

City Talk

infectious diseases experts check out the ventilation system at Six Garden restaurant in Tin Hau in the aftermath of a recent Covid cluster.



DON'T JUST GO WITH FLOW ON INDOOR CLUSTERS

The recent threat posed by the Omicron variant of the Covid-19 virus has caused a lot of concern, especially the possibility of airborne transmission, negating the belief that virus can only be transmitted through droplets or physical contact.

Some experts now believe airborne transmission can easily happen with the new Omicron variant.

In terms of physics, viruses can only travel while attached to a medium, which is usually an agglomeration of small particles of dust of micron size.

They float in the air but drop to the ground or other surfaces due to gravity after a short distance of about one meter.

Only in very rare circumstances, and with smaller particle sizes, can they travel longer distances before falling.

Hence a social distance of 1.5 meters has been adopted as a safe precaution for avoiding infection.

However, there is no scientific evidence that Omicron is, more so than other variants, attracted to particles that are smaller in size.

My view is that the issue lies in the severity of the virus variant.

Hence if Omicron is believed to be much more infectious than previous variants, a far smaller concentration of virus may be enough to cause infection.

If so, the increase in the infection rate is not due to a change in the form of transmission but rather in the severity of the variant, which allows even sparse amounts to cause infections.

Another factor to consider in transmission is the air-conditioning systems of restaurants and other public places.

Some experts suggest increasing the air-change rate and spacing out tables even further to reduce risks.

They also advocate removing temporary partitions to avoid stagnation where airflow is concerned.

I'd like to point out that the airflow patterns of indoor airflow are complex



Nuts and bolts

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matters and should not be generalized.

Increased air-change rates may bring about better dilution, but simply increasing the space between tables without analyses of actual airflow patterns in rooms may not effectively reduce the risks of infection, as evidenced by cases in which diners seated in apparently remote locations ended up getting infected.

Partitions are generally effective in segregating groups of people and should reduce the risks of infection. Removing them can actually increase the risks.

Minimizing exposure by wearing masks, avoiding busier places and cleaning hands often are still effective in reducing the risks of infection, but simplistic and arbitrary measures to space out tables and removing partitions may not be scientific means to achieving an effective solution.

Even with greatly reduced social activities, an infection cannot be totally avoided if someone carrying the virus is nearby, as there are no effective means to totally isolate one person from another.

All we can hope for is that future variants of Covid-19 will decrease in severity, and new vaccines invented to improve our immunity against them.

Let us be optimistic that it will not be long before this happens, and we may be able to gradually reduce our lockdowns and return to normal life.

Meanwhile, let us continue to rely on the joint and concentrated efforts of the medical and engineering professions to further reduce our risks and to find new solutions to protect our health. This pandemic has hurt our health and the worldwide economy enough as it is.

Veteran engineer Edmund Leung Kwong-ho casts an expert eye and ear over features and forces in modern life