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Airborne transmission not a big factor in Covid-19: Expert

Though people in crowded indoor spaces may be at risk, virus is mostly spread by contact or droplets

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While the World Health Organisation (WHO) acknowledged the possibility of airborne transmission of Covid-19 last week, this is unlikely to be a big driver of the disease, said a WHO representative and senior infectious disease expert here.

Professor Dale Fisher, who chairs the WHO's Global Outbreak and Alert and Response Network (Goarn), said last Thursday that the agency maintains the virus is spread mostly by contact and droplets.

"Outside of the hospital, we really don't see it (airborne transmission) as a big driver... That's where we stand," said Prof Fisher, a senior infectious disease consultant at the National University Hospital.

Agreeing, Associate Professor Hsu Li Yang, programme leader for infectious diseases at the National University of Singapore's (NUS) Saw Swee Hock School of Public Health, said the transmission of Covid-19 occurs in a continuum.

"The reality is that respiratory viruses are present in droplets both large and small.

"While the transmission is predominantly by close contact and droplets (larger particles that don't remain airborne for long), there are circumstances under which airborne transmission occurs, such as medical procedures or activities such as singing that generate more aerosols, or in poorly ventilated and crowded rooms."

Only a very small number of diseases are believed to be spread via aerosols, or tiny floating particles. These include measles and tuberculosis – two highly contagious pathogens that can linger in the air for hours and require extreme precautions to prevent exposure.

CROWDED SPACES

The experts agree Covid-19 does not spread the same way as a typical airborne virus – floating down the streets for many hours and infecting people as it moves in and out of homes.

But some researchers have said the virus does travel much farther than the 1m to 2m expected of a droplet-borne illness, putting people in prolonged contact at close range, especially indoors, at risk.

In its latest transmission guidance, the WHO had acknowledged that some outbreak reports related to indoor crowded spaces suggested the possibility of aerosol transmission, such as during choir practice, in restaurants or in fitness classes.


Professor Dale Fisher. TNP FILE PHOTO

But it added that more research is "urgently needed to investigate such instances and assess their significance for transmission of Covid-19".

This follows an open letter from scientists, including specialists in diseases that spread in the air, urging the world body to update its guidance on how the respiratory disease spreads to include aerosol transmission.

Prof Fisher discussed the recent development at a Covid-19 webinar series organised by NUS, the National University Health System and Goarn.

Noting Covid-19 has a much lower reproduction number than highly infectious airborne diseases such as measles and chickenpox, he said: "We know the vast majority of people who get Covid-19 get it from close contact, and the reproductive number is generally around 2.5."

In comparison, airborne diseases such as measles and chickenpox have higher reproductive numbers of 10 to 15.

The researchers behind the letter said the virus does travel much farther than the 1m to 2m that people have been told to expect of Covid-19, putting everyone in prolonged contact at close range, especially indoors, at risk.

They said infected people produce tiny aerosols and larger droplets, and there is no need to distinguish between the two.

Prof Fisher said: "We generally go with the theory that it's contact and droplet (transmission) so, therefore, wash your hands, keep your distance, wear a mask, particularly if you can't keep that distance."

Singapore's National Centre for Infectious Diseases is studying whether the coronavirus is naturally airborne and infectious in such a form, though the results are not expected to affect current measures.

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