

OUTCOME OF TUBERCULOSIS PATIENTS REGISTERED DURING 2007 IN MAJOR TEACHING HOSPITALS OF PESHAWAR

Mir Azam Khan, Anila Basit, Ziaullah, Arshad Javaid

Peshawar Medical College Peshawar,
Department of Pulmonology, Lady Reading Hospital Peshawar Pakistan

ABSTRACT

Objective: To evaluate the efficiency of TB diagnostic centers of teaching Hospitals of Peshawar against the set target of treatment success rate of 85% in the teaching hospitals of Peshawar.

Material and Methods: This descriptive study on data analysis was carried out in National TB Programme (NTP) Centers in major teaching hospitals of Peshawar, NWFP. The patients included in this study were registered from 01/01/07 to 31/12/07.

National TB Program (NTP) registers from the three teaching hospitals i.e. Lady Reading Hospital, Khyber Teaching Hospital, and Hayatabad Medical Complex, were studied. All the patients registered in year 2007 were studied for their outcome.

Results: The study included 306 patients. Male were 153 (50%) and 153 (50%) females. 191 (62.4%) patients were below 30 years of age, 87 (28.4) patients were between the ages of 31-60 years of age and 28 (9.2%) patients were above the age of 61 years . 149 (48.7%) patients had pulmonary tuberculosis, whereas 157 (51.3%) patients extra pulmonary tuberculosis. Among the Pulmonary tuberculosis patients 101 (67.8%) were smear positive, while 38 (25.5%) patients were smear negative. Out of these 306 patients, 294 (96.1%) patients were new cases and 12 (3.92%) patients were relapses.

Outcome: All registered patients included in the study were followed for 8 months at monthly intervals. 110 (35.9%) patients were cured, 194 (63.4%) patients completed their treatments. Only in 1 patient treatment failed, 1 died, while none of the patients defaulted. The treatment success rate was 99.4%.

Conclusion: The performance of TB Control Programme at three teaching hospitals of Peshawar in year 2007 was excellent, showing treatment success rate of 99.4% which is way above the target set by W.H.O. of 85%.

Key Words: Teaching Hospital, Tuberculosis, treatment outcome.

INTRODUCTION

Tuberculosis causes a great deal of ill health and an enormous burden on the populations of most low income countries¹. The tuberculosis situation, like many other developing countries is very serious in Pakistan. In Pakistan its incidence is estimated to be 181 per 100,000 of population². Pakistan stands 8th among high disease burden countries of the world².

WHO estimates that it kills over 2 million men, women, and children every year. 95 % of these deaths occur in the under developed world^{3,4}. The reason behind alarming situation in Pakistan has been lack of proper TB control programme in the past. DOTS is the only hope for controlling this serious public health problem. Measurement of treatment outcome is central to tuberculosis control programs. Effective treatment of tuberculosis requires adherence to a minimum of 8 months

AGE DISTRIBUTION

Age Groups in years	Male	Female	Total (%) n = 306
0-30	91	100	191 (62%)
31-60	45	42	87 (28%)
61 and above	15	13	28 (10%)

Table-1

treatment with multiple drugs. To improve adherence and cure rates, directly observed therapy is recommended for the treatment of pulmonary tuberculosis. In Pakistan National TB control programmes was launched in 1960, but was essentially dormant & ineffective until 1980. After WHO declared TB as a global emergency in 1993, DOTS strategy was adopted in Pakistan in 1995. In 2000 TB care service were integrated with Primary Health Care (PHC) and in 2001 TB was declared as National Emergency – Islamabad declaration.⁷ TB control programme in Pakistan in fact was reactivated after the Islamabad declaration. In NWFP 100% DOTS coverage was achieved by year 2006.

As per W.H.O estimates, more than 300,000 new cases of tuberculosis develop in Pakistan every year, three quarters of which are concentrated in the productive age groups, 37,000 of these occur in NWFP⁶. The government of Pakistan and that of NWFP have kept control of TB, a high priority on its agenda. And set targets of 70% detection of the new sputum positive cases and successfully curing 85% of detected cases⁴.

This study was aimed to assess the performance of diagnostic centers in the teaching hospitals of Peshawar.

Aims and Objectives

To evaluate the efficiency of TB Control Programme (DOTS) against the set target of treatment success rate of 85% in the teaching hospitals of Peshawar.

Data Collection

National TB Programme (NTP) registers from the three teaching hospitals i.e. Lady Reading Hospital, Khyber Teaching Hospital, and Hayatabad Medical Complex, were studied. Information about all the patients registered in year 2007 was collected. They included date of admission, age, gender, form of tuberculosis (pulmonary or extra pulmonary TB), type of tuberculosis (smear positive or smear negative) ,

GENDER DISTRIBUTION

Gender	Number of patients	Percentage
Male	n=153	50%
Female	n=153	50%

Table-2

category of tuberculosis (new cases or Re-treatment cases) and treatment outcome. Treatment outcomes were evaluated in accordance with the World Health Organisation (WHO) recommendations and classified as: cure, treatment completed, default, treatment failure, death or other. Patients were provided with free TB medications for a period of 8 months by the respective treatment center of the hospital. They were followed up regularly at monthly intervals until completion of treatment. Compliance to treatment was closely monitored by DOTS facilitator /supervisor.

RESULTS

The study included 306 patients. 153 (50%) were males and 153 (50%) females. 191 (62.4%) patients were below 30 years of age, 87 (28.4) patients were between the ages of 31-60 years of age and 28 (9.2%) patients were above the age of 61 years. 149 (48.7%) patients had pulmonary tuberculosis, whereas 157 (51.3%) patients had extra pulmonary tuberculosis. Among the Pulmonary tuberculosis patients 101 (67.8%) were smear positive, while 38 (25.5%) patients were smear negative. Out of these 306 patients, 294 (96.1%) patients were new cases and 12 (3.92%) patients were relapses.

DISCUSSION

TB control programme in the teaching

CLASSIFICATION OF TUBERCULOSIS

Classification	Male	Female	Total
Pulmonary Tuberculosis	n=70	n=79	149 (49%)
Extra Pulmonary TB	n=82	n=75	157 (51%)

Table-3

CLASSIFICATION BY CATEGORIES

Category	Male	Female	Total
New Cases	n=147	n=147	294 (96%)
Relapses	n=7	n=5	12 (4%)

Table-4

CLASSIFICATION OF PULMONARY TUBERCULOSIS

Classification of PTB	Male	Female	Total
Smear Positive	59 (84.2%)	11 (15.7%)	111 (74%)
Smear Negative	52 (65.82%)	27 (34.1%)	38 (26%)

Table-5

hospitals of Peshawar started way back in 1992 at LRH with the cooperation of Italian Cooperation for Development (ICD), and later continued with collaboration of TB Control Programme, of NWFP. Later in 2003 DOTS was implemented both in LRH and Khyber Teaching Hospital catchments areas were redefined with the treatment centre for locality surrounding the hospital population about 50,000 in 2003 to 150,000 in 2007, however they remained diagnostic center for all over the province.⁶ Subsequently DOTS was also implemented in Hayatabad Medical Complex.

In our study TB was seen equally in both genders. Uplekar MW et al⁷ reported 70 % excess of male over female TB cases globally each year.

A similar observation of excess of male TB cases seen in Nepal by Yamasaki –Nakagawa M et al and in Vietnam by Long NG et al^{8,9}. Holmes CB et al¹⁰ has mentioned that less notification rate of females in developing countries which has led to decrease prevalence of TB among females although, there can be equally more case of TB among females.

Most tuberculosis cases mainly occur in population aged between 15- 59 years, which coincidentally are the most productive ages of the population. Similar trend was observed in this study more than 90% cases were below 60 years of age. This is in line with both local and

international studies.¹⁻³

In our study 110 (35.9%) patients were cured. 194 (63.4%) patients completed their treatments, which also included the outcome of extra pulmonary TB. Only in 1 patient treatment failed, 1 died, while none of the patients defaulted.

The treatment success rate was 99.4% in year 2007. Treatment outcomes of different studies are different depending on the quality of DOTS. Menke B et al¹⁴ investigated 494 patients, 76.1% had successful treatment, while 23.9% had no documented treatment success. Diel R et al¹⁵ has seen 80.3% cure rate in 518 culture positive TB patients.

Study by Wazir et al¹², seen a cure rate of 81.5% out of 65 smear positive patients, while 77.1% completed treatment among smear negative patients.

Zeelweger JP al¹⁶ has observed 70 % success rate, 14 % died while 16 % were considered as defaulters.

A study in Toronto by Wobser et al¹⁷ in a teaching hospital showed that 58% completed their treatment, 17% died, 15% defaulted and 10% were transferred out. The treatment completion rate in tertiary care hospital in Toronto were below the rate recommended by World Health organization. After comparing the results of various studies the

TREATMENT OUTCOME

Treatment outcome	Male	Female	Total
Cured	60 (54.5%)	50 (45.5%)	110 (36%)
Treatment completed	92 (47%)	102 (52.5%)	194 (64%)
Treatment Failure	1 (1%)	0 (0%)	1 (0%)
Treatment Defaulted	0 (0%)	0 (0%)	0 (0%)
Death	0 (0%)	1 (1%)	0 (0%)

Table 6

treatment outcome in our study is fairly satisfactory and encouraging.

Study by Siemion-Szczesniak I, et al¹⁸ compared the outcome before and after implementation of DOTS Strategy in three provinces of Poland and found significant results. The Treatment success rate (the rate of cures and treatment completers) improved from 69.3% to 89.6 %, default rate fell from 14% to 0%, and failure rate fell from 2.7% to 2.4%.

A distinguishing aspect of outcome in these three teaching hospitals is zero default rate. Prior to implementation of DOTS in Lady Reading Hospital the success rate was around 70 %. The reason for this significant improvement is the implementation of DOTS all over the city with more than 100 treatment centres, and each centre registering patients of their own catchment area in the close vicinity of the centre. The other reasons being effective coordination between the teaching units & provincial TB control programm combined with high political commitment of the Provincial Government.

This study proves that treatment success rate of TB patients registered in three major teaching hospitals in Peshawar is well above the targets set by W.H.O of 85%.

This success rate is higher than rate achieved throughout the Province of NWFP where it has been reported as 90 % year 2005-2006⁶.

CONCLUSION

The performance of TB Control Programme at three teaching hospitals of Peshawar in year 2007 was exemplify, showing treatment success rate of 99.4% which is above the target set by W.H.O. of 85%.

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Address for Correspondence:

Dr. Anila Basit

Department of Pulmonology,
Lady Reading Hospital,
Peshawar – Pakistan.