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Review Article

**EXTRA-PULMONARY TUBERCULOSIS-A REVIEW**Fateme Parooei <sup>1</sup>, Sara Zamanpour <sup>1</sup>, Morteza Salarzaei <sup>1\*</sup>

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**Abstract:****Introduction:**

Many studies have shown the role of various factors in the incidence of Pulmonary and extra-pulmonary tuberculosis. The patients have different clinical symptoms and depend on several factors, including host microbiological and the environment characteristics.

**Methods:**

In this review article, the databases Medline, Cochrane, Science Direct, and Google Scholar were thoroughly searched to identify the studies Extra-pulmonary tuberculosis. In this review, the papers published until early January 2017 that was conducted to study the Extra-pulmonary tuberculosis were selected.

**Findings:**

Tuberculosis is one of the oldest known diseases in humans; this disease is known to have high mortality rates, so that this rate might rise up to 50% in case of non-treatment. Mycobacterium has more than 100 species, some of which are pathogenic in humans and some others in animals.

**Conclusion:**

The probability of tuberculosis is one of the differential diagnoses that can be considered in the case of respiratory symptoms in these people. Consequently, designing an effective programs and screening patients opens new horizons for controlling and preventing tuberculosis.

**Keywords:** Extra-pulmonary, tuberculosis

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**INTRODUCTION:**

The patients have different clinical symptoms and depend on several factors, including host microbiological and the environment characteristics (1). Our knowledge about the role of host-dependent factors in the development of pulmonary tuberculosis and the locations of extra-pulmonary tuberculosis is limited (2). Many studies have shown the role of various factors in the incidence of Pulmonary and extra-pulmonary tuberculosis. Based on the results of these studies, extra-pulmonary tuberculosis is more prevalent in females under the age 18, the African-American race, and those infected with HIV (3). This disease emerges at different ages in different countries and the highest prevalence in poor countries is related to teenagers and young people (4). The highest incidence rates have been reported in the elderly in developed countries and countries with a good program to fight tuberculosis, and about 22% of newly diagnosed tuberculosis cases in 2005 in America aged 65 years and more (5). One The reasons for increasing the age of the disease is the reoccurrence of *Mycobacterium tuberculosis* due to the weakness of the immune system (6).

**METHODS:**

In this review article, the databases Medline, Cochrane, Science Direct, and Google Scholar were thoroughly searched to identify the studies Extra-pulmonary tuberculosis. In this review, the papers published until early January 2017 that were conducted to study the Extra-pulmonary tuberculosis were selected.

**FINDINGS:**

Tuberculosis is one of the oldest known diseases in humans; this disease is known to have high mortality rates, so that this rate might rise up to 50% in case of non-treatment. *Mycobacterium* has more than 100 species, some of which are pathogenic in humans and some others in animals (7). The most famous species of *Mycobacterium tuberculosis* is the cause of deadly TB in humans. In 1993, the World Health Organization described the disease as an emerging global health emergency (8). According to the World Health Organization, lack of effective control of the disease in the world would increase the number of patients up to about one billion, 35 million of whom would die, between 2000 and 2020 (9). According to the current trend, the mortality rate of this disease will increase from 1.87 million in 1997 to 30 million in 2020. More than 90% of cases of tuberculosis belong to developing countries (10). The disease has been recognized as a common and native disease in the countries of the Eastern Mediterranean region (11). The risk of the incidence of this disease is high in Iran due to geographical situation of the country and its being neighbor with some of the most polluted areas in

the world, including Pakistan and Afghanistan (12). Bases on reported issued by Iranian authorities, the infection and incidence rates of tuberculosis are 19.7% and 37% out of one hundred thousand, in order, which put Iran in the seventeenth place in the world. According to the Center for Disease Control of the Ministry of Health and Medical Education, the incidence rate varies between 12 to 73.5% in different parts of the country (13).

**DISCUSSION AND CONCLUSION:**

Given the fact that the incidence and development of tuberculosis is affected by countless factors, the role of factors such as diabetes, smoking and HIV is important in the development of this disease (14). Additionally, the immune system of the individual plays crucial role in transforming this disease from inactive to active and advanced phase. Cigarette smoking can interfere with the function of the alveolar macrophages and the supply of antigen (15). As a result, the effectiveness of the specific immune system is reduced; additionally, given the effect of nicotine on providing energy for T cells and causing impairment to the immune system, the individual becomes susceptible to cellular infections, such as *mycobacterium tuberculosis* (16). Diabetes is another risk factor the combination of which with tuberculosis reduces CR3 monocytes and IL-2 on the surface of the lymphocytes, resulting in a reduction in the cellular immunity of an individual regarding the ability to control tuberculosis (17). Therefore, the probability of tuberculosis is one of the differential diagnoses that can be considered in the case of respiratory symptoms in these people. Consequently, designing an effective programs and screening patients opens new horizons for controlling and preventing tuberculosis.

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