

Myths versus Truths regarding the Novel Coronavirus Disease (COVID-2019) Outbreak

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Abstract

Background: The Corona Virus Disease (COVID-19) is a novel infectious disease caused by the COVID-19 Virus. This virus belongs to the family of SARS (Severe Acute Respiratory Syndrome) and classified as SARS-CoV-2, a positive-sense single-stranded RNA virus that is causing an ongoing global pandemic. The outbreak of this novel Coronavirus (nCoV-19) is causing great fear in public due to its rapid spread over 200 countries worldwide and created a global Public Health Emergency. The virus is an intracellular obligatory parasite that can even infect bacteria called Bacteriophage. Unlike Bacteria, Virus is not a living microorganism and can't multiply in the outer environment. If we draw a line in between the living and non-living, it lies in the border³. However, the peculiar characteristic of the virus is that it can be living after entering the body of the living organism, causing harmful effects. Since it behaves like dust or dirt outside of our body, it is better to wash them out and prevent it to enter our bodies. In this way, the best way of prevention of this novel COVID-19 viral disease is to wash it out from our hand, rather than killing it by using a disinfectant, hand sanitizer, alcohol-based rub, etc.

Key Message: Don't Get the Virus, Don't Give the Virus. Since COVID-19 Virus can enter the body from the reservoir mainly through respiratory droplets during coughing, keeping social distance and proper hand-washing are the best way to preventive measure. To prevent the rapid spreading of COVID-19, please strictly follow the following five precautionary and preventive measures yourself and ask others too.

1. **HANDS** – wash them often with soap and water
2. **ELBOW** – cough into it
3. **FACE** – don't touch it
4. **SPACE** – keep social distance (> 3feets)
5. **FEEL SICK?** - Stay home (with proper nursing care)

Keywords: COVID-19, Myths vs. Truths, Coronavirus in Nepal.

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BACKGROUND

The Corona Virus Disease (COVID-19) is a novel infectious disease caused by COVID-19 Virus. This virus belongs to the family of SARS (Severe Acute Respiratory Syndrome) and classified as SARS-CoV-2, a positive-sense single-stranded RNA virus that is causing an ongoing global pandemic¹. The outbreak of this novel Corona virus (nCOV-19) is causing great fear in public due to its rapid spread over 200 countries worldwide and created a global Public Health Emergency². Coronaviruses are a large group of viruses having crown shaped spike proteins on its surface. This group of viruses cause respiratory diseases in aves and mammals. In humans, coronaviruses cause a spectrum of disease from mild diseases like the common cold to severe diseases like SARS, MERS, and COVID-19. And name Corona virus as it present the Crown-shaped spike proteins in its surface (figure 1).

The Corona virus is not new to this world. Corona viruses were first discovered in the 1930s after an acute respiratory infection of domesticated chickens was shown and named as infectious bronchitis virus (IBV). In the 1940s, two more animal coronaviruses, mouse hepatitis virus (MHV) and transmissible gastroenteritis virus (TGEV), were isolated. Human coronaviruses were discovered in the 1960s

causing common-cold like symptoms and named as Human Corona virus 229E³. Similarly, in 2003, the other family of corona virus affected human causing SARS and named as SARS-CoV, in 2004 another strain of it affected human causing bronchitis and named as HCovNL63, in 2005 Human Corona Virus KHU1, in 2012 MERS-Cov and SARS-Cov-2 in 2019⁴ causing the highly contagious deadly pandemic⁵.

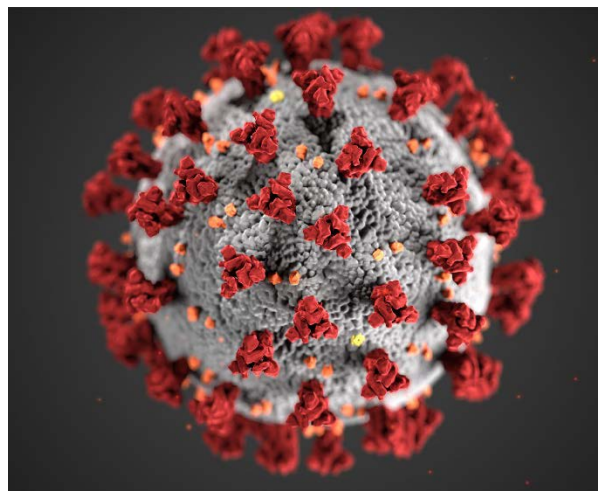


Figure1: External Morphology of Corona Virus

This novel SARS-Cov-2 Virus was first identified in December 2019 at Wuhan, Hubei Province China causing highly contagious flulike respiratory disease; and then it spread rapidly around the world; and now it has become the hot-cake topic for everyone, from layman to scientists.

Public Fear

Until April 8, 2020, the infected case has crossed 1.5 million and over 76,000 people have died from this virus and this trend would go on

increasing and millions of lives might be lost if remain unchecked^{2,6,7}.

Social media has a powerful influence on our daily activities as well. Researchers have found that roughly 45% of the world's population use social media, with an average of 2 hours and 23 minutes spent per day, about 32% of office hour (productive time) on social media⁸. So, any unscientific rumors being spread over in the various social sites faster than the COVID-19 Virus itself may impact negatively in the control of this disease.

All the messages shared in the social media may not be scientifically correct. Situational vigilance is good thing, however creating the panic situation in the public won't solve the problems. Before running behind the rumors, it is better to find out authenticity of the facts shared in social media. Before believing any information regarding prevention and control of this novel COVID-19, first get the scientific answer of the following questions regarding the COVID-19 virus:

- **What is the nCoVid-19?**

The COVID-19 is the novel Corona Virus Disease causing the flu like symptoms.

- **What are the sign and symptoms of this novel disease?**

Although it might be asymptomatic, the major sign and symptoms of this novel disease is having flu like sign. According to the frequency of occurrence the signs and symptoms are listed in the table 1.⁶

Table1: Sign and Symptoms of COVID-19

SN	Sign and Symptoms (6)	Frequency of Occurrence (%)
1	Fever	87.9%
2	Dry cough	67.7%
3	Fatigue	38.1%
4	Sputum production	33.4%
5	Shortness of breath	18.6%
6	Muscle pain or joint pain	14.8%
7	Sore throat	13.9%
8	Headache	13.6%
9	Chills	11.4%
10	Nausea or vomiting	5.0%
11	Nasal congestion	4.8%
12	Diarrhea	3.7%
13	Hemoptysis	0.9%
14	Conjunctival congestion	0.8%

- **How does this novel disease spread?**

According to the WHO, the primary mode of transmission is via respiratory droplets that people cough or exhale (7).

It may also be spread from touching contaminated surfaces and then touching mucous membrane of eyes, nose and mouth. It is considered most contagious from the people with sign and symptoms, although its spread is reported before symptoms appear⁶.

- **What are the most effective preventive measures?**
Social distancing and repeated hand washing with soap and/or use of alcohol based sanitizer before eating and after touching any suspected objects

MYTHS REGARDING CORONA VIRUS DISEASE (COVID-19)

The various social media and its over uses may advertise the myths regarding the novel corona virus disease. List of some the myths and their corresponding truths as advised by the WHO (World Health Organization)⁷.

S.N.	Myths	Truths
1	The COVID-19 Virus is spread faster in cold environment and is killed with hot and humid environment.	The COVID-19 virus can be transmitted in all types of environment, including areas with hot and humid weather.
2	The COVID-19 Virus is transmitted by Mosquitoes bites.	There is no evidences justifying that Mosquito bites can transmit the COVID-19.
3	Hot shower can prevent and/or even stop the infection of the rapidly spreading Corona Virus Disease.	Taking hot shower can't help in prevention of this diseases. Frequent cleaning, hand washing even shower with soap before food or after touching suspicious materials or caring the person with flu like symptoms are the best preventive measure.
4	Hand Driers can kill the COVID-19 Virus.	The hand driers cannot kill this virus. Instead proper hand washing will wash out the virus that might be present in the hand.
5	One will die as soon as this novel Corona Virus infect the person.	It is not that dangerous. The evidence has shown that 96-97% of the people who get infected with this novel Corona Virus will recover with proper medical care and complete best rest in self-isolation.

6	Consumption of Alcohol can prevent or kill Corona Virus	Alcohol consumption cannot kill or prevent the infection of COVID-19. However, Alcohol ingestion decreases the immunity and increases the chances of serious disease if infected and interfere the treatment procedure if infected. Instead, proper hand washing with soap or alcohol based gel or rub can wash out the virus that might be present in the hands.
7	Pneumonia vaccines can prevent from infection of this novel Virus	The vaccines against Corona Virus is not developed yet and the Pneumonia vaccine cannot prevent it.
8	Rinsing hand with saline water prevent infection from Corona Virus	There no such evidence that the rinsing hand with saline water can prevent infection. Instead, covering the nose with face mask will prevent the virus reaching to respiratory tract and hence prevent the disease.
9	Corona Virus only affect older people and cannot affect younger.	The corona virus can affect people with all age, race and ethnicity. WHO has advised to the peoples of all ages to follow the good hand hygiene and good respiratory hygiene for its prevention.
10	Antibiotics can kill corona virus	Even the broad spectrum antibiotics like penicillin cannot kill this virus. Antibiotics–kill bacteria only or are effective against bacteria only
11	Like bacteria, virus is living organism and can be killed it using medicines like antibiotics	Virus is not living organism and cannot be killed it using medicines like antibiotics.

BOTTOM LINE

Virus is an intracellular obligatory parasites that can even infect bacteria called Bacteriophage. Unlike Bacteria, Virus is not a living microorganism and can't multiply in the outer environment. If we draw a line in between the

living and non-living, it lies in the border³. However, the peculiar characteristics of virus is that it can be living after entering to the body of living organism, causing the harmful effects. Since, it behaves like a dust or dirt outside of our body, it is better to wash them out and prevent it

to enter in our body. In this way, the best way of prevention of this novel COVID-19 viral disease is to wash it out from our hand, rather than killing it by using disinfectant, hand sanitizer, alcohol based rub, etc.

KEY MESSAGE

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Since, COVID-19 Virus can enter the body from the reservoir mainly through respiratory droplets during coughing, keeping social distance and proper hand-washing are the best way to preventive measure. To prevent the rapid spreading of COVID-19, please strictly follow the following five precautionary and preventive measures yourself and ask others too.

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