

COVID-19: UNLOCK 1.0 RISK, TEST, TRANSMISSION, INCUBATION AND INFECTIOUS PERIODS AND REPRODUCTION OF NOVEL COVID-19 PANDEMIC

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AUTHORS' CONTRIBUTIONS

This work was carried out in collaboration among all authors. Authors DP and BKP designed the study, performed the statistical analysis, wrote the protocol and wrote the first draft of the manuscript. Authors DP, SB, CK, TON, WE, JJOC and PMP managed the analyses of the study. Author DP managed the literature searches. All authors read and approved the final manuscript.

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Short Communication

ABSTRACT

Globally, novel COVID-19 has create an unbalanced atmosphere for people in every aspect. Infection of novel COVID-19 spreading all over the world and this condition is known as pandemic by the WHO. This pandemic is blocked many of economic activities due to communicable disease and has no cure till date to fight with corona. It has produced vital economic impact on the globe. It may turn out recession in many sectors of the world. In every sector in the globe, most of the products are imported from China, especially in medicine and manufacturing industry.COVID-19 caused a global pandemic resulting in about 20 millions of infections and around a million of deaths worldwide. Prevention strategies such as avoiding traveling to an infected area and avoiding eating wild animals can reduce the spread of novel coronavirus disease (COVID-19). This paper aims to understand the Risk, Transmission, Diagnosis and Reproduction of COVID-19.

Keywords: Coronavirus; challenges; risk; diagnosis; transmission and reproduction.

1. INTRODUCTION

Everyone in the world suffering from pressure to their health condition and the financial condition sometimes without alarms from the nature or human mode, a ground of viruses arrived in previous, which brought main risk to human. The pandemic of Corona virus COVID-19 started in Wuhan, China. COVID-19 was described first of an epidemic [1,2]. COVID-19 is the new warning for the world to make unsafe every part and parcels. Now, COVID-19 is increasing exponentially.

Domestic scholars working on the research on genomes of isolated viruses (from early patients) that the genetic sequence identity of a Corona virus (RaTG13) from a Chinese Chrysanthemum bat sample was as high as 96.2% [3].

COVID-19 is surely an international problem that relates with human body. There have been a lot of deaths which we know by the website or TV channel. But, now in those pictures we see that we can save ourselves more by using website or software. For the rapid transmission, countries all over the world should pay attention to this term. Website systems and logical act for making website for country user-friendly is the best decision in the base of technology.

Corona viruses (CoVs) are a large group of viruses and powerful microscopes is required to see them. Corona mean crown and infect a wide range of mammals and birds. Sometime regularly cause mild respiratory illness in people. SARS-CoV-2 originated in bats. Special Coronaviruses have jumped species and can be transmitted between people. This is the third corona virus to be done so since [6,7]

2002.SARS-Cov emerged in Guangdong, China, in 2002, MERS CoV emerged in Middle East in 2012 and SARS-CoV-2 emerged in Wuhan, China, in 2019.

Patients should immediately seek care if they have emergency warning sign or symptoms such as

- Blue lips or Face which could mean they are not getting enough oxygen.
- Increased Rate of breathing.
- Shortness of Breath
- Chest pain when breathings
- Waking during sleep with shortness of breath.
- New confusion or difficulty waking up.

2. INCUBATION PERIOD

The incubation period is the time from when someone is infected until symptoms develop, for SARS-CoV-2 incubation period ranges from 2 to 14, 50% of people will become ill by 5 days after they are infected and 95% of people will become ill by 14 days after they are infected.

3. INFECTIOUS PERIOD

The infectious period is the time during which someone infected with SARS-CoV-2 can transmit the virus to other people. For people with COVID-19 disease has an infection period 2 days before start of sign and symptoms of the disease. Then end of the infectious period is defined as when it's at least 10 days after the onset of illness, symptoms are improving and there are has been no fever within the past 3 days while for people who are asymptomatic can also be infectious [8] and for this of infected people it's very difficult to define infectious period.

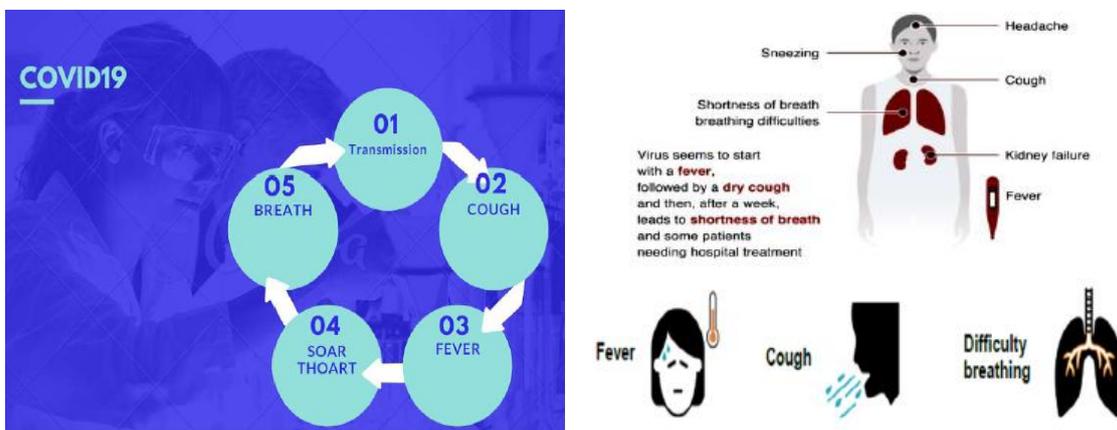


Fig. 1. Symptoms chart [4,5]

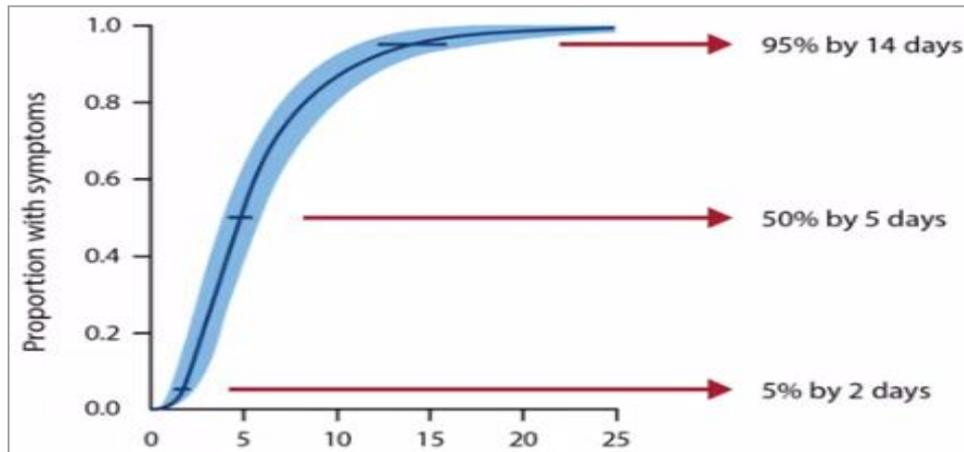


Fig. 2. Days after infection [5]

Table 1. Risk factor based on age

Age	Risk of death
65 to 75 Year	2% to 5% die
75 to 85 Year	4% to 10% die
>85 Year	>10% die

4. RISK FACTOR

Some groups of people are more likely to have severe disease if they get infected one who is older than 65 year of age (Risk with age) and other people who are obese even some young, dynamic and healthy people becomes severely ill with small proportion of infections and children very unlikely to be severely. Mainseverly with other medical condition such as Diabetes, Hypertension, Lung Disease (Asthma, emphysema, chronic obstructive pulmonary), Heart disease, Liver disease, Kidney disease and weakened immune system including a weakened immune [9,10] system caused by taking steroids or other medications that affect the immune system even a person who has HIV that is controlled with medication is not substantially increased risk.

If the lungs cannot recover, then patients cannot breathe on their own and artificial ventilation is required in that case. Lack of Oxygen can damage the organs in the body causing an increased risk for heart attacks, Kidney failure, strokes and clotting disorders. Risk for death depends on access to care and general health. Death is rare in case of young, dynamic and healthy people but death is common in case of older adult.

5. TREATMENT OF COVID-19

There is no specific treatment to cure COVID-19. Treatment is to support the body's function until the

body's immune system can fight the infection and many patients with lungs disease require mechanical ventilation to help them breathe. People who need it will receive support to keep their lungs working so that the body can continue to get the oxygen it needs.

6. DIAGNOSIS OF COVID-19

Diagnostic Tests: This test is used to identify virus in the body. The main test mainly PCR (Polymerase chain reaction) also known as molecular test. These test a give sign that virus is reproducing in your cells. PCR test usually done to test people with sign and symptoms and it detects the RNA (Genetic Material) of the virus. Swab is taken from nose or [11,12] mouth or throat. Specially typically comes from somewhere in the respiratory tract and saliva can also be tested. A positive PCR shows that there are virus particles in the sample its mean active infection. There are sometimes false negative results not all people with infection will have RNA in their sample [13].

Antibody: This test identifies antibodies of virus usually in blood. Antibodies are made by immune system to fight off viruses or bacteria. Some antibodies (IgG) begin to develop when you are sick and can be identified after you recover but above two tests are not perfect. IgG antibody is the most common test and body start to produce IgG antibodies 10 to 14 days after infections, Antibody tests are usually performed on blood and they can be

performed after someone recovers or in people who never had symptoms. A positive IgG antibody test shows that you were infected with the virus in the past and does not give any information when you are infected in the past. Its mean we have some protection from future SARS-CoV-2 infection.

7. TRANSMISSION

Infected people have the virus in their mouths, noses, and throats and droplets [4,14] come out when we are talking, laughing, coughing, and sneezing. Those droplets can enter another person’s mouth, nose, or eyes. Surfaces may have viruses from someone’s respiratory droplets and Virus can “survive” on surfaces and then contaminate the hands of other [15,16]. Hands can transfer virus to your mouth, nose, or eyes and Hand-washing and cleaning are important.

Droplets can travel during sneezes, coughs, talking, and singing, travel up to 6 feet and land in the eyes,

nose, or mouth of people. Only Mask use can reduce transmission as fewer droplets from infected person. People are infectious before they have symptoms and some people never develop symptoms. We must test symptomatic people and identify their contacts quickly to limit spread. Transmission Is More Likely With Closer Contact if Physical contact, Close contact (within 6 feet for 15 minutes or more), Shared environment (for example, offices and restaurants), Sharing food and bathrooms, Sharing bed and Transmission is more likely between people who live together (physical contact and shared spaces). Sometimes called congregate housing—many people living in close quarters [18,19,20].

- Prisons and jails
- Group homes
- Dormitories
- Shelters
- Hostels

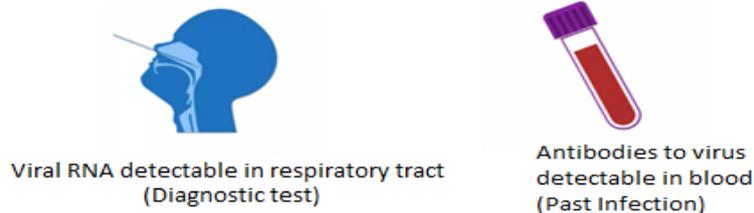


Fig. 4. Testing of Covid-19 [11]

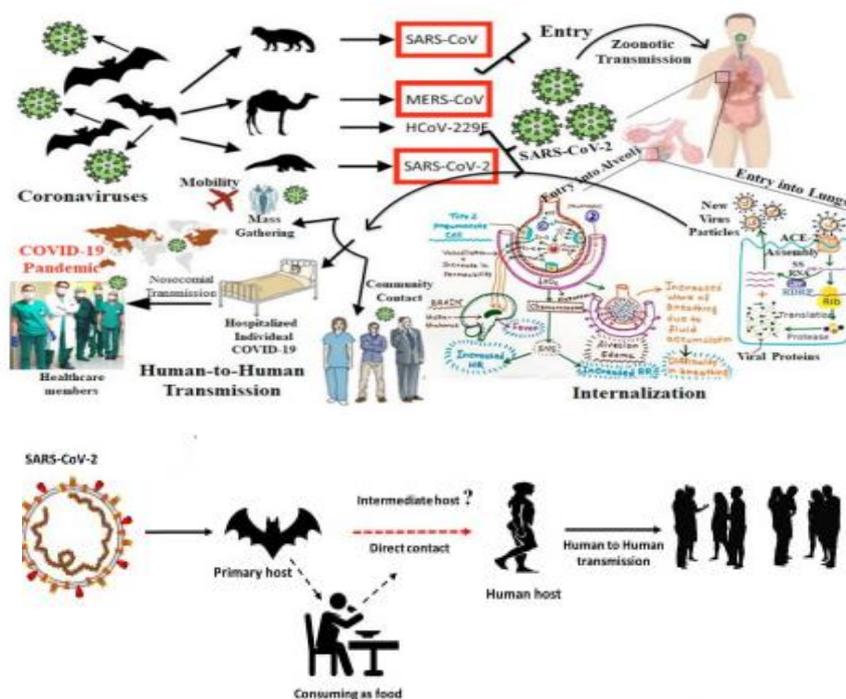


Fig. 5. Transmission [17]

8. CONCLUSION

Among the known measures to reduce the transmission of COVID-19 regular hand washing practice is the rewarding and physical distance is a major challenge. Presence of a huge number of homelessness people, mass use of public transportation, the maximum size of uneducated people, overcrowding in cities and homes, shortage of sanitation material including water, hiding suspected cases, lack in availability of personal protective equipment for care providers, Presence of immune-compromised people are among the major driving factors. The prevention strategies such as avoiding traveling to infected area and avoiding eating wild animals. Those who were in infected area; they should perform 14 days self-surveillance. Those who are in contact with the confirmed cases, personal protective tools should be used and wasted properly. While there is no cure for this virus infection, it is wise to try to stop the spread of Covid-19 through isolation of infected area.

CONSENT

It is not applicable.

ETHICAL APPROVAL

It is not applicable.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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