

Understanding tuberculosis

ALTHOUGH tuberculosis (TB) is preventable and treatable, the disease continues to kill millions of lives annually.

TB is an infectious disease caused by the 'bacterium mycobacterium tuberculosis', discovered by Robert Koch in 1882.

While it mainly attacks the lungs, it can affect other organs too.

It spreads through the air when an infected individual coughs, sneezes, or speaks.

TB has several characteristics that need to be monitored to ensure accurate diagnosis and treatment, says Professor Dr Ching Siew Mooi, a lecturer from Universiti Putra Malaysia's Department of Family Medicine, Faculty of Medicine and Health Sciences.

TB symptoms are often non-specific and can be mistaken for common illnesses, such as the flu or a regular cough.

The main symptoms include a persistent cough lasting more than two weeks, prolonged fever, night sweats, unexplained weight loss and extreme fatigue.

"A cough accompanied by blood or bloody sputum is a more serious sign and requires immediate attention."

Additionally, TB can affect organs other than the lungs, such as the bones, joints, kidneys and brain, which can cause different symptoms depending on the affected organ.

Therefore, it is crucial to seek a medical examination if these symptoms persist or worsen.

People with impaired immune systems, such as those with human immunodeficiency virus (HIV)/acquired immunodeficiency syndrome (AIDS), diabetes, or those receiving immunosuppressive treatments like chemotherapy, are more likely to contract TB.

Other high-risk groups include smokers, undernourished people and those who live or work in crowded places like jails, shelters, or refugee camps.

"The treatment of TB requires a high level of commitment from the patient and continuous support from medical professionals," says Dr Ching.

Standard TB treatment involves taking a combination of antibiotics for six to nine months.

It is essential for patients to take their medication consistently and according to the prescribed schedule to avoid drug resistance and ensure the effectiveness of treatment, explains Dr Ching.

In cases of multidrug-resistant TB (MDR-TB), treatment may be longer and may involve stronger medications with more severe side effects.

Psychological support and close health monitoring are necessary to



It is crucial to seek a medical examination if symptoms persist or worsen. PICTURE CREDIT: IJEAB-FREEPIK

help patients through the long and challenging treatment period.

To reduce non-adherence, drug resistance, and relapse, the Directly Observed Treatment, Short-Course approach is frequently used, in which medical professionals or trained volunteers watch and make sure patients take their medicine as directed.

The complications of untreated or inadequately managed TB may lead to lung damage, respiratory failure, pleurisy, spinal TB, meningitis, kidney or liver dysfunction, infertility, TB pericarditis, multi-organ failure and death.

"Even though TB is a curable disease, challenges remain, particularly delays in diagnosis, non-adherence to treatment regimes and multidrug-resistant TB, which requires more intensive interventions."

Dr Ching adds that in Malaysia, TB cases have increased from 25,391 in 2022 to 26,781 in 2023. Reported new cases worldwide were 10.6 million in 2022, with 1.3 million deaths.

These figures highlight the urgent need to increase awareness of TB to ensure prompt treatment for those infected.

The goals of World Tuberculosis Day 2025 highlight several key aspects, the first being to raise awareness through treatment promotion, early diagnosis encouragement and

stigma reduction.

Programmes for community education can enable people to identify symptoms and get help right away.

The goal is also to achieve universal healthcare by guaranteeing fair TB prevention and treatment, especially for marginalised populations, says Dr Ching.

Reducing gaps in TB care and improving treatment results are possible when social determinants of health are addressed.

Ending tuberculosis also requires the development of improved diagnostic instruments, vaccinations and shortened treatment plans.

Technological innovations that promise to improve healthcare access and accuracy include artificial intelligence in TB diagnosis.

The pooling of resources and knowledge and cooperation, and partnerships between governments, non-governmental organisations and international institutions are also crucial.



Professor Dr Ching Siew Mooi says tuberculosis has several characteristics that need to be monitored to ensure accurate diagnosis and treatment.



Tuberculosis spreads through the air when an infected individual coughs, sneezes, or speaks. PICTURE CREDIT: RAWPIXEL.COM-FREEPIK