Editorial

Epidemiology of Pulmonary Tuberculosis

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Analysis of trends in disease is one of the methods of epidemiological analysis which is used for monitoring, controlling and forecasting programs, policy analysis and etiology of diseases.

Since doctors will be able to be combined clinical and epidemiological approach to eradicate a disease completely and clinical treatment alone is an insufficient measure to deal with the problem of tuberculosis, it is considered as the essential introduction to epidemiology. Tuberculosis (TB) is an infectious disease and generally is caused by Mycobacterium tuberculosis [1]. Tuberculosis is one of the oldest diseases which affect humans. Now among microbial diseases, tuberculosis is the most common fatal disease for adults worldwide. Almost a third of the world's population is infected with TB germs and are in the risk of tuberculosis. Every year about 9 million people develop active TB and 1.5-2 million people die from the disease [2].

The incidence of tuberculosis in different parts of the world is different; Africa, with about 365 cases per hundred thousand people has the highest prevalence rate [3]. More than 90% of TB cases and deaths occur in developing countries in which 75% of the cases belong to the economically most active age group i.e. 15 to 54 years old. This disease is the largest cause of death from single factor of infectious disease and ranks tenth in the global burden of diseases and is expected to continue to maintain its current position until 2020 and even climb to seventh place [4].

Although the most common site of infection is tuberculosis of the lungs, but can affect any part of the body [1,5]. Pulmonary tuberculosis is one of the most important infectious diseases in humans and despite the use of anti-TB drugs that is one of the major causes of mortality, particularly in developing countries, and today is one of the major global health problems [6]. Pulmonary tuberculosis make up more than 80 percent of TB cases and, in adults with sputum smear-positive mainly, is highly contagious in this case [7].

Epidemiologists believe that in 1.2% of cases tuberculous infection leads to cavity pulmonary tuberculosis that this mode is highly contagious pulmonary tuberculosis so that each patient has a cavity on average 20 another person's infection [8]. TB detection methods are different according to the type of TB. In pulmonary tuberculosis, methods of direct smear sputum and sputum culture are used as the main methods to detect disease and in non-pulmonary tuberculosis depending on the member caught using bacteriological tests, radiological, histological and another complementary approach is diagnosed by the doctor. If pulmonary tuberculosis patients are not timely diagnosed and treated, it would cause the drug-resistant tuberculosis [9]. After the advent of HIV, AIDS was introduced as the most important risk of conversion asymptomatic infection to tuberculosis [10]. Accompaniment tuberculosis and HIV causes a devastating crisis public health crisis on a global level as almost a third of global deaths from AIDS is tuberculosis, and infection of HIV, increases the risk of TB infection about 100 times. The risk of tuberculosis infects a person with untreated HIV with positive PPD test in about 7 to 10 percent per year [9].

There are several reasons to suggest that smoking makes a person susceptible to tuberculosis. For example, has changed immune response and is defective macrophage-monocyte immune response and reduce the number of CD4 lymphocytes [11]. Smoking reduces the intrinsic and acquired resistance of human to Mycobacterium tuberculosis. Exposure to tobacco smoke alters the function and morphology of alveolar macrophages [12]. Children exposure to cigarette smoke increases the chances of early transformation of TB infection to pulmonary tuberculosis [11]. Considering the relationship between smoking and tuberculin in some studies, it was stated that positive tuberculin has greater chance in smokers [13].

From 8.9 million new cases worldwide, 3.9 million were associated with patients with smear-positive pulmonary tuberculosis in 2004 [14].

The incidence of TB is not the same in various locations. The World Health Organization has identified targets for TB control that most important being that the incidence of TB by 2015 in the world to reach 50 percent of its level in 1990 and by 2050 the rate of death from active TB is reduced to one in a million. According to the TB control program, the emphasis on screening and treatment of patients with pulmonary tuberculosis and the success of the program requires an understanding of the infection or spreading pattern of the disease and its risk factors.

The extent of the outbreak and contagious requires extensive studies on the predisposing factors and diseases such as HIV, diabetes mellitus, drug, and malnutrition as well as discussing drug-resistant TB and the risk in elderly. Screening, to identify more quickly is important for patients to appropriate treatment and reduces transmission to others.

To reach tuberculosis control targets need to be included in activities that lead to increased early detection and effective treatment of patients in countries with TB control strategies. To design a comprehensive program to control the disease, epidemiological studies are of great importance.

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