



SOCIO-DEMOGRAPHIC CHARACTERISTICS AND RISK FACTORS ASSOCIATED WITH HIV/AIDS AMONG ATTENDEES OF ART PLUS CENTRE OF HAMIDIA HOSPITAL BHOPAL (M.P)

Community Medicine

Dr. Mohan Shinde	Professor & Head, Department of Community Medicine, Gandhi Medical College, Bhopal, M.P.
Dr. Dileep Dandotiya*	Postgraduate Student, Department of Community Medicine, Gandhi Medical College, Bhopal, M.P. *Corresponding Author
Dr. Anshuli Trivedi	Assistant Professor, Department of Community Medicine, Gandhi Medical College, Bhopal, M.P.
Dr. Hemant Verma	Senior Medical Officer and Consultant, ART Plus Centre, Hamidia Hospital, Bhopal, M.P.

ABSTRACT

BACKGROUND: India has the third largest number of people living with HIV/AIDS. Heterosexual contact is the predominant mode of transmission and main risk factor of HIV.

OBJECTIVE: To assess the socio-demographic characteristics and risk factors of people living with HIV/AIDS (PLHIVs) attending ART plus centre.

MATERIAL AND METHODS: The study was carried among 250 newly diagnosed HIV/AIDS positive persons attending the ART plus centre of Hamidia hospital Bhopal India. All the patients in the age range of 18-65 years, were willing to participate were included in the study. The study was conducted from April 2017 to March 2018 and the socio-demographic parameters and associated risk factors of the HIV/ AIDS disease were studied.

RESULTS: In the study population (18 years to 65 years), 69.2% were males and 30.0% were females and 0.8% were transgender. Majority of the patient (91.6%) were in age group of (18 to 50 years). Most common occupation found among males were laborers while most of females were house wives 24.0% and 23.2% respectively. Majority of patients belonged to class IV (39.6%) and class III (30.4%) of socioeconomic status. The commonest associated systemic disease was tuberculosis found in 14% of the patients. Unprotected sexual route was the most common (73.6%) mode of transmission; and of them heterosexual route was found to be the commonest (71.6%).

CONCLUSION: Majority of patients in the study belong to low socioeconomic class. Amongst the young and productive age group the heterosexual contact was the commonest mode of HIV/AIDS transmission.

KEYWORDS

HIV, AIDS, ART Plus centre, Socio-demographic profile, Risk factors, PLHIV

INTRODUCTION:

HIV/AIDS is a multi-systemic disease affecting various systems and organs of the body, once infected; a person will be infected for life. It affects the immune system of the body and makes the victim vulnerable to life threatening opportunistic infections neurological disorders and unusual malignancies. It affects the entire demographic and economic structure of the society by affecting morbidity and mortality amongst youth and elders.

The human immunodeficiency virus infection is a global pandemic. It continues to be a burden globally and presents serious public health problems in the developing countries, like India. Globally over 36.7 million persons are living with this disease.^[1] It is the leading cause of death in the world due to infectious diseases. Despite the improved access to antiretroviral therapy (ART) and care in many regions of the world AIDS has killed millions of people every year. According to the National AIDS Control Organization the total number of people infected with HIV in India is estimated at 21.17 lakhs in 2015 with a seropositivity rate of 1.86%, as compared to 22.26 lakhs in 2007.^[2] However, the lower estimates than before does not mean a decline in the epidemic but it only points out that the epidemic is under control because of enormous effort and mobilization over the past decade. In 2015 adult HIV prevalence was estimated at 0.3% among males and at 0.22% among females.^[2] HIV/AIDS is no longer just a public health issue in India but also one of the most serious socioeconomic and developmental concerns, because nearly 86% of reported cases are occurring in sexually active and economically productive age group (15-44yrs).^[2] Deaths of young adults have an especially damaging impact on their families and communities, skills are lost, workforce shrinks and children's are orphaned. The epidemiology and clinical presentation of the disease varies greatly from country to country and from region to region in same country and even from patient to patient. Thus for planning targeted interventions, it is essential to know the socio- demographic profile and risk factors of the disease in a particular area.

MATERIAL AND METHODS: The present study was a hospital based observational cross-sectional study. The study carried out in

ART plus centre of Hamidia hospital, Bhopal. The ART plus centre is affiliated to National AIDS Control Organisation (NACO). A total of 250 newly diagnosed HIV/AIDS patients were enrolled in the study, by using opportunistic sampling technique from April 2017 to March 2018. The data was collected through face to face interview of HIV patients. The relevant data related to infection, socio-demographic profile, staging of disease, CD4 counts, duration of disease, laboratory investigation and treatment were collected from patient's treatment record card. The purpose of the study was to study the socio-demographic characteristics and risk factors associated with HIV/AIDS patients in Bhopal with specific focus on mode of transmission, risky behavior, severity of disease and patients ART status.

INCLUSION CRITERIA

All newly diagnosed patients age >18 years who will give the consent for the study.

EXCLUSION CRITERIA

- Patients who were not willing to give informed verbal consent.
- Patients who did not co-operate for proper interview and examination.

Ethical issues: Ethical clearance was obtained from the ethical committee of the institution. Informed verbal consent was obtained from the participants before administering questionnaire and confidentiality of the information provided by them was ensured.

OBSERVATION & RESULTS:

Table-1: Sociodemographic characteristics of HIV positive patients (n=250)

Sociodemographic variants	No.	%
Age		
≤ 20 years	13	5.2
21-30 years	96	38.4
31-40 years	76	30.4
41-50 years	44	17.6

>50 years	21	8.4
Sex		
Male	173	69.2
Female	75	30.0
Transgender	2	0.8
Occupation		
Laborer	60	24.0
Housewife	58	23.2
Driver	32	12.8
Farmer	25	10.0
Servicemen	24	9.6
Business	12	4.8
Student	11	4.4
Others	28	11.2
Marital status		
Unmarried	61	24.4
Married	168	67.2
Widow/widower	16	6.4
Divorced/separated	5	2.0
Type of family		
Nuclear	168	67.2
Joint	82	32.8
Habitat		
Urban	140	56.0
Rural	110	44.0

In the present study mean age of the study participants was found 34.63 (± 10.17) years and the maximum number of patients 229 (91.6%) were in the age group of 18-50 years. 21 (8.4%) patients were >50 years of age. Out of 250 patients, the male patients 173 (69.2%) outnumbered the female patients 75(30%) and intersex 2 (0.8%) patients. Male to female ratio was 2.3:1.

Also present study reveals that 27.6% of ART attendees were unemployed and 72.4% were employed. 24.0% ART attendees belonged to laborers followed by house wife (23.2%), drivers (12.8%) which included both truck drivers and auto drivers, others (11.2%) which included shopkeeper, military person, security guard, contractors, farmers (10.0%), servicemen (9.6%), business (4.8%) and student (4.4%). Among the total patients studied, 168 (67.2%) were married and living with their spouse followed by 61 (24.4%) unmarried, 16 (6.4%) widows, and 5 (2.0%) were divorced or separated. Out of total study subjects 140 (56.0%) were belonged to urban area of residence and 110 (44.0%) were from the rural area. (Table 1)

Table-2: Socio-economic status of HIV positive patients (n=250)

Socio-economic status (as per modified BG Prasad scale)		
I (Upper class)	17	6.8
II (Upper middle)	28	11.2
III (Middle class)	76	30.4
IV (Lower middle class)	99	39.6
V (Lower class)	30	12
Education		
Illiterate	81	32.4
Primary	68	27.2
Middle	31	12.4
High school	32	12.8
Higher secondary	10	4.0
Graduate & above	28	11.2

In the present study, on the basis of per capita monthly income in Indian currency (Modified BG Prasad socioeconomic classification scale 2018) socioeconomic status of the patients reveals that majority i.e. 99 (39.6%) were from class IV socioeconomic class followed by 76 (30.4%) patients belonging to class III socioeconomic class, 30 (12.0%) were from lower socioeconomic class, 28 (11.2%) patients belonged to class II socioeconomic class while 17 (6.8%) patients belonged to class I socioeconomic status. Out of 250 patients, 81 (32.4%) were illiterate while 169 (67.6%) were literate. Among literates, maximum number of patients i.e. 68 (27.2%) were educated primary school level. Only 28 (11.2%) attendees were educated college and above. (Table 2)

Table -3: Distribution of study individuals according to their Risk behavior (n=250)

Risk behavior	No .	%
No of sexual partner		
Single	72	28.8
Multiple	178	71.2
Sexual contact		
CSW contact	208	83.2
Extra-marital contact	37	14.8
MSM	5	2.0
Probable mode of HIV transmission		
Sexual contacts	179	71.6
Blood & its products	24	9.6
Contaminated syringes & instruments	30	12.0
Unknown	17	6.8
Sero-status of spouse		
Reactive	126	50.4
Non reactive	50	20.0
Unknown	57	22.8
Not applicable	17	6.8

The most common route of transmission was found to be heterosexual in 179 (71.6%) patients. Next common route was contaminated syringes & instruments in 30(12.0%) and 24 (9.6%) patients were infection through blood transfusion and unsafe injection respectively. In our study only 5 (2.0%) patient was homosexual and 17(6.8%) were unknown about the probable route of HIV transmission. In present study 50.4% of the study participants had seropositive spouse while in 20.0% of study participants the spouse were seronegative, 22.8% study participants did not know the sero-status of their spouse. (Table 3).

Table-4: Distribution of study individuals according to their Risk factors (n=250)

Risk factors	Present	Absent	Total (%)
Multiple sex partners	178 (71.2)	72 (28.8)	250 (100.0)
STI/RTIs	57 (22.8)	193 (77.2)	250 (100.0)
Smoking	72 (28.8)	178 (71.2)	250 (100.0)
Alcoholism	58 (23.2)	192 (76.8)	250 (100.0)
IDUs	30 (12.0)	220 (88.0)	250 (100.0)
Frequent travelling	79 (31.6)	171 (68.4)	250 (100.0)

Out of 250, 71.2% study participants had the history of multiple sexual partners, and 22.8% attendees were having past history of any STIs. In this study 28.8% attendees were alcoholics, 23.2% were smokers and 12.0% were intravenous drug users. Out of total study participants, only 31.6% attendees had the history of migration. (Table 4).

DISCUSSION:

In the study, 250 HIV/AIDS patients were registered during the period of one year (April 2017 to March 2018). The distribution of the patients according to the age showed that most of the patients 172 (68.8%) were in the age group of 21–40 years. The observation regarding age distribution in our study was found similar with other study conducted by M.S. Bhatia et al.^[13]. HIV/AIDS generally affects the younger age group, which is economically productive and generate a big threat to the community. A similar study was conducted at Aligarh reported the mean age of HIV/AIDS patients as 29.68 \pm 11.92 years, with 68.7% of the patients in the age group of 20–39 years.^[3] Another study reported the mean age of patients as 35.6 years and 75% of the patients were in the age bracket of 20–49 years.^[6] In present study, male participants were more affected as compared to female participants. Male predominance was also observed in study conducted by Ahmed et al.^[5] Male predominance might be because, in the existing social setup, female subjects do not seek medical care fearing social stigma and also neglect the associated sickness, which decreases the number of females to seek medical help. So, the low number of female subjects may not be the true representation of female population. Most of the patients 81(32.4%) were illiterates, followed by primary education 68 (27.2%), high school 32(12.8%), middle school 31(12.4%), graduate & above 28(11.2%) and higher secondary education 10(4.0%). This study shows 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. This was in accordance with the findings of the study conducted by Chennaveerappa et al.,^[6] where 32% of the male seropositive subjects and 45% of the female seropositive subjects were

illiterates. Majority of the patients were laborers (24.0%), housewife (23.2%), and drivers (12.8%). Majority of the patients who were laborers and driver has their living hood that require periods of stay away from the family, these appear to be the factors responsible for the drivers to be mostly affected in the epidemic. Most of the study participants (39.6%) belonged to the lower middle socioeconomic class that had a per capita income of between Rs 938 to Rs. 1875 per month. 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 laborers or jobless after knowing their HIV infected status. In our study maximum 39.6% ART attendees were belonged to lower middle class followed by middle class (30.4%), lower class (12.0%), upper middle class (11.2%) and upper class (6.8%). This finding is similar with the study conducted by B. Unnikrishnan, et. al., 2012^[7] who found that around 35% belonged to middle class 65% belonged to lower class. This finding of our study is dissimilar to findings of Rai & Verma, 2015^[8] who concluded that 51.9% has lower middle class socioeconomic status. Sexual route was the most common 184 (73.6%) mode of transmission. Heterosexual route was found in 179 (71.6%) & 5 (2.0%) homosexual route was found of the sexually transmitted cases. This finding of our study is similar with study done by Nebhinani et. al, 2011^[9], and Purohit et. al.^[10]. Transmission by blood and blood products was 24 (9.6%) whereas transmission by contaminated syringes and instruments was found 30 (12.0%). In 2% of study individuals the probable mode of HIV transmission could not be established. 30(12%) patient was an injecting drug user. None of the ART centre attendees was said to have vertical transmission as all the study participants were >18 years of age.

Majority (83.2%) of the males in present study had polygamous sexual contacts while only four females gave history of having sexual relations with multiple partners. This findings of our study was similar with study conducted by Nnko S et al.^[11] where most male had extramarital sexual relations. CSW contact was found in 83.2% males, 14.8% males or females had extramarital contacts. 2.0% males had sex with men. Sexual promiscuity (Multiple sexual partners) was found to be the precipitating factor in 71.5% HIV positive individuals. In our study 22.8% ART attendees had past history of STIs which is gateway to HIV infection and a major risk factor. This finding is dissimilar to the study done by Sangram Kishor Patel, et al. 2017^[12] which reveals that 11% of respondents were experienced any STI symptoms. In present study history of migration for work was found by 31.6% study participants. This is supported by a study done by M.S. Bhatia et. al., 2014^[13] indicated that 74% were migrants and 85% were non migrants in their study.

CONCLUSION:

In our study most of the affected study population was from low to middle socioeconomic class and reproductive age group i.e. 18-49 years which increases the economic burden and affects the overall development of the family, community and country. Laborers which were the most common occupation found to be affected acts as a link population between high risk groups to general population. Heterosexual route was the commonest mode of transmission. Marital life itself becomes a risk factor for those women who get infected by their HIV positive spouse. HIV negative spouse should be the target group for priority targeted interventions to reduce the chance of HIV transmission. This will also reduce the chances of female seropositivity as well as mother to child transmission of HIV. Higher education was found to be a protective factor for HIV in the study.

Recommendation:

Health education regarding HIV/AIDS should be included in the school level education. The early case detection and timely institution of ART could decline the systemic opportunistic infection in HIV/AIDS patients. This is a promising positive step to combat with the HIV/AIDS disease in the community.

REFERENCES:

1. AIDS Epidemic Update. WHO/UNAIDS, December 2017. Available at <http://www.unaids.org/en/HIV-data>.
2. NACO Annual Report 2016-17. Available at: <http://www.naco.gov.in/sites/default/files/NACO%20ANNUAL%20REPORT%202016-17.pdf>.
3. Zaheer MS, Rabbani MU, Zuber A, Khan T, Rewari BB, Pandey DK. Clinical and demographic profile of AIDS in and around Aligarh. J Indian Acad Clin Med 2003;4:121-6.
4. Amballi AA, Ajibola A, Ogun SA, Ogunkolo OF, Salu LO, Oritogun KS, et al. Demographic pattern and haematological profile in people living with HIV/AIDS in a university teaching hospital. Sci Res Essays 2007;2:315-8.
5. Ahmed Z, Zaheer MS, Rabbani MU, Khan T, Rewari BB, Pandey DK. Clinical and

demographic profile of patients of AIDS in and around Aligarh. J Indian Acad Clin Med 2003;4(2):121-6.

6. L A Valleroy, D MacKellar, S Behel et al. The bridge for HIV transmission to women from 15 to 29 years old men who have sex with men in 7 US cities. XV International AIDS conference Bangkok, Thailand (Abstract). July 11-16, 2004. Available at: www.iasociety.org/Abstracts/A2171571.aspx. Accessed on July 15th, 2007.
7. B. Unnikrishnan, et al., Vinita Jagannath, John T. Ramapuram, B. Achappa, and D. Madi : Study of Depression and Its Associated Factors among Women Living with HIV/AIDS in Coastal South India, International Scholarly Research Network ISRN AIDS Volume 2012, Article ID 684972, 4 pages.
8. Preeti Rai, Babu L Verma: A study on depression in people living with HIV/AIDS in South-West part of Uttar Pradesh, India, South East Asia Journal Of Public Health ISSN: 2220-9476 ISSN: 2313-531X (Online)
9. Nebhinania N, Surendra K. Mattoo, Ajay Wanchub (2011): Psychiatric morbidity in HIV-positive subjects: A study from India, Journal of Psychosomatic Research 70 449-454.
10. Purohit SD, Gupta RC, Batra VK. Pulmonary TB and HIV infection in Ajmer. Lung India. 1996; 14(3):113-20.
11. Nnko, S., Boerma, J.T., Urassa, M., et al. Secretive females or swaggering males? An assessment of the quality of sexual partnership reporting in rural Tanzania. Social Science and Medicine. 2004; 59(2): 299-310.
12. Sangram Kishor Patel, Parimi Prabhakar, Niranjan Saggurti : Factors Associated with Mental Depression among Men Who Have Sex with Men in Southern India, Health, 7, 1114-1123.
13. M.S. Bhatia, Sahil Munjal: Prevalence of Depression in People Living with HIV/AIDS Undergoing ART and Factors Associated with it, Journal of Clinical and Diagnostic Research. 2014 Oct, Vol-8(10): WC01-WC04