

Study of Prevalence of Tuberculosis among Patients Attending Chest OPD of A Rural Medical College in North Maharashtra.

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Abstract:

Introduction: Major challenges to control TB in India include Strengthening of primary health-care infrastructure in rural areas of country. Medical College & hospital in rural area is definite hope in improving diagnosis and treatment of TB. Study done to know Prevalence of TB in patients attending Chest OPD of Medical College in rural area of North Maharashtra.

Methods: We analyze 1 year Retrospective data of chest opd in Rural Medical College & Hospital. Total 18829 patients came to chest OPD in study period, among them 503 were symptomatic for TB. These patients were subjected for investigation and results were recorded.

Results: Among 503 TB suspects 61 (12.12%) were sputum AFB positive. Among 61 smear positive 40 (66%) were Male and 21 (34%) were Female. Smear AFB positive rate is 12.13%. Proportion of Pulmonary TB is 14.91% and Extra-Pulmonary TB is 7.36%, the prevalence of TB is 0.59%. The Extra-pulmonary TB cases were 37, out of them 8 (22%) Plural TB, 19 (51%) Lymph node TB, 4(11%) Abdomen TB, 5(13%) spine TB and 1(3%) case of CNS TB.

Conclusion: study conclude that prevalence of TB is 0.59%. Thorough evaluation done in tertiary level hospital which help in segregating TB cases from Non-Tubercular cases.

Keywords: Prevalence TB, Smear AFB Positive rate, Extra-pulmonary TB, Chest opd, Rural medical college, North Maharashtra.

Date of Submission: 29 -08-2017

Date of acceptance: 09-09-2017

I. Introduction

TB continues to be a major public health problem worldwide. In 2015, there were an estimated 10.4 million new (incident) TB cases worldwide, of which 5.9 million (56%) were among men, 3.5 million (34%) among women and 1.0 million (10%) among children. Six countries accounted for 60% of the new cases: India, Indonesia, China, Nigeria, Pakistan and South Africa. Global progress depends on major advances in TB prevention and care in these countries. Worldwide, the rate of decline in TB incidence remained at only 1.5% from 2014 to 2015. This needs to accelerate to a 4–5% annual decline by 2020 to reach the first milestones of the End TB Strategy¹. TB is one of the leading cause of mortality in India killing 2 persons every three minute, nearly 1,000 every day². Annually, more than three lakh TB deaths take place in rural areas out of the total 4.5 lakh TB deaths in the country³.

The strategic importance of TB control in rural areas of the country was recognized when the National Sample Survey (NSS) indicated that 70-80% of TB cases resided in rural areas since TB was as prevalent in rural areas as in urban areas⁴. Major challenges to control TB in India include Strengthening of primary health-care infrastructure in rural areas of country, providing Standard diagnostic facilities and treatment to rural population. A collaborative effort is in progress between RNTCP and National Rural Health Mission (NRHM), which is a reform initiative of which the goal is to improve primary health care in rural areas. In addition to this, RNTCP has established several initiatives in coordination with the private sector. The objective of this study is to know about Prevalence of TB, Gender distribution, smear acid fast bacilli positive rate in patients attending Chest OPD of Medical College established in rural area of North Maharashtra.

II. Aims and objectives

1. To study the gender distribution of tuberculosis in the study population.
2. To study the smear AFB positive rate in study population
3. To study the prevalence of tuberculosis and to calculate the proportion of Pulmonary TB and Extra Pulmonary TB in study population
4. To study the Types of Extra Pulmonary TB in study population.

III. Methods

The institutional ethical committee clearance was taken before the study. Present study is a descriptive type. In this study retrospective data from Chest OPD in a rural medical college was analyzed. Study conducted at medical college in rural area of North Maharashtra. Data of all patients attending from April 2016 to March 2017 was included. Record of Patient age above 18 years included while age below 18 year, pregnant female were excluded from study. Patient's basic data such as name, Age, Sex, Address, phone number were noted. Patients having symptoms of tuberculosis were subjected for basic investigations such as Sputum for AFB smear, Chest X ray. Special investigation such as CT scan, Ultrasonography (USG), and MRI Study was suggested as per expert opinion. Results of investigation and diagnosis are recorded. Data was entered in Microsoft Excel and later transferred to Statistical Package for the Social Sciences [SPSS] software.

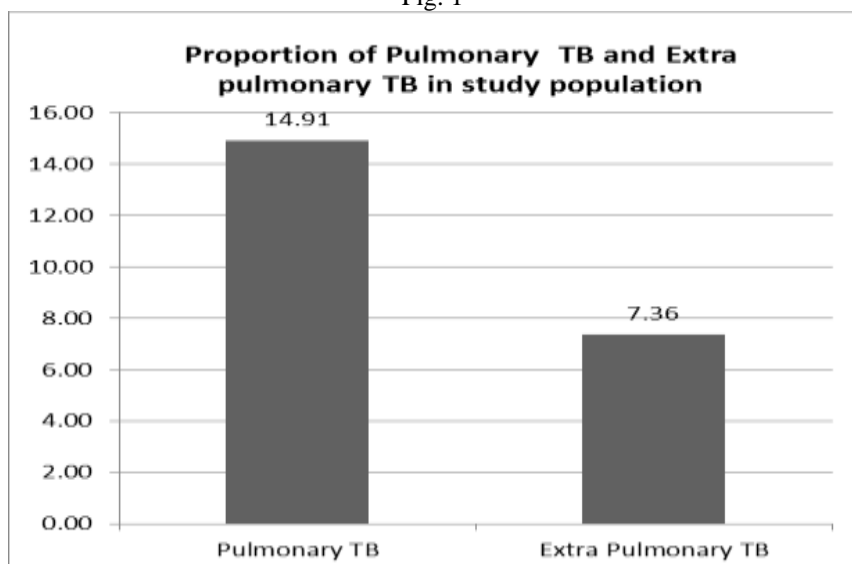
IV. Results

Total 18829 patients approached to chest OPD during the study period of one year, among them 503 patients were symptomatic for TB; these patients were subjected for sputum smear examination & chest X ray evaluation. Specific investigation advised as per expert opinion. Total 61 (12.12%) patient's sputum smear was found to be AFB positive out of 503 suspects. 14(2.79%) patients found to be smear negative pulmonary tuberculosis. Among the 61 smear positive patients 40 (66%) were Male and 21 (34%) were Female. The ratio of Male to female in this study was 1.9:1. Smear AFB positive rate in study population is 12.13%. Proportion of Pulmonary TB and Extra Pulmonary TB (figure no 1) is 14.91% and 7.36% respectively in study population. The prevalence of TB in total study population is 0.59% and 22.27% in symptomatic subjects. Among the 503 suspects of TB 37(7.36%) of patients diagnosed to have Extra-Pulmonary TB. The Extra-pulmonary TB cases (Table no.1) found in our study were 37, out of them 8 (22%) were Plural TB, 19(51%) were Lymph node TB, 4(11%) were Abdomen TB, 5(13%) were spine TB and 1(3%) case of CNS TB

Table no.1

Types of Extra-Pulmonary TB		
TYPES	N (No. of cases)	(cases in percentage) %
Plural TB	8.0	22
Lymph node	19.0	51
Abdomen TB	4.0	11
TB Spine	5.0	13
CNS TB	1.0	3
TOTAL	37.0	100.0

Fig. 1



V. Discussion

Tertiary health care centers like Medical college & Hospital established in to rural area to cater patients from rural background of North Maharashtra are dedicated to increase awareness among the rural population, taking efforts to remove their misconceptions and modify their help-seeking behavior. Total 18829 patients approached to chest OPD during the study period of one year, among them 503 patients were TB suspects, they underwent sputum examination and Chest X ray. 61(12.12%) patients sputum smear was found to be AFB positive out of 503 suspects. Among the 61 smear positive patients, 40 (66%) were Male and 21 (34%) were Female. The ratio of smear AFB positive Male to female in this study is 1.9:1, which is similar to that found by Sarpal SS et al⁵. women in rural areas are ignored on the priorities in getting attention of family regarding her health care needs, It is only when the female member unable to take up household activities then they are brought to hospital the so this may be the cause behind less number of females found to be sputum AFB positive. The Smear AFB positive rate found in our study population is 12.13% & in study done by Malik et al⁶ it was 15.4%. The results appear to be very much closer but not similar due to the difference in number of patients included and duration of his study was longer than ours, also his study population was urban as well as rural. Proportion of Pulmonary TB and Extra Pulmonary TB (figure no.1) is 14.91% and 7.36% respectively in study population. Similarly Sharma et al^{7, 8} noted 15 to 20% of EPTB of their patients, so in this respect our observation differs significantly from those of others. The prevalence of TB in our study population is 0.59% and 22.27% in symptomatic population of TB. The Extra-pulmonary TB cases (Table no.1) found in our study were 37, Commonest site of EPTB involvement in our study was Lymph nodes 51% (19) followed by pleura 22% (8) this correlates with the study finding by Arora et al⁹.

VI. Conclusion

The study results provide information on the TB disease situation amongst the rural population of North Maharashtra. It gives baseline data for future reference in a direction to utilize tertiary health care setup in rural areas. The prevalence of Tuberculosis in 0.59% in our study. Lymph node TB turns out to be commonest form of Extra-PTB. The Segregation of TB Patients from non-tubercular chest diseases have been possible because of thorough evaluation in tertiary-level Medical College and Hospital.

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*Mayur V. Devraj. "Study of Prevalence of Tuberculosis Among Patients Attending Chest OPD of A Rural Medical College in North Maharashtra." IOSR Journal of Dental and Medical Sciences (IOSR-JDMS) 16.9 (2017): 47-49