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The new coronavirus from Wuhan – what to expect in South Africa

In early December 2019, cases of pneumonia started occurring in the city of Wuhan in China that were not caused by any known virus. At the end of that month, Chinese authorities confirmed that an outbreak was happening and that they had closed down a seafood and wildlife market suspected to be linked to it. A week later, the discovery of a previously unknown virus was announced – a coronavirus, which is a family of viruses that include the common cold, SARS and MERS. The new virus was temporarily named "2019-nCoV" and is often referred to as the novel coronavirus.

Any new virus is a concern as health care providers have very limited knowledge of how it affects people or how best to manage it.

Early on during the outbreak, many of the patients in Wuhan reportedly had links to the animal market, suggesting zoonotic transmission from an unknown type of animal to people. However, a growing number of patients have not had such exposure to animals, indicating person-to-person spread is occurring. Healthcare-associated transmission has also been reported. Since then, the disease has been detected in most parts of China and in several countries around the globe, usually affecting travellers from areas with documented cases of 2019-nCoV, or people who have come into contact with such travellers.

How it spreads

As new research about the novel coronavirus is still emerging, it is thought that person-to-person infection occurs via respiratory droplets produced when an infected person coughs or sneezes – similar to how influenza and other respiratory pathogens spread. Symptomatic patients present the highest risk for infection, but there are also unconfirmed reports of transmission taking place during the incubation period.

What are the signs and symptoms?

Patients with 2019-nCoV have mainly presented with the following symptoms:

- Fever;
- Cough; and
- Shortness of breath.

The infection can present as a fairly mild respiratory illness, but in severe cases may lead to pneumonia and even death. Elderly people and those with underlying illness seem to have a higher risk of severe illness and death. It is unknown whether asymptomatic infections occur.

Advice to the public

The risk of infection with the novel coronavirus in South Africa is very low at present (31 January 2020). Possible suspected cases (as defined by the National Institute for Communicable Diseases, NICD) are tested and placed in precautionary isolation.

If you feel ill, and have been to China in the past few weeks, or have had contact with someone who was there, please seek medical attention urgently, stating clearly your exposure and symptoms.

Common hygiene practices can minimise your risk of infection or spreading the disease to others:

- Frequently wash your hands using alcohol-based hand sanitisers or soap and water.
- Cover your mouth when coughing or sneezing.
- Stay at home if you have a fever or cough.
- Reconsider travel plans if possible to areas that have been affected by the outbreak.

Sources:

World Health Organization; Centres for Disease Control and Prevention; NICD; National Department of Health – Minister of Health Opening Statement on Coronavirus

Antibiotic Resistance Overview

Overuse and inappropriate prescribing of antibiotics worldwide is leading to the global healthcare issue of antibiotic resistance. However, the issue of antibiotic resistance can be confusing for many patients. You may be told you cannot use an antibiotic for a viral infection because they are ineffective and may lead to "antibiotic resistance".

Why don't antibiotics kill viral infections, and how can overuse of an antibiotic lead to "antibiotic resistance"?

Antibiotics cannot kill viruses because viruses have different structures and replicate in a different way than bacteria.

Antibiotics work by targeting the growth machinery in bacteria (not viruses) to kill or inhibit those particular bacteria.

When you think about it structurally, it makes sense that an antibiotic could not work to kill a virus with a completely different set of replicating "machinery".

Most viral illnesses do not need special medication and are "self-limiting", meaning your own immune system will kick in and fight off the illness. However, this can take time; a cough and cold can last from 7 to 10 days and the flu might keep you down for 2 weeks or more.

If you come down with a viral illness, you should rest, drink plenty of fluids and treat symptoms - like fever or aches and pains - with proper doses of pain and fever relievers, like over-the-counter (OTC) acetaminophen or ibuprofen, or as directed by your doctor. If you are diagnosed with a viral illness such as a cough, cold or sore throat, and your symptoms worsen or do not clear up within 10 days, be sure to contact your doctor.

In some viral infections, such as the flu, shingles (herpes zoster), or chicken pox (varicella) your doctor may decide to prescribe an antiviral drug to shorten your infection and to help prevent complications. Antivirals need to be taken early in the infection - usually in the first 24 to 48 hours - to be most effective.

In complicated or prolonged viral infections, bacteria may invade as well, and cause what is known as a "secondary bacterial infection". In these cases, your doctor may prescribe an antibiotic, if one is needed, to kill the specific invading bacteria. The antibiotic is not being prescribed to treat the virus.

Viruses are structurally different from bacteria. Viruses live and replicate inside of a human cell, they cannot live outside of this environment. Viruses insert their genetic material into a human cell's DNA in order to reproduce.

Antibiotics cannot kill viruses because bacteria and viruses have different mechanisms and machinery to survive and replicate. The antibiotic has no "target" to attack in a virus.

However, antiviral medications and vaccines are specific for viruses. Vaccines stimulate your own immune system to produce antibodies, which then can "recognize" the virus to inactivate it before it can cause disease. The best way to help prevent the flu, shingles and chickenpox is with a vaccine.

Can I treat a cold with an antibiotic?
Using an antibiotic for a virus, like a cold:
will not cure the virus
won't help you feel better
will not prevent others from catching your virus
will be a waste of your money.
Many bacterial infections do require an antibiotic; however, the type of antibiotic will vary based on the type of infection. An antibiotic either prevents bacterial growth (bacteriostatic) or kills bacteria outright (bactericidal).
It is very important not to share your antibiotics with someone else. For example, amoxicillin (a penicillin-type drug) can be used to treat a bacterial strep throat but will not work for some common pneumonias or bladder infections. While you may mean well, the bacteria causing their infection may not be susceptible to your prescribed antibiotic. In turn, those bacteria may not die and their infection can worsen. Plus, the person you share your antibiotic with may experience side effects or serious allergic reactions from your drug.