Tuberculosis essays examples

Health & Medicine, Disease

It is estimated that about one-third of the global population has suffered from M. tuberculosis, with most incidences estimated to be occurring in about 1% of the population each year. However, most of the infections with M. tuberculosis have been shown not to cause TB. Nearly 90–95% of infections remain asymptomatic. According to W. H. O, 8. 6 million chronic cases there were documented in the year 2012. In the year 2010, there were roughly 8. 8 million patients suffering from TB and 1. 45 million deaths resulting from the same. Most of these deaths occurred in developing nations (Metcalfe et al., 2011). Co -infection with HIV accounted 0. 35 million deaths.

Reports have shown that highest number of new cases of TB occur in African countries. The majority of other cases occur in Asia subcontinent with close to half of all new global cases occurring in only six Asian countries. These countries are India, Bangladesh, Philippines, China, Indonesia, and Pakistan. The disease disproportionately leads to high mortality and morbidity the both high-income and developing countries especially among the poorest persons. However, recent developments in diagnostic methods, drugs, and vaccines and new interventions have greatly improved clinical care and global tuberculosis control management as a whole.

Causes and mode of transmission

This an acute infectious disease caused by the various strains of bacilli mycobacterium tuberculosis. The disease typically attacks the lungs can spread to other parts of the boody. it usually transmitted through air where the air droplets from infected patients with active enter the airway of a healthy person. (Jacob et al., 2009) These respiratory fluids are usually

released through cough, sneeze. About 40, 000 droplets can be released through a single sneeze. Since the dose of the Tuberculosis is usually very low, each one of these droplets may transmit the disease. Most infections in TB cases are asymptomatic and latent, however about one of ten latent infections eventually progresses to active disease. If these cases are left untreated they usually lead to death.

Symptoms and complications

Tuberculosis can infect any part of the body. The most common type of tuberculosis but most commonly affects the lungs (known as pulmonary tuberculosis). In this kind of TB, 90% of the cases involve the lungs. The immediate Symptoms in this kind of TB may include; chest pain coupled with a cough producing Muco-purulent sputum. In asymptomatic cases, about a quarter of the patients may not show these symptoms. Occasionally, some patients have hemoptysis. In some cases the infection may erode the walls of the pulmonary artery causing excessive fatal bleeding. This is often known as Rasmussen's aneurysm. Others may lead to a chronic ailment and cause massive scarring in the lungs. In about 15–20% of TB active cases, infection may spread outside the lungs which usually cause other types of TB (extra pulmonary tuberculosis). However extra-pulmonary TB may coexist with pulmonary type of TB (Jacob et al., 2009)

This type of tuberculosis (Extra-pulmonary TB) occurs when tuberculosis progresses outside of the lungs. It is more frequently in debilitated patients, children and in the patients with HIV. This has been shown to occur in more than half of all cases. The most common sites of infection are the pleura (Tuberculosis pleurisy), and the Central Nervous System (Tuberculosis

meningitis). Other sites of infection are the urinary system (urogenital tuberculosis), the joints and bones and lymphatic system (in scrofula of the neck). The disease may spread to the bones causing osseous tuberculosis. Tuberculosis ulcer may sometime develop as a result of bursting of the tubercular abscess through skin.

Ulcers originating from the nearby infected lymph nodes are usually painless, slowly enlarging and have an appearance of " wash leather". The more wide spread and potentially serious form of TB is called miliary tuberculosis. This kind of TB accounts for about 10% of extra pulmonary TB cases (Jacob et al., 2009). The major signs and symptoms in types include high fever, chills, heavy night sweats, loss of appetite, progressive weight loss, and fatigue. Significant finger clubbing has also been associated with tuberculosis. (Jacob et al., 2009)

Treatment

The ultimate objectives for treatment of tuberculosis are to cure the individual patient, and to minimize the spread of Mycobacterium tuberculosis to healthy persons. This makes the, successful treatment of tuberculosis to have benefits both for the patient and the community in general. It is against this background that the heath practioner, he/she in the public or private sector, must always carry out a public health role with the key responsibility not only for prescribing a correct regimen but also for successful completion of therapy by the patients. Treatment of patients with tuberculosis must usually follow the national guidelines. They are guided by the WHO Stop-TB Partnership. This is a Global Plan for TB control that has been developed and recommended for use in many countries. It calls for improving interventions

related to the treatment of both active and latent TB. It also encourages addressing multi-drug resistant TB (MDR-TB) and TB-HIV co-infection, while emphasizing the importance of advocacy, care provider engagement as well as promoting community participation in TB control programs. (Jacob et al., 2009)

Antibiotics are usually used for the treatment of TB cases to kill the bacteria. Due to the unusual structure of and chemical composition of the mycobacterial cell wall, there have been difficulties in providing an Effective TB treatment. The cell wall hinders the entry of drugs which makes many antibiotics ineffective in treatment of TB. With this regard, the two commonly used antibiotics are isoniazid and rifampicin. The treatments can be prolonged usually taking several months.

In Latent TB treatment, a single antibiotic is usually used, while active TB disease is best treated with combinations of several antibiotics. This is in order to reduce the risk of the bacteria developing antibiotic resistance. For those patients with latent infections, treatment with appropriate regimen is important to prevent them from developing active TB later in life. in order to ensure that patients on therapy completes the regimen (Jacob et al., 2009). Directly Observed Therapy ha bees recommended by WHO. This involves having a health care provider monitor the patient during therapy in order to reduce the number of people who are completing the regimen (Metcalfe et al., 2011).

The Role of Community Health Nurse in T. B Management

Nurses provide a key role in the management of TB patients in most of the primary career settings. It is the nurses that handle patients from

presentation to registration, recording and reporting at the first point of call in primary care services. During patient care they provide also physical and psychological support to the patients. While the patients are undergoing therapy the nurses ensure that patients adhere to the full regimen through directly observed treatments. They usually provide health education to the community which is the most important aspect in TB control (Robert & Johan, 2009).

They do not only provide health education to the communities but also to the patient and the family. Patients are educated on how to take good care of themselves and importance of having a good diet while still under TB therapy. To the community they are educated on TB control and prevention methods like avoiding living overcrowded places, the need to have well ventilated dwelling places and the need to encourage patients suspected of having T. B to seek medical attention. Families living with TB patients are encouraged to support the patients undergoing therapy by providing both physical and psychological support (Robert & Johan, 2009).

Risk factors for TB

The interplay of a wide range of host and environmental factors has been associated with the TB infections. The health status of an individual pays a key role in TB infections. Immune compromised individuals are likely to develop active TB as compared to healthy persons. HIV infection has been shown to be a risk factor where about 13% of all TB cases are HIV positive. Majority of these cases occur particularly in sub Saharan Africa where HIV prevalence is high. These are usually resource strained countries where access to health care is very low due to lack of health facilities. From the HIV

negative patients who are infected with tuberculosis, only 5–10% develops active disease during their lifetime as compared to 30% of that co infected with HIV who develops the disease later in life (Metcalfe et al., 2011). Tuberculosis is has been shown to be linked to both overcrowding and malnutrition. With this regard the disease has also been associated with poverty. People from low economic status are more likely to develop the disease as compared to their counterparts. Others that are at high risk include: Intravenous drugs users, prisoners, and children living with infected patients. This does not also limit the medically disadvantaged, resource strained communities and health care providers attending to these patients. In all these cases overcrowding is the main cause of increased spread of the disease among these populations. These populations usually live in poorly ventilated and aerated environments (Metcalfe et al., 2011). Other diseases affecting the respiratory tract such as chronic lung disease and Silicosis have been associated with TB (Metcalfe et al., 2011).

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