

ORIGINAL ARTICLE

Profile of Clients & HIV positive patients attending the ICTC of a tertiary care center of Bihar: A situational analysis

Arshad Ayub¹, Geetika Singh², Shamshad Ahmad³, Saket Shekhar⁴, Bhojraj Palariya⁵, Amita Rathore⁶, Pragya Kumar⁷, Neeraj Agarwal⁸

¹Ex-Senior Resident, Department of Community & Family Medicine, All India Institute of Medical Sciences, Patna, Bihar; ²Ex Senior Resident, Department of Community & Family Medicine, All India Institute of Medical Sciences, Patna, Bihar; ³Assistant Professor, Department of Community & Family Medicine, All India Institute of Medical Sciences, Patna, Bihar; ⁴Senior Resident, Department of Community & Family Medicine, All India Institute of Medical Sciences, Patna, Bihar; ⁵Senior Nursing Officer, All India Institute of Medical Sciences, Patna, Bihar; ⁶Nursing Officer, All India Institute of Medical Sciences, Patna, Bihar; ⁷Additional Professor, Department of Community & Family Medicine, All India Institute of Medical Sciences, Patna, Bihar; ⁸Ex –Professor and Head, Department of Community & Family Medicine, All India Institute of Medical Sciences, Patna, Bihar

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Corresponding Author

Dr. Shamshad Ahmad, Department of Community & Family Medicine, All India Institute of Medical Sciences, Phulwari Sharif, Patna, Bihar – 801507
E Mail ID: ahmad.aiims.patna@gmail.com



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Abstract

Background: The services provided in an ICTC help in awareness about HIV and help the clients to undergo HIV test in a comfortable and confidential environment. Periodical evaluation of counseling, testing, and referral services is mandatory to find out any existing deficits and barriers of all functions of ICTCs. **Objectives:** To study the socio-demographic profile of ICTC attendees and to find out sero-positivity of these clients. **Methods:** The present study was carried out among ICTC attendees in the ICTC unit, at All India Institute of Medical Sciences of Patna district. A retrospective collection of data from available records of all clients who attended ICTC of our hospital between January 2019 and December 2019 was carried out after approval from institutional research and ethics committee. **Results:** A total of 28876 clients were tested during January–December 2019 and among them all (100%) of tests were provider initiated. Out of the total attendees, 223 (0.77%) were found to be positive. It was also observed that the number of clients attending the ICTC has increased every month. **Conclusion:** It shows a high illiteracy and high spouse positive rate among the reactive cases. The young age group was found to be affected more and it definitely raises a concern.

Keywords

ICTC; HIV; HIV Tests; Counselling

Introduction

HIV counselling and testing services were started in India in 1997.(1) 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. The main functions of an ICTC are, conducting HIV diagnostic tests., providing basic information on the modes of HIV transmission, and promoting behavioral change to reduce vulnerability and linking people with other HIV prevention, care and

treatment services. These services provide awareness and accurate information about HIV and help the clients to undergo HIV test in a comfortable, supportive and confidential environment.

In financial year 2015-16, more than 29 million clients accessed counselling and testing services in the ICTC throughout the country.(1)

The adult HIV prevalence at national level has continued its steady decline from an estimated peak of 0.38% in 2001-03 through 0.34% in 2007, 0.28% in 2012 and 0.26%

in 2015 to 0.22% in 2017 and remained same in 2019. Overall, the estimated adult (15–49 years) HIV prevalence trend has been declining in India since the the year 2000 and has been stabilizing in recent years.(2)

Barriers to voluntary counselling and testing (VCT) are negligence, negative perceptions of testing services, lengthy pre- and post-test counseling, and shortage of good counselors.(3,4) A total of 90.52 lakh clients tested for HIV in the year 2011–2012.(5) Periodical evaluation of counseling, testing, and referral services is mandatory to find out any existing deficits and barriers of all functions of ICTCs. A detailed Socio-demographic information about the clients will help in understanding the factors associated with increased or decreased testing of HIV.

Aim & Objective

To study the socio-demographic profile of ICTC attendees and to find out sero-positivity of these clients.

Material & Methods

Study Type: Cross Sectional study, **Study population :** A retrospective collection of data from available records of all clients who attended ICTC of our hospital between January 2019 and December 2019 was carried out after approval from institutional research and ethics committee approval. **Study Area:** The present study was carried out among ICTC attendees in the Department of Community & Family Medicine (CFM), ICTC unit, at All India Institute of Medical Sciences of Patna district, Bihar, India. **Study Duration:** 3 months (January 2020 to March 2020) **Sample Size :** The present study included 28876 ICTC attendees, who were either volunteers or referred by various departments of our institute. The ICTC counselors collected their anonymous and unlinked data in registers and logbooks as per National AIDS Control Organization (NACO) guidelines under strict confidentiality. Data accessed from the records included age, sex, marital status, education and occupational status, behavioral patterns and HIV status of the couples.

Ethical approval: Ethical approval from Institutional Ethics committee was taken before the commencement of the study. **Consent:** As the data was taken from the records retrospectively, consent was not applicable.

Sample collection and processing: All the ICTC attendees had relevant pretest counseling and written informed consent was sought before HIV testing was carried out. Five milliliters (mL) venous blood sample was collected in a sterile plain container from all clients who consented for HIV testing. Blood was allowed to clot for 30 min at room temperature (25-30°C) and serum was separated after centrifugation at low speed. The serum samples were then stored at 4°C and were tested within 24 h.

HIV serology: HIV antibodies were tested by the three rapid tests protocol as per the guidelines laid down by the World Health Organization (WHO testing strategy III) and the testing policy of NACO, Government of India.(5, 6) The blood was initially screened using Meriscreen Rapid test

kit. Those found to be reactive were subjected to Combs Test (second test) followed by Immunodot test (third test). The samples were considered as positive when found reactive by all three different methods. All tests were done according to manufacturer's instructions. If the test was non-reactive, attendees were counselled regarding preventive measures for HIV. If the test was reactive, then the attendees were advised appropriately, the counsellor undertook post-test counselling and the patients were referred for care, support and treatment programs to their respective ART centers. All positive test results were disclosed only after posttest counseling of the patients. Under the parent-to-child transmission of HIV/AIDS (PPTCT) Programme, HIV testing was also offered to all pregnant women reporting to the Obstetrics and Gynecology Department of AIIMS, Patna. Similar counseling and testing protocol were followed in all these antenatal cases.

Statistical analysis: The data were analyzed for the frequency, proportion, 95% Confidence interval and the possible associations were found out using the Chi-square tests. The analysis was done using 'Statistical Package for the Social Sciences (SPSS)' statistical software. Statistical significance was defined when P value is less than 0.05.

Results

In this study, a total of 28876 clients were tested during January-December 2019 and among them all (100%) of tests were provider initiated. Out of the total attendees, 223 (0.77%) were found to be positive. It was also observed that the number of clients attending the ICTC has increased every month [Figure-1]. The number of reactive cases didn't follow a uniform trend, it was highest in April 29(1.3 %) followed by February 21(1.1%) and August 27(0.99%). The lowest proportion of recorded reactive cases were in the month of January 7(0.4%) [Figure-1] & [Table]

The total number of clients was 28876 out of which 28136 were from Bihar only and rest 740 were from different regions from India and few from Nepal. [Figure-2] shows the number of clients coming from different administrative divisions of Bihar. It is clear that maximum number of attendees were from Patna division (16321) followed by Tirhut (2950) and Magadh division (2529). Minimum attendees were from Purnea (494) and Bhagalpur divisions (318). The number of reactive cases were also highest from the same divisions (maximum i.e. 106 from Patna division followed by Tirhut i.e. 20). The least number of reactive cases were from Kosi (3) and Darbhanga.(6)

[Table 2] shows the distribution of clients and reactive patients, attending the ICTC center across their sex and age. Maximum attendees were from 25-44 years age group followed by the age group of 45-64 years. Proportion of males were significantly higher among all age groups except 25-44 years age group where females

were more than males. It is evident from above table that males were more among the reactive cases (63%) while females were 37%. Among males, the maximum (60.29%) reactive cases were from the 25 to 44 years age group followed by 30.14% from 45-64 years age group. Similarly, among females, maximum (51.25%) were from the 25 to 44 years age group followed by 31.25% from 45-64 years age group. Only one reactive case was there aged more than 65 years. The association was not found to be statistically significant. [Table 3]

The various characteristics of the clients with a reactive result were not complete and consistent as while recording the data, there were various factors such as hesitation, hurry, depression, feeling ashamed etc. that hindered a complete data collection. Data regarding education was present from only 107 out of 223 reactive cases and showed that 68 (63.5%) reactive cases were literate. Similarly, data regarding history of migration was available from only 69 reactive cases which showed 10 (14.4%) of people having a history of migration, and around 29% of the spouse of the reactive cases were found to be reactive.

When asked about possible risk behavior (N=164) the most common risk behavior was found to be casual/non-commercial/non regular partner (42%) followed by regular partner/spouse (21.9 %) and Unknown (21.3%). Least common one was homosexual transmission (0.61%).

Discussion

In 2015, adult HIV prevalence is estimated at 0.30% among males and at 0.22% among Females.(8) Among the States/UTs, in 2015, Manipur has shown the highest estimated adult HIV prevalence of 1.15%, followed by Mizoram (0.80%), Nagaland (0.78%), Andhra Pradesh & Telangana (0.66%), Karnataka (0.45%), Gujarat (0.42%) and Goa (0.40%). Besides these States, Maharashtra, Chandigarh, Tripura and Tamil Nadu have shown estimated adult HIV prevalence greater than the national prevalence (0.26%), while Odisha, Bihar, Sikkim, Delhi, Rajasthan and West Bengal have shown an estimated adult HIV prevalence in the range of 0.21–0.25%. All other States/UTs have levels of adult HIV prevalence below 0.20%.(7)

In our study the proportion was 0.77% among the attendees which is higher than the state, while a study done in a tertiary care hospital in Delhi shows an average of 6.3% reactive cases over 5 years.(8)

The gender pattern among both attendees and reactive cases remains the same as found in studies done in other parts of the country. In our study 52.6 % male and 47.4% female clients attended the ICTC while in a study done by Chellaiyan et al in Delhi had 68% males and 32% females were there. Similarly a study from Odisha shows a 67% of total clients being male and 33% females.(9) Among positive/reactive cases 63% were males and 37% were

females in our study, while in a study done by Dutt et al 56% were males and 44% were females.(10)

WHO's health specific age classification was used to classify the clients according to age in the present study.(11) And it was found that maximum attendees (36.3%) were from 25-44 years age group followed by the age group of 45-64 years (25.2%) as this is the most sexually active age group and emphasizes the need of youth specific interventions or mandatory sex education, so that these young adults can be prepared beforehand. A study from Delhi shows similar pattern of maximum attendees from 25-49 year age group.(8) The number of reactive cases were highest in April (1.3 %) followed by February (1.1%) and August (0.99%). The lowest proportion of recorded reactive cases were in the month of January (0.4%)

In our study, 29% of the spouse's status was reactive and 47% was unknown. Dash et al in Odisha found that among reactive cases, 95.5% where male partner/husband was positive and female partner/wife negative, while 4.5% where male partner/husband negative and female partner/wife was positive.(9) The same study shows that majority of HIV-seropositives, were less educated which is similar to our study (illiteracy-36.4%).(9)

Among reactive females' majority (84.09%) were housewives. A study done by Kommula et al also shows similar pattern.(11) It was found in the present study that majority of the male reactive patients (26.31%) were farmers which is also similar (39.8%) to the study carried out by Kommula et al.(11)

The most common Pattern of risk behavior was found to be casual, non-commercial, non-regular intercourse with opposite gender (42%). Which is similar (highest) in the study by Kommula et al.(11) Risk behavior like blood transfusion, vertical transfusion, homosexuality and intravenous drug abuse were low and these findings are almost similar to national figures. People with high risk behavior and the spouse of the affected person need to be counselled regarding all levels of prevention of the disease. HIV patients should be counselled/educated regarding the antiretroviral therapy that prolongs the survival and decreases the viral load and transmission of the disease.

Conclusion

The study involves huge and diverse data (28,868) both from the state and outside the state as well, which is good for having an estimate of the actual picture. The monthly variation in the number of the clients and reactive cases was found. Also it shows a high illiteracy and high spouse positive rate among the reactive cases. The young age group was found to be affected more and it definitely raises a concern and must be given priority in terms of all levels of prevention.

Recommendation

When we understand the trend of the disease (monthly) and the sociodemographic factors attached, it helps in understanding the current situation of the disease in the state. It definitely opens the doors of new dimensions in the research.

Limitation of the study

The various characteristics of the reactive clients couldn't be associated with other variables because of incomplete /inconsistent responses.

Relevance of the study

High illiteracy among the reactive cases as well as the young age group affected more, are the findings from the reactive cases from the state of Bihar. It also adds the trend of the disease during the calendar months.

Authors Contribution

AA: Concept, Definition of intellectual content, Literature search, Data acquisition, Data analysis, Statistical analysis, Manuscript preparation, Manuscript editing. GS: Literature search, Data acquisition, Data analysis, Statistical analysis, Manuscript preparation. SA: Literature search, Data acquisition, Data analysis, Statistical analysis, Manuscript preparation, Manuscript editing. SS: Literature search, Data analysis, Statistical analysis, Manuscript preparation. BP: Data acquisition. AR,PK,NA: Manuscript editing, Manuscript review.

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References

1. Integrated Counselling and Testing Centre | National AIDS Control Organization | MoHFW | GoI. Available from: <http://naco.gov.in/integrated-counselling-and-testing-centre> (Last accessed on 25.06.2021)
2. routinizing_hiv_testing.pdf. Available from: http://pdc.ceu.hu/archive/00003268/01/routinizing_hiv_testing.pdf (Last accessed on 25.06.2021)
3. Dyk AC van, Dyk PJ van. "To know or not to know": Service-related barriers to Voluntary HIV Counseling and Testing (VCT) in South Africa. *Curationis*. 2003 Mar 27;26(1):4–10.
4. Chellaiyan VG, Raut DK, Khokhar A. Integrated counseling and HIV testing centers of Delhi: An evaluation. *J Family Med Prim Care*. 2018;7(4):791–5.
5. National_Guidelines_for_HIV_Testing_21Apr2016.pdf. Available from: http://www.naco.gov.in/sites/default/files/National_Guidelines_for_HIV_Testing_21Apr2016.pdf
6. Annual Report 2015-16.pdf. Available from: <http://naco.gov.in/sites/default/files/Annual%20Report%202015-16.pdf> (Last accessed on 25.06.2021)
7. recent-trend-of-hiv-infection-at-ictc-in-a-tertiary-care-hospital-in-north-india.pdf. Available from: <https://www.archivesofmedicine.com/medicine/recent-trend-of-hiv-infection-at-ictc-in-a-tertiary-care-hospital-in-north-india.pdf> (Last accessed on 25.06.2021)
8. Dash M, Padhi S, Sahu S, Mohanty I, Panda P, Parida B, et al. HIV counseling and testing in a tertiary care hospital in Ganjam district, Odisha, India. *Journal of Postgraduate Medicine*. 2013 Apr 1;59(2):110.
9. Dutt R, Chaudhuri S, Goswami S. Profile of HIV positive clients: an ICTC record based retrospective study. *Int J Community Med Public Health*. 2017 Jul 22;4(8):3018.
10. SeriesM_74e.pdf. Available from: https://unstats.un.org/unsd/publication/SeriesM/SeriesM_74e.pdf (Last accessed on 25.06.2021)
11. Kommula DVM, Mishra DAK. Profile Of HIV Positive Clients In An ICTC Of A Private Medical College, Andhra Pradesh: A Situational Analysis. 3:6.

Tables

TABLE 1 TOTAL NUMBER OF CLIENTS (N=28136) FROM DIFFERENT ADMINISTRATIVE DIVISIONS OF BIHAR (N=176)

Administrative divisions	Number of clients (N=28136)
Magadh	2529 (8.98%)
Kosi	825 (2.93%)
Darbhanga	1367 (4.85%)
Tirhut	2950 (10.48%)
Saaran	1959 (6.96%)
Purnea	494 (1.75%)
Bhagalpur	318 (1.13%)
Patna	16321 (58.00%)
Munger	1373 (4.87%)

TABLE 2 AGE AND SEX WISE DISTRIBUTION OF CLIENTS (N=28867) AND REACTIVE PATIENTS (N=216) ATTENDING ICTC CENTER FOR HIV TESTING

Total Clients (N=28867)				Total Reactive patients (N=216)		
Age Category	Male (Freq, Row % & 95% CI)	Female (Freq, Row % & 95% CI)	P-values	Male (Freq, Column % & 95% CI)	Female (Freq, Column % & 95% CI)	P-values
1-14 years	1694 (65.43%, 63.5-67.4)	895 (34.56%, 32.7-36.4)	<0.0001	4 (2.94%, 1.15-7.32)	5 (6.25%, 2.7-13.81)	0.409
15-24 years	3041 (53.6%, 52.3-54.8)	2633 (46.4%, 45.1-47.7)	0.08	9 (6.61%, 3.52-12.10)	8 (10.00%, 5.15-18.51)	0.527
25-44 years	4895 (46.7%, 45.7-47.6)	5587 (53.3%, 52.3-54.2)	<0.0001	82 (60.29%, 51.9-68.13)	41 (51.25%, 40.4-61.89)	0.248
45-64 years	3722 (51.0%, 49.8-52.1)	3578 (49.0%, 47.8-50.1)	0.001	41 (30.14%, 23.07-38.32)	25 (31.25%, 22.1-42.07)	0.011
65 years	1821 (64.5%, 62.4-66.2)	1001 (35.5%, 33.7-37.2)	<0.0001	0 (0%, 0.00-2.75)	1 (1.25%, 0.22-6.75)	0.370 (Fisher's Exact)
Total	15173 (52.6%)	13694 (47.4%)	Total	136 (62.96%)	80 (37.03%)	

TABLE 3 VARIOUS CHARACTERISTICS OF REACTIVE PATIENTS (FREQUENCY, PROPORTION)

Occupation (N=101)	
Female (44)	
House wife	37 (84.09%)
Skilled	1 (2.27%)
Unskilled	6 (13.63%)
Male (57)	
Businessman	6 (10.52%)
Semi-skilled	11 (19.29%)
Skilled	29 (50.87%)
Unskilled	8 (14.03%)
Professional	3 (5.26%)
Education (N=107)	
Literate	68 (63.55%)
Illiterate	39 (36.44%)
Spouse status (N=151)	
Reactive	44 (29.13%)
Non-reactive	17 (11.25%)
Not applicable	19 (12.58%)
Unknown	71 (47.01%)
Children Status (N=197)	
Any child reactive	7 (3.55%)
Any child non-reactive	3 (1.52%)
All children reactive	2 (1.01%)
All non-reactive	30 (15.22%)
Status unknown	131 (66.49%)
Not applicable	24 (12.18%)
Pattern of risk behavior (N=164)	
Regular partner/spouse	36 (21.95%)
Parent to child	9 (5.48%)

Homosexual/Bisexual	1 (0.6%)
Commercial partner	14 (8.53%)
Casual/Non-commercial/non- regular	69 (42.07%)
Not Specified/Unknown	35 (21.34%)

Figures

FIGURE 1 DISTRIBUTION OF ICTC CLIENTS AND REACTIVE CASES OVER A TIME PERIOD FROM JANUARY-DECEMBER, 2019 (N=28876)

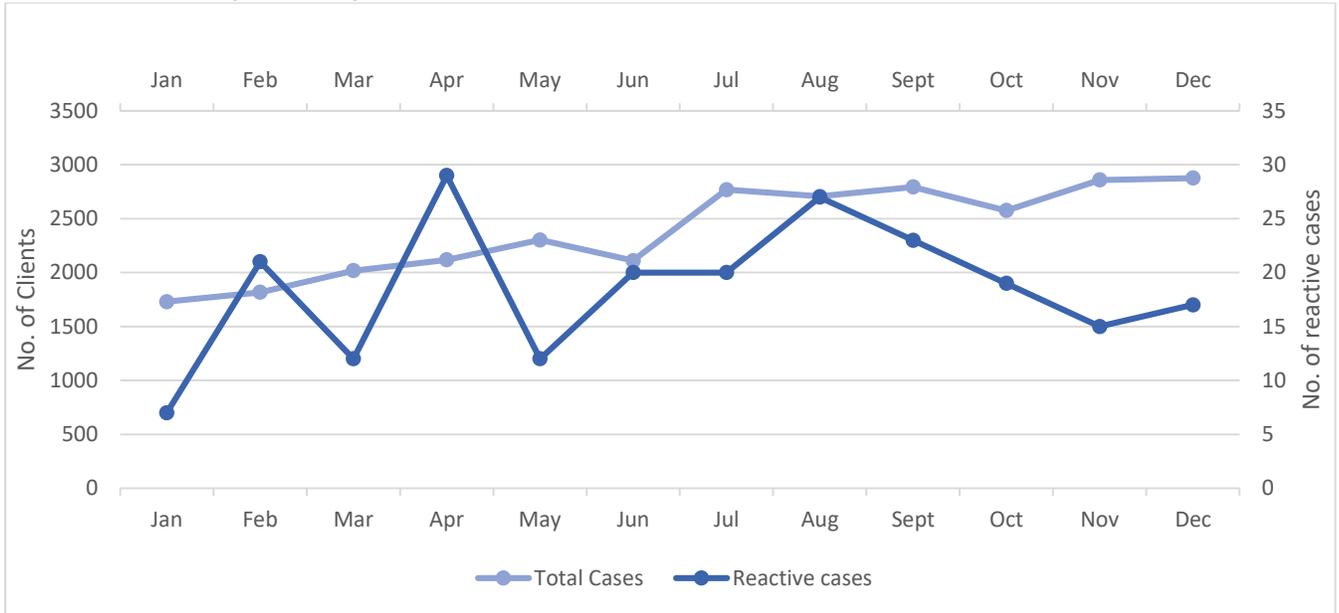


FIGURE 2 PROPORTION OF REACTIVE CASES (N=176) FROM DIFFERENT ADMINISTRATIVE DIVISIONS OF BIHAR

