

## ORIGINAL ARTICLE

**A Study on the Socio demographic Profile of the Attendees at the ICTC of Institute of Medical Sciences BHU, Varanasi, Uttar Pradesh**Rashmi Kumari<sup>1</sup>, Mritunjay Kumar<sup>2</sup>, A K Gulati<sup>3</sup>, Shyam Sundar<sup>4</sup>, S C Mohapatra<sup>5</sup><sup>1</sup>Assistant Professor, Department of Community Medicine, <sup>2</sup>Assistant Professor, Department of Paediatrics, Shri Guru Ram Rai Institute of Medical and Health Sciences, Dehradun, Uttarakhand; <sup>3</sup>Ex-Professor Department of Microbiology, <sup>4</sup>Professor, Department of Medicine, Institute of Medical Sciences, Banaras Hindu University, Varanasi, Uttar Pradesh; <sup>5</sup>Dean, Faculty of Medicine & Health Sciences, SGT University, Gurgaon, Haryana

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Kumari R, Kumar M, Gulati AK, Sundar S, Mohapatra SC. A Study on the Socio demographic Profile of the Attendees at the ICTC of Institute of Medical Sciences, BHU, Varanasi, Uttar Pradesh. Indian J Comm Health. 2016; 28, 1: 42 - 47.

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**Introduction:** Human Immunodeficiency Virus (HIV) counseling and testing services are a key entry point to the prevention of HIV infection and to the treatment and care of the people who are infected with HIV. The Integrated Counseling and Testing Centre (ICTC) services are a cost effective intervention in the prevention of HIV/AIDS. **Aims:** To study the socio demographic characteristics of the attendees at the ICTC centre. **Material and Methods:** Setting – ICTC of Institutes of Medical Sciences BHU, Varanasi, Study Design: A cross-sectional, record based study, Study duration: The study population included 41159 clients who attended the ICTC centres from January 2009 to December 2011. **Results:** An overall 12.85% of the ICTC attendees were HIV Seropositive subjects. During 2009 to 2011. i.e. during past 3 years total males tested for HIV at the ICTC were 23326, out of which 3202 were HIV+ve showing positivity rate of 13.7%, while total females tested were 16671 out of which 2063 were HIV+ve showing positivity rate of about 12.4%. Consecutively in the last three years maximum load of patients was from the age groups 35-49 years (19.13%) followed by 25-34 years (15.4%). **Conclusion:** People's attitudes towards HIV are changing after the introduction of the ICTC, which plays a major role in the primary and secondary prevention of HIV. There is a more urgent need for the introduction of interventional measures like sex education and preventive education among the general population

**Key Words**

ICTC; HIV; ART; AIDS, Sociodemographic; Risky Behavior Seropositive

**Introduction**

HIV/AIDS pandemic is a complex public disaster having no single source to fully explain the status or the direction & the only weapon we have is Triangulation of data. Triangulation is a newer concept particularly in the epidemiology of HIV/AIDS. In HIV/AIDS it is meant to encircle the cases from all entry points, so that they are triangulated to render some information of their

tracings. It is not a statistics, it is a soft epidemiological approach towards case hunting and capturing it----- as if triangulating!

According to the UNAIDS and World Health Organization (WHO) reports of November 2010, there are approximately 33.3 million people living with HIV/ Acquired Immunodeficiency Syndrome (AIDS) Worldwide, with a global prevalence of 0.8%

(1). The HIV cases in south and south-east Asia account for 4.1 million people with HIV, with an adult prevalence of 0.3%. It is estimated that 90% of the HIV infected persons live in the developing countries, with the estimated number of infected Indians being 2.31 million, with an adult prevalence of 0.3% (1). The integrated counseling and testing centre (ICTC) at IMS, BHU is a referral centre for HIV suspected cases. It caters to all the medical needs of the HIV patients as per the National AIDS Control Organization (NACO) guidelines.

### Aims & Objectives

To study the sociodemographic profiles of the attendees at the ICTC, IMS, BHU.

### Material and Methods

The present study was conducted among the attendees of the ICTC at the Institute of Medical Sciences, BHU, Varanasi. This study included all the 41159 attendees who attended the ICTC centre between January 2009 and December 2011, either voluntarily or after being referred by various departments. Out of 41159 total clients registered, 40969 (99.53%) clients were tested for HIV. Anonymous information about all the attendees of the ICTC was available from the records which were maintained at the ICTC, regarding the variables such as age, sex, marital status, level of education, occupation, the pattern of risky behavioral pattern, the place of residence and the HIV sero status of the attendees. The data of the attendees were collected, compiled and analyzed by using standard statistical methods & SPSS version 20.

### Results

A total of 41159 clients were registered and counseled and Pre-test counseling was 100 % for all of them. A total of clients tested were 40969. The total sero-positive observed to be seen 15.86 %, 12.61%, and 10.03 % respectively in 2009, 2010, and 2011. Overall positivity during three years according to testing was 12.85%. The annual distribution of the attendees and HIV status is shown in [table 1](#).

Total males tested for HIV in the ICTC were 23326, out of which 3202 were HIV+ve, thus the positivity rate was 13.7% among males and for females tested 16671 out of which 2063 were HIV+ve showing positivity rate of about 12.4%. In 2009 total males tested were 8276 out of which 1185 (14.3%) were HIV positive as compared to total females tested were 4352 out of which 818 (18.7%) were HIV

positive. This difference was statistically significant ( $p < 0.05$ ). In 2010, 17.9% males were negative for HIV as compared to 9.7% of females. This difference was statistically significant ( $P < 0.05$ ). In 2011, 9.9% males were positive for HIV as compared to 10.7% of females. This difference was statistically insignificant ( $P > 0.05$ ), as shown in [table 2](#).

A majority of the seropositive subjects, i.e. 4084 out of 5265, belonged to the age group of 25–49 years i.e. (77.5%). Astonishingly in children  $\leq 14$  showed positivity rate of about 10.3%; which was even 5.5% higher than adolescents (15–24yrs) age group. This difference was statistically significant ( $P < 0.001$ ) as shown in [table 3](#).

Majority of HIV +ve patients were married and they contribute 73.9% of HIV +ve patients. Thirty-nine percent of HIV+ve patients had education upto secondary school, followed by 35% illiterate, 17.8% primary school and about 8 % from college going group and above. Our main concerns of occupational status were housewife, daily wages, and salaried that contributes about 65.9%. The difference is statistically significant  $p < 0.001$ , as shown in [table 3](#). Maximum numbers of patients referred to ICTC were from ART. Of all 62.4% were referred from ART, 20.9% from Government health facilities and 14.7% were voluntary. Clients referred from RNTCP were only to the tune of 0.1 to 0.9% indicates deficient collaboration and convergence between the two programs. The data of referral also indicates poor co-ordination of STI clinics with HIV/AIDS programs. No referrals were made from blood banks. Among all the attendees, 774 study subjects (14.7%) had visited the ICTC voluntarily as shown in [figure 1](#).

### Discussion

The epidemiology of HIV needs to be understood especially with regard to various socio demographic factors since they are the most effective approaches for its prevention and control as well as awareness and life style changes. Integrated Counseling and Testing Centre (ICTC) is the key to a range of interventions and cost effective steps in prevention and care ensuring availability of professional, client-centered counseling and testing services in an easily accessible, non-discriminating environment where clients are treated with dignity and respect. Data collected in ICTC may provide important clues to understand the epidemiology of disease in a particular region (Sharma A *et al*, 2009) (2).

The prevalence of the HIV seropositivity among the ICTC attendees in the present study was noted to be 12.9%. A similar type of study from district Ballia, and Sonbhedra showed HIV positivity 12.39% in 2006, which came down to 4.32% in 2008, that had gone up again in 2009 to 7.13% for district Ballia. Sonbhedra district showed HIV positivity as 7.63% in 2005 which declined in 2006 and thereafter it was most stable (3). This was probably due to the fact that the catchment area of IMS, BHU is much higher than that of the district units of Ballia or Sonbhedra. In a study done by Chennaveerappa *et al* (4) out of the 9327 attendees who were studied, 52.1% were males and 47.9% were females. The total positives were 945, out of which 52.4% were males, and 47.6% were females. In the present study the HIV positivity rate in 2009 was higher among females (18.79%) as compared to males (14.31%). While the positivity in females has declined reaching to 10.71% which is almost equal to that of males in 2011 as shown in table 2, meaning there by the constancy of the positivity in either gender in general clients. Epidemiologically this has a lot of explanations. Such as the infectivity is restricted between the affected individuals in either sexes or may be the infectivity is steadily declining in males while the females help to maintain the pool. In the latter situation the Neighbor and brother –in –law “(Nebar and Debar)” interaction with females may be harmful. Such a high prevalence of the infection rate in females are a cause of concern, since it will lead to an increase in the transmission of HIV from mother to child. It is believed that HIV/AIDS affects the economically productive age group of the society, which is also evident from the results of this study.

Consecutively in the last three years maximum Load of patients was from the age groups 35-49 years (19.13%) followed by 25-34 years (15.4%). Thus majority of the tested and HIV+ve individual were from 24 to 49 years probably because these age group peoples are sexually active. The age group  $\geq 50$  yrs. and above shows the constant trend of positivity throughout three years i.e. about 7%, showing undisturbed pool of infection may be this group is not spreading probably because of decrease in sex desire or Community Awareness. In children  $\leq 14$  yrs, it was astonishingly high positive, 12.2% in 2009, 11.2% in 2010 and 6.9% in 2011 respectively. This could be because of mother to child transmission (MCT) but if there is any sexual transmission this would be detrimental. The study at Karim Nagar,

Bhandarkar PN *et.al*. (5) shows in age group <15 yrs, males were 12 (4.3%) and females 13 (6.2%), while in age group 15-45 yrs. males were 225 (80.4%) and females were 182 (86.3%) and lastly in age >45 yrs males were 43 (15.4%) and females 16 (7.6%). The Positivity in this study was higher in females in <45 yrs group. The researcher has not stated the cause but this could be area specific or affected by migration. Since the migration study has not been conducted by them the effect could not be ascertained too emphatically.

According to this study, 78.6% of the subjects belonged to the age group of 15–49 years (the most sexually active age group), which was slightly lower than the national average (90%) and also lower than the figures which were obtained from a study which was conducted by Gupta in India (88.7%) (6). Majority of HIV seropositive patients were married and they contribute 73.9%. Unmarried and widowed were the next major contributors and constituted 10.8% and 14.6 % respectively. The occurrence of HIV in widows to the tune of about 15% is shocking. May be many of them were infected before being widows. This needs further probing by special study and close interviews with widows attending the ICTC. Among HIV+ve males 79.9 % were married whereas amongst HIV+ve females 64.7% were married. Widowed female were the next most important group that contributes about 27.5% which shows women of 25-35 years are sexually deprived either due husband left her for job or widowed. The study of south India shows; among the male attendees, 63% were married, 29.8% were unmarried and 7% were divorced. The unmarried males would possibly soon enter their reproductive lives and infect their wives and ultimately the risk of the parent to child transmission would increase. Among the female attendees, 72.8% were married, 20.2% were unmarried and 7% were divorced (Chennaveerappa *et al*, 2011) (4). The results are similar to the present study. This was in contrast to the findings of a study which was conducted in the north-west region of India, where 84.8% to 96.2% of the males and 79.2% to 86.1% of the females were married Lal S (7) (2003).

Out of 5265 HIV+ve patients during three years, 2053 (39%) had education upto secondary school, followed by 1841 (35 %) who were illiterate and 938 (17.8%) educated upto primary school and about 433 (8.2%) from college going group and above. The difference were statistically significant  $P < 0.001$ .

Study with regards to the level of education, it was observed that 32% were male sero positive subjects and 45 % were the female sero positive subjects were illiterates (Chennaveerappa *et al*, 2011) (4). This was in contrast to the findings of the study which was conducted by Gupta (6) where 14.3% of the male sero-positive subjects and 28.5% of the female sero-positives subjects were illiterates (Gupta M 2009). It may be inferred that higher educational levels offered some protection against HIV. Anybody who is illiterate and educated below the secondary education level may not have adequate knowledge for protecting himself or herself from sexually transmitted diseases, Including HIV/AIDS. May be educated people have their close sexual partners and they do not attend promiscuous groups, hence the positivity rate is lower in educated group. These may be taken as epidemiological explanations. The real insight needs a deeper socio-anthropological study. Thus our main concerns of occupational status were housewives, daily wages, and salaried people who collectively contributes about 65.9%. Housewives maintain the pool of infections. The difference is statistically significant  $P < 0.001$ . A study which was conducted by Vyas N(8) in the north west region of India showed that a majority of the seropositive subjects were unskilled workers (8.4%–12.7%) and drivers (9.7%–17.4%), whereas among the females, a majority of them were housewives (25.6%–33.6%) (8). The long distance truck drivers are a highly mobile group in whom the contact with multiple sexual partners is quite common (9). Commercial sex and substance abuse are firmly entrenched in the socio-cultural milieu of the trucking industry in India and are a part of their daily lives (10).

Heterosexuality was the most common mode of transmission since it is the major activity related to HIV/AIDS and it persisted between 68- 71% in the three consecutive years. The study undertaken by Bhandarkar *et al* (5) (2011) shows multiple sex partnership as the major risk behaviour among patients, i.e. 202(72.1%) among males and 120(56.9%) among females, followed by drug abuse, homosexuality, vertical transmission and others.

## Conclusion

This disease results not only in income loss, but in the additional burden of taking the treatment and it completely devastates the affected families. Therefore, the entire family needs support and care

from both the community and the government. The increased availability and the use of the ICTC services will prove to be a huge potential benefit for the society. The socio-demographic factors associated with HIV positivity were age, sex, rural area, illiteracy, daily wages labour and most common mode of HIV transmission was heterosexual route.

## Recommendation

Operational modifications to be carried out for implementation and technical issues for the improvement of the skill of the stake holders of health care delivery system. Key populations at higher risk (particularly sex workers and their clients, men who have sex with men and people who inject drugs) must be identified. Behaviour change programmes should be implemented on priority basis. Condom promotion and distribution should be encouraged. Treatment, care and support for people living with HIV must be ensured. The Referral system of HRGs to ICTC, STI and ART need to be strengthened and closely monitored. Conduct regular training sessions with counselors regarding data collection and counseling technique.

## Limitation of the study

In terms of non-availability of data, incompleteness of data and data not recorded as per the formats required for triangulation exercise.

## Relevance of the study

Our main concern of Data Triangulation is halting and reversing the trend of HIV Epidemic in Varanasi District and involves greater care, support and treatment to large number of PLHA.

One of the main objectives laid down under NACP-III is "Respect for the rights of people living with HIV/AIDS (PLHA)". Triangulation presents one strategy for using diverse datasets to develop timely recommendations for policy and program evaluation and decision making. Triangulation can make use of pre-existing data sources.

## Authors Contribution

RK- Data collection, Analysis, interpretation of data, drafting the article, MK- Revising it critically for important intellectual content, AK & SS- Critical analysis of data made finalization of manuscript, SCM- Conception and design of study.

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## Tables

**TABLE 1 ANNUAL BURDEN OF ATTENDEES AT INTEGRATED COUNSELING AND TESTING CENTRE**

Parameters	Years						Total
	2009 (N)	%	2010 (N)	%	2011 (N)	%	
Total clients registered	12628	30.68	15461	37.56	13070	31.75	41159
No. of clients receiving pre-test counseling	12628	30.68	15461	37.56	13070	31.75	41159
No. of clients tested for HIV	12628	30.82	15461	37.73	12880	31.43	40969
No. of clients receiving post-test counseling	11666	31.13	13874	37.03	11924	31.82	37464
Total number of clients testing sero-positive (after 3 specified test)	2003	38.04	1951	37.05	1311	24.90	5265
Positivity rate according to testing	15.86%		12.61%		10.17%		12.85%

**TABLE 2 ANNUAL BURDEN OF CLIENT'S AT ICTC ACCORDING TO GENDER**

Years	Gender						Z test	Value of P
	Male			Female				
	Tested	HIV+	Positivity Rate %	Tested	HIV+	Positivity Rate %		
2009	8276	1185	14.31	4352	818	18.79	6.34	<0.05
2010	6538	1174	17.95	7951	777	9.77	14.1	<0.05
2011	8512	843	9.90	4368	468	10.71	1.42	>0.05
Total	23326	3202	13.72	16671	2063	12.37	3.96	<0.05

**TABLE 3 SOCIODEMOGRAPHIC PROFILE OF HIV+VE PATIENTS AT ICTC**

Factors	Years			Total N (%)
	2009 N (%)	2010 N (%)	2011 N (%)	
(A)Age groups (years)				
≤ 14	130(6.5)	116(5.9)	61(4.7)	307(5.8)
15-24	120(6.0)	127(6.5)	119(9.1)	366(7.0)
25-34	682(34.0)	665(34.1)	371(28.3)	1718(32.6)
35-49	911(45.5)	866(44.4)	589(44.9)	2366(44.9)
≥ 50	160(8.0)	177(9.1)	171(13.0)	508(9.6)
(B)Marital status				
Married	1477(73.7)	1458(74.7)	956(72.9)	3891(73.9)
Single	207(10.3)	197(10.1)	162(12.4)	566(10.8)
Divorced/separate	20(1.0)	7(0.4)	12(0.9)	39(0.7)



<b>Widowed</b>	299(14.9)	289(14.8)	181(13.8)	769(14.6)
<b>(C)Educational status</b>				
<b>Non-literate</b>	700(34.9)	688(35.3)	453(34.6)	1841(35.0)
<b>Primary school</b>	337(16.8)	366(18.8)	235(17.9)	938(17.8)
<b>Secondary school</b>	753(37.6)	795(40.7)	505(38.5)	2053(39.0)
<b>College and above</b>	213(10.6)	102(5.2)	118(9.0)	433(8.2)
<b>(D)Occupational status</b>				
<b>Daily wage</b>	347(17.3)	397(20.3)	290(22.1)	1034(19.6)
<b>Salaried</b>	238(11.9)	186(9.5)	117(8.9)	541(10.3)
<b>Business</b>	224(11.2)	124(6.4)	103(7.9)	451(8.6)
<b>Housewife</b>	739(36.9)	728(37.3)	430(32.8)	1897(36.0)
<b>Retired</b>	12(0.6)	13(0.7)	7(0.5)	32(0.6)
<b>Student</b>	87(4.3)	77(3.9)	36(2.7)	200(3.8)
<b>Others</b>	326(16.3)	02(0.1)	0(0.0)	328(6.2)
<b>No work</b>	9(0.4)	104(5.3)	247(18.8)	360(6.8)
<b>Driver</b>	15(0.7)	213(10.9)	58(4.4)	286(5.4)
<b>Farmer</b>	6(0.3)	107(5.5)	23(1.8)	136(2.6)

## Figure

**FIGURE 1 LINKAGES AND IN REFERRALS OF PATIENTS TO ICTC**

