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Socio-Demographic & Clinical Profile of HIV/AIDS Patients in Tertiary Care Centre in A Hilly State of Northern India

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Abstract: Human immunodeficiency virus (HIV) /Acquired immune deficiency syndrome (AIDS) is a chronic infection that affects not only the patients' physical condition, but also their social relations, mental health and financial aspects. Since its start in 1981, AIDS has become a major health problem worldwide. To study the socio demographic & clinical profile of people living with HIV/AIDS visiting tertiary care centre in hilly state of Northern India. A Cross Sectional study was conducted among patients visiting ART centre IGMC Shimla having age >15years and who were on ART for > 6 months of duration. A total of 160 patients were enrolled in the study and out of which 115 (71.9%) were males. Mean age of the patients was 41.69 ± 8.86 years. Majority of the patients were having normal BMI, educated up to primary level, belonging to General category, Hindu by religion, Others (MGNREGA, Students, Unemployed, Shopkeepers & Drivers) by occupation, Married, Living with spouse, having no family history of HIV, asymptomatic, Stage II, 1-5 years of duration on ART & having sexual contact as the mode of transmission. In our study most of the participants were males, above 30 years, asymptomatic and having sexual contact as the mode of transmission
Key words: HIV, AIDS, ART, BMI.

INTRODUCTION

Human immunodeficiency virus (HIV) /Acquired immune deficiency syndrome (AIDS) is a chronic infection that affects not only the patients' physical condition, but also their social relations, mental health and financial aspects.

Since its start in 1981, AIDS has become a major health problem worldwide [1]. Since the beginning of the epidemic, more than 70 million people have been infected with the HIV virus and about 35 million people have died of HIV. Globally, 36.7 million [30.8–42.9 million] people were living with HIV at the end of 2016. The majority of them are in Sub-Saharan Africa which is estimated 25.6 million, but epidemics are emerging in Asia and Eastern Europe. About 66% of new HIV infections in 2015 occurred in sub-Saharan Africa. India has the third largest HIV epidemic in the world. In 2016, HIV prevalence in India was an estimated 0.3% [2]. In India, because of huge population (1.324 billion) compared to most other middle-income countries, around 2.1 million people are living with HIV. In the same year, an estimated 62,000 people died from AIDS-related illnesses [3].

The HIV epidemic in India is driven by heterosexual sex, which accounted for 87% of new infections in 2015. However, the epidemic is concentrated among key affected populations such as sex workers, IDU's, MSM's etc. The vulnerabilities that drive the epidemic are different in different parts of the country [4]. The three states with the highest HIV prevalence (Manipur, Mizoram, and Nagaland) are in the east of the country. Some states in the north and northeast of the country have also reported rising HIV prevalence [5]. Among key affected populations, sex workers and men who have sex with men have experienced a recent decline in HIV prevalence. Prevalence among people who inject drugs was previously stable but has been rising in recent years. Transgender people are also emerging as a group at high risk of HIV transmission, despite all four of these groups being prioritised in the Indian national AIDS response since its inception in 1992. Overall, India's HIV epidemic is slowing down, with a 32% decline in new HIV infections (80,000 in 2016), and a 54% decline in AIDS-related deaths between 2007 and 2015[6].

HIV epidemic strikes at the root of every aspect of the society involving individuals, families, sectors and institutions. It has ruined the social framework of many communities and countries, especially in the heavily affected countries. It continues to spread and affect the lives of millions of people.

Worldwide the number of new HIV infections was 2.1 million and the number of death due to AIDS related illness was 1.1million during the year of 2015. 36.7 million People globally were living with HIV while 17 million people were accessing antiretroviral therapy. It has already become the leading cause of death in non-industrialized regions especially in Sub-Saharan Africa [3].

MATERIALS AND METHODS

Study area

The present study was conducted at the Anti-retroviral therapy (ART) centre of IGMC Shimla Himachal Pradesh among people living with HIV/AIDS.

STUDY POPULATION

Patients attending out-patient department (OPD) services at the ART centre, IGMC Shimla constituted the study population. The study included people living with immune suppressed state whose age >15yrs and duration on ART >6 months, who had been presented to the OPD within the study period.

STUDY DESIGN: Cross- sectional study

SAMPLING

All the consecutive patients seeking treatment at ART centre IGMC Shimla were included for the purpose of the study.

DATA COLLECTION

Data was collected from all consecutive patients who fulfilled the inclusion criteria & attended OPD in ART center with in study period i.e. September 2016 to August 2017, only on working days from 9:30 am to 4:00 pm. In depth interviews were conducted in a separate room so that confidentiality of information, privacy and anonymity of participants was maintained.

ETHICAL CONSIDERATION

Ethical permission was taken from Institutional Ethical Committee Shimla before going ahead for the study.

Table-1: Age and gender distribution of the study participants

Age	Male	Female	Total (%)
≤ 30	8 (66.6%)	4(33.3%)	12 (7.5 %)
31-40	43((64.2%)	24(35.8%)	67(41.9 %)
41-50	49(77.8%)	14(22.2%)	63(39.4 %)
51-60	10(83.3%)	2(16.7%)	12(7.5 %)
>60	5(83.3%)	1(16.7%)	6(3.8 %)
Total	115(71.9%)	45(28.1%)	160(100%)

Table-2: Socio demographic profile of the study participants

Socio Demographic Variables	Male (%)	Female (%)	Total (%)	(χ^2)	P value
BMI Category				8.85	0.012*
Undernourished	24 (60.0%)	16 (40.0%)	40 (25.0%)		
Normal	82 (79.6%)	21 (20.4%)	103 (64.4%)		
Overweight	9 (52.9)	8 (47.1%)	17 (10.6%)		
Level of education				5.02	0.17
Illiterate	17(70.88%)	7 (29.2%)	24 (15.0%)		
Primary school	48 (66.7%)	24 (33.3%)	72 (45.0%)		
Secondary school	40 (74.1%)	14 (25.9%)	54 (33.8%)		
Tertiary	10 (100%)	0	10 (6.2%)		
Caste				1.39	0.24
General	94 (74%)	33 (26%)	127 (79.4%)		
Others	21 (63.6%)	12 (36.4%)	33 (20.6%)		
Religion				0.78	0.37
Hindu	111(72.5%)	42 (27.5%)	153 (95.6%)		
Non-Hindu	4 (57.1%)	3 (42.9%)	7 (4.4%)		

Table 3: Socio demographic profile of the study participants

Socio Demographic Variables	Male (%)	Female (%)	Total (%)	(χ^2)	P value
Occupational status				155.15	0.000*
Agricultural worker	42 (100%)	0	42 (26.3%)		
Govt. service	26 (100%)	0	26 (16.2%)		
Homemakers	0	44 (100%)	44 (27.5%)		
Others	47 (97.9%)	1 (2.2%)	48 (30.0%)		
Marital status				19.52	0.0001*
Single	9 (81.8%)	2 (18.2%)	11 (6.9%)		
Married	90 (80.4%)	22 (19.6%)	112 (70.0%)		
Divorced/ Separated/Widowed	16 (43.2%)	21(56.8%)	37 (23.1%)		
Living with				22.32	0.0000*
Living alone	8 (80%)	2 (20%)	10 (6.3%)		
Living with spouse	88 (82.2%)	19 (17.8%)	107 (66.9%)		
Living with family/relative/ without spouse	19 (44.2%)	24 (55.8%)	43 (26.9%)		
Family history of HIV				123.94	0000*
None	57 (93.4%)	4 (6.6%)	61 (38.1%)		
Wife (+ve)	56 (100%)	0	56 (35%)		
Husband (+ve)	0	40 (100%)	40 (25%)		
Parents (+ve)	2 (66.7%)	1 (33.3%)	3 (1.9%)		

Table-4: Clinical profile of the study participants

Clinical Variables	Male (%)	Female (%)	Total (%)	(χ^2)	P value
Currently ill?				1.15	0.28
Yes	9 (60%)	6 (40%)	15 (9.4%)		
No	106 (73.1%)	39 (26.9%)	145 (90.6%)		
Duration on ART				2.63	0.26
6months – 1 year	14 (58.3%)	10 (41.7%)	24 (15.0%)		
1-5 years	55 (73.3%)	20 (26.7%)	75 (46.9%)		
>5 years	46 (75.4%)	15 (24.6%)	61 (38.1%)		
Staging				4.25	0.24
Stage I (>500/mm3)	26 (61.9%)	16 (38.1%)	42 (26.3%)		
Stage II(350-99/mm3)	39 (78%)	11 (22%)	50 (31.3%)		
Stage III(200-349/mm3)	23 (67.6%)	11 (32.4%)	34 (21.2%)		
Stage IV (<200/mm3)	27 (79.4%)	7 (20.6%)	34 (21.2%)		
Mode of transmission				23.71	0.0000*
Don't know	57 (93.4%)	4 (6.6%)	61 (38.1%)		
Sexual	54 (58.1%)	39 (41.9%)	93 (58.1%)		
MTC	2 (66.7%)	1 (33.3%)	3 (1.9%)		
IDU	1 (100%)	0	1 (0.6%)		
Blood products	1 (50%)	1 (50%)	2 (1.3%)		

RESULTS

Total patients were 160 out of which 115 (71.9%) were males. Mean age of the patients was 41.69 ± 8.86 years. Majority 41.9% of the patients were in age group of 31-40 years of age followed by 39.4% which were of 41-50 years of age group. There were only 6 patients, who were more than 60 years old. (Table-1)

Out of total, 103 (64.4%) patients were of normal BMI. Majority of males were of normal BMI, general category, Hindu by religion & working as farmers or in government services while majority of females were overweight, of other category i.e. OBCs/STs/STs, minorities (i.e. Christians, Muslims, and Buddhists) by religion & home makers by occupation. 45% patients had primary level of education & 15.0% patients were illiterate. Only 6.2 % patients had tertiary level of education i.e. graduation or above & all are males none of them were female. (Table-2)

112 (70%) of the study participants were married .Majority of the males were living with their spouses & had no family history of HIV while majority of females living with their family/relative without spouses & their husbands had positive history of HIV. (Table-3)

Most of the patients were asymptomatic (currently not ill) and on ART for last 1-5 years & in stage II at the time of consultation. Majority of the females were asymptomatic and on ART for less than 1 year, in Stage I & sexual as their mode of disease transmission (Table-4).

DISCUSSION

Gender Distribution

In our study, out of the 160 patients, majority 115 (71.9%) of patients were males. This might be due to the fact that most of them worked away from their homes and indulged in unsafe sexual practices. Similarly by Imam MH *et al*.[7] (Bangladesh), Liping M *et al*.[8] (China), and Handajani et al.[9](Brazil)which also observed that males were more as compared to females. Contrary to our study, Bakiono F *et al*.[10] in Burkina Faso, West Africa noted in their study that majority 87.5% of the participants were females.

Age Distribution

Most of the patients 148 (92.5%) were more than 30 years of age. Liping *et al*.[8]in Zheijang, China and Charles *et al*.[11]in South India also observed the similar age groups in their study.

BMI Category

In our study, nearly 2/3rd (64.4%) of he patients had normal BMI (18.5-24.9Kg/m2) & 40(25.0%) patients were undernourished. Mean BMI was 21.03±3.34. However by Deshmukh *et al*.[12] Nagpur Maharashtra India, observed that 32.8% patients in their study were undernourished i.e. BMI<18.5 Kg/m2 & their mean BMI was 19.9 ± 2.9 Kg/m2.

Level of Education

In the present study, 72 (45.0%) had primary level education. So people with lower education level were not aware about the hazards of unsafe sexual practices and hence they were involved with many sexual partners other than their wives. In accordance to our study, Kumar *et al*.[13] in Karnataka also observed that 59% of patients had below high school education. However, Handajani *et al*.[9] in Brazil & Osei-Yeboah *et al*.[14]in Ghana observed in their studies that majority 56.8% patients were having high school level education and 29% were diploma holders.

Caste & Religion

In our study, most of the patients 127 (79.4%) belonged to general caste & (95.6%) were Hindus. Similarly, Sood *et al*.[15] (North India HP), Chakraborty *et al*.[16](West Bengal, Darzeeling) and Haider *et al*.[17](Eastern India, Ranchi)noted that majority of patients in their study were Hindus. Findings of our study were quite different to the study conducted by Shukla *et al*.[18] in North India, Lucknow who noted that nearly half (49.1%)of their study participants belonged to OBCs while 39.1% belonged to general category and only 11.8% belonged to SC/STs. Alemu *et al*.[19]in North West Ethiopia also observed that most of their patients (85.1 %) were orthodox religion followers.

Occupational Status

In the present study, majority of the patients, 48 (30.0%) belonged to others category by occupation which included MGNREGA (Mahatma Gandhi National Rural Employment Guarantee Act) students, unemployed, shopkeepers& drivers. This was because they lost their jobs due to the fear and stigma associated with the disease so, they had chosen to work in the fields to avoid discrimination in the work place. But Charles *et al*.[11] in South India observed that their 81.5% patients were employed while 18.5% were unemployed & Verma *et al*.[20] in North India, Jammu & Kashmir found that paramilitary personnel (including Police, CRPF and BSF) formed the major group which accounted for the 31.7% cases. 27.64% of the infected individuals were housewives while drivers formed 17.05% and labourers formed 12.94% of the patients.

MARITAL & LIVING STATUS

In the present study, majority 112 (70.0%) were married & were living with their spouse (66.9 %) &37(23.1%) patients were divorce/separated/widowed &living with family/ relative/ without spouse. This higher proportion of married persons might be due to the fact that after getting married, they have to work away from their homes for longer periods to earn their livelihood and indulge in unsafe sexual activities. The results of study conducted by Alemu *et al*.[19] (Ethiopia), Naik *et al*.[21] (North India, JK)& Chaudhary *et al*.[22] (North India, Haryana) were also in accordance with the findings of our study. They found that majority of their patients were married followed by single, divorced/widowed. Charles *et al*.[11] observed that 60% of their patients were living with their spouses or children. Alemu *et al*.[19] in North West Ethiopia observed that 48.1% of their patients were living with head of family and only 43.2% were living with their spouse

Current illness status

In our study, most of the patients 145 (90.6%) were asymptomatic and only 15 (9.4%) patients were symptomatic (currently ill) at the time of study. This was the result of free access to treatment which enhanced the proportion of persons under treatment leading to a better health status, without symptoms. Karkashadze *et al*.[23] in Georgia, Fatiregun *et al*.[24]in Nigeria & Bakiono F *et al*.[10] in Burkina faso, West Africa also noted that majority of patients were asymptomatic at the time of study which is quite similar to our study.

Mode of transmission

In our study, more than half 93 (58.1%) patients had the disease due to sexual route of transmission. 61 (38.1%) patients don't know their mode of transmission. It is likely that they were unaware of the mode of transmission because of low literacy and lack of knowledge about the different routes of transmission of HIV. Similar to our study, Bakiono F *et al*.[10] (Burkina Faso, Africa),Karkashadze *et al*.[23](Georgia), Haider *et al*.[17] (Eastern India, Ranchi) & Naik *et al*.[21](North India, Kashmir)in their studies noted that the main mode of transmission was heterosexual intercourse.

Clinical stage

In the present study, about 1/3rd of the patients 50 (31.3%) belonged to stage II and 42 (26.3%) patients belonged to stage I. Equal number of patients 34 (21.2%) were present in stage III & IV. Similarly, Liping *et al*.[8] in Zhejiang, China noted that 31.6% patients belonged to stage II. . However study conducted by Alemu *et al*.[19] in North West Ethiopia observed that 71.5% of their patients belonged to stage III and 3.1% patients belonged to stage IV. Sonani *et al*.[25]in SMIMER Surat, India found that 60.6% of their patients belonged to stage I and 18.9% patients belonged to stage II.

Duration on ART

In our study, it was observed that 75 (46.9%) of the patients were on ART since 1-5 years. 61 (38.1%) patients were on ART since for more than 5 years. Only 24 (15.0%) patients were on ART for less than a year. Mean time since initiation of ART was 4.87 ± 3.49.Similar to our study, Bakiono F *et al*.[10] in their study noted that the mean time since initiation of ART was 5.0 ± 3.1 years. Arjun *et al*.[26] in coastal South India observed that 44.1% of their patients were on ART for more than 3 years. Lopez *et al*.[27] in Cuba found that 76.5% patients were on ART for more than 5 years and were adherent to the therapy which is dissimilar to our findings.

CONCLUSION

Majority of the patients were educated up to primary level, Married, Living with spouse, having no family history of HIV, asymptomatic, Stage II & having sexual contact as the mode of transmission.

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