Original Research Article

Prevalence and demographic profile of HIV positive cases at Chalmeda Anand Rao Institute of Medical Sciences in Karimnagar District, Andhra Pradesh (INDIA)

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Abstract

Aims: The aim of the present study was to find out the prevalence and demographic profile of HIV positive cases detected in Chalmeda AnandRao Institute of Medical Sciences. On the verge of 4th decade of AIDS epidemic and pandemic, the world has turned the corner. It has halted and begun to reverse the spread of HIV. **Materials and Methods:** It was a retrospective study carried out between April, 2007 to March, 2012. A total of 12495 patients were screened for HIV and 745 cases were found HIV positive. The screening for HIV was done by three tests as follows: 1. HIV Tridot Test, 2. Naked Eye visible Agglutination (NEVA) Test, 3. Comb AIDS Test and finally seropositivity was confirmed by Western Blot Test. **Results:** Out of 12495 patients screened for HIV, 745 cases were found HIV positive. After studying the demographic profile of HIV positive patients it was found the prevalence of HIV is decreasing. **Conclusion:** From the result of this study it can be concluded that the decrease in prevalence is due to awareness programmes by Government and NGO'S, preventive measures, treatment care and support in the population which should be further intensified to stop HIV Pandemic.

Key Words: HIV / AIDS Pandemic, Karimnagar District, Demography.

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INTRODUCTION

On the verge of 4th decade of AIDS epidemic, the world has turned the corner. It has halted and begun to reverse the Spread of HI.[1] Globally an estimated 91.1 million people have been found infected with HIV as on December 2009. In India infection rate is found to be higher in Maharashtra, Tamil Nadu, Karnataka, and Andhra Pradesh. The number of annual AIDS related deaths worldwide is decreasing steadily due to decreasing incidence of disease started in late 1990's. The most prevalent district in Telangana is Warangal. Because of rapid awareness programmes, control, treatment, care and support measures in the population, the prevalence of HIV/AIDS has started declining.[2] HIV and AIDS in India especially since global estimates suggested that 9-10% of HIV Prevalence is attributable to sexual transmission between men. According to WHO, approximately 33.2 million people are living with HIV/AIDS worldwide. The prevalence rate of HIV in adult varies different regions from 5% in Sub-Saharah Africa, 0.9% in Eastern Europe, 0.6% in North America.[3] The first case of AIDS in India was reported in 1986 amongst sex workers in Chennai, Tamil Nadu and now India is the Country with second largest population of HIV infected individuals [4].

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MATERIAL AND METHODS

This was a retrospective study carried out between April 2007 to March 2012 at Chalmeda Anand Rao Institute of Medical Sciences in Karimnagar District. A total of 12,459 patients were screened over a period of 5 years for HIV Positive cases. The informed consent was taken from the patients and pre-test counselling and post-test counselling were performed. The study protocol was approved by institutional ethics committee which consisted of the informed consent, age, sex, rural/urban distribution, occupation, education, marital status and socio economic status of the patients. Peripheral blood (5mL) was collected from each patient and screened for Human Immuno Deficiency Virus 1and2. In the collected sample the seropositivity was confirmed by three individual tests:

1. HIV Tridot Test:

It is a rapid test developed and designed using gp41, constant terminal region (c-terminal) of gp120 and gp36representing the immune dominant region of HIV 1and2 envelope gene structures respectively. The HIV Tridot Test is a visual, rapid; sensitive and accurate immune assay for the differential detection of HIV 1and2 antibodies in human serum using HIV 1and2 antigens, immobilized on an immune and filtration membrane. The test is a screening test for anti HIV 1and2 antibodies and in vitro laboratory use. [5]

2. NEVA (Naked Eye Visible Agglutination) Test: In NEVA Test kit comprises of a set of several recombinant molecules. All these molecules have RBC binding sites and such universal RBC protein binding sites have been selected. RBC binding molecules with different immuno-dominant HIV antigenic regions are fused and at the other end these fusion proteins capture one arm of the anti HIV antibodies.[6]

3. COMB AIDS Test*:* It is an in vitro visually read dot immuno-assay, intended for qualitative detection of IgG / IgM antibodies to the HIV 1and2 in human serum. A COMB AIDS Test employs the principle of enzyme immuno-assay (EIA). In the test a positive result indicated by the presence of magenta red colored dot on the surface of the COMB, where peptides have been spotted. [7]

RESULT AND DISCUSSION

The HIV seropositivity as determined at CAIMS Hospital in general considered as reliable indicator of HIV incidence. In this study a total of 12459 patients were screened for HIV status and 745 were found HIV positive. The year wise patients screened for HIV are 1252 in 2007-08, 3350 in 2008- 09, 1839 in 2009-10, 3114 in 2010-11 and 2904 in 2011-12. The demographic profile of HIV positive patients at CAIMS hospital in tabulated as follows:

Table 1: Age wise Distribution

Age Group	2007-08	2008-09	2009-10	2010-11	2011-12
15-30	39(3.1%)	78(2.32%)	48(2.61%)	61(2.11%)	51(1.75%)
31-45	49(3.9%)	145(4.32%)	62(3.31%)	88(2.82%)	74(2.54%)
>45	8(0.63%)	16(0.475%)	5(0.275%)	10(0.325%)	10(0.03%)

Table 2: Sex wise Distribution.

Sex	2007-08	2008-09	2009-10	2010-11	2011-12
Male	58(4.63%)	152(4.5%)	59(3.2%)	99(3.17%)	88(3.03%)
Female	35(2.79%)	87(2.59%)	46(2.5%)	65(2.08%)	56(1.92%)

Table 3: Occupation wise Distribution

Occupation	2007-08	2008-09	2009-10	2010-11	2011-12
Skilled	10(0.79%)	20(0.59%)	10(0.54%)	8(0.25%)	7(0.24 %)
Semiskilled	16(1.27%)	32(0.95%)	5(0.27%)	9(0.61%)	12(0.41%)
Agricultural and Construction Labourers	61(4.87%)	159(4.74%)	70(3.80%)	117(3.75%)	103(3.54%)
Drivers	6(0.47%)	18(0.53%)	7(0.38%)	12(0.38%)	10(0.03%)
Businessmen	2(0.15%)	10(0.29%)	13(0.70%)	8(0.25%)	12(0.4%)

Table 4

Education	2007-08	2008-09	2009-10	2010-11	2011-12
Literate	62(4.95%)	71(2.1%)	29(1.57%)	45(1.44%)	38(1.30%)
Illiterate	31(2.47%)	168(5.01%)	76(4.13%)	119(3.82%)	106(3.65%)

Table 5: Marital Status Distribution

Marital Status	2007-08	2008-09	2009-10	2010-11	2011-12
Married	63(5.03%)	200(5.9%)	87(4.73%)	143(4.59%)	133(4.57%)
Unmarried/ Widower	4(0.31%)	8(0.23%)	4(0.21%)	3(0.09%)	2(0.06%)
Divorced	16(1.27%)	22(0.65%)	14(0.76%)	18(0.57%)	9(0.30%)

Table 6: Socio Economic Status Distribution

Income Group	2007-08	2008-09	2009-10	2010-11	2011-12
Lower Income Group	81(6.46%)	199(5.94%)	92(5%)	149(4.78%)	134(4.6%)
Middle Income Group	8(0.63%)	32(0.95%)	12(0.65%)	13(0.41%)	8(0.27%)
Higher Income Group	4(0.31%)	8(0.23%)	1(0.05%)	2(0.06%	2(0.06%

In our study it is found that the most of the illiterate people are prone to HIV infection due to lack of awareness. As their education and awareness improved, the infection rate has gradually come down. So it is very clear that there is need to further strengthen awareness among rural and urban illiterate people. According to 2002 sentinel of Africa in Barundi Bajhumbura, the infection rate is 7.72 % to 25.6% [8]. In Lindi, Tanzania HIV infection rate is 8.7% in Zimbabwe HIV infection rate is 14% and in Malawi the HIV infection rate is 38% [9]. In early years of 1990's HIV virus was commonly found in sex workers. The virus entered into general population. Interestingly of late the sex workers have become well aware of AIDS and are sufficiently protected with condoms provided by NGO'S and hence we find very few cases of HIV in sex workers. These sex workers do not allow their clients without condoms. However, in general population the use of condoms is least. In a legalized courtship a female partner does not demand the husband to use condom all the time. Hence a large number of housewives are prone to HIV infection, infected from their husbands. Due to severe poverty, rural people migrating to nearby cities for employment and settling down in slum areas, becoming construction and labour workers. In our study construction and agriculture labourers were very much prone for HIV infection. As this group of people is from low socioeconomic strata, they are liable to sexual exploitation by their superiors at work place. Most male labourers are infected by HIV because of their high risk behavior. Agricultural workers, farmers, drivers are also highly infected by HIV. In case of heavy vehicle drivers who go on inter-state trips on duty, visit regularly the sex workers on National highways. The virus spreads through drivers who have unsafe sex with sex workers to the areas adjacent to state and district highways. Now a days, we even find HIV infection in remote villages and tribals [10].

CONCLUSION

From the study it is concluded that HIV has spread very rapidly among different people of different occupations. Because of awareness programmes by Government and Non-government organizations, support, treatment, care and preventive measures, the prevalence Community based awareness programmes should be intensified further to housewives, labourers, agriculture workers, farmers, drivers to decrease the incidence of HIV infection further.

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