

WORLD DISEASE DAY FOCUS

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TB has afflicted man for centuries. Despite the availability of effective drugs for 50 years, TB is an enormous and increasing public health problem today. The World Health Organisation (WHO) estimates 9.2 million new cases and 1.7 million TB deaths in 2006, with the highest burden of cases occurring in India, China and Indonesia. The HIV epidemic and the emergence of multidrug-resistant TB (MDRTB) and extensively drug-resistant TB (XDRTB) threaten to seriously undermine ongoing global TB control efforts.

The TB rate among Singapore residents declined to its lowest level in 2007, at 35 new cases per 100,000 population, in response to enhanced TB control measures implemented since 1997 by the Singapore TB Elimination Programme (STEP). Singapore's TB incidence rate is, however, still five to seven times that of developed countries in the West. Much more needs to be done to further decline our TB rates, especially in the face of increasing numbers of immigrants, migrant workers and visitors from high incidence areas into our country.

TB is an airborne disease. It is spread when persons with active disease in the lungs or larynx cough, sneeze or speak, propelling the TB bacilli into the air, and the bacilli are inhaled by close contacts of the infectious case. Most persons who are infected do not develop active TB disease if their immune systems are healthy. These persons who have latent TB infection (LTBI) have a 5 to 10% chance of progressing to active disease during the course of their lifetime. If they are immunocompromised (eg with HIV infection), the risk of progression to active TB is very much higher.

The top priority in TB control is the early diagnosis and treatment of the active TB case. This not only restores the patient's health and quality of life, but also prevents further spread of infection in the community. The symptoms of TB are non-specific and include persistent cough (> three weeks), haemoptysis, fever, weight loss and malaise. This diagnosis should be considered especially in persons who are immunocompromised (eg with HIV infection,

malignancy, diabetes mellitus, or who are on immunosuppressive medications), or who have a history of close contact with infectious TB patients or long-term residence in a high TB incidence area. Diagnostic evaluation must include at least two sputum specimens for acid-fast smear and mycobacterial culture with drug sensitivity testing in addition to chest radiograph examination.

Because TB treatment requires multiple drugs for at least six months, many patients find it difficult to adhere to and complete their treatment regimen. If the patient is irregular with the medications or abandons treatment prematurely, there is the danger of developing drug resistance and of relapse. International TB authorities have therefore advocated **directly observed therapy (DOT)**, which involves a healthcare worker supervising each dose of TB medication, as the standard of care for the TB patient. In Singapore, DOT is administered at the patient's nearest polyclinic. DOT however should not be viewed as the sole responsibility of the patient, but as the collective responsibility of society (be it family, employer, colleagues or friends) to support and enable the patient to successfully undergo treatment, thus ensuring that he or she is no longer a health threat to the community.

The global battle against TB requires political will and commitment, and harnessing of resources for the development of better diagnostic tools, drugs and treatment regimens, and a more effective vaccine. Medical practitioners must play their part by having a high index of suspicion for TB in persons with suggestive symptoms and risk factors, and promptly notifying and referring these patients for diagnostic evaluation and treatment. Those who treat TB patients must also assume a public health role and be accountable, not only to the patient, but also to the community and public health system. Last but not least, community support to de-stigmatise this disease and to enable TB patients to adhere to and complete treatment is crucial if this ancient scourge of man is to be overcome.