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Socio demographic profile of HIV seropositive patients at ART centre, PGIMS, Rohtak

[1] Dr. Sudhir Atri, [2] Dr. Rahul Rathee, [3] Dr. Dhiraj Kumar, [4] Dr. Varun Yadav

[1] Professor, Department of Medicine, Pt. B.D. Sharma PGIMS, Rohtak, India
[2] Senior Resident, Department of Medicine, Pt. B.D. Sharma PGIMS, Rohtak, India
[3, 4] P.G. Student, Department of Medicine, Pt. B.D. Sharma PGIMS, Rohtak, India

Abstract
Aim: To study the socio – demographic profile of HIV seropositive patients attending ART centre, PGIMS, Rohtak.
Study Design: It is a cross-sectional study.
Study Area: ART Centre, Postgraduate institute of Medical Sciences, Rohtak, Haryana.
Study subjects: HIV seropositive patients attending ART centre, PGIMS, Rohtak, Haryana.
Sample Size: 19841. Sample Period – 21st July 2006 to 30th June 2016.
Results: In the study group 61.36% were male, 38.52% female and 0.11 transgender. Maximum i.e. 65.41% of study group belong to 15-45 years of ages and out of this 23.65% belong to 15-25 years of age group and 41.75% belongs to 25-45 years age group. Pertaining to castes, 59.61% belonged to general category followed by 17.91% scheduled caste, 0.51% scheduled tribes and 21.95%.Ooher backward classes. 37.0% of the study group was illiterate and 63.0% were literates. Regarding occupation, 26.53% were transport workers followed by 19.36% labourers, 17.80% self employed, 4.50% students / unemployed, 4.26% in-service and 2.30% retired. 70.98% of the females ever registered were housewives. In the study group 59.20% patients were from rural areas and 40.80% were from urban region. In the study group 65.20% of the patients had a monthly income of less than Rs. 5000/-. Voluntary testing was most common mode of entry point constituting 79.35% of the study group. In the study group, based on self-reporting, among the individuals at high risk of acquiring and transmitting HIV infection, majority i.e. 21.48% were truck drivers followed by 4.42% migrants, 2.0% homosexual men, 1.86% female sex workers, 1.84% injection drug users and 0.1% transgender.
Conclusions: Epidemiological studies should be carried out in various settings to understand the role and complex relations of innumerable behavioural, social and demographic factors, which will help to interrupt and control the transmission of HIV/AIDS.

Keywords: HIV seropositive patients, AIDS, ART, NACO, socio-demographic determinants

Introduction

Since human immunodeficiency virus (HIV) / acquired immunodeficiency syndrome (AIDS) was first discovered in 1981, it has becomes a deadly pandemic as no effective vaccines, drugs or anti-toxins have been developed to fully prevent and treat this disease. The AIDS epidemic typically targets people in their most productive years, which leads to disastrous economic, political and socio-demographic consequences. It is sexually transmitted and is 100% fatal without lifelong treatment with anti-retroviral drugs.

According to National AIDS Control organization (NACO) [1] the national adult (15-49 years) HIV prevalence is estimated at 0.26%, in 2015, the male prevalence being 0.30% and female 0.22%. The prevalence rate of HIV among adults in Haryana is below 0.20%.

The Government of India launched the free ART programme on Ist April 2004 and ART center at PGIMS, Rohtak became operational on 21st July 2006. Currently, Haryana has 1 ART centre at PGIMS, Rohtak and 14 link ART centres (LAC).

India being the world' most populated country has also faced the brunt of this epidemic. India is a nation of contrasts. The economy is booming but the culture is largely traditional. There are multiple religions and languages. There is ignorance about the disease and HIV is still a major social stigma, fear of discrimination and consequent denial for testing and treatment. Violence against women is common which makes women more vulnerable. More than 70% of its people reside in rural areas. Moreover, the World Bank has categorized India as a low – income country. Prevention of HIV transmission is hampered due to all these socio demographic factors and the task of controlling HIV/AIDS in India is gigantic [2-4].

In order to implement the desired intervention, the epidemiology of HIV/AIDS in a particular region has to be understood with regard to various socio demographic factors, level of awareness as well as risk behavior of the people. It is so because the effective approach for the prevention and control of HIV infection / diseases is through awareness generation and life style changes [5].

Therefore, this study was undertaken to explore the pattern of socio-demographic distribution among HIV seropositive patients at ART centre, PGIMS, Rohtak. Our study reports the socio-demographic characteristics of HIV/AIDS patients from the largest tertiary care hospital in Haryana. Our center caters to patients not only from Haryana but also from adjoining states of North India. Findings of this study may help in redesigning the strategy to bridge the gap between those detected and registered at ART centers.

Material and Methods

This was a cross-sectional descriptive study carried out at ART centre, PGIMS, Rohtak. This ART centre was started on 21st July 2006. All the HIV seropositive patients registered at ART centre from 21st July 2006 to 30th June 2016 were included in this study. This centre caters ART services to all the districts

in the states covering a population of about 30 million, hence the data can be representative of the state and the results can be generalized.

The data collection was done prospectively from the secondary data available from the ART register after obtaining approval from the institutional ethical committee. Socio-demographic details like age, gender, caste, occupation, income, risk groups, routes of infection, entry point were collected using a standardized form.

The collected data was analysed by using appropriate statistical techniques like percentages. The observations were discussed in the light of published material of various authors. The conclusions were made on the synthesis of social, medical and statistical angles of the observations with justified differences with the published work of previous authors. The recommendations were made after detailed study and analysis of the observations made.

Results

Table 1: HIV patients registered at ART center

Indicator	Adults			Children (<15 years)		
	Male	Female	TS/TG	Male	Female	Total
a) Total number of HIV patients registered since the beginning of ART center	11450	7191	22	725	453	19841
b) Number of HIV patients ever started on ART	7382	4277	11	352	167	12189
c) Cumulative number of patients who died since the beginning of the center Not on ART On ART	914 1881	269 619	0 1	22 52	23 24	1228 2577
d) Number of HIV patients whose status is "LFU" Not on ART (1.1.2011 onwards) On ART (cumulative)	1593 1536	1171 756	0 3	134 50	126 30	3024 2375
e) Number of patients whose status is "stopped treatment" Opted out of programe Not on ART On ART	34 35 41	29 41 26	0 0 0	1 5 1	1 3 1	65 84 69
f) Number of patients in active care as on 30.6.2016 Alive and on ART Not on ART	3890 974	2847 1025	7 10	248 156	111 107	7103 2272
g) Cumulative number of pregnant DIL / Breastfeeding women ever registered	-	-	-	-	-	746
h) Cumulative number of pregnant DIL / breasting feeding women ever initiated on ART	-	-	-	-	-	520

The ART center at PGIMS, Rohtak was started on 21st July 2006. Since the beginning of ART centre till 30th June 2016 total number of patients registered were 19841. Number of PLHIV patients ever started on ART were 12189. Cumulative number of patients who died since the beginning of the center were 3805 out of which 2577 (67.72%) patients were on ART and 1228 (32.28%) were not on ART.

Total number of patients whose status is `LFU' that is lost follow up were 5399 out of which 2375 (43.99%) patients were on ART and 3024 (56.01%) patients were not on ART. Total number of patients whose status was stopped treatment were 65. Total number of patients whose status was opted out of the program were 153 out of which 69 (45.1%) patients were on ART and 84 (54.9%) patients were not on ART. Total number of patients in active care as on 30.6.2016 are 9375 out of which 7103 (75.77%) patients were alive and on Art and 2272 (24.23%) were not on ART. Cumulative number of pregnant / DIL / breastfeeding women ever registered were 746 and out of these who were ever started on ART was 520 (69.71%).

Table 2: Age distribution

	<18 months N (%)	18 m – 5 years N (%)	5-15 years N (%)	15-25 years N (%)	25-45 years N (%)	45+ years N (%)	Total
Total no. of PLHIV registered in HIV care	1 (0.005%)	681 (3.43%)	496 (2.49%)	4694 (23.65%)	8284 (41.75%)	5685 (28.65%)	19841

Maximum that is 12978 (65.41%) number of patients belong to age group of 15-45 years and out of this 4694 (23.65%) belong to 15-25 years of age group and 8284 (41.75%) belongs to 25-45 years age group. Among other age groups 1178 (5.93%) and 5685 (28.65%) patients belong to the age group of <15 years and >45 years respectively.

Table 3: Sex distribution

Sex	No. of cases	Percentage
Male	12175	61.36
Female	7644	38.52
TG	22	0.11
Total	19841	

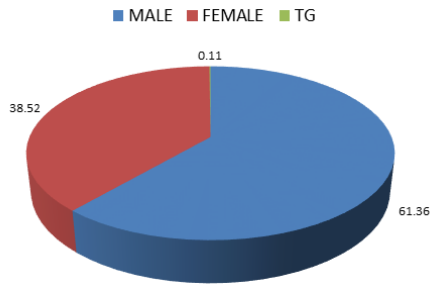

Fig 1: Sex Distribution

In the study group total 12175 (61.36%) were males, 7644 (38.52%) were females and 22 (0.11%) were transgender.

Table 4: Caste wise distribution

	General N (%)	Scheduled caste N (%)	Scheduled tribe N (%)	Other backward classes N (%)	Total
Total no. of PLHIV registered in HIV care	11829 (59.61%)	3554 (17.91%)	102 (0.51%)	4356 (21.95%)	19841

Pertaining to the distribution by caste the majority of the patients belong to general category 11829 (59.61%). 3554 (17.91%) patient belonged to the scheduled caste, 102 (0.51%) to scheduled tribes and 4356 921.95%) to other backward classes.

Table 5: Distribution by occupation

	Student / unemployed N (%)	Labourer N (%)	Service N (%)	Self-employed N (%)	Housewife N (%)	Retired N (%)	Transport workers N (%)	Total
Total no. of PLHIV registered in HIV care	893 (4.50%)	3842 (19.36%)	847 (4.26%)	3434 (17.30%)	5104 (25.72%)	457 (2.30%)	5264 (26.53%)	19841

Among all the study group maximum 5262 (26.53%) patients were transport workers mainly truck drivers followed by labourer 3842 (19.36%), self-employed 3434 (17.80%), students / unemployed 893 (4.50%), in service 847 (4.26^) and retired 457 (2.30%) respectively. Among total 7191 of adult females ever registered since the beginning of ART centres the majority 5104 (70.98%) were housewives.

Table 6: Distribution by educational status (n=19841)

Education	No.	%age
Illiterate	7842	37.0%
Primary	3127	15.76%
Secondary	5786	29.16%
Higher secondary and above	3586	18.08

In the present study 7342 (37.0%) were illiterate while 12499 (63.0%) were literate.

Table 7: Distribution by residential status (n=19841)

Residential status	Number	Percentage
Urban	8096	40.80%
Rural	11745	59.20%

Out of total 19841, maximum 11745 (59.20%) patients were from rural areas and 8096 (40.80%) were from urban region.

Table 8: Distribution by monthly household income

	<2000 N (%)	2000-5000 N (%)	5001-10000 N (%)	10001-15000 N (%)	15001-20000 N (%)	20001-25000 N (%)	>25000 N (%)	Total
Total no. of PLHIV registered in HIV care	4274 (21.54%)	8664 (43.66%)	3520 (17.74%)	1690 (8.51%)	640 (3.22%)	572 (2.88%)	481 (2.42%)	19841

Majority of the patients 12938 (65.20%) had an monthly income of < Rs. 5000/-. The distribution of monthly household income is shown in Table 8.

Table 9: Profile by entry point (referred from)

	Voluntary tested N (%)	TB/RNTCP N (%)	PPTCT N (%)	STI N (%)	TI N (%)	Private facility N (%)	Others N (%)	Total
Total no. of PLHIV registered in HIV care	15745 (79.35%)	976 (4.91%)	901 (4.54%)	486 (2.44%)	579 (2.91%)	417 (2.10%)	737 (3.71%)	19841

Abbreviations used:
PPTCT – prevention of parent to child transmission
STI – Sexually transmitted infections
TI – Targeted intervention

Voluntary testing was most common entry point of patients with 79.35% followed by referrals from RNTCP centres, PPTCT, TI, STI, private practitioners constituting 4.91%, 4.54%, 2.9%, 2.44% and 2.10% respectively. 3.71% of cases were referred from other sources mainly NGOs.

Table 10: Profile by Risk group distribution

	FSW N (%)	MSM N (%)	IDU N (%)	TG N (%)	Migrants N (%)	Truckers N (%)	General clients N (%)	Total
Total no. of PLHIV registered in HIV care	370 (1.86%)	397 (2.0%)	367 (1.84%)	20 (0.100%)	878 (4.42%)	4262 (21.48%)	13757 (69.33%)	19841

Abbreviations used:
FSW – Female sex worker
MSM – Men who have sex with men
IDU – Injection drug user
TG – Transgender

Based on self reporting, among the individuals at high risk of acquiring and transmitting HIV infection the most common group was of truck drivers constituting a total number of 4262 (21.48%) patients followed by migrants from other areas, men who have sex with men, female sex workers, injection drug users and transgender constituting 878 (4.42%), 397 (2%), 370 (1.86%), 367 (1.84%), 20 (0.100%) number of patients respectively. Rest of the patients 13757 (69.33%) were general clients.

Discussion

The epidemic of HIV/AIDS in India is shifting from the highest risk group (commercial sex workers, injection drug users) to bridge population (clients of sex workers, STD patients and partners of drug users) and then to general population. In present study, more than half of the subjects were in economically productive age group and majority of patients were males. In the International Epidemiological databases to evaluate AIDS – lower income countries (leDEA-LINC) data of 15 countries the male proportion was 54% [6]. This is similar to national level statistics in which, out of total number of cases of HIV/AIDS reported to the National AIDS control organization (NACO), 89% of the cases were in the age group of 15-44 years and 74% were males [7]. In a study done by Mandal *et al* [8], 81.16% of cases were in the age group of 20-40 years with male to female ratio of 1.5:1. This section of the population is more affected because they are sexually more active and the social structure is patriarchal. Unfortunately, these patients also happen to be in the economically most productive years of their lives. The male preponderance might have been due to the fact that in the existing social milieu, females do not seek medical care fearing ostracism and loss of family support. HIV seems to be affecting the economically productive and sexually active group and thus having a tremendous impact on the livelihood of the affected people and their families.

Majority of the patients in our study were from rural areas (59.20%) which confirms that the epidemic is moving from urban to the rural areas. Similar result were observed in a study conducted in South India where 67% subjects were from rural areas [9]. Another possible reason for higher proportion of rural individuals could be because migration is more common among rural population than urban areas for occupational reasons. Majority of the patients were from general category that is upper castes (59.61%). Scheduled caste, scheduled tribes and other backward classes constituted 17.91%, 0.51% and 21.95% respectively. The distribution according to educational status showed that the HIV seropositivity was higher among the patients with lesser education. These findings are similar to the study conducted by Jayaram *et al*. [10]. A significant proportion (37.0%) of the patients in our study were illiterate and only 18.08% of patients had received education above higher secondary. This suggests that higher educational levels offer some protection against HIV. Anybody who is illiterate and educated below the secondary education level may not have adequate knowledge for protecting himself or herself from sexually transmitted diseases, including HIV/AIDS. Low educational status and less awareness regarding safe sex can be the reason for high prevalence among this group of patients. Majority of the patients had per capita income of < Rs. 5000 per month (65.20%). Our findings corroborates with that of a study conducted in Delhi where more than 90% cases were drawing monthly income < Rs. 5000/- [11].

Most of the patients in present study were from the lower – middle and lower socio economic classes and were working as transport workers mainly truck drivers (26.53%), labourers (19.36%) and housewives (25.72%). Among all the adult female ever registered since the beginning of ART centre the majority (70.98%) were housewives. Mandal *et al* [8], found that the main occupational risk groups were truck drivers and labourers. The reason for large number of attendees those were housewives can be, acquiring infection by unsafe sex from their HIV seropositive husband or any other sexual partner. This point out the unsafe, sexual practices among married couple. In present study, mode of transmission in majority of the patients was heterosexual. Sexual, especially the heterosexual transmission is the main driver of the epidemic in most of India. Kothari *et al* [12] showed that heterosexuality accounted for 90% of the total cases. Injectable drug users (IDU) constituted only a minority of the study population (1.84%) as has been observed in other parts of India except for the north eastern states where IDU is widely prevalent [13]. In our study the distribution for entry point (referred from) showed that majority of the patients (79.35%) opted for voluntary testing which is a very good sign in our otherwise conservative society where HIV and other STD's are considered as social stigma.

Conclusion

Our study found that most of the affected population was from reproductive age group and male preponderant with heterosexual route being the commonest mode of transmission. Combination of behavioural risk factor and unawareness is responsible for rapid spread of HIV//AIDS. People with high risk behavior and the spouses of affected patients need to be educated for primary and secondary prevention. The other socio demographic determinants found to be associated with HIV Seropositivity were literacy status, place of residence, occupation, socio-economic status.

Recommendations

1. Since higher literacy helps in getting a better job and increased per capita income, which leads to improvement in the socio economic status of the individual and his family, hence by working on overall improvement of literacy status, we will be able to modify the other socio

demographic determinants. Authorities need to focus on this. Also, increased literacy will help in better understanding of the disease, its mode of transmission, personal protective measures to be employed and social responsibilities at individual level, which will help to a great extent in preventing the spread of this deadly pandemic.

2. Since HIV/AIDS is now common in women of child bearing age, the incidence of HIV/AIDS is on the rise in children also. So to prevent mother to child transmission it is necessary to educate mothers and adolescent females regarding benefits of antenatal care and importance of PPTCT (Prevention of Parent to Child Transmission) with making HIV screening mandatory in antenatal clinics to prevent mother to child transmission.
3. As the HIV seropositivity is more in 20-40 years age group which is economically & sexually productive age group in the family & country the youth should be targeted & sensitized with health education regarding safe sexual practices including use of condoms, avoidance of extra marital sex by means of conducting strengthened awareness and screening campaigns regarding HIV/AIDS with I.E.C (Information, Education and Communication) intervention strategies involving health care staff, volunteers, youth clubs, NGOs, village level workers, opinion leaders and adequate funding etc.
4. Strengthening of counseling process is an important aspect of control and prevention of HIV/AIDS because counseling improves the health status of the study subjects by means of improving hygienic practices, taking nutritious diet, adoption of safe sexual practices, abstain from bad habits like smoking & alcohol relieving from false beliefs, prevention of suicidal tendencies and keeping the housing environment healthy etc.

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