

Research Article

Prevalence of HIV seropositivity among the patients attending tertiary care hospital at Puducherry, India

Balamurugan R.^{1*}, Saleem M.², Gopal R.², Kaviraj M.¹, Mangaiyarkarasi T.²,
Sunil S. Shivekar², Kalaiselvan G.³

¹Central Research Laboratory, Sri Manakula Vinayagar Medical College and Hospital, Puducherry, India

²Department of Microbiology, Sri Manakula Vinayagar Medical College and Hospital, Puducherry, India

³Department of Community Medicine, Sri Manakula Vinayagar Medical College and Hospital, Puducherry, India

Received: 04 May 2016

Accepted: 02 June 2016

*Correspondence:

Dr. Balamurugan R,

E-mail: bala.rangasamy5@gmail.com

Copyright: © the author(s), publisher and licensee Medip Academy. This is an open-access article distributed under the terms of the Creative Commons Attribution Non-Commercial License, which permits unrestricted non-commercial use, distribution, and reproduction in any medium, provided the original work is properly cited.

ABSTRACT

Background: HIV/AIDS has been globally increasing since its first identification and reached 36.9 million by the end of 2014. It is more prevalent in underdeveloped countries. India with about 2.1 million HIV/AIDS affected people is placed third on the table followed by South Africa and Nigeria. In the present study, we aim to report the prevalence of HIV/AIDS among the patients attending our hospital in and around Puducherry, India.

Methods: A total of 18903 patients attending various departments of our hospital from November 2012 to October 2015 were included in this study. HIV screening was done by rapid card test and ELISA for the detection of antibodies against HIV.

Results: Out of the total study population, 259 (1.37%) were positive for HIV/AIDS. An increasing prevalence was observed in each successive year of our study. Male (1.94%) population was predominantly affected by HIV/AIDS than the females (0.90%) and is more prevalent in the 41-50 year age group.

Conclusions: Continuous monitoring, testing and counseling for HIV/AIDS would help to keep the disease under control. Special awareness and education programs are to be conducted in areas in which an increasing prevalence of HIV/AIDS is reported.

Keywords: HIV, AIDS, Seroprevalence, ELISA

INTRODUCTION

HIV-AIDS is a challenging threat to humankind since there is no vaccine or treatment for cure of the disease. World health organization announced that approximately 36.9 million people worldwide were affected with AIDS by the end of 2014 of which 2.6 million were children. About 2 million people are newly affected by HIV-AIDS every year.

The number of people living with HIV-AIDS is more in the underdeveloped countries. HIV-AIDS is more prevalent in sub-Saharan Africa followed by Asia and the Pacific. About 70% of the newly affected population is

from sub-Saharan Africa.¹⁻³ The first case of HIV in India was reported among the sex workers of Chennai in the late 1986.⁴ The pandemic has affected 2.1 million people across the country by 2013 which is the third largest after South Africa and Nigeria.⁵ National AIDS Control Organization (NACO) takes several measures in prevention, care, support and treatment of HIV-AIDS. NACO also conducts demographic surveys on the prevalence of HIV-AIDS. The prevalence rate of newly affected HIV cases in India has been reduced by 57% in the last decade.^{6,7}

The aim of the present study is to analyze the prevalence of HIV infection among the general population and at

risk group attending outpatient department (OPD) and Inpatient department (IPD) of our hospital. This pilot study is a measure of the overall rate of HIV infection in this area and neighbouring area such as Cuddalore, Villupuram and Thiruvannamalai, India.

METHODS

A total number of 18903 patients referred from the department of Dermatology and Venearology, Obstetrics and Gynecology, DOTS center and Pulmonary medicine to Integrated Counseling and Testing Centre (ICTC) were tested for antibodies to HIV during November 2012 to October 2015.

Among the study population, 8470 were male and 10433 were female in the age group of 6 to 80. Clients attending ICTC also includes Commercial sex workers, Men having sex with Men (MSM). All the samples were screened for antibodies to HIV by rapid tests and positives confirmed by a second rapid/ simple test and ELISA test.

RESULTS

It has been found in our study 259 (1.37%) were positive for HIV infection among 18903 case screened for HIV.

Table 1: Sex wise prevalence of HIV.

Total screened for HIV	Male	Female
18903	8470	10433
HIV positive	165	94
Percentage	1.94%	0.90%

Table 2: Age wise prevalence of HIV.

Age	Male	Female	Total
0-15	3	4	7
16-30	18	18	36
31-45	28	86	114
46-60	32	54	86
60>	14	2	16

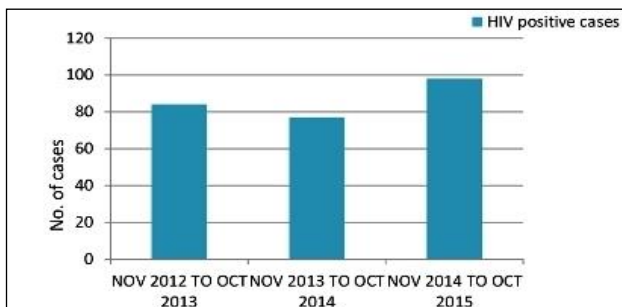


Figure 1: Year wise prevalence of HIV.

The percentage of HIV infection is more in male is (1.94%) higher then compared to female (0.90%).

Percentage of HIV infection was higher in the 31-45 year age group (Table 2). It was found that out of 259 positive cases 7 (2.7%) were children under the age of 15 years.

DISCUSSION

Since the human immunodeficiency virus (HIV) / acquired immunodeficiency syndrome (AIDS) epidemic began, almost 58 million people throughout the world have been infected with HIV and almost 22 million people have died due to the disease.⁸ Globally many non-governmental organizations (NGOs) and government organizations are taking active part to combat this highly infectious HIV AIDS. The severity of the diseases in the particular region can be interpreted based on the seroprevalence reports.

In a previous retrospective study done by Shivekar et al, 2012, at the same hospital, a declining pattern in the prevalence rate was observed; whereas current study shows the increased pattern (1.37%) in the prevalence rate within three years. This report is same as the prevalence rate presented in other study.⁹ NACO’s guideline suggests that High Risk Groups (HRGs) from core group, especially MSM and FSW, should visit STI clinics every quarter i.e, four times in a year, for regular medical checkups and for treatment of Sexually Transmitted Infection (STI)/Reproductive Tract Infection (RTI). The increased pattern in the prevalence may be due to the increase in numbers of clients attending ICTC which includes commercial sex workers, MSM, in the study population and this prevalence rate does not reflect the prevalence in general population. Our study also shows that the infection rate is high among adult males who constitute the sexually active group. This report is same as reported by NACO in 2015.¹⁰

Transmission of HIV infection from mother to child is a major concern for developed as well as developing countries.¹¹ In developing countries the efficiency of rate of transmission of HIV from infected mother to infant ranges from 25% to 45% and in developed countries it ranges from 15% to 25%.¹²

In present study population 7 cases under the age of 15 were detected as HIV positive. Pediatric AIDS may be considered as a major threat and proper measures must be taken to prevent vertical transmission. This overall result throws light on the burden of the HIV in this region and emphasizes on the need to increase the surveillance information, education communication activities further to attain the goal of zero.

The highest risk factor for HIV transmission is sexual contact (about 80%), followed by, injection drug abuse, pregnancy, childbirth and breastfeeding, occupational exposure, blood transfusion and organ transplantation¹. According to the NACO survey, the state wise prevalence of HIV in 2014 is highest in Nagaland (0.88%), followed by Mizoram (0.68%), Manipur (0.64%), Andhra Pradesh

(0.59%) and Karnataka (0.53%) Chhattisgarh (0.51%), Gujarat (0.50%), Maharashtra (0.40%), Delhi (0.40%) and Punjab (0.37%)⁸.

The high risk group for HIV infection includes, truck drivers, commercial sex workers, IV drug abusers and trans-genders. Apart from the high risk group, the normal population contributes very less to the overall prevalence rate. India takes tremendous efforts in preventing HIV. The national AIDS control program concentrates on creating awareness, improving the knowledge, behavior and education of people to prevent HIV infection. Targeted intervention (TI) is a part of the NACO's HIV preventive measures which focus on the high risk group.⁶⁻⁸

CONCLUSION

Proper awareness about HIV transmission, preventive measures and other sex education programs may pave way to reduce and control HIV infection in this area. A 24×7 days availability of services for testing at all hospitals and also counseling and special camps once in a month in risk prone areas would further strengthen the control measures.

ACKNOWLEDGEMENTS

Authors would like to thank the technical and non-technical staffs of ICTC, Central Research Laboratory and Department of Microbiology, Sri Manakula Vinayagar Medical College and Hospital, Puducherry for their valuable contribution to this study.

Funding: No funding sources

Conflict of interest: None declared

Ethical approval: Not required

REFERENCES

1. Global statistics. 2015 Available at: <https://www.aids.gov/hiv-aids-basics/hiv-aids-101/global-statistics/>. Accessed on 18.02.2016
2. Global statistics. Factsheet 2015. United Nations Programme on HIV and AIDS (UNAIDS) 2015.

Available at : <http://www.unaids.org/en/resources/campaigns/HowAIDSchangedeverything/factsheet>
Accessed on 18.02.2016

3. The Global HIV/AIDS Epidemic. The Henry J Kaiser family foundation. [Internet] [updated nov 30 2015]. Available from: <http://kff.org/global-health-policy/fact-sheet/the-global-hiv-aids-epidemic/>
Accessed on 20.02.2016
4. Simoes EA, Babu PG, John TJ, Nirmala S, Solomon S, Lakshminarayana CS, et al. Evidence for HTLV-III infection in prostitutes in Tamil Nadu (India). Indian J Med Res. 1987;85:335-8.
5. India has 3rd-highest number of HIV-infected people: UN. The Hindu. 2014 Jul 17.
6. Department of AIDS control. Ministry of Health and Family Welfare Annual Report 2012-13. National AIDS Control Organization. 2013.
7. Department of AIDS control. Ministry of Health and Family Welfare Annual Report 2013-14. National AIDS Control Organization. 2014.
8. Franscisco AD. Global Forum for Health Research. The 10/90 report on Health Research; 2002.
9. Ukey PM, Akulwar SL, Powar RM. Seroprevalence of Human Immunodeficiency Virus Infection in Pregnancy in a Tertiary Care Hospital. Indian J Med Sci. 2005;59(9):382-7.
10. Department of AIDS control. Ministry of Health and Family Welfare Annual Report 2014-15. National AIDS Control Organization. 2015 Aug.
11. Barbicci M, Repke JT, Chaisson RE. Routine Prenatal Screening for HIV Infection. Lancet. 1991;337:709-1.
12. Guidelines for the prevention of mother to child transmission of HIV. Ministry of Health & Family Welfare. National AIDS Control Organization. 2005 Jan.

Cite this article as: Balamurugan R, Saleem M, Gopal R, Kaviraj M, Mangaiyarkarasi T, Shivekar SS, et al. Prevalence of HIV seropositivity among the patients attending tertiary care hospital at Puducherry, India. Int J Res Med Sci 2016;4: 2725-7.