Socio-demographic profile of tuberculosis patient undergoing DOTS therapy in thiruvallur district, Tamilnadu

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ABSTRACT:

*Tuberculosis (TB) is caused by bacteria (mycobacterium tuberculosis) that most often affect the lungs. Tuberculosis (TB) is second only to HIV/AIDS as the greatest killer worldwide, affecting not only physical health, but also social, economic, psychological and nutritional well being. Males are adversely affected than females. The social repercussions may include loss of work, divorce, etc. Even though the diagnostic and treatment services are free of cost.**AIM**: To assess the socio-demographic profile of patient undergoing DOTS therapy. **Material and methods**: A cross sectional study was conducted to cover TB patients registered in all TB Unit of the Thiruvallur district over the period of 3 months. **Results:** Total numbers of respondents were 210 according to study, among the respondents male patient's are of high percentage compare to female, constituting 64% male and 36% female. The sputum negatives cases are high (59%) than sputum positive cases (42%). The study found that there is a significance association with type of TB and sputum status and genders. **Conclusion:** This study reported more of Pulmonary Tuberculosis cases and Sputum Negative Cases and also types of TB vary according to gender and sputum status.*

Key words:

Tuberculosis (TB), socio-demographic, DOTS therapy.

INTRODUCTION:

Tuberculosis (TB) is one of the oldest infectious diseases known to affect humans and it remains as one of the major causes of death in the world, accounting for more than one-fifth of the global incidence [1]. Tuberculosis (TB) is caused by bacteria (mycobacterium tuberculosis) that most often affect the lungs. Tuberculosis (TB) is second only to HIV/AIDS as the greatest killer worldwide, affecting not only physical health, but also social, economic, psychological and nutritional well being [2]. About one-third of the world's population has latent TB, which means people have been infected by TB bacteria but are not yet ill with disease and cannot transmit the disease. However, person with compromised immune system, such as people living with HIV, malnutrition or diabetes, or who use tobacco, have a much higher risk of falling ill.

The Revised Tuberculosis Control Programme (RNTCP) is brought to address the limitation of National Tuberculosis Control (NTP), is a patient focused programme which covers more than millions of population in the country. The (RNTCP) with Directly Observed Treatment Short Course (DOTS) strategy was introduced in 1977. This programme reliably cures the patient and moves beyond by simply detecting cases. The purpose of the program is to achieve and maintain cure rate of 85% among New Sputum Positive (NSP) patient and to detect the case rate of 70% [3].

TB is a treatable and curable disease. Active, drug-sensitive TB disease is treated with a standard six-month course of four antimicrobial drugs that are provided with information, supervision and support to the patient by a health worker or trained volunteer. Without such supervision and support, treatment adherence can be difficult and the disease can spread [4].

The DOTS strategy relies mostly on passive case finding for TB treatment and its success based on the patients health awareness in order to recognise early signs of symptoms, and accessibility to health services [5]. The perception of TB prevailing in the community contribute to the health seeking behaviour of people of their symptoms, there is dearth of information on community perception of TB [6].

MATERIAL AND METHODS:

Study setting:

The thiruvallur district has a population of 38, 31,407. The district has 6 TB Units under which DOTS centers are subsidized. This study has been conducted to cover TB patients registered in all TB Unit of the Thiruvallur district over the period of 3 months.

Study design and period:

A Cross Sectional study, the data were collected during the period from January 2014-March 2014.

Study population:

Adult TB patients of both sexes, registered under RNTCP, with the following eligibility criteria were enrolled. Patient's who came to TU for DOTS therapy, under category-I and category-II treatment regimen.

Inclusion criteria:

Patients of tuberculosis, pulmonary and extra- pulmonary diagnosed and put on treatment.

Exclusion criteria:

Patient with any associated pulmonary disease i.e; asthma, chronic obstructive lung disease, hypertension, heart disease, diabetic mellitus, HIV/AIDS and epilepsy were excluded.

Tool for Data collection:

A pre-tested, semi-structured, pre-coded, interview schedule was made to collect information on demographic and medical characteristic of patient. These all are perceived by the patients.

Data collection:

List of TB patients who met the eligibility criteria was compiled from TB register.

All patients who met the eligibility criteria were approached and explained about the study and who ever provided the written informed consent were included.

The Principal Investigator also explained the confidentiality of data collected and also of their right to withdraw from the study at any time. Ethical approval for the study was obtained from the Institutional Ethics committee of Sri Ramachandra University, Porur, Chennai.

Data Management:

Data were checked for errors, entered, and analysed using the R Software version 2.15.0. The P value <0.05 was considered statistically significant.

RESULTS:

Among the 275 patients screened only 210 met the eligibility criteria are considered for the study purpose.

Socio-demographic:

Total numbers of respondents were 210 according to study, among the respondents male patient's are of high percentage compare to female, constituting 64% male and 36% female. More than 30% of the study participants are in the age group between 18- 30 years.

The number of family member considered as ≤4 are 63% and >4 are 37%. The type of family is distinguished as nuclear and joint, where as nuclear family is (93%) and joint family (7%).

The region has divided into rural and semi-urban; semi-urban (GH, BPHC) is (62%) high and rural (PHC) is (38%). The type of houses are classified as kutcha, pucca and semi-pucca based on the criteria's, pucca houses are high (62%), kutcha houses are less as (2%), and mixed houses are (14%) respectively. The ventilation is graded as Good, Moderate and Poor based on interview method. The moderate type of ventilated houses is (56%) than compare to poorly ventilated (14%) and Good ventilated (30%).

Clinical characteristic:

The most of the patients are outpatient's who are under the DOTS therapy, visiting the centres. The sputum positive cases are high among male (46%) than female (32%), the overall is (41%), the new TB cases among male is high (70%) than female (38%), the overall is (72%).The majority of female lies in RNTCP category I (76%) than male of (69%), the overall percentage is (72%). The male lies in RNTCP category II are (31%) and females are (24%), the overall is (28%). The overall old cases of TB are less as (28%). The sputum negative cases are high as (59%) and sputum positive cases are less as (41%).

Socio-demographic profile (n=210)

Table-1

Socio demographic	Number	Percentage
Gender		
Male	134	64%
Female	76	36%
Age		
18-30yrs	68	32%
31-40yrs	55	26%
41-50yrs	59	29%
51-60yrs	28	13%
Household size		
≤4	133	63%
>4	77	37%
Region		
Rural	79	38%
Semi-urban	130	62%
Type of houses		
Kutcha	5	2%
Pucca	129	61%
Semi-pucca	76	36%
Type of ventilation		
Good	62	30%
Moderate	118	56%
Poor	30	14%

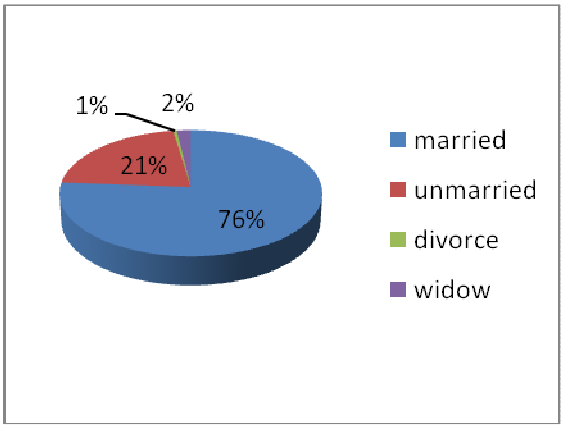
Clinical characteristic (n=210) Table-2

Category	Pulmonary TB	Extra Pulmonary TB
Gender		
Male	111(53%)	23(11%)
Female	47(23%)	29(14%)
Age		
18-30yrs	44(21%)	24(12%)
31-40yrs	43(21%)	12(6%)
41-50yrs	47(22%)	12(6%)
51-60yrs	24(12%)	4(2%)

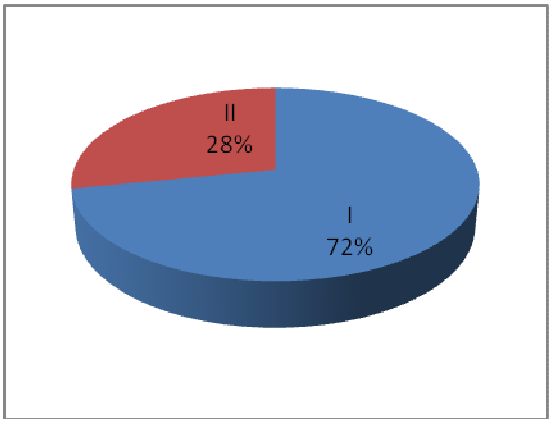
Clinical characteristic (n=210) Table-3

Category	Sputum Positive	Sputum negative
Gender		
Male	62(30%)	72(34%)
Female	24(12%)	52(25%)
Age		
18-30yrs	20(10%)	48(23%)
31-40yrs	27(13%)	28(13%)
41-50yrs	23(11%)	36(17%)
51-60yrs	16(8%)	12(6%)

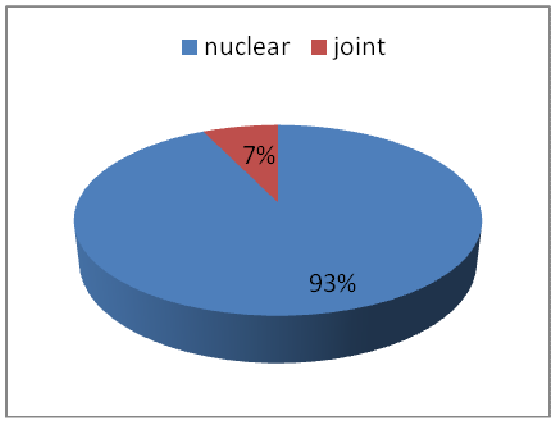
Marital status (n=210) fig-1



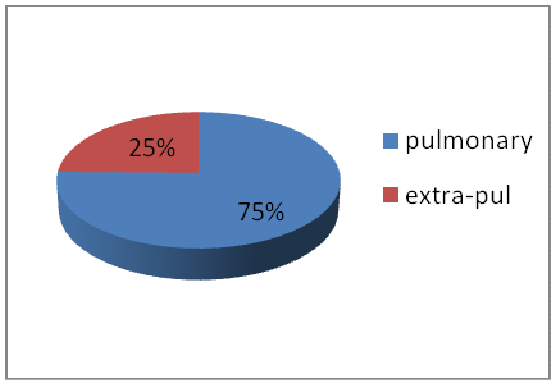
RNTCP Category (n=210) fig-2



Type of family (n=210) fig-3



Type of TB (n=210) fig-4



Association of sociodemographic and medical characteristics

Factors	Levels	P- value
Region	Rural Semi-urban	0.7679
Type of TB	Pulmonary Extra-pulmonary	
Type of ventilation	Good Moderate Poor	0.8849
Type of TB	Pulmonary Extra-pulmonary	
Gender	Male Female	0.001
Type of TB	Pulmonary Extra-pulmonary	
Sputum status	Positive case Negative case	4.751*e-08 (0.001)
Type of TB	Pulmonary Extra-pulmonary	

Discussion:

The present study in rural setting had covered all TUs of the Thiruvallur district and included both pulmonary and extra pulmonary TB patients. This study shown that (75%) of the pulmonary and (25%) are extra-pulmonary patients. Moreover, sputum negative patients showed (59%) and the (41%) sputum positive patients. V.K. Dhingra et al evaluated the impairment of life in adult Tuberculosis patients and concluded that (67%) are pulmonary and extra-pulmonary (33%) patients. In sputum negative showed (63%) and sputum positive cases are (37%) [16]. The current study shows mean age of the male and female (37.8%) and (37.7%) respectively; female patients are younger than male patients. In other study by Dhingra et al reported mean age for men and women was 27 and 25.4 yrs [16]. The present shows male are more prone for TB (64%) and female (36%), the household size of ≤ 4 is (63%) and ≥ 4 is (37%). The unique finding of the current study is type of TB vary according to gender and sputum status ($P<0.05$).

Conclusion:

The current study showed that male are more prone to suffer from TB and more suffers are in the younger age group between 18-30 years. This study reported more of Pulmonary Tuberculosis cases and Sputum Negative Cases. The unique finding of the current study is type of TB vary according to gender and sputum status.

References:

1. WHO Global report on TB 2011 (Internet). Available from http://www.who.int/tb/publications/global_report/en/ (last cited 2011 Oct 20).
2. Aggarwal AN. Health-related quality of life: A neglected aspect of pulmonary tuberculosis. Lung india 2010; 27: 1-3.
3. Revised national tuberculosis control programme, TB India 2012 (Annual status report), Ministry of Health and Family Welfare, Govt of India.
4. Chamla D. The assessment of patients' health related quality of life during tuberculosis treatment. Int J Tuberculosis Lung Dis 2004;8: 1100-6.
5. F. Karim, E. Johansson, V. K. Diwan, and A. Kulane, "Community perceptions of tuberculosis: a qualitative exploration from a gender perspective," *Public Health*, vol. 125, no. 2, pp.84–89, 2011.
6. S. Ganapathy, B. E. Thomas, M. S. Jawahar, K. J. Selvi, Sivasubramaniam, and M.

Weiss, "Perceptions of gender and tuberculosis in a south Indian urban community," The Indian Journal of Tuberculosis, vol. 55, no.1, pp. 9–14, 2008.

7. World Health Organisation Health Report 1995. Bridging the gaps. The state of world health. Geneva: WHO, 1995.

8. Dhingra VK, Rajpal S. Health related quality of life scoring in tuberculosis. [Indian J Tuberc 2003].

9. Ananthakrishnan, Anitajeyraj, Gopal palani. Socioeconomic impact of TB on patients registered within RNTCP and their families in the year 2007 in Chennai, India.[lung india,sept 2012]

10. Muniyandi, M, Rajeswari R, Balasubramanian R. Tuberculosis control programme - Is it pro poor. SAARC J Tuberc Lung Dis HIV/AIDS 2004; 1:14-9.