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What you need to know about Covid-19 to protect yourself

Athandiwe Saba 24 Mar 2020

Nehawu withdraws their court case over the lack of protective gear for workers in the frontline of the fight against Covid-19. (Eduardo Soteras/AFP via Getty Images)

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There is much we do not understand about the virus and how it will affect our bodies, especially after Minister of Health Zweli Mkhize said that 60% to 70 % of people could be infected by Covid-19. The *Mail & Guardian* asked different experts — including disease specialist Dr Richard Lessells, the National Institute for Communicable Diseases, and the World Health Organisation (WHO) — for information about this coronavirus.

Here is a compilation of their answers.

Why wash your hands?

The genetic material at the core of the virus is ribonucleic acid (RNA). The surrounding is a fatty outer layer called an envelope, and there are spikes on the surface (the spikes look like crowns, which is where the name coronaviruses comes from — "corona" meaning "crown" in Latin). The spikes help the virus to attach to the cells inside our body. The weakest link of the virus is the envelope (the fatty outer layer). Soap and water kill the virus very effectively, because the soap dissolves the fatty membrane and the virus falls apart. Alcohol-based gels and sanitiser also do this, but not as effectively as soap. Soap is the best!

How is Covid-19 different from the influenza?

The current Covid-19 outbreak is because of the SARS-CoV-2 or severe acute respiratory syndrome (SARS)-related coronavirus. The SARS coronavirus is the virus that caused the original SARS epidemic in 2002-3. It is genetically similar to the viruses responsible for the SARS outbreak of 2003 and the Mers-CoV outbreak of 2012, because they are part of the same family of coronaviruses.

One of the main differences between SARS-CoV-2 and seasonal influenza that people need to be aware of is that SARS-CoV-2 spreads more easily than seasonal influenza. On average each person with Covid-19 will infect two to three other people, whereas for influenza the average person infects about 1.3 other people.

In addition, Covid-19 has a higher case fatality rate than influenza. About one in every 1000 people with influenza will die (0.1%). For Covid-19, it is 10 to 30 times higher than this (1% to 3% of people will die).

What must we do with the dead

Transmission is not currently a concern when handling human remains or performing postmortem procedures. Postmortem activities should be conducted with a focus on avoiding aerosol-generating procedures.

The virus remains mainly in the respiratory tract — so the risk in handling the body is if you do anything that causes respiratory droplets to be expelled. The precautions are much the same as when the person is alive — mortuary workers will wear personal protective equipment (PPE) in much the same way a doctor or nurse will. It's not like Ebola or similar viral infections where there is a high risk of exposure to the virus after death.

How long can Covid-19 remain on surfaces, such as wood, door handles, handrails, ceramics, plastic and surgical gloves, that have not been disinfected?

It seems as if the virus can probably stay viable for several hours to maybe a few days.

This matches what we know about other coronaviruses. How long it stays alive depends a bit on the surface — for example, it seems to be more stable on plastic and stainless steel than on copper and cardboard. It will also depend on the temperature (hotter temperatures will mean it remains alive for a shorter time) and humidity (more humid conditions will mean it remains alive for a longer time). Of course, it's important to note the virus is easily killed by disinfectant, so if we clean surfaces regularly the virus will not survive.

How does Covid-19 get into my body?

An infected person releases droplets when coughing, sneezing, talking or just breathing. A droplet is just a tiny spatter of water that can contain human cells and infectious agents, in this case, SARS-CoV-2. If another person is close (within about one metre), these droplets can land in their mouth or nose, or be inhaled into the airways and lungs. Covid-19 affects your respiratory tract (nose, throat and lungs). The infection, therefore, results in respiratory symptoms. It's also possible that a person can get infected by touching a surface that has the virus on it and then touching their own mouth, nose, or eyes. The virus can then travel from there to the airways and lungs.

What about smokers?

Smoking has an effect in a few different ways. Smoking weakens the first line of defence in the lining of the airways (smoking paralyses little hair cells called cilia that can expel infectious agents). This makes the person more susceptible to infections of all types. Smoking may also make it easier for this specific virus to enter the cells in our lungs. Lastly, smoking makes it more likely that the person has some degree of chronic lung disease or impaired lung function. Chronic lung disease means that someone has fewer reserves and is less able to cope when they get an acute insult to the lungs, such as pneumonia. They are, therefore, more likely to need ventilator support to help them breathe.

Can people get reinfected?

We don't really know the answer to this question. We know that infected individuals develop antibodies after a few days, as we see in any viral infection. We are assuming at the moment that this will protect that individual from being reinfected, but it's too early to say how long people will remain protected. Patients affected by the Mers-CoV outbreak of 2012 were unlikely to be reinfected shortly after they recovered.

We don't know whether the virus might change to evade our immune system as influenza virus does.

What about my unborn baby? Can the virus be passed on in

utero? If so, how? If not, what is the biology around that?

At the moment we think not. The virus is not found in the blood of infected individuals and does not spread through the bloodstream. One study that tested amniotic fluid, cord blood, neonatal throat swabs and breast milk samples from Covid-19-infected mothers found no evidence of the virus. In a different study, three placentas of infected mothers tested negative for the virus. There has been one report suggesting transmission from mother to child but it's more likely that transmission happened after birth because of close contact.

Why are older people more acutely affected?

This is commonly seen with many infectious diseases. As we age, our immune system weakens and we are more vulnerable to infectious diseases and at higher risk of becoming very unwell. It seems that older people are more likely to get the main complication called acute respiratory distress syndrome (Ards), which is a life-threatening illness in which the lungs are severely inflamed. The WHO and US Centre for Disease Control agree that older adults and people of any age who have serious underlying medical conditions might be at higher risk for severe illness from Covid-19.

In addition, as we grow older, we are more likely to have other chronic health conditions such as chronic lung disease, heart disease, high blood pressure, and diabetes. These all make a person more vulnerable to the effects of an infectious disease. There is evidence emerging that, as well as the lungs, the virus might directly affect the heart and this might explain why people with heart disease and hypertension are at higher risk of severe disease and death.

Athandiwe Saba is a multi award-winning journalist who is passionate about data, human interest issues, governance and

everything that isn't on social media. She is an author, an avid reader and trying to find the answer to the perfect balance between investigative journalism, online audiences and the decline in newspaper sales. It's a rough world and a rewarding profession.

Tags Acute Respiratory Distress Syndrome (Ards) | coronavirus | coronavirus latest | coronavirus outbreak | coronavirus South Africa | Covid-19 | National Institute For Communicable Diseases | NICD | Sars Virus | severe acute respiratory syndrome | Sudden Acute Respiratory Syndrome | World Health Organisation | Zweli Mkhize

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