



Epidemiology Unit

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SEASONAL INFLUENZA VIRUS INFECTION Fact Sheet

Overview

Seasonal influenza is an acute respiratory infection caused by influenza viruses that circulate globally. The disease burden is experienced year-round, especially in tropical regions, while in temperate climates, epidemics tend to occur during the winter months. The illness can range from mild to severe, and in some cases, it can lead to hospitalisation or even death.

Infectious Agent

There are three main types of seasonal influenza viruses: A, B, and C. Influenza A viruses are further subtyped based on surface proteins haemagglutinin (H) and neuraminidase (N). The subtypes A(H1N1) and A(H3N2) are the most commonly circulating strains in humans. Influenza B viruses are categorised into two lineages: Victoria and Yamagata. Influenza C causes milder illness and is less common, so seasonal influenza vaccines only cover types A and B.

Symptoms

Seasonal Influenza symptoms usually begin about two days after infection and include sudden onset of high fever, dry cough (which can persist for more than two weeks), headache, muscle and joint pain, severe fatigue (malaise), sore throat, and runny nose. Most individuals recover from fever and other symptoms within a week without the need for medical attention. However, in some cases, especially among high-risk groups, influenza can cause severe complications like pneumonia and sepsis. It can also exacerbate existing chronic illnesses.

Incubation Period

The incubation period is the time from infection to onset of symptoms, is usually about 1-4 days.

Who is at Risk?

While influenza can affect people of all ages, certain groups are at higher risk of severe illness or complications. These include children under two years, adults over 65 years, pregnant women, healthcare workers, and individuals with chronic medical conditions such as heart disease, lung disease, diabetes, kidney or liver disease, and those with weakened immune systems.

Transmission

Influenza spreads easily through droplets when an infected person coughs or sneezes. These droplets can be inhaled by others or land on surfaces that others then touch. The virus can also spread via contaminated hands. Preventive measures such as covering the mouth and nose when sneezing or coughing and frequent handwashing can reduce transmission.

Treatment

Most people with the flu recover on their own with rest, fluids, and symptom management within a week. However, individuals at high risk, such as pregnant women, children, the elderly, and those with chronic conditions, should seek medical care and may require antiviral treatment. Also, if anyone with worsening symptoms, they should seek medical care. Individuals at high risk, such as pregnant women, young children, the elderly, those with chronic illnesses, individuals undergoing chemotherapy, or those with weakened immune systems, should receive antiviral treatment as soon as possible to prevent severe complications. Antiviral drugs are available to treat influenza, and two main classes include adamantanes (amantadine and rimantadine) and neuraminidase inhibitors (oseltamivir and zanamivir). However, resistance to antivirals can occur, and WHO continuously monitors the susceptibility of circulating strains. Early treatment is most effective, especially for those in high-risk groups.

Seasonal Epidemics and Disease Burden

In temperate regions, influenza epidemics occur annually in autumn and winter, leading to substantial hospitalisations and deaths. Globally, there are an estimated 3 to 5 million cases of severe illness and 290,000 to 650,000 deaths each year, mostly among the elderly. Ninety-nine per cent of deaths in children under 5 years of age with influenza-related lower respiratory tract infections are in developing countries.

In tropical countries like Sri Lanka, influenza occurs throughout the year with one or two peaks, often during rainy seasons. Sri Lanka initiated influenza surveillance in 2008 to monitor its public health impact.

Disease Effects

Influenza epidemics have significant public health and economic consequences. In developed countries, outbreaks lead to high worker absenteeism and a healthcare system burden. Hospitals and clinics may become overwhelmed during peak periods. In developing countries, data are limited, but the effects are presumed to be significant. Influenza can cause serious illness requiring hospitalisation, and some patients may die from complications.

Prevention and Vaccination

Vaccination is the most effective way to prevent influenza and reduce its severity. Safe and effective vaccines have been used for over 60 years, with annual vaccination recommended for high-risk groups such as pregnant women, young children, the elderly, and those with chronic conditions. While immunity from vaccination wanes over time, the vaccine still reduces illness severity and complications. Other preventive measures include,

- Cover your nose and mouth with a tissue or handkerchief when coughing or sneezing. Dispose of the tissue/handkerchief safely after using.
- Wash your hands often with soap and water, especially after coughing or sneezing. Alcohol-based hand cleaners are also effective.
- Avoid touching your eyes, nose or mouth.
- Try to avoid close contact with infected people.
- Staying home, away from work or school or crowded places and limiting contact with others if infected.