



MYTHS ASSOCIATED WITH COVID-19

Community Medicine

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ABSTRACT

Widespread pandemic of COVID-19 has instilled a sense of insecurity among the public. In absence of any effective drug or preventive vaccines, the disease has led to several myths and misconceptions, which are based on perceptions, rumours without any scientific basis. The present paper attempts to highlight some of these issues. Methods: Literature were searched using Google search with specific key words such as myths, myth busters in COVID-19, pandemic coronavirus, misconceptions, facts about COVID-19. Results: Several myths were observed in relation to the virus, transmission, prevention, control and available drugs. It is recommended that such myths need to be communicated for preventing misinformation and reduce anxiety among the people.

KEYWORDS

Myths, COVID-19, disinfectant use

INTRODUCTION

Novel coronavirus or SARS-CoV-2 has infected 5.4 million globally with more than 3.4 lakh deaths as on 25th May 2020. ⁽¹⁾The World Health Organization (WHO) changed the situation of COVID-19 from public health emergency of international concern to a pandemic on 11th March 2020. ⁽²⁾

Myths and misconceptions are part and parcel of any disease or epidemics. These arise because of the lack of understanding of the disease, ignorance or due to rumours which are not scientifically valid. Many false information circulates within the community which might actually pose harm, rather than help in the prevention and control of the disease. In this paper, we have listed some common myths and misconceptions which have arisen during COVID-19 pandemic.

METHODS

Literature search was done using google search engine using terms myths, myth busters in COVID-19, pandemic coronavirus, misconceptions, facts about COVID-19. The articles were selected and filtered according to the criteria that describes about the myth, statements and facts on COVID-19.

Observations

There are several myths and misconceptions associated with the novel corona virus 2019. These are summarized below in different sections.

A. MYTHS ON VIRUS AND TEMPERATURE, DISINFECTANTS ⁽³⁻⁵⁾

Origin: Novel coronavirus originated from wild animals and passed on to humans through intermediary hosts (wild animals). Phylogenetic studies suggested their origin from bats and virus related to SARS-CoV-2.

Some myths are associated with temperature, disinfectants both in the environment and human body. These are given below.

1. Myth: Coronavirus is the deadliest virus known to humans
Fact: SARS-CoV-2 is more serious than influenza but not the deadliest virus. Ebola has higher mortality than SARS-CoV-2 virus.
2. Myth: It is no more dangerous than winter flu
Fact: Many individuals who get coronavirus will experience nothing worse than seasonal flu symptoms, but the overall profile of the disease, including its mortality rate, looks more serious. Current estimates of a roughly 1% fatality rate are accurate. This would make Covid-19 about 10 times more deadly than seasonal flu, which is estimated to kill between 290,000 and 650,000 people a year globally.
3. Myth: SARS-CoV-2 is just a mutated form of the common cold.
Fact: Coronaviruses are a large family of viruses having spiky protein on their surface. Some of them use humans as primary host and cause

common cold. SARS-CoV-2 virus is primarily from animals not a mutated form of common cold.

4. Myth: Cold weather can kill the new coronavirus
Fact: False. Cold weather and snow CANNOT kill the new novel coronavirus (SARS-nCoV-2). At 4°C, corona virus survives upto 28 days. Inactivates more rapidly at 20°C with 20% relative humidity.
 5. Myth: Warmer climates or weather will kill the virus or prevent it from spreading
Fact: There is no known fact about the coronavirus with seasonality. However, taking the cues from influenza virus which occurs mainly during colder months, the novel coronavirus might be more active during winter months though the virus is spread during the summer months as well.
 6. Myth: Inhaling steam can kill the coronavirus.
Fact: There is no proof of steam inhalation killing coronavirus. It can lead to steam burn.
 7. Myth: Clapping hands creates vibrations that destroy the coronavirus.
Fact: There is no reason to believe that vibrations destroy coronavirus.
 8. Myth: Religious chants can kill the virus
Fact: It is not proven that vibrations from chants kill coronavirus.
 9. Myth: Taking bath in hot water kills coronavirus and it will prevent you from catching novel coronavirus
Fact: So far, there is no evidence to show that taking bath in hot water will kill the novel coronavirus. This may burn the skin if water is very hot. Myth: Taking a hot bath will prevent you from catching COVID-19.
 10. Myth: Hand /hair dryers are effective in killing the new coronavirus
Fact: No, these are not effective in killing the nCov2019 virus. Preventive measure lies with proper hand washing with soap and water for at 20-40 seconds or use of alcohol based hand rub or sanitizer having at least strength of 60% alcohol.
 11. Myth: Thermal scanners are effective in detecting people infected with the new coronavirus
Fact: Not always true. Since a large proportion may be asymptomatic and if any affected person takes paracetamol before screening it cannot detect all COVID 19 patients.
- Further, it takes between 2 and 10 days for an infected person to become sick and develop a fever and if they are screened during this asymptomatic period they will not be detected.

12. Myth: Spraying alcohol or chlorine all over the body will kill the new coronavirus

Fact: Spraying alcohol or chlorine all over the body will not kill viruses that have already entered your body. Spraying such substances can be harmful to clothes or mucous membranes (i.e. eyes, mouth). Both alcohol and chlorine can be useful to disinfect surfaces, but they should be used under appropriate recommendations.

13. Myth: Drinking alcohol kills coronavirus and cures COVID 19 patient.

Fact: It is absolutely incorrect. So far there is no evidence to this effect.

14. Myth: Exposing oneself to the sun or higher temperatures above 25 degrees C will prevent COVID-19

Fact: The novel coronavirus survives even in hot weather conditions and exposing body under the sun or above 25 degrees C does not protect oneself from getting COVID-19.

15. Myth: Having coronavirus will mean it will remain in the body lifelong

Fact: Most people recover from COVID-19 and eliminate the virus from their bodies. The virus does not remain in body lifelong.

B. SUSCEPTIBLE INDIVIDUALS⁽³⁾

16. Myth: The new coronavirus can affect only younger children and older people and so I am spared from the virus.

Fact: People of all ages can be infected by the new coronavirus (2019-nCoV). Older people, and people with pre-existing medical conditions (such as asthma, diabetes, hypertension, heart disease etc.) appear to be more vulnerable and susceptible to be severely ill with the virus.

17. Myth: Everyone with COVID-19 dies.

Fact: COVID-19 is fatal for a small percentage of people. Globally the case fatality rate is 13%, but for India it is 3.1%. Reports from Chinese center for disease control and prevention showed that 80.9% COVID-19 cases were mild.

C. IDENTIFICATION OF INFECTED PERSON

18. Myth: Holding breath for 10 seconds acts as test for Covid-19

Fact : It is not correct. Dr Faheem Younus, the Chief of Infectious Diseases at the University of Maryland says that a person infected with the novel coronavirus can also hold his/her breath for longer than 10 seconds. On the other hand, the elderly will not be able to accomplish this task but it does not mean that they are infected.

D. TRANSMISSION OF NOVEL CORONAVIRUS⁽³⁻⁵⁾

19. Myth: There is a belief that Novel corona virus will NOT be transmitted in all areas of hot and humid climate.

Fact: Not true. It can be transmitted even these areas such as seen in Singapore which is a tropical country, north of the equator with hot and humid climate.

20. Myth: The new coronavirus CAN be transmitted through mosquito bites.

Fact: False. To date, there is no data or evidence to suggest that the new coronavirus can be transmitted through mosquito bites. It is not a blood borne virus.

21. Myth: Houseflies transmit COVID-19

Fact: There is no evidence till date to suggest that houseflies transmit novel coronavirus. Virus is transmitted through droplets when an infected person sneezes, coughs or speaks. One can get infection by touching contaminated surface and touching eyes, mouth, or nose without washing hands.

22. Myth: Novel corona virus can be transmitted through tears

Fact: there is low chance of transmission through tears.

23. Myth: Novel corona virus can be transmitted through touching goods manufactured in China and shipped as parcel.

Fact: it is unlikely that the virus would remain on the surface of the product made in China and shipped to any country since the virus cannot survive for a long time. If it is cardboard, virus can survive upto 24 hours, if it is copper (upto 4 hrs) and on stainless steel or plastic surface (2-3 days), aerosol (3 hrs). If still in doubt, the surface of the item can be cleaned with disinfectants before using.

24. Myth: Coronavirus can be transmitted from pet animals.

Fact: To date, there is no evidence of transmission from pet animals

such as cats and dogs.

25. Myth: Non vegetarian food consumption can transmit novel corona virus.

Fact: Expert advise that properly cooked meat with proper hygiene does not transmit the coronavirus. Transmission occurs mainly through droplets in aerosols while coughing or sneezing, and close contact with an infected person, or through touching contaminated surfaces such as door handles/knobs, refrigerator handles, phones, handles of public transport systems such as bus, trains, metro, elevator buttons, handrails on staircases, bathroom or kitchen handles.

26. Myth: Novel corona virus can be transmitted through coins, currency notes, plastic cards

Fact: Chances of transmission exists if the currency notes/ plastic cards are soiled and came in contact with person infected with novel coronavirus. UK, Australia and Canada have shifted to polymer notes instead.

27. Myth: Coronavirus can be transmitted from urine and feces.

Fact: According to Prof. John Edmunds, London School of Hygiene and Tropical Medicine, United Kingdom, viruses when swallowed down the gut are denatured in acidic condition in stomach rendering the virus non-infectious. However, there is some evidence that SARS-CoV-2 is present in feces but not urine.

28. Myth: You can catch coronavirus from eating Chinese food.

Fact: It is false.

29. Myth: Fruits and vegetables should be washed with soap water before eating.

Fact: Fruits and vegetables should be washed in the same way as you would in normal circumstances using clean water. Before handling them, hands should be washed with soap water not the vegetables and fruits.

30. Myth: 5G mobile networks can spread COVID-19

Fact: Novel corona virus is not transmitted through radio waves or mobile networks.

E. PREVENTION/CONTROL OF COVID-19⁽³⁻⁵⁾

31. Myth: An ultraviolet disinfection lamp can kill the new coronavirus

Fact: The virus can degrade under direct UV light. However, UV lamps should not be used to sterilize hands or other areas of skin as UV radiation can cause skin irritation.

32. Myth: Vaccines against pneumonia protects against the new coronavirus

Fact: No. Vaccines against pneumonia, such as pneumococcal vaccine and Haemophilus influenza type B (Hib) vaccine, do not provide protection against the new coronavirus. The virus is so new and different that it needs its own vaccine. Researchers are trying to develop a vaccine against 2019-nCoV. It might take a minimum of one year for the vaccine to come to market.

33. Myth: Regular rinsing of nose with saline help prevent infection with the new coronavirus

Fact: No. There is no evidence that regularly rinsing the nose with saline has protected people from infection with the new coronavirus. There is some evidence that regularly rinsing nose with saline can help people recover more quickly from the common cold. However, rinsing nose has not been proved to prevent respiratory infections.

34. Myth: Eating garlic help prevent infection with the new coronavirus

Fact: Garlic is a healthy food that may have some antimicrobial properties. However, there is no evidence from the current outbreak that eating garlic has protected people from the new coronavirus.

35. Myth: Ginger, lemon, honey and Indian spices are good for treating COVID-19

Fact: There is no evidence to show that Indian spices are active against coronavirus.

36. Myth: You can protect yourself from COVID-19 by gargling bleach.

Fact: Bleach should never be used for gargling since it is corrosive and

can damage the buccal mucosa. Its use in the form gargling does not protect from COVID-19.

37. Myth: Home remedies can cure and protect against COVID-19

Fact: Home remedies such as use of essential oils, silver colloid, sesame oil, garlic, burning sage, sipping water every 15 minutes etc. are not proven to be effective in protecting against COVID-19.

38. Myth: Adding pepper in soup and meals will prevent and cure COVID-19

Fact: Though pepper has been considered to be hot and culturally acceptable for tasty meals, it does not prevent or cure COVID-19. However, it is necessary to boost immune system by taking balanced diet, doing exercises and good sleep.

39. Myth: Face mask prevents corona virus

Fact: Wearing a face mask is certainly does not guarantee that you won't get sick. viruses can also transmit through the eyes and tiny viral particles, known as aerosols, can penetrate masks.

The person wearing the mask if touches an infected surface re-adjust the mask and then touches his/her face or rubs eye could lead to infection. However, masks are effective at capturing droplets, which is a main transmission route of coronavirus.

Some studies have estimated a roughly fivefold protection versus no barrier alone (although others have found lower levels of effectiveness). If you're showing symptoms of coronavirus, or have been diagnosed, wearing a mask can also protect others. Ideally both the patient and carer should have a mask. However, masks will probably make little difference if someone is just walking around town or taking a bus.

40. Myth: It requires ten minutes interaction with infected person to get coronavirus infection.

Fact: It is not the case. Even exposure less than 10 minutes or touching contaminated surface with the virus can lead to transmission.

41. Myth: Antibiotics are effective in preventing and treating the new coronavirus.

Fact: No, antibiotics do not work against the new corona virus.

42. Myth: Indian immune system is better than the west and thus Indians will survive COVID-19 infection better

Fact: There is no such evidence to show that Indians have better immune system than that of the western countries. Influenza pandemic of 1918 hit the Indians hardest out of the countries in the world with 5-10% Indians dying from it.

43. Are there any specific medicines to prevent or treat the new coronavirus?

There are no US Food and Drug Administration (FDA)-approved drugs specifically for the treatment of patients with COVID-19.⁽⁶⁾ Some drugs under investigation are:⁽⁷⁾

Chloroquine and Hydroxychloroquine and Remdesivir, Ritonavir and Lopinavir

Remdesivir

Remdesivir is an intravenous drug with broad antiviral activity that inhibits viral replication through premature termination of RNA transcription, has in-vitro activity against SARS-CoV-2 and in-vitro and in-vivo activity against related betacoronaviruses.

Under trial: placebo controlled above 18 yrs non pregnant women, 5/10 day regimes, non controlled manner in other countries

Hydroxychloroquine and Chloroquine

Hydroxychloroquine and chloroquine have in-vitro activity against SARS-CoV, SARS-CoV-2, and other coronaviruses, with hydroxychloroquine having relatively higher potency against SARS-CoV-2. A study in China reported that chloroquine treatment of COVID-19 patients had clinical and virologic benefit and chloroquine was added as a recommended antiviral for treatment of COVID-19 in China.

Based upon limited in-vitro data, chloroquine or hydroxychloroquine are currently recommended for treatment of hospitalized COVID-19 patients in several countries. Both chloroquine and

hydroxychloroquine have known safety profiles with the main concerns being cardiotoxicity (prolonged QT syndrome) with prolonged use in patients with hepatic or renal dysfunction and immunosuppression but have been reportedly well-tolerated in COVID-19 patients.

One small study reported that hydroxychloroquine alone or in combination with azithromycin reduced detection of SARS-CoV-2 RNA in upper respiratory tract specimens compared with a non-randomized control group but did not assess clinical benefit.

Indian Council of Medical Research (ICMR) recommends hydroxychloroquine prophylaxis for health care professionals coming in contact with COVID 19 patients. Advisory has been given by Ministry of Health and Family Welfare (MOHFW), Government of India as follows.

Hydroxychloroquine should be given on prescription of a registered medical practitioner.

Asymptomatic health care workers involved in care of suspected or confirmed cases of COVID 19 patients: 400 mg bd on day 1, 400 mg once weekly for 7 weeks to be taken with meals

Asymptomatic household contacts of lab. confirmed cases: 400 mg bd on day 1, 400 mg once weekly for 3 weeks

Contraindication: not below children below 15 years, with retinopathy, known hypersensitivity to hydroxychloroquine.

However, it should not instil a false sense of security among health care providers.

44. Myth: ACE inhibitors /ARB increases susceptibility to novel coronavirus

Fact: The controversy about whether angiotensin converting enzyme (ACE) inhibitors and angiotensin receptor blockers (ARBs) may increase susceptibility to the COVID-19 virus infection continues unabated, with new commentaries about this appearing almost daily.

Cardiovascular societies have issued statements stressing there is no sound evidence to support the idea that ACE inhibitors or ARBs can increase risk of infection with COVID-19 and urging patients not to discontinue their medications.

Meanwhile, other information has surfaced suggesting that ACE inhibitors and ARBs may actually be beneficial in patients with COVID-19 infection by reducing the risk or severity of viral pneumonia with some authors even suggesting that these drugs may have potential as treatments for patients with the infection. However, it has been recommended that there should not be any change in the medication given for hypertensives based on no evidence.

45. Myth: Ibuprofen should not be used during COVID-19 (9)

Fact: WHO has compiled evidence by systematic review on the safety of using Non steroidal anti-inflammatory drugs (NSAIDs) such as ibuprofen, diclofenac, paracetamol, aspirin, naproxen, celecoxib, rofecoxib, etricoxib, lumiracoxib and valecoxib. It was concluded that there is no evidence of severe adverse events, quality of life in COVID-19 patients as a result of the use of NSAIDs.

In summary, there are several myths and misconceptions exist in relation to the viability of the novel coronavirus 2019, its transmission, prevention and control measures and availability of drugs for treatment. Efforts should be made to update the myths on COVID-19 so that these are busted and factual information is available so as to prevent misinformation.

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