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 Venerology, 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>
<thead>
<tr>
<th>Total screened for HIV</th>
<th>Male</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td>HIV positive</td>
<td>259</td>
<td>165</td>
</tr>
<tr>
<td>1.37%</td>
<td>94</td>
<td></td>
</tr>
</tbody>
</table>

Table 1: Sex wise prevalence of HIV.

<table>
<thead>
<tr>
<th>Age</th>
<th>Male</th>
<th>Female</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-15</td>
<td>3</td>
<td>4</td>
<td>7</td>
</tr>
<tr>
<td>16-30</td>
<td>18</td>
<td>18</td>
<td>36</td>
</tr>
<tr>
<td>31-45</td>
<td>28</td>
<td>86</td>
<td>114</td>
</tr>
<tr>
<td>46-60</td>
<td>32</td>
<td>54</td>
<td>86</td>
</tr>
<tr>
<td>60+</td>
<td>14</td>
<td>2</td>
<td>16</td>
</tr>
</tbody>
</table>

Table 2: Age wise prevalence of HIV.

Transmission of HIV infection from mother to child is a major concern for developed as well as developing countries. 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%.

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 transplantation. 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**


5. India has 3rd-highest number of HIV-infected people: UN. The Hindu. 2014 Jul 17.