specific vaccine, tablet or medicine has been invented upto April 2020 that can prevent or cure Covid 19 but there are some certain post treatment processes those can help to minimize the intensity of this virus. Once a patient is infected with this virus, he may take some post treatments like staying hydrated, eating healthy foods, taking vitamin D or staying at sunlight, sleeping enough etc. The public should pay more attention to the protection of the elderly who have

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contracted the virus. If you have any of these symptoms, isolate. This means staying as far away from other people as possible, even from family members. Stay in an appointed "sick room" and use a personal bathroom if you can. The potential of these viruses to become a global pandemic appears to be a serious public health risk. The findings of this paper are beneficial to the personnel involved in public health studies who are in charge of studying corona virus epidemic. This paper opens possible ways for the scholars to further study in this field.

Keywords: COVID-19, contagious, post treatment, quarantine, isolation, hydration, balanced diets

1. Introduction

There is a great importance of this study in the field of public health. Different scholars worked related to this study at different times where literature review exposed different findings. Some of which were similar, and some were dissimilar. Scholars reported that corona viruses are a group of related viruses that cause disease in mammals and birds. In humans, corona viruses cause respiratory tract infections that can range from mild to fatal. Mild diseases include some cases of the common cold (which is also caused by other viruses, mainly rhinoviruses), while more deadly varieties can cause SARS, MERS, and COVID-19. Symptoms in other species vary: in chickens, they cause diseases of the upper respiratory tract, while in cows and pigs they cause diarrhea. There are still no vaccines or antiviral drugs to prevent or treat human coronavirus infections [1].

Coronaviruses constitute the subfamily Orthocoronavirinae, in the Coronaviridae family; they order Nidovirales and royal Riboviria. They have viruses wrapped with a positive-sense single-stranded RNA genome and a helically symmetrical nucleocapsid. The genome size of the coronavirus varies from about 26 to 32 kilobases, one of the largest of the RNA viruses. They have characteristic club-shaped spikes protruding from their surface, which in electronic micrographs create an image reminiscent of the solar crown, from which its name derives [2].

According to the World Health Organization (WHO), viral diseases continue to emerge and pose a serious public health problem. Over the past twenty years, several viral epidemics have been reported, such as severe acute respiratory syndrome coronavirus (SARS-CoV) from 2002 to 2003 triggered a large-scale epidemic that started in China and involved two dozen countries with around 8000 cases and 800 deaths, and H1N1 influenza in 2009. More recently, the Middle East respiratory syndrome coronavirus (MERS - CoV) was first identified in Saudi Arabia in 2012 and has around 2,500 cases and 800 deaths [3].

The disease coronavirus (COVID-19) was first identified by the WHO, Country Office in China, in December 2019 in Wuhan, the capital of the Chinese province of Hubei, and has spread worldwide since then, causing the ongoing 2019-2020 coronavirus pandemic. Since they were unable to identify the causative agent, these early cases were classified as "*pneumonia of unknown etiology*" [4]. The Chinese Center for Disease Control

and Prevention (CDC) and the local CDC have organized an intensive epidemic investigation program. The etiology of this disease is now attributed to a new virus belonging to the coronavirus family (CoV).

This new virus appears to be highly contagious and has spread rapidly worldwide. At a meeting on January 30, 2020, according to the International Health Regulations (IHR, 2005), the epidemic was declared by the WHO as a Public Health Emergency of International Interest (PHEIC), since it had spread to 18 countries with four countries that have reported transmission to humans. On February 11, 2020, WHO Director-General Dr. Tedros Adhanom Ghebreyesus announced that the disease caused by this new CoV was a "COVID-19", which stands for "*coronavirus disease 2019*" [5]. Subsequently, the task of experts from the International Committee on Taxonomy of Viruses (ICTV) called it the SARS-CoV-2 virus, as it is very similar to what caused the SARS (SARS-CoV) epidemic. A further benchmark occurred on February 26, 2020, as the first case of the disease, not imported from China, was registered in the United States.

On March 11, when the number of COVID-19 cases outside China increased 13-fold and the number of countries involved tripled with more than 118,000 cases in 114 countries and more than 4,000 deaths, the WHO declared COVID -19 a pandemic. As of April 26, 2020, more than 2.91 million cases have been reported in 185 countries and territories, resulting in over 203,000 deaths. More than 827,000 people have recovered [6]. VOCs have become the main pathogens of emerging respiratory disease outbreaks. They are a large family of single-stranded RNA viruses (+ ssRNA) that can be isolated from various animal species. For reasons that have not yet been explained, these viruses can cross species barriers and can cause human illness ranging from the common cold to more serious illnesses such as MERS and SARS. Interestingly, these latter viruses likely originated from bats and then spread to other mammalian hosts: the Himalayan palm civet for SARS-CoV and the dromedary camel for MERS-CoV, before jumping into humans. The dynamics of SARS-Cov-2 is currently unknown, but it is assumed to also have an animal origin [7].

The potential of these viruses to become a global pandemic appears to be a serious public health risk. Coronaviruses are a hefty pleomorphic sphere-shaped particle with a protrusion of the spherical surface. The average diameter of the viral particles is approximately 120 nm. The diameter of the envelope is ~ 80 nm, and the spikes are ~ 20 nm long. The envelope of the virus on electron micrographs appears as a distinct pair of dense electron shells [8]. The viral envelope consists of a double lipid layer in which the structural proteins of the membrane (M), the envelope (E), and the spike (S) are anchored. A subset of coronaviruses (particularly members of betacoronavirus subgroup A) also has a shorter peak-like surface protein called Hemagglutinin Esterase (HE). Inside the envelope are nucleocapsids composed of multiple copies of a nucleocapsid protein fused to a positive chain in a single-stranded RNA (+ ssRNA) genome in a continuous, cord-shaped confirmation of luminosity [9]. The envelope of the lipid bilayer, the membrane proteins, and the nucleocapsid protect the virus when it is outside the host cell. The most common symptoms include fever, cough, fatigue, shortness of breath, and loss of smell. Although most cases involve mild symptoms, some progress towards viral pneumonia,

multiple organ failure, or cytokine storm. The most worrying symptoms include breathing difficulties, persistent chest pain, confusion, difficulty walking, and bluish skin. The time from exposure to onset of symptoms is typically around five days but can vary from two to fourteen days [10].

The virus spreads mainly among people during close contact, often through small droplets produced by coughing, sneezing or small talk. Drops generally fall to the ground or surface instead of remaining in the air for long distances. People can also be infected by touching a contaminated surface and then touching their faces. In experimental environments, the virus can survive on surfaces for up to 72 hours. It is more contagious in the first three days after the onset of symptoms, although it can spread before the symptoms appear and in the later stages of the disease [11]. The standard diagnostic method is the real-time reverse transcription-polymerase chain reaction (rRT-PCR) of a nasopharyngeal swab. Computed tomography of the chest may also be useful for diagnosis in subjects in whom there is a high suspicion of infection based on symptoms and risk factors; however, the guidelines do not recommend its use for routine screening. Suggested actions to put off disease comprise regular hand washing, corporeal distance from others (particularly those with symptoms), covering a cough, and maintenance unwashed hands away from the face. In addition, the use of a face cover is recommended for those who suspect they have the virus and their caregivers [12].

World governments are working to establish countermeasures to stop possible devastating effects. Healthcare organizations coordinate information flows and issue directives and guidelines to better mitigate the impact of the threat. At the same time, scientists around the world are working tirelessly, and information on transmission mechanisms, the clinical spectrum of the disease, new diagnoses, and prevention and therapy strategies are rapidly developing. There remain many uncertainties regarding virus-host interaction and the evolution of the epidemic, with specific reference to the times when the epidemic will peak [13].

Now, therapeutic strategies to treat infection are only supportive and prevention aimed at reducing transmission in the community is our best weapon. Aggressive isolation measures in China have led to a progressive reduction in cases in recent days. In Italy, in the northern geographical regions, initially and subsequently throughout the peninsula, the political and health authorities are making incredible efforts to contain a shock wave that is severely testing the health system [14].

Currently, there is no specific vaccine or antiviral treatment for COVID-19. Management includes symptom management, supportive care, isolation, and experimental measures. The World Health Organization (WHO) has declared the 2019-2020 coronavirus epidemic as a Public Health Emergency of International Interest (PHEIC) on 30 January 2020 and a pandemic on 11. March 2020. Local transmission of the disease has occurred in most countries in the six WHO regions [15].

2. Symptoms

Fever begins with a viral infection, followed by a dry cough. About a week later the shortness of breath began. The disease makes 6% seriously ill - leading to lung failure, septic shock, paralysis, and death. In 14% of the symptoms are severe. They basically create breathing problems. Mild symptoms are seen in up to 80% - some people may have pneumonia symptoms in addition to fever and cough [16].

2.1 High Fever

Symptoms begin slightly. Patients may experience fever. Normal body temperature can be higher or lower than someone else's can. It also changes during the day. Doctors generally consider fever in an adult over 100.4 F on an oral thermometer and over 100.8 F on a rectal thermometer [17]. If you believe you have come into contact with the virus or if you have symptoms, isolate and monitor the temperature every morning and evening for at least 14 days. Keep a record of your readings. Fever is the most common symptom of COVID-19 but is sometimes less than 100 F. By day 12, the fever would usually end. According to WHO, 88 percent have a fever. Figure 1 shows the structure of coronavirus.

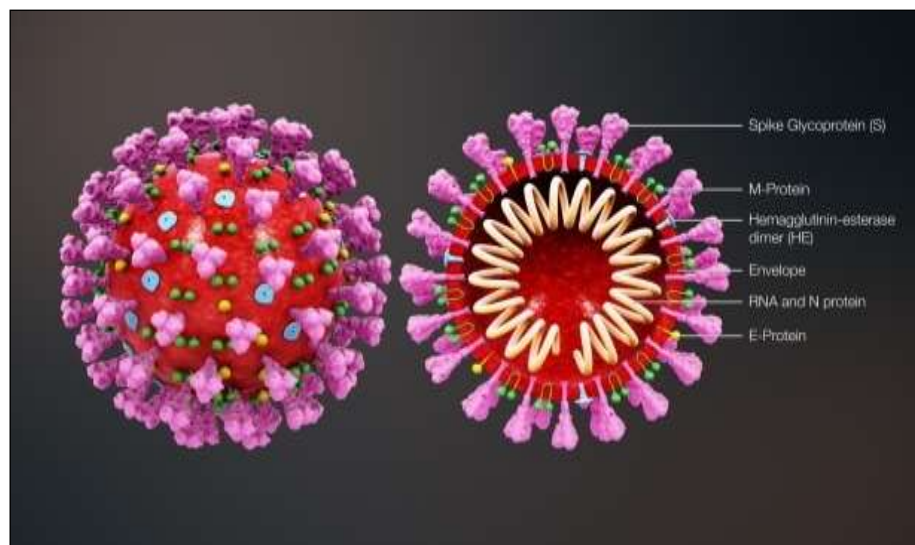


Figure 1: Structure of Coronavirus [18]

2.2 Dry Cough

Early studies experts have found that at least sixty people out of hundred with COVID-19 have a dry cough. About a third have a mucus cough, called a "wet" or "productive" cough. A dry cough comes with a fever from day one. The WHO analysis has reported that 68 percent a cough [19].

2.3 Shortness of Breath

From day five patients may have difficulty breathing, especially if they are older or have a pre-existing health condition. Dyspnea is the word that doctors use for shortness of breath. It can feel like having a tight feeling in the chest, can't catch a breath, can't have enough air in the lungs, can't breathe deeply [20]. Suffocate, drown or suffocate. They have to work harder than normal to inhale or exhale. The patient must inhale before exhale. Figure 2 shows the primary symptoms of COVID-19.

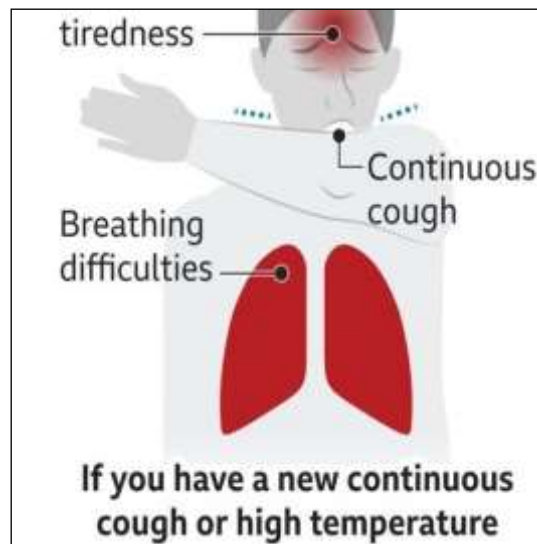


Figure 2: Primary symptom of COVID-19 [21]

2.4 Vomiting and/or Diarrhea

Another symptom of coronavirus is diarrhea. If a person feels nausea or suffers from diarrhea, it is essential, they are carefully monitored and if fever or cough also develops, they should be very cautious. This symptom may appear six to seven days after the onset of normal symptoms. At first, there is nausea. Then vomit with a thin stool. It is necessary to consult a doctor immediately after the appearance of such symptoms. It lasts for two days. Diarrhea also caused by many other health problems and does not inevitably point out a possible Covid-19 infection but if it comes with another symptom of coronavirus, the patient should be careful about that [22].

2.5 Pneumonia

Since the eighth day, patients with brutal cases have probably developed shortness of breath, pneumonia, or acute respiratory distress syndrome (ARDS), a condition that may require intubation. ARDS is a life-threatening condition in which the lungs cannot supply enough oxygen to the body's vital organs. It occurs when the lungs become inflamed severely due to infection or injury and inflammation causes fluid to leak from nearby blood vessels into the small air pockets in the lungs, making breathing difficult. From the tenth day, if patients have worsening symptoms, this is the time of disease progression when they are likely to be admitted to intensive care. These patients are likely to have

more abdominal pain and loss of appetite than patients with milder cases are. The viral death rate is around 4% [23].

2.6 Fatigue

Fatigue is a subjective feeling of tiredness. It can be sudden or gradual in the beginning. It is a normal phenomenon if one follows prolonged physical or mental activity and resolves completely with rest. It can be a symptom of one of many medical conditions if it is prolonged, severe, progressive, or occurs without provocation. Fatigue is a possible symptom of coronavirus and can precede more telltale signs such as muscle pain and fever if you have more symptoms it is not only fatigue but fatigue plus body aches plus cough and fever which is worrying, only tension in the chest, only fatigue: they are less worried that you are going to get sick [24].

2.7 Sore Throat

A sore throat is usually caused by irritation or inflammation. The most common reason (80 percent) is sharp viral pharyngitis, a viral infection of the throat. It is a pain that spreads all over the throat. Sore throat is one of the first mild symptoms of the coronavirus. It is usually associated with other symptoms of coronavirus such as fever, cough, and shortness of breath. Although they are very common and there is generally nothing to worry about, some patients with COVID-19 have reported a sore throat as a symptom of their infection [25]. If you suddenly develop a sore throat, it is best to isolate yourself for 14 days as a precaution, to avoid passing the infection on to another person if you are a carrier. However, sore throat has a wider range of symptoms than mild pain. Redness in the back of the mouth, halitosis, and swollen neck glands count for a sore throat.

2.8 Runny Nose

Katrina Herren, Doctorlink's clinical director, said that a runny nose occurs in about 5 percent of people with COVID-19. However, he advised: *"There is no genuine way to tell the dissimilarity without a lab test to look for viruses that cause COVID-19 and the common cold. A person with hay fever may experience sneezing and coughing, a runny or stuffy nose and itching, red or watery eyes, signs that have been linked to COVID-19"* [26].

2.9 Stomach Problem

Along with diarrhea, pain in the abdomen also emerged as a possible warning sign of COVID-19. A stomachache can be more commonly associated with errors like norovirus. However, some patients reported abdominal pain before developing other, better-known symptoms. This pain can include abdominal pain, including stomach cramps or dull belly pain. Stomach pain is the result of patients who develop pneumonia in the lower lobes of the lungs. If the lobes become inflamed frequently, irritation of the diaphragm causes pain in the abdomen [27]. The more we see the disease, the more we will see signs of the disease that do not fit into that classic image of dry cough and fever. We will see other

manifestations of the disease. Check your stomach problems and if other symptoms arise, take the necessary precautions.

2.10 New Loss of Taste or Smell and Headache

Some patients were hospitalized without a fever but had neurological problems, such as loss of taste or smell, as well as more significant impacts, such as consciousness problems, headaches, and dizziness [28]. In light of these findings, scientists warn that the disease can infect the "*nervous system and skeletal muscle, as well as the respiratory tract.*" The findings could provide healthcare professionals with an additional way to diagnose patients. Muscle inflammation and nerve pain have also been mentioned in some patients. Symptoms including shortness of breath, cough, and fever have been described in some cases. In other cases, patients received only nervous symptoms. In addition to the common symptoms of COVID-19 (fever, cough, anorexia, and diarrhea), some patients have come to the hospital only with nerve manifestations, such as current symptoms. Therefore, for patients with Covid-19, we must pay close attention to its neurotic manifestations, especially for patients with severe infections, which can lead to death [29]. Furthermore, during epidemic periods of COVID-19, when viewing patients with these neurological manifestations, clinicians should consider SARS-CoV-2 infection as a differential diagnosis to avoid late or misdiagnosis and prevention of infection.

3. Contagious Process of COVID-19

COVID-19 is believed to spread primarily through close contact between people, infecting droplets from infected airways. Infected people often have symptoms of the disease. Some people can transmit the virus without symptoms. Some data on the spread of the disease is still being identified [30]. The WHO and the Centers for Disease Control and Prevention (CDC) in the United States claim that it is spread primarily through close contact and small droplets caused by people who cough, sneeze, or speak; in close contact of approximately 1-2 m (3-7 ft). Both sputum and saliva can transmit large amounts of the virus. Loud speech emits more drops than normal speech.

3.1 Diffusion from Person to Person

The coronavirus is supposed to spread generally from person to person. Among the peoples who are making, close contact with each other (within about 6 feet). Respiratory drops produced when an infected person coughs, sneezes, or speaks. These droplets can fall into the mouth or nose of nearby people or possibly be inhaled into the lungs. Some recent studies have suggested that people who show no symptoms can transmit COVID-19. Maintaining a good social distance (about 6 feet) is very important for preventing the spread of COVID-19 [31].

3.2 Diffused by Contact with Contaminated Surfaces or Objects

It is possible for a person to obtain COVID-19 by touching a surface or object where the virus is present and then touching the mouth, nose, or possibly the eyes. This is not believed to be the main way the virus spreads, but we are still learning more about this virus. The virus survives for hours or days on surfaces [32]. In particular, it has been found that the virus is detectable for one day in cardboard, for a maximum of three days in plastic (polypropylene) and stainless steel (AISI 304) and for a maximum of four hours in copper 99%. This, however, varies with humidity and temperature. Figure 3 shows COVID-19 positive.



Figure 3: COVID-19 positive [33]

3.3 Spread by Sneezing

The virus appears to be transmitted primarily through tiny respiratory droplets through sneezing. These droplets can be inhaled or land on surfaces that others might come in contact with, which can then become infected by touching the nose, mouth, or eyes. The virus can survive on different surfaces from several hours (copper, cardboard) to a few days (plastic and stainless steel). However, the amount of viable virus decreases over time and may not always be present in sufficient quantities to cause infection [34].

3.4 Spread by Coughing

We know that the virus can be transmitted when infected people show symptoms like a cough. COVID-19 also spread by coughing, or when people interact with each other for some time in the immediate vicinity (usually less than a meter). There is also some evidence to suggest that transmission from an infected person may occur as early as two days before showing symptoms; however, uncertainties persist regarding the effect of transmission by asymptomatic persons [35].

3.5 Shaking Hand

It can spread easily when a person shakes hands with an infected person without any protection. Even if a physician treats a patient without personal protective equipment (PPE), he may be harmed. It is extremely dangerous. Ordinary people need to stay away from public gatherings at this moment. Shaking hands or hugging can be the cause of getting infected with Coronavirus [36].

4. Prevention

Prevention is better than cure. About COVID-19, the preventive measures to reduce the chances of infection include staying home, avoiding crowded places, staying away from others, washing hands frequently with soap and water, and for at least 20 seconds, practicing good respiratory hygiene, and avoiding touching your eyes, nose or mouth with unwashed hands. The CDC recommends covering your mouth and nose with a disposable tissue when coughing or sneezing and recommends using the inside of your elbow if no tissue is available [37]. Proper hand hygiene is recommended after coughing or sneezing. The CDC recommended the use of cloth face liners in public places where other measures of social withdrawal are difficult to maintain, in part to limit transmission by asymptomatic individuals. The guidelines of the US National Institutes of Health. USA do not recommend any medication for the prevention of COVID 19, before or after exposure to the SARS-CoV-2 virus, outside the context of a clinical trial [38].

4.1 Maintain Social Distance

Social distance policies aim to decrease the contact of infected community with large groups by closing schools and workplaces, limiting travel, and canceling large public meetings. Distance guidelines also include people at least 6 feet (1.8 m) away. No drugs are known to be effective in preventing COVID 19. After the implementation of social distancing and orders to stay at home, many regions have been able to maintain an effective transmission rate ("Rt") of less than one, which means that the disease is in remission in those areas. When someone coughs or sneezes, they spray small drops of fluid from the nose or mouth that may contain the virus [39]. If someone is much closer, he can breathe in the drops, including the COVID-19 virus, if the coughing one has the disease. When someone coughs or sneezes, they spray small drops of fluid from the nose or mouth that may contain the virus.

4.2 Wash Your Hands Often and Carefully

Use warm soapy water and rub your hands for at least 20 seconds. Foam your wrists, between your fingers and under your nails. You can also use a bar of antibacterial and antiviral soap. Use a hand sanitizer when you cannot wash your hands properly, or if soap and water are not available [40]. Wash your hands several times a day, especially after touching anything, including your phone or laptop. To avoid contacting the eyes, nose, and mouth with unwashed hands. Figure 4 shows washing hands to protect from COVID-19.



Figure 4: Washing hands to protect from COVID-19 [41]

4.3 Avoid Touching Your Face

Avoid touching your eyes, nose, and mouth. The hands touch many surfaces and can search for the virus. Once contaminated, post-hands will not transfer the virus to the eyes, nose, or mouth. From there, the virus could enter your body and make you sick. SARS-CoV-2 can live up to 72 hours. Because the virus against your hands has touched a surface such as a handle, a gasoline pumps handle, or your mobile phone and laptop. Avoid touching any part of the face or head, including the mouth, nose, and eyes. Also, avoid biting your nails. It will be able to give SARS-CoV-2 the opportunity to pass it on to your company [42].

4.4 Cover Your Mouth and Nose Once You Cough and Sneeze

SARS-CoV-2 is found in high quantities in the nose and mouth. This means that it can be carried by air droplets to other people when you cough or sneeze. You can also land on hard surfaces and stay there for up to 3 days. Use disposable tissue or sneeze on your elbow to keep your hands as clean as possible. Wash your hands thoroughly after sneezing or coughing, regardless. You can transmit COVID-19 to others even if you don't feel bad. Everyone should wear a face cloth cover when going out in public, for example, to the grocery store or picking up other necessities [43]. The fabric face protectors must not be placed on children under 2 years of age, anyone who has difficulty breathing or is unconscious, disabled, or unable to remove the mask without assistance. The front fabric cover is designed to protect other people if they are infected. Continue to keep about 6 feet between you and the others. The fabric face-covering does not replace social distancing.

4.5 Wear a Mask (Homemade)

The Centers for Disease Control and Prevention (CDC) recommends Trust Source that almost everyone wears a cloth mask in public places where social distancing can be difficult, such as grocery stores [44]. When used properly, these masks can help prevent

asymptomatic or undiagnosed people from transmitting SARS-CoV-2 when they breathe, speak, sneeze, or cough. This, in turn, slows down the spread of the virus. The CDC website provides instructions on trusted sources to create your mask at home, using basic materials such as a shirt and scissors. Some tips to keep in mind that wearing a mask alone does not prevent you from getting a SARS-CoV-2 infection. Careful hand washing and social (physical) withdrawal should also be followed. Cloth masks are not as effective as other types of masks, such as surgical masks or N95 respirators [45]. However, these other masks should be reserved for healthcare professionals only. Wash your hands before putting on the mask. You should Wash the mask after each use. The virus can be transferred from the hands to the mask. If you wear a mask, avoid touching the front. You can also transmit the virus from the mask to your hands. You must have to wash your hands if you touch the front of the mask. A child under 2 years old, a person who has difficulty breathing, or a person who cannot remove the mask on their own should not wear a mask. Figure 5 shows preparation to prevent coronavirus.



Figure 5: Preparation to prevent coronavirus [46]

4.6 Clean and Disinfect Surfaces

Use alcohol-based disinfectants to clean disinfect the most frequently touched surfaces daily. This includes tables, doorknobs, light switches, shelves, handles, desks, telephones, keyboards, toilets, taps, and sinks, door handles, furniture, and toys. Also, clean your phone, laptop, and anything else that you use regularly several times a day. Disinfect areas after bringing food or parcels home. Use white vinegar or hydrogen peroxide solutions for general cleaning between the disinfectant surfaces. If the surfaces are dirty, clean them. Use detergent or soap and water before disinfection [47]. Then use a household disinfectant. The most common icon of EPA registered household disinfectant will work.

4.7 Cover Coughs and Sneezes

If you are in a private setting and do not have a cloth face covering, always remember to cover your mouth and nose with a disposable tissue when coughing or sneezing, or when

using the inside of your elbow. Dispose of used fabrics in the trash. Instantly clean your hands with soap and water. If soap and water are not available, wash your hands with a hand sanitizer that contains at least 60% alcohol [48].

4.8 Avoid Eating or Drinking in Public Places

This is not the time to go out to eat. This means avoiding restaurants, cafes, bars, and other restaurants. The coronavirus can be put on air through food, utensils, dishes, and cups. It can also be transmitted by other people's air to the place. You can still receive home delivery or takeaway. Choose well-cooked foods that can be heated. The high heat (at least 132 ° F / 56 ° C, according to a recent laboratory study, not yet peer-reviewed) helps kill coronaviruses. This means that it may be better to avoid cold foods from restaurants and all open buffet foods and salads [49].

4.9 Self-Quarantine If You Are Sick

Call your doctor if you have any symptoms. Stay home until you recover. Avoid sitting, sleeping, or eating with loved ones, even if you live in the same house. Put on a mask and wash your hands as much as possible. If you need urgent medical attention, wear a mask, and let them know you may have COVID-19. For those who have been diagnosed with COVID 19 or who believe they are infected, the CDC recommends that they stay home except for medical help, call before visiting a healthcare professional, and wear a mask before entering the provider's office. Medical attention and when he is in any room or vehicle with another person, he covers the cough and sneezes with a handkerchief [50].

4.10 Personal Protective Equipment (PPE)

Infection prevention and control measures include, but are not limited to: hand hygiene, personal protective equipment, and waste management materials. Protective equipment consists of clothing placed to protect healthcare professionals or anyone else from infection. These generally consist of standard precautions: gloves, mask, dress. For bloodborne or airborne infections, it will include face protection, goggles and face mask or mask, gloves, dress or gown, headgear, rubber boots [51]. Personal protective equipment (PPE) is very essential to prevent coronavirus transmission not only in cure centers but also in a variety of actions, clean-up, safe managing of waste and burials, and epidemic-related care. Figure 6 shows doctors wear PPE.



Figure 6: Doctor's Wear PPE [52]

5. Post Treatment

It is a matter of great sorrow that, up to April 2020, no medicine, tablet, capsule, the vaccine has been invented that can prevent or cure Corona Virus. But if someone is infected with COVID-19, below post-treatment can be taken care of to get rid of this epidemic virus [53].

5.1 Stay Active at Home

Physical activity reimbursement equally the body and the mind. Healthy adults should aim for at least 30 minutes of daily physical activity and at least 1 hour for healthy children (5-17 years). Follow these tips to stay physically active during self-isolation or quarantine Plan time for physical activity on your day [54]. Take regular breaks by sitting, stretching, or taking a short walk, if allowed. Take an online gym class. Think outside the box, activities like dancing, playing active video games, cleaning the house, or playing with your kids are physical activities. Figure 7 shows patient of coronavirus.



Figure 7: Patient of Coronavirus [55]

5.2 Avoid Alcohol and Smoking

Alcohol and smoking are not only an addictive and mind-altering substance, harmful to any level consumed, it also weakens the immune system. Therefore, alcohol use and especially overuse undermine your body's ability to cope with infectious diseases, including COVID-19. It is recommended to avoid alcohol in general, but especially in quarantine. As a psychoactive substance, alcohol also affects your mental state and decision-making, making you more vulnerable to risks such as falls, injury, or violence when you are in quarantine with another person [56]. Alcohol consumption is also known to increase symptoms of depression, anxiety, fear, and panic - symptoms that can intensify during isolation and quarantine. Drinking alcohol is not a good coping mechanism, either in the short or long term, although you may think it will help you manage stress. Alcohol also makes some drugs less effective, while increasing the potency and toxicity of others. Do not consume alcohol in combination with pain relief medications, as alcohol will interfere with liver functions and could cause serious problems, such as liver failure. Under no circumstances should you consume any type of alcoholic product as a preventive or therapeutic measure against COVID-19. Alcohol is not a necessary part of your diet, is not part of a healthy lifestyle, and therefore should not be on your shopping list [57].

5.3 Stay Hydrated

Staying hydrated is essential for overall health. The amount of water we need depends on our age, sex, weight, height, level of physical activity, and environmental conditions (that is, the hot season will likely require you to drink more water). Taking into account that around 20-30% of the water we need comes from our food, the European Food Safety Authority has established average recommendations on the amount of water we should drink per day, depending on our age. If you have access to safe drinking water, this is the cheapest and healthiest drink. For a refreshing boost, you can add lemon, cucumber, mint, or berry slices. Other drinks like coffee and unsweetened tea or iced tea or unsweetened, infused or flavored (carbonated) water are also good options for hydration [58]. Good hydration is essential for optimal health. As long as tap water is available and safe for consumption, it is the cheapest and healthiest drink. It is also the most sustainable, as it produces no waste, compared to bottled water. Drinking water instead of sugary drinks is an easy way to limit sugar intake and excess calories. To improve the flavor, you can add fresh or frozen fruits such as citrus berries or slices, as well as herbs such as mint, lavender, or rosemary. Avoid drinking large amounts of strong coffee, strong tea, and especially soda containing caffeine and energy drinks. These can lead to dehydration and can negatively affect your sleep patterns [59].

5.4 Follow a Varied and Balanced Diet

Simply put, there are no foods or supplements that can "strengthen" our immune system and prevent or cure COVID-19. However, a balanced diet rich in fruits and vegetables, whole grains, animal and vegetable proteins, and healthy fats is the best way to obtain all the essential nutrients that we need for good health and normal immune function.

Since self-isolation can lead us to be less active, it is also important to pay close attention to portions of food and maintain our adequate energy balance to meet our needs [60].

5.5 Choose Animal and Plant Proteins

Protein is essential for the proper functioning of our body and our immune system. We can obtain proteins from animal and vegetable sources, such as beans, legumes, fish, eggs, dairy products, and meats. Our protein needs a change according to our stage of life. Adults are recommended to consume at least 0.83 g of protein per kg of body weight per day, which is equivalent to 58 g / day for an adult of 70 kg [61]. We must choose protein-rich foods that not only help us to meet our needs but also to support a healthy and sustainable diet. With limited access to fresh meat and fish, the frozen and canned versions can provide convenient and nutritious alternatives. However, since the fat and salt content may be high in some canned meats and fish, it is important to check the label and choose low fat and salt varieties. Vegetable proteins such as legumes, cereals, nuts, and seeds also have a long shelf life and can provide convenient protein-rich lunches or snacks [62].

5.6 Practice Safe Food Hygiene

According to the European Food Safety Authority, there is currently no evidence that COVID-19 is transmitted through the consumption of food. However, good food safety practices are important to minimize the risk of food borne illness. When delivering or preparing food, be sure to wash your hands with soap for 20 seconds before and after preparing or eating food. Cover your mouth and nose with a disposable tissue or sleeve when coughing or sneezing and remember to wash your hands before eating fruits and vegetables [63]. Disinfects surfaces and objects before and after use. Keep raw and cooked food separate to prevent harmful microbes from spreading from raw food to ready-made food. Use different utensils/cutting boards for raw and cooked food to avoid cross-contamination. Make sure to cook and reheat food at adequate temperatures ($\geq 72^{\circ}\text{C}$ for 2 minutes).

5.7 Intake Vitamin D in Isolation

The sun is the best source of vitamin D, however, during quarantine or self-isolation it can be more difficult to obtain sufficient sun exposure to meet our needs [64]. Therefore, people who cannot go outdoors are recommended to eat many foods rich in vitamin D and consider taking a daily vitamin D supplement. If you are self-insulating and have access to an open window, garden or a balcony, Short periods (15-30 minutes) of daily sun exposure to the arms and face without sun protection can help you meet your daily vitamin D needs. However, we must not forget that for good sun protection we must avoid exposure to the sun. unprotected for more than 30 minutes [65].

5.8 Choose Whole Grains and Good Fats

Whole grains, unlike refined grains, maintain most of the grain structure, maintaining layers that contain vitamins, minerals, and fiber. In addition, whole grains also provide an important source of carbohydrates that give us energy and can help us feel full for longer periods. Fats are an essential part of a vigorous diet. However, not all fats have the same effect on our health. Exchanging saturated fats with unsaturated fats can help lower LDL (bad) cholesterol levels and reduce the risk of heart disease [66]. Coconut oil and add foods like nuts, bluefish and vegetable oils like olive oil and rapeseed oil.

5.9 Stay Connected with Social Networks

Stay connected and keep your social networks. Do your best to keep your personal daily routines or create new routines if circumstances change. If health authorities have suggested warning physical societal contact to include the outbreak, you can stay in touch via phone, email, social media, or video conference. In times of stress, pay attention to your needs and feelings [67]. Take part in healthy activities that you enjoy and find relaxing. Exercise regularly, maintain regular sleep routines, and eat healthy foods. Keep things in perspective. Public health agencies and experts from all countries are working on the epidemic to ensure the best care available to those affected. An almost constant flow of news about an epidemic can make people feel anxious or distressed. Look for updates on information and practical directions at specific times of the day from health professionals and WHO websites and avoid hearing or following voices that make you feel uncomfortable [68].

5.10 Sleep Enough

Lack of good quality sleep can negatively affect our physical and mental health and decrease our immune system's ability to fight infection. The total amount of sleep we need depends on age. In general, adults should aim for a minimum of 7 hours of sleep per night [69]. The stress caused by the COVID-19 pandemic can harm our sleep. Therefore, we should try to prioritize good sleep habits and make sure we have enough. Here are some tips to help you improve your sleep. Establish a regular sleep schedule (go to bed and get up at certain times) and stick to it on weekends and when you work from home. Limit alcohol consumption and don't smoke. Avoid caffeine before bed. Exercise regularly. Use comfortable and cozy beds. Keep your room quiet, dark, and at a comfortable temperature. Disconnect the electronics before bedtime. Try relaxation techniques like meditation [70].

6. Conclusion

COVID-2019 infection is spreading rapidly with an increasing number of infected patients across the country. The future development of discomfort is unclear, but the public should be careful when dealing with the virus, as it can be highly contagious. The first deaths were mainly older people with a faster progression of the disease. The public should pay more attention to the protection of the elderly who have contracted the virus.

If you have any of these symptoms, isolate. This means staying as far away from other people as possible, even from family members. Stay in an appointed "sick room" and use a personal bathroom if you can. If you have symptoms and are at high risk for complications from your age or other health conditions, call your doctor in addition to isolating yourself. Taking these prevention strategies seriously is extremely important in stopping the spread of this virus. Practicing good hygiene, following these guidelines, and encouraging your friends and family to do the same will help prevent the spread of SARS-CoV-2. Currently, there is no Food and Drug Administration (FDA) approved medications for COVID-19. However, several drugs approved for other indications, as well as multiple experimental agents, are being studied for the treatment of COVID-19 in several hundred clinical trials worldwide. Additionally, providers may access and prescribe investigational drugs or agents approved or authorized for other indications through various mechanisms, including authorizations for emergency use (USA), requests for emergency research on new drugs (EIND), compassionate use or expanded access programs with drug manufacturers and/or use not indicated on the label. For this reason, whenever possible, the Panel recommends that promising, unapproved, or unlicensed treatments for COVID-19 be studied in well-designed controlled clinical trials. This includes medications that have been approved or authorized for other indications. The Panel recognizes the critical importance of clinical research in generating evidence to answer unanswered questions regarding the safety and efficacy of possible treatments for COVID-19. However, the Panel also understands that many patients and providers who cannot access these studies are still seeking guidance on whether to use these agents. Finally, it is important to emphasize that the treatment recommendations classified in these Guidelines should not be considered as mandates.

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