

Original Research Article

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Profile of HIV Positive Clients Attending an Integrated Counselling and Testing Centre of a Tertiary care Hospital in Meerut, Uttar Pradesh, India

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ABSTRACT

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HIV/AIDS has turned out into global pandemic. Integrated Counselling and Testing Centres (ICTC) are entry points for a wide range of intervention in HIV prevention and care. To assess socio-demographic profiles, sero-positivity and risk behaviour pattern of clients attending ICTC. ICTC attached to Department of Microbiology, Subharti Medical College, Meerut. A retrospective study was conducted among clients who visited ICTC either by self-initiative or referred by a doctor or non-governmental organization (NGO) from January 2012 to December 2014. Chi square test and Z-proportion test. Overall prevalence of HIV positivity was 1.12% of the clients attending an ICTC. A total of 81.08% males and 83.69% females who were seropositive were in the age group of 15-49 years. A total of 88.04% of females were housewives, 31.08% males were having business, 72.15% were married and 66.77% were from rural areas. Heterosexual route was the most common route of transmission in 78.16% clients. Best antidote for HIV/AIDS remains increased awareness and adaptation of safe behavioural practices. Therefore, epidemiological studies should be carried out to find out behavioural, social and demographic factors which help in interruption and control of disease.

Introduction

AIDS has evolved from an infectious illness to a global pandemic which has affected tens of millions in less than 20 years. According to UNAIDS (2010) Global report in the world the number of people living with HIV are 33.3 million. (Kommula VM *et al.*, 2012) India shares one tenth of the global HIV burden and overall 65% is attributed to South and South East Asia. (Praveen G and Srinivas BS, 2013) Spread of HIV/AIDS is a consequence of specific behavioural pattern

and has strong socioeconomic implications. Awareness generation and lifestyle changes are preventive and control measures for HIV/AIDS and for these epidemiology of the disease in a particular region with regard to socio-demographic profile and pattern of risk behaviour of population must be understood. Under National AIDS Control Programme (NACP)-III, Integrated Counselling and Testing Centres (ICTC's) will become a hub for all HIV related

activities. ICTC is a cost effective intervention in preventing the spread of HIV transmission and is an integral part of HIV prevention program, which provides an opportunity to learn and accept HIV status in a comfortable, convenient and confidential manner. It is the first interface between person willing to get tested and the public health system. Further, it is an entry point to care. (Ministry of Health and Family Welfare, (GOI) New Delhi: Voluntary Counseling and Testing; National AIDS Control Organization). The current study is contemplated with a view to understand the socio-demographic profile and risk behaviour of attendees of ICTC.

Materials and Methods

A retrospective study was carried out for a period of 3 years from January 2012 to December 2014 in an ICTC, attached to the Microbiology Department of CSSH, a tertiary care hospital. The study included a total of 28824 clients which were registered at ICTC. The approval from the Institutional Ethical Committee was obtained before conducting the study. All the clients received pre-test counselling. Following consent, the clients underwent HIV testing if they wished to. All clients received post-test counselling when they returned for their results. Those tested positive were given information on how to take care of themselves and referred to state government Medical college for CD4 testing and Highly active anti-retroviral therapy (HAART). Those found negative received information on change of risk behaviour. Information obtained from the counselling and the HIV test results were documented and linked by a number assigned to each client at time of first contact with the centre called Personal Identification Digit (PID). Samples were tested as per strategy and policy prescribed by National AIDS

Control Organisation (NACO). 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 a system different from the first one i.e. the principle and/or antigen used is different. 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.

Results and Discussion

During the study period a total of 28824 clients were registered at ICTC. Out of them 97.46% (28091/28824) clients were tested for HIV. Number of new clients tested were 9085 (97.25%) in 1st year which increased to 9881 (97.71%) and 9125 (97.40%) in the 2nd and 3rd year respectively. In the 3rd year there was a decrease in the prevalence of self-initiated & ANC (Ante-natal care) clients to 5.66% (517/9125) & 10.66% (973/9125) from 7.09% (644/9085) & 14.76% (1340/9342) in 1st year and 6.99% (699/9881) & 15.76% (1557/9881) in 2nd year. The provider initiated clients decreased to 75.93% (6929/9125) in the 3rd year from 77.20% (7014/9085) and 76.42% (7551/9881) in 1st and 2nd year respectively. However, significant increase in the number of clients tested from NGO's/Targeted Intervention's (TI's) increased in 3rd year, 5.32% (486/9125) from 0.96% (87/9085) in 1st and 0.84% (83/9881) in 2nd year. The comparison of ICTC performance is given in Table 1.

The socio-economic and demographic profiles of HIV positive attendees are elaborated in Table 2. Male to female ratio of HIV positive attendees was 2.41:1 (222/92) with 35-49 years of age group being most affected. The two transgenders 25 & 49 years old were unmarried, homosexual, illiterate, resided in rural area and were doing some business by occupation. They came to the ICTC themselves and on testing both were positive for HIV. The epidemiological characteristics of HIV positive clients are given in Table 3.

The married to unmarried ratio was 4.47:1 (228/51). Majority of seropositive males (31.08%) were businessmen by occupation as compared to seropositive females (88.04%) who were housewives. Overall 81.33% clients were literate; however the literacy rate among seropositive males was 86.49% (192/222) as compared to 70.65% (65/92) among females. Rural to urban ratio being 2.39:1. Baghpat district was identified as the hot spot in comparison to other areas of district Meerut with 16.45% of seropositive client-age alone from the area. Heterosexual mode of transmission (78.16%) was responsible for sero-positivity among of HIV positive clients. Proportion of clients with HIV TB co-infection was 5.06% (16/316).

Out of total self-initiated clients and NGO's, seropositive self-initiated clients and NGO's were 6.96% (129/1852) and 2.51% (16/636) whereas, that of provider initiated and ANC seropositive clients out of total provider initiated and ANC clients were 0.77% (166/21514) and 0.13% (5/3870). The three NGO's sending clients for HIV testing in the ICTC are 1) Khushi clinic (now known as JL BalNikunj Samiti) works for Truck drivers and send them for testing. Number of clients tested positive are 14 and negative are 461 by this NGO. 2) ASHI TI NGO works for injection drug users and send them for

testing. Out of total clients (76) tested, 2 were positive for HIV. 3) GRAVIS NGO for female sex workers and send them for testing. None out of 97 clients tested was positive. The distributions of positive and negative cases of the three NGO's (TI's) are shown in Table 4.

Counselling and Testing are important for prevention and control of HIV/AIDS; however it is neither desirable nor feasible to counsel and test everyone in the general population. In ICTC the target group is the sub-population which are either vulnerable or practice high risk behaviour.

The ICTC in general is an ideal point for HIV prevention, where HIV negative individuals learn to use full array of existing services and interventions to adopt and maintain risk reduction behaviours, and HIV positive individuals use quality protection services to adopt and sustain lifelong protective behaviours and avoid the virus transmission.

The HIV sero-positivity in ICTC clients in the present study was noted to be 1.12% which is less than in studies of Ranchi (6.90%), South Kannada (9.6%) and West Bengal (17.1%). (Kiran *et al.*, 2015; Gupta M 2009; Joardan GK *et al.*, 2006) The difference of HIV prevalence in different studies may be attributed to difference in health seeking behaviours in different parts of the country which depends on socio-cultural milieu of the community. Analysis of the characteristics of clients attending the ICTC over 3 years identified a number of strong facts. High number of clients attended and tested at the ICTC during the three years and the number of clients that attended and tested almost remained same; although there was a marginal increase in the second year. However, the low percentage of self-initiated clients means the need for intensive efforts in spreading the

HIV/AIDS awareness in the area. Male to female ratio in our study was 2.4:1 which is higher than the studies of Ranchi (1.89:1), Udupi (1.83:1), Karnataka (1.82:1). On the contrary, it is lower than the study reported from Ahmedabad (2.9:1). (Kiran *et al.*, 2015; Gupta M, 2009; Praveen G and Srinivas B, 2013; Sharma R, 2009) An alarming fact that was observed in our study was that the prevalence is catching up in 25-34 years age group, though highest incidence of positivity remains in the age group of 35-49 years, indicating that AIDS still threatens the most productive segment of society in the prime of their working life. It emphasizes the need of some school or college based interventions where these people can be prepared before hand. Among the sero-positive females, 43.48% are in the age group of 25-34 years. Such a high proportion of infection in young females is a matter of concern since this will lead to increased risk of mother to child transmission.

Most of the patients in our study were married and this probably because they are more accustomed to sex and therefore the hesitation to indulge in sexual activity is less. A substantial number of them were males living with their families. These people, if not informed will soon be infecting their spouses and enhancing the risk of parent to child transmission resulting in more and more "AIDS orphans".

With regard to occupation, it was observed that the attendees having some business as occupation may get easy money and indulge in some risk behaviour that favours HIV-transmission. High rate of sero-positivity among the housewives is of great concern and it might be an indication of increased HIV transmission in the area.

Higher education offers some protection against HIV. Sex education is not included

in our secondary school curriculum and anybody who is illiterate or educated below or up to secondary level may not have adequate knowledge for protecting himself or herself from STD including HIV/AIDS. As such the people who are well educated are more receptive to information, education and communication and amenable to intervention.

In general, it was observed that awareness and knowledge of HIV/AIDS remains weak in rural areas and among women accounting for more seropositive clients from rural places as compared to urban areas. Unprotected heterosexual contact has come out to be the most common mode of transmission in the present study (78.16%) which is supported by various studies in India as well as other parts of the world. (Kiran *et al.*, 2015; Joardan GK *et al.*, 2006; Sharma R 2009; Wani KA 2012; Khopkar U *et al.*, 1992; Lissanc Seitu 2004; Destura RV *et al.*, 2003)

The homosexual mode of transmission of 4.11% which was similar to study from Srinagar, Kashmir (4.1%). (Wani KA, 2012). It was of concern in our place of setting as it can highlight spread from high risk to general population via bridge population and from permissive to conservative societies. In an Indian study (Sharma Rashmi 2009 and Khopkar *et al.*, 1992) reported higher sero-positivity of 7.7% and 6.7% respectively in men who have sex with men (MSM). However, outside India it is on a higher side especially in African countries (Lissanc Seifu 2004). Blood transfusion comprised of 11.71% which was almost similar to study conducted by Sircar *et al.*, (1998) of 12.1%. In various studies from India, (Wani KA, 2013; Chakravarty J, *et al.*, 2006 and Singh S, *et al.*, 2009) reported 2.3%, 2.5% and 5.7% sero-positivity respectively through blood transfusion.

Table.1 Comparison of ICTC Performance in three years

Characteristics	2012 1 st year (%)	2013 2 nd year (%)	2014 3 rd year (%)	Total (%)
Total Attendees	9342	10113	9369	28824
Total tested	9085 (97.25)	9881 (97.71)	9125 (97.40)	28091 (97.46)
Self-Initiated	644 (7.09)	691 (6.99)	517 (5.66)	1852
Provider initiated	7014 (77.20)	7551 (76.42)	6929 (75.93)	21514
NGO (TI)	87 (0.96)	83 (0.84)	486 (5.32)	636
ANC	1340 (14.75)	1557 (15.76)	973 (10.66)	3870
HIV sero-positive	98 (1.08)	127 (1.28)	91(1.00)	316 (1.12)

Table.2 Demographic Profiles of HIV Positive attendees

Variables	Male (n=222) No. (%)	Female (n=92) No. (%)	Total (n=316) No. (%)	Statistics
Age in years				
<14	4 (1.80)	4 (4.35)	8 (2.53)	X ² =11.34, p=0.023 (significant)
15-24	15(6.76)	12 (13.04)	27 (8.54)	
25-34	73 (32.88)	40 (43.48)	114 (36.08)	
35-49	92 (41.44)	25 (27.17)	118 (37.34)	
>50	38 (7.12)	11 (12.96)	49 (15.51)	
Marital Status				
Married	154 (69.37)	74 (80.43)	228 (72.15)	X ² =12.94, p=0.002 (significant)
Unmarried	47 (21.17)	4 (4.35)	53 (16.77)	
Widow/Separated	21 (9.46)	11 (12.96)	35 (11.08)	
Occupation				
Labour	66 (29.73)	1 (1.09)	67 (21.20)	X ² =56.50, p< 0.001 significant. (Labour, service and all other occupations)
Service	56 (25.22)	8 (8.69)	64 (20.25)	
Business	69 (31.08)	0	71 (22.47)	
Housewife	0	81 (88.04)	81 (25.63)	
Retired	2 (0.90)	0	2 (0.63)	
Student	7 (3.15)	1 (1.09)	8 (2.53)	
Others	22 (9.90)	1 (1.09)	23 (7.28)	
Education				
Illiterate	30 (13.51)	27 (29.35)	59 (18.67)	X ² =14.64, p=0.002 (significant)
1 st -5 th	63 (28.38)	30 (32.61)	93 (29.43)	
6 th -10 th	91 (40.99)	23 (25)	114 (36.08)	
11 th & Above	38 (17.12)	12 (13.04)	50 (15.82)	

Table.3 Epidemiological characteristics of HIV positive clients

Residence				
Rural	148 (66.67)	61 (66.30)	251 (66.77)	X ² =0.004, p=0.95(not-significant)
Urban	74 (33.33)	31 (33.70)	105 (33.23)	
Pattern of Risk Behaviour				
Heterosexual	174 (78.38)	73 (79.35)	247 (78.16)	1.768 p=0.621, not-significant (Sexual intercourse, Parental including needle stick and others)
Homosexual	11 (4.95)	0	13 (4.11)	
Through Blood & Blood products	23 (10.36)	14 (15.22)	37 (11.71)	
Through infected syringe & needle	5 (2.25)	0	5 (1.58)	
Parent to child	3 (1.35)	3 (3.26)	6 (1.90)	
Not specified/Unknown	6 (2.70)	2 (2.17)	8 (2.53)	
Client type				
Self-initiated	74 (33.33)	53 (57.61)	129 (40.82)	16.01 ,p=0.0003 significant (self-initiated, provider initiated and others)
Provider-initiated	132 (59.46)	34 (36.96)	166 (52.53)	
NGO(TI)	16 (7.21)	0	16 (5.06)	
ANC		5 (5.43)	5 (1.58)	
Co-infection with tuberculosis				
	15 (6.76)	1 (1.09)	16 (5.06)	

Table.4 Shows positive and negative cases from NGO's (TI's).

Positive	Negative	Total	Statistics
16	620	636	p<0.001 (Significant)

In the present study only in 2.53% of the individuals, the information of the risk behaviour was not available. Similar finding was reported in 8.5% and 59.8% individuals in studies conducted in Andhra Pradesh and Udupi (Kommula *et al.*, 2012 and Gupta M, 2009). This brings out the fact that clients were comfortable in disclosing the information about such sensitive facts in front of the counsellor in our ICTC. This is due to intensive training in strengthening the skills of counsellors under NACP-III.

Referral from TI's was comparatively poor in the present study (2.26%) as compared to

the study from Ahmedabad (6%), where the authors feel that the increase upto six times approximately in 2014 was observed due to the Information Education and communication (IEC) activities done in the catchment areas. (Sharma R *et al.*, 2009)

Sero-positivity percentage was higher in self-initiated clients (6.96%) and NGO's clients (2.51%) than in provider initiated (0.82%). These findings are supported by a similar study done from our College earlier by Rawat *et al.*, (2013) in which sero-positivity in self-initiated clients was 5.9%

and in provider initiated 0.68%. Our study shows the sero-positivity in pregnant women to be 0.13% as compared to 0.88% and 0.45% in studies from Delhi and Andhra Pradesh respectively. (Gupta S *et al.*, 2007; Devi AR and Shyamala R, 2012) The average HIV prevalence among women attending antenatal clinic in India in 2012-13 is 0.35% as per NACO annual report 2013-2014. It is much lower than studies done in Sub-Saharan Africa. Montana LS *et al.*, (2008). This may be due to differences in HIV prevalence and health seeking behaviour in different parts of the world.

Interaction of HIV-AIDS with other infectious disease is an increasing public health concern. Tuberculosis is one of the significant infectious causes of HIV related morbidity.

The registers lack certain important data like details of contact history, family size, any other person in the family with HIV etc. These may be collected from HIV positive clients during the post-test counselling and may be recorded as case studies in a certain uniform standardised semi-structured format, so that information may be compiled and utilized for programmatic intervention.

To conclude, prevention of HIV infection should theoretically be easier than prevention of water and airborne pathogens. HIV is spread as much by human behaviour as by the virus. Targeted interventions and intense Information Education and Communication (IEC) among the selected high risk groups should be carried out in different areas. Epidemiological studies have to be conducted in various settings to understand the role and complex relations of innumerable behavioural, social and demographic factors, which will help to interrupt and control the transmission of HIV/AIDS.

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