

**Clinical and demographic profile of HIV/AIDS patients diagnosed at a tertiary care centre in Kashmir**

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**Abstract**

**Objectives:** To study the clinical and demographic profile of HIV/AIDS patients diagnosed at a tertiary care centre.

**Methods:** The study was conducted on a group of 1141 patients suspected of having HIV/AIDS on clinical grounds. Screening was done using different Elisa's as advised by NACO and those confirmed as HIV positive were studied for their clinical spectrum and different demographic parameters.

**Results:** Out of 1141 patients tested, 26 proved to have HIV 1 infection with no case of HIV 2 detected. Mean age of presentation was  $40.04 \pm 7$  years, main age group affected 31-40 years and a male: female ratio of 4.2:1 was observed. More than 42% were non Kashmiris with armed forces outnumbering all other occupational classes. Heterosexual transmission was the commonest with married outnumbering unmarried. Fever, asthenia and weight loss were the predominant symptoms and pulmonary tuberculosis and oropharyngeal candidiasis commonest opportunistic infections.

**Conclusion:** The clinical and demographic profile of HIV/AIDS patients in Kashmir is largely similar to the rest of India. Kashmir no longer stands immune to the menace of HIV/AIDS. With increasing globalization, frequent travel and change in social values the state is likely to witness an alarming rise in new cases unless a multipronged approach is undertaken to control the spread (JPMA 60:428; 2010).

**Introduction**

AIDS (acquired immunodeficiency syndrome) was first recognized in the United States in the summer of 1981, when the U.S. Centers for Disease Control and Prevention reported the unexplained occurrence of Pneumocystis jiroveci pneumonia and or Kaposi's sarcoma in healthy homosexual men in New York and Los Angeles. Within months, the disease became recognized in injection drug users (IDUs), in

recipients of blood transfusions and in haemophiliacs. As the epidemiologic pattern of the disease unfolded, it became clear that an infectious agent transmissible by sexual (homosexual and heterosexual) contact and blood or blood products was the most likely etiologic cause of the epidemic. In 1983, human immunodeficiency virus (HIV) was isolated from a patient with lymphadenopathy, and by 1984 it was demonstrated clearly to be the causative agent of AIDS.<sup>1</sup>

HIV infection/AIDS is a global pandemic, with cases reported from virtually every country. At the end of 2007, 33.2 million individuals were living with HIV infection (range: 30.6-36.1 million) according to joint United Nations programme on HIV/AIDS (UNAIDS). More than 95% of people living with HIV/AIDS reside in low and middle income countries, ~ 50% are female, and 2.5 million are children < 15 years.<sup>2</sup> In India HIV was first detected in commercial sex workers (CSW's) in Tamil Nadu in 1986 and since then, the infection is growing quite fast. The 2006 estimates suggest national adult HIV prevalence in India is approximately 0.36 percent, amounting to between 2 and 3.1 million people, almost half of the previous estimate. Nationally, the prevalence rate for adult females is 0.29 percent, while for males it is 0.43 percent. Prevalence is also high in the 15-49 age group (88.7 percent of all infections), indicating that AIDS still threatens the cream of the society, those in the prime of their working life. While adult HIV prevalence among the general population is 0.36 percent, high-risk groups, inevitably, show higher numbers. Among Injecting Drug Users (IDUs), it is as high as 8.71 percent, while it is 5.69 percent and 5.38 percent among men who have sex with men (MSM) and female sex workers (FSWs), respectively.<sup>3</sup>

The clinical and demographic profile of HIV/AIDS differs considerably through different regions of the world depending upon sexual practices, injection drug use, customs /beliefs, quality of health services and a host of other factors. Though numerous clinical/demographic studies have been carried out from across India, no such study has been ever undertaken in Kashmir valley till date. The present work aimed to study the clinical and demographic profile of HIV/AIDS patients in Kashmir is unique in its own place, as it reflects the scenario of a region that is vastly different from the rest of India with regards to its religion, social values, customs, beliefs and more so is witnessing decades of armed conflict. The study becomes even more enlightening particularly in the face of latest prevalence figures of 0.0% for Kashmir valley released by NACO.

### **Patients and methods**

This study was a hospital based prospective observational study carried out for a period of three years between April 2004 to April 2007 at a 600 bedded multispecialty tertiary care centre catering to a population of more than 40 lacs. The study was approved by the hospital ethics committee and all the participants had given informed consent. During this period, 1141 patients were enrolled for the study. The participants included, satisfied one or more of the following conditions:-

1. Sought voluntary HIV testing with or without

symptoms.

2. Were suspected of having HIV/AIDS on clinical ground such as unexplained fever, weight loss, persistent diarrhoea and/or an AIDS defining illness.

3. Were involved in high risk behaviour like extramarital sex, multiple sexual partners and injection drug abuse.

All the enrolled participants were screened for differential detection of HIV 1 and HIV 2 antibodies using a highly sensitive, visual and rapid immunoassay (HIV TRIDOT manufactured by J. MITRA and Co. Ltd. New Delhi, India). Patients testing positive in the initial screening test for either HIV 1 or HIV 2 were subjected to two different confirmatory ELISA tests using two different types of antigens, as recommended by the NACO (Enzaids HIV 1 and 2 ELISA test kits manufactured by Span Diagnostics, Surat, India). Patients testing positive in the screening test as well as the two different Elisa's were confirmed as HIV infected.<sup>4</sup> This group of confirmed HIV positive patients was studied for their demographic profile including age, sex, background, education level, occupation, religion, marital status, sexual history and history of travel outside Kashmir. Clinical spectrum including symptoms and signs, opportunistic infections and CD4 count at initial presentation was studied. All patient information was kept highly confidential.

CD4 counts were done by FACS generated report using B.D Tri test antibodies and True count, tubes (CD3, CD4, CD8) with three colour staining procedure following lyse no wash protocol. Opportunistic infections like Tuberculosis were diagnosed by using a combination of imaging, Ziehl-Neelsen staining and conventional Mycobacterial cultures. Cryptococcal meningitis was ruled out by using CSF for India ink and fungal culture. All sera were screened for Syphilis, Hepatitis B and toxoplasmosis. Other relevant investigations including CT head, CSF examination, complete blood counts, kidney function and liver function tests were done as and when dictated by clinical presentation of the patient.

Symptomatic and asymptomatic HIV infected patients with a CD4 count < 350/ $\mu$ l were put on HAART as recommended.<sup>1</sup>

### **Results**

Out of a total of 1141 patients tested for HIV 1 and/or HIV 2 infection, 26 proved to be seropositive for HIV 1, with no case of HIV 2 detected. The mean age of presentation was  $40.04 \pm 7.1$  years and the main age group affected, 31-40 years. The overall male: female ratio was 4.2:1. Almost half of HIV infected patients (42.3%) were non Kashmiris serving as security forces in different parts of

**Table-1: Demographic profile of HIV/AIDS patients.**

		Male n=21	Female n=5	Total n=26
Age (Years)	21 - 30	1	1	2
	31 - 40	13	2	15
	41 - 50	6	1	7
	>50	1	1	2
Dwelling	Rural	15	3	18
	Urban	6	2	8
Religion	Muslim	10	5	15
	Hindu	7	0	7
	Sikh	4	0	4
Marital status	Married	20	4	24
	Unmarried	1	1	2
Education	Illiterate	3	3	6
	Primary	8	1	9
	Secondary	10	0	10
Occupation	Graduate	0	1	1
	Farmer	3	0	3
	Labourer	2	0	2
	Govt employee	1	1	2
	Armed forces	12	0	12
Residence	Business	2	0	2
	House wife	-	4	4
	Driver	1	0	1
Residence	Kashmiri	10	5	15
	Non -Kashmiri	11	0	11

**Table-2: Sexual history.**

		Male n=21	Female n=5	Total n=26
Sexual behaviour	Heterosexual	21	5	26
	Never used	21	5	26
Condom	Yes	18	0	18
	No	3	5	8
Travel outside Kashmir	Yes	17	0	17
	No	4	5	9
Contact outside Kashmir	Yes	16	0	16
	No	4	4	8

**Table-3: Symptomatology.**

Symptoms	Male n=21	Female n=5	Total n=26
Fever	15	2	17
Weight loss	11	2	13
Cough	8	2	10
Blurring of vision	3	0	3
Lymphadenopathy	4	0	4
Diarrhoea	10	1	11
Altered sensorium	3	1	4
Neurodeficit	5	2	7
Asthenia	15	0	15
Asymptomatic	0	3	3

**Table-4: Opportunistic infections.**

Infections	Male n=21	Female n=5	Total n=26
Tuberculosis	7	1	8
Candidiasis	7	1	8
Herpes zoster	2	0	2
Cryptococcal meningitis	2	0	2
CNS Toxoplasmosis	1	0	1
No opportunistic infect.	2	3	5

**Table-5: CD4 count at presentation.**

CD4 count	Male n=21	Female n=5	Total n=26
<50	4	2	6
51 - 100	4	0	4
101 - 150	5	0	5
151 - 200	2	0	2
201 - 250	3	0	3
251 - 300	3	0	3
>350	0	3	3

the valley, by far comprising the largest occupational group affected (Table-1). All patients were heterosexuals and 17 had history of contact out side the valley (Table-2). Fever was the predominant symptom (65%) followed by asthenia (57%) and weight loss (50%) (Table-3). Pulmonary tuberculosis and oropharyngeal candidiasis were the commonest opportunistic infections documented, 30.8% each (Table-4). Two patients were co infected with Hepatitis B. CD4 count at presentation was <50/ $\mu$ l in 23% and >350/ $\mu$ l in 11.5% of patients (Table-5). During the course of study, 4 patients expired.

## Discussion

Though there have been no large scale screening programmes or studies carried out in Kashmir for estimating the actual burden of the problem; NACO in its latest surveillance, reports 0.00% prevalence of HIV across different groups in Kashmir valley. According to the survey HIV prevalence is 0.58% and 2.94% in STD clinic attendees in Rajauri and Kathua districts respectively while as in the Jammu district it is 0.50% in the ANC attendees and 2.50% in IDUs.<sup>3</sup> The present study confined to patients seeking advice at a tertiary care hospital, tested a total of 1141 patients, 26 of whom were eventually diagnosed to have HIV/AIDS. The mean age of presentation was 40.04  $\pm$  7.1 years and main age group affected was between 31.40 years with a male to female ratio of 4.2:1. This is consistent with other studies reported from India and abroad, as AIDS is predominantly a disease of the sexually active age group.<sup>5,6</sup>

A major portion [42.3%] of HIV infected patients

was from outside Kashmir and all of them belonged to security forces, an important factor in the recent surge in HIV incidence in the valley. The commonest mode of transmission was heterosexual (84.6%) followed by unspecified causes, as heterosexual transmission remains the commonest mode since other sexual practices being very uncommon in this part of the world.<sup>7</sup> Four females seemed to have acquired infection from their infected husbands. More than 66% had extramarital relations and greater than 65% history of contact outside state. These could be important factors in the spread of HIV infection in our valley. There was however no case of transmission that could be attributed to blood transfusion or IV drug abuse, contrary to several studies reported from other parts of India and abroad.<sup>8,9</sup>

Fever, asthenia, weight loss and diarrhoea were the most common symptoms in our patients consistent with studies reported in literature.<sup>10</sup> Majority of patients had an opportunistic infection at presentation with pulmonary tuberculosis by *Mycobacterium tuberculosis* and oropharyngeal candidiasis by *Candida albicans* being the commonest followed by herpes zoster and cryptococcal meningitis. One patient was documented to have CNS toxoplasmosis. We had no patient diagnosed with *Mycobacterium avium* complex (MAC) infection or *Pneumocystis jirovecii*, common opportunistic infections in the west.<sup>11</sup> However our findings are consistent with many studies reported from the rest of India.<sup>12</sup>

Majority of our patients (88.4%) presented with an initial CD4 count of less than 300/ $\mu$ l consistent with many studies reported from India and the rest of the world.<sup>13</sup> This could be attributed to late presentation primarily due to patient ignorance and lack of suspicion at primary health care level.

While 4 patients died soon after being diagnosed, 19 were put on HAART. However 11 were lost to follow up who being security personnel got transferred to other parts of India. The remaining 8 patients on HAART who were on regular follow up during this period, not only improved their CD4 count but also showed marked clinical improvement.

The clinical and demographic profile of HIV/AIDS patients of Kashmir by and large matches other parts of India, however much larger studies are needed to find out newer dimensions. Kashmir no longer stands as a low risk area because of the inflow of thousands of armed forces and labourers coming from different regions and diverse

backgrounds and increasing movement of Kashmiris to other high risk areas of India with indulgence in high risk behaviour. Kashmir, a geographically and socially isolated region a decade earlier, is rapidly joining the race of globalization with the rest of the world and as a consequence not only harvesting the benefits but unfortunately paying the price too. HIV/AIDS remains no longer an alien to this land with people being increasingly detected HIV positive. Kashmir is likely to witness an alarming rise in HIV/AIDS in the near future as our study represents just the tip of an iceberg. Masses need to be aware, clinicians more suspicious and authorities more determined if HIV/AIDS spread is to be effectively controlled.

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