

# A Hospital Based Cross-sectional Study on Demographic Distribution of Both Symptomatic and Asymptomatic Patients on ART at Western Region of Rajasthan.

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## Abstract

**Background:** Over the past two decades with the advent of highly active antiretroviral therapy (HAART), there is a substantial increase in the life span of HIV patients. Morbidity and mortality due to human immunodeficiency virus (HIV) continue to be major problems in developing countries like India. **Subjects and Methods:** The present study was a cross sectional hospital based study for a period of twelve months from 1st Nov. 2015 to 31st Oct. 2016 at ART center P.B.M. Hospital, Bikaner. 100 HIV+ patients on ART were included in the study by consecutive sampling technique. **Results:** We found that Maximum number of study participants in age group of 31-40 years in both study (50%) and control (42%) group. Males were higher in study (76%) as well as control (64%) group than females. Among the subjects mostly belonged to lower socioeconomic status followed by Medium and High socioeconomic status. Most of the subjects in study (92%) as well as control (94%) groups were married. **Conclusion:** We conclude that Males were higher in study (76%) as well as control (64%) group than females. Among the subjects mostly belonged to lower socioeconomic status followed by Medium and High socioeconomic status.

**Keywords:** Haart, Hiv, Morbidity, Mortality.

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## Introduction

Over the past two decades with the advent of highly active antiretroviral therapy (HAART), there is a substantial increase in the life span of HIV patients. Hence, the focus has now shifted to managing long-term complications of HIV infection and improving the quality of life of HIV patients, especially in developed nations. On the other hand, in developing nations, the ever-growing incidence of HIV infection has placed a huge burden on their frail economy, so there is a growing need for simplifying HIV treatment protocols and for having cheaper alternatives for monitoring disease activity.<sup>[1]</sup>

Morbidity and mortality due to human immunodeficiency virus (HIV) continue to be major problems in developing countries like India. Currently, the availability and affordability of antiretroviral treatment (ART) are improving in these countries.<sup>[2]</sup> Though CD4-positive (CD4+) T-cell estimation and the plasma HIV-1 load continue to be the major prognostic markers of progression, several other peripheral blood constituents may be considered for roles as prognostic markers.<sup>[3, 4, 5]</sup>

## Subjects and Methods

The present study was a cross sectional hospital based study for a period of twelve months from 1st Nov. 2015 to 31st Oct. 2016 at ART center P.B.M. Hospital, Bikaner.

### Sample Size and Sampling Technique:

100 HIV+ patients on ART were included in the study by consecutive sampling technique. Out of 100 patients, 50 were symptomatic and included in study group and remaining 50 were asymptomatic and taken as controls.

### Inclusion Criteria-

1. Age more than 18 years
2. ii. Patients sero positive for HIV-antibodies
3. iii. Patients on ART at least 6 months
4. iv. Ready to give consent.
- 5.

### Exclusion Criteria

Patients below age of 18 years.

Patients who were known case of rheumatoid arthritis, connective tissue disorders and cancers.

Patients with pre existing liver, kidney and heart disease.

HIV positive patients on ART were enrolled for the study with their informed consent. All the patients were tested for the HIV antibodies at the ICTC P.B.M .Hospital Bikaner.

**Data Analysis**

The information thus collected was entered into excel sheet and analyzed with the help of SPSS 22.0 in form of frequencies, mean, SD, correlation and appropriate test of significance, considering p=0.05 as cut off level of significance.

**Results**

We found that shows maximum number of participants in age group of 31-40 years in both study (50%) and control (42%) group.[Table 1] The subjects according to gender, males were higher in study (76%) as well as control (64%) group than females and there was no statistical significant difference between both the groups.[Table 2] Maximum number of subjects was from Bikaner with 74% of subjects in cases and 64% in controls. There was no statistical significant difference between cases and controls by residence. [Table 3] Among the subjects mostly belonged to lower socioeconomic status followed by Medium and High socioeconomic status. There was no statistical significant difference between cases and controls by socioeconomic status [Table 4]. Distribution of subjects by Marital Status. Most of the subjects in study (92%) as well as control (94%) were married and the difference between marital statuses in both the groups was found to be statistically not significant.[Table 5]

**Table 1: Distribution of subjects according to Age Group**

Age Group (in years)	Group		P value
	Study	Control	
18-30	11 (22%)	13 (26%)	χ <sup>2</sup> =1.184  0.667 (Not Significant)
31-40	25 (50%)	21 (42%)	
41-50	7(14%)	10 (20%)	
51-60	4 (8%)	3 (6%)	
>60	3 (6%)	3 (6%)	
Total	50 (100%)	50 (100%)	

**Table 2: Distribution of subjects by Gender**

Gender	Group		P value
	Study	Control	
Male	38 (76%)	32 (64%)	0.190
Female	12(24%)	18 (36%)	
Total	50 (100%)	50 (100%)	

**Table 3: Distribution of subjects according to Residence**

Residence	Group		P value= 0.257 (Not Significant)
	Study	Control	
Churu	4 (8%)	8 (16%)	
Bikaner	37 (74%)	32 (64%)	
Hanumangarh	4 (8%)	2 (4%)	
Sri Ganganagar	2 (4%)	7(14%)	
Others	3 (6%)	1 (2%)	

**Table 4: Distribution of subjects by Socioeconomic Status**

SES	Group		P value
	Study	Control	
Low	34 (68%)	35 (70%)	0.976 (Not Significant)
Medium	15 (30%)	14 (28%)	
High	1 (2%)	1 (2%)	
Total	50 (100%)	50 (100%)	

**Table 5: Distribution of subjects by Marital Status**

Marital status	Group		P value
	Study	Control	
Married	46(92%)	47 (94%)	0.695 (Not Significant)
Unmarried	4 (8%)	3 (6%)	
Total	50 (100%)	50 (100%)	

**Discussion**

Maximum number of study participants in age group of 31-40 years in both study (50%) and control (42%) group and this matches with National AIDS Control Organization Technical Report66 data, 2015 estimation that adult 15+ population contributed to almost half of PLHIVs.

Males were higher in study (76%) as well as control (64%) group than females as this disease affects males more because of heterosexual nature. Similar proportion is reported by NACO66, as females in PLHIV group being 40.5%.Maximum number of study subjects was from Bikaner with 74% of subjects in cases and 64% in controls. This is because study was carried out at ART centre attached to PBM Hospital, Bikaner.

Among the subjects mostly belonged to lower socioeconomic status followed by Medium and High socioeconomic status, this may be contributed to higher education status and more awareness among medium and high socio economic class patients. Most of the subjects in study (92%) as well as control (94%) were married. As per National AIDS Control Organization (NACO) (2015)<sup>6</sup>, government of India report estimated that The total number of people living with HIV (PLHIV) in India is estimated at 21.17 lakhs (17.11 lakhs–26.49 lakhs) in 2015 compared with 22.26 lakhs (18.00 lakhs-27.85 lakhs) in 2007. Children (< 15 years) account for 6.54%, while two fifth (40.5%) of total HIV infections are among females. Vishwanath A et al (2016)<sup>7</sup> observed in their study on acute phase C-reactive protein (CRP) levels in human immunodeficiency virus (HIV) infection that the relationship of CRP with HIV was assessed in 119 HIV-positive patients and correlated with CD4 counts and mortality at 1 y. CRP was negatively correlated with CD4 counts with levels of CRP being highest in the group with CD4 counts below 200 cells/μL.<sup>8</sup> It was an indicator of mortality and hence may serve as a useful and inexpensive predictor of HIV disease progression.

**Conclusion**

We conclude that

1. Maximum number of study participants in age group of 31-40 years in both study (50%) and control (42%) group.
2. Males were higher in study (76%) as well as control

- (64%) group than females.
3. Maximum number of study subjects was from Bikaner with 74% of subjects in cases and 64% in controls.
  4. Among the subjects mostly belonged to lower socioeconomic status followed by Medium and High socioeconomic status.
  5. Most of the subjects in study (92%) as well as control (94%) groups was married.
  6. Mean duration since first diagnosed was higher in control group than study group and this difference was found to be statistically not significant.

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