



Tuberculosis: Coming Together to Combat This Classic Detrimental Disease

(World Tuberculosis Day Editorial Comment)

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Tuberculosis is an infectious disease caused by the bacteria *Mycobacterium tuberculosis*. This disease primarily affects the lungs but can also affect meninges, bones and joints, lymph glands, intestine, skin and other tissues of the human body. Tuberculosis is usually chronic in nature with varying clinical expressions. Pulmonary tuberculosis is the most important and common form of tuberculosis which affects man.¹

It is the world's leading infectious killer disease, claiming almost 5,000 lives every day.² Every year, World Tuberculosis Day is recognized as an event on March 24 to commemorate the date when Robert Koch discovered *Mycobacterium tuberculosis*, the tuberculosis causing bacillus in the year 1882. Although TB is a preventable and curable disease, many people in the world still suffer from this disease. The current efforts to find and treat TB infection are not adequate. Misdiagnosis of TB is still an issue with healthcare professionals.³

Despite the fact that the causative organism was discovered more than a century ago and highly effective drugs and vaccine are available making tuberculosis a preventable and curable disease, tuberculosis remains a worldwide public health problem.¹

The transmission of tuberculosis mainly occurs by droplet infection and nuclei generated by sputum-positive patients. For transmission of infection, the particles must be fresh enough to carry a viable organism. This is also influenced by the frequency and vigour of cough and the ventilation of the environment. Tuberculosis is not transmitted by fomites used by the patients.¹

There are two TB-related conditions: latent TB infection and TB disease. Subjects carrying latent TB infection do not show symptoms and they cannot spread the bacteria to others. However, if TB bacteria become active in the body, they tend to multiply, transforming latent TB infection to

being sick with TB disease. To avoid this, people with latent TB infection are often prescribed treatment to prevent them from developing TB disease. Treatment of latent TB infection is essential for controlling and eliminating TB and this should be initiated after the possibility of TB disease has been excluded. TB bacteria become active if the immune system can't stop them from growing. When TB bacteria are active (multiplying in your body), this is called TB disease. People with TB disease are sick. They may also be able to spread the bacteria to people they spend time with every day. The common symptoms of tuberculosis include bad cough that lasts few weeks or longer, pain in the chest, blood in sputum, weakness, fatigue, weight loss, loss of appetite, chills, fever and sweating at night.³

Overall, about 5 to 10% of infected persons who do not receive treatment for latent TB infection will develop TB disease at some time in their lives. For persons whose immune systems are weak, especially those with HIV infection, the risk of developing TB disease is much higher than for persons with normal immune systems.³

TB is the world's leading cause of death from an infectious disease, especially among women and children. The World Health Organization estimates that more than 1.8 million people worldwide died of TB in 2015. The symptoms of the disease, which is transmitted through the air and primarily affects the lungs, often begin with coughing, shortness of breath or swollen lymph nodes — but can end in death if left untreated. People with HIV are especially vulnerable: of deaths among people co-infected with HIV and TB, about one quarter are due to TB. Five to 10 percent of these latent TB carriers risk developing active TB at some point in their lifetimes. For latent TB carriers who are infected with HIV, this risk is approximately 10 percent per year. Finally, it is important to note that smoking substantially increases TB disease occurrence and risk of death due to TB worldwide.⁴

The prevention component of control is the BCG vaccine whereas the curable components consists of chemotherapy namely rifampicin, isoniazid, ethambutol, streptomycin, pyrazinamide and thioacetazone.

World TB Day provides the platform for affected persons and communities, civil society organizations, health-care providers, policy makers, development partners and others to advocate, discuss and plan further collaboration to fulfil the promise of reaching all people with quality TB prevention and care services, as well as enabling TB prevention through multisectoral development efforts.⁵

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