Can the coronavirus be spread through the air?

As of yesterday, Singapore has reported 10 cases of the new coronavirus involving patients with no travel history to China and where no clear link could be established between them and previous cases. In light of this, readers have asked how the virus could be transmitted without direct prolonged contact with any infected person.

Q: **Can the virus be transmitted through the air and will I catch it from breathing it even if the droplets have evaporated?**

A: There is currently no strong evidence to support the claim that the virus can be transmitted through the air.

It is believed to be spread mainly through droplets, such as from the mucus or saliva of an infected person who sneezes or coughs.

Infectious diseases expert Leong Hoe Nam said the virus is likely to die when the droplets dry up. Experts say if the virus could really survive even after the droplets carrying it have dried up, it would have spread through the air as dust particles and potentially infected 10 times more people, which is not the case.

Last week, a Shanghai official, Mr Zeng Qun, said the virus could spread through aerosol transmission, or the mixing of the virus with airborne liquid droplets.

This would allow the virus to linger in the air and infect those who inhale it, he said. Diseases that are known to spread this way include tuberculosis, chicken pox and measles.

Q: **Not sure if that WhatsApp message or e-mail on the coronavirus is fake news?**

A: **The Straits Times will find out for you.**

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But an infectious diseases expert at the Chinese Centre for Disease Control and Prevention, Mr Feng Luohao, refuted this on Sunday, stating that the droplets carrying the virus travel only about 1m to 2m and do not stay suspended in the air. This is why you are unlikely to catch the virus through transient (or short-term) contact such as on public transport.

There is also no need to worry if you live near a quarantine facility.

Q: **Will staying indoors with the air-conditioning help me avoid catching the virus?**

A: Not necessarily. Viruses are less likely to thrive in hot and humid conditions.

Associate Professor Hsi Li Yang, programme leader of infectious diseases at the National University of Singapore’s Saw Swee Hock School of Public Health, said air-conditioned spaces could help to spread respiratory diseases instead.

Experts have yet to establish precisely how long the coronavirus can survive on surfaces and objects.

Some studies show that coronaviruses in general could potentially survive on metal, glass or plastic surfaces for several days. However, this is under ideal circumstances. For the virus, this means cool and dry environments.

Turning off the air-conditioner and making sure the space is well ventilated could help reduce the risk of infection.

The best way to avoid infection from having potentially touched a contaminated surface is still to avoid touching your face with your hands, and to wash your hands with soap and water frequently.

Q: **Can sunlight kill the virus?**

A: Professor Wang Linfa, director of the programme in emerging infectious diseases at Duke-NUS Medical School, says ultraviolet rays and heat from the sun can kill the virus.

Getting vitamin D from exposure to sunlight can also help boost one’s immune system, Prof Wang noted.

Dr Leong also says people should not worry about catching the virus from online shopping packages from China as the long period of transportation and exposure to the sun will kill the virus if the package is tainted.

The Health Ministry’s chief health scientist, Professor Tan Chorh Chuan, has said that the likelihood of viral persistence outdoors is lower than most studies indicate that viruses do not persist well in hot and humid environments.

This refers to a temperature of over 30 deg C and a humidity level of over 80 percent.

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