



Socio-demographic correlates of HIV-TB Co-infected Patients Attending ART Centre of Jharkhand

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Abstract

Background: *The HIV epidemic has posed a major challenge to control tuberculosis (TB) across the world. HIV and TB both primarily affect people in their most productive years of life.*

Objectives: *This study was done aiming to describe the socio-demographic profile of HIV-TB Co-infected patients attending ART Centre of RIMS, Ranchi and also the type of TB and CD4 count in HIV-TB Co-infected patients.*

Methods: *This was a record based cross sectional study. Data of all HIV-TB co-infected patients attending ART Centre of RIMS, Ranchi was collected from ART Register which came out to be 80 patients. Total study duration was 3 months (June 2016 to August 2016). Templates were generated in MS excel sheet and analysis was done using SPSS software.*

Results & Conclusion: *On analyzing 80 subjects it was found that majority were males (62,77.5%) with most commonly affected age group being 21-40 years (49,61.2%). Smear positive pulmonary TB was most common type of TB (34, 42.5%) with most patients having CD4 count <500 (75,93.75%). TB in HIV infected patients is more common in males in their most productive years of life. Extra pulmonary TB being second most common after smear positive pulmonary TB.*

Keywords: *Profile, HIV-TB Co-infection, CD4 Count.*

Introduction

While HIV and tuberculosis (TB) can individually be the major causes for concern as stand-alone public health threats, the combination of the two has proven to have a far greater impact on the epidemiologic progression and consequently on the impact it has on the global health scene. The dual infection has been termed “accursed duet” [1].

Patients with HIV infection are more likely to have active TB by a factor of 100 when compared with an HIV negative population [2]. HIV and TB both are grave situation and their association becomes even more dangerous.

HIV increases a person’s susceptibility to TB infection. The risk of activation of dormant TB is about 10% per year in HIV positive patients in

contrast to 10% lifetime risk in HIV negative patients. TB is the opportunistic infection that most frequently kills HIV-positive people. The HIV virus damages body's natural defences, the immune system and accelerates the speed at which tuberculosis progresses from a harmless infection to life threatening condition [3].

Epidemiological Impact – HIV & TB interact in several ways [4] – Reactivation of latent infection: HIV-positive individuals have 25-30 times more chances of developing tuberculosis than those of HIV-negative individuals, because immune system does not work effectively in HIV-positive individuals and tuberculosis bacilli multiply rapidly, Primary infection: New tubercular infection in HIV-positive people can progress to active disease very quickly, Recurring infection: HIV-positive people who are cured of tuberculosis may be more at risk of developing tuberculosis again. However it is not clear whether this is because of re-infection or relapse & In the community: More people are getting infections and they are infecting others. TB-HIV co-infected people suffer additional discrimination. So community education is needed to increase awareness that TB is curable, so that people no longer remain infectious to others.

Even in HIV-positive cases, TB can be cured if diagnosed in time and treated properly. With correct TB treatment, HIV positive patients having TB can gain average two additional years of life. India is the highest TB burden country in the world in terms of absolute number of incident cases that occur each year.

According to WHO Global TB report 2016 an estimated 10.4 million people developed TB in 2015 and 1.4 million died from the disease and an additional 400000 deaths were due to HIV-TB[5].

This study aims to describe the socio-demographic profile of HIV-TB Co-infected patients attending ART Centre of RIMS, Ranchi and to describe the type of TB and CD4 count in HIV-TB Co-infected patients.

Material and Methods

This was a record based cross sectional study done at ART Centre of RIMS, Ranchi. The total duration of study was 3 months (June 2016 to August 2016). Data for describing socio-demographic profile, type of TB and CD4 counts were collected from the register of HIV-TB patients at ART Centre of RIMS, Ranchi for the year 2015. This accounted to a total of 80. Templates were generated in MS excel sheet and analysis was done using SPSS software (version 20).

Results

Out of 80 patients most common affected age group was 20-40 years (61.25%) followed by 40-60 years (30%). Males accounted for 77.5% of patients. More than half of the patients (62.5%) were from rural area and majority (83.75%) were from non-tribal ethnicity.

Sputum Smear Positive Pulmonary TB (SS +ve PTB) is most commonly found (42.4%) followed by Extra Pulmonary TB (EPTB).

Majority (93.75%) have CD – 4 Count <500/cumm.

More than 3/4th (85%) patients were on DOTS.

On applying chi – square test we found no association between socio – demographic profile and type of TB, DOTS therapy status and CD – 4 count among patients (as p-value > 0.05).

Table 1: Socio-demographic profile

		Frequency (n=80)	Percentage (%)
Age (In Years)	< 20	07	8.75
	21 – 40	49	61.25
	41 – 60	24	30
Gender	Male	62	77.5
	Female	18	22.5
Residence	Rural	50	62.5
	Urban	30	37.5
Ethnicity	Tribal	13	16.25
	Non - Tribal	67	83.75

Table 2: Type of TB found among HIV-TB Co-infected patients

Type of TB	Frequency (n=80)	Percentage (%)
SS +ve PTB	34	42.5
SS –ve PTB	19	23.8
EPTB	27	33.7

Table 3: CD – 4 Count status of HIV-TB Co-infected patients

CD – 4 Count Status (in per cummm)	Frequency (n=80)	Percentage (%)
< 500	75	93.75
> 500	05	6.25

Table 4: Status of DOTS among HIV-TB Co-infected patients

DOTS Status	Frequency (n=80)	Percentage (%)
On DOTS	68	85
Not on DOTS	12	15

Table 5 : Association between socio-demographic profile and type of TB among patients

Socio-demographic profile		Type of TB			p-value
		SS +ve PTB	SS -ve PTB	EPTB	
Gender	Male	30	15	17	0.168
	Female	5	4	9	
Ethnicity	Tribal	7	4	4	0.295
	Non – Tribal	28	15	22	
Age group	< 20 yrs	3	3	1	0.461
	21 – 40 yrs	20	9	20	
	41 – 60 yrs	11	7	6	
Residence	Rural	24	12	14	0.500
	Urban	12	7	11	

Table 6: Association between socio-demographic profile and CD-4 count among patients

Socio-demographic profile		CD – 4 count		p-value
		< 500/cummm	> 500/cummm	
Gender	Male	58	4	0.890
	Female	17	1	
Ethnicity	Tribal	15	0	0.267
	Non – Tribal	60	5	
Age group	< 20 yrs	6	1	0.882
	21 – 40 yrs	47	3	
	41 – 60 yrs	22	1	
Residence	Rural	49	1	0.043
	Urban	26	4	

Table 7: Association between socio-demographic profile and DOTS therapy status among patients

Socio-demographic profile		DOTS Therapy Status		p-value
		On DOTS	Not on DOTS	
Gender	Male	51	11	0.202
	Female	17	1	
Ethnicity	Tribal	14	1	0.316
	Non – Tribal	54	11	
Age group	< 20 yrs	7	0	0.398
	21 – 40 yrs	40	9	
	41 – 60 yrs	21	3	
Residence	Rural	42	8	0.746
	Urban	26	4	

Discussions

More than 2/3rd of the patients with HIV-TB co-infection were male and from non-tribal ethnicity belonging to rural areas.

Most commonly affected age group was 20 – 40 years.

Most common type of TB found among patients was SS +ve PTB followed by EPTB and among PTB patients SS + PTB is more common than SS – PTB.

In a study done by R. Bahl, B. Singh and R. Singh in Jammu it was found that majority (> 75%) of patients with HIV-TB were in age group of 21 – 40 years. Female to male ratio was 2:1 [6].

In a study done in Vadodra Gujrat by Ragini Ghia et. al. It was found that 68.7 % patients were male and about 82.5 % belonged to age group of 15 – 50 years [7].

Study at Abuja, Nigeria done by Jamda et. al. Showed that 57% patients were male and 71.4% patients completed their treatment [8].

Conclusions

TB in HIV infected patients is more common in males in their most productive years of life. Extra pulmonary TB being second most common after smear positive pulmonary TB. Majority of PTB co-infected patients were having baseline CD4 count <500/cummm.

Conflicts of interest

There are no conflicts of interests.

Ethical Approval

The study was approved by Institutional Ethics Committee.

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