

# Seroprevalence of Human Immunodeficiency Virus (HIV) in Southern Punjab

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## ABSTRACT

**Objectives:** To find out the seroprevalence of HIV detected on blood screening in population of Southern Punjab.

**Study Design:** Observational Study

**Place and Duration of Study:** This study was carried out at the Department of Pathology, Combined Military Hospital (CMH), Multan from January to December 2013.

**Materials and Methods:** Serological blood screening of blood donors and candidates coming for recruitment in armed forces of Pakistan at CMH Multan Center was performed. Suspected cases confirmed with third generation ELISA technique. Bio-data of HIV positive cases was collected, analyzed and compared with national and international literature.

**Results:** A total of 10666 persons were screened out. Only two (0.018%) was HIV positive.

**Conclusion:** Seroprevalence of HIV/ AIDS is less common in our country as compared to rest of the world especially than that of neighbor countries. Awareness of the disease along with prophylactic and preventive measures are necessary to decrease the prevalence and spread of this disease.

**Key Words:** HIV, AIDS, Blood Screening

## INTRODUCTION

Near about half of a century is going to be completed since detection of Human Immunodeficiency Virus (HIV) and Acquired Immunodeficiency Syndrome (AIDS) epidemic<sup>1</sup>. A person once infected and becoming HIV positive does not mean that he is suffering from AIDS. The virus continues to involve and damage the immune system of the body and infected person may develop serious infectious disease known as AIDS. Disease spreads from infected individual to healthy persons through blood transfusion, prick of infected needle, barber shop and sex partnership<sup>2</sup>. Spread of the disease can be minimized by protective measures against above mentioned predisposing factors. Globally an estimated 100 million people have been found to be infected with HIV since detection of the disease<sup>3</sup>. The number of annual AIDS related deaths is decreasing steadily worldwide due to decrease in incidence of the disease which started in late 1990's. Because of rapid awareness programmes, control, treatment, care and support measures in the population, the prevalence of HIV/AIDS is declining<sup>4</sup>. According to WHO, approximately 35 million people are suffering from HIV/AIDS worldwide<sup>5</sup>. The prevalence rate of HIV varies in different regions of world from 9% in India, 5% in Africa, 0.9% in Eastern Europe, 0.6% in North America<sup>6,7, 8</sup>. The first case of AIDS in India was reported in 1986 and now India is the Country with second largest population of HIV infected individuals<sup>9</sup>.

## MATERIALS AND METHODS

This is a retrospective study carried out between January 2013 to December 2013 at Haematology unit of Department of Pathology, Combined Military Hospital (CMH) Multan. All the persons coming for blood screening were included in the study. Majority group consisted of blood donors and other were candidates for recruitment in Armed Forces of Pakistan appearing at Multan Center from different areas of Southern Punjab. Among the Blood donors, majority consisted of volunteers of Armed forces, relative of patients requiring blood at CMH, Department of Paediatric Surgery, Nishtar Hospital and Institute of Child Health Multan. The study protocol consisted of the informed consent, age, address, occupation, education, marital and socio economic status. Five ml blood was taken from each candidate and screened for various serologically positive infective diseases including Human Immunodeficiency Virus (HIV). Seropositivity was confirmed by third generation ELISA technique. All the information were collected on a predesigned performa. Results regarding various infective diseases as Hepatitis B, C and HIV were noted. Bio-data of HIV positive cohort was separated, analyzed and compared with national and international literature.

## RESULTS

A total of 10666 persons were screened for HIV. Among these, 6216 persons were blood donors and 4450 were candidates for recruitment in Armed forces

of Pakistan at Combined Military Hospital (CMH), Multan. In blood donors, 5990 (96%) were males and 226 (4%) were females. All the candidates for recruitment were male. This means that out of 10666 persons, 10440 (98%) were male and 226(2%) were female. Age range was between 18-40 years in blood donors while candidates for recruitment were 18-24 years. Out of 6216 blood donors, 2(0.3%) were positive and both were male of 40 years of age. None out of 4450 (0.00%) candidates for recruitment in armed forces was positive for HIV. Similarly no female (0.00%) was positive for HIV. Overall, 10666 persons were screened and only 2 (0.18%) were found positive for HIV. Both of these HIV positive persons were not having full blown AIDS disease.

**Table No.1- Prevalence in Blood Donor Group**

| Total number Screened | HIV + | Percentage |
|-----------------------|-------|------------|
| 6216                  | 2     | 0.03%      |

**Table No.2: Prevalence in Recruits Group**

| Total number Screened | HIV + | Percentage |
|-----------------------|-------|------------|
| 4450                  | 0     | 0%         |

**Table No.3: Prevalence as a whole**

| Total number Screened | HIV + | Percentage |
|-----------------------|-------|------------|
| 10666                 | 2     | 0.018%     |

## DISCUSSION

This study was an attempt to define the seroprevalence of HIV in relatively healthy and young population in Southern Punjab. Data consisted of analysis of the results of blood screening in candidates of recruitment in armed forces of Pakistan and blood donors at CMH, Multan during one year from January to December 2013. The testing method consisted of third generation ELISA technique which is used by the majority of the screening centers. As minimum age limit for blood donation and recruitment in Armed Forces is 18 years, so it was not possible to assess the minimum age of acquisition of HIV in this study. It is not necessary for HIV positive persons to develop AIDS, so seroprevalence of only HIV is more than prevalence of actual AIDS disease. In this study seroprevalence of HIV in 4450 candidates for recruitment in armed forces who were otherwise healthy and young between 18 to 24 years age was zero (0.00%). But in 6216 blood donors, 2 (0.03%) persons of 40 years age were HIV positive. None of these two HIV positive cases had any evidence of full blown developed AIDS. Overall, seroprevalence of HIV in both groups screened at CMH Multan was 2 out of 10666 (0.018%). Mujeeb et al have

reported no positive case of HIV<sup>10</sup>, while Katepotor et al reported the HIV prevalence of .02%<sup>11</sup>. Khattak et al reported the prevalence of HIV ranging from 0.02% to 0.04% during his five year study<sup>12</sup>. In another center prevalence rate for HIV was 0.003%. However, National AIDS programme in which Kazi et al reported the results of screening of 23,40,000 blood samples throughout the country, HIV positive cases were 0.6% and full blown AIDS cases were 0.007%<sup>13</sup>. According to WHO, approximately 35 million people are living with HIV/AIDS worldwide<sup>5</sup>. The prevalence rate of HIV in adult varies in different regions of the world from 5% in Africa, 0.9% in Eastern Europe and 0.6% in North America<sup>6</sup>. India is the Country with second largest population of HIV infected individuals<sup>7,9</sup>.

## CONCLUSION

From this study it is concluded that HIV/AIDS is not common in our country. Public awareness about disease, its modes of transmission and preventive measures are necessary to decrease the prevalence and spread of this disease.

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