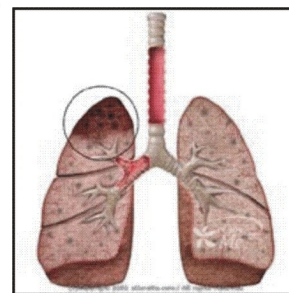


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ANTI TUBERCULOUS TREATMENT; OUTCOME AT OUT PATIENT TB CLINIC IN KHYBER TEACHING HOSPITAL, PESHAWAR

**DR. SAADIA ASHRAF, MBBS**

Senior Registrar, Pulmonology unit,
Khyber Teaching Hospital, Peshawar.

DR. AMBER ASHRAF, MBBS

Senior Registrar, Cardiology Unit,
Khyber Teaching Hospital, Peshawar.

DR. MUKHTIAR ZAMAN, MBBS

Incharge & Ass: Prof. Pulmonology Unit,
Khyber Teaching Hospital,
Peshawar.

ABSTRACT ... saadiaashraf@msn.com. **Objective:** To determine the clinical profile and treatment outcome of patients with tuberculosis. **Design of study:** Descriptive study **Setting:** Outpatient TB clinic, Khyber Teaching Hospital Peshawar. **Period:** From 1st January 2002 to 31st December 2002. **Research Methodology:** Diagnosed cases of tuberculosis were registered according to WHO guidelines and treated under the conventional strategy of monthly visits. Patients were assessed for treatment outcome. **Results:** 134 patients were registered and treated as per WHO guidelines. Out of 134 patients, 72(53.7%) patients were males and 62(46.2%) were females. Ninety-nine (73.6%) patients were in age range of 10 – 40 years. The mean age at the time of diagnosis was 22 years. In category-I, there were 64 patients (47.7%), 4(3%) were in category -II and 66(49.3%) in category -III. Fever and cough were the most common presenting symptom. In this study, pulmonary TB was seen more commonly (n=76) than extra pulmonary TB (n=58). Out of 76 patients with pulmonary TB, 31 have sputum smear positive. After initial intensive treatment, 30 patients became sputum smear negative. 26 out of 31 were cured and 91 out of 108 had completed the treatment, one patient died, 11 were declared as defaulter, 5 were transferred out. **Conclusion:** The cure rate is satisfactory but the default rate is worrying.

Key Words: Tuberculosis, Anti-tuberculosis treatment outcome, Pakistan.

INTRODUCTION

Tuberculosis is an infectious, systemic, chronic granulomatous disease mainly caused by mycobacterium tuberculosis^{1,2}, which is mainly spread through the respiratory system. There is usually prolonged latency period between initial infection and

overt disease, either pulmonary or extra pulmonary¹.

Tuberculosis causes a great deal of ill health and affects the economy of developing countries. TB remains a major public health problem in Pakistan³. As per WHO report of year 2001, Pakistan stands at number six in the

list of 22 high burden TB countries of the world^{3,4}. With a population of 144 million, an estimated 300,000 people get TB every year in Pakistan, three quarters of which happens to be in the young age group^{2,5}.

In 1994, the government of Pakistan adopted the Direct Observation treatment short course (DOTS) strategy. But the progress in DOTS expansion has been very slow. Until 1999, population coverage of DOTS in Pakistan was only 8%⁴. Early diagnosis, proper registration, monitoring and ensuring compliance are the corner stones of TB control strategies.

Chest TB clinic, works with National TB Control Program (NTP) and provides free Anti-TB treatment to the registered patients. The catchment population of this centre is not defined.

This base line study was conducted to see the clinical profile and outcome of tuberculosis patients attending

Chest & TB clinic, Khyber Teaching Hospital, Peshawar in year 2002 in preparation for DOTS implementation strategy.

MATERIALS & METHODS

This descriptive study was conducted in outpatient TB clinic at KTH, Peshawar from 1st January 2002 to 31st December 2002. Convenience sampling technique was employed. Diagnosed patients resident of near by areas of KTH were registered according to WHO guidelines².

Demographic data, relevant medical history and necessary investigations were recorded in a structured Performa.

Anti-TB treatment started in accordance with WHO guidelines and patients were assessed for main outcome in the form of number of patients cured, treatment completed, died, defaulted or transferred out.

Table-I. Category Vs gender

Category	Male N = 72 (53.7%)	Female N = 72 (53.7%)	Total N = 134
I	30 (22.3%)	34 (25.3%)	64 (47.7%)
II	2 (1.49%)	2 (1.49%)	4 (3%)
III	40 (29.8%)	26 (19.4%)	66 (49.2%)

Table-II. Category Vs Age

Age	Category-I n = 64	Category-II n = 4	Category-III n = 66	Total n = 134
1-10	2 (1.5%)	-	3 (2.2%)	5 (3.7%)
> 11-20	32 (23.8%)	1 (0.74%)	22 (16.4%)	55 (41%)
>21-30	13 (9.7%)	2 (1.5%)	12 (8.9%)	27 (20%)
>31-40	6 (4.47%)	1 (0.74%)	10 (7.4%)	17 (12.6%)
>41-50	4 (2.98%)	-	8 (5.9%)	12 (8.95%)
>51-60	5 (3.7%)	-	7 (5.2%)	12 (8.95%)
>61-70	2 (1.5%)	-	4 (2.98%)	6 (4.47%)

RESULTS

The study sample consisted of 134 patients, out of these 72(53.7%) were male and 62(46.2%) were female. The number of patients in each category was shown in Table I. Ninety nine (73.6%) patients were in age range of 10-40 years (Table II). The mean age at the time of diagnosis was 22 years.

Symptoms	Total no. of patients n = 134
Fever	123 (91.7%)
Cough	119 (89%)
Night sweat	92 (68.6%)
Haemoptysis	113 (84.3%)
Tiredness	96 (71.6%)
Weight loss	109 (81.3%)
Chest pain	115 (85.5%)
Shortness of breath	90 (67%)
Anorexia	95 (70.8%)

Pulmonary TB was seen more commonly (n=76) than extra-pulmonary TB (n=58). Out of 76 patients with pulmonary TB, 31 showed sputum smear positive (Table

V).

After initial intensive treatment, 30 patients became sputum smear negative (Table VI). Twenty six out of 31 were cured. Ninety one out of 108 has completed the treatment, one patient died, 11 were declared as defaulter, and 5 were transferred out (Table VII).

Sites	Total extra pulmonary TB patients n = 58
Lymph node	35 (60.3%)
Pleurae	48 (82.7%)
Pericardium	12 (20.6%)
Joints	06 (10.3%)
CNS	2 (3.4%)
Spine	1 (1.72%)
Abdomen	9 (15.5%)
Genital	-

Pleura is most frequently extra-pulmonary site involved, followed by lymph node and pericardium (Table IV).

Sputum smear	Category-I (n = 64)	Category-II (n = 4)	Category-III (n = 66)	Total (n = 134)
Positive	27 (42.1%)	4 (100%)	-	31
Negative	37 (57.8%)		66	103

Sputum smear	Time interval in months	Category-I (n = 64)	Category-II (n = 4)	Total	Default
Smear +ve	0	27	4	31	-
Smear -ve	2/3	27	3	30	1
Smear -ve	8	24	2	26	5

Table-VII. Treatment outcome				
DOTS outcome	Category-I (n = 64)	Category-II (n = 4)	Category-III (n = 66)	Total (n = 134)
Cured	24	2	-	26
Completed	31	1	59	91 (87.3%)
Died	1	-	-	1
Default	5	1	5	11 (8.2%)
Transfer	3	-	2	5 (3.7%)

DISCUSSION

Tuberculosis remains a serious challenge for developing countries, like Pakistan. It is the leading cause of death from any single infectious agent world wide². Major problems encountered in Pakistan are late or improper diagnosis, prescription of inadequate treatment regimen, poor supervision leading to irregular intake of drugs and poor follow up². The reason behind this alarming situation in Pakistan has been lack of proper TB control program. The National TB control programme was established in 1965 but its progress has been very slow⁴. Since year 2000, TB programme has been rejuvenated. The Directly Observed Treatment Strategy (DOTS) has been implemented in more than 65% of NWFP districts but the coverage is patchy.

In this study, 53.7% of patients were male and 46.2% were female, this finding is consistent with other national and international studies.^{6,7,8,9} Uplekar et al⁷ reports 70% excess of male over female tuberculosis cases world wide. It was observed, in Vietnam study⁷ that TB is common among men than women, and the reason may be that men are socially more active and visit public places more often.

Another study⁹ showed low notification rate of TB among female could be another explanation of less number of TB patients. A study done in Nepal⁸ has noted significant prolonged time interval delay in diagnosis of TB in women than men. Fever & cough were the most common presenting symptoms, in our study and its in agreement with other studies^{8,9}.

Our study revealed 43% of extra pulmonary tuberculosis, which is higher, compared to other studies. In another study from Karachi¹⁰ the incidence of extra pulmonary TB was reported to be 32% and this difference could be due to the fact that Khyber Teaching Hospital being a tertiary care center deals with complex cases of extra pulmonary TB. The other reason may be that there is gradual increase in the number of extra pulmonary cases of TB. A recent study done in Denmark demonstrated a higher frequency of extra pulmonary TB among immigrants especially those from Pakistan¹¹.

The cure rate achieved in our study was 83.8%, which is low as compared to WHO target of 85%. The default rate in this study was 8%, which is high. The high default may be partly explained by lack of implementation of DOTS strategy^{13, 14}.

CONCLUSION

The cure rate in our study is satisfactory though not up to the mark but the default rate is high which is worrisome. The extension and implementation of DOTS strategy is the way forward to improve the outcome in our centre.

REFERENCES

1. Mark S.Chesnutt, Thomas J. Prendergast. **Pulmonary Tuberculosis. In: Current Medical Diagnosis and Treatment.** Edited by Lawrence M.Tierney, Stehen J.Mcphree and Maxine A Papadakis.2004, Chapter 9; 251-258.
2. **Guidelines for diagnosis and management of**

- tuberculosis A national clinical guidelines Pakistan Chest Society.** March, 2002.
3. World Health Organization. **Global Tuberculosis control WHO report 2001**, WHO.CDS/TB/2001.287. Geneva, Switzerland.
 4. Dye C, Scheel S Dolin P et al. **Global burden of tuberculosis: Estimated incidence, Prevalence and Mortality by country** JAMA, 1999,282 (7):677-686.
 5. Marsh D, Hasim R, Harsany F, et al. **Front-Line management of pulmonary tuberculosis. An analysis of tuberculosis and treatment practices in Urban Sindh, Pakistan.** Tubercle lung Dis 1996, 77; 86-92.
 6. Long NH, Diwan VK, Winkvist **A difference in symptoms suggesting pulmonary tuberculosis among men & women.** J. Clin Epidemiol 2002 Feb, 55(2) 115-20.
 7. Uplekar MW, Rangan S. **Attention to gender issues in tuberculosis to control.** Int J tuberc lung Dis, 2001 March, 5(3) :220-4.
 8. Yamasaki-Nakagawa M, Ozask. **Gender differences in delay to diagnosis and health care seeking behavior in a rural area of Nepal.** Int J. Tuberc lung Dis 2001 Jan, 5 (1): 24-31.
 9. Holmes CB, Nuhn P. Hausler H. **Review of sex differences in the epidemiology of tuberculosis.** Int J tuberc lung Dis 1998 Feb, 2 (2) 96-104.
 10. Ahmed M, Aziz S. **Pattern of tuberculosis in general practices.** J Pak med Assoc 1998 Jun;48 (6):183-4.
 11. Lileback T, Poulsen S, KoK-Jensen A. **Tuberculosis treatment in Denmark; treatment outcome for all Danish patients in 1992.** Int Tuber lung Dis 1999(7):603-612.
 12. **WHO, report on global tuberculosis control Geneva; the organization , 2002.**
 13. Burman WJ, Dalton CB, Cohn DL, et al. **A cost effectiveness analysis of directly observed therapy vs self administered therapy for treatment of tuberculosis.** Chest 1997; 112 (1-2), 63-70.
 14. Moore RD, Chaulk CP, Griffiths R et al. **Cost effectiveness of directly observed therapy for tuberculosis.** Am J Resp Crit Care Med. 1996; 154(No. 3-4): 1013-1019.

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