Research Article

Finding the treatment result of tuberculosis patient according to their socioeconomic class and area of leaving

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Abstract

Background: Tuberculosis (TB) is a contagious disease. Like the common cold, it spreads through the air. Only people who are sick with TB in their lungs are infectious..The last two-three decades have seen increasing interest in the quantitative study of socioeconomic factors and health system factors as determinants of health outcomes in the field of public health. **Aim:** Correlation between TB result and socio economic class and area of leaving **Objective:** 1) finding the treatment outcome according to the socio economic group. 2)to find out the area wise treatment outcome of tuberculosis patient **Method:** Community based longitudinal study was conducted. All the participant are tose who visit to hospitals Tb and chest department and register for the tuberculosis treatment. Social economic class we uses for rural area Modified Prasads classification and urban area Kuppuswamis method of classification. **Result:** Most of the patients are from rural area 81.5% of total participant and urban area only 18.4% .cure rate also higher in urban area that was 78.9%.Defolter rate was higher in rural area 2.3%. According to social class most patient belong to class IV 64.5%, cure rate was 100% in SEC I. **Conclusion:** The area and SEC class where we work hard for the better result of Tb treatment outcome.

Keywords: Tuberculosis, Social economic class, living area, cure, defaulters.

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INTRODUCTION

Each person with active TB disease will infect on average between 10 and 15 people every year[1] It is caused by Mycobacterium Tuberculosis (MTB), the causative organism of TB is spread almost exclusively by the respiratory route. A person with active pulmonary tuberculosis disease releases infectious droplets while coughing or sneezing. These droplets can remain airborne for extended periods of time for up to 48 hours. When a susceptible individual inhales droplets < 10 microns in size, they will reach the alveoli (tiny air sacs) in the lungs, and seed a TB infection[2] Tuberculosis bacilli. Remains the number one killer infectious disease affecting adults in developing countries. The 1990 World Health Organization (WHO) report on the Global Burden of Disease ranked tuberculosis as the seventh most morbidity-causing disease in the world, and expected it to continue in the same position up to 2020[3] Tuberculosis (TB) remains a major public health problem in India. Every year approximately 18 lakh people develops Tuberculosis and about 4 lakh die from it. India accounts for one fifth of global incidence of TB and tops the list of 22 high Tuberculosis burden countries. Tuberculosis remains one of the most serious diseases that affect the health as well as the economy of the country.[4] Control of tuberculosis is based on three strategies: case finding and treatment of active disease; treatment of latent Tuberculosis infection; and vaccination with Bacille

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Calmette-Guerine (BCG). The latter two approaches have minimal impact on Tuberculosis incidence, as treatment of latent Tuberculosis is not widely practiced and BCG vaccine has little effect in the prevention of adult Tuberculosis cases. [5] Hence case finding nor treatment of Tuberculosis disease are currently the principal means of controlling transmission and reducing incidence. Passive case finding is defined as detecting active Tuberculosis disease among symptomatic patients who present to medical services for diagnosis of symptoms, and it is now widely promoted in developing countries as part of the World Health Organization (WHO) recommended DOTS strategy.[5] This study helps to find out where we focusing for good result of tuberculosis treatment and where we work hard.

MATERIAL AND METHOD

Study Design: It is a community based longitudinal study, **Study setting:** DMC and DOT situated in premises of chest and TB department of Acharya Vinoba Bhave Rural Hospital (AVBRH), Sawangi (Meghe) Wardha. A tertiary Health Care Organization situated in the rural area of wardha district. **Sample size:** All the patient who were registered in DOT center at the duration of 13 months from December 2007 to December 2008 and who fulfilled the inclusion criteria. **Inclusion criteria:** 1)All patients with sputum positive or X-ray positive. 2)Patient willing to give written informed consent. **Exclusion criteria:** 1)Patients belong to category II , extra pulmonary and seriously ill.2)Those Patients who are not willing to undergo HIV testing.3)Patients who are not willing to give written informed consent There was four visits to patient first visit at Hospital .Where he or she conform the case after that other three visit at patients house in between 2 month

RESULT

In the present study total 206 tuberculosis patients included for the study, of them 154(74.75%) cases where male and 52(25.24%) female patients. The maximum cases were clustered in age group of 21-40 years which is active generation. Of total 206 study patients, 168(81.5%) were from rural area .While 38(18.4%) represents cases from urban area.

Table 1: Area wise distribution of Treatment outcome

Area	Cure (%)*	Treatment completed (%)	Failure (%)	Defaulter (%)	Death (%) **
Urban (n=38)	30 (78.9%%)	2 (5.2%)	4 (10.5%)	0	2 (5.2%)
Rural (n=168)	127 (75.5%.)	18 (10.7%)	14 (8.3%)	4 (2.3%)	5 (2.9%)

*χ^2 =5.71, P-value=0.01, **χ^2 =0.05, P-value=0.80

In urban area the cure rate was 78.9% which is more than rural area 75.5%. Urban area was also higher in failure and death rate as compare to rural area. Defaulter are seen in rural area they are 2.3% .

Table 2: Social class wise Treatment outcome

Social status Treatment outcome	Social Class I (1)	Social Class II N=14	Social Class III N=52	Social Class IV N=113	Social Class V N=26
Cure N=136	1	12	41	85	18
Treatment completed N=8	-	1	5	12	2
Failure N=13	-	-	5	9	4
Defaulter N=4	-	-	1	2	1
Died N=3	-	1	-	2	1

In all class the cure rate was higher most of the patient are belong to social class IV than social class III .these both class belong to daily wages workers .the failure rate was also common in these two class .Death rate higher in class II that was 7.14% as compare to other two class V 3.84% and class 1.7%.

DISCUSSION

TB is more common in rural compared to urban areas in India .this same seen also in our study . it was found that socioeconomic determinants such as HDI and hunger had great impacts on TB outcomes in Asia and the Pacific. This is in accordance with previous studies[6,7] In the study of Ma, de Lourdes Garcia (1999)[8] they conducted a retrospective study in 5 municipalities semi urban region of Mexico. According to the finding in their study the tuberculosis patients were more likely to stay in rural area. S Rajasekaran *et al* (2008)[9] in their study maximum subjects were from rural that was 183(64.7%) and urban 100(35.3%) this observation was similar with the present study. Kedir Wajisso *et al* (2003)[10] regarding residence, 111 (52.6%) of Urban resident The failure rate were higher in rural area as compare to urban area Defaulter were seen only in rural HIV negative the most of the resin were the social stigma related to the tuberculosis

CONCLUSION

In This study we found that most of the TB patients are from rural area and the social class IV .the cure rate was higher in urban area as compare to rural area. Defaulter was seen in social class III, IV, V these class belong to daily wages . So we focus on rural area and social class III IV V for the better result of tuberculosis treatment

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