Global Burden of Tuberculosis

Diana Moses

Otterbein University, diana.moses@otterbein.edu

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Tuberculosis (TB) is a major health concern not only in the United States, but in the world. It is an airborne, communicable infection which has affected humans for centuries, and outbreaks are exacerbated by TB being found in the scaffold of a new coronavirus, COVID-19 (Kaufman, 2011). There are many pathophysiological mechanisms at play, destroying the entire body, especially the respiratory and immune systems.

According to the CDC, TB prevalence is rising due to the increased number of patients infected with HIV, bacterial resistance to medications, increased immigration, and infectious disease from countries with high prevalence of TB, and the growing numbers of drug users and alcohol users, especially among young age. Therefore, the elderly are more susceptible to TB (Kaufman, 2011).

TB is the second leading cause of death among humans with TB. Persons with pulmonary TB are the most important source of infection in the transmission of the disease. Infections in the source case, the contact of respiratory tract and the spread of the bacteria (Guirado & Schlesinger, 2004).

Persons with latent TB infection (LTBI) are 3 times foreign-born (Centers for Disease Control and Prevention, 2014). Importantly, LTBI is a type of TB with age. Therefore, Bennett, Rodwell (TB) is a major health problem. Infection is initiated by inhalation of mycobacterium (M. tuberculosis) from another infected individual (Bennett, Rodwell, 2014).

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Pathogenesis and Immune Response Continued

Tuberculosis skin test (TST) and interferon gamma release assay (IGRA) tests are available to diagnose TB. The two-step TST is internationally recognized and is an accurate assessment of LTBI status in immune competent individuals. If patients have received the Bacillus Calmette-Guérin (BCG) vaccine, (Kaufman, 2011; Guirado, 2013), major problem of TST in it is that it is not possible to make a reliable differentiation of induration TB (if) to patients with latent TB infection who have been exposed to M. tuberculosis, and other mycobacteria, including BCG (Degraw, 2013). Therefore, and screening for LTBI is a delayed type hypersensitivity response to the M. tuberculosis (Stagg et al., 2014).

Implications for Nursing

As for nursing intervention, we emphasize in promotion and disease prevention that screening may impact the clinical faith of persons with LTBI. By identifying persons at high risk and educating them in the importance of screening and appropriate preventive treatment, the nurse may assist these patients to progress to active TB. Educating the community about the signs and symptoms of the disease is important, so they can seek medical attention and reduce the spread of the disease. As we educate patients, the provider and nurse can monitor the patients and adhere to treatment is higher.

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