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EFFICACY OF TB DOTS PROGRAMME IN CONTROLLING PULMONARY AND EXTRAPULMONARY TUBERCULOSIS AMONG PATIENTS VISITED THE OUT PATIENT DEPARTMENT OF PULMONOLOGY

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Abstract:

Objective: *To apply the TB DOTS program in patients with pulmonary and extrapulmonary tuberculosis and to see the results in a three-year period presented at the TB DOTS Clinic in the Pulmonology Department.*

Study Design: *A prospective observational study.*

Place and Duration: *In the Pulmonology Department, Mayo Hospital Lahore for three year period from December 2014 to December 2017.*

Methods: *All patients with TB (pulmonary and extrapulmonary) who presented in TB DOTS clinic were selected for study.*

Results: *A total of 2290 patients were decided to be treated with tuberculosis. The mean age of the patient was 29.37. Of all patients, 1282 (56%) were female and 1008 (44%) were male. A total of 1242 patients (54%) received treatment for pulmonary tuberculosis and 1048 patients (46%) received any type of extrapulmonary tuberculosis treatment. In extrapulmonary tuberculosis, lymphadenitis of tuberculosis was the most common group followed by tubular pleural effusion. 1713 (74%) patients were in the productive age group at 15-54 years of age. In our study, 516 patients were successfully treated in 2015 and success rate was 92%, 477 patients were successfully treated and 89% success rate was achieved. Thirty-six patients failed in treatment in 2016, while our default rate was 6%, 51 patients failed in 2017 and the default rate was 09%.*

Conclusion: *TB DOTS program is effective in both pulmonary and extrapulmonary tuberculosis. TB DOTS increases patient compliance and reduces the inconsistency rate. Our data indicate that the number of TB patients treated in the DOTS clinic increases each year. Tertiary care hospital, if there is a rigid referral system in the periphery, can provide special health services for the patients with complicated Tbc diseases through the provision of regular and uninterrupted drug supply with continuously trained personnel.*

Key words: *DOTS (direct observation short treatment), pulmonary tuberculosis.*

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INTRODUCTION:

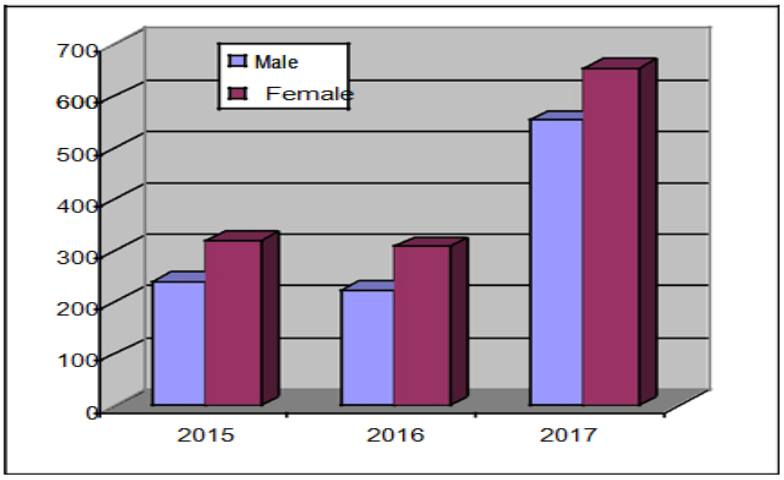
Tuberculosis is an infectious disease caused by Mycobacterium tuberculosis. The primary organ affected by tuberculosis is the lung that leads to tuberculosis. The disease may also include pleura, lymph nodes, intestines, bones, meningis, skin and other body tissues. According to the World Health Organization (WHO), one third of the world's population is infected with Mycobacterium Tuberculosis, and eight million people develop an active disease worldwide every year, and 95% of these cases occur in the underdeveloped world. . In underdeveloped countries, tuberculosis remains one of the main health problems. The estimated incidence of all types of tuberculosis is 400,000 cases per year and fifth in Pakistan, among the 22 countries with the highest TB burden. The reason behind the alarming situations in Pakistan was the lack of an adequate TB control program in the past. Tuberculosis was declared a global emergency by WHO in 1993. The TB DOTS program was launched in 1995 by the National Tb Control Program in Pakistan and in 2000, the DOTS strategy was launched as a pilot project in Punjab. In 2001, tuberculosis was reported as urgent in Pakistan. The aim of DOTS is to successfully treat positive smears in at least 85% of new cases of tuberculosis and to detect positive smear cases in 70% of cases. The Department of Pneumology offers indoor and outdoor facilities for all respiratory diseases such as tuberculosis, asthma, COPD, interstitial lung disease, pleural effusion, bronchiectasis and corpulmonilla. Tuberculosis is the main health problem. Although there are many effective drugs for the treatment of tuberculosis, the disease is not controlled. A low commitment to prescribed treatment has been considered a major threat to the TB control program. Inadequate or irregular treatment of active TB cases is considered to be one of the main causes of drug resistance development. For a successful treatment, a combination of different drugs for a given period should be taken on a daily basis.

MATERIALS AND METHODS:

This prospective observational study was taken place in the Pulmonology Department, Mayo Hospital Lahore for three year period from December 2014 to December 2017. A total of 2290 patients were included to treat tuberculosis. The patient's smear was positively diagnosed with positive sputum when the sputum was detected twice, or when the ATB was found suggesting that the patient's sputum was once positive with ARB positive once with x-ray findings. The diagnosis of smear negative tuberculosis was accepted when it was discovered that clinical tuberculosis suspected tuberculosis based on radiological and other laboratory findings was three-fold smear negative sputum. Antibiotics were administered to patients and a consultant's opinion was obtained before deciding on smear-negative treatment of pulmonary tuberculosis. The diagnosis of extrapulmonary tuberculosis was evaluated on the basis of clinical, biochemical and radiological features such as X-ray computed tomography, histopathological and magnetic resonance imaging of the affected area and an organ. AFB culture was performed only in selected patients. There were hilar or mediastinal lymph nodes, including 58 patients, and histopathological diagnosis of 461 patients with tuberculosis lymphadenitis, 411, FNAC and lymph nodes were diagnosed by clinical and radiological features. While positive and negative pulmonary tuberculosis and extrapulmonary tuberculosis patients were included in the study, childhood tuberculosis was excluded from the study.

RESULTS:

A total of 2290 patients were recruited. The distribution by gender within the year is shown in Figure 1.

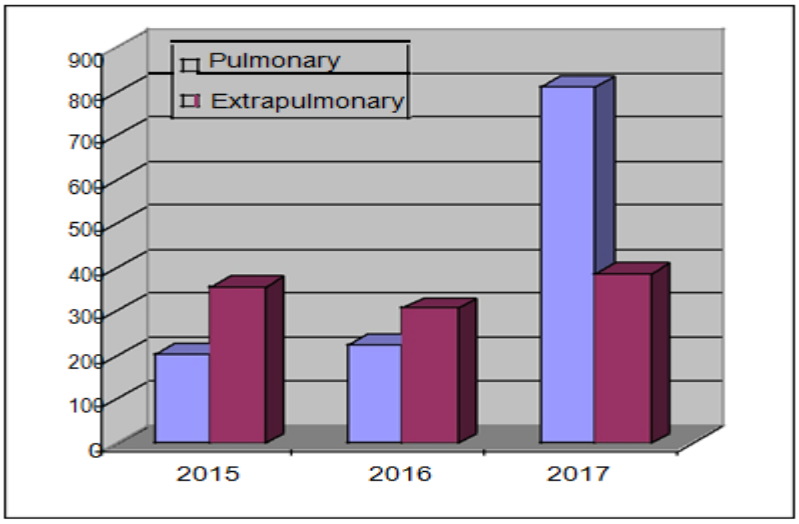


The mean age of the patients was 29.37. While 56% of the patients (1282 patients) were women, 1008 patients were 44% of men. Twelve hundred and eighty-two (54%) patients were treated with pulmonary tuberculosis and 1048 (46%) were treated for extrapulmonary TB as shown in graph 2. Seventy-four patients, namely 1713 patients, 15 54 years of productive age group. Two hundred and forty-two patients.

Table 1: Distribution of sites in extrapulmonary tuberculosis

Site	Year 2015	Year 2016	Year 2017
Lymph node	160	142	167
Intestine	33	42	53
TB meningitis	29	13	13
Pleural effusion	31	33	92
TB bone joint	17	13	10
TB spine	31	36	23
Cold Abscess	29	13	15
TB skin	5	5	4
Abdominal TB	6	-	-
Tuberculoma brain	13	5	5
Military TB	2	4	3
TB breast	-	1	-

She was treated for pulmonary tuberculosis. Smear-positive tuberculosis was detected in 511 of these patients and 731 patients had smear-negative pulmonary tuberculosis treatment. In 2015, anti-Tubrerculous treatments were positive smear in 99 patients, while 99 patients in 2016 and smears in 345 patients. He started positive pulmonary tuberculosis and treatment for it.

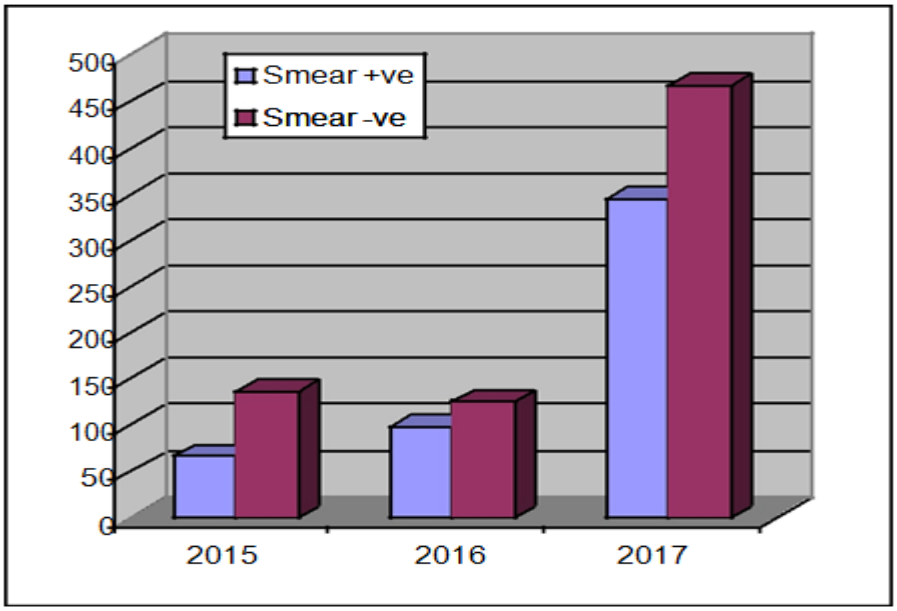


Forty-eight patients were treated for all types of extrapulmonary tuberculosis. The most common extrapulmonary involvement was tuberculous lymphadenitis (469 points) followed by tubensous pleural effusion (156 points) (Table 1). Thirty-six patients did not comply with the payment in 2016, while our default rate was 6%, 51 patients did not comply with the payment in 2017 and the default rate was 09%. In 2016, five patients died during treatment and 3 died during treatment in 2017 (Table 2).

Table 2 Treatment outcome

Treatment outcome	Year 2016	Year 2017
Cured	62	44
Treatment completed	454	433
Died	5	3
Defaulter	36	51
Transfer out	3	-

One hundred and fifteen patients were diagnosed with tuberculosis and treatment was started between December 2016 and December 2017. This is a period of dengue outbreak.



DISCUSSION:

This prospective study was performed in a tertiary care hospital for a period of three years. Smear positive treatment of pulmonary tuberculosis is the most important component of any TB control program because it is mostly positive smear positive TB patients in the community, who transmit the disease to other healthy members of the community. In this study, 67 patients in 2015, 99 patients in 2016 and 345 patients in 2012 were diagnosed with TB with positive smear and treatment was initiated. In this study, we observed that extrapulmonary tuberculosis is more common in women than in men. Our results are consistent with other studies. Poor socioeconomic status, male dependence, poor family planning and developing countries such as Pakistan. Poor nutritional status plays an important role in female supremacy. In our study, 516 patients were successfully treated successfully with 92% success in 2014. Of these, 62 patients were treated with documented negative spread at the end of treatment and 477 patients were successfully treated. We achieved 2016 and success rate. 89% and 44 of them were treated. In the DOTS strategy, we can label therapy only when a patient with a positive smear receives regular treatment and becomes a negative spot during and after treatment. In 2016, 516 patients and 477 patients who were successfully treated with extra-pulmonary TB were also included. A total of 115 patients were diagnosed with tuberculosis and treatment was initiated between September 2016 and December 2017. During this period, the number of tuberculosis patients decreased and the hospital mobilized routine services to control the emergence of the epidemic. Thirty-six patients did not comply with the payment in 2010, while our default rate was 6%, 51 patients did not comply with the payment in 2011 and the default rate was 09%. Five patients died in 2015 and 3 died in 2016 during treatment. The treatment results of different studies were different according to DOTS quality.

CONCLUSION:

TB DOTS program is effective in increasing the patient compliance, pulmonary and extrapulmonary tuberculosis. Our data indicate that the number of TB patients treated in the DOTS clinic increases each year. The TB-DOTS program is running successfully and must continue.

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