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A profile of patients registered at art centre Jayarogya hospital Gwalior, MP, India

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Abstract
Introduction: An approximately 36.9 million people were living with HIV globally at the end of 2014 with around 2 million new infections in 2014. In this study was arranged in order to understand the clinico-epidemiological profile of patients attending ART centre. **Methodology:** A cross sectional study was conducted at an ART center of Gajara Raja Medical College and Jayarogya Hospital Gwalior, Mp, India. The data of 500 patients who is suffered from HIV/AIDS registered at ART centre from 1st August, 2014 to 31st July, 2015. **Result:** In this study total 500 patients, 299(59.80%) were male, 197(39.40%) were female and 4(0.80%) sample are transgender. in this study Out of the total 500 patients, maximum 178 (35.6%) belonged to 30-39 years of age group. Out of the total 500 patients, 211(42.20%) were unemployed. Integrated Counseling and Testing Centers (ICTCs), ICTC emerged as being the most common agency to refer HIV-positive patients into ART (67.4%) followed by private practitioners (13.4%) and government health centers (7.6%). other entry point are self referred like DOTS, STI/RTI etc. Psychosocial support, prevention and treatment of opportunistic infections (OI) including tuberculosis, and facilitating home based care and impact mitigation. In this study was significant improvement in CD4 count, body weight after receiving the ART for an average duration 6month.
Conclusion: Building on the experience of past, this phase saw a twin drive to focus on coverage among high-risk groups like commercial sex workers (CSWs), truck drivers and IDUs as well as to make the programme multisectoral. This resulted in a strongly decentralized programme with the responsibility of implementation vested with the states as State AIDS Control Societies (SACS) were formed.
Key Words: Integrated Counseling and Testing Centers (ICTC), CSW, OI.

Introduction

The pandemic of Human Immunodeficiency Virus/Acquired Immunodeficiency Syndrome has emerged as one of the most serious threats to human health worldwide. Since the discovery of this fatal illness in 1980s, almost 75 million people have been infected with the HIV virus and about 36 million people have died of HIV according to World Health Organization. As per UNAIDS estimates, approximately 36.9 million people were living with HIV globally at the end of 2014 with around 2 million new infections in 2014. Approximately 1.2 million people died of AIDS-related illnesses worldwide in the same year. Although the burden of the epidemic continues to vary considerably between countries and regions, Sub-Saharan Africa remains most severely affected, accounting for nearly 70% of global total of new HIV infections[1]. The quantum of burden put by HIV/AIDS on the global health strategies is proven by the fact that "Combat HIV/AIDS, Malaria and other diseases" has been included as one of the Millennium Development Goals (MDG) of WHO declared in September 2000[2].

The worrisome aspect of HIV/AIDS is not limited to the disease itself, but co-infection with Tuberculosis is also one of the challenging problems in developing countries. Tuberculosis remains the leading cause of death among people living with HIV, accounting for around one in five AIDS-related deaths. In 2013, the percentage of identified HIV-positive tuberculosis patients who started or continued antiretroviral treatment reached 70% (up from 60% in 2012)[1].

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India is one of the HIV hot-spots with rapidly multiplying cases of HIV/AIDS. According to annual report of National AIDS Control Organization for 2013-14, India has the third highest number of estimated people living with HIV (PLHIV) in the world. According to the HIV Estimations 2012, the estimated number of people living with HIV/AIDS in India was 20.89 lacs, with an estimated adult (15-49 age group) HIV prevalence of 0.27% in 2011 out of which almost one-third were females. Approximately 1,40,000 deaths recorded in 2012 were due to HIV-related manifestations[3].

The state of Madhya Pradesh is one of the low-prevalence states for HIV in India with an estimated adult prevalence of 0.09% in year 2011 according to State Fact Sheet of NACO. The number of new HIV infections has been estimated as 2387 in 2011 with 3325 AIDS-related deaths[4]. District Gwalior in Madhya Pradesh is Category 'C' district with low level of HIV positivity (0.07-0.09%) according to Prevention of Parent to Child Transmission (PPTCT) and Blood Bank data in 2011 with a declining to stable trend among PPTCT attendees[5].

Methodology

This study was designed as an institution-based cross-sectional descriptive study with both quantitative and qualitative components. The study had two parts, one related to epidemiological profiling of subjects, and the other related to clinical assessment of the subjects on the basis of history and physical examination.

This study was conducted at J. A. Group of Hospitals, G. R. Medical College, Gwalior (MP). It is a tertiary care centre which provides services to population of approximately more than 16 lacs.

500 patients who attended ART centre, Gwalior for undergoing registration or for follow up during the specified study duration From 1st August, 2014 to 31st July, 2015.

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Rajpoot M *et al*   International Journal of Health and Clinical Research, 2022; 5(3):846-849
www.ijhcr.com
846

Data was entered MS Excel and analyzed using statistical software SPSS 24.0 and the result show in the form of tables. Result was declared by statistical analysis, paired t-test and p< 0.05 is significant.

Result

In this study 500 sero positive patients found in ART centre. Table shows the socio demographic profile of the study population. in this study 299 (59.80%) patients were male. in this study 35.60% patients were coming from 30 to 39 years of age group maximum female also belonging to this age group maximum male patients 103(34.45%) and female 74(37.56%). Around 160 (32.00%) patients are illiterate, approximately 133 (44.48%) Clerical/Shop-owner/Farmer, Government Health Centre was most common entry point of patients with 337(67.40%), Integrated Counselling and Testing Centers 67(13.40%) and other entry point 38(7.60%).

Table 1: Socio demographic profile

	Indicator	Male (%)	Female (%)	Transgender (%)	Total (%)
Age group (In Years) (sample=500)	LESS THAN 15	19(6.35)	13(6.60)	0.00	32(6.40)
	15-29	66(22.07)	60(30.46)	2(50)	128(25.60)
	30-39	103(34.45)	74(37.56)	1(25)	178(35.60)
	40-49	74(24.75)	37(18.78)	1(25)	112(22.40)
	ABOVE 50	37(12.37)	13(6.60)	0.00	50(10)
Educational status (sample=500)	Illiterate	68(22.74)	92(46.70)	0	160(32.00)
	Up to primary school	74(24.75)	39(19.80)	1(25)	114(22.80)
	Up to middle school	49(16.39)	31(15.74)	1(25)	81(16.20)
	Up to high school	41(13.71)	14(7.11)	0	56(11.20)
	Up to intermediate	43(14.38)	10(5.08)	1(25)	54(10.80)
	Up to graduate / postgraduate	23(7.69)	11(5.58)	1(25)	34(6.80)
	Up to professional	1(0.33)	0	0	1.33(0.27)
Employment Status	Professional	4(1.34)	2(1.02)	0(00)	6(1.2)
	Semi-professional	12(4.01)	0(00)	0(00)	12(2.4)
	Clerical/Shop-owner/Farmer	133(44.48)	22(11.17)	0(00)	155(31)
	Skilled worker	55(18.39)	2(1.02)	0(00)	57(11.4)
	Semi-skilled worker	38(12.71)	5(1.52)	0(00)	41(8.2)
	Unskilled worker	13(4.35)	4(2.03)	1(25)	18(3.6)
	Unemployed	44(14.72)	164(83.25)	3(75)	211(42.2)
Marital Status	Unmarried	77(25.75)	17(8.63)	2(50)	96.00
	Married	187(62.54)	133(67.51)	0.00	320.00
	Divorced	0.00	0.00	0.00	0.00
	Widowed	1(0.33)	3(1.52)	1(25)	5.00
	Separated	34(11.37)	44(22.34)	1(25)	79.00

Table 2:- Point of entry in to art

Entry Point	Male (%)	Female (%)	Transgender (%)	Total (%)
ICTC	48(16.05)	19(.64)	0.00	67(13.40)
Private Practitioner	22(7.36)	16(8.12)	0.00	38(7.60)
Government Health Centre	196(65.55)	138(70.05)	3(75)	337(67.40)
PPTCT Centres	5(1.67)	1(0.51)	0.00	6(1.20)
DOTS/RNTCP Centers	3(1)	7(3.55)	0.00	10(2.00)
NGO	0.00	2(1.02)	0.00	2(0.40)
STI/RTI Clinic	0.00	0.00	1(25)	1(0.20)
Self-referred	0.00	1(0.51)	0.00	1(0.20)
Others	25(8.36)	13(6.60)	0.00	38(7.60)

Table3: Condition of PTS at time of presentation

	Male (%)	Female (%)	Transgender (%)	Total (%)
Working	250(83.61%)	174(88.32%)	4(100%)	425(85.17%)
Ambulatory	32(10.70%)	19(9.64%)	0	51(10.22%)
Bedridden	17(5.69%)	4(2.03%)	0	21(4.21%)

Table 4: Stage of HIV disease in patient at time of presentation

	Male (%)	Female (%)	Transgender (%)	Total (%)
Stage 1	120(40.13%)	122(61.93%)	4(100%)	246(49.30%)
Stage 2	69(23.08%)	31(15.74%)	0	100(20.04%)
Stage 3	74(24.75%)	35(17.77%)	0	109(21.84%)

Clinical profile of patients

The sero-positive patients revealed by table3 that 85.17% patients were working, 10.22% patients were ambulatory and 4.21% patients were bedridden. At the time of registration, 49.30% patients were in stage 1 and 18.9% patients were in stage 2 and 21.84% patients were in stage 3

Rajpoot M *et al*   International Journal of Health and Clinical Research, 2022; 5(3):846-849
www.ijhcr.com
847

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Table 5: In association with presence of opportunistic infections

Mean CD4 Cell Count of Study Sample	CD4 Cell Count in Patients with Opportunistic Infections	CD4 Cell Count in Patients without Opportunistic Infections	P-value
233.95 (±162.71) cells/µl	198.00 (±157.53) cells/µl	266.86 (±160.69) cells/µl	p<0.01

The mean CD4 cell count of the study sample was 233.95 (±162.71) cells/µl (ranging from 9.00 to 942.00 cells/µl). On further observation, the mean CD4 count for patients with opportunistic infections was 198.00 (±157.53) cells/µl while in absence of opportunistic infections, it was 266.86 (±160.69) cells/µl. On applying 't' test for comparison of means on these values, there was found to be a highly significant association ($p<0.01$) between the mean CD4 cell count of the patient and presence of opportunistic infection.

Discussion
According to the present study, maximum (35.6%) patients belonged to 30-39 years of age group. This was followed by 15-29 years age group (25.6%), 40-49 years age group (22.4%), >50 years age group (10.0%) and <15 years age group (6.4%). Total 83.6% patients belonged to the sexually active age group of 15-49 years. This observation emphasizes the need for focus of CST services for PLHIV and preventive services for general population to be centered on the adolescent and youth to halt and reverse the epidemic as well as to prolong the life-span of HIV-positive individuals.

The observations regarding age distribution in our study are consistent with other similar studies done in different states in India by Mallick et al[6], Chakravarty et al[7], Joge et al[9], Parvez et al[10], Ulhannan et al[11], Jha et al[12], Deshmukh et al[13], Modi et al[15], Toshniwal et al[16] and Unnikrishnan et al[17]as sexually active population was the major contributor to HIV-positive patients according to these studies as well.

Out of the total 500 patients, 32% were illiterate. The proportion of patients was in decreasing trend with increasingly higher educational qualification. Only 18% patients were having intermediate or college degrees. Therefore the observations indicate that the approach of HIV preventive and CST services should be directed towards the illiterate and lesser educated strata of population. Also, this is another indirect statement of importance of education in prevention of HIV spread.

Our findings are consistent with the observations of Joge et al[9], Ulhannan et al[11] and Jha et al[12] who all reported that more than half of their patients were literate. Also Deshpande et al[14] also reported in their study similar to the present study that most patients had a low level of educational qualification.

Out of 500 patients, 42.2% were unemployed followed by clerks/shop-owners/farmers(31%), skilled workers(11.4%), semi-skilled workers(8.2%), unskilled workers(3.6%), semi-professionals(2.4%) and professionals(1.2%). These observations reflect that the lack of rehabilitation and social stigma towards PLHIV prevents them from finding suitable employment. Also, the middle class is emerging as the new high-prevalence group for HIV/AIDS.

These findings are consistent with the observations of Ibrahim et al[8] and Jha et al[12] who also reported that the largest group of patients in their studies in terms of occupation was unemployed.

Out of 500 patients, mostly patients entered into ART through ICTC (67.4%) followed by private practitioners (13.4%), government health centers (7.6%) and health facilities not specified (7.6%).The total contribution of PPTCT centers, DOTS/RNTCP centers, NGOs and RTI/STI clinics into ART was only 3.8% in our study. Sadly, only 1 patient out of 500 self-referred himself to ART centre to seek treatment.

These figures reinforce the need for better co-ordination among the various agencies involved in HIV/AIDS prevention as well as for the upscaling of public awareness regarding availability of treatment of HIV/AIDS.

Conclusion
Maximum HIV-positive patients (35.6%) belonged to 30-39 years age group. Overall, 83.6% patients were from reproductively active age group (15-49 years). The number of males was approximately one-and-half times greater than number of females in the study group (59.8% males compared to 39.4% females). The pattern of HIV prevalence in India is highly variable in different regions and states. Due to prevailing social stigmata, economic problems, poor awareness & lack of facilities for diagnosis, the incidence of HIV infection is highly underreported from many areas. Factors contributing to HIV spread in India are poor literacy, gender inequality, endemic poverty, civil instability, internal migration due to unemployment, lack of health services and awareness, untreated STIs and intravenous drug abuse among others. In order to implement the desired interventions, the epidemiology of HIV/AIDS is to be understood, especially with regard to various socio-demographic factors, level of awareness and pattern of high-risk behavior of the population. Till date, the most effective approach available to stem the spread of HIV is awareness generation and lifestyle change.

Recommendations
On the basis of above observations in the present study, following recommendations can be suggested to improve the existing HIV/AIDS prevention and care strategies:

- To keep the focus of CST services for PLHIV and preventive services for general population on the adolescent and youth to halt and reverse the epidemic as well as to prolong the life-span of HIV-positive individuals. For this, schools and colleges need to have workshops and programmes oriented towards safe sex practices in later life.
- Linking of HIV/AIDS control programmes with women empowerment strategies for better outreach due to the ignorance and stigma in female population in the Indian scenario.

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