

THE RISE OF THE FLU

BY MICHELLE BONG WITH CONSULTATION FROM DR DAVID LYE, CONSULTANT,
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Over the years, influenza has grown in strength and intensity as a deadly respiratory infection. MICHELLE BONG charts its evolution, to date.

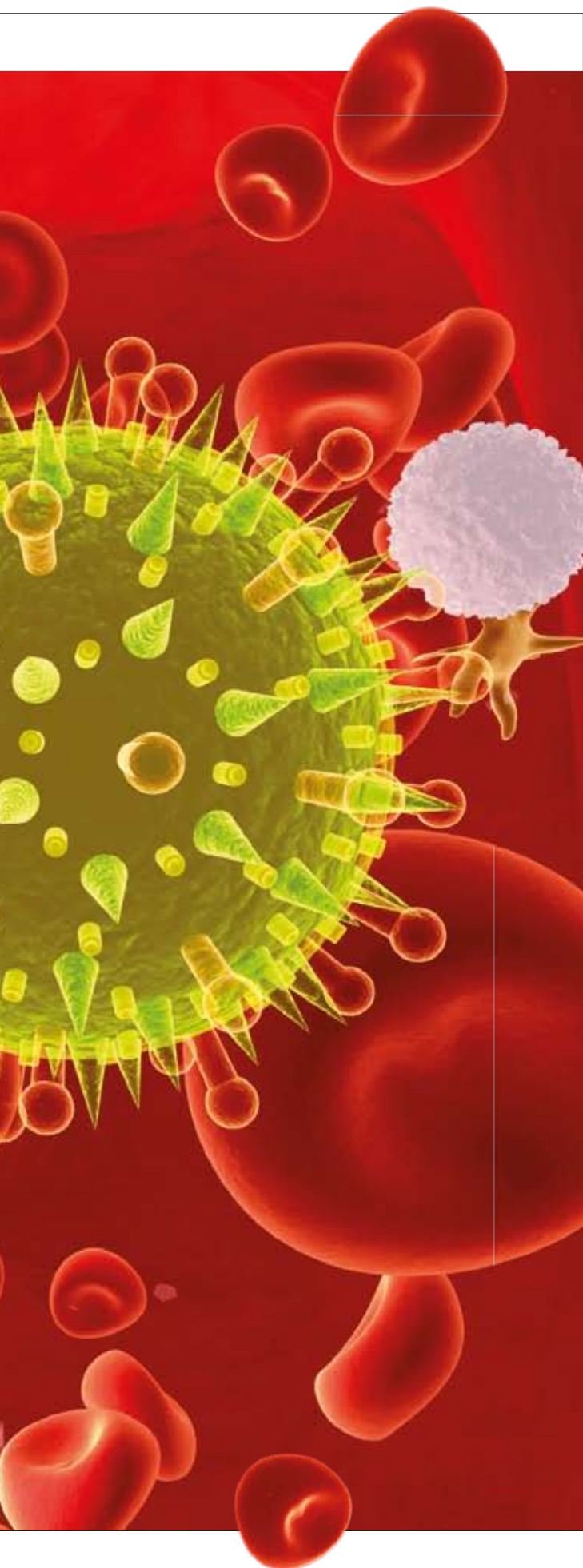
Seasonal, avian, swine, Spanish – these have all been variations of one of the world’s most deadly viruses, influenza. More commonly known as the flu, this infectious respiratory infection has garnered more global awareness of late, due to worrying outbreaks and a growth in intensity of existing strains.

Among them, seasonal flu is the mildest. It is an annual occurrence during the winter months, when the cold of the season hits countries with the four seasons; during this period, transmissions are very active, believed to be exacerbated by how cooler temperatures cause viruses to spread quickly through cold and dry air.

It is characterised by the sudden development of a high fever, chills, aching muscles, a sore throat, cough and general weakness. Its transmission commonly occurs between people via droplets caused by an infected person’s sneezing and coughing. In serious cases, it could lead to pneumonia, which is the fourth principal cause of death in Singapore. The elderly and young children have been particularly susceptible.

Usually mistaken for the common cold, the flu is a more dangerous medical threat. “The key differences between the two are flu causing a high fever, and normally lasts about three to five days. In contrast, the common cold, caused by rhinovirus and coronavirus, usually causes a mild fever and runny nose, which last just one to three days,” Dr David Lye, an infectious disease physician at Tan Tock Seng Hospital.

Despite Singapore’s tropical climate, influenza is also common during the later part of the year, as well as the traditional summer months of June and July. Dr Lye says that on average, five per cent of patients admitted for lung-related infection and had phlegm tested within the first two days of admission suffered from influenza. In peak months, the proportion would go up to as high as 50 per cent. ❖❖❖





Adds Dr Lye: “Children, in particular, are very prone to respiratory infections in general, and some common viruses include influenza and respiratory syncytial virus (RSV). People with inherent medical problems and poor immune systems are also more susceptible to influenza. Meanwhile, other healthy adults do succumb to a high fever, cough, runny nose or sore throat for three to five days.”

And while it’s best to visit a doctor for a proper diagnosis, self medication with OTC drugs or store products like flu remedy drinks and Vicks Vaporub can be effective. Says Dr Lye: “Many over-the-counter medications for influenza are medications to treat symptoms of influenza, such as paracetamol for fever and pain, and antihistamines for a runny nose. They are appropriate treatment for influenza symptoms.

“But the most common and effective medication against the flu remains antiviral drugs, which can be very effective if taken within the first two days of illness.

However, they are costly, and resistance to them has developed over time. Patients with mild influenza should focus on getting enough rest, and consuming medication to relieve the symptoms. They should also stay home from work to avoid infecting others, as well as drink plenty of fluids. In general, their fever will subside within three to five days, although they may develop a post-viral cough that may persist for weeks however this by itself does not require treatment.

WHERE IT ALL BEGAN

Through time, influenza has always been a historical threat (see Sidebar story); from 370BC to 2010, the virus has mutated and evolved into new and more dangerous strains. What makes it dangerous isn’t just based on how lethal it is or can be, but also on its rapid transmissibility between humans. In addition, throughout history, the flu has well proven its ability to jump from animals to humans, before mutating to adapt to its new human host.

Influenza, which has mutated into strains ranging from

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H1N1 to H5N1 to H7N7, has brought about much havoc in the form of pandemics that have claimed millions of lives worldwide. Strains such as the avian flu (originating in fowl) and swine flu (originating in animals) have recently led to widespread panic.

Avian flu, which was transmitted to humans via poultry such as chickens, ducks and geese, continues to circulate among humans. While it features common symptoms of seasonal flu like a high fever, cough and sore throat, it leads to severe respiratory diseases and other life-threatening complications.

Similarly, the swine flu is a more lethal form of the flu. It has reared its head again via a 2009 resurgence, and global awareness has grown about its transference from pigs to humans, and how infection can occur. Swine flu involves all the symptoms of seasonal flu and includes the addition of diarrhoea, vomiting and respiratory difficulties. It also leads to complications by causing a worsening of underlying health conditions already present in infected people.

So far, strong antiviral drugs such as oseltamivir and zanamivir have been used by medical professionals to treat these strains of the flu. Vaccines have also been created for immunisation purposes among adults, with scientists continuing to create separate versions for young children.

THE BATTLES CONTINUES

The world may have seen amazing medical breakthroughs since the time of Hippocrates, but influenza remains extremely difficult to control in the long run.

Due to its viral nature, Influenza has been able to infect hundreds upon thousands year after year because it mutates frequently. This prevents the immune system from building up immunity towards it, rendering lasting protection from future infection impossible. Influenza viruses also have the

A NUMERICAL LOOK AT INFLUENZA

100,000,000 deaths occurred from the Spanish flu pandemic in 1918

30 years is the average cycle for a new flu pandemic

90 years is how long it's taken Swine Flu to evolve

600 million people are infected with the seasonal flu every year

31 pandemics have occurred so far, and the figure looks set to grow

A BRIEF TIMELINE OF INFLUENZA

▶ 460 TO 370BC

Ancient Greek physician Hippocrates was said to have first wrote about the flu, of which very little was known

▶ 1580

The first flu outbreak was recorded; it was said to have originated in Asia before affecting Africa, Europe and the United States

▶ 1700S

Three pandemics and three epidemics were spread, as doctors helplessly watched patients lose their lives. A lack of sufficient knowledge of the disease – some doctors mistakenly believed it was transmitted via sexual intercourse! – hampered the development of a vaccine

▶ 1837

Russia saw a devastating outbreak occur, and its number of deaths exceeded the number of births. In Europe, outbreaks grew in intensity as booming economies lead to mass relocation for work, and the growth of cities

▶ 1918

Spain alone saw some eight million deaths, earning the pandemic the tagline of the Spanish flu. 100 million deaths were recorded world-wide. Cities in the United States passed laws requiring citizens to wear face masks, as life expectancy levels plummeted to 12 years.

▶ 1957

The flu claimed some two million deaths in Asia, and small quantities of vaccines were first created

▶ 1960S

The first flu vaccines were offered and people started to get immunisation shots

▶ 1976

Swine flu first appeared in New Jersey, United States. A quarter of the country's population rushed to be immunised.

▶ 1997, 1999, 2003

Avian flu broke out, which caused widespread panic and the culling of millions of livestock worldwide. Hong Kong, South Korea and Vietnam were particularly hit the worst

▶ 2009

Swine flu emerges again in Mexico, and countries worldwide scramble to combat global transmission via border health checks, travel and trade restrictions, and other measures. Scientists also rush against time to create a vaccine, and the death toll to date is 7,820 amid almost 400,000 cases of the infection world-wide.



FLU PREVENTION CHECKLIST

- ▶ For people at risk of complications from influenza, yearly influenza vaccination is advised
- ▶ When you are sick with fever and cough, stay away from work to avoid spreading to others
- ▶ When you are sick with fever and cough, wear a surgical mask when in contact with people
- ▶ Wash your hands with soap and water regularly, and avoid touching your eyes, nose and mouth
- ▶ Exercise regularly to build your immunity

ability to evolve rapidly, and though vaccines are normally very effective, they need constant updating; with each strain comes an urgent need for a better, stronger, more effective form of protection – failing which humans will have no immunity against the virus whatsoever.

Adds Lye: “After most pandemics in history, influenza strains may sometimes disappear altogether, or become part of the yearly seasonal influenza. It is hard to predict what will happen to the current pandemic 2009.”

How well mankind has coped with the flu is hard to determine, according to Dr Lye. He adds: “This is a philosophical question. Influenza has existed for a very long time, and will remain with us for a very long time. Science and medicine are now able to provide protection of the vulnerable with effective vaccination, and effective antiviral drugs specially designed for influenza.

“In Singapore, influenza infection has always been there and the trend is stable. We see more admissions during peak influenza seasons, and more admissions for pneumonia. There is also the worsening of underlying chronic lung and heart conditions. However, the influenza pandemic has created greater awareness and this is a good thing.”

Stockpiling vaccines, contributing millions towards research and maintaining a website (app.crisis.gov.sg/InfluenzaA) devoted to providing information about flu viruses are just some of several initiatives already in place to better prepare Singaporeans for flu outbreaks in the near future. Singapore biotech company Veredus Laboratories has also designed a diagnostic kit that can detect swine flu within two hours.

Elsewhere in the world, doctors are now equipped with better tools in the form of antivirals and respirators, to maintain some control over the disease. But influenza’s air of unpredictability continues to keep medical experts and scientists on their toes. “There’s no standard picture for how this develops,” World Health Organization official Keiji Fukuda has been quoted in the media as saying. “We can prepare, but in the end, we’re at the mercy of a virus”. Vigilance is key, along with the maintenance of high hygiene standards and the upkeep of healthy lifestyles, if we are to keep up the good fight. +





WHERE TO GET HELP

TAN TOCK SENG HOSPITAL

Travellers Health & Vaccination Clinic
Level 1, Main Entrance
Tel: 6357 2222
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NHG POLYCLINICS

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