

# DEMOGRAPHIC PROFILE OF HIV-POSITIVE PATIENTS REGISTERED AT ANTIRETROVIRAL THERAPY CENTRE HAYATABAD MEDICAL COMPLEX, PESHAWAR

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## ABSTRACT

**OBJECTIVE:** To study the demographic characteristics of human immunodeficiency virus (HIV) positive patients registered/diagnosed at Anti Retroviral Therapy (ART) center Hayat Abad Medical complex (HMC) Peshawar.

**METHODOLOGY:** This hospital based descriptive study was conducted on all HIV-positive patients who were either registered or diagnosed from January 2006 to June 2011, at ART center HMC in Peshawar Pakistan. Demographic profile was recorded in terms of age, gender, education, occupation, area of residence and history of travel abroad. Data were presented as tables and were analyzed by SPSS version 10 with descriptive statistics.

**RESULTS:** Out of 715 registered patients during the study period, 529 (74%) were males and 186 (26%) were females, with male to female ratio of 3:1. Mean age of the patients was  $37.9 \pm 9.5$  years, 680 (95.1%) were adults and 35 (4.9%) were children. Most of the (n=486, 64%) patients were uneducated and 480 (67%) patients were unemployed. Level of education had a strong negative correlation with HIV status ( $r = -0.867$ ), i.e. with increase in years of education the number of HIV patients decreased. Out of 715 patients, 442 patients (62%) were residents of Khyber Pukhunkhwa and 183 (25.5%) patients belonged to federally administered tribal areas. About half of the patients (n=350; 49%) had history of working abroad.

**CONCLUSION:** HIV infection was more in young age male and in residents of KPK. Poverty, unemployment, lack of education and frequent traveling abroad were frequently observed in HIV patients.

**KEY WORDS:** HIV, Demographic Profile, unemployment, lack of education, work abroad.

**THIS ARTICLE MAY BE CITED AS:** Khan Y, Ali S, Zeeshan M, Khan Z. Demographic Profile of HIV-Positive Patients Registered at Antiretroviral Therapy Centre Hayatabad Medical Complex, Peshawar. *Khyber Med Univ J* 2013;5(3): 152-155.

## INTRODUCTION

The human immunodeficiency virus (HIV) is now a global issue. Acquired

immuno-deficiency syndrome (AIDS) was once thought to be a disease of western countries but unfortunately

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Date Submitted: June 24, 2013

Date Revised: September 10, 2013

Date Accepted: September 12, 2013

this dreadful disease has becoming more prevalent in our country as well. Pakistan is passing through hidden epidemic which is fueled by migrant workers, injection drug users and commercial sex workers. AIDS was first recognized in 1981<sup>1</sup>. Currently, more than 40 million people worldwide are infected with HIV/AIDS & more than 3.1 million AIDS-related deaths occur worldwide each year<sup>2</sup>. HIV infection has now spread to every country in the world. In fact HIV is no longer a health issue but has become a security threat as millions of people are at the verge of extinction. Around 90% of AIDS victims are living in developing countries where incidence is increasing by poverty, hunger, lack of medical facilities, illiteracy and underdevelopment.<sup>3</sup> Southern Africa is the most affected region in the world, as this region includes a number of middle and lower middle income nations.<sup>4</sup> The clinical and demographic profile of HIV/AIDS differs considerably through different parts of the world depending upon sexual practices, injection drug use, customs/beliefs, quality of health services and host of other factors in that country.

Despite the increasing prevalence of HIV in Pakistan, there is scarce knowledge about the spectrum of HIV-related diseases in the country. Pakistan is following Asian epidemic model as United Nations program on HIV and AIDS (UNAIDS) estimates around 80,000 HIV cases and multiple pockets being found among high risk groups throughout Pakistan<sup>5</sup>. The first case of AIDS infection in Pakistan was reported in 1987 in Lahore<sup>6</sup>. Pakistan presently has a HIV/AIDS prevalence of 0.1% - equivalent to an es-

estimated 80,000 HIV-positive adults<sup>7</sup>. HIV has been reported in all four provinces of Pakistan. Several socioeconomic conditions favorable to the spread of HIV exist in Pakistan, including poverty, low levels of education, residence in endemic areas and high unemployment, which lead to increased exposure to the disease via migration to higher prevalence countries as was found in people living abroad for at least six months<sup>8</sup>.

There has not been large scale screening programme or studies carried out in Khyber Pakhunkhwa (KPK) province of Pakistan, for estimating the actual burden of the problem. This is the first ever study on demographic features of HIV-infected individuals in this province, which lies at the border of FATA Afghanistan. The study was planned to study the demographic characteristics of HIV positive patients registered/diagnosed at anti retroviral therapy (ART) center Hayat Abad medical complex (HMC), Peshawar, Pakistan.

**METHODOLOGY**

This is a hospital based descriptive study carried out over a period of 5

years from January 2006 to June 2011 at anti retroviral therapy (ART) center HMC, Peshawar. This is the main center of KPK in Peshawar which provides counseling, care & support, rapid testing and highly active anti retroviral treatment (HAART) to AIDS patients of the whole province including federally administered tribal areas (FATA) and patients from Afghanistan and other areas. Patients are referred from all teaching hospitals, NGOs, private clinics; Provincial aids control program and sexually transmitted disease (STD) clinics.

All HIV patients diagnosed by ELISA and confirmed by western blot were included in this study irrespective of age, gender, education, occupation, area of residence. For travel abroad those patients who gave history of minimum six months of stay in abroad were included. While those patients who were HIV positive only on immune-chromatography technique were excluded from the study.

Detailed history and clinical examination was performed. Informed consent was taken and confidentiality of personal information was ensured. Demographic profile including age, gender, educa-

tional background, occupation, area of residence and history of travel abroad were asked and collected in a specially designed Performa. Data was analyzed through SPSS version 10. The percentages, frequency distribution, cumulative frequency distribution, means, standard deviation (SD) and correlation coefficient ( $\gamma$ ) were calculated.

**RESULTS**

A total of 715 patients were registered/ diagnosed during the study period which included 508 (71.04%) males and 172 (24.05%) females. Out of 715 patients, 680 (95.1%) were adults and 35 (4.9%) were children. Mean age of the patients was  $37.9 \pm 9.5$  years (Figure.1). The data is distributed normally over age which shows the validity of data. The estimated rho (r) was -0.867 for correlation between HIV and level of education, showing both variables have strong negative correlation i.e. with increase in years of education the number of HIV patients decreased. Highest number of cases (n=486, 68%) were illiterate (Table 1). Regarding occupation, 480 (67%) patients were unemployed, 209 (29%) had monthly income less than

**TABLE I: LEVEL OF EDUCATION (n=715)**

Years of education	Male	Female	Children	Total (n=715)	Percentage
16	01	00	00	01	0.13%
14	15	01	00	16	2%
12	21	07	00	28	4%
10	68	02	00	70	10%
8	33	01	00	34	4.7%
5	73	05	02	80	11.17%
Nil	297	156	33	486	68%

**TABLE II: AREA OF RESIDENCE (n=715)**

Area	Male	Female	Children	Total
Khyber Pakhunkhwa	333(66%)	98(57%)	14(2%)	445(62%)
FATA#	116(23%)	50(29%)	17(2%)	183(25.5%)
Others	59(12%)	24(14%)	4(6%)	87(12%)
Total	508(%)	172(%)	35(%)	715(100%)

#: Federally Administered Tribal Area

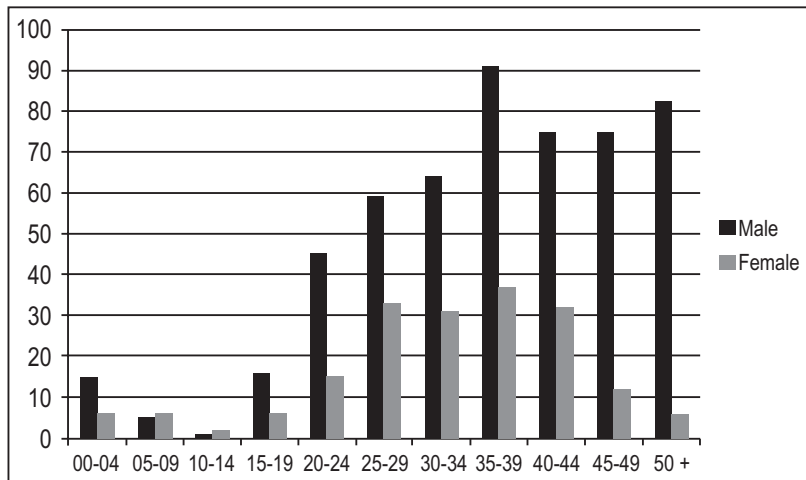


Fig 1: Histogram showing age and gender distribution (n=715)

8000 rupee, while only 26 (4%) had monthly income of more than 8000 rupee. It was found that 445 patients (62%) were residents of KPK, 183 patients (25.5%) were from Federally Administered Tribal Areas (FATA), and 87 patients (12%) belong to other areas (Table II). Out of 715 patients, 350 (48.95%) of patients had history of working abroad and out of these 350 patients, 348 (99.4%) were males and 2(0.6%) were females.

## DISCUSSION

Pakistan is defined as a low prevalence, high risk country for the spread of HIV infection, as it is situated between HIV high risk countries like India on the east, China in the north, and Afghanistan on the west. In 2003, the global surveillance of AIDS and sexually transmitted infections (STI), a joint effort of WHO and UNAIDS with federal government of Pakistan estimated 0.1% general population prevalence of HIV with age range of 15-49 years and male to female ratio of 42:6<sup>3</sup>. In our study, the mean age was 37.9+9.5 years with male to female ratio of 3:1 which is consistent with other studies from abroad showing AIDS is a disease of young, sexually active males. A study from Bangladesh, adolescents also showed HIV seen in adolescent age mostly<sup>9</sup>. Regarding gender distribution, another study from northern Baluchistan

about prevalence of HIV infection in a healthy population reported that out of 35 positive HIV patients 97% were males and 3% females<sup>10</sup>. This could be due to the fact that in Pakistan, like many other Asian countries, very strict codes of pre-marital conducts are applied to women but sexual activity in young men, while not approved is viewed with a degree of tolerance<sup>11</sup>.

Vast majority of world's youth is unaware of modes of transmission of HIV. Level of education is an important factor as was found in a study in post graduate degree college in Rahim Yar Khan where knowledge about HIV was better in students of 13th and 14th year of education as compared to students with 11th and 12th years of education<sup>12</sup>. In our study, highest number of cases was seen in uneducated and as their level of education increased, frequency of HIV decreased and only a single case of HIV was seen with 16 years of education. Despite similar access to HAART, persons with low educational level are at increase risk of disease progression as persons with higher education had 32% lower risk of death<sup>13</sup>.

There is strong association between poverty, unemployment and HIV and its complications like more cases of anemia in AIDS patients was reported in poor

and jobless patients in a study from Argentina<sup>4</sup>. Poverty leads to more cases of sex workers and more cases of HIV. In our study 480 patients (67%) were unemployed while 29% had monthly income less than 8000 rupees, only 4% had monthly income of more than 8000 rupees. In a study on demographic profile of HIV in India, patients from lower socio economic class outnumbered the patients from middle and higher socio-economic class<sup>14</sup>.

Area of residence and education were also found important in another study from peripheral areas of Multan where knowledge about modes of transmission was lower in the rural and uneducated community<sup>15</sup>. In our study highest prevalence was found in KPK with 445 cases (62%) than FATA with 183 cases (25.5%), this may be due to lack of tertiary care hospitals and referral clinics in FATA.

A large number of Pakistanis especially poor manual workers are working abroad and many of them remain away from their homes and families for years. It has been estimated that 55% of migrant men had sexual experience and 36% of married men reported premarital sex, with a very few using condom<sup>16</sup>. History of foreign travel was seen in 13.5% patients in another study on demographic profile in Karachi and hence was an important risk factor<sup>17</sup>.

Despite all these facts, our society has as yet not accepted HIV/AIDS as major illness prevailing in our country. HIV is considered stigmatizing and discriminating disease. Many patients who are tested positive don't go for further management due to embarrassment and may not come in the record causing limitation in the studies. Awareness and education about HIV/AIDS in general is extremely important as education is the only vaccine available for controlling HIV/AIDS<sup>12</sup>.

## CONCLUSION

The demographic profile of HIV positive patients in KPK, by and large matches other parts of country with pre-dominance of disease in migrant workers. It is a high risk area because of inflow of Afghan refugees, easy availability of multiple substances used by intravenous drug users and increasing movements of the people across the country and abroad for employment. Frequency of HIV positive patients is highest in young males, uneducated, unemployed people and those who worked abroad. It is more in KPK than in Fata. HIV remains no longer an alien to this province with increasing number of people being tested positive. This study shows that the province is likely to witness an alarming rise in new cases. General public needs to be aware, clinician more suspicious and govt authorities more determined if spread of the disease is to be controlled.

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## AUTHOR'S CONTRIBUTION

Following authors have made substantial contributions to the manuscript as under:

- YK:** Conception and design, critical revision, final approval of the version to be published
- SA:** Conception and design, drafting the manuscript, final approval of the version to be published
- MZ & ZK:** acquisition of data, analysis and interpretation of data, final approval of the version to be published

### CONFLICT OF INTEREST

Author declares no conflict of interest

### GRANT SUPPORT AND FINANCIAL DISCLOSURE

NIL

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