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# DEMOGRAPHIC PROFILE OF HIV SEROPOSITIVE PATIENTS WITH TUBERCULOSIS: A STUDY FROM SVRR GG HOSPITAL, TIRUPATHI.

General Medicine

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## ABSTRACT

**Background:** To study the relative frequency of Tuberculosis among HIV Seropositive patients attending ART centre, SVRR GG Hospital, Tirupathi.

**Objective :** To study the clinicosocial – demographic profile of HIV seropositive patients with Tuberculosis like Age, Sex, Occupation, income, educational status which helps for proper planning and training og heath care personnel.

**Methods:** It is a retrospective hospital based observational study done on patients attending ART centre, SVRRGG Hospital, Tirupathi and patients in Medical wards and TBCD wards who are HIV seropositive . Variables like age, sex, marital status, place of residence, pattern of risk behavior and HIV serostatus were studied.

**Results:** A total of 168 patients were enrolled in the study, Out of 168 patients, 74 (44%) were determined to be infected with TB. Number of male patients 49(66.2%) attending ART center were significantly more compared to females25 (33.8%). The maximum number (52.7%) of patients fell in the age group 31-40. 47 (63.5%) were laborers, 10 (13.5%), were House wife, 6 (8.1%) were petty business, 6 (8.1%) were employees and5 (6.8%) were cultivators. Majority of the patients (80.4%) were married. most common mode of transmission was hetero sexual in nature (89%). Most of them were in low income 62 (83.8%) group. Patients from Rural area were55(74.3%)and Urban area were 19 (25.7%).

**Conclusions:** HAART has improved the life expectancy and there is increase in number of people living with HIV. Demographic studies should be conducted to understand the role of demographic factors which help in effective implementation of the NACP (National AIDS Control Program) program. Increased emphasis is needed to evaluate changing trends in patients with HIV to plan for the future.

## KEYWORDS

HIV, AIDS, Anti-retroviral therapy.

**Introduction:**

It is estimated that one-third of the 40 million people living with HIV/AIDS worldwide are co-infected with TB. People with HIV are up to 50 times more likely to develop TB in a given year than HIV-negative people. HIV/AIDS and TB are so closely connected that the term “co-epidemic” or “dual epidemic” is often used to describe their relationship. The intersecting epidemic is often denoted as TB/HIV or HIV/TB. HIV affects the immune system and increases the likelihood of people acquiring new TB infection. It also promotes both the progression of latent TB infection to active disease and relapse of the disease in previously treated patients. TB is one of the leading causes of death in HIV-infected people.1

India is a country with the highest burden of tuberculosis in the world, a high HIV prevalence, and high rates of HIV-associated TB.2. While the TB epidemic is countrywide, the HIV epidemic is concentrated in a few states.3

In its 2016 Global TB Report, the WHO increased its estimates of the burden of TB disease in India for the period 2000–2015, compared with those published in previous reports. This follows accumulating evidence, taken from surveys and routinely collected TB data, that previous estimates of cases and deaths were too low.4

The number of new TB cases per year in 2015 is now estimated at 2.8 million. Previously these had been set as 1.7 million, suggesting that only 59% of incidence was officially reported orginially. This new estimate is interim in nature, a more definitive assessment will follow the completion of a national Indian TB prevalence survey scheduled for 2017/2018.5

India's National AIDS Control Programme (NACP) and the revised National TB Control Programme (RNTCP) have been instrumental in reducing the burden of HIV and TB. Since 2001, they have implemented collaborative TB/HIV activities.6

The national HIV/TB response includes intensified TB case finding in HIV care settings, intensified, integrated TB-HIV packages for patients, and a focus on TB prevention for people living with HIV.7

These activities were initially launched in the six high HIV burden states. The adoption of the national TB/HIV policy framework in 2007 lead to a nationwide scale-up of joint TB/HIV programmes, which was achieved in 2012.8 It has seen cross referrals for HIV/TB increase from 120,000 in 2013/14 to 168,300 in 2014/15.9

India's experience shows how collaboration can enable the scaling up of TB/HIV programmes and promote shared ownership of interventions. It also demonstrates that political and administrative commitment is critical.10

The present study was conducted on patients attending ART center Department of Medicine SVRR GG Hospital, Tirupathi to analyze prevalence data as this Institute is one of the apex hospitals in the region, the information gathered from this center may throw light on the epidemiology of HIV transmission in this area.

**Materials and Methods:**

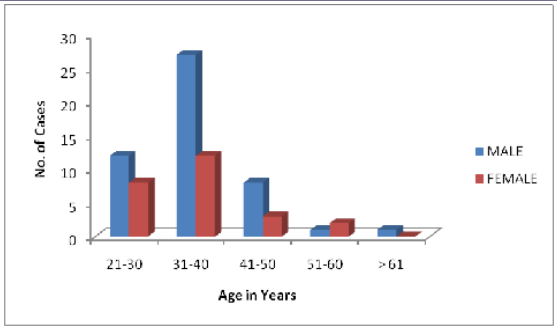
It is a retrospective hospital based observational study. Data was collected from the ART CENTRE, Department of Medicine, SVRR GG Hospital, Tirupathi . We included 168 HIV/AIDS patients who were registered in ART center. All the essential information was collected including age, sex, marital status, place of residence, pattern of risk behavior and HIV serostatus.

As per NACO guidelines ,HIV tests were performed on the serum samples. Complete blood picture, serum creatinine, Blood urea, serum electrolytes, Liver function tests, Sputum for Acid fast bacilli, Chest radiography, CD4 cell count, fine needle aspiration and biopsy, magnetic resonance imaging, computerized tomography (if, colonoscopy (if necessary) were done.

**Results:**

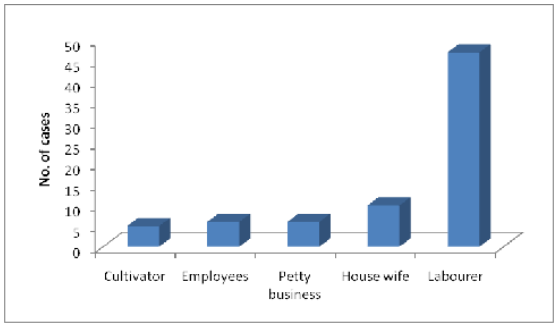
**TABLE 1 AGE AND SEX DISTRIBUTION**

| Age Group (Years) | Male | | Female | | Total | |
|---|---|---|---|---|---|---|
| | No. of cases | % | No. of cases | % | No. of cases | % |
| 21-30 | 12 | 24.4 | 8 | 32% | 20 | 27.0 |
| 31-40 | 27 | 55.1 | 12 | 48% | 39 | 52.7 |
| 41-50 | 08 | 16.3 | 03 | 12% | 11 | 14.9 |
| 51-60 | 01 | 2.0 | 02 | 8% | 03 | 4.1 |
| > 61 | 01 | 2.0 | 00 | 0% | 01 | 1.4 |
| **Total** | **49** | **100** | **25** | **100%** | **74** | **100.00** |



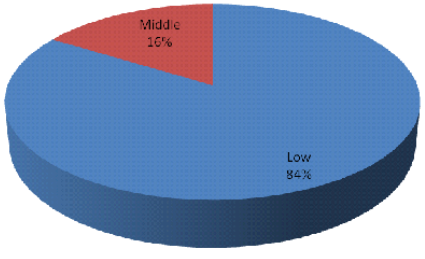

**Graph 1: Age and Sex distribution**

The maximum number of patients 52.7 percent were in the age group of 31-40. The mean age for males was 36.2 and 35.2 for females.Total mean age for both males and females was 35.9.as shown in table 1and graph 1.




**Graph 2: Occupation Distribution of Patients**

Regarding to Occupation, 47 (63.5%) were laborers, 10 (13.5%), were House wife, 6 (8.1%) were petty business, 6 (8.1%) were employees and5 (6.8%) were cultivators as shown in Graph 2.

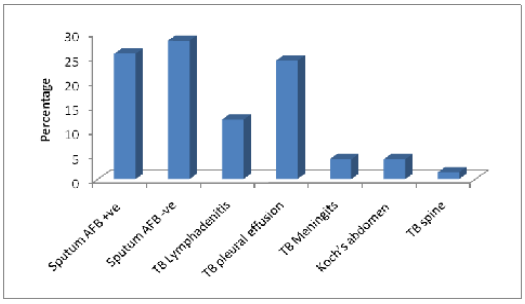



**Graph 3: Income Category of Patients**

Common Income category among the study group was low income 62 (83.8%), followed by middle income 12 (16.2%) as shown in graph3.

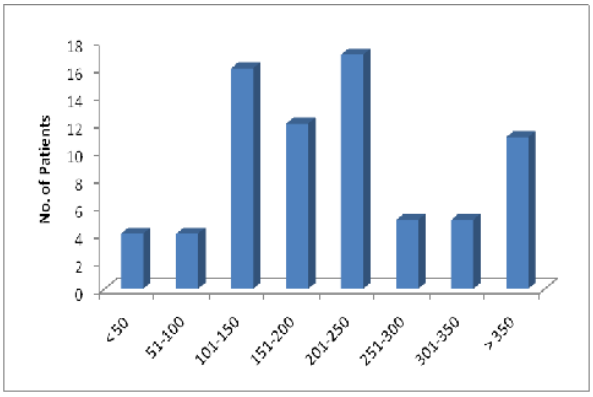
In present study group Educational status of the patients was Illiterates 49 (66.2),Primary education 17 (23%), High school 5 (6.8%), Intermediate 1(1.4%), college 2(2.8%).

In this present Geographical area of patients was Rural area 55(74.3%), Urban area 19 (25.7%).




**Graph 4: Clinical Manifestations of Tuberculosis**

Among the studied patients Sputum AFB positive pulmonary TB was seen in19(25.7%),Sputum AFB negative pulmonary TB in 21 (28.4%),TB lymphadenitisin9(12.2%), TB pleural effusion in 18(24.3%),TB meningitis in 03 (4.1%),Koch'sabdomen in 3(4.1%),Pott"s spine in 1(1.4%) as shown in graph 4.




**Graph 5: CD4 Counts**

In this study CD4 counts <50 cells was seen in 4 (5.4%) patients and 51-100 cells in 4 (5.4%) patients, 101-150 cells in 16(21.6%) patients, 151-200 cells in 12(16.2%) patients, 201-250 cells in 17 (23%) patients , 251-300 cells in 5(6.8%) patients ,300- 350 cells in 5 (6.8%) patients and >350 cells in 11 (14.9%) patients as shown in graph 5.

**Discussion:**

In low socio economic countries AIDS was the leading cause of death among people 15-59 years old. According to UNAIDS WHO report 36.9 million (34.3 million-41.4 million) people globally were living with HIV (end 2014) and as of June 2015, 15.8 million people living with HIV were accessing antiretroviral therapy.5 Reversal of the previous trends are reported after introduction of ART.11-14

HIV testing and counselling (HTC) is recommended both for those with diagnosed TB and those with signs and symptoms consistent with TB infection. Combining HIV testing and TB facilities has been shown to increase the uptake of HTC.15

While the rate of testing has increased 18-fold since 2004, in 2015 only 55% of TB patients had a documented HIV test. Coverage is highest in Africa, where 81% of all TB patients had a documented HIV test result, but this varies between countries.16. Africa is also the region with the highest proportion of people with TB also living with HIV. An estimated 31% of people with TB are living with HIV in the region.

This proportion exceeds 50% in some parts of southern Africa.17.

Earlier ART initiation is supported by recognition of lower HIV transmission from HIV-infected partners of discordant sexual relationships, with CD4 cell counts above current treatment thresholds, who are receiving effective ART and universal early initiation of ART has the potential to prevent HIV transmission at a population level.18-21 Greater declines in estimated annual deaths are noted in states where significant scale up of ART services has been achieved. Ensuring good adherence to the treatment is imperative for the success of the national programme as well as for the prevention of drug resistance. To achieve this, counseling must start from the first contact visit by the clinical team and should include preparing the patient for treatment and providing psychosocial support through an identified guardian/treatment buddy and through support networks. All patients should undergo at least two counseling sessions before the initiation of ART [22].

There is a need for greater use of data for decision making, including the use of program data and epidemiological data at district and state levels to tailor the response. The epidemiological profiling of districts using data triangulation that was initiated in 2009 is a step in the right direction. This will help to ensure that a lot of the data that is being generated is adequately used for managing the program and informing policies and priorities.23

**Conclusion:** In the present study TB-HIV co-infection is more common among males and the economically productive age group.

Majority belong to low socio-economic class, had low education and were mainly labourers. Demographic studies should be conducted to understand the role of demographic factors which help in effective implementation of the NACP (National AIDS Control Program) program. Increased emphasis is needed to evaluate changing trends in patients with HIV to plan for the future.

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