



The Egyptian Society of Chest Diseases and Tuberculosis  
**Egyptian Journal of Chest Diseases and Tuberculosis**

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ORIGINAL ARTICLE

# Demography and clinical outcome of pulmonary tuberculosis in Kashmir; 2 year prospective study



Ajaz Nabi Koul, Hilal Ahmad Wagay, Aadil Bashir Rather\*, Gh Nabi Dhobi, Fayaz Ahmad Bhat, Mohd Rafiq Bhat

Infectious Disease Department, SKIMS, Soura, Srinagar, Jammu and Kashmir, India

Received 6 December 2015; accepted 20 December 2015

Available online 16 January 2016

## KEYWORDS

Tuberculosis;  
Demography;  
Clinical outcome

**Abstract** *Introduction:* Tuberculosis (TB) is caused by *Mycobacterium tuberculosis*, primarily affecting lungs. One-third of the world's population is currently infected with the TB bacillus. Tuberculosis is one of the three primary diseases of poverty. The risk of developing tuberculosis is higher in immunocompromised persons and is a chronic debilitating disease.

*Aims and objectives:* To study the demographic features and clinical outcome of pulmonary tuberculosis.

*Materials and methods:* A prospective study involving 72 pulmonary tuberculosis patients above 18 years.

*Results:* In our study 45 were below the age of 40 years with a mean age of 47 years  $\pm$  12.39, with a male to female ratio of 1.4:1.61; patients were from rural areas and 18 were labourers. Two were HIV positive; fever was the main presenting complaint. Mean haemoglobin was 11.2  $\pm$  2.48. Mean ESR was 45.2  $\pm$  12.55. Bronchoscopy was done in 13 patients and 4 had bronchoalveolar lavage positive for AFB. All patients received a daily regimen of ATT. 4 were treated as Cat II, rest were treated as Cat I. 64 patients (88.8%) were cured, 8 (11.1%) are on follow up. No resistance was documented in any of the patients. Treatment related complications were seen in 43 (30.8%).

*Conclusion:* Tuberculosis most commonly occurs in younger patients, especially from rural areas. Due to the low prevalence of HIV in Kashmir association with HIV was low. The Commonest presentation was fever. Most patients had a good response to daily regimen and the most common drug related side effect was hepatitis.

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## Introduction

Tuberculosis (TB) is an infectious disease caused by *Mycobacterium tuberculosis*. The disease primarily affects lungs. Overall, one-third of the world's population is currently infected with the TB bacillus. 5–10% of the people who are infected

\* Corresponding author.

E-mail address: [zuhaaadil@gmail.com](mailto:zuhaaadil@gmail.com) (A. Bashir Rather).

Peer review under responsibility of The Egyptian Society of Chest Diseases and Tuberculosis.

<http://dx.doi.org/10.1016/j.ejcdt.2015.12.015>

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with TB bacilli (but who are not infected with HIV) become sick or infectious at some time during their life. People with HIV and tuberculosis infection are much more likely to develop active tuberculosis. The risk for developing TB disease is also higher in persons with diabetes, other chronic debilitating diseases leading to immune-compromised state, poor living conditions, tobacco smokers, preexisting structural lung disease etc [1].

It can also affect other tissues of the body. The disease is usually chronic with cardinal features like persistent cough with or without expectoration, intermittent fever, loss of appetite, weight loss, chest pain and haemoptysis [2]. In healthy people, infection with *M. tuberculosis* often causes no symptoms, since the person's immune system acts to "wall off" the bacteria. Tuberculosis is one of the three primary diseases of poverty along with AIDS and malaria [3].

The following profile of patients should be screened for tuberculosis:

- Persistent cough of 2 weeks or more or any duration in HIV positive.
- Fever for more than 2 weeks.
- Unexplained night sweats.
- Unexplained weight loss (more than 1.5 kg in a month).

#### Aims and objectives

To study the demographic features, clinical presentation and treatment outcome of pulmonary tuberculosis patients at SKIMS, a tertiary care hospital in Kashmir valley.

#### Materials and methods

A prospective study of tuberculosis patients was conducted in the Infectious Disease Department, Division of Internal Medicine, Sher-I-Kashmir Institute of Medical Sciences, Soura, Srinagar from June 2013 to May 2015. Tuberculosis patients who visited infectious disease clinic on OPD basis and patients who were admitted in general medicine ward were taken up in this study. For each patient clinical presentation, socio demographic profile and outcome of treatment were recorded interpreted and analysed.

#### Inclusion criteria

All patients > 18 years of age suspected of pulmonary tuberculosis were included.

Pulmonary tuberculosis was diagnosed on the basis of:

- **Sputum smear for AFB (positive):** two or more initial sputum smear examination positive for AFB or one sputum smear examination positive for AFB plus radiological abnormalities consistent with active pulmonary tuberculosis or one sputum smear positive for AFB plus sputum culture positive for *M. tuberculosis*.
- **Sputum smear for AFB (negative):** those patients who had BAL positive for AFB were also part of study.

All patients were subjected to the following investigations:

- CBC;
- Complete biochemistry including full LFT;
- Urine examination;
- Chest X-ray;
- ECG;
- USG abdomen;
- HIV;
- Sputum for AFB;
- Sputum culture for AFB, (as per clinical correlation);
- Broncho alveolar lavage for AFB staining/culture, (as per clinical correlation);
- Gene Xpert and line probe assay (as per clinical correlation).

#### Results and observation

In our study of 72 patients of pulmonary tuberculosis we found 45 of them below age of 40 years with a mean age of 47 years  $\pm$  12.39. 61 (84.7%) were from rural areas. 2 patients were found to be HIV positive. 42 (58%) were males and among them 18 (25%) were labourers. Family history of tuberculosis was in 16 patients (22.22%) Tables 1 and 2.

Fever was the presenting complaint in 59 patients (81.9%) followed by cough and haemoptysis in 51 (70%) and 26 (19%) respectively. Other features like weight loss, nausea, chest pain,

**Table 2** Occupational status of tuberculosis patients in our study ( $n = 72$ ).

Occupation	Frequency ( $n = 72$ )	Percentage (%)
Labourers	18	25
Students	14	19.5
Others (mostly elderly)	14	19.5
Housewives	13	18
Govt employee	10	14
Businessmen	3	4
Total	72	100

**Table 1** Demographic Characteristic of patients in our study ( $n = 72$ ).

Age		Sex		Residence		Smoking		Married		HIV status		Alcohol/other addiction		Family history	
< 40	> 40	Male	Female	Rural	Urban	Yes	No	Yes	No	Positive	Negative	Absent	Present	Present	Absent
45	27	42	30	61	15	26	46	45	27	2	70	72	0	16	56

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