ABSTRACT

Objective: To determine the prevalence of HIV infection among the tuberculosis patient in Larkana.

Background & Method: The prevalence of HIV Co-infection among the TB is a major health problem worldwide. The HIV and tuberculosis are deadly combinations. They are more destructive together, then either disease alone. This is the retrospective study was conducted between April 2008 to June 2015 at TB DOTS Clinic, Department of Pulmonology Chandka Medical College Hospital / Shaheed Mohtarma Benazir Bhutto Medical University, Larkana.

Results: Of a total 5822 registered tuberculosis patients, 5030 (86.30%) patients were screened by rapid HIV antibody test. A total 81 (1.61%) found to be reactive on rapid test. Out of 81 which were reactive on rapid test, 74 (1.47%) patients were HIV positive by ELISA. Of whom 69 (93.2%) male and 5 (6.7%) were female. The prevalence of HIV was higher among Extra Pulmonary Tuberculosis patients (3.49%) and in male gender (2.20%).

Conclusion: This study suggested that prevalence of HIV among the tuberculosis patients in Larkana is higher than the reported from other sentinel sites of Sindh Pakistan in 2012.

Key Words: HIV, Tuberculosis, Co-infection; Prevalence; Larkana.

INTRODUCTION

Tuberculosis & HIV infection together remain a public health problem. It is hypothesized that person infected with tubercle bacilli are at an increase risk of developing clinical disease if they become infected with HIV. It is estimated that worldwide nearly 2 billion people are infected with Mycobacterium tuberculosis, 36 million are HIV infected and over 10 million are dually infected with Mycobacterium tuberculosis and HIV. Tuberculosis is the commonest opportunistic infection occurring among the HIV positive persons and it is estimated that 60 – 70 % of HIV positive persons will develop tuberculosis in their life time. Prevalence of HIV among the general population in Pakistan is still low (0.1%) and their estimated number of cases in the country of 180 million people is under 100000, of which only about 7000 cases are reported. Tuberculosis prevalence and incidence are increasing in some parts of the world Pakistan is ranked as the fifth highest burden country for tuberculosis in the world and contributes about 63% TB burden in the Eastern Mediterranean Region. Pakistan has moved from low-HIV prevalence to a concentrated-HIV epidemic.

METHODOLOGY

We conducted a retrospective study at DOTS clinic, Pulmonology department Chandka Medical College Hospital / Shaheed Mohtarma Benazir Bhutto Medical University Larkana, between April 2008 – June 2015 to determine the prevalence of HIV infection among Tuberculosis patients enrolled during the period at TB DOTS clinic Chandka Medical College Hospital Larkana with following criteria, were included:

1. Pulmonary T.B patients either Smear Positive or Smear Negative cases.
2. Extra-Pulmonary Tuberculosis.
3. Those patients who have given their written consent.
4. All the age groups.

The basic demographic and laboratory data were recorded on proforma. The sample of the consented patients was first screened as per NTP protocol by rapid HIV antibody test. The sample of those patients whose HIV test was positive, were sent through HIV / AIDS diagnostic and treatment centre, Chandka Medical College Hospital, Larkana to Sindh AIDS
Control program Laboratory Karachi for confirmation on ELISA testing.

**DATA ANALYSIS**

Statistical package of social sciences (SPSS) was used to compile the results.

**RESULT**

Of a total 5822 registered tuberculosis patients, 5030 (86.30%) patients were screened by rapid HIV antibody test. A total 81 (1.61%) found to be reactive on rapid test. Figure No. 01. Out of 81 which were reactive on rapid test, 74 (1.47%) patients were HIV positive by ELISA. Figure No. 02. Of whom 69 (93.2%) male and 5 (6.7%) were female. The majority of HIV infected TB patients belongs to the age group of 15-24 years (24 (32.4%) and 25 – 34 22(99.7%) patients. Table No. 01. Among the HIV positive TB patients 30 (40.5%) had bacteriologically positive, followed by 24(32.4%) and 15 (20.2%) who have Extra-pulmonary and bacteriologically negative respectively. Table No. 01. The prevalence of HIV was higher among Extra Pulmonary Tuberculosis patients (3.49%) and in male gender (2.20%). Table 1 & 2.

Figure 1: HIV prevalence by Rapid test in Tuberculosis patients.

Figure 2: HIV prevalence by ELISA test in rapid detection TB patients.
The prevalence in TB-HIV co-infection widely varies, the prevalence of HIV among the TB patients, varies from 3.8 to 72.3 %, where as the prevalence of TB-HIV positive patients varies from 2.9 to 64.5%. Several studies about the prevalence of HIV infection among the tuberculosis patients have been published worldwide. Some published reports regarding HIV prevalence in TB patients give widely variable rates worldwide, 60% in Kampala (Uganda), Zambia 60%, Nigeria 42.2%, USA 3.4%. In India there is also variation in HIV prevalence in TB patients that have been reported by Solomon et al found 0.77% in 1991 and 3.35% in 1993. In this study the prevalence of HIV among the Tuberculosis patients was 1.47% however this finding is higher than of the study conducted at different sentinel sites in Sindh Pakistan in 2012 (0.341%) by Hasnain J at all. Generally the prevalence of HIV infection among the TB suspect is believed to reflect the HIV prevalence in the general population. So our data may suggest low HIV infection is our population, than African, India and other countries. But it is increasing in our population so we have to try to control HIV prevalence and Tuberculosis as low as possible.

**CONCLUSION**

This study suggests that prevalence of HIV among the tuberculosis patients in Larkana is higher than reported from other sentinel sites of Sindh Pakistan in 2012.

**RECOMMENDATIONS**

There are 9 BMU and 34 PPM DOTS facilities of Larkana district and only one sentinel site Chandka Medical College, Hospital Larkana has the facility of HIV counseling and testing services. So, it is assumed.
that we are missing a lot of HIV positive patients among the total enrolled TB cases, so, our data justify for caring out HIV testing in all the enrolled TB patients in Larkana Sindh and other parts of our country.

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