Original Article

Study of Sociodemographic Profile of HIV Positive Patients Attending ART Centre of a Medical College

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ABSTRACT:
It is estimated that 90% of the HIV infected persons live in the developing countries and with the estimated number of infected Indian being 2.31 million, with an adult prevalence of 0.3%. In india HIV prevalence is highest in the **south - western state** (e.g.-Maharashtra, Karnataka, Tamil Nadu and Andhra Pradesh) where sexual transmission is dominant, and in the **North-east state** (e.g. Manipur Meghalaya, and Nagaland) where injecting drug use (I.V.D.U) is the most common route of infection . The present study is carried out in the department   of medicine at ART centre of Sanjay Gandhi Memorial Hospital & Shyam Shah Medical College, Rewa (M.P.). In present study majority (90.92%) of HIV patient were within 20-49 years of age and maximum number of HIV patients (25.63%) were from the 35-39years of age. In   this study 68.97% patient were from rural area and 31.03% were from urban area (i.e. R/U ratio=2.22/1). out of 1135 adult HIV patients, 99.55% (n=1130) [96.31% male and 100% female] were have heterosexual habit of sex and only 0.16% (n=2) were have homosexual and 0.24% (n=3) were have bisexual habit of sex and no female have homosexual or bisexual sex habit in our study.
Key Words: HIV, male, female, drivers, homosexuals.

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INTRODUCTION

HIV infection is a global pandemic. HIV continues to be a Burden globally and presents serious public health problems in the developing countries, especially in India [1]. AIDS (sometime called as "**Slim Disease**") is a fatal illness caused by a retrovirus known as Human Immuno-deficiency Virus (HIV), Which breaks down the body's immune system, leaving the victim vulnerable to a host of life-threatening opportunistic infections/ unusual malignancy & unusual neurological disorders [2]

According to the UNAIDS and WHO reports of November 2010, there are approximately 33.3 million people living with HIV/ AIDS worldwide (known as PLHA) with a global prevalence of 0 .8%. it is now the leading cause of 'adult-deaths' in the world due to infectious diseases [1].

It is estimated that 90% of the HIV infected persons live in the developing countries and with the estimated number of infected Indian being 2.31 million, with an adult prevalence of 0.3% [1].

In india HIV prevalence is highest in the **south -western state** (e.g.-Maharashtra, Karnataka, Tamil Nadu and Andhra Pradesh) where sexual transmission is dominant, and in the **North-east state** (e.g.Manipur Meghalaya, and Nagaland) where injecting drug use (I.V.D.U) is the most common route of infection [3].

This study is contemplated in the semi-rural tertiary health care hospital at Rewa with an objective to throw light on the demographic profile of HIV positive patient attending 'ART center' at S.S.M.C & S.G.M.H Rewa (M.P.) in between Jan. 2010 to Dec.2012.

Material and Methods

The present study is carried out in the department   of medicine at ART centre of Sanjay Gandhi Memorial Hospital & Shyam Shah Medical College, Rewa (M.P.).

In this study 1224 cases of all age group, those were registered in ART center from Jan. 2010 to Dec.2012 are taken. A pre-formed questionnaire (proforma) was made to enquire about socio-demographic-economic variables such as - age, sex, education, community, marital status, occupation, native place, monthly income, HIV status of spouse, history of migration (out of district/native place), and any high risk behavior (i.e. IDUs/MSM/FSW).

As this study is data based and extremely influence by the rate of registration from different age/sex group, different community and different region, and social factor such as gender bias/cast bias also influence to the 'rate to seek medical help' in these area.

RESULTSO

Table No. 1: Distribution of HIV patients in adults / Children's (n=1224)

Patients	Male	Female	Total	%
Children (<15yrs.)	63	26	89	7.27%
Adult (>15yrs)	652	483	1135	92.73%
Total	715	509	1224	100%

In above table, total number of ART attendees (patients) were 1224 and out of these 1224 patients, 7.27%(n=89) were children (15years) and 92.73% (n=1135) were adult (>15 years) . Out of these 89 children, 5.15% (n=63) were male child and 2.12% (n=26) were female child. Out of these 1135 adult patients, 53.26% (n=652) were male and 483 39.46% (n=483) were female.
M/F ratio in child patients was 2.4/1, M/F ratio in adult patients was 1.3/1

Table No. 2: Distribution of the total HIV patient according to their age group and sex (n=1224).

Age in Year	Male		Female		M/F Ratio	Total	
	No.	%	No.	%		No.	%
• CHILDREN N=89 (7.27%)							
< 18 month	4	00.32%	1		4/1	5	00.41%
18mon- 4yrs	17		6		2.8/1	23	1.88%
5- 10yrs	31	02.53%	14	01.14%	2.2/1	45	3.68%
11-15yrs	11		5		2.2/1	16	1.31%
• ADULTS N=1135(92.73%)							
15-19yrs.	7	0.61	4		1.75/1	11	0.89%
20-24yrs.	32		64		1/2	96	7.84%
25-29yrs.	73		80		0.9/1	153	12.5%
30-34yrs.	121	09.88%	89	07.27%	1.4/1	210	17.2%
35-39yrs.	172		119		1.5/1	291	23.77%%
40-44yrs.	112		61		1.8/1	173	14.2%
45-49yrs.	70		39		1.8/1	109	8.9%S
>50yrs.	65	05.31%	27	02.20%	2.5/1	92	7.51%
TOTAL HIV PATIENTS	715	58.42%	509	41.58%	1.4/1	**1224**	**100.0%**

Chi-square: 44.270   The P value is < 0.0001.

In above table, out of total 89 HIV children, majority 76.40% (n=68) of the HIV positive children were between 18 month-10year, and maximum number 50.56%(n=45) of HIV children occur at the age of 5-10years. Children less then 18month were only 5(05.61%) and children more than 10 year were only 16(17.98%).

In above table, out of total 1135 adult HIV patients, majority, 90.92%(n=1032) of adult HIV patients were in age of 20-49 year and at the age below 20 year it was 00.97% (n=11) and at the age above 49 year it was 08.10%(n=92).

Maximum number of adult HIV patients, 25.63% (n=291), occurred at 35-39 year of age and minimum number of adult HIV patients 00.97% (n=11), occurred at the age of 15-19year. In the age of 15-19 years (0.89%) number of adult HIV patients were increased steeply (~9 time) at the age of 20-24years (7.84%).

Table No. -3: Year Wise Distribution of the total HIV patients (n=1224)

Year of registration	Child patients (<15 yrs)			Adult patients (15yrs)			Total
	Male children	Female children	M/F Ratio	Adult Males	Adult Females	M/F Ratio	
Jan.2010-Dec.2010	32	14	2.3/1	267	199	1.24/1	511
Jan.2011-Dec.2011	12	6	2/1	176	129	1.27/1	323
Jan. 2012-dec. 2012	19	6	3/1	209	156	1.28/1	390
Total	63	26	2.4/1	652	483	1.35/1	1224

In above observation ,in year 2010 total number of patients registered in ART center were 511, and in 2011 and 2012 it were 323 and 390 respectively. M/F ratio of adult patients in these three years (2010, 2011, 2012) were- 1.24:1, 1.27:1 and 1.28:1 respectively

M/F ratio of child patients in these three year (2010,2011,2012) were- 2.3/1, 2/1, 3/1 respectively.
*As, year 2010 was the year of beginning of this ART centre, so more number of patients were registered in this year (as it included the transferred patients from nearby other ART Centres), that is why the number of patients registered in subsequent year were less than year 2010.

Table No. 4: Distribution of the total HIV patient according to their Religion   (n=1224)

Community	Male		Female		M/F Ratio	Total	
	N0	%	N0	%		N0	%
Hindu	692	56.54	501	40.93	1.38/1	1193	97.46
Muslim	17	01.38	6	00.49	2.83/1	23	01.87
Sikh	2	00.16	1	00.08%	2.00/1	3	00.24
other	4	00.32	1	00.08%	4.00/1	5	00.41
Total	**715**	**58.42%**	**509**	**41.58%**		**1224**	**100%**

In above table, out of 1224 patients majority of patients 97.46% (n=1193) were Hindu, followed by Muslims 1.8% (n=23) and Sikh 0.24% (n=03) .Other community were only 00.41% (n=05).

M/F ratio in Hindu, Muslim and Sikh community was 1.38/1, 2.8/1, and 2/1 respectively.

Table No. -5: Distribution of the patient according to their living place (Rural/Urban) (n=1224)

Living place	Child patients(<15yrs)		Adult patients(>15yrs)		Total
	Male	Female	Male	Female	
Rural	44	20	453	326	843 (68.97%)
Urban	19	6	199	157	381 (31.03%)
Total	**63**	**26**	**652**	**483**	**1224**

In the above table, out of 1224 HIV patients, 68.97% (n=843) were belonged to the rural areas and 31.13% (n=381) were of urban areas (Rural-Urban ratio was 2.2/1).

M/F ratio in rural and urban area were 1.35/1 and 1.34/1 respectively. (no difference in gender preference of HIV in rural/urban area).

Table No. 6: Distribution of the total HIV patient according to their education status (n=1224)

Education Status	Male		Female		M/F Ratio	Total	
	No.	%	No.	%		No.	%
• **Preschool children (i.e.<5yrs)**	**21**	**01.71%**	**7**	**00.57%**	**3/1**	**28**	**2.3%**
• **Illiterate**	**168**	**13.72%**	**190**	**15.52%**	**0.88/1**	**358**	**29.24%**
• **Literate**	**526**	**42.97%**	**312**	**25.49%**	**1.68/1**	**838**	**68.46%**
a. Up to Primary School	227	18.54%	148	12.09%	1.53/1	375	30.6%
b. Up to Middle school	41	03.34%	40	03.26%	1.02/1	81	6.6%
c. Up to High School	44	03.59%	42	03.43%	1.04/1	86	7.0%
d. Up to Higher secondary school	160	13.07%	83	06.78%	1.93/1	243	19.9%
e. Up to Graduation & Above	35	02.85%	18	01.47%	1.94/1	53	7.6%
Total	**715**	**58.42%**	**509**	**41.58%**	**1.40/1**	**1224**	**100.0%**

In the above table, out of 1224 patients, 68.46% (n=838) were literate while, 29.24% (n=358) were Illiterate and 2.3% were pre-school children (i.e. age <5years).

Out of these total 838 (68.46%) literate patients, 30.60% (n=375) of HIV patients educated up to the primary school and 37.82% (n=463) were educated above the primary (i.e. up to middle school 6.6%, up to high school 7.0%, up to higher secondary school 19.9% and graduate & above were 7.6%).

Table No. 7: Distribution of the total HIV patients according to their occupation (n=1224)

Occupation	Male		Female		Total	
	No.	%	No.	%	No.	%
Child <15yrs.*	**63**	**05.14%**	**26**	**02.13%**	**89**	**7.27%**
Labourers (n=213/17.40%)						
a. Agricultural Labourer	134	10.95%	12	00.98%	146	11.93%
b. Non Agricultural. Labourer	65	05.31%	2	00.16%	67	05.47%
Service Man/women	99	08.08%	14		113	10.9%
Business Man/women	34	02.74%	3		37	03.02%
Student	45	03.68	23		68	05.55%
House Wife	0		**434**	**35.45%**	434	35.45%
Driver	164	13.39%	0		164	13.39%
CSW*	0		0		0	0.00%
Unemployed	35		7		42	3.40%
Other	57		7		64	05.22%
Total	**715**	**58.42%**	**509**	**41.58%**	**1224**	**100.0%**

*CSW(Commercial sex workers)

In above table, out of 1224 patients, 89 (7.27%) were children <15years of age, they were are not included in any occupation category.

Out of the total 1224 HIV patients, majority of the HIV patients 66.24% (n=811) were from the three groups, which were housewife 35.45% (n=434), labourers 17.40% (n=213) and drivers 13.39% (n=164).

Out of the total adult male (652) patients most of were Driver 25.15% (n=164), Agricultural labourer 20.55% (n=134) and rest of them were either service class 15.18% (n=99), Non Agricultural labourer 9.96% (n=65), student 6.90% (n=45), business class 5.21% (n=34), or other occupation 8.74% (n=57).

Out of the total adult female (483) patients, most of were housewives 89.85% (n=434) and rest of them were students 04.76% (n=23), service class 02.89% (n=14), agricultural labourers 02.48% (n=12), unemployed 01.45 % (n=7), business class 00.62% (n=3), or other occupation 01.45% (n=7).

As out of total HIV patients, 3.43% patients were unemployed and 7.27% patients were children <15 yrs of age (i.e. unemployed.) So total number of unemployed patients in our study was 10.7% and there were no known CSW in this study.

Table No. 8: Distribution of the total HIV patient according to their Socio-Economic Status (n=1224)-

Socio Economic Status (income per months in Rs)	Male		Female		M/F ratio	Total	
	No.	%	No.	%		No.	%
Class – I (>25000Rs)	1	00.08%	1	00.08%	1/1	2	0.16
Class – II (25000-15000Rs)	6	00.49%	1	00.08%	6/1	7	0.57
Class – III (15000-5000Rs)	58	04.73%	35	02.85%	1.65/1	93	7.6
Class – IV (5000-2000Rs)	164	13.39%	98	08.00%	1.67/1	262	**21.4**
Class – V (<2000Rs)	467	38.15%	393	32.10%	1.18/1	860	**70.3**
Total	**715**	**58.42%**	**509**	**41.58%**	**1.40/1**	**1224**	**100.0**

In above table, out of total 1224 HIV patients, majority of patients 99.23% (n=1215) were from lower three classes [i.e. Class III (7.6%) + Class IV (21.4%) +V (70.3%)].

Maximum number of HIV patients 70.3% (n=860) were from Lower class (i.e. class V) and minimum number of HIV patients 0.16% (n=2) were from upper class (i.e. class I).

Table No. 9: Distribution of the total HIV patient according to their Marital Status (n=1224)

	Male		Female		M/F Ratio	Total	
Marital Status	No.	%	No.	%	No.	No.	%
• **Children <15 year**	**63**	**5.14**	**26**	**2.13**		**89**	**7.27%**
• **Unmarried adult**	43	02.94%	17	01.06	2.7/1	60	4.9%
• **Married adult**							
a. Married	493	40.27%	341	27.85%	1.44/1	834	**68.1%**
b. Widows/ widower	104	09.06%	121	11.51%	0.78/1	225	20.6%
c. Divorced/ Separated	9	00.16%	3			12	0.2%
• **Live-in**	0		0			0	0.0%
• **Unknown**	03	00.16%	01	00.08%		04	0.2%
Total	**715**	**58.42%**	**509**	**41.58%**	**1.40/1**	**1224**	**100%**

In above observation out of total 1224 HIV patients 7.27% (n=89) were children <15 years of age (pre-marriage age group) and 92.27% (n=1135) were adult patient. Out of the total (1135) adult patients, 1071 (87.5%) were married or married once (i.e. widow/widower + divorce/ separate) and 4.9% (n=60) were unmarried.

Out of these adult patients, 0.2%(n=04) patients marital status were either unknown or unclear and there were no patients with live-in relationship in our study.

Out of these total (1071) married adult patients 46.03 % (n=493) male and 31.83% (n=341) female were married, 0.84% (n=9) male and 0.28 % (n=3) female were divorced/separated, 9.7% (n=104) male and 11.29% (n=121) female were widower and widow respectively so they had no live spouse.

Table No. -10: Distribution of the total HIV patients according to their sexual habits (n-1224)

Sexual habit	Male		Female		M/F Ratio	Total	
	No.	%	No.	%		No.	%
Children<15yrs.	63	5.14%	26	2.13%	2.4/1	89	7.27%
Adult HIV pts (n=1135/92.73%)							
• Heterosexual	647	51.30%	483	41.01%	1.24/1	1130	92.32%
• Homosexual	2		0	-	-	2	00.16%
• Bisexual.	3		0	-	-	3	00.24%
Total	715	58.42%	509	41.58%	1.40/1	1224	100%

In the above observation, out of 1224 HIV patients, 89/7.27% were children <15 years of age and these were not consider as sexually active group of population, so there were no history of sexual habits in children.

In above observation, 1135 were 'adult' patients and they were considered as sexually active group of patients. Out of 1135 sexually active adult patients, 1130/92.32% patients had heterosexual sex habits and only 2/0.16% were homosexual and 3/0.24% were bisexual sex habits and no female have homosexual or bisexual sex habit. Out of these 92.32% (n=1130) heterosexual patients 96.31% (n=647) were male and 100% (n=483) were female.

DISCUSSION

In present study majority (90.92%) of HIV patient were within 20-49 years of age and maximum number of HIV patients (25.63%) were from the 35-39years of age. Our findings were comparable to the study done by Hitendra Kumar et al[4] where 89.3% ART attendees were between 20-50 yrs of age. Our study comparable to the study done by Umesh et al[1] where it was 81.4%(20-49 years) and by Parameswari Srijyanth et al[5] where it was 77.4%(18-41years).

In present study, out of total HIV patients male patients (58.41%) outnumbered the female patients (41.58%) and average M/F ratio in adult patients was 1.3/1 and in child patients it was 2.4/1. M/F ratio in a study done by Umesh et al[1] was 2.3/1 and in a study done by Kaiser Ahmed Wani et al[6] it was 7/1 .

In this present study 68.97% patient were from rural area and 31.03% were from urban area (i.e. R/U ratio=2.22/1). Number of rural patients in present study was comparable to the study done by Parameswar Srijayath et al[5] (68.5%) and to the study done by Umesh et al[1] (70.5%).

In our present study majority of HIV patients were from the Hindu community (97.46%) followed by Muslim (1.87%) and Sikh (0.24%). In a study done by Agrawal P et al[7] the Hindu were 94.8% and a study done by Umesh et al[1] where Hindu were 90.4%, Muslim were 5.8%, and 5.2% were belong to the Buddha community.

A study done by Baig vaseem N. et al[8] it was found that, Hindu were 86% , Muslim were 8.4% and Christian were 5.5%.our results are also comparable to this study.

In this present study with regard to the level of education 29.24% were Illiterate, 68.46 % were literate, and 2.28% were pre-school children (i.e. child<5 years of age). In a study done by Baig vaseems N et al[8] where illiterate patients were 31.0% and a study done by Hitendra Kumar et al[4] where illiterate patients were 24.0%.these result were comparable to this study.

In our present study, out of total (1224) HIV patients, majority of HIV patients 811 (66.25%) were from three category of occupation i.e. housewife 434 (35.45%), labourer 213(17.40%), and driver 164 (13.39%). Only 3.43% HIV patients were unemployed and 7.2% were child <15years of age. In a study done by Agrawal P et al[7], the Housewife were 28%, Driver were 25.5% and Labourers were 15.16%. In our study drivers were 13.39% that were 6.0% in a study done by Umesh et al[1]

In present study very minimum number of patient were in class I and II. It might be due to the two fact that is, in this rural area the number of people those who have income more than >15000-25000/month were 'very few', or, higher income directly related to the high education level it means high level of awareness for HIV. In a study done by Agrawal P et al[7] where middle class

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and lower class constitute 34% and higher class constitute 4.3% of total HIV patients.

In our study, out of total 1224 HIV patients, 7.27% (n=89) were children <15years of age (pre-marriage age group) and 92.27% (n=1135) were adult patient. And out of these total adult patients 87.5% (n=1071) were married or married at once (i.e. widow/widower + divorce/ separate) and 4.9% (n=60) were unmarried. A higher number of married (70.3%) person having HIV/AIDS was also reported in a study done by Jayrama et al[9] and in this study 'almost all' HIV positive widow gave history of death of their husband due to HIV/AIDS. It means most of women get infection from there husband. Similar finding were also reported by Baig Vaseem et al[8] where married patients were 75.5%.

In our present study out of 1135 adult HIV patients, 99.55% (n=1130) [96.31% male and 100% female] were have heterosexual habit of sex and only 0.16% (n=2) were have homosexual and 0.24% (n=3) were have bisexual habit of sex and no female have homosexual or bisexual sex habit in our study. These finding were comparable to the study done by Umesh et al[1], where heterosexual patient were 94% and to the study done by Gupta V et al[10], where heterosexual patients were 97%.

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