A study of tuberculosis cases diagnosed at a tertiary health care centre

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Abstract
Background: Tuberculosis is an important public health problem in India and other developing countries. It is caused by Mycobacterium tuberculosis. Tuberculosis affects virtually each and every system of body. **Aim and Objective:** To study the epidemiology of tuberculosis cases diagnosed at tertiary health care centre. **Methodology:** Patients diagnosed as a case of tuberculosis in the tertiary care center were studied. Data collection includes socio-demographic data, clinical data like category of patient, investigations and treatment received. **Results and Discussion:** Majority of patients were in age group 21-40 years (45.51%). Male to female ratio in our study was 1.78. Eighty-five percent patients were classified as new patients. Failure and defaulter constitute 15.87% of total cases. Out of 145 patients 100 (68.96%) were sputum negative. 58.62% patients were having extra-pulmonary TB 41.38% patients were of pulmonary TB.
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INTRODUCTION

India is the highest tuberculosis (TB) burden country accounting for a quarter (26%) of the global incidence[1]. According to WHO in 2011, there were estimated 8.7 million new cases of tuberculosis and 1.4 million people died from tuberculosis worldwide[2] Tuberculosis remains the leading infectious cause of death in India, killing close to 500,000 people a year. High prevalence and incidence of disease and a high rate of transmission of infection characterize the tuberculosis (TB) situation in India. Information on the epidemiological situation of tuberculosis (TB) in the community is vital for planning control strategies and monitoring the impact of intervention programmes. Very few studies are available on epidemiology of TB in tertiary care center's so this study was done.

MATERIAL AND METHODS

We conducted the present record based study in Dr. Ulhas Patil Medical College, Jalgaon, a tertiary health care centre. To achieve the above mentioned objective, patients diagnosed as a case of tuberculosis iln the tertiary care center were studied. Data collection includes socio-demographic data, clinical data like category of patient, investigations and treatment received. Study was approved by ethical committee of the institute.

RESULTS

Table 1: Distribution of patients according to age

Age Group	No. of Patients	Percentage
1-20	25	17.24
21-40	66	45.51
41-60	41	28.28
61-80	13	8.97
Total	**145**	**100**

Table 1 shows distribution of patients according to age. It was observed that majority of patients were in age group 21-40 years (45.51%) followed by 41-60 years (28.28%). Mean age of patient was 36.82± 5.23 years.
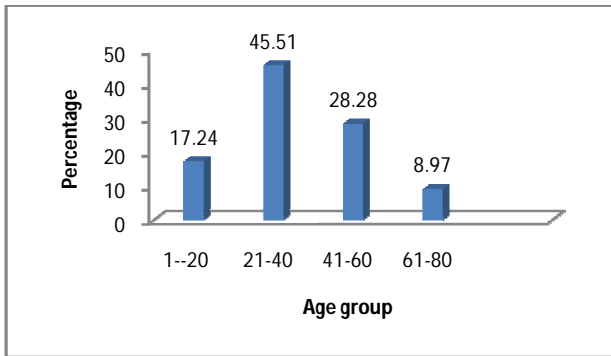
Figure 1: Distribution of patients according to age

Table 2: Distribution of patients according to sex:

Sex	No. of Patients	Percentage
Male	93	64.14
Female	52	35.86
Total	**145**	**100**

The above table shows distribution of patients according to sex. It was observed that majority of patients were in male (64.14%) and females were 35.86%.

Table 3: Distribution of patients according to residence

Residence	No. of Patients	Percentage
Urban	44	30.34
Rural	101	69.66
Total	**145**	**100**

Majority of the patients were from rural area (69.66%).

Table 4: Distribution of patients according to category:

Category	No. of Patients	Percentage
I	122	84.13
II	23	15.87
Total	**145**	**100**

Out of 145 patients 122 (84.13%) patients were categorized as category I. Remaining 23 were category II.

Table 5: Distribution of patients according to type

Type of patient	No. of Patients	Percentage
New	122	84.13
Failure	04	2.77
Defaulter	19	13.10
Total	**145**	**100**

Table 6 shows distribution of patients according to their type of nomenclature. Majority (84.13 %) patients were classified as New patients. Out of total 145 cases 4 cases were failure for the treatment and 19 (13.1%) patients were defaulters.

Table 6: Distribution of patients according to result of sputum

Result of sputum	No. of Patients	Percentage
Negative	100	68.96
Scanty	04	2.76
1+	26	17.93
2+	07	4.83
3+	08	5.52
Total	**145**	**100**

Reports from the sputum revealed that out of 145 patients 100 (68.96%)were sputum negative. 4 patients showed scanty mycobacteria on ZN staining. 26 patients (17.93%) were categorized under 1+ grade for mycobacteria while 7 (4.83%) 8 (5.52%) were categorized respectively under grade 2+ 3+. Patients were followed up after 5 months. Out of total 145 patients 6 patients expired. One patient refused treatment. From the remaining patients 131 were receiving treatment from a DOTS center and 7 were receiving from private practitioner. Out of 6 expired patients 3 patients were extra-pulmonary and 3 were of pulmonary TB. One patient was from category II.

DISCUSSION

It was observed that majority of patients were in age group 21-40 years (45.51%). Similar findings were observed in previous studies. [3,4,5,6,7] Male to female ratio in our study was 1.78 similarly Chandrashekhar *et al* observed ratio of 2.29 in their study in pulmonary TB patients. Majority of the patients were from rural area(69.66%). [8] In our study (84.13 %) patients were categorized as category I. Majority (84.13 %) patients were classified as New patients. Similarily Umesh Chandra *et al* observed that New cases constitute the highest proportion of tuberculosis patients. They found 71% cases in rural area and 74.5% cases in urban belong to new cases. [3] Studies conducted earlier had shown that New cases were the predominate category of patients. [4,9,11] The result indicate that the cumulative number of TB cases is still rising. Failure and defaulter constitute 15.87% of total cases. Similar findings observed in Umesh Chandra *et al* where the relapse cases and defaulters together constitute 23.5% of the total cases. [3] Earlier studies have also shown similar findings. [4] Out of 145 patients 100 (68.96%) were sputum negative. In contrast to our study previous studies observed sputum positive TB is more common[4,5,7,11]. Difference in observation is because of more prevalence of extra-pulmonary cases. As our study center is tertiary care center most complicated and referred patients were seen. In our study it was observed that 85(58.62%) patients were having extra-pulmonary TB while 60 (41.38%) patients were of pulmonary TB. Chandrashekhar *et al* observed 48.5% as extra-pulmonary TB and 51.5% as pulmonary TB. [8]

CONCLUSION

Middle aged group is more affected in tuberculosis. New cases form majority contribution in tuberculosis.

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