 DOI: 10.18231/2393-9087.2016.0001

Socio-demographic profile of NSP patients of PTB in a tertiary care hospital

Aradhna Sharma[1], Dinesh Kansal[2,*], Parveen Kumar Sharma[3], Rekha Bansal[4], Tarun Sharma[5]

[1]Senior Resident, [2]Professor & HOD, [3]Professor, Dept. Pharmacology, [4]Associate Professor, Dept. of Pulmonary Medicine, Dr. RPGMC, Kangra, Himachal Pradesh, [5]Medical Specialist, Civil Hospital, Kangra, Himachal Pradesh

***Corresponding Author:**
Email: dinesh.kansal56@gmail.com

Abstract

Introduction: Tuberculosis is one of the most common causes of morbidity and mortality. The various socio-demographic characteristics of new smear positive (NSP) patients have a pivotal role in the treatment success of tuberculosis.

Aims and Objectives: To study the socio demographic profile in NSP patients of pulmonary tuberculosis (PTB) in Dr. R P G M C Kangra at Tanda H.P.

Methodology: This was a prospective observational study conducted in Dr. RPGMC Kangra at Tanda for duration of seven months. 130 new smear positive (NSP) patients of PTB diagnosed were enrolled. Case record forms including the socio-demographic profile of patients were completed for parameters like name, age, sex, height, weight, education status, occupation, smoking, alcohol intake, family history and contact history.

Results: Out of the total 130 patients 99 were males and 31 were females. Male female ratio was 3:1. The age (mean ± SD) of patients was 45±15.75 years. 93.8% patients belonged to rural area, 52 (40%) patients were skilled (professional, clerical, employed, shopkeeper), 21(16.2%) were housewives, 20(15.4%) were unskilled (laborer, daily wagers), 19 (14.6%) were farmers, 13(10%) were retired and 5(3.8%) were students. Majority of the patients 103 (79.2%) were non-vegetarian. All the 83 (63.8%) smokers were males. The smoking index (mean±SD) was 333.6±167.8. All the 73(56.2%) alcoholics were males. 25(19.2%) patients had family history of tuberculosis.

Conclusions: The prevalence of tuberculosis is affected by various factors. There was significant association between habits (smoking and alcoholism) of participants and the disease.

Keywords: Pulmonary tuberculosis, Socio-demographic profile, NSP

Introduction

Tuberculosis (TB) is the second most common infectious disease and a major public health problem with an annual incidence rate of about 8.6 million cases and an estimated 1.3 million deaths every year.(1) It is estimated that about 40% of the Indian population is infected with TB bacteria, the vast majority of whom have latent rather than active TB.(2) The national Annual Risk of Tubercular Infection (ARTI) is 1.5%. The high burden of tuberculosis in India is illustrated by the estimate that it accounts for 17.6% of deaths out of communicable diseases and for 3.5% of all causes of mortality.(1)

Tuberculosis is an infectious disease caused by *Mycobacterium Tuberculosis (M. tuberculosis)*, which most commonly affects the lungs. Tuberculosis is transmitted from person to person via droplets from the upper respiratory tract of patients with active pulmonary tuberculosis (PTB).Common risk factors associated with increased incidence of tuberculosis are immune compromised states such as HIV infection, diabetes, prolonged steroid therapy, malnutrition, smoking, environmental like air pollution, poor ventilation etc.(1)

Tuberculosis is a social disease with medical aspects. The social factors include many non-medical factors such as poor quality of life, poor housing, overcrowding, under nutrition, lack of education, large families and lack of awareness are cause of illness.(3)

Aims and Objectives

To study the socio demographic profile of NSP patients of PTB in Dr. RPGMC, Kangra at Tanda (H.P)

Methodology

Study type: A prospective observational study

Study site: Dr. Rajendra Prasad Government Medical College and Hospital Tanda, District Kangra HP

Study duration: Seven months (1st April, 2012 to 31st October, 2012)

The protocol was approved by Scientific Advisory cum Protocol Review Committee and

I E C of the Institute (No. HFW-DRPGMC/ Ethics/2012/11-12).

Inclusion Criteria: All the patients of age > 12 years of either sex with NSP PTB.

Exclusion criteria: Patients with HIV positive serology and with renal and liver disease

Patient enrolment and Data Collection: All the NSP patients of PTB diagnosed at the department of pulmonary medicine and who consented to participate were enrolled in the study. Case record forms including the socio-demographic profile of patients like name, age, sex, height, weight, education, occupation, smoking, alcohol intake and family history of PTB were filled up. The data was analyzed using Microsoft excel.

Results

Out of the total 130 patients 99 were males and 31 were females. The male: female ratio was 3:1.The age (mean±SD) of patients was 45±15.75 years. Youngest patient was 12 years and oldest was 90 years of age. The age (mean±SD) of males was 47.6±15.2 years and 36.8±14.7 years in females. Most of the patients were from rural background. Sociodemographic profile of patients is documented in the Table 1.

Table1: Socio demographic Profile of NSP patients of PTB is treated under DOTS at Dr. RPGMC Kangra at Tanda (N=130)

Age	<20	4 (3.07%)	Gender	Male	99(76.15%)
	20 to <30	17(13.07%)		Female	31(23.84%)
	30 to <40	26(20.0%)	Smoking	Smoker	83(63.84%)
	40 to < 50	33(25.38%)		Nonsmoker	47(36.15%)
	50 to < 60	25(19.23%)	Alcohol	Alcoholic	73(56.15%)
	60 to <70	14(10.76%)		Non-alcoholic	57(43.84%)
	≥70	11(8.46%)	Residential area	Rural	122(93.84%)
				Urban	8(6.15%)
Educational Qualifications	Graduate & Above	30(23.07%)	Dietary Pattern	Vegetarian	27(20.76%)
	Sen. Sec & High School	43(33.07%)		Non Vegetarian	103(79.23%)
	Middle School	16(12.30%)	Family History	Positive	25(19.23%)
	Primary	16(12.30%)		Negative	105(80.76%)
	Illiterate	25(19.23%)	Body Weight	<30	1(0.76%)
Profession	Skilled	31(23.84%)		30 to <40	23(17.69%)
	Farmer	30(23.07%)		40 to < 50	68(52.30%)
	Retired	28(21.53%)		50 to < 60	35(26.92%)
	Unskilled	19(14.61%)		60 to <70	3(2.30%)
	Housewives	18(13.84%)		≥70	-
	Students	4(3.07%)			

Discussion

In our study about 64.6% of patients were in the age group of 30-60 years. Also according to RNTCP status report,[1] TB is also more prevalent in younger age group 25-35 years. The mean age of presentation of PTB was in the range of 27-40 years as documented by other studies conducted in different parts of India.[4,5,6] This also may be explained on the basis of geographical area and difference in age wise dispersion of population in India and Himachal Pradesh.

The male: female ratio in our study (3:1) was in line with the findings of other research workers in India. Most of the studies conducted in India[4,5,7,8] had a gender ratio of 3:1.This 3 times more prevalence in males could be ascribed as high risk behavior such as smoking, alcoholism and more outside activity/ exposure is more in males as compared to females.

93.8% patients belonged to rural area and only 6.2% were residing in urban areas. This could be explained on the basis that 85% population of Himachal Pradesh resides in rural and semi urban areas. In our study, about 80.8% were literate as only 19.2% were illiterate. Other studies from India documented 45-70% literacy in the population.[6,7] It was found that the patients of tuberculosis were equally distributed in all the subclasses of occupation which is in contrary to as shown by Kumar et al[9] in U.P in which 43.5% patients were housewives.

The above observations showed a great variability in the educational and employment status of people suffering from tuberculosis from place to place and it can be concluded that tuberculosis is not restricted to illiterate, unemployed poor people as was the perception in the past that tuberculosis is a disease of slum dwellers.

Smoking and alcohol are considered important etiological factors for tuberculosis. In our study 63.8% patients were smokers and 56.2% were alcoholics. The mean smoking index ±SD was 333.61±167.82. The prevalence of smoking ranged from 50-60% as documented in other studies.[7,8]

Family history was present in 19.2% patients. This is important as the studies suggest that the source is a significant consideration in knowing the sensitivity of mycobacterium to various anti tubercular drugs. In a study conducted by Jaikishan et al,[10] the MDR TB was significantly higher in patients with history of contact with MDR TB patients.

RNTCP[1] documents that the prevalence of tuberculosis is ten times more in diabetics. In our study, 9.23% of the patients were diabetics.

Conclusions

In present study, there was significant association between habits (smoking and alcoholism) and comorbidities like diabetes of participants and the disease. More studies should be carried out in various parts of the country so as to assess the geographical differences in the etiological factors of tuberculosis.

Conflict of interest: Nil

Funding: Nil

Acknowledgement: We would like to acknowledge all the patients participating in this study.

References

1. Govt. of India (2012). TB India 2012, RNTCP Status Report, Central TB Division, Directorate General of Health Services, Ministry of Health and Family Welfare, New Delhi.
2. WHO/IUATLD (2012). Global Project on Anti-tuberculosis Drug Resistance Surveillance, Anti-tuberculosis drug resistance in the World. Report No.4. Geneva, Switzerland.
3. Park K. Textbook of Preventive and Social Medicine, 21st ed. India Banarasi Das Bhanot Publishers, Jabalpur, 2009:p.164-80,633-34,681-82.
4. Sophia V, Balasangameshwara VH, Jaganatha PS and Kumar P. Initial drug resistance among tuberculosis patients under DOTS program in Banglore city. Ind J Tub 2004;51:17-21.
5. Sharma SK, Kaushik G, Jha B, George N, Arora SK , Gupta D, Singh U, Hanif M, Vashisht RP. Prevalence of multidrug-resistant tuberculosis among newly diagnosed cases of sputum-positive pulmonary tuberculosis. Indian J Med Res 2011;133:308-11.
6. Mahadev P, Kumar P, Agarwal SP, Chauhan LS and Srikantanu N. Surveillance of drug resistance to Anti-tuberculosis drugs in Districts of Hoogli in West Bengal and Mayurbhanj in Orissa. India J Tuberc 2005;52:5-10.
7. Mishra A, Mishra S, Chouksy M, Gautum P, Verma P, Srivastava D, Bansal M, Gaur N, Patne S. A study of effectiveness of DOTS on Tuberculosis patients treated under RNTCP Program. NTI bulletin 2007;43:47-50.
8. Gaikwad A, Deopujari K. A study of clinical profile and treatment outcome of DOTS regime in 250 Pulmonary and extra pulmonary tubercular patients in Hamida hospital, Bhopal, 2011. Chest 2012;142:288-9.
9. Kumar D, Singh SP, Shanker R. Treatment outcome among TB patients registered under RNTCP at sub district level in Varanasi, UP. Indian J Prev. Soc. Med 2011;42(3):301-5.
10. Kishan J, Bansal R, Paul R.B. Prevalence of primary drug resistance in in patients of pulmonary tuberculosis with or without contact with source having resistant pulmonary tuberculosis. Ind J Tub 2002;49:163.