Research Article

To find out treatment outcome between HIV positive and HIV negative tuberculosis patient in a rural hospital of Wardha district Maharashtra

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Abstract

Background: It is caused by Mycobacterium Tuberculosis (MTB), the causative organism of TB is spread almost exclusively by the respiratory route. Tuberculosis is the leading cause of death among HIV infected people; Rates of HIV-related tuberculosis have risen in countries in Europe, United States and South America, and the rates have increased so rapidly in India. **Aim:** find out treatment outcome in both HIV positive and HIV negative tuberculosis patients **Objective:** 1) find out treatment outcome in HIV positive TB patients 2) Find out treatment outcome in HIV negative TB patients. 3) Compare both result and give the summary. **Method:** A community based longitudinal study was conducted. All the participant who visit to hospitals Tb & chest department and register for the tuberculosis treatment. We are conducting three visits to collect the result of TB treatment. **Result:** Out of 206 Tb patient 42 patients was HIV patient & 164 HIV negative patient. In HIV positive patients we are found 50% cure rate, 11.9% of failure & 0% defaulter. About HIV negative cure rate was 82.9%Failure rate 7.9% and defaulter 2.4%. **Conclusion:** Cure rate was not up to RNTCP data because we contain both HIV positive patient and HIV negative patient. We are work for decrease the deflators in HIV negative group.

Key Word: HIV, Wardha, rural hospital.

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INTRODUCTION

"Transforming the fight towards elimination"

Tuberculosis was present before the beginning of recorded history .The earliest human remains show deformities caused by tuberculosis. This has been confirmed by skeletal DNA it is presumed that the genus *Mycobacterium* originated more than 150 million years ago[1]. In India every year approximately 18 lakh people develop Tuberculosis and about 4 lakh die. India accounts for one fifth of global incidence of TB and tops the list of 22 high Tuberculosis burden countries[2]. Tuberculosis remains one of the most serious diseases that affect the health as well as the economy of the country.[4] Human immunodeficiency virus (HIV) is a lentivirus (a member of the retrovirus family) that can lead to acquired immunodeficiency syndrome (AIDS), a condition in humans in which the immune system begins to fail, leading to life-threatening opportunistic infections[8] About a third of the HIV-positive population worldwide is co-infected with *M tuberculosis.* As HIV slowly weakens the immune system, the individual gradually becomes unable to fight off "opportunistic infections" - infection with viruses, bacteria, parasites and fungi that would normally pose little threat to an individual. Common opportunistic infections include fungal infections of the mouth and throat, intestinal infections, and pneumonia.[22]

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Tuberculosis, a major opportunistic infection, poses a particular threat to the well being and survival of HIV-positive people[22] It is vitally important for people with HIV to have treatment if they have active tuberculosis. This will cure them and prevent transmission to others. Maharashtra is a high prevalence state the HIV infection rate has crossed 5 percent in high-risk group. The trend of infection that HIV infection is spreading in two ways; from urban to rural and individual practicing high risk behavior to general population. This study focuses that who gives better result in treatment outcome of tuberculosis.

MARTIAL AND METHOD

It was a community based longitudinal study carried out in the DMC & 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. All the patient those who are registered for Direct Observational Treatment (DOT) and fulfill the Inclusion criteria and exclusion criteria. In the period of Dec2007 to Dec 2008 total duration of study was 2 year.

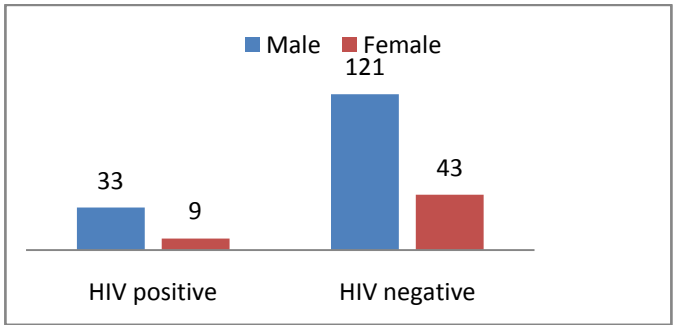
Inclusion criteria 1) All patients with sputum positive or X-ray positive. 2) Patient willing to give written informed consent.

Exclusion criteria 1) Patients belong to category II, extra pulmonary & 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 are four visits to every patient. First visit at the hospital where he or she diagnosed ,other three where at home in the interval of 2 month .

RESULT

Following are the finding of this study. There was 206 patients participate in the study, all are complete the inclusion criteria of study.



Total 206 tuberculosis patients included for the study, male comprised of 154(74.75%) cases of which 33(21.4%) and 121(78.6%) male cases were of HIV positive and HIV negative tuberculosis patients. While in case of total 52(25.24%) female patients, 9(17.03%) and 43(82.7%) females were HIV positive and HIV negative tuberculosis patients.

Table 1: Treatment outcome of HIV positive

Treatment outcome	Cure	Treatment Completed	Failure	Defaulter	Death	Total
Individuals	21 (50.0%)	12 (28.6%)	5 (11.9%)	0	4 (4.9%)	42 (100.0%)

Above table show that cure rate of HIV positive individuals was most higher than other outcome. Second was treatment completed and 4 (4.9%) death found .

Table 2: Treatment outcome of HIV negative

Treatment outcome	Cure	Treatment Completed	Failure	Defaulter	Death	Total
Individuals	136 (82.9%)	8 (4.9%)	13 (7.9%)	4 (2.4%)	3 (1.8%)	164 (100.0%)

Out of 164 individual we are found cure rate 82.9% that similar to the RNTCP report. There were 2.4% of defaulter were seen in HIV negative individuals. 1.8% of death were seen in treatment outcome of HIV negative individuals.

Table 3: Treatment outcome of HIV positive and HIV negative individuals

Outcome	HIV positive (%)	HIV negative (%)	Total (%)	χ^2
Cure	21 (50.0%)	136 (82.9%)	157 (76.2%)	84.23*
Treatment Completed	12 (28.6%)	8 (4.9%)	20 (9.7%)	0.8
Failure	5 (11.9%)	13 (7.9%)	18 (8.7%)	3.55
Defaulter	00	4 (2.4%)	4 (1.9%)	4.00*
Death	4 (4.9%)	3 (1.8%)	7 (3.4%)	0.12
Total	**42 (100.0%)**	**164 (100.0%)**	**206 (100.0%)**	

* Significant χ^2 - tabulated value=3.84, degree of freedom=2-1=1

Total 206 cases we are found only 76.2% of individual cure. This is not up to the objective to RNTCP. 9.7% had completed treatment, 8.7% cases of failure, 1.9% of defaulter and 3.4% mortality were observed in the present study.

DISCUSSION

The present study was done to assess treatment completed in terms of cure, failure, default, death. A total 206 patients of tuberculosis were included in the study. Of them 42 were HIV positive pulmonary tuberculosis and 164 were HIV negative pulmonary tuberculosis individuals. In the present study the total cure rate 76.2% in HIV positive and HIV negative, but it was higher in

HIV negative 82.9% which was similar to 84% of Maharashtra cure rate of new smear positive patients in RNTCP report of treatment outcome 2007,and also in the study of **Lucélia Henn *et al.*.**[72] (1999) The cure rate of HIV positive 50.0%which was quite similar to the **H. T. Quy *et al.*** (1999)[83] **Lucélia Henn *et al.*.** [72] (1999) **.** The cure rate 84.23% were found in this study ,which include HIV positive and HIV negative individuals .it was highly significant. Failure rate higher in HIV negative 7.9% individuals compare to HIV positive 11.9%. Total 1.9% of defaulters seen it is highly Significant. All defaulters are from HIV negative group. In the present study the overall mortality was 3.4%,it was higher in HIV positive as compared to HIV negative .The similar finding were found in the **Murray J *et al.* (1999)[69] Ackah AN *et al.* (1995),**[65]

CONCLUSION

Over all cure rate was not up to the national objective of RNTCP. But in HIV negative tuberculosis patient the cure rate was higher than RNTCP objective .Defaulters seen only in HIV negative which is one of alarming for MDR. Deaths are more in HIV positive tuberculosis patient. So we are work hard to decrease the defaulters and death from tuberculosis.

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