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As new Covid-19 variants hit us, is there a need to panic?

Most of us are now better equipped to handle the mutating virus. But we still need to take steps to protect ourselves.

Yvonne Su

Covid-19 cases are on the rise. Hospitalisations are creeping up. Public health officials are out in force to get people vaccinated.

It feels like we have been here before.

But while this sense of deja vu may well be justified, the accompanying sense of fear and foreboding merits a more critical eye. Because one fundamental fact has changed: Sars-CoV-2 is no longer a completely new virus.

Unlike in 2020 and even 2021, most of us have now completed the original vaccination schedule of at least three doses. And a majority of us would have had at least one Covid-19 infection as the virus continues to circulate.

The combination of these two events – vaccination and natural infection – would have given most of us robust, but not infallible, immunity.

Because we can't eradicate the virus, Sars-CoV-2 has become an endemic virus, circulating continuously in humans.

In order to survive and successfully infect us, the virus has to keep changing or mutating. It does this by swopping pieces of genetic material or simply through a copy error as it multiplies. When a particular set of changes gives it an advantage, we see a rise in infections.

So it is not unusual or unexpected for new Sars-CoV-2 variants to pop up over time. However, whenever a new variant appears or there is a rapid rise in Covid-19 cases, it is important to stay calm and vigilant.

NEW VARIANTS PART OF NEW NORMAL

Seasonal influenza, which has been circulating in humans for more than 100 years, creates recurrent epidemics in the Northern and Southern hemispheres, which for us in Singapore translate into two annual influenza seasons.

This evolutionary process allows the virus to generate new variants and replace older ones as it continues to spread over time. You can think of it like a car model, where newer versions continually replace older ones – each equipped with better features.

Based on the four years of data on Sars-CoV-2 on hand, it looks like this virus is on a similar trajectory.

Although viruses always mutate, not all mutations will lead to a new wave of infections.

Some mutations may have no effect on the virus' behaviour. However, others may help to evade antibody recognition, increase transmissibility or change virulence.

FLIRTING WITH CHANGE

For Sars-CoV-2, a key part of the virus for us to watch is the spike protein, which the virus relies on to infect our cells. So it is common that even a few mutations on the spike protein can induce large outbreaks.

We have seen this in older prevailing Sars-CoV-2 variants like Alpha, Delta and Omicron, which carried the major D614G mutation in the spike protein. This mutation made these viruses more fit and transmissible, leading to widespread circulation.

And that holds true for the "FLiRT" variants, too.

First detected in April 2024, the FLiRT variants, which comprise the strains KP.1 and KP.2, are offspring of the JN.1.11.1 lineage, which in turn originated from the parental JN.1 variant, and are so named because of two new mutations on the spike protein: F456L and R346T.

These two spike mutations seem to be helping the viruses escape from our immunity, turning them into dominating strains spreading around the world.

HOW VACCINES KEEP PACE

Many Covid-19 vaccines use the spike protein to stimulate our immune system.

But when the virus mutates, introducing changes to the spike protein, then a vaccine's effectiveness can be reduced.

That's why our Covid-19 vaccines have changed over time. First, we used the ancestral strain for the original vaccines. This was replaced with early Omicron strains for the second version.

The latest formulation targets the Omicron XBB lineage. Because the JN.1 strain is more distantly related to the Omicron XBB lineage, this vaccine may confer reduced levels of protection against JN.1.

As the virus keeps evolving, Covid-19 vaccines are expected to be regularly reviewed and updated. Adopting the same approach that we use for seasonal influenza, which can reinfect us throughout our lives, the World Health Organisation (WHO) assesses and updates Covid-19 vaccine formulations every six months.

As at April 2024, the WHO has advised to update the monovalent vaccine strain to JN.1 for the 2024-2025 Covid-19 vaccine formulations.

PRACTICAL STEPS

With just weeks of data on the FLiRT variants available, we still have some unanswered questions about their potential to cause more severe symptoms or illness and how well our antibodies protect against these variants.

The answers to these will take time but there is still plenty that we can do to protect those in our society who are most vulnerable.

They include young children, the elderly, pregnant women, and those with chronic diseases or who are immunosuppressed.

And it is not just the virus that poses a risk of severe illness to them. Sometimes secondary bacterial infections can also complicate disease severity.

As a community, we can all do our part to minimise transmission. Here are several steps we can all take to protect yourself and your loved ones as we adapt to living with Covid-19:

GET AN UPDATED VACCINE: Covid-19 vaccines can reduce the risk of severe illnesses and hospitalisation. Vaccines are recommended for children aged six months and older, and all individuals aged 60 years and above, as vaccines can protect against severe disease. Individuals recently infected with the JN.1 variant (from around September 2023) might have better antibody protection against FLiRT variants and vaccination may not confer additional benefits. Consult your doctor if you are unsure if you need a booster shot.

TEST AND SELF-ISOLATE WHEN SICK: Test if you are Covid-19 positive and see a doctor if you are unwell. Antiviral treatments may be required for vulnerable populations. Stay home when you feel sick and have symptoms like cough or fever (even if you test negative for Covid-19) to prevent the spread of disease. Avoiding close contact with family members also helps to reduce household transmission.

WEAR A FACE MASK: In crowded areas or when travelling to places with a high number of Covid-19 cases, wearing face masks can significantly help reduce the transmission of Sars-CoV-2 and other serious respiratory infections like influenza and respiratory syncytial virus.

MAINTAIN GOOD PERSONAL HYGIENE: Regularly wash your hands with soap and water. This can reduce the risk of infection. If they are not available, use hand sanitisers with at least 60 per cent alcohol.

By taking these actions, we protect ourselves and reduce the spread of Covid-19 as well as other viral diseases. This not only safeguards our health but also helps prevent the burden on the healthcare system and caregiving services.

Sars-CoV-2 virus, like influenza viruses, will continue to mutate, leading to potential new variants.

Prevention is always better than cure – vaccinations against Sars-CoV-2 and influenza are the best strategy to protect yourself and your loved ones.

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