

Original article

A study of HIV co-infected tuberculosis cases attending a tertiary care hospital vizianagaram, Andhra Pradesh.

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Abstract

Objectives : 1) To study the proportion and type of tuberculosis (TB) in HIV-TB co-infection of clients attending Integrated Counselling and Testing Centre (ICTC), 2) To study the results of registered TB cases under RNTCP tested for HIV. **Material & Methods :** Observational study based on monthly reports of all clients for the years 2013 and 2014 from the ICTC of Maharajah's Institute of Medical Sciences, Vizianagaram, Andhra Pradesh. **Statistical analysis :** Percentages and p value. **Results :** More number (75%) of HIV negative patients were sputum positive than HIV positive cases (25%). Registered TB patients referred to ICTC for HIV testing showed insignificant positivity. **Conclusion :** HIV suspected cases should be subjected for sputum smear examination and all registered TB cases should be referred to ICTC for HIV testing and counselling. **Implications of the study :** 1) Although HIV positivity is not high in registered TB patients still HIV testing should be done to remain on the safe side. 2) All suspected HIV cases need to be tested for sputum smear examination for AFB as HIV-TB co-infection is a serious condition leading to very high mortality than other infections.

Key words : HIV TB, ICTC, RNTCP, TB HIV.

Introduction

Tuberculosis is an age old killer disease and co-mushduty with HIV AIDS has emerged.

India has 25% of the burden of TB cases in the world. The dormant tuberculosis infection becomes activated in 10% of people in their lifespan. If HIV infection is superimposed the activation of TB becomes 10% in one year. HIV positive people due to TB which is an opportunistic infection^[2].

HIV === persons are 25-30 times more prone to develop frank tuberculosis because of declining cell mediated immunity.

Objectives

1) To study the proportion and type of tuberculosis (TB) in HIV infected clients attending Integrated Counselling and Testing Centre (ICTC) of MIMS, Nellimarla, Vizianagaram Andhra Pradesh.

2) To study the results of registered TB cases referred to ICTC.

Materials & methods

Study Design - Retrospective Observational record based study.

Study Period - (August 2015 - November2015)

Study Population - All the clients attending ICTC and suspected of TB and registered TB cases of DMC cum DOTS centre, RNTCP of MIMS during the period of 2013 and 2014 as per records.

Statistical analysis was performed using SPSS version 20.0. All values are expressed in the form of percentages, mean and the appropriate statistical tests have been applied wherever necessary.

Results

Year wise Distribution of HIV positive cases among the clients attending ICTC MIMS.

Year	No. of HIV Positive Among Total Clints	No. of HIV Negative Among Total Clints	Total No. of Clients Attending ICTC
2013	59 (0.97%)	6014 (99.03%)	6073 (100%)
2014	43 (0.61%)	7023 (99.39%)	7068 (100%)

In Table No.1 it is observed that HIV positivity has shown declining trend between 2013 & 2014 i.e. a difference of decline of positivity by 37.12%

This finding is significant in terms of z test having z value = 2.5 as it is more than the critical value of 1.96 at $\alpha = 0.05$

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Year wise Distribution of Suspected TB cases referred from ICTC to DMC

Year	No. of HIV Positive	No. of HIV Negative	Total No. of Referrals
2013	62 (20.6%)	239 (79.4%)	301 (100%)
2014	72 (19.7%)	293 (80.3%)	365 (100%)

In Table No. 2 it is observed that 301 TB suspects (HIV positive 20.6 % & HIV negative 79.4%) were referred to DMC, RNTCP for sputum smear examination of AFB during the year 2013 whereas during the year 2014 a total of 365 TB suspects (HIV positive 19.7% and HIV negative 81.3%) were referred.

This finding is not significant because with a z value = 0.311 which is far below the critical value of 1.96 at $\alpha = 0.05$

Distribution of Diagnosed TB cases among the referral clients from ICTC to RNTCP for the years 2013 & 2014

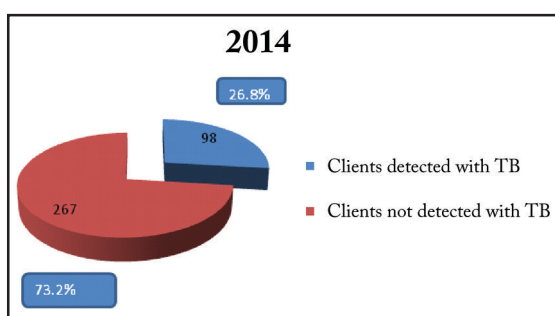
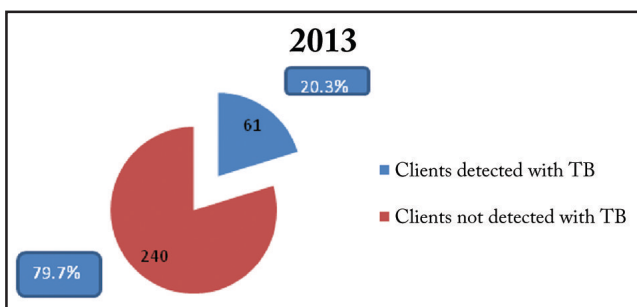


Figure no.1 shows the cases detected with TB (26.8%) for the year 2014 is more than that (20.3%) for the year 2013

But this observation is not statistically significant as z value = 1.82 which is less than the critical value of 1.96 at $\alpha = 0.05$

Diagnosed TB cases among the referrals from ICTC to RNTCP

Class of TB	Year 2013			Year 2014		
	HIV Pos.	HIV Neg.	Total	HIV Pos.	HIV Neg.	Total
Pulm. NSP	7 (17.5%)	33 (82.5%)	40 (65.6%)	1 (2.4%)	41 (97.6%)	42 (42.9%)
Pulm. NSN	0	3	3 (4.9%)	2 (18.2%)	9 (81.8%)	11 (11.2%)
Extra Pulm.	1 (5.5%)	17 (94.5%)	18 (29.5%)	12 (26.7%)	33 (73.3%)	45 (45.9%)
TOTAL	8 (13.1%)	53 (86.9%)	61 (100%)	15 (15.3%)	83 (84.7%)	98 (100%)
No. Receiving DOTS	8 (13.1%)	53 (86.9%)	61 (100%)	15 (15.3%)	83 (84.7%)	98 (100%)

Table No. 3 shows more no. of referrals in 2014 than during 2013 i.e. 98(26.8%) and 61(20.3%) TB cases respectively.

In our study it is found out that HIV proportion among diagnosed TB patients is 13.1% and 15.3% for the years 2013 & 2014 respectively.

An important observation is, the increased Extra pulmonary in both 2013 & 2014 i.e. 29.5% and 45.9% respectively.

Table 4: Distribution of HIV positive cases among registered TB cases referred from RNTCP to ICTC

RNTCP to ICTC Activity	Year 2013	Year 2014
No. Of Registered TB cases tested for HIV	192	33
No. Of TB cases detected to be HIV positive	2 (1.04%)	1 (3.03%)

In table no. 4 it is found that in 2013, out of 192 TB cases only 2 (1.04%) were found to be HIV positive whereas during the year 2014 the referral of only 33 registered TB cases showed 1 case (3.03%) as HIV positive.

The low level of referral during 2014 may be due to lack of follow up, among (TB Health Visitor).

Discussion

According to NACO of India the prevalence of HIV/AIDS in India in 2011 is 0.27% which is far below the prevalence of the year 2002 i.e. 0.41% [4].

In the present study it is seen that the HIV proportion among hospital patients is 0.97% and 0.61% for the years 2013 and 2014 respectively. This higher proportion of HIV positivity in hospital patients may be due to their floating nature. But in the Berhampur (Odisha) study it is seen that the HIV positivity among clients of ICTC is 7.5% [5] whereas the Delhi study found the prevalence of HIV positivity of 5.3% [6]. These figures are far beyond the National prevalence rate.

Further in India the incidence of HIV among estimated incident TB patients is 5.7% (4.8% - 6.6%) for the year 2013. [1] In the present study the proportion of HIV among TB patients was 13% during 2013 and 15.3% during 2014.

The higher proportion of HIV positivity among hospital attending TB patients may be due to their floating nature.

It is observed in the present study that the HIV positivity among the TB suspects referred from ICTC to RNTCP has not increased significantly, but however the referral of TB suspects from ICTC to RNTCP has increased over the next year by 21% which is a good development in the referral activity. Lata et al have found that HIV TB co infection was present in 11.95% of the clients referred from ICTC to RNTCP [7].

It is noticed that during the year 2013 as much as 20.3% clients referred from ICTC were diagnosed to have TB whereas during the year 2014 this figure was 26.8%.

This study reveals that the proportion of detection of Extra pulmonary TB cases (29.5% for 2013 & 45.9% for 2014) is higher than the National expected level of 15-25%.

The TB HIV activity from RNTCP to ICTC in the present study is seen to be not encouraging. The low level of referral during 2014 may be due to lack of follow up in absence of the TB HV. Lata et al have found that the referral from RNTCP to ICTC in their tertiary hospital to be 5.97% [7].

In the present study it is found out that HIV proportion among diagnosed TB patients is 13.1% and 15.3% for the years 2013 & 2014 respectively.

Conclusion

Basing on the salient findings of the present study it is concluded that the referral of suspected TB cases among clients from ICTC to DMC and RNTCP is encouraging over the years whereas the TB HIV activity with referral of registered TB cases from RNTCP to ICTC is deplorable.

Recommendation

HIV TB activity should continue more vigorously and the TB HIV activity which has become slow should be augmented with positioning of requisite committed staff.

Limitations of the study

While the study is a record based study the individual clients and patients could not be included for further interrogation. Moreover the study is confined to the informations available from the monthly reports of HIV TB activity only.

Conflict of Interest : NIL

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References :

- 1) Govt. of India, TB India 2015, RNTCP Annual Status Report, DGHS, Ministry of H & FW, New Delhi. Page 22.
- 2) WHO (1996) TB Groups at Risk, WHO Report on the Tuberculosis Epidemic, Geneva.
- 3) Park's Textbook of Preventive and Social Medicine 23rd edition, January 2015, page 200
- 4) Govt. of India, Annual Report 2013-14, NACO, Department of AIDS Control, Ministry of H & FW, New Delhi. Page IX
- 5) Dash M, Padhi S, Sahu S, Mohanty I, Panda P, Parida B, Sahoo MK. HIV Counselling and testing in a tertiary care hospital in Ganjam district, Odisha, India. 2013; Vol.59, issue 2: pp.110-114
- 6) Arora Vivek M, Roy S, Bangotra AK. HIV infection rates among persons attending an ICTC of a Delhi hospital. Indian J Sex Transm Dis & AIDS 2009; Vol.30, No.2:pp121-122
- 7) Galate Lata B, Karyakarte RP, Ambhore N, Gajbhiye P. Prevalence of HIV-TB Co infection and Study of its Epidemiological Variant among patients attending ICTC and RNTCP Centre of Government Medical College & Hospital, Akola in Maharashtra, India. International Journal of Current Microbiology and Applied Sciences; Vol.4, No.9 (2015), pp.744-748