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Original Research Article

Socio Demographic and Clinical Profile of HIV Positive Persons Attending the ART Centre of Assam Medical College and Hospital, Dibrugarh

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Abstract:

Introduction: AIDS, the acquired immuno-deficiency syndrome is a fatal illness caused by a retrovirus known as human immuno-deficiency virus (HIV). Transmission is ongoing in all countries globally. There were an estimated 39.9 million people living with HIV at the end of 2023. The disease process and clinical outcome can be influenced by a number of factors, including the patient's social situation and current clinical condition.

Objectives: To determine the socio demographic and clinical profile of HIV positive persons attending the ART Centre of Assam Medical College and Hospital.

Materials and Methods: A Hospital based observational study was conducted at the Anti-Retroviral Therapy (ART) Centre of Assam Medical College on 150 PLHIV on ART.

Results: Majority of the participants (64%) belonged to the age group of 30-49 years. Among the 57 female participants, 63.16% were in the age group of 30-49 years. Majority (92.67%) of the participants were literate while only 7.3 % of the participants were illiterate and 68% were employed. The most common route of transmission among the study participants was heterosexual route (82.7%). The mean CD4 count in the study participants was 385.18/mm^3 with an SD of ±170.81/mm^3. 63.33% had opportunistic infection. The most common symptom that the participants complained of was fatigue (31.3%).

Conclusion: Community intervention programmes may be implemented to the addresses the needs of high-risk and vulnerable populations, including female sex workers, men who have sex with men, and transgender individuals to reduce the incidence of new HIV infections.

Keywords: HIV/AIDS, PLHIV, ART, CD4, HETEROSEXUAL, MSM.

Introduction

AIDS, the acquired immuno-deficiency syndrome is a fatal illness caused by a retrovirus known as human immuno-deficiency virus (HIV). HIV remains a major global public health issue, having claimed an estimated 42.3 million lives to date. Transmission is ongoing in all countries globally. There were an estimated 39.9 million people living with HIV at the end of 2023 [1]. Over the past decade, there has been a tremendous increase in our understanding of molecular biology and the viral structure and pathogenesis of the disease. [2] This knowledge has led to the development of a number of new antiretroviral drugs and treatment protocols. Achieving adherence to Anti Retro Viral Therapy (ART) is a critical determinant of long-term outcome in HIV infected patients .In the case of HIV infection, loss of virologic control as a consequence of non-adherence to ART may lead to emergence of drug resistance and loss of future treatment options. Many patients initiating ART or already on therapy are able to maintain consistent levels viral suppression, CD4+ T-lymphocyte (CD4) count recovery and improved clinical outcomes. Others, however, have poor adherence from the outset of ART or experience periodic lapses in adherence over the lifelong course of treatment. Adherence to ART and thus the disease process and clinical outcome can be influenced by a number of factors, including the patient's social situation and current clinical condition, the prescribed regimen and the patient-provider relationship. [3] The first phase of National AIDS control programme (NACP-I) was launched by the Government of India in 1992 as a comprehensive programme for prevention and control of HIV/AIDS in India. Under NACP, ICTC were established & free ART initiative was launched under NACP II .Wider access to ART has led to 29% reduction in estimated annual AIDS-related deaths during NACP III period (2007-2011). After that NACP IV was launched for 5 years from 2012-2017. [4] Now the NACP-V is under imple-

mentation from April 2021 to March 2026. [5] The national AIDS response under NACP is globally considered to be an extremely successful programme. The annual new HIV infections in India has declined by 48% against the global average of 31% (the baseline year of 2010). The annual AIDS-related deaths have declined by 82% against the global average of 42% (the baseline year of 2010). As a result, the HIV prevalence in India continues to be low with an adult HIV prevalence of 0.22%. [5]

Objective: To determine the socio demographic and clinical profile of HIV positive persons attending the ART Centre of Assam Medical College and Hospital.

Materials and Methods:

A Hospital based observational study was conducted at the ART Centre, Assam Medical College and Hospital, Dibrugarh. Ethical clearance was obtained from the Institutional Ethics Committee (Human) of Assam Medical College and Hospital. Sample size (n) was calculated using the following formula: n = z2pq/d2. Taking the prevalence of optimum adherence to ART to be 75.5 % [6], 10% relative error, 95% confidence interval and 10% as non-respondents, the sample size was calculated to be 143 which was rounded off to 150 for this study. Both male and female suffering from HIV/AIDS, 13 years of age and above, on first line ART, were included in the study. The total sample size of 150 patients was enrolled into the study using the systematic random sampling technique. Socio demographic and clinical profile was assessed using a pre-designed and pre-tested proforma after obtaining written consent from the respondents. Data analysis was done using frequency and percentages.

Results:

Majority of the participants (64%) belonged to the age group of 30-49 years. The least number of participants (2%) were in the age group of below 20 years (Figure-1). 62% of the total participants were male and 38% were female. Among the 93 male participants 64.51% were in the age group of 30-49 years. Among the 57 female participants, 63.16% were in the age group of 30-49 years (Table-1). The study participants were distributed as per their place of residence in rural (54.7%) and urban (45.3%) areas. 80% of the study participants were married while 10.7% were unmarried. 9.3% were widow/widower. Majority (74.7%) of the study participants had children (Table-2). Majority (92.67%) of the participants were literate while only 7.3 % of the participants were illiterate. Majority (35.25%) of the participants who were literate had education up to level of 10th grade or less. Only 2.88% of the study participants were educated up to the post graduate level (Table-3). Among the study participants 68% were employed and 32% were unemployed. Among those who were employed 37.26% were engaged in some sort of petty business or self-employed. 25.49 % were doing service in government or private sectors. Among those who were unemployed 26% were housewives (Table-4).

The most common route of transmission among the study participants was heterosexual route (82.7%). 10% of the respondents were MSM (Figure-2). Majority (88.7%) of the study participants were referred to the ART centre from ICTC. 4% were referred to the ART centre from IPD (Table-5). The mean CD4 count in the study participants was 385.18/mm^3 with an SD of ±170.81/mm^3. The range of CD4 count was 827/ml with maximum value being 883/ml and minimum being 56/mm^3. The median CD4 count was 377/ mm^3. 22.7% of the respondents had CD4 count below 200/ mm^3 and 77.3% had CD4 count above 200/ mm^3 (Table-6). Among the study participants, 63.33% had opportunistic infection. The most common symptom that the participants complained of was fatigue (31.3%). The next common symptom reported was dizziness (13.3%) followed by difficulty sleeping (12.7%). The least commonly reported symptom was cough (2.7%) (Table-7). The correlation coefficient between the duration of treatment and the CD4 count was 0.403, which indicates a positive moderate correlation between the two variables .i.e., CD4 count increased with the duration of treatment (Figure-3).

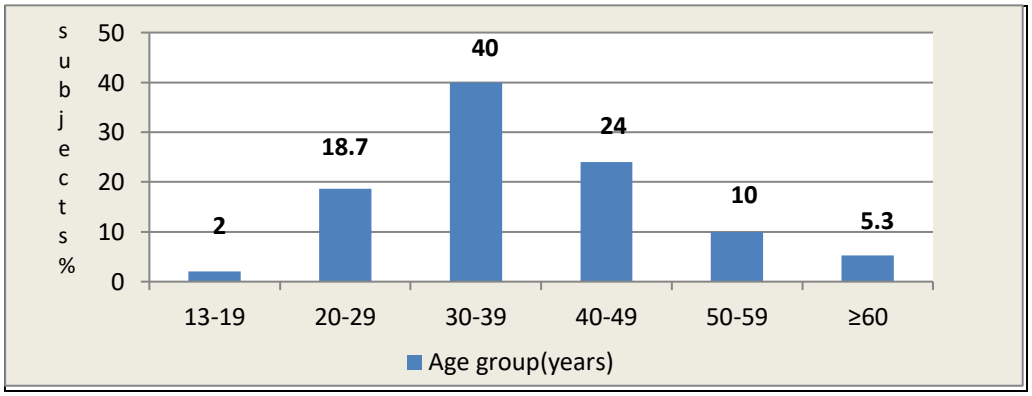

Figure 1: Study participants according to age

Table 1: Distribution of study participants according to age and gender

Age group in years	Gender		Total
	Male	Female	
13-19	2 (2.15%)	1 (1.75%)	3
20-29	14 (15.05%)	14 (24.56%)	28
30-39	31 (33.33%)	29 (50.88%)	60
40-49	29 (31.18%)	7 (12.28%)	36
50-59	11(12.28%)	4 (7.01%)	15
≥60	6 (6.45%)	2 (3.50%)	8
Total	93(62.0%)	57(38.0%)	150(100.0%)

Table 2: Distribution of the study participants according to their place of residence, marital status and having of children

Factors		Number	Percentage
Place of residence	Rural	82	54.7
	Urban	68	45.3
	Total	150	100
Marital status	Married	120	80
	Unmarried	16	10.7
	Widow/Widower	14	9.3
	Total	150	100
Children	Yes	112	74.7
	No	38	25.3
	Total	150	100

Table 3: Distribution of the study participants based on literacy

		Number	Percentage
Literacy status	Literate	139	92.67
	Illiterate	11	7.33
	Total	150	100
Level of education	5th grade or less	15	10.79
	Upto10th grade	49	35.25
	Higher secondary	36	25.89
	Graduate	35	25.18
	Post graduate	4	2.88
	Total	139	100

Table 4: Employment status of the study participants

Employment		Number
	Employed	102
	Unemployed	48
Occupation	Agricultural labour	2
	Non-agricultural labour	4
	Retired	4
	Student	2
	Skilled worker	9
	Semi-skilled worker	7

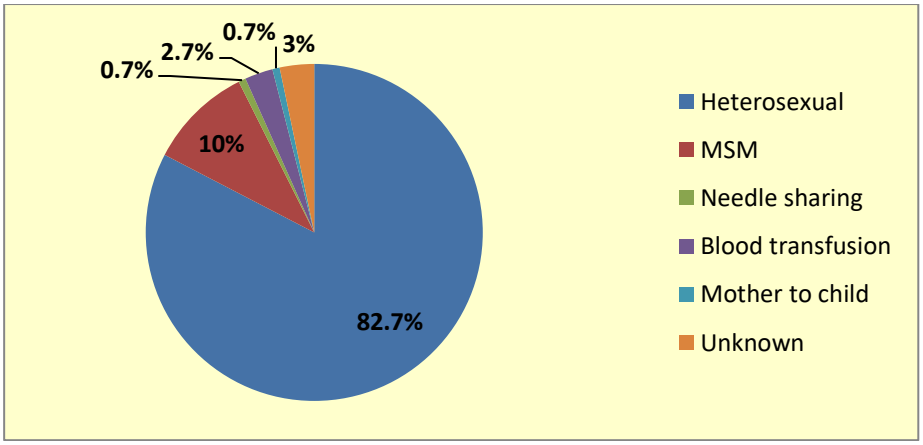

Figure 2: Modes of transmission

Table 5: Distribution of study participants according to ART entry point

Entry point	Number	Percentage
ICTC	133	88.7
TB/RNTCP	1	0.7
OPD	5	3.3
IPD	6	4
NGO	3	2
Self-referred	1	0.7
Others	1	0.7
Total	150	100

Table 6: CD4 count

CD4 count	Number	Percentage
<200/mm³	34	22.7
>200/mm³	116	77.3
Total	150	100
Measures		**CD4count/mm³**
Mean		385.18
Median		377
Std. Deviation		170.817
Range		827
Minimum		56
Maximum		883

Table 7: Presence of opportunistic infections and symptoms

Factors		Number	Percentage
Opportunistic infections	Absent	95	63.33
	Present	55	36.67
Symptoms	Fatigue	47	31.3
	Fever	14	9.3
	Dizziness	20	13.3
	Pain and numbness	18	12
	Nausea, vomiting	12	8
	Diarrhea	6	4
	Difficulty sleeping	19	12.7
	Skin problems	15	10

	Cough	4	2.7
	Headache	10	6.7
	Appetite loss	15	10
	Muscle and joint pain	14	9.3
	Weight loss	5	3.3
	Hair loss	11	7.3

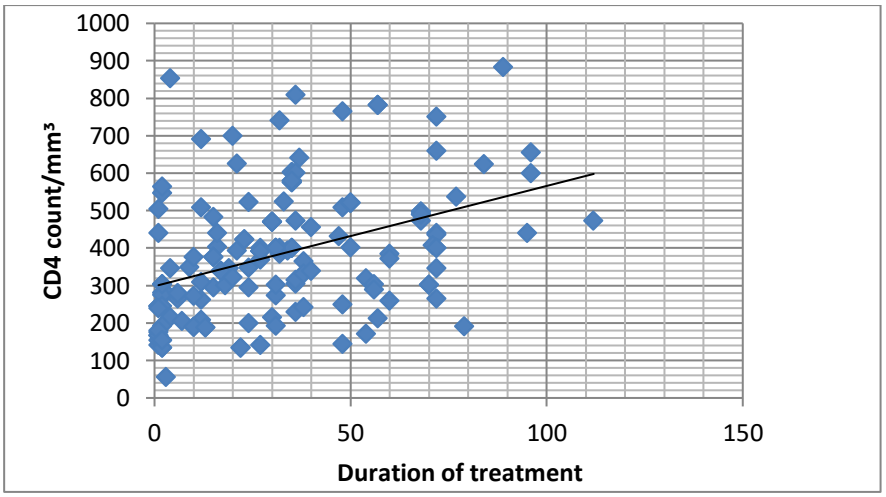

Figure 3: Correlation between CD4 count and duration of treatment.

Discussion

In the present study the mean age of the respondents was 37.87±10.98 years and majority of the respondents (64%) belonged to the age group of 30-49 years. Omonaiye O, Sani T, Agu K, Oqua D, Isah M, Olayemi S et al. (2013) [7] in their study done in Nigeria ,the mean age of participants was 34.7 years and 56.6% were 30 to 44 years old which is almost similar to the findings in this study.

In a study done by Singh H, Dulhani N, Bithika N, Tiwari P, Chauhan V, Singh P.(2010) [8] in Chattisgarh, 60% were males and 40% were females which almost similar to this present study. In a study done by Saha R, Saha I, Sarkar A, Das D, Misra R, Bhattacharya K et al. (2014) [9] in West Bengal the percentages of patients who were married was 83.3% and 12.7% were widowed, which is almost similar to the present study.

With respect to the literacy status, in a study done by Wakibi S, Ng'ang'a Z, Mbugua G. (2011) [10], Kenya 61% had at least secondary education, 36% had primary education and 3% had no formal education which is comparable to the present study. In a study done by Singh H, Dulhani N, Bithika N, Tiwari P, Chauhan V, Singh P.(2010) [8] in Chhattisgarh, the largest group was made up of drivers (32.2%), with the second largest group being housewives (27.7%) and laborers (17.7%), respectively. When compared to our study the most likely reason for the differences are due to geographical reasons.

As regards the route of transmission of HIV among the study participants in our study majority were heterosexual route. Joge US, Deo DS, Lakde RN, Choudhari SG, Malkar VR, Ughade HH. (2012) [11] in their study found that the most common route of transmission was heterosexual in 94.39% patients and 2.99% patients had given a history of blood transfusion and 2.62% patients were unknown about their route of transmission which is very much comparable to our study. In the present study, the mean CD4 count in the study participants was 385.18/mm³ with a SD of ±170.81/mm³. 22.7% of the respondents had CD4 count below 200/ mm³ and 77.3% had CD4 count above 200/ mm³ which is comparable to the study done by Wakibi S, Ng'ang'a Z, Mbugua G. (2011) (10) in which majority respondents 281 (70%) had a CD4 count of more than 200 cells/ml.

In another study, Sarna A, Pujari S, Sengar AK, Garg R, Gupta I and Dam J. (2008) [12] found that 80.71% of the study participants had CD4 count below 200/ml. in contrast to the findings of the present study. This might be due to the varying characteristics of the study participants.

In the present study, 63.33% of the study participants had opportunistic infection. The most common symptom that the respondents complained of was fatigue (31.3%), followed by dizziness (13.33%) and difficulty sleeping (12.7%).The least commonly reported symptom was cough. (2.7%). In the study by Ramesh K, Gandhi S, Rao V.(2015) [13], the most common symptoms at presentation were fever (78%), loss of appetite (76%), weight loss (74%), cough (58%), whereas diarrhoea was seen in only 18%of the cases.

Conclusion

Our study found that most of the PLHIV visiting the ART Centre of Assam Medical College were middle aged male who had some sort of employment. The most common route of transmission was through heterosexual route followed by men having sex with men and through blood transfusion. Assessment of social needs and lending more importance to the social domain of the person with HIV, enrolled into ART along with identification of an encouraging environment to share the burden of disease and encourage appropriate lifestyle changes will definitely support and help in improving the various aspects of treatment outcome in those persons. Attention to other factors too like early and prompt detection of psychological conditions such as depression with measures to address it is of utmost importance. Community intervention programmes may be implemented to the addresses the needs of high-risk and vulnerable populations, including female sex workers, men who have sex with men, and transgender individuals to reduce the incidence of new HIV infections.

Limitations of the study: The study was a hospital based study. So whether the findings of the study would be representative of all the PLHA in the community is not very clear.

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