



## PROFILE OF HIV POSITIVE CLIENTS ATTENDING AN INTEGRATED COUNSELLING AND TESTING CENTRE, TERTIARY CARE HOSPITAL IN UDAIPUR, RAJASTHAN : A FIVE YEAR ICTC- BASED STUDY

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### ABSTRACT

**Objective:** Estimating the HIV prevalence can be helpful to plan and implement preventive strategies. So this study was undertaken to know the profile of HIV infection among the clients attending ICTC, RNT Medical College Udaipur, for a period of five years, i.e., from 2011 to 2015. **Material & Method:** A total of 35,142 clients attended ICTC, RNT Medical College Udaipur from the year 2011 to 2015. A retrospective study was conducted among clients. Serum samples were collected after taking informed consent and pre-test counselling. HIV1&2 antibody testing using rapid kits were done in those who gave written consent and declared reactive as per National AIDS control organization (NACO) guidelines strategy III. Reporting and release of results with post test counselling. **Results:** Out of the total 35,142 clients tested for HIV infection, 4565 (12.99%) were found to be HIV seropositive. Seropositivity was higher in male clients i.e. 2817 (61.70%) than female i.e. 1746(38.24%). Heterosexual route of transmission was the major route seen in 4222 (92.48%) clients. Maximum HIV seropositivity was in the age group of 35-49 years (42.12%). **Conclusion:** HIV prevalence of 12.99% among the clients attending ICTC, RNTMC, Udaipur, puts light on the burden on HIV in this part of the country and suggests the need for the scaling up of focused prevention efforts in high-risk groups.

**KEYWORDS :** HIV Seropositive , NACO testing guidelines , ICTC , Clients.

### 1. Introduction

Human immunodeficiency virus (HIV) is the etiologic agent of Acquired Immunodeficiency Syndrome (AIDS) the biggest threat to mankind in last three decades. According to UNAIDS (2010) Global report in the world the number of people living with HIV are 33.3 million(1). India shares one tenth of the global HIV burden and overall 65% is attributed to South and South East Asia( 2). The main risk behaviors and practices associated with a higher risk of HIV transmission in India include unprotected sexual intercourse more than 80%, IV drug use, and transfusion of contaminated blood and blood products. It is worrisome that only an estimated 10 to 20% of those infected with HIV know that they are infected, which impedes treatment and prevention efforts (2). To cope with these challenges, new models of care and cost effective health care delivery systems are needed with proper understanding of the HIV epidemiology in a particular region especially with regards to various socio demographic factors, level of awareness as well as pattern of risk behavior of the population, because till date, the most effective approaches available are awareness generation and lifestyle changes. An ICTC is a place where a person is counselled and tested for HIV, of his own free will or as advised by a medical provider. ICTC Conducts HIV diagnostic tests, Providing basic information on the modes of HIV transmission, and promoting behavioural change to reduce vulnerability, Link people with other HIV prevention, care and treatment services (3).

Therefore, awareness about its occurrence and spread is very significant in protecting the people from the epidemic. That's why the National AIDS Control Programme lays maximum emphasis on the widespread reach of information, education or communication on HIV/AIDS prevention (4).

### 2. Aim

This study was carried out retrospectively to estimate the prevalence of HIV infection and risk factor of HIV infection, M: F ratio in reactive samples, age group in which HIV infection is more common, and its time trend in last 5 years among the clients attending ICTC, RNT Medical College (including general clients, high-risk group excluding antenatal women).

### 3. Material and Methods

Its a retrospective study of clients who attended ICTC, RNT Medical College Udaipur, for a period of five years, i.e. from 2011 to 2015. The approval from the Institutional Ethical Committee was obtained

before conducting the study. All the clients attending the ICTC were counseled and informed consent was taken from them by ICTC counselors. All clients at ICTC were given unique PID (Personal Identification Digit) number and he/she was directed for sample collection (3- 5 ml of blood) at sample collection room at ICTC. Then testing was done in the HIV Laboratory, as per NACO guidelines with the 3 rapid test kits provided by DSACS/NACO (5).

A serum sample is considered negative if the first screening test (E/R) was non-reactive. If reactive, the sample was subjected to a second test which utilizes different principle/or antigen from the first one. In symptomatic patients the sample was reported as positive by two different E/R tests. However, in asymptomatic clients the same sample was subjected to a third E/R test. Such samples were reported as positive only if all the three tests gave positive results. If first positive and 2nd and 3rd tests were negative it was reported negative. If 1st and 2nd positive and 3rd negative or if 1st and 3rd tests positive and 2nd negative the sample was reported as intermediate and the patient was called back for repeat testing after 2-4 weeks. HIV infected cases were referred to antiretroviral therapy (ART) centre of our hospital for further management All tests were done according to manufacturer's instructions. Strict External quality assurance program was followed with state referencelaboratory (SRL).

### 4. Results

In this study the prevalence of HIV was found to be 12.99% (4565/35142). Out of total 35142 clients, 4565(12.99%) tested positive for HIV. Maximum number of seropositivity was found in male clients (61.70%), followed by (38.24%) in female clients. (Table-1&2).

Maximum number of clients tested seropositive in the age group of 35-49 years (42.12%), followed by 32.02%, 12.92%, 7.22% and 5.69% in the age groups of 25-34, >50years, 15-24 and 0-14 years respectively.(Table-3)

The prevalence of seropositivity is 16.10% in 2011, 14.85% in 2012, 12.76% in 2013, 14.17% in 2014 and 8.9% in 2015. So there is decreasing trend of seropositivity from 16.10 % in 2011 to 8.9 % in 2015 was observed over the study (Figure 1). Overall male to female ratio of the seropositive group over the years 2011, 2012, 2013, 2014 and 2015 was 1.55 : 1, 1.52 : 1, 1.47 : 1, 1.84 : 1, 1.69 : 1 respectively (Figure 2). HIV prevalence was in declining trend in 5 years,

indicating the effectiveness National AIDS control program. Heterosexual route was the major form of transmission up to 92.48% followed by the route of mother to child transmission 5.95%, unknown reason of transmission 0.74%. Through blood and blood products the transmission was 0.50%. Least transmission was observed by homosexual route and infected needles & syringes i.e. 0.2% and 0.02% respectively.

**5. Discussion**

The study was conducted to document the prevalence and risk factors of HIV infection among a large number (N =35142) of clients attending ICTC (excluding ANC clients) in a tertiary care hospital situated in Southern Rajasthan. Present study shows seropositivity of 12.99% among clients attending this ICTC. This is very high as compared to the seroprevalence among the general population 0.34% (6). High seroprevalence in this area as seen in our study is attributable to inclusion of clients in this ICTC from High-Risk Groups (HRG) like NGO's, MSM's, and Transgender, a majority of whom are dwellers of bordering high prevalence states like Maharashtra and Gujrat. This tertiary care hospital involves urban as well rural population. Also it has industrial area nearby. Mumbai is an economical capital of Maharashtra and attracts large number of skilled and unskilled workers from other parts of state as well as other states. These migrants may also be responsible for this higher prevalence rate found in this study.

Over the years there was seen a significant number of clients increase from 6496 (in the year 2011) to 9282 (in the year 2015). But there is decreasing trend of seropositivity from 16.10 % in 2011 to 8.9 % in 2015 was observed over the study. Varun et al study show declining trend in HIV prevalence was seen from 2010 to 2014 (7). This may be attributed to either increasing global awareness about the disease; decreasing associated stigma, expanded coverage and better available diagnostic facilities. There was significant difference in male to female positivity ratio. It shows that females are still lagging behind in availing the medical facilities as much as by males. In our study, the positivity rate was low in females in comparison to males but Vyas N. et al, 2009 in their comprehensive six years ICTC based study shows that the positivity rates were higher among females.

In the study, it was seen that prevalence of HIV infection was 81.38% in the age group of 15 - 49 years (3715/4565). Similar study done by Madkar et al, where the prevalence of HIV infection was highest in the age group of 35 - 49 years followed by 25 - 34 years (8). Also as per our national figure, it is observed that about 89% of the cases occurred among sexually active persons aged 20 -49 years (9). Unprotected heterosexual contact has come out to be the most common mode of transmission of HIV in the present study with the rate of 92.48%. According to Vyas et al, the most common mode of transmission is also the heterosexual route of transmission in Jaipur with a prevalence rate of upto 81.6%. But according to Lal et al, the same rate is 84% in India. In present study children less than 15 years of age accounted for 5.69 % of all the HIV infections in contrast to 7% (1.45 lakh) of all infections in 2011 in India. In our study suggestive of a risk factor for HIV transmission could not be elicited in 34 (0.74%) patients. Overall, 0.28 % of all HIV positive cases reported homosexual activity during the study period. Due to their diverse sexual mixing pattern, poor access to awareness programs and less utilization of control measures, MSM in India are at higher risk of sexually transmitted infections including HIV (10).

In this study, the perinatal transmission ranged from 01.5% in the year 2011 to 0.56 % in the year 2015. Mother to child transmission may be low in present study since there is separate ICTC centre for screening the antenatal mothers in our hospital. Transmission through blood transfusions has been nearly eliminated in developed countries by the routine mandatory screening of blood donation. In developing countries, it has yet to be eliminated, especially where HIV prevalence rates among blood donors are high and where screening of blood for HIV has not become

routine(11).India still has many paid blood donors; contaminated blood and blood products account for about 2% of HIV infections (12).

Injection drug use (IDU) plays a critical role in the HIV epidemic in various regions, particularly in Asia and Southern Europe. According to studies in Southeast Asia, HIV prevalence among IDUs rose to 40% within 1 to 2 years after the first positive HIV test result. This was true for Manipur and in North-East India, where intravenous drug abuse is common, but in this study only 1 cases (0.02%) fell under this category whereas according to Vyas et al, 13 cases observed from the year 2002 to 2007.

**6. Conclusion**

The HIV infection in India is no longer confined to high-risk population such as the intravenous drug users, men who have sex with men, truck drivers and commercial sex workers. The infection is gradually spreading from urban to rural areas and from high-risk groups to women who are mostly in monogamous marriages. ICTCs gives services like pre-test counseling, testing of HIV, post-test counselling, communication with ART centre for treatment of positive patients. In this study, prevalence of HIV infection in clients attending ICTC is 12.99%. HIV prevalence puts light on the burden of HIV and suggests the need for the scaling up of focused prevention efforts in high-risk groups.

There is a male preponderance over female from sexually active age group of 25 - 49 years of age. Hence we should focus on this age group especially male group for the prevalence of high rate of HIV transmission. ICTC plays a key role in the diagnosis, management and prevention of spread of disease. In our study, HIV threatens the most productive segment of the society in the prime of their working life which is a serious cause of concern. This emphasizes the need of increased awareness and sex education to high school and college students.

**7. Limitation of the Study**

However, the present study has certain limitations. This is a retrospective study and hence the results are based on reporting and data collection by counsellors employed in the ICTC and hence bias may occur. This data is from ICTC in a tertiary care hospital and is not a true representation of the community. Additionally, this study excludes antenatal care participants which reflect general population; this study can however help in local planning and contribute data for policy makers to improve the existing national HIV/AIDS intervention strategy.

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**Table 1. Prevalence of HIV from the year 2011- 2015**

Year	Total no. of clients	Total seronegative	Total seropositive
2011	6,496	5450	1046
2012	5675	4832	843
2013	6973	6083	890
2014	6716	5764	952
2015	9282	8448	834
Total	35142	30577	4565

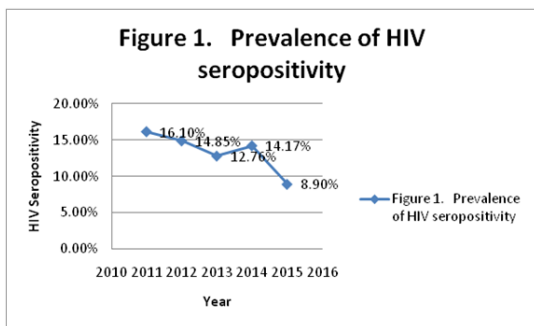
**Table 2. Gender wise distribution of sero-reactive samples**

Year	Seropositive male	Seropositive female
2011	636	410
2012	509	334
2013	530	360
2014	617	335
2015	525	309
Total	2817	1748

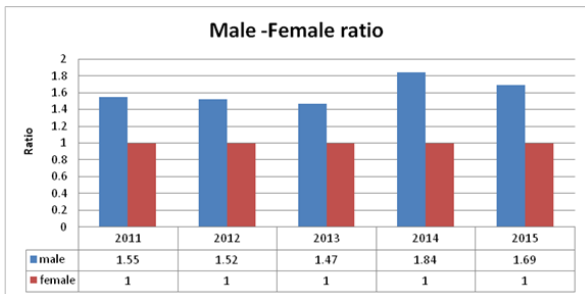
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**Table 3. Age wise distribution of seropositive client**

Age group in years	2011	2012	2013	2014	2015	total	%
0-14	69	51	64	49	27	260	5.69%
15-24	74	44	69	78	65	330	7.22%
25-34	383	262	294	297	226	1462	32.02%
35-49	408	359	368	409	379	1923	42.12%
>50	112	127	95	119	137	590	12.92%



**Figure 1. prevalence of HIV seropositivity**



**Figure 2. Gender ratio in seroreactive sample.**

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