



## International Journal of Allied Medical Sciences and Clinical Research (IJAMSCR)

*IJAMSCR* / Volume 3 / Issue 3 / July-Sep- 2015  
www.ijamscr.com

*Research article*

*Medical research*

### Evaluation of adverse effect risk factors of drugs in pulmonary and extra pulmonary tuberculosis

**K.Sattanathan., C.P.Azhar, A.Prakash., Shyamilly John, SK.Chandini, R.Sambathkumar**

*JKK Nattraja College of Pharmacy- Kumarapalayam, Namakkal DT, Tamil nadu, India.*

**\*Corresponding author: K.Sattanathan**

Email: ksknathan@rediffmail.com

#### ABSTRACT

Tuberculosis is a bacterial infection that can spread through the lymph nodes and bloodstream to any organ in our body. The present study was to evaluate the adverse effect risk factors of drugs in pulmonary and extra pulmonary tuberculosis. This study concluded that vomiting, gastric upset dizziness, color changes in urine, itching and chest pain were the main reported adverse reaction.

**Key words:** Tuberculosis, Adverse effect.

#### INTRODUCTION

Tuberculosis is a widespread, and in many cases fatal, infectious disease caused by various strains of mycobacteria, usually *Mycobacterium tuberculosis*. [1] Tuberculosis typically attacks the lungs, but can also affect other parts of the body. It is spread through the air when people who have an active TB infection cough, sneeze, or otherwise transmit respiratory fluids through the air. [2] Most infections do not have symptoms, known as latent tuberculosis. About one in ten latent infections eventually progresses to active disease which, if left untreated, kills more than 50% of those so infected. The aim of the study was to evaluate the adverse effect risk factors of drugs in pulmonary and Extra Pulmonary tuberculosis.

#### PLAN OF WORK

The entire work was carried out for a period of 6 months. The proposed study was designed in three

different phases to achieve the objective. Phase 1 for literature survey, Phase 2 for data collection and Phase 3 for evaluation and report submission.

#### METHODOLOGY

The patients selected from District tuberculosis Control (DTC) Erode. Data is collected from case record and interview the patients those who identified tuberculosis in a Direct observed therapy of short course (DOTs) center.

- Data such as demographic details, disease classification occupation, type of patients, HIV status, past history of tuberculosis, category of treatment and weight of the patients.
- Patients were interviewed and evaluate life style, family history, literacy status associated diseases, awareness about disease, and symptoms of the patients at the time of admission.

**RESULTS****Table 1. (n=60) Based on classification of tuberculosis**

<b>Classification of tuberculosis</b>	<b>Number of patients</b>	<b>Percentage of patients (%)</b>
Pulmonary Tuberculosis	45	75
Extra pulmonary Tuberculosis	15	25
<b>Total</b>	<b>60</b>	<b>100</b>

Table I: shows that out of 60 tuberculosis cases 75 % had a pulmonary tuberculosis and 25 % had extra pulmonary tuberculosis.

**Table 2. Age wise distribution of pulmonary tuberculosis By Gender. (n=45)**

<b>Age in groups (Years)</b>	<b>Number of patients</b>		<b>Percentage of patients</b>	
	<b>Male</b>	<b>Female</b>	<b>Male (%)</b>	<b>Female (%)</b>
<b>10-20</b>	12	4	26.67	8.89
<b>21-30</b>	10	3	22.23	6.66
<b>31-40</b>	8	2	17.78	4.44
<b>41-50</b>	5	1	11.11	2.22
<b>TOTAL</b>	<b>35</b>	<b>10</b>	<b>77.79</b>	<b>22.21</b>

Table 2: shows that highest percentage of both male and female Pulmonary Tuberculosis patients were found between the age group of (10-20 years).

**Table 3. Age wise distribution of extra pulmonary tuberculosis by Gender. (n=15)**

<b>Age in groups (years)</b>	<b>Number of patients</b>		<b>Percentage of patients</b>	
	<b>Male</b>	<b>Female</b>	<b>Male (%)</b>	<b>Female (%)</b>
<b>10-20</b>	3	4	20.00	<b>26.67</b>
<b>21-30</b>	2	3	13.33	<b>20.00</b>
<b>31-40</b>	2	1	13.33	<b>6.67</b>
<b>Total</b>	<b>7</b>	<b>8</b>	<b>46.66</b>	<b>53.34</b>

Table 3: Shows that highest percentage of both and male Extra Pulmonary Tuberculosis patients were found between the age group of 10-20 years.

**Table 4. Geographic location of Tuberculosis (n=60)**

<b>Types of TB</b>	<b>Urban</b>		<b>Rural</b>	
	<b>Number of patients</b>	<b>Percentage of patients</b>	<b>Number of patients</b>	<b>Percentage of patients</b>
<b>EPTB</b>	10	47.61 %	11	52.38 %
<b>PTB</b>	34	57.62%	25	42.37%

PTB: Pulmonary Tuberculosis

EPTB: Extra pulmonary Tuberculosis

It shows that slight increase in pulmonary cases in urban area than rural area.

**Table 5. Symptoms of pulmonary and extra pulmonary tuberculosis**

SL NO	Symptoms of PTB and EPTB	Number of patients in PTB (n=45)	Percentage of patients In PTB	Number of patients in EPTB (n=15)	Percentage of Patients in EPTB
1	Cough	28	62.22	2	13.33
2	Chest pain	16	35.55	2	13.33
3	Night sweats	10	22.22	1	6.67
4	Tiredness	22	48.89	10	66.66
5	Anorexia	26	57.78	10	66.66
6	Shortness of breath	15	33.33	3	20.00
7	Haemoptysis	1	2.22	1	6.67
8	Fever	22	48.89	10	66.66
9	Pain	2	13.33	6	40.00
10	Diarrhoea	4	26.67	4	26.67

**Table 6. Adverse Effect of Anti Tuberculosis Drugs before and after patient counseling**

Effects of drugs	Before counselling- PTB		After counselling- PTB		Before counselling_ EPTB		After counselling- EPTB	
	No:	%	NO:	%	NO:	%	NO:	%
<b>Vomiting</b>	8	17.78	3	6.66	3	20	1	6.67
<b>Body weight-average kg</b>	56.25	-	57.80	-	54.35	-	55.64	-
<b>Gastric upset</b>	18	40	6	13.33	5	33.33	2	13.33
<b>Dizziness</b>	20	44.44	8	17.77	6	40	3	20
<b>Color changes in urine</b>	10	22.22	4	8.89	8	53.33	2	13.33
<b>Itching</b>	5	11.11	2	4.44	4	26.66	1	6.67
<b>Chest pain</b>	8	17.77	2	4.44	4	26.66	1	6.67

## DISCUSSION

In the total of 60 tuberculosis cases 75 % had pulmonary tuberculosis and 25 % had extra pulmonary tuberculosis. It indicates that significantly higher proportion of pulmonary tuberculosis. The clinical manifestations of TB are of two types:

Pulmonary and Extra pulmonary forms of TB (EPTB), the former being the commonest. In EPTB highly vascular areas such as lymph nodes, meninges, kidney, spine and growing ends of the bones are commonly affected. The other sites are pleura, pericardium, peritoneum, liver, gastro-intestinal tract,

genito-urinary tract and skin. The problem of EPTB is still high, both in developing and developed countries. In India, EPTB forms 10 to 15 percent of all types of TB, in comparison to 25 percent in it shows that Cough, Chest pain, Night sweats, Tiredness, Anorexia, Shortness of breath, Haemoptysis, Fever were the major symptoms of TB. People infected with TB bacteria have a lifetime risk of falling ill with TB of 10%. However persons with compromised immune systems, such as people living with HIV, malnutrition or diabetes, or people who use tobacco, have a much higher risk of falling ill. When a person develops active TB (disease), the symptoms (cough, fever, night sweats, weight loss etc.) may be mild for many months. This can lead to delays in seeking care, and results in transmission of the bacteria to others. People ill with TB can infect up to 10-15 other people through close contact over

the course of a year. Without proper treatment up to two thirds of people ill with TB will die.

## CONCLUSION

The clinical manifestations of TB are of two types: Pulmonary and extra pulmonary forms of TB. Tuberculosis patients were found between the age group of (10-20 years).It concluded that slight increase in pulmonary cases in urban area than rural area. It concluded that Cough ,Chest pain ,Night sweats, Tiredness, Anorexia, Shortness of breath, Haemoptysis, Fever were the major symptoms of TB. Vomiting, Gastric upset Dizziness, Color changes in urine, Itching and Chest pain are the main reported adverse reaction. The side effects of the drugs can be reduced by providing proper food and following the instructions rendered by the physicians.

## REFERENCES

1. Central TB Division (CTD), Directorate General of Health Services, Ministry of Health and Family Welfare, Government of India. Revised National TB Control Programme. Operational guidelines for TB Control. New Delhi: CTD, 1997.
2. CTD. Revised National TB Control Program. Technical guidelines for TB Control. New Delhi: CTD, 1997.
3. CTD. Managing the Revised National TB Control Program in your area. A training course. Modules 1-4. New Delhi: CTD, 1998.
4. World Health Organization (WHO). Treatment of Tuberculosis. Guidelines for National Programs, 3rd ed. WHO/CDS/TB 2003.313. Geneva, Switzerland: WHO, 2003.
5. Sudre, P., Hirschel, B.J., Gatell, J.M., et al.: Tuberculosis among European patients with the Acquired immune deficiency syndrome. The AIDS in Europe Study Group. *Tuber Lung Dis* 1996; 77:322-8.