



## Research Article

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# Evaluation of epidemiological and clinical characteristics of pulmonary tuberculosis in elderly patients of Yazd city

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## Abstract

Due to the fact that tuberculosis is one of the most important diseases in Iran and also due to the re-emergence of tuberculosis in the world, this disease has received more attention. This study was aimed to investigate epidemiological and clinical characteristics of pulmonary tuberculosis in elderly patients of Yazd city. After the laboratory diagnosis, the doctor visited the patients and after confirming the diagnosis, the patients were referred to a specialist to complete the file and receive anti-tuberculosis drugs. Necessary information including: history, history of risk factors, history of treatment, diagnostic radiography, drug resistance and results of pulmonary tuberculosis treatment were reviewed by referring to patients' files. Finally, statistical analysis was performed using SPSS (version 16). Most of the participants were 75 years old. Most of the participants were illiterate and housewives. Nearly 59% had no underlying disease. Diabetes was the most common underlying disease among individuals. The results showed that knowledge of personal health care was lower in people with lower levels of literacy, which further increases the incidence of this disease in this group.

**Keywords:** Elderly Patients, Pulmonary Tuberculosis, Clinical Characteristics.

## INTRODUCTION

Tuberculosis is an infectious disease caused by *Mycobacterium tuberculosis* [1]. It can affect almost any part of the body, but the most common form of the disease is pulmonary tuberculosis [2,3].

The infection is almost always transmitted through respiration, but after entering the lungs and causing a primary lesion, the bacteria can spread directly through the blood, lymphatic vessels, bronchi, or due to the proximity of organs to other parts of the body [4].

Pulmonary tuberculosis is often accompanied by a positive sputum smear in which case it can be highly contagious [5].

Pulmonary complications of TB can include hemoptysis, pneumothorax, bronchiectasis, extensive lung damage, malignancy, and chronic pulmonary aspergillosis [4,6,7].

In the elderly, a weakened immune system and the presence of chronic diseases such as kidney failure, pulmonary embolism, and malignancy increase the risk of tuberculosis [8,9].

Because, tuberculosis is one of the most important diseases in Iran, therefore, this research was designed to assay clinical and epidemiological features of pulmonary tuberculosis in elderly individuals in Yazd, Iran.

## Materials and Methods

This study was as descriptive. The study period was from 2016 to 2019. It was conducted after the approval of the ethics committee of Shahid Sadoughi University of Medical Sciences in Yazd and receiving the ethics code.

The study population was individuals with pulmonary tuberculosis who had a recorded file in Nikopour infectious diseases clinic in Yazd. The sampling method was census. After the laboratory identification, the

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doctor visited the patients and after confirming the diagnosis, the patients were referred to a specialist to complete the file and receive anti-tuberculosis drugs.

The required information was collected in a checklist prepared by the researcher. Essential information including: patient history, history of risk factors, history of treatment, diagnostic radiography, drug resistance and results of pulmonary tuberculosis treatment (improved, treatment failure and death) were reviewed by referring to patients' files.

Inclusion criteria included age greater than or equal to 65, Iranian, resident of Yazd, diagnosis of pulmonary tuberculosis.

Exclusion criteria were age less than 65 and non-TB diagnosis such as lung cancer.

Finally, statistical analysis was performed using SPSS (version 16) and Chi-Square test. Here, p-value <0.05 was considered as a significant level.

## RESULTS

There was a significant difference between the two genders in the incidence of TB ( $p=0.000$ ) (Table 1).

**Table 1:** The incidence of TB based on gender

Gender	Frequency	Percent	P-value
Male	24	40	0.000
Female	36	60	
Total	60	100	

There was also a significant difference between different occupational groups in the incidence of disease ( $p=0.000$ ) (Table 2).

**Table 2:** The incidence of TB based on Occupation

Occupation	Frequency	Percent	P-value
Retired	16	26.7	0.000
Housewife	34	56.7	
Worker	1	1.7	
Self-employment	4	6.7	
Unemployed	5	8.3	
Total	60	100	

There was also a significant difference between different educational groups in the incidence of the disease ( $p=0.000$ ) (Table 3).

**Table 3:** The incidence of TB based on educational level

Educational level	Frequency	Percent	P-value
Illiterate	49	81.7	0.000
Primary education	6	10.0	
Middle school	2	3.3	
Diploma	2	3.3	
Bachelor	1	1.7	
Total	60	100	

Also, diabetes was the most common underlying disease among individuals.

## DISCUSSION

In the present study, there was a significant difference in the incidence of TB based on gender, occupation and educational level.

In a study that was performed on elderly patients with type 2 diabetes in Taiwan, male patients had a significant risk for tuberculosis [10].

In another study, the presence of tuberculosis symptoms as well as the sensitivity and specificity of symptoms for tuberculosis were different between the two study populations and under 65 years of age [11].

In another study, older individuals showed a higher prevalence of shortness of breath, cardiovascular disorders, diabetes and cancer among tuberculosis patients [12].

In a study, diabetes-related comorbidities generally increased risk and mortality in tuberculosis patients [13].

## CONCLUSION

In this study, lack of knowledge and information about health care was lower in individuals with lower levels of literacy, which led to a further increase in the disease. Older individuals also need more health care.

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## Conflicts of interest

None declared.

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