ID: JCDR/2012/4667:2449

Original Article

Internal Medicine Section

Clinical and Demographic Profile of Newly Detected HIV Positive Patients Registered at Anti Retroviral Therapy Centre of a Medical College

KESHAV SINGH, KARUNA JINDWANI

ABSTRACT

Context: AIDS, the Acquired Immunodeficiency Syndrome, which is caused by the human immunodeficiency virus (HIV), is evolving as a global pandemic. In India, the total number of people who live with HIV/AIDS was estimated to be 24 lakh (19.3-30.4) in 2009. In Madhya Pradesh, the Rewa district has been classified in category A by National AIDS Control Organisation NACO due to its high prevalence of HIV, based on the Sentinel Surveillance. An Anti Retroviral Therapy (ART) Centre was established by NACO in Rewa, which started functioning in Jan 2010.

Objectives: To study clinico demographic profile of the newly detected (who were not previously registered at any other ART centre) seropositives who were registered at the Anti-retroviral Therapy Centre.

Material and Method: The patients who were registered at the ART Centre were of two types, one, the newly detected HIV positives and the others, who are transferred from other ART centres. This was a cross sectional study in which the study group comprised of the recently detected positive cases who reported for the first time to the ART Centre, Rewa, from January to December 2010.

Results: This study included 253 subjects, out of which of 143 were males and 110 were females. A majority of the subjects (83.39%) were in the age group of 15-45 years. The seropositivity was found to be associated with a low level of literacy and thus, to the unawareness about AIDS. Truck drivers and labourers who migrated for their livelihood were the important occupational groups among the males, who needed attention in the current preventive programme for AIDS.

Key Words: Newly detected seropositives, ART, Route of transmission, HIV/AIDS, Heterosexsual, CD4 and Clinical staging

INTRODUCTION

AIDS, the Acquired Immunodeficiency Syndrome, which is caused by the human immunodeficiency virus (HIV), is still a challenge for mankind due to its non curable status. AIDS continues to be a major global health priority. Although, important progress has been achieved in preventing new HIV infections and in lowering the annual number of AIDS- related deaths, the number of people who live with HIV continues to increase. The continuing rise in the population of people who live with HIV, reflects the combined effects of the continued high rates of the new HIV infections and the beneficial impact of the anti retroviral therapy. Globally, 33.4 million people were living with HIV/AIDS by the end of 2008, with an estimated adult HIV prevalence of 0.8%. The estimated HIV prevalence in some sub-Saharan African countries is very high i.e., Swaziland with a prevalence of 25.9% in 2006-07, Botswana with a prevalence of 25.0% in 2008, Lesotho with a prevalence of 23.4% in 2004, Zimbabwe with a prevalence of 18.1% in 2005-06 and South Africa with a prevalence of 16.9% in 2008 [1].

The National AIDS control organization (NACO) is playing a key role in controlling the HIV infection in India with the help of international organizations. Since April 2004, the anti retroviral therapy is available in India (at various ART centres) free of cost, which has changed the outlook on HIV from a 'virtual death' to a 'chronic manageable disease'. In India, the provisional estimates showed that there were 22.7 lakh people living with HIV/AIDS by the end of 2008, with an estimated adult HIV prevalence of 0.29% [2].

Among the Indian states, Manipur has shown the highest estimate of the adult HIV prevalence of 1.40%, followed by Andhra Pradesh (0.90%), Mizoram (0.80%), Nagaland (0.78%), Karnataka (0.63%) and Maharashtra (0.55%). Besides these states, Goa, Chandigarh, Gujarat, Punjab, and Tamil Nadu have shown an estimated adult HIV prevalence which was greater than the national prevalence (0.31%). Delhi, Orissa, West Bengal, Chhattisgarh and Puducherry have shown estimated an adult HIV prevalence of 0.28%-0.30%. All other states/union territories (UTs) have lower levels of HIV. By the year 2009, around 84,803 people were living with HIV/AIDS in Madhya Pradesh itself, with an estimated prevalence of 0.19% [3].

The primary drivers of the HIV epidemic in India are unprotected, paid sex/commercial female sex services, unprotected sex between men and injecting drug use (IDU). According to the NACO, the most common route of transmission of HIV in India was the heterosexual route (87.1%), followed by the parent to child transmission (5.4%), the transmission through IDU (1.6%), homosexual transmission (1.5%), the transmission through blood and blood products (1%) and in about 3.3% of the cases, the route of transmission was unknown [2].

For the purpose of the planning and the implementation of the National AIDS Control Programme –III, all the districts in the country were classified into 4 categories (A, B, C and D), based on the HIV prevalence in the districts among the different population groups for 3 consecutive years. The Rewa district of Madhya Pradesh is a divisional headquarter and it has been categorized under the A

Category (more than 1% ante natal case prevalence in this district in any of the sites in the last 3 years.)

The present study was conducted to analyze the clinico demographic profile of the newly detected sero-positive cases who attended the ART Centre, Rewa.

MATERIAL AND METHODS

The present study was a cross sectional study which was conducted at the ART Centre of Sanjay Gandhi Memorial Hospital (a tertiary level hospital) in the Rewa District in Madhya Pradesh; which is a teaching hospital which is attached to the Shyam Shah Medical College, Rewa. The catchment areas of the hospital are Rewa city, the rural areas and the surrounding districts (Satna, Shahdol, Sidhi, Anuppur and Umaria). A majority of the patients who attend the hospital are from a poor socio-economic background. The people from Rewa and its neighbouring districts migrate to other states i.e. Maharashtra, Gujarat, Andhra Pradesh and Karnataka for employment and they usually leave their families at their homes (native places). These people form a high risk group and many of them are responsible for getting and passing the infection to their spouses.

The data for the study was collected with the permission of the senior medical officer in charge, by using the records for the period of a calendar year i.e. January to December 2010. During this period of the whole year, 253 newly detected cases were selected out of a total of 511 patients (the rest of the 258 cases were transferred to our centre from other centres). The data on their demographic profile, functional status and clinical status were analyzed by using standard statistical methods.

All these patients were detected to be sero-positive at different Integrated counselling and Testing Centre ICTCs by the Enzyme Linked Immunosorbent Assay, which was done by using two different antigens and a rapid test, as was recommended by NACO.

RESULTS

Our study included a total of 253 newly detected sero-positive patients who got registered at the ART Centre, Rewa, from January to December 2010. Among them, 56.52% (143) were males and 43.48% (110) were females, out of which 6 were pregnant.

A majority of the subjects, i.e. 153 (60.47%) out of 253, belonged to the age group of 30-45 years. On the basis of habitat, the rural population (208, 82.21%) outnumbered the urban (45, 17.79%) population [Table/ Fig-1].

The education wise distribution showed that 157 (62.06%) were educated upto the secondary level, while 68 (26.88%) were illiterate. The distribution of the subjects showed that 191 (75.49%) out of the 253 were married, while 11(4.35%) subjects were unmarried.

In the study group, the most probable route of transmission was the heterosexual route. 226 (89.33%) out of the 253 subjects had a heterosexual transmission, followed by 21(8.30%) mother to child transmissions[Table/Fig-1,3].

According to the clinical staging of the WHO, a majority i.e.107 (42.29%) of the subjects were in stage II, followed by 93 (36.76%) subjects who were in stage I. According to the first CD4 count at the time of registration at the ART Centre, 115 (45.45%) subjects were found to have CD4 counts below 250/cumm, while 138 (54.54%) subjects had CD4 counts above 250/cumm [Table/ Fig-2].

DISCUSSION

The present study revealed that males constituted 56.52% of the total subjects, which was a little lower than that which was mentioned in the report of NACO i.e., 61% [4]. A much higher percentage (84.0%) of male attenders were found in the study of Sarna A et al., [5]. Most of the subjects 83.39% were in the age group of 15-45 years, which was a little lower than that in the data which was mentioned (88.0%) in the report of NACO [4]. Our findings differed from those of Cauldbeek et al., [6], whose study had 50.0% of the subjects in the 30-40 years age group.

The distribution according to the marital status showed that married subjects constituted 75.49% of the patients, while 8.30% of the total subjects were widows and 4.35% of the subjects were single (unmarried). Among the males, 76.92% were married, while among the females, 73.64% were married. This was different from the findings of the study which was carried out in the north west region of India by Lal S [7], in which 84.3% to 96.2% of the males and 79.2% to 86.1% of the females were married.

A majority of the subjects (82.21%) were from rural areas, while 17.79% were from urban areas. This indicated that there was a decreased awareness about AIDS in the rural areas. Similar observations were found by Vyas N et al. [8].

The distribution according to the educational status showed that a majority of the subjects had a low educational status. This was similar to the findings of the study which was conducted by Jayram S et al., [9]. In the present study, 44.55% female subjects were illiterate. This was in contrast to the findings of the study which was done by Gupta, according to which 28.5% of the females among the attendees were illiterate [10]. Occupation wise, in our study, a majority of the male subjects were labourers and many of them had visited metro cities for earning and had indulged in risky behaviour because of unawareness and illiteracy.

Among the males, 21.68% were truck drivers. A study which was conducted by Vyas N in the north west region of India, showed that among the seropositive subjects, 9.7–17.4% were drivers [8].

Among the female subjects, a majority (77.27%) were housewives, which was in contrast with the findings of a study which was conducted at Udupi, where only 44.5% females were unemployed among the seropositives [11].

According to the clinical staging, most of the patients (42.29%) were in stage II (by the WHO clinical staging), followed by 36.76% in stage I. On comparing the functional status of the patients, a majority (76.28%) of the subjects were found to be in the working functional status strata.

As per the CD4 counts of the patients at the time of their registrations, 138 (54.54%) patients were found to have CD4 counts above 250/cumm.

CONCLUSION

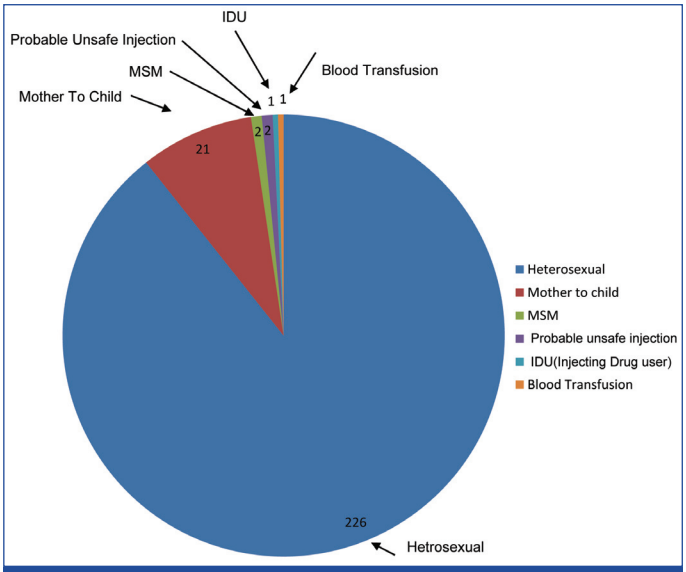
More than half of the subjects were males and of the productive age group (15-45 years). Among the registered subjects, the rural group outnumbered the urban group. This showed an association of the unawareness on the disease with the disease incidence. A low literacy rate contributed to its rapid expansion in the rural areas. The heterosexual route was the commonest route of transmission of the infection. Among the males, the labourers and the truck drivers constituted the major group. Thus, these group of individuals demand due attention and counselling for the prevention of the spread of this disease.

1.Demographic Profile							
1	Male/Female	Total					
	Male	143	56.52%				
	Female	110	43.48%				
	TG/TS	0	0.00%				
	Total	253	100.00%				
2	Age	Total		Male		Female	
	0-14	20	7.91%	16	11.19%	4	3.64%
	15-29	58	22.92%	18	12.59%	40	36.36%
	30-45	153	60.47%	93	65.03%	60	54.55%
	46-59	17	6.72%	12	8.39%	5	4.55%
	60 +	5	1.98%	4	2.80%	1	0.91%
	Total	253	100.00%	143	100.00%	110	100.00%
3	Rural / Urban	Total		Male		Female	
	Rural	208	82.21%	114	79.72%	94	85.45%
	Urban	45	17.79%	29	20.28%	16	14.55%
	Total	253	100.00%	143	100.00%	110	100.00%
4	Personal History/ Probable Route of Transmission	Total		Male		Female	
	Heterosexual	226	89.33%	122	85.31%	104	94.55%
	Mother to child	21	8.30%	16	11.19%	5	4.55%
	MSM	2	0.79%	2	1.40%	0	0.00%
	probable unsafe injection	2	0.79%	1	0.70%	1	0.91%
	IDU(Injecting Drug user)	1	0.40%	1	0.70%	0	0.00%
	Blood Transfusion	1	0.40%	1	0.70%	0	0.00%
	Total	253	100.00%	143	100.00%	110	100.00%
5	Education	Total		Male		Female	
	Child	12	4.74%	10	6.99%	2	1.82%
	Illetrate	68	26.88%	19	13.29%	49	44.55%
	Primary	78	30.83%	43	30.07%	35	31.82%
	Secondary	79	31.23%	59	41.26%	20	18.18%
	Graduate	16	6.32%	12	8.39%	4	3.64%
	Total	253	100.00%	143	100.00%	110	100.00%
6	Marrital Status	Total		Male		Female	
	Married	191	75.49%	110	76.92%	81	73.64%
	Unmarried	11	4.35%	10	6.99%	1	0.91%
	Widow	21	8.30%	0	0.00%	21	19.09%
	Widower	8	3.16%	7	4.90%	1	0.91%
	Divorced	2	0.79%	0	0.00%	2	1.82%
	Child	20	7.91%	16	11.19%	4	3.64%
	Total	253	100.00%	143	100.00%	110	100.00%
7	Ocupation Wise	Total		Male		Female	
	Laborers/Form worker	78	30.83%	61	42.66%	17	15.45%
	Driver	31	12.25%	31	21.68%	0	0.00%
	Service	16	6.32%	14	9.79%	2	1.82%
	Business	9	3.56%	9	6.29%	0	0.00%
	Student	6	2.37%	4	2.80%	2	1.82%
	Retired Army Person	3	1.19%	3	2.10%	0	0.00%
	Prisoner	2	0.79%	2	1.40%	0	0.00%
	Sex workers	1	0.40%	0	0.00%	1	0.91%
	Child	16	6.32%	13	9.09%	3	2.73%
	House wife	85	33.60%	0	0.00%	85	77.27%
	People recently visited metro cities	6	2.37%	6	4.20%	0	0.00%
	TOTAL	253	100.00%	143	100.00%	110	100.00%

[Table/Fig-1]: demographic profile

WHO Clinical Staging	Total		Male		Females	
I	93	36.76%	39	27.27%	54	49.09%
II	107	42.29%	66	46.15%	41	37.27%
III	48	18.97%	33	23.08%	15	13.64%
IV	5	1.98%	5	3.50%	0	0.00%
Total	253	100.00%	143	100.00%	110	100.00%
Functional Status	**Total**		**Male**		**Female**	
W	193	76.28°/	100	69.93%	93	84.55%
A	45	17.79%	33	23.08%	12	10.91
B	15	5.93%	10	6.99%	5	4.55%
Total	253	100.00%	143	100.00%	110	100.00%
CD4 Count at the time of Registration	Total		Male		Female	
0-50	26	10.28%	20	13.99%	6	5.45%
51-100	24	9.49%	17	11.89%	7	6.36%
101-150	26	10.28%	20	13.99°%	6	5.45%
151-200		7.91%	15	10.49%	5	4.55%
201-250	19	7.51%	11	7.69%	8	7.27%
251-300	20	7.91%	10	6.99°%%	10	9.09%
301-350	14	5.53%	10	6.99%	4	3.64%-
351-400	18	7.11%	9	6.29%	9	8.18°%
401-450	8	3.16%	3	2.10%	5	4.55%
451 +	78	30.83%	28	19.58%	50	45.45%
Total	253	100.00%	143	100.00%	110	100.00%

[Table/Fig-2]: clinical demographic



[Table/Fig-3]: Personal history

REFERENCES

[1] AIDS epidemic update December 2009, the Joint United Nations Program on HIV/AIDS (UNAIDS) and the World Health Organization (WHO) 2009.

[2] Annual Report 2009-10, The National AIDS Control Organization, Ministry of Health and Family Welfare, Government of India.

[3] The National Aids Control Organization, Government of India, Ministry of Health and Family welfare, Press release on 01 December 2010. www.nacoonline.org accessed on 2/01/11.

[4] NACO: The National AIDS Control Programme, phase-III (2007-2012): strategy and implementation plan; Ministry of Health and Family Welfare; Govt. of India: 2006.

[5] Sarna A, Pujari S, Sengar AK, Garg R, Gupta I, Van Dam J. Adherence to the antiretroviral therapy and its determinants among the HIV patients in India. *Indian J. Med. Res*. 2008;127:28-36.

[6] Cauldbeck MB, O'Connor C, O'Connor MB, Saunders JA, Rao B, Mallesh VG et al. Adherence to the anti-retroviral therapy among the HIV patients in Banglore. *India AIDS Research and Therapy* 2009; 6:7.

[7] Lal S. The surveillance of HIV/AIDS in India (Editorial). *Indian J Community Med* 2003;27:3-9.

[8] Vyas N, Hooja S, Sinha P, Mathur A, Vyas L. The prevalence of HIV/AIDS and the prediction of the future trends in the north-west region of India: A six years ICTC- based study. *Indian J. Community Med* 2009; 34(3): 212-17.

[9] Jayaram S, Shenoy S, Unnikrishnan B, Ramapuram J, Rao M. The profiles of the attendees at a voluntary counseling and testing centre of a medical college hospital in coastal Karnataka. *Indian Journal of Community Medicine* 2008; 33:43-46.

[10] Gupta M. A profile of clients tested HIV positive in a voluntary counselling and a testing centre of a district hospital in Udipi. *Indian J. Community Med* 2009;34(3):223-26.

[11] Kumar A, Kumar P, Gupta M, Kamath A, Maheshwari A, Singh S. A profile of clients tested HIV positive in a voluntary counselling and a testing centre of a district hospital in Udupi, South Karnataka. *Indian Journal of Community Medicine* 2008; 33(3):156-59.

AUTHOR(S):

1. Dr. Keshav Singh
2. Dr. Karuna Jindwani

PARTICULARS OF CONTRIBUTORS:

1. Assistant Professor, Department of Medicne, SS Medical College & SGMH Rewa (MP.), India.
2. Senior Resident, Department of Dentistry, SS Medical College & SGMH Rewa (MP), India.

NAME, ADDRESS, E-MAIL ID OF THE CORRESPONDING AUTHOR:

Dr. Keshav Singh
Department of Medicine,
SS Medical College & SGMH Rewa (MP), India.
keshavsingh19@yahoo.com
Phone: 9425393808

FINANCIAL OR OTHER COMPETING INTERESTS:

None.

Date of Submission: **Jun 12, 2012**
Date of Peer Review: **Jul 10, 2012**
Date of Acceptance: **Aug 25, 2012**
Date of Publishing: **Sep 30, 2012**