Original Article

HIV Infection Among Tuberculosis Patients

Prevalence of HIV Infection Among Tuberculosis Patients in Sindh, Pakistan

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ABSTRACT

Objective: To determine the occurrence of HIV infection among tuberculosis patients in Sindh, Pakistan.
Study Design: A cross sectional record analysis study.
Place and Duration of Study: This study was conducted at the department of Pulmonology and department of Biochemistry Ghulam Muhammad Mahar Medical College, Sukkur covering the period from January 2014 to October,2018.
Materials and Methods: Diagnosis of TB was performed by AFB smear and X-ray chest. For the screening of HIV, Chromatographic test was performed and for substantiation of HIV ELISA technique were used.
Results: Overall 3410 TB patients were analyzed and 13.9% HIV positive were detected. Of these 3410 patients, 39% had pulmonary Tuberculosis and 42% had extra pulmonary Tuberculosis (EPTB).
Conclusion: The commonness of HIV- Tuberculosis co-infection was 13.9%. Both male and female patients were affected.
Key Words: Prevalence, HIV, Pulmonary tuberculosis, co-infection.

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INTRODUCTION

TB is one of the leading infection cause mortality as weigh against to other infections disease of humankind particularly in rustic areas of developing countries[1]. TB is most spreading and has high mortality rate. It is reported that the rate of deaths due to TB is very high in developing countries[2]. As for as Pakistan is concern, it is not possible to present exact data of TB and TB related deaths due to the insufficiency of disease surveillance[3, 4].

South East Asia in known to have the highest TB burden in world, and about 35% of global TB incidence was reported. According to a report published in 2010 by WHO which shows that 2.0 million people are infected in India from 9.4 million TB patients worldwide[5, 6]. It was also shown in report that among 2 million 1.1 million were HIV positive. Further, it is observed that Pakistan was listed in global list of 41 countries which have highest ratio of TB with HIV infection, and Indonesia Myanmar and Thailand was top most[8]. It is also observed that people are more prone to active TB infection with HIV[9].

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The co-infection of HIV-TB with multi drug resistant TB harshly aggravates the humankind Tuberculosis circumstances[10]. Tuberculosis was most foremost grounds of loss in patients with HIV infection and HIV infection is the most effective jeopardy issue for developing active TB disease from a latent tuberculosis infection[11, 12].

It is alarming that occurrence of HIV infection with Tuberculosis in Southeast Asia was 41.2%. Where as in china is only 0.5%[13]. The occurrence of HIV infection with Tuberculosis in Kenya was 44%, 9% of TB patients were HIV positive in USA[14]. There is no such data accessible about the prevalence of co-infection of HIV-TB in Pakistan and particularly in Sind province of Pakistan. Therefore, this study was conducted to analyzed HIV-TB[15, 16].

MATERIALS AND METHODS

This cross-sectional study were design at Ghulam Muhammad Mahar Medical college (GMMMC) Teaching Hospital of Sukkur, Sindh from January 2014 to October, 2018. The patients were included in present study after gave their consent for the analysis of HIV. All patients were recruited from OPD of pulmonary diseases of GMMMC teaching hospital, Sukkur. All individual data, such as age, sex, socioeconomic surroundings, schooling Level, occupation, and history of any surgery or blood transfusion were collected. The TB has been diagnosed by using AFB Sputum smear and by FNAC/biopsy in patient expected with extra pulmonary tuberculosis (EPTB). For screening of HIV initially chromatographic technique were followed by the ELLSA and PCR. Age group were included in this study is 18-60 Year.

RESULTS

Total 3410 patients with Tuberculosis infection were investigated in present study, of the 3410 patients 2010 were males and 1400 were females. Total 13.9% of these patients were HIV positive, including 11.3% males and 2.6% females; 42% of the HIV-positive cases had pulmonary tuberculosis, whereas 58% patients had extra pulmonary tuberculosis. The most commonly affected age group was 33 - 48 years.

Table No.1: HIV Co-infection among Tuberculosis patients (n = 3410)

HIV Co-infection among TB patients (n = 3410)	
Type of TB	HIV Positive
Pulmonary TB	42 %
Extra Pulmonary TB	58 %
Total HIV Positive	13.9 %

n = Total number of TB patients

All the HIV positive cases patients presented with cough, to be had fever, loss of hunger with weight loss, accessible with dyspnea, hemoptysis,and chest pain.

Table No.2: Clinical presentation of the co-infected patients

Clinical presentation of the co-infected patients	
Symptoms	Percentage
Cough	90
Fever	78
Loss of appetite	76
Weight los	76
Dyspnea	44
Hemoptysis	14
Chest pain	10

Table No.3: Presentations of Extra Pulmonary Tuberculosis

Presentations of EPTB.	
Extra pulmonary presentation of TB	Percentage
Pleural effusion	60.7
Lymphadenopathy	25.0
Pericardial effusion	7.1
CNS TB	3.6
Bone Tb	3.6

DISCUSSION

In present study, we observed that 13.9% patients have co-infection in Sindh, Pakistan which was significantly alarming. A similar study was conducted in India in 2000 shown low prevalence than presented HIV-TB co-infection study[17]. It had shown 10.91% prevalence which is lower than this study[18]. Another study of India from 1996 to 2001 shown the prevalence in Alighar a states of India has 0.8% to 2.8% prevalence. In this study it was observed that in Sindh, Pakistan there is a higher HIV-TB co-infection in Males than Females. HIV-TB co-Infection ratio has also reported in other part of the world[19]. Apart from for a few countries in Africa, the occurrence of co-infection has been reported to be elevated among males than females. But almost all other countries, there is title dissimilarity in the sexual category proportion[20]. In many studies that gave been conducted in different parts of Hindustan have indicated considerably elevated HIV-TB co-infection in Males than in Females patients. The findings of the present study align with that pattern of India and of few countries in Africa. Moreover, in this present study, we observed that the age group which more frequently infected with HIV- TB co-infection is between 33-48 year in both males and females[21]. It is also align with other studies of world and in particularly to India. Almost all the patient was infected with HIV- TB co-infection were belonging to low socio-economic background[22]. The present study indicates that there is need to imperceptible change in society to improve the Health of people, particularly remote area of the countries. There are needs in public awareness and better treatment regimes[23, 24].

CONCLUSION

The prevalence of HIV-TB co-infection was 13.9%. Consequently, all TB patients should be assessed for HIV risk factors and counseled to undergo HIV testing. Males patients are more often infected with HIV-TB co-infection than females. Ages from 33 years to 48 years are more often infected with TB and also have co-infection with HIV. Results of this study are alarming and needs betterment in public awareness and treatment regimes.

Author's Contribution:

Concept & Design of Study:	Shafi Muhammad Khuawar
Drafting:	Arshad Hussain Laghari
Data Analysis:	Akhtar Hussain Samoo
Revisiting Critically:	Shafi Muhammad Khuawar
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