

# Behavioural Problems of Tuberculosis Patients as a Cause of Delay in the Diagnosis and Treatment of Tuberculosis among the TB OPD Patients at Institute of Chest Diseases, Kotri

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## ABSTRACT

**Aim:** To describe the pattern of behavioural problems of TB patients which cause the delay in diagnosis of tuberculosis.

**Methods:** This descriptive cross-sectional study was conducted at Institute of Chest Diseases, Kotri over a period of 3 months from 6<sup>th</sup> October to 26<sup>th</sup> December 2006. A total of 200 patients were included. One hundred patients were collected from the OPD while 100 patients were collected from indoor wards. Patients who complained of cough, fever, chest pain and haemoptysis for more than 3 weeks are considered suspected cases of tuberculosis.

**Results:** There were 55.5% males and 44.5% females with mean age of 34.43±13.18 years. 56% patients were diagnosed within a few days, 29.5% were diagnosed between 1-12 months, 5% were diagnosed between 13-26 months and 9.5% were diagnosed between 25-36 months. The main complaints were 97.7% cough and 95% have fever.

**Conclusion:** Health care provider delay was the major contributor in the delay of the diagnosis and treatment of tuberculosis.

**Keywords:** Tuberculosis, Behavioral problem, Diagnosis, Treatment, Cause

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## INTRODUCTION

Tuberculosis causes a large burden of disease on the world, killing two million people annually. It is estimated that 95% of all TB cases and 98% of all TB deaths occur in South of Asia. The disease prevalence has increased due to poverty, poor public health systems and increasing prevalence of HIV/AIDS.<sup>1</sup> There are two billion people already infected with mycobacterium tuberculosis and 8 to 12 million new TB cases occur annually in the world. To prevent two million deaths due to this disease rapid diagnostic procedures are required for an early start of treatment. There are 4.6 million patients who are co-infected with Human Immunodeficiency Virus (HIV) and Mycobacterium tuberculosis.<sup>2</sup> WHO framework for tuberculosis control is not sufficiently comprehensive for low incidence countries in Europe, where epidemiological and socioeconomic situation is different from high incidence countries<sup>3</sup>. Because of a greater patient morbidity and mortality and intra institutional spread of TB, delay in diagnosis of active tuberculosis becomes an important problem in many general hospitals in industrialized countries<sup>4</sup>.

Tuberculosis is a leading cause of mortality of people living with HIV/AIDS in sub-Saharan Africa. Reasons for delay in diagnosis are that culture and sensitivity test take 8 weeks for their result and are unavailable in many low income countries. Chest X-ray is commonly used for diagnosis and sputum negative patients may also transmit TB, progressing to smear positive if left untreated<sup>5</sup>. Sputum positive patients are the most infectious of patients, delay in the diagnosis and treatment of such patients increases the risk of transmission in the community<sup>6</sup>.

Tuberculosis is a public health problem in developing countries. Pakistan is ranked 8<sup>th</sup> in EMRO countries with 1.5 millions tuberculosis patients with 250,000 new cases being added to the list every year. Late treatment not only causes the spread of disease among close contacts but also jeopardizes the recovery and cure of patients<sup>7</sup>. WHO estimates that more than 300000 new cases appear in Pakistan every year, three quarters of cases are in the reproductive age group. Delay in diagnosis and inability to cure a high proportion of smear positive cases are the main reasons of increased risk of infection, high death rate and multi-drug resistant cases in Pakistan<sup>8</sup>.

WHO has also recommended a framework and strategy for effective TB in response to this global emergency known as DOTS. It is vital for health care providers to treat TB patients successfully within this

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framework under the umbrella of the National Tuberculosis Control Program (NTCP)<sup>9</sup>.

## PATIENTS AND METHODS

This descriptive study was conducted at Institute of Chest Diseases, Kotri over a period of 3 months from 6<sup>th</sup> October to 26<sup>th</sup> December 2006. A total of 200 patients were included, 100 patients collected from the OPD and 100 patients were collected from the indoor wards. New cases of tuberculosis and sputum positive were included. Patients of old TB, negative cases, unwilling and non-cooperative TB patients were excluded. The main criteria for diagnosis of tuberculosis are sputum examination and chest X-rays. Patients who complained of cough, fever, chest pain and haemoptysis for more than 3 weeks were considered suspected cases of tuberculosis and suspected cases were advised sputum for AFB and chest X-ray. For AFB three specimens are always taken. If two or more specimens of sputum were AFB positive then patient is labelled as having pulmonary tuberculosis. The data of these patients was entered in the computer and analyzed by using simple descriptive statistics in SPSS-20.

## RESULTS

There were 111 (55.5%) males and 89 (44.5%) females with a mean age of 34.43±13.18 years and 139(69.5%) were married and 61 (30.5%) were unmarried patients (Table 1). One hundred and twelve (56%) patients were diagnosed within a few days, 59 patients (29.5%) were diagnosed between 1-12 months, 10 patients (5%) were diagnosed between 13-26 months and 19 patients (9.5%) were diagnosed between 25-36 months (Table 2). Out of 200 patients, the symptoms for cough presented in 195 (97.5%), fever in 190 (95%), haemoptysis in 70 (35%), chest pain in 57 (28.5%) and symptoms not mentioned were 8 (4%) (Table 3).

Table 1: Demographic information of the patients

Variable	n	%age
<b>Gender</b>		
Male	111	55.5
Female	89	44.5
<b>Age (years)</b>		
1-14	21	10.5
15 – 45	128	64.0
46+	51	25.5
<b>Marital status</b>		
Married	139	69.5
Unmarried	61	30.5

Table 2: Frequency of diagnosed patients for tuberculosis

Duration (months)	n	%age
Within few days	112	56.0
1 – 12	59	29.5
13 – 26	10	5.0
25 – 36	19	9.5

Table 3: Frequency and percentage of symptoms of TB patients

Symptoms	Yes	No
Cough	195(97.5%)	5(2.5%)
Fever	190(95%)	10(5%)
Haemoptysis	70(35%)	170(65%)
Chest pain	57(28.5%)	143(71.5%)
Any other symptoms	8(4%)	192(96%)

## DISCUSSION

A study conducted at Liari Chest Clinic and Nazimabad Chest Clinic in Karachi showed that the time in between the onset of initial symptoms and the diagnosis and start of the treatment of tuberculosis is 120 days.<sup>7</sup> Similar finding have been identified in our study that most of the patients are diagnosed within first 3-4 months after starting of symptoms.

The study conducted by Sadiq and Mueynck<sup>10</sup> at TB Center Rawalpindi showed that delay is more on the part of health care providers than on the patients. The present study also shows the same findings that delay is more on the part of healthcare providers than patients.

Cough was the main symptom 195(97.5%), fever was in 190(95%) patients, haemoptysis in 70(35%), chest pain in 57(28.5%) and 8(4%) patients for different symptoms. While a study that was conducted in Nigeria showed that symptoms of tuberculosis experienced by patients included cough 128 (91%), weight loss 103(73%), fever 117(83%), chest pain 85(60%) and haemoptysis 42(30%)<sup>11</sup>.

Al-Absi<sup>12</sup> did a study in Yemen and showed that more than two-thirds of all newly diagnosed tuberculosis patients were aged <35 years and the male to female ratio was 1:1.4. In the present study, 64% were below 45 years and 25.5% were above 46 years with male to female ratio of 1:1.3. Cough was reported by almost all patients followed by fever and chest pain. Cough with any other complaint was the main symptom motivating patients to seek health care. This study showed that 97.5% patients had cough, 95% fever, 35% haemoptysis and 28.5% chest pain.

The mean age of the present study was 31.0±14.0 years. The result is comparable to the study done by Mesfinet al<sup>13</sup> in Tigray of Northern

Ethiopia. Health service delay comprised time spent during referrals to higher institutions, time spent on diagnosis and time after diagnosis to the start of treatment. Nearly half of the patients experienced 9 or more days of delays in the starting of treatment after their first contact with a public health institution.

It is recommended that there must be training provision for all the non-DOTS providers so that when they see such type of patients they immediately refer these patients to DOTS providers. Hence there must be collaboration between DOTS and Non-DOTS providers.

## CONCLUSION

Health care provider delay was more than the delay by patients. Treatment delay was associated with the type of health care providers (non DOTS & DOTS). Diagnosis delay was not associated with the type of health care provider (non DOTD non DOTS). In total, health care provider delay was the major contributor in the delay of the diagnosis and treatment of tuberculosis.

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