What is a Pathogen, Coronavirus, COVID-19, SARS-CoV-2, SARS and MERS?

2. Why was it named COVID 19?

A Pathogen is a bacteria, viruses or other microorganisms that can cause disease.

Coronaviruses are a large family of viruses which may cause illness in animals or humans. Named Corona because of the spiky, crown-like fringe that shrouds each viral particle giving them a "coronated" appearance

COVID-19 stands for Coronavirus Disease 2019. It is the infectious disease caused by the most recently discovered Coronavirus, SARS-CoV-2. It was first detected in China's Hubei province in 2019

SARS-CoV-2, also referred to as the Novel Coronavirus, New Coronavirus or simply Coronavirus is the official name of the virus behind COVID-19. It is named for its genetic similarity to SARS-CoV, which caused an outbreak of SARS in 2003

SARS stands for Severe Acute Respiratory Syndrome and MERS stands for Middle East Respiratory Syndrome. They are respiratory infections that were caused by Coronavirus in 2003 and 2012 respectfully. SARS-CoV was associated with civet cats while MERS-CoV by dromedary camels.

- 3. Can the virus be passed from humans to animals and vise versa?
- 4. What was the origin of this virus, was it manufactured in the laboratory?
- 5. Can human beings become infected with COVID-19 from their pets?

Zoonotic is a term used to describe a disease that passes from animals to people. Many coronaviruses are common in animals hence Zoonotic in nature. Coronaviruses target the respiratory systems of bats and other mammals and birds. Occasionally, people get infected with these viruses which may then spread to other people. Possible animal sources of COVID-19 has not been confirmed yet. Bats and Pangolins are the probable culprits being investigated by researchers.

6. Differentiate Outbreak, Epidemic and Pandemic

An Outbreak is a sudden increase in the number of cases of a disease, above what is expected for a specific place or time

An Epidemic is a large outbreak that spreads quickly or unexpectedly within a population or restricted geographic region

A Pandemic is an epidemic that has spread over several countries or continents at a rapid pace, usually affecting a large number of people.

7. What are the first signs and symptoms of COVID- 19?

After a person is exposed, it takes 5 to 14 days for symptoms to appear. Some people however don't develop any symptoms and don't feel unwell despite being infected. Common symptoms include fever, tiredness, dry cough, headache, shortness of breath, body aches and pains, nasal congestion, runny nose, sore throat and diarrhea. At worst, these pathogens can cause severe forms of viral pneumonia, which can lead to death.

- 8. How is COVID- 19 transmitted?
- 9. Can Coronavirus be Sexually Transmitted?
- 10. Where does the virus stay on the human body?

Disease transmission means the ways by which a disease is transferred from person to person. COVID-19, like other coronaviruses is transmitted by droplets from the airways. Droplets are wet flecks/sprays usually produced when sneezing, coughing or talking. Infected droplets can land on another person's mouth, nose or eyes. SARS-CoV-2 in the droplets then infiltrates the airways leading to infection.

- 11. Can shaking hands cause COVID- 19 infection?
- 12. If the virus is not transmitted through skin, what is its connection with shaking hands?
- 13. Can COVID- 19 be transmitted though handling money?

Coronavirus does not go into your body through the skin. Infected droplets can however land on frequently touched surfaces like doorknobs, cell phones, hands and money. Contact with these surfaces can then lead to infection when your hand touches on the face.

14. Can I get infected if I avoid contact with my face?

Research shows that normal adult people touch their faces more than 20 times in an hour. Rubbing itchy nose, wiping teary eyes and wiping the mouth with the back of hands are things we do very subconsciously. Viruses can enter the body very easily through the mouth and eyes when touched with a finger carrying an infection. Droplets can also fall on our faces directly.

15. A new born baby tested positive for COVID- 19 in London, does this mean mother to child transmission also happens?

Mother to Child Transmission has not been proven yet. Most likely this new born was infected in the surrounding environment after delivery. The best way to protect a baby is to handle the baby using clean aseptic services and keeping them away from those infected.

- 16. I am informed of a 14day incubation period of COVID- 19. Is the virus transmittable during this asymptomatic incubation period?
- 17. Can someone be a carrier of the COVID- 19 and yet show no signs?
- 18. Can CoVID-19 be caught from a person who has no symptoms?

Incubation Period is the period between exposure to an infection and the appearance of the first symptoms. Incubation Period for COVID-19 ranges from 1 to 14 days.

COVID-19 mainly spreads through respiratory droplets expelled while coughing. The risk of catching COVID-19 from someone with no symptoms is very low. However, many people with COVID-19 experience only mild symptoms especially at early stages. It is therefore possible to catch COVID-19 from someone who has a mild cough and does not feel ill. Those who carry the virus without or before showing symptoms can therefore still spread it.

Isolation is separation of people infected with a communicable disease from those who are healthy. Quarantine is separation and restriction of movement of well persons who may have been exposed to a communicable disease to see if they become infected. These people may have been exposed to the disease but do not know, or they may have the disease but do not show symptoms. Isolation and quarantine are public health practices used to stop or limit spread of diseases. People coming into another country from Coronavirus epicenters, should self-quarantine or be in isolation.

19. How do you protect yourself and others from Coronavirus Disease?

Wash your hands with soap and running water thoroughly for at least 20 seconds If you cannot wash hands, use alcohol-based sanitizers as a decent second option Avoid crowded places and keep one-meter distance from each other

Practice cough and sneezing hygiene

Avoid handling money, use mobile money to facilitate transactions

Avoid shaking hands, hugs and kisses

Avoid touching eyes, nose and mouth

Avoid travel to places where COVID- 19 is spreading widely

Pools should be chlorinated frequently using the right percentage of chemicals

20. How many times a day should we wash our hands to fight Corona?

21. Which type of soap is best for handwashing?

We should wash hands as frequently as possible to clear them from viruses in case we have touched contaminated surfaces. Any soap will do as long as it can keep hands clean. Soap usually destroy some viruses, but its largest impact comes from dislodging viruses and other pathogens from skin. That is why we encourage using running and not stagnant water in a basin.

22. Hand sanitizer or washing hands with soap and water, which one is more effective?

If your hands are visibly dirty say with grease or mud, hand sanitizer will not be effective. You need to wash them with soap and running water. Sanitizers should be used to spray infected surfaces, like our phones that can also carry the virus and hands when one cannot get water and soap immediately. A good sanitizer should have at least 70% alcohol.

23. When a person has a Common Flu, you must have heard that whisky clears the flu. Can this help clear Corona virus as well?

24. Can drinking alcohol prevent SARS-CoV-2 infection since it is believed that alcohol kills viruses? Whisky does not clear Common Flu, does not clear Coronavirus. You can't drink alcohol and say that you are fighting Corona, unless if the alcohol is in the form of a sanitizer when it only kills the virus on your hands.

25. There is concern about masks, should healthy people wear masks on the streets?

Masks contribute greatly in containing the spread by preventing those who have the disease from spreading it. There is however a general shortage of the global supply of masks. Most centers are therefore saving masks for those who really need them. There are three categories of people who need them; health care workers who are exposed, frontline workers like immigration officers working at the airport and people taking care of infected patients, and the patients themselves. There is no need for ordinary people with zero risk of exposure to wear masks on the streets.

26. How long does the virus survive on surfaces?

27. Is it safe to receive a package from an area where COVID-19 has been reported?

It is not certain how long the virus survives on surfaces. Studies on COVID-19 virus suggest it may persist for a few hours to several days. This may vary under different conditions like type of surface, temperature and humidity of the environment. If you think a surface may be infected, clean it with simple disinfectant to kill the virus and protect yourself and others.

The likelihood of an infected person contaminating commercial goods is low and the risk of

The likelihood of an infected person contaminating commercial goods is low and the risk of catching the virus that causes COVID-19 from a package that has been moved, travelled, and exposed to different conditions and temperature is also low. Receiving packages from areas with COVID- 19 outbreak therefore remains safe.

28. Can screening confirm if a person is infected just some few hours or one day after infection?

It takes about 5-14 days to reveal symptoms. This is when we can use a swab to isolate the virus or the component of the virus that is the DNA or the core. So about 5 days after infection are needed to diagnose the virus.

- 29. Are there people who are more prone to fatal COVID-19 infection than others?
- 30. Who is at risk of developing severe illness?
- 31. Is the Black African Race resistant to COVID- 19?

Comorbidity is the simultaneous presence of two or more diseases in a patient. Those with compromised immunity due to HIV-AIDS or ingesting drugs for Chemotherapy or Transplant, the elderly and the very young are at higher risk. Patients already battling with pre-existing respiratory illnesses, uncontrolled diabetes, high blood pressure, metastatic cancers and heart conditions face a higher Mortality Rate when infected with COVID-19. Smokers are also at high risk. In this category of people, the virus could cause a lower, and much serious respiratory tract illness like a pneumonia or bronchitis. There is no evidence yet that Black African people are resistant to the virus.

32. If you suspect COVID- 19 infection, do you stay at home or go to hospital?

If you suspect infection isolate yourself. Call 719 (Kenya) or the number provided by Health officials in your region. Don't go to hospital because you may infect other patients.

- 33. Is COVID- 19 curable?
- 34. Is there any antiviral treatment or therapies that can cure or prevent COVID- 19?
- 35. Why is it taking longer to come up with a vaccine?

Antiviral medicine is a medicine that specifically targets and inactivates viruses.

A Vaccine is a medical formulation that teaches the immune system to recognize and destroy a pathogen without causing disease. This is usually accomplished by introducing the body to a weakened or partial form of the pathogen in question.

While some remedies may provide comfort and alleviate symptoms, there is no specific antiviral medicine nor vaccine to treat or prevent COVID- 19

Possible vaccines and some specific drug treatments for SARS-CoV-2 are being developed and tested through clinical trials. Requisite safety testing is likely to keep any new formulation off the market for months or possibly years.

Vaccines also tend to be less effective in older individuals with weaker immune systems the very people that the virus most strongly affects.

36. Can one heal without medical attention?

37. How are people Recovering yet there is no cure to Corona Virus?

Those infected should receive care to relieve symptoms. About 80% of people infected with COVID- 19 recover without needing special treatment. Around 1 out of every 6 people with COVID-19 become seriously ill and develop difficulty breathing. They should be hospitalized. With good supportive care, most patients recover.

38. If recovery means testing negative, why is it not equated to cured?

39. Can a patient get re-infected after recovery?

People have recovered. Current statistics shows that more than 79,000 people around the world have recovered from COVID-19, out of 182,000 confirmed cases. We are however yet to see the long term to reveal if it is curable because there have been cases of re-infection or re-emergence. Someone may recover then go to the community and get the infection again.

40. What is the likelihood that a patient will die once infected with COVID- 19?

Fatality Rate is also called Mortality Rate, Case Fatality Rate or Crude Fatality Ratio (CFR). It is the proportion of people who die of a disease in a group of people with the given disease. COVID-19's Fatality Rate is about 2%. This is a small fraction of the 10% and 35% figures reported for SARS in 2003 and MERS in 2012, respectively. About 80 percent of COVID-19 cases are mild or asymptomatic. Though researchers caution that numbers could shift as the outbreak progresses.

41. Is it true that the virus doesn't survive in temperatures above 27 degrees?

Yes, boiling and cooking food above 60 degrees will destroy coronavirus on food. It is also advisable to drink warm water.

42. There were outbreaks of Corona Virus in 2003 and 2012, were they similar to COVID- 19?

43. Is COVID-19 the same as SARS?

There was an outbreak of Corona Virus SARS in 2003 and MERS in 2012. The virus that causes COVID-19 and the one that caused Severe Acute Respiratory Syndrome (SARS) in 2003 are related to each other genetically, but the diseases they cause are quite different. SARS was deadlier but much less infectious than COVID-19.

44. Why is COVID- 19 outbreak spreading very first compared to previous outbreaks?

Corona virus is an RNA (ribonucleic acid) virus, not a DNA virus. RNA viruses tent to mutate a lot of times. As it infects more people, it could mutate and mutations usually bring in different characteristics. It could be able to spread more faster, it could be able to cause more severe illness, it could be able to cause less severe illness. Mutations occur at all times and it is difficult to predict when the next mutation will be. But the good thing is that most of the mutations make the virus less fit, so the virus may actually die off. But once in a while you may get a mutation that makes a virus stronger and may be able to either avoid your immunity and may re-infect you or in some instances escape a vaccine or a medication that has been developed.