

A STUDY ON SOCIO-DEMOGRAPHIC PROFILE AND RISK FACTORS PRESENT IN HIV INFECTED PATIENTS ATTENDING ART CENTRE IN TERTIARY CARE HOSPITAL IN RAJASTHAN, INDIA

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ABSTRACT

Background: Globally India is leading in the world as far as numbers of HIV positive cases, and there is paucity of studies related to socio-demographic profile of HIV/AIDS patients in Rajasthan.

Methodology: This socio-demographic study was conducted on HIV patients attending ART centre of SMS hospital, Jaipur (Rajasthan). At the time of study, 247 patients were registered however study was done on 200 cases. Data collection was done by personal Interview and from case record.

Results: Most of the study individuals (97%) belonged to the age group 15-49 years, 73.5% were males & 26.5% were females. Majority of the study individuals were Hindus (91%) and married (75.50%). Unprotected sexual route was the most common (91.5%) mode of transmission; among which heterosexual route was found to be the commonest (95.62%). Most common first presenting complaint was fever (58.50%).

Conclusion: Most of HIV positive cases belonged to the sexually active & economically productive age group, low socioeconomic status, rural area and the sexual route is the predominant mode of transmission.

Key words: Anti Retroviral Therapy, HIV/AIDS, unprotected sex

INTRODUCTION

HIV infection has become the pandemic affecting every region of the world and is a major cause of morbidity and mortality. This deadly virus has affected the developing countries more severely as they are lagging behind in fight against various infectious diseases. With a high case fatality rate, significant impact on health and society, lack of definite curative treatment or vaccine, HIV/AIDS pandemic is one of the most frightening health problems of this century.

Globally 34.0 [31.6-35.2] millions people living with HIV, 2.7 [2.4-2.9] millions people were newly infected with HIV.¹ Although India is a country with low HIV prevalence however it has still been accounted to be the third largest number of people living with HIV/AIDS which can prove to be a potential carrier reservoir for

the spread of this infection if not taken proper care. As per HIV estimates 2008-09, there are an estimated 2.39 million people living with HIV/AIDS in India with an adult prevalence of 0.31 percent in 2009².

According to NACO Annual Report 2010-11², unprotected sex (87.4% heterosexual and 1.3% homosexual) is the major route of HIV transmission, followed by transmission from Parent to Child (5.4%) and use of infected blood and blood products (1.0%). While Injecting Drug Use is the predominant route of transmission in north eastern states, it accounts for 1.6 percent of HIV infections.

Considering these facts along with the paucity of studies related to HIV/AIDS patients of Rajasthan, this study was undertaken to evaluate the socio-demographic profile and risk factors present in HIV/AIDS patients of

Rajasthan attending the ART Centre, Department of Medicine, SMS Medical College, Jaipur, Rajasthan.

MATERIAL AND METHODS

It was a Hospital based cross sectional study done at Anti Retro Viral therapy (ART) Center, Department of Medicine SMS Medical College & Hospital, Jaipur (Rajasthan, India) for a period of 9 months. Subjects were the HIV infected patients attending (ART) Center. Prior permission from institutional ethical committee was taken before starting the study. Inform consent was taken from subjects prior to enroll them in study. However at the time of commencement of this study total 247 HIV/AIDS patients were registered in ART Centre however only two hundred cases (> 15 year of age) could be incorporated for the study, for the rest (47) inform consent was not obtained.

The study was based on data collection by-

Personal Interview:- The Personal Interview was carried out by the investigator himself after getting informed consent from the patient. The interview was conducted with the help of the pre designed proforma. The proforma was pre designed semi structured interview schedule which contained dichotomous, multiple choice and open ended questions regarding information's on socioeconomic data, personal, sexual and family history with presenting complaints.

Case Record: Individual case record was used to get an idea about various investigations done, among which routine blood examination, ELISA for HIV 1 & 2, and immunological (CD₄ Count) were included.

RESULTS AND DISCUSSION

This study is a step towards research into the socio-demographic profile and risk factors of study subjects of Rajasthan. Most of the study individuals (97%) belonged to the age group 15-49 years as compared to the national age distribution of 83% of NACO 2010-11 which indicates a hampering effect on sexually along with financially active age group.

Of all the study individuals, 73.5% were males & 26.5% were females giving a ratio of almost 3:1. As reported by NACO 2005 nationally, males

are 70.8% and females are 29.2% of all people living with HIV/AIDS in 2005, which closely corresponds with our findings. It corresponds well with the finding that 26% of adults (15-49 years) living with HIV are women in south-east Asia³. As against this study women (15-49 yrs.) with HIV, out number males in sub-Saharan Africa (57%) & in Caribbean (55%)³.

Table1: Study of subjects according to socio-demographic indicators

Sociodemographic indicators	Male (%)	Female (%)	Total (%)
Age Group (in years)			
20 to 24	8 (5.44)	6 (11.32)	14 (7.00)
25 to 29	19 (12.92)	10 (18.87)	29 (14.50)
30 to 34	42 (28.57)	12 (22.64)	54 (27.00)
35 to 39	37 (25.17)	12 (22.64)	49 (24.50)
40 to 44	28 (19.05)	7 (13.21)	35 (17.50)
45 to 49	9 (6.12)	4 (7.55)	13 (6.50)
50 or >50	4 (2.72)	2 (3.77)	6 (3.00)
Education Status			
Illiterate	27(18.37)	35 (66.03)	62 (31.00)
Just Literate	13 (8.84)	0 (0.00)	13 (6.50)
Primary	40 (27.21)	7 (13.20)	47(28.50)
Middle	17 (11.56)	1 (1.88)	18 (9.00)
Secondary/Hr.Sec.	40 (27.21)	7(13.20)	47 (28.5)
Graduate	9 (6.12)	2 (3.77)	11 (5.00)
Post Graduate	1 (0.68)	1 (1.88)	2 (1.00)
Marital status			
Married	122 (82.99)	29 (54.72)	151 (75.5)
Unmarried	12 (8.16)	2 (3.77)	14 (7.00)
Staying alone	3 (2.04)	1 (1.89)	4 (2.00)
Widow/Widower	10 (6.80)	21 (39.62)	31 (15.5)
Socio economic Class			
Class-I	4 (2.72)	2 (3.77)	6 (3.00)
Class-II	19 (12.92)	7(13.21)	26 (13.00)
Class-III	30 (20.41)	15 (28.30)	45 (22.50)
Class-IV	56 (38.09)	17 (32.08)	73 (36.50)
Class-V	38 (25.85)	12 (22.64)	50 (25.00)
Type of family			
Joint	65 (44.22)	22 (41.51)	87 (43.50)
Nuclear	82 (55.78)	31 (58.49)	113 (56.5)
Residence			
Rural	103 (70.07)	34 (64.15)	137 (68.5)
Urban	44 (29.93)	19 (35.85)	63 (31.50)

Note: 1.None of the study individual was below 20 years of age in this study. 2. A study individual was Eunuch (Castrated male) which is included as a male in this study.

Majority of the study individuals were Hindus (91%). Muslims constituted 7.5% & 1.5% were Jains. 55% of study individuals belonged to four caste among Hindus namely Rajpoot (18.5%), Jat (18.5%), Brahmin (12.00%) & Kumhar (5.5%).

The rest 45% were from the other castes. Overall 69.00% of the study individuals were literate. Female illiterates were conspicuously more (66.03%) than that of males (18.37%) in their respective groups. Poor literacy among females is associated with high rate of infection probably because of low level of knowledge & awareness about risk factors & route of HIV transmission.

B.G. Prasad's classification of socio-economic status was used and it was found that collectively majority (84%) study individuals belonged to social classes III, IV and V. This is remarkably different from the study by Yasmeen A Khan⁴, where majority (73%) cases belonged to either I or II class of socio economic status. This can be explained on the account of the variation of source from where the study individuals have been taken.

In present study 75.50% of the study individuals were married & 15.5% widowed, 7% were unmarried & 2% staying alone. More males (82.99%) than females (54.72%) were married but among widowed individuals females were more than males. It seems that majority(81%) of females got infection from their husbands, while most (95%) of the married men may have got their infection due to sexual promiscuous behavior(multiple sexual partners) in which 84% having contact with commercial sex workers, 66% having extra marital contacts while 5% having MSM practice.

The majority (57%) of study individuals lived in families having ≤ 5 members. Six individuals were living alone because of the fact that they were seropositive for HIV and were stuck out by their families. This indicates the social stigma attached with the present infection.

More than two third (68.5%) of the study individuals were from rural areas. The spread of HIV infection to rural population mostly by temporarily migrating male population (Rajasekeran et al⁵). In this study, proportion of rural individuals was more (68.5%) because migration is more common among rural population than urban areas for occupational reasons.

As this study was conducted in SMS Medical College, Jaipur, majority (94.50%) of study individuals were from Rajasthan. These study individuals came from nearby different districts of Jaipur, Rajasthan; namely Jaipur (19.50%), Sikar (13.50%), Nagour (10.00%), Ajmer (7.5%) and Jhunjhunu (7.5%). These observations imply

that these districts represent potential Hot Spot Zones, because majority of migration occur from these districts.

Table2- Distribution of study individuals according to their Risk behavior/factors

Risk behavior	Male (%)	Female(%)	Total (%)
No. of sexual partner[#]			
Single	8 (5.44)	49 (92.45)	57 (28.50)
Multiple	139 (94.6)	4 (7.55)	143 (71.5)
Sexual contacts[@]			
CSW Contact	123 (83.7)	0 (0.00)	123
Extra-marital Contact	97 (65.99)	4 (7.55)	101
MSM/Lesbian	8 (5.44)	0 (0.00)	8
Mode of HIV Transmission			
Sexual Contacts	136 (92.5)	47 (88.68)	183 (91.5)
Blood & its products	3 (2.04)	5 (9.43)	8 (4.00)
Contaminated	6 (4.08)	1 (1.88)	7 (3.50)
Syringes & instrum.			
Other (ill defined)	2 (1.36)	0 (0.00)	2 (1.00)
Sero-status of Spouse			
Reactive	57 (38.77)	44 (83.01)	101 (50.5)
Non-reactive	34 (23.13)	6 (11.32)	40 (20.00)
Unknown	44 (29.93)	1 (1.89)	45 (22.50)
Non-applicable	12 (8.16)	2 (3.77)	14 (7.00)
Risk Factors[@]			
	Present	Absent	Total
Multiple sex partner	143 (71.5)	57 (28.50)	200(100)
STDs	130 (65)	70 (35.00)	200(100)
Smoking	106 (53)	94 (47.00)	200(100)
Frequent traveling	104 (52)	96 (48.00)	200(100)
Alcoholism	98 (49)	102 (51)	200(100)

[#]Chi-square=141.33 , d.f.=1, P=<0.001,Highly significant. [@] Multiple factors

The present occupational profile of study individuals revealed that 32% were labourers followed by farmers (12.50%) and drivers (10.00%). Rajasekeran et al⁵, reported that majority of their patients were from the farming profession, while transporters accounted for a smaller proportion. Purohit et al⁶ reported that majority of their patients were truckers. Mohanty et al⁷, reported 36.8% patients were working as manual labourers while majority (80%) of the female sero-positives were commercial sex workers. Similar study carried out by S.K. Sharma⁸, in north India in 2004 revealed that 39.6% were labourers & 10.4% cases were drivers which closely matches with present study. The variation in the percentage of occupation in different studies is due to the differences in the occupational patterns and the source from where the patients were selected. Among female study subjects two third (66.03%) were house wives which comprised 17.5% of the

total study individuals as against 22% of a study done by Heffernan G⁹. Though 1.5% of the study individuals were CSW, majority of female study individuals supposedly received HIV from their husbands, substantiating the observations made by McMohan et al¹⁰, Valleroy et al¹¹, Montgomery et al¹².

14.50% study individuals were unemployed presently. As per the past occupation, 18.00% of the study individuals used to be drivers, followed by labourers (15.00%) and marble tile workers (11.00%) belonging mainly to Neem ka Thana (Sikar district) and work mostly in Mumbai and are frequent traveler. The impact of the infection on occupation can be seen by the fact that While studying the past & present occupation it was found that many individuals who were engaged in skilled occupation turned out to be labourer or jobless after knowing their HIV infected status.

Sexual route was the most common (91.5%) mode of transmission. Heterosexual route was found in 95.62% of the sexually transmitted cases. This is in conformity with various Indian reports - Rajasakaran et al⁵, Purohit et al⁶ and Mohanty et al⁷, while Sunderam et al¹³, observed that majority of their cases were intravenous drug users (68.9%). Only 1(0.54%) male was homosexual while 7 (3.82%) males were bisexuals. Transmission by blood and blood products was 4% among which females were 9.43% and males were 2.04% whereas transmission by contaminated syringes and instruments was found 3.5%; in males 4.08% and in females 1.88%. In 1% of study individuals the mode of HIV transmission could not be established. One patient was an injecting drug user. None of the case was said to have vertical transmission as all the study individuals were > 20 years of age.

Majority (94.56%) of the males in present study had polygamous sexual contacts while only four females gave history of having sexual relations with multiple partners. This matches with Nko S et al¹⁴ where most male had extramarital sexual relations. CSW contact was found in 83.67% males, 65.99% males had extramarital contacts as against only 7.55% females. 5.44% males had sex with men. This matches with the study of Abdulrahman et al¹⁵. Sexual promiscuity (Multiple sex partners) was found to be the precipitating factor in 71.5% HIV positive individuals. History of Sexually Transmitted Diseases was found in 65% cases a similar trend

was observed by Yasmeen A Khan et al⁴, Auvert et al¹⁶, Hayes et al¹⁷ and McFarland et al¹⁸ studies.

In this study 50.50% of the study individuals had seropositive spouse while in 20.00% of study individuals the spouse were seronegative. 22.50% study individuals did not know the serostatus of their spouse while 7% were unmarried. Among seropositive spouse females were more (83%) than that of males (39%).

History of migration for work was given by 38.50% study individuals. This is supported by Magis Rodriguez et al¹⁸. Transport related job was seen in 24% of study individuals and touring job was seen in 10.50%. Collectively these three major risk factors were found in 73% of our study individuals.

In this study the most common first presenting complaint was fever, found in 58.50% individuals followed by cough (11.00%), loose motions (8.00%), skin infections (4.5%), oral candidiasis (2.5%) and herpes zoster (1.5%) in that order. In a similar study by S.K. Sharma et al⁸, HIV infected patients in north India, fever was the presenting symptom in 70.4% cases.

To conclude we can say that most of our HIV positive cases belonged to the sexually active & economically productive age group of 15-49 years, of low socioeconomic status coming from rural area and the sexual route as the predominant mode of transmission.

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