

Risk factors of Pulmonary Tuberculosis (PTB): Avicenna's Viewpoint

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Abstract

Tuberculosis (TB) has always been represented as a constant and serious public health challenge throughout human history due to its intensive epidemiological, clinical, and social implications. Risk factors for TB are very important and lack of attention to these parameters can lead to poor therapeutic results. The risk factors for TB in various studies in modern medicine are described. Avicenna, the great Persian scientist described TB in his book "Canon of Medicine" in a chapter related to pulmonary diseases along with its symptoms and treatment. In addition, according to this scientist, there are risk factors that, if present in a person, make him prone to TB.

It seems that many of the factors mentioned by the scholars of Persian Traditional Medicine (PTM) are not currently among the risk factors for TB in modern medicine and have not been studied yet. If this hypothesis is supported and confirmed by future research in modern medicine, the recommendations of PTM can be a significant help in controlling the consequences of this disease.

Keywords: Risk factors, Pulmonary Tuberculosis, Avicenna, Persian Traditional Medicine

Statement

Tuberculosis (TB) is a serious respiratory infectious disease caused by mycobacterium TB. It has always been represented as a constant and serious public health challenge throughout human history due to its intensive epidemiological, clinical, and social implications (1). Although the efforts of many health systems have reduced the incidence and mortality of this disease in recent years, many preventive factors must be considered to reduce the burden of this complication. Risk factors for TB are very important and lack of attention to these parameters can lead to poor therapeutic results (2).

Various studies have shown that patients with risk factors are more at risk, compared to normal populations, and if they do, the complications of the disease get more severe leading to faster disease progression among these individuals (3). Therefore, it is necessary to pay attention to the risk factors of this disease since it may result in reducing the incidence of prolonged TB, drug resistance, relapse, and non-response to treatment.

The risk factors for TB in various studies include diseases, such as diabetes, chronic renal failure, dialysis, and organ transplantation followed by underlying lung diseases, including fibro nodular lung diseases, as well as any disease with an immune deficiency problem, especially AIDS.

Smoking, alcohol consumption, drug abuse, close contact with a patient with TB, and weight loss have been reported as other risk factors in this regard (2, 4).

Persian Traditional Medicine (PTM) has a rich and great millennial history. Scientists in PTM recognized TB [sil] as lung disease,

described its symptoms in detail in their textbooks, and differentiated it from other lung diseases, such as asthma, pleurisy, and pneumonia (1).

Avicenna, the great Iranian sage in the 9th century AD, described TB in his book "Canon of Medicine" in a chapter related to pulmonary diseases as a Pulmonary ulcer that is often associated with Degh fever (heart fever). He goes on to point out the risk factors that, if present in a person, make him prone to TB. Some of these factors are mentioned in the book as etiology and some as pre-disposing factor, which can be generally divided into two categories: internal and external factors.

Internal factors can be divided into two categories of intrapulmonary and extrapulmonary diseases. The intrapulmonary disease includes any diseases that cause inflammation and infection in the lung tissue and affects its function, such as the recent onset of pneumonia (5).

However, some extrapulmonary diseases are affected through proximity, such as prolonged pleurisy and a variety of inflammations and infections in the chest wall. Other types of extrapulmonary diseases can indirectly weaken and injury lung tissue, the most important of which is chronic post-nasal drip, in which the discharge is constantly discharged into the lung tissue.

Among the extrapulmonary causes he considers weight loss as one of the most important symptoms and considers severe atrophy in people to be very susceptible to TB. He describes the physical features of these people in detail: "Their shoulders are bare of meat, their ribs are completely prominent and palpable from behind, and their shoulders are protruding forward like a bird. The neck of these people is long and

slender and is bent forward and their Adam's apple is dominant". A common feature of all the mentioned diseases is that they are chronic and last longer than their treatment period or have not been treated for some reasons.

But external factors such as trauma to the lung tissue, falls, and consumption of some toxic and lung-damaging drugs can all predispose people to TB. Being in the young ages, the autumn season, and living in cold regions have also been reported as other predisposing external causes (5).

It seems that many of the factors mentioned by the scholars of PTM are not currently among the risk factors for TB and have not been studied yet. If this hypothesis is supported and confirmed by future research in modern medicine, the recommendations of PTM can be a significant help in controlling the consequences of this disease. It is hoped that the results of this study can be an effective step in planning for the development of comprehensive and preventive protocols and help control the disease in the global community.

Conflicts of interest

There are no conflicts of interest.

Authors' contribution

All authors contributed to this research.

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