PREVALENCE OF HIV INFECTION IN THE ICTC CENTRE OF SILCHAR MEDICAL COLLEGE, ASSAM

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ABSTRACT

BACKGROUND

Silchar, in south eastern region of Assam is the gateway of many north eastern states like Manipur, Mizoram and Tripura. Therefore, ICTC, Silchar Medical College and Hospital, Silchar is attended by patients from Assam and neighbouring states. This study was taken considering the geographical location and high prevalence of HIV here.

Objective- To study the prevalence of sero-positivity rate of HIV infection among clients reporting to ICTC SMCH, Silchar from January 2012 to December 2014.

MATERIALS AND METHODS

The clients were attendees of both OPD and indoor patients of SMCH or came voluntarily to know their HIV status. After counselling and consent, antibody testing was done using rapid kits and reactivity declared as per NACO guidelines. The data was assessed by age, sex, occupation, educational level, marital status, behavioural patterns and source of exposure. Data was collected, compiled and analysed using standard statistical methods.

Study Design- Retrospective cross-sectional study.

RESULTS

Of the 18,763 clients tested in the span of this 3 years, 774 (4.12%) were positive for HIV. The sero-positivity rate varied from 3.61% in 2012, 4.61% in 2013 and 4.36% in 2014. Prevalence in male clients amounted to 2.8% and in female clients was 1.3%. Majority of the sero-positive clients fell in the age group of 30 - 45 years (51.8%). The predominant occupation were drivers (19.76%) and housewives (23%). 88.5% of them exhibited heterosexual behaviour, parent to child transmission was 5.42% and 3.48% were IDU. Most of the clients had only primary level education (70%) or were illiterate (18.63%).

CONCLUSION

ICTCs are important for prevention, detection and care of HIV infection. The findings from their clients indicate a high sero-positivity among both genders. Multiple heterosexual contact, especially in migrants are main route of transmission of HIV causing spread also to spouses. Awareness program following similar studies hence may reduce further spread of HIV.

KEYWORDS

Prevalence, ICTC, South Eastern Assam.

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BACKGROUND

Recognised as an emerging disease in the early 1980s, HIV/AIDS has infected tens of millions of people in the last 20 years.⁽¹⁾ There are approximately 3.4 crores people living with HIV and about 3 crores people have died of AIDS related causes since the beginning of the epidemic.⁽²⁾⁻⁽⁴⁾ Latest worldwide survey data show a 50% reduction in the rate of new HIV infections (HIV incidence) achieved in 25 (low and middle income countries). India with a burden of 2.5 million people with HIV-1 infection makes it only the third largest HIV-1 epidemic in the world after Africa and Nigeria.⁽⁵⁾

The HIV virus/ AIDS epidemic has devastated many individuals, families and communities. As the epidemic evolves further, rates will continue to rise in communities and nations where poverty, social inequalities and weak health infrastructure facilitate spread of the virus.⁽⁶⁾ It is difficult to estimate the actual HIV burden in India, as the estimate for India is based primarily on anonymous testing data from public clinics of antenatal care, patients in high risk groups or with sexually transmitted infections. Although, the number of surveillance sites is expanding, the data may still be skewed and inadequate as one percent increase in the HIV prevalence in adults would result in additional five million infected people, i.e. small changes in prevalence could translate to large absolute numbers of infected individuals and that is why true prevalence is still disputed.⁽⁷⁾⁻⁽⁸⁾

Under NACP-III, Voluntary Counselling and Testing Centres (VCTCs) and facilities providing Prevention of Parent to Child Transmission of HIV/ AIDS (PPTCT) are remodelled as a hub or Integrated Counselling and Testing Centre (ICTC) to provide services to all clients under one roof. An ICTC is a place where a person is counselled and tested for HIV on his

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own free will or on advice of a medical practitioner. The ICTC data is important to throw light on the epidemiological profile of HIV positive individuals. This will help not only to identify the various risk groups, but also give direction for priority targeted intervention to reduce HIV transmission in the community.

With this background, present study was undertaken with the objectives to study the prevalence of sero-positivity rate of HIV infection among clients reporting to ICTC SMCH, Silchar from January 2012 to December 2014.

Study Design

Retrospective cross-sectional study.

MATERIALS AND METHODS

This Cross-Sectional study was conducted for a time period of three years (3 years) between January 2012 to December 2014 among all attendees of ICTC, Silchar Medical College and Hospital, coming either voluntarily or being referred from various departments of the hospital. All the essential information were collected from the attendees by interviewing them. The variables studied included age, sex, marital status, occupation, place of residence, pattern of risk behaviour and HIV serostatus noted.

Following the guidelines of NACO, the counsellor of the ICTC interviewed the attendees under strict confidentiality. After pre-test counselling and obtaining consent of the attendees, laboratory technician of ICTC collected their blood samples. All clients at ICTC were given unique PID number. The HIV test was done in the HIV testing laboratory, which is NABL accredited since 2014 as per NACO guidelines with 3 rapid test kits provided by ASACS/ NACO.

The protocol of the NACO tests performed as per NACO guidelines was as follows:

The first test kit Comb AIDS was of highest sensitivity and specificity increases with second and third kit. Therefore, when the first test kit is negative, second meriscreen and third AIDS scan kits were not done and the result is negative for the tested sample. If the first test is positive, then second and third rapid test kits were performed and if these two tests were also positive then the final result was given as positive for the tested sample.

RESULTS

In this study, the prevalence of HIV was found to be 4.12%. Of the 18,763 clients tested in the span of this 3 years, 774 (4.12%) were positive for HIV-1. Highest sero-positivity was seen in 2013 (4.61%), but more number of clients were tested in 2012 (7727).

Maximum number of sero-positivity was seen in male clients (68.47%) followed by female clients (31.52%) with no transgenders. Data is shown in Figure 1.

Maximum number of clients tested sero-positive in the age group of 30 - 45 years (51.8%) followed by 35.91%, 12.14% and 5.16% in 15 - 30 years, ≥ 45 years, ≤ 15 years of age respectively. 436 of the sero-positive clients were married males posing a threat to their spouses. Table 1 shows the marital status of the sero-positive clients.

	Male	Female
Married	436	182
Unmarried	91	34
Divorced, widow, widower	3	18

Table 1

23% of the sero-positive clients were housewives. The other occupations were as shown in Table 2.

Occupation	Total Number	Percentage Prevalence
Service	51	7.51%
Housewife	178	22.99%
Business	124	17.02%
Driver	153	19.76%
Private Job	49	7.33%
Unemployed	10	1.29%
Labour	46	6.94%
Defence	13	1.67%
Students	45	5.81%
Retired Person	75	9.68%

Table 2

Most of the sero-positive clients were educated upto primary level followed by illiterate persons. The figures are shown in Table 3.

Education	Total Number	Percentage
Illiterate	144	18.6%
Primary	541	69.89%
Secondary	49	6.33%
Graduate and Above	40	5.18%

Table 3

Based on the sexual orientation, 77.51% of the sero-positive clients were heterosexuals having multiple partners. As per the source of exposure, sexual route of transmission was the most prevalent mode of transmission followed by parent to child transmission and injection drug users. The data is shown in Table 4.

Source of Exposure	Total Number	Percentage
Sexual	685	89.83%
Parent to Child	42	5.42%
Blood Transfusion	8	1.03%
Injection Drug Users	27	3.48%
MSM	1	0.12%
Infected Syringe	1	0.12%

Table 4

DISCUSSION

The study was conducted for a time period of three years between January 2012 to December 2014 among clients of ICTC of Silchar Medical College and Hospital coming voluntarily or being referred from various departments of the hospital. The prevalence of HIV in this study was found to be 4.12%. Highest sero-positivity was seen in 2013 (4.61%). This is very high as compared to sero-prevalence of general population (0.34%). Although, Assam as such is not a high prevalent state and in Assam HIV prevalence in general population is 0.09%. The high prevalence of HIV in ICTC of this region is attributable to the fact that it is the only tertiary care referral hospital in south eastern region of Assam catering to not only the population in this region, but also by virtue of its geographical boundaries with Manipur, Mizoram and North Tripura, hence may indirectly reflect high prevalence in neighbouring regions. In a similar study in Assam by NK Hazarika et al,⁹ the prevalence was found to be 4.68% which is almost similar to our study.

In our study, the positivity rate was lower in females as compared to males. It was consistent with study by BL Sherwal et al¹⁰ and Madkar et al,¹¹ but discordant with study by Vyas et al.¹² Their 6 years study showed positivity rate higher in females than males.

It is observed that in our study, higher number of sero-positivity was seen in 30 - 45 years' age group (51.8%). It is concordant with study by NK Hazarika et al,⁹ where the rate is 88.27% in 15 - 49 years' age group, BL Sherwal et al⁹ where the positivity rate in 15 - 49 years' age group is 69.2%. According to Vyas et al,¹² the positivity rate is ranging from 85.99% to 90.55% in the age group of 15 - 49 years and according to Madkar et al¹¹ the prevalence of HIV infection was highest in the age group of 30 - 39 years followed by 20 - 29 years. As per national figure, it was also observed that about 89% of cases occurred among sexually active person aged 20 - 49 years.

Majority of the HIV sero-positives belonged to the married group irrespective of the sexes. The married sero-positive males pose a threat to their uninfected spouses and as they enter into their reproductive lives and ultimately risk parent to child transmission. Perinatal transmission in this study was found to be 5.42%. According to Vyas et al,¹² the same was found to be ranging from 5.6% to 12%, but according to Joardar et al,¹³ the rate was found to be 2.63%. Similarly, the study by NK Hazarika et al,⁹ the range of perinatal transmission was between 0.3% in the year 2008 - 2009 to 1.1% in the year 2014 - 15.

Unprotected heterosexual contact has come out to be the most common mode of transmission of HIV in the present study accounting to 89.83% of the cases. It is in concordance to study with Vyas et al,¹² where it was found to be 81.6%. Similar findings were found in study by NK Hazarika et al,⁹ where the heterosexual route of transmission was 86.81%.

In India contaminated blood and blood products account for about 2% of HIV infection, whereas here in our study contaminated blood products account for 1.03% cases. This signifies that there is adequate screening of the blood before transfusion in our setup.

Injection drug use plays a critical role in HIV epidemic in various regions, particularly in Asia and Southern Europe. In India the badly affected areas are North-East India, especially Manipur. In our study, 3.48% of the sero-positive client were injection drug abusers. But in a similar study conducted in Assam by NK Hazarika et al,⁹ the prevalence of injection drug abusers was found to be 2.39%.

CONCLUSION

ICTCs are important for prevention, detection and care of HIV infection. The ICTC of Silchar Medical College and Hospital caters to a huge population catering to not only population of this region, but also surrounding region of Manipur, Mizoram and North Tripura. The study reports for the first time the sero-prevalence of HIV in South eastern region of Assam. The prevalence was found to be 4.12%. There is male preponderance over female from sexually active age group of 30 - 45 years. Hence, we should focus on this age group, especially male group for the prevalence of high rate of HIV transmission. This would help in the development of appropriate policies and strategies to reduce the spread of HIV infection in India. Education profile of sero-positive attendees reveals that primary education group constitute 69.89% of the clientele. This shows that lower literacy rate is one of the most important factors in the spread of AIDS.

As depicted in our study staying away from family, drivers and businessmen may indulge in some risk behaviours that favours HIV transmission. Commercial sex and substance abuse are family trenced in the social-cultural milieu of the trucking industry in India. This should form more the targeted intervention group. All these findings suggest the need for scaling up of focussed prevention efforts among these groups.

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Limitations of the Study

It could be possible that the data reported here could be biased due to recall error or by social stigma faced by patients in the community.

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