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Original Research Article

Knowledge and Practices Regarding Tuberculosis among People Living With HIV/AIDS Attending Antiretroviral Therapy Centre of Belgaum District Hospital - A Cross Sectional Study

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ABSTRACT

Background: TB remains an important public health problem and has been exacerbated by the HIV epidemic, resulting in increased morbidity and mortality worldwide. This study was carried out to assess the knowledge and practices regarding tuberculosis among people living with HIV/AIDS attending ART centre of Belgaum District Hospital, Belgaum.
Materials and Methods: A cross-sectional study conducted in ART centre of Belgaum District Hospital with 400 participants aged above 18 years. Pre-designed and pre-tested questionnaire was used to elicit the required information.
Results: Among 400 participants, 242(60.5%) were males and 158(39.5%) were females. Regarding the level of knowledge in age category of 21-30 years, 9(18.0%), 9(18.0%), 32(64.0%) had poor, average and good knowledge respectively and almost similar trend were found in all age category. Among males, 147(60.7%) had good, 73(30.2%) had average and 22(9.1%) had poor knowledge regarding tuberculosis. Level of knowledge regarding tuberculosis was significantly associated with age, sex, occupation, education and socio economic status but not significant with the religion, type of family and marital status. Among 400 participants 83 were suffered from tuberculosis currently. Among them 25(30.1%) had poor practice and 58(69.9%) had average practice regarding tuberculosis. The level of practice significantly associated with age but not with the sex, occupation, education, socio economic status religion, family type and marital status.
Conclusions: These findings indicate that tuberculosis is a significant health problem in the study population. Many study participants are at risk of developing tuberculosis, thus immediate public health interventions are indicated.

Key words: Tuberculosis, HIV/AIDS, Antiretroviral Therapy Centre (ARTC)

INTRODUCTION

Tuberculosis remains an important public health problem and has been exacerbated by the HIV epidemic, resulting in increased morbidity and mortality worldwide. [1] TB is the most common opportunistic infection seen in people living with HIV as well as a leading cause of death in these people. The lifetime risk of TB in immune-competent persons is 5-10%

whereas in an HIV-infected person, the annual risk of TB is 5-15%. [2] As it is a major global health problem, it causes ill-health among millions of people each year and ranks as the second leading cause of death after the human immunodeficiency virus. In 2012, 1.1 million (13%) of the 8.6 million people who developed TB worldwide were HIV-positive and among 1.3 million TB deaths, 0.3 million were HIV associated TB deaths. [3] An estimated 35.3 million people were living with HIV globally and 1.6 million AIDS deaths in 2012. [4] The South-East Asia Region accounts for nearly 15% of the global burden of new HIV-positive tuberculosis cases. In the Region, intensified TB case-finding among newly diagnosed PLHIV is 94% in 2010. [5] In India nearly 5% of the 2 million TB incident cases were HIV seropositive. [6] The total number of people living with HIV/AIDS in India is estimated at around 20.9 lakh in 2011.The four high prevalence States of South India (Andhra Pradesh, Karnataka, Maharashtra and Tamil Nadu) account for 53% of all HIV infected population in the country. It is estimated that about 1.48 lakhs people died of AIDS related causes in 2011. There are about 2.2 lakhs people living with HIV (PLHIV) in the Karnataka state. [7] HIV is a potent risk factor for tuberculosis disease. HIV increases the risk of latent TB infection reactivation, the rate of disease progression, and the risk of new infections by an order of magnitude. The synergy of TB and HIV has created a worldwide public health crisis and has significantly complicated attempts to eliminate TB in both the industrialized and developing worlds. [8] Relevant research in particular field in India is minimal. Therefore, this study was carried out to assess the knowledge and practices regarding tuberculosis among people living with HIV/AIDS attending ART centre of Belgaum District Hospital, Belgaum.

MATERIALS AND METHODS

This cross-sectional study was conducted from January 2013 to September 2013 in ART centre of Belgaum District Hospital, Belgaum City, Karnataka. HIV/AIDS people who attended ART centre and who were above age of 18 years were included in the study. Those who had the chronic diseases except tuberculosis were excluded from the study.

Sample size was calculated by assuming the knowledge and practices of people living with HIV regarding tuberculosis (p) as 50% and allowable error (d) as 5%, by using formula $N= 4pq/d^2$ (q=1-p). Hence, the calculated sample size was 400. The study participants were selected by systematic random sampling. Data regarding socio-demographic characteristics, knowledge and practices regarding tuberculosis were collected by using pre designed and pre tested questionnaire. Modified B.G Prasad's classification (2013) was used for Socio-economic status classification. Ethical clearance was obtained from Institutional Ethical Committee (IEC) of KLEU, J.N. Medical College. Authority from respective District AIDS Prevention and Control Unit and Belgaum District Hospital was obtained. Written informed consent was taken from each and every participant. All the data were entered into the Statistical Package for Social Science (SPSS-20 version) and analyzed in the light of objectives at 95% CI. Scoring for Knowledge and practice was done on the following way i.e. less than mean-SD= Poor, Mean ± SD= Average and more than Mean + SD= Good. Results were presented by using tables and percentage. Chi-Square test was applied for establishing association.

RESULTS

A total of 400 individuals participated in the study in which 242(60.5%) were males and 158(39.5%) were females. The age of the participants varied from 21to 68 with the mean age of 37 years. Participants aged 31-40 years constituted 62.75% of the study population. 172(43%) of the respondents were involved in business and 83(20.75%) respondents occupation is labour. More than half of the respondents had attained secondary level education and 25(6.2%) of the respondents were illiterate. Majority of the study subjects belonged to middle socio-economic status. 344(86%) of the respondents belongs to nuclear family and majority of the participants were Hindu. Most of the respondents were married and 20(5%) were unmarried and 75(18.75%) were divorced/widow/widower.

Table No. 1: Distribution and association of knowledge with different characteristics

Characteristics	Level of Knowledge			Total	χ^2 Value	P Value
	Poor	Average	Good			
Age					11.50, df=4	0.021*
21-30	9(18.0%)	9(18.0%)	32(64.0%)	50(12.5%)		
31-40	36(14.3%)	94(37.5%)	121(48.2%)	251(62.75%)		
41& above	10(10.1%)	27(27.3%)	62(62.6%)	99(24.75%)		
Sex					16.27, df=2	0.0001*
Male	22(9.1%)	73(30.2%)	147(60.7%)	242(60.5%)		
Female	33(20.9%)	57(36.1%)	68(43.0%)	158(39.5%)		
Occupation					23.78, df=8	0.002*
Agriculture	5(20.8%)	6(25.0%)	13(54.2%)	24(6.0%)		
Business	16(9.3%)	53(30.8%)	103(59.9%)	172(43.0%)		
Service	0(0.0%)	16(40.0%)	24(60.0%)	40(10.0%)		
Labor	13(15.7%)	27(32.5%)	43(51.8%)	83(20.75%)		
Housewife	21(25.9%)	28(34.6%)	32(39.5%)	81(20.25%)		
Education					23.348, df=6	0.001*
Illiterate	6(24.0%)	5(20.0%)	14(56.0%)	25(6.2%)		
Primary	5(19.2%)	6(23.1%)	15(57.7%)	26(6.5%)		
Secondary	41(15.9%)	96(37.2%)	121(46.9%)	258(64.5%)		
PUC & above	3(3.3%)	23(25.3%)	65(71.4%)	91(22.8%)		
Religion					5.381, df=2	0.068
Hindu	55(14.4%)	120(31.5%)	206(54.1%)	381(95.25%)		
Non-Hindu	0(0.0%)	10(52.6%)	9(47.4%)	19(4.75%)		
Socioeconomic Status					12.433, df=4	0.014*
High	3(9.7%)	7(22.6%)	21(67.7%)	31(7.75%)		
Middle	47(15.2%)	111(35.8%)	152(49.0%)	310(77.5%))		
Low	5(8.5%)	12(20.3%)	42(71.2%)	59(14.75%)		
Type of Family					3.976, df=2	0.137
Nuclear	52(15.1%)	109(31.7%)	183(53.2%)	344(86.0%)		
Joint	3(5.4%)	21(37.5%)	32(57.1%)	56(14.0%)		
Marital Status					5.192, df=4	0.268
Unmarried	3(15.0%)	3(15.0%)	14(70.0%)	20(5.0%)		
Married	40(13.1%)	98(32.1%)	167(54.8%)	305(76.25%)		
Divorced/Widow/widower	12(16.0%)	29(38.7%)	34(45.3%)	75(18.75%)		
Total	55(13.8%)	130(32.5%)	215(53.8%)	400(100%)		
* significant						

Among total participants, 215(53.8%) had good knowledge, 130(32.5%) had average knowledge and 55(13.8%) had poor knowledge regarding Tuberculosis. The result of the current study, as indicated in Table 1, revealed that the Age, Gender, Occupation, Education, Socioeconomic Status were significantly associated with the level of knowledge regarding tuberculosis.

Table No. 2: Distribution and association of Practice with different characteristics

Characteristics	Level of practice		Total	χ^2 Value	P Value
	Poor	Average			
Age					
21-30	3(21.4%)	11(78.6%)	14(16.9%)	8.886, df=2	0.012*
31-40	6(16.7%)	30(83.3%)	36(43.4%)		
41& above	16(48.5%)	17(51.5%)	33(39.8%)		
Sex					
Male	21(33.9%)	41(66.1%)	62(74.7%)	1.638, df=1	0.201
Female	4(19.0%)	17(81.0%)	21(25.3%)		
Occupation					
Agriculture	1(20.0%)	4(80.0%)	5(6.0%)	1.775, Df=4	0.777
Business	13(26.5%)	36(73.5%)	49(59.0%)		
Service	4(40.0%)	6(60.0%)	10(12.0%)		
Labor	5(41.7%)	7(58.3%)	12(14.5%)		
Housewife	2(28.6%)	5(71.4%)	7(8.4%)		
Education					
Illiterate	3(75.0%)	1(25.0%)	4(4.8%)	5.683, df=3	0.128
Primary	1(14.3%)	6(85.7%)	7(8.4%)		
Secondary	15(33.3%)	30(66.7%)	45(54.2%)		
PU C & above	6(22.2%)	21(77.8%)	27(32.5%)		
Religion					
Hindu	25(31.2%)	55(68.8%)	80(96.4%)	1.342, df=1	0.387
Non-Hindu	0(0.0%)	3(100.0%)	3(3.6%)		
Socioeconomic Status					
High	3(37.5%)	5(62.5%)	8(9.6%)	1.694, df=1	0.429
Middle	15(25.9%)	43(74.1%)	58(69.9%)		
Low	7(41.2%)	10(58.8%)	17(20.5%)		
Type of Family					
Nuclear	22(29.3%)	53(70.7%)	75(90.4%)	0.229, df=1	0.632
Joint	3(37.5%)	5(62.5%)	8(9.6%)		
Marital Status					
Unmarried	3(33.3%)	6(66.7%)	9(10.8%)	2.453, df=2	0.293
Married	20(33.9%)	39(66.1%)	59(71.1%)		
Divorced/Widow/widower	2(13.3%)	13(86.7%)	15(18.1%)		
Total	25(30.1%)	58(69.9%)	83(100.0%)		

* significant

Among 400 participants, 20.8% were suffered from tuberculosis in which 74.7% were males and rests were females. It was found that age of the participants was significantly associated with level of practice regarding tuberculosis. Other factors such as Gender, occupation, education, religion, socio-economic status, type of family and marital status was not significantly associated with the level of practice. (Table no. 2)

DISCUSSION

In the present study, 12.5% were in age group 20-30, 62.75% were in the age group 30-40 years and 21.75% were in the age group 40-50, 60.5% male and 39.5% females Literacy level of the participants varied from PUC above to illiteracy, range being PUC above 22.8% to illiterates 6.2%. Among the study participants, major proportion 43% were business, followed by 21.2% labor, agriculturist 6%, and housewives 20.2%.A similar study was conducted in Eastern Nepal, where 75.2% were males and 24.8% females in which 48.8% belonged to 30-39 years age group followed by 25-29 yrs 23%, and 20-24 yrs 16% respectively which is almost similar to the current study. [9] 69.60%, 51.1%, 58.5% males and 30.4%, 48.9%, 41.5% females were noted in the study conducted in Kolkata, Southeast Nigeria and Western Ethiopia respectively which was almost similar to our study. [10- 12]

Another study conducted by in Southeast Nigeria, Western Ethiopia, Ethiopia, Tamil Nadu, West Bengal revealed that 42% had secondary school, 50.7% were illiterates, 62% were illiterate & 34% can read and write, 39% of the study population was illiterate and 37.93% were illiterate respectively. [11-15]

In the current study, majority of the study participants 86% were from nuclear family followed by 14% from joint family, 76.3% were married, 18.75% were Widowed/Widower/Divorced and 5% were unmarried. According to modified B.G Prasad classification for socio economic status, 7.75% belonged to high socio economic group, 77.5% belonged to middle socio economic group, 14.75% belonged to low socio economic group, 96.4% were Hindus, and 3.6% were non Hindu religion.

The distribution of the subject was different in a similar study conducted in West Bengal, [15] where 50.86% were Hindu and 49.14% were Muslims, 65.52% were from nuclear family.

A study conducted in Ethopia noted that 51% had low knowledge and 249% had satisfactory knowledge regarding Tuberculosis. In age wise distribution, 44.7% had low and 55.3% had satisfactory knowledge in less than 28 years, 54.8% had low and 45.2% had satisfactory knowledge in les than 28-32 years, 44.9% had low and 55.1% had satisfactory knowledge in more than 37 years, 53.6% had satisfactory knowledge in male, 48.5% had satisfactory knowledge in female, 38.1% , 47.4%, 69.4% participants had satisfactory knowledge in illiterate, primary, secondary and above level of level of education respectively, 54.9% employed and 43.1% unemployed had satisfactory knowledge, 52.2% TB positive and 49% TB negative patients had satisfactory knowledge. [16]

CONCLUSION

Age of the patients was ranged from 21 to 68 years with the mean age of 37 years and most of the participants were males. Most of the participants had good knowledge regarding Tuberculosis. In all category of age, sex, occupation, level of education, socioeconomic status, family type, history of TB marital status maximum participants had good knowledge regarding Tuberculosis but in religion category maximum Hindu had good knowledge but maximum Non Hindu had poor knowledge. The level of knowledge significantly associated with age, sex, occupation, education, socio economic status, TB positive but not with the religion, family type and marital status. Similarly among TB Cases, in all category of age, sex, occupation, level of education, socioeconomic status, religion, family type, and marital status maximum participants had average practice regarding Tuberculosis but none of the TB cases had good practices regarding TB.

Recommendations

- Use of mass media in propagating knowledge on all the aspects of TB and HIV/AIDS as some of the participants had just heard about the disease but did not know about other aspects of disease.
- There is need to intensify the IEC activities, in order to create awareness, especially among illiterates. Innovative methods have to be used to create awareness.

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