

# Causes and treatment of Covid-19: Myths vs Facts

Syed Mudarab Ali<sup>1</sup>, Ammara Hashmi<sup>2</sup> and Tanveer Hussain<sup>1\*</sup>

<sup>1</sup>Department of Molecular Biology, Virtual University of Pakistan, Lahore, Pakistan

<sup>2</sup>Department of Social Sciences and Humanities, Virtual University of Pakistan, Lahore, Pakistan

**Abstract:** The world is facing a new pandemic called COVID-19. It started in December 2019 in Wuhan, China and in a few months it spread to almost every country of the world. Caused by a new streak of Coronavirus, it develops into an acute respiratory syndrome that becomes fatal particularly in the elderly. Since two similar Coronavirus epidemics happened in the past i.e. in 2002 and 2012, there are certain rumors and myths that gradually seeped in cultural discourse. As a result, many people, discrediting scientific knowledge and verified precautionary measures, continue to believe in the rumors and myths and are spreading them on social media. These myths range from identifying the causes of pandemic to offering solutions. In this review we discuss some of prevailing myths on the current pandemic from different parts of the world.

**Keywords:** COVID-19, scientific knowledge, myths, facts.

## INTRODUCTION

In December, 2019, news of an outbreak caused by a new streak of Coronavirus became a focus of attention in world media. The disease, which was later named as COVID-19, is caused by an acute respiratory syndrome. The outbreak occurred in the Wuhan, China in December 2019 and later it spread throughout the world (Wang *et al.*, 2020). Currently, there are more than 485,573 deaths caused by the virus out of approximately 9,555,804 registered cases. To refer to the new streak of Coronavirus, it is called SARS-CoV-2.

The clinical symptoms of COVID-19 are similar to other corona viruses. Persons infected from this virus showed fever (87.9%), cough (67.7%), fatigue (38.1%), vomiting (5.0%) and diarrhea (3.7%). There have been some reports that some patients even after recovery had acute heart injury and other secondary infections, which implies that this virus can cause damage to tissues and organs. Some COVID-19 patients also showed impaired renal functions and abnormal liver functions. In a study of 214 COVID-19 patients, 78 (36.4%) patients had neurological manifestations. SARS-CoV-2 was also detected in the eye secretions of some patients. While people from Hubei province were affected more severely as compared to others who visited Wuhan, it is speculated that this is due to a higher expression of ACE-2 receptors in Asians (Wang *et al.*, 2020). However, the accelerated spread in USA, Italy, Spain and France suggests otherwise.

In Pakistan, 3,903 individuals, out of almost 192,970 registered cases, have died. The contagious nature of the disease is alarming and its quick spread has caused a state of panic in many countries. Even the most advanced countries, with reasonable medical resources are falling

short of dealing with it especially when there is no treatment in sight. In the absence of a scientific solution and in the context of an urgency to deal with it, there is an ample room for rumors and myths concerning the causation and treatment of COVID-19. The following is an examination of the rumors and myths in the light of scientific facts we have till date.

## MYTHS ABOUT COVID-19

The rumors and myths can be classified in two main groups. One group concerns the causes of COVID-19 and the other is about its treatment of COVID-19. Rich Buhler has listed some of the reasons that why people spread myths and rumors. Some people fabricate and spread rumors for the sake of personal satisfaction and enjoyment. For others, spreading rumor is just to cause harm to a person, a group or an organization. Some people want to do something big and they spread rumors believing that it could transform into something big. Yet there are some people who strongly believe in something but cannot prove it through evidence and therefore fabricate false stories to highlight its importance encouraging other to believe (Sebastiao, 2009). In case of rumors and myths concerning COVID-19, all of these reasons might be at work. To what extent the above myths can stand the test of rationality, let us examine.

“We only see what our eyes want to see” is a popular aphorism. This implies that we are tempted to believe in such things, which are acceptable to our own version of rationality, regardless to their evidence in reality. In the same way, the myths associated to Coronavirus are unverified claims which are accepted on the basis of a weaker rationality. They are not, as we shall see, rooted in evidence or correspond to facts. Let us first examine the myths concerning the causation of COVID. People believe that only the elderly are susceptible to

\*Corresponding author: e-mail: tanveer.hussain@vu.edu.pk

Coronavirus and develop COVID-19. In fact, in most cases, the elderly people either have weak immune system or pre-existing medical conditions (WHO, 2020; Newman, 2020). Age therefore, cannot be the cause. An elderly person with a robust immune system and otherwise perfect health can fight Coronavirus. If age is assumed to be the cause then there should be 100 percent mortality rate in the elderly, which is not the case. Moreover, it has been observed that young people, even children have died due to COVID-19 (Fernandes, 2020). It cannot be called a variant of cold or flu. The reason is the health complications caused by it, contagious nature and a higher mortality rate (approaching 4% compared to 0.1% for seasonal flu) (Thackeray, 2020).

The causation of COVID-19 has also been associated to pets, particularly cats and dogs. These pets can be intermediate carriers of Coronavirus but no such thing is reported yet (WHO, 2020; Singh, 2020). The human-to-human transmission has also been a subject of popular rumors. For instance, it is believed that the transmission of virus bespeaks of at least 10 minutes of contact. Though longer contact with a patient means there are more chances of that person getting infected but a person can get infected in less than 10 min (Newman, 2020). In fact, if we look at the fact that virus can be transmitted through droplets hanging in air and entering the nose or mouth of a new host, it can get transmitted in a matter of few seconds. The possibility that mosquitoes are carriers of the virus and can transmit it to humans through blood lacks substantial evidence.

The myths concerning that parcels coming from China and Chinese food can cause COVID-19 are now redundant since now COVID-19 is a pandemic, what was held true for China can now be true for Italy, Spain, France or the US. It is not proven yet that in China Coronavirus spread because of consumption of some specific food (Newman, 2020). It is true that the virus can survive on surfaces for days but it would be far-fetched to assume that parcels coming from other countries taking weeks to reach can be the carriers of virus. There is no evidence that virus can survive in cooking temperature therefore we cannot be certain that cooked food can be a carrier.

As far as the claim that COVID-19 is the deadliest, it is premature. It would depend on time that the world would take to develop a vaccine. If the vaccine takes a decade, it might turn out to be deadliest depending on the highly contagious nature and mortality rate. Till date, the previous outbreaks of the Coronavirus are higher in mortality rate (Newman, 2020; Singhal, 2020).

Since the virus originated in China, and then spread to the world, speculations such as the deliberate use of virus as a bioweapon quickly found place in international media due

to economic tensions between China and the US. Thomas Gallagher, a virus expert and professor at Loyola University of Chicago said, "Suggesting that SARS-CoV-2 is a purposely manipulated laboratory virus or a product of an accidental laboratory release would be utterly defenseless, truly unhelpful, and extremely inappropriate" (Field, 2020). According to recent findings of scientists this virus is the result of natural evolution and it has jumped from bats to humans (Newman, 2020). But what about bat soup? This half-cooked information has been viral on social media for so long that Chinese people acquired this virus from bat soup and the it spread from human-to-human contact. But till date there is no such clear evidence to support this rumor (Newman, 2020). An equally interesting claim was made about the spread of virus through beard. It gained momentum on social media as people mistook an old graph of CDC (Centers of Disease Control) health authorities which was depiction of facial hair and respirators. People thought it points out that people without beard are safe. This misinformation spread like wild fire and thousands of people shared on social media. Australian news channel also could not comprehend and spread the news on Twitter as: "How your beard may unknowingly increase your risk of Coronavirus" (Reality Check Team, 2020). Actually the same logic goes for hair on the head but nobody is suggesting a shaven head. However, there are studies that had mixed findings on the growth of bacteria in uncleaned beards but there is no such study on viruses.

Let us now look at the claims about the treatment of the virus. It was the first and foremost popular myth that exposing yourself to temperature 25-27 °C can kill the virus but it has absolutely no scientific proof. Even someone with little bit scientific knowledge can see through this lie because human body temperature is 37 °C so if we believe this myth then virus could not have survived in human body regardless of external temperature. Second important fact pointing in opposite direction is that many countries with hot weather have reported the case of COVID-19 (WHO, 2020; Mitroff, 2020). Similarly, it was also claimed that cold weather and snow can kill the new Coronavirus. World Health Organization has confirmed that there is no truth to this myth because human body temperature is 37 °C and external temperature is not going to have any effect on it (WHO, 2020).

Some people believe that holding the breath for 10 seconds or more will cause a discomfort but in the end the person will be cure. The disease can be treated merely by holding breath (WHO, 2020; Mitroff, 2020). Consuming alcohol is equally false remedy. WHO took this into account and cleared the misconception that drinking more alcohol will only result in other health risks and it does no cure COVID-19. About 50 people have died in Iran because of consumption of toxic alcohol so to treat

Coronavirus (WHO, 2020; Singh, 2020). Similarly, local news channels of Kenya have reported that people are calling each other and suggesting that drinking black tea without sugar actually cures Coronavirus. This myth has no medical basis and cannot be verified (Reality Check Team, 2020).

In addition to internal treatments of the body, there are certain myths about external treatments. For instance, it is believed that hand dryers can kill the Coronavirus. WHO also mentioned it clearly that hand dryers do not kill Coronavirus but washing hands with alcohol-based hand rub can help (WHO, 2020; Newman, 2020). Similarly, there is no evidence that UV rays would kill Coronavirus but human skin is sensitive enough that UV rays can cause skin irritation and multiple exposures for long periods can even cause cancer (WHO, 2020). An equally horrendous claim about treatment is chlorine spray. Chlorine is harmful to human body if take in and can cause some serious health problems. Spraying it on body should also be avoided because it is damaging to mucous membranes (eyes, mouth) (WHO, 2020; Newman, 2020). Additionally, rinsing the nose with saline regularly is somewhat useful to recover from common cold but there is no evidence or proof that it has protected people from COVID-19 (WHO, 2020; Newman, 2020). Similarly, the belief that drinking more and more water after intervals washes down the virus from throat to digestive system and person does not catch COVID-19. This is just a hyped up speculation and truth is virus can enter through nose, eye or mouth and once it has been transmitted to mouth drinking water would not make any difference (Singh, 2020; Mitroff, 2020).

It's a common belief among people that wearing a surgical mask will prevent the Coronavirus and they will not be infected but ironically they don't know that viruses have smaller size than the pore size of surgical masks. Yet masks cut down the chances of getting Coronavirus as a person becomes less susceptible to touching nose and mouth with hands. Basically masks are for those people who are infected, so that when they sneeze or cough then droplets containing viruses don't spread and infect other people (Devlin, 2020; Mitroff, 2020).

Fake Coronavirus stories of Africa have been speculating suggesting that people having black skin are resistant to Coronavirus. This misinformation leads to carelessness among African people which puts them at higher risk of catching COVID-19 because they are taking required precautionary measures. COVID-19 does not discriminate on the basis of ethnicity, skin color, race or religion. On 13<sup>th</sup> of March health minister of Kenya also rejected this false theory (Reality Check Team, 2020).

Many people around the world claim to have found the cure in the form of different antibiotics. But as scientists and researchers know and share that antibiotics are only

effective against bacteria and not viruses. But COVID-19 patients have weakened bodies and may develop bacterial infection so for that purpose antibiotics can be administered (WHO, 2020; Newman, 2020). Herbal solutions and yoga also fall short. Though it is proven that garlic has some antimicrobial properties and people started to believe on rumors that it can cure COVID-19 too. But till now there are no findings that consuming garlic can cure COVID-19 (Mitroff, 2020; WHO, 2020; Newman, 2020).

Some of the symptoms of COVID-19 are similar to those of pneumonia so a belief was likely to take form that similar symptoms means similar treatment. They opted for pneumococcal vaccine and Hemophilus influenzae type B (Hib) vaccine but the truth is that Coronavirus is completely different from pneumonia virus and needs a new type of vaccine and scientists are working on it day and night (WHO, 2020; Newman, 2020). Currently, there is no vaccine for COVID-19.

**Table 1:** Myths about the causes of COVID-19

Only the elderly are susceptible
COVID-19 is a new type of flu
Cats and dogs spread Coronavirus
Mosquitos as carriers
The spread depends upon the duration of contact
Parcels coming from China spread Coronavirus
Chinese food
Made in China
Coronavirus targets beard
Coronavirus is a conspiracy

**Table 2:** Myths about the treatment of COVID-19

Extreme weather kills Coronavirus
Holding the breath for 10 seconds kills Coronavirus
Alcohol, the more the better
Hand dryers can kill the Coronavirus
UV light kills Coronavirus
Chlorine or alcohol sprays kill Coronavirus
Pneumonia vaccination is the solution
Rinsing nose with saline destroys Coronavirus
Herbal Remedies
Antibiotics are a solution
Better hydration or hot bath kills Coronavirus
Yoga

## CONCLUSION

Given the uncertainties and fear of an unknown enemy, the urgency for a treatment is quite understandable. We are bound to develop an understanding even in the absence of rationality but if the resultant understanding remains with the person who originated it, it might not

pose a threat to the proportion when it becomes a collective perspective. The myths have a unique characteristic; they appear to be true since there is some seed of logic. It is only through a thorough and serious inquiry and analysis that one should reach a certainty. The only promising candidate is scientific knowledge that has been repeatedly verified. In current situation, myths are not only dangerous, they are devastating. These can result into psychological breakdown of societies and can complicate matters of health beyond repair. There should be a proper channel to disclose all trustworthy information which should dismantle the conspiracy theories and baseless claims. COVID-19 is not only medical problem but economic and social disaster too. The rumors and myths about COVID-19 portrays a global threat which could breakdown nations. Every human being with best practices in ethics and morality should only promote proper and verified information to stop any further damage. For now, all nations should focus on precautionary measures because till now no vaccines have been developed

## REFERENCES

- Devlin H (2020). Can a face mask protect me from coronavirus? Covid-19 myths busted. The Guardian. Retrieved April 16, 2020, from <https://www.theguardian.com/world/2020/apr/01/can-face-mask-protect-me-from-coronavirus-covid-19-myths-busted>
- Fernandes M (2020). Why children are not immune to Covid-19. BBC. Retrieved April 16, 2020, from <https://www.bbc.com/future/article/20200330-coronavirus-are-children-immune-to-covid-19>
- Field M (2020). Experts know the new coronavirus is not a bioweapon. They disagree on whether it could have leaked from a research lab. Bulletin of the Atomic Scientists. Retrieved April 16, 2020, from <https://thebulletin.org/2020/03/experts-know-the-new-coronavirus-is-not-a-bioweapon-they-disagree-on-whether-it-could-have-leaked-from-a-research-lab/>
- Mitroff S (2020). 8 coronavirus health myths, fact checked. CNET. Retrieved April 16, 2020, from <https://www.cnet.com/news/coronavirus-health-myths-fact-checked/>
- Newman T (2020). Coronavirus myths explored. Medical News Today. Retrieved April 16, 2020, from <https://www.medicalnewstoday.com/articles/coronavirus-myths-explored>
- Reality Check Team (2020). Coronavirus: What misinformation has spread in Africa?. BBC. Retrieved April 16, 2020, from <https://www.bbc.com/news/world-africa-51710617>
- Sebastiao SP (2009). Urban Legends and New Media: Postmodern and Technological Changes in Traditional Stories. Literature, art, and culture in an age of global risk, Cardiff University, Sebastiao, Sonia Pedro.
- Singh R (2020). Doctor's Note: Coronavirus myths and misconceptions. Aljazeera. Retrieved April 16, 2020, from <https://www.aljazeera.com/indepth/features/doctor-s-note-coronavirus-myths-misconceptions-200329125930317.html>
- Singhal T (2020). A review of coronavirus disease-2019 (COVID-19). *The Indian Journal of Pediatrics*, pp.1-6.
- Thackeray D (2020). How COVID-19 compares to seasonal flu, and why you should take it seriously. World Economic Forum. Retrieved April 16, 2020, from <https://www.weforum.org/agenda/2020/04/coronavirus-covid19-flu-influenza/>
- Wang LS, Wang YR, Ye DW and Liu QQ (2020). A review of the 2019 Novel Coronavirus (COVID-19) based on current evidence. *Intl. Jour. Antimicrob. Agents*, 105948.
- World Health Organization. (2020). Coronavirus disease (COVID-19) advice for the public: Myth busters. World Health Organization. Retrieved April 16, 2020, <https://www.who.int/emergencies/diseases/novel-coronavirus-2019/advice-for-public/myth-busters>