Original Article

SEROPOSITIVE INDIVIDUALS: SOCIO-BEHAVIOURAL PROFILE AND UTILIZATION OF INTEGRATED COUNSELLING AND TESTING CENTRE SERVICES

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ABSTRACT

Background and Objectives: The HIV pandemic has had a profound impact on the health and economic conditions of individuals. Integrated counseling and testing centre (ICTC) is the key to range of intervention in prevention and care for PLWHA. This study was undertaken to understand the epidemiological profile of HIV positive individuals and the ICTC linkages with other care and support services for PLWHA.

Methods: A retrospective cross sectional study was undertaken in an Integrated Counseling and Testing Centre of a medical college in a rural area of Nalgonda district of Andhra Pradesh. Data was collected for all sero-positive individuals from ICTC registered during the period January 2011 to September 2011 period by using predesigned questionnaire. The number of individuals registered during this period was 123.

Results: Mean age was 37.6 years (±12.48). Majority (43.44%) of them were illiterate. With reference to their occupational status 66.6 % of males and 62% of females were working on daily wages. Majority (93.33%) of the males and more than half i.e. 56.45% of the females were married. Statistically significant association was found between gender and educational status, occupational status and marital status. In reference to risk group 54.83% of females and 46.7% of males had multiple sexual partners, 23.33% of males were truckers. More than 90% of them were referred to ART center and RNTCP OPD.

Conclusion: The study reflected the need to have specially packaged programmes on the risk and vulnerability to HIV/AIDS for specific groups like illiterates, poor occupational status. Consolidate and further strengthen the efforts done in developing linkages in care and support of PLWHA through ICTC.

Key Words: Integrated Counseling and Testing Centre, seropositive individuals, PLWHA, linkages, referral

INTRODUCTION

The HIV pandemic has had a profound impact on the health and economic conditions of individuals and people living with HIV/AIDS are faced with the task of maintaining optimal health status despite an increasing insult to their immune status. [1] The distribution and spread of the disease is rather uneven in India. The epidemiology of HIV should be understood especially with regard to various socio demographic factors because the most effective approaches for its prevention and control are awareness and life style changes. [2]

ICTC is the first interface between a person willing to get tested and the public health system. Integrated counselling and testing centre (ICTC) is the key to range of intervention in prevention and care ensuring availability of professional, client-centred counselling and testing services in an easily accessible, non-discriminating environment where clients are treated with dignity and respect. ICTC is the 'gateways to care and support services' and it is a cost-effective intervention in reversing this epidemic. [2]

Counselling for HIV and AIDS has become a core element of a holistic model of health care; in this model, psychological issues are recognized as integral to patient management. Both pre- and post-test counselling have become standard components of prevention-oriented HIV antibody testing programs. [3]

The assessment of socio-demographic factors, level of awareness as well as risk behaviour of the population is mandatory in order to plan interventional strategies. The data generated by ICTC may provide important clues to understand the epidemiology of the disease in a particular part of the country. [4]

Under the National AIDS Control Programme Phase III (NACP-III) it is planned to have 22 million clients counselled and tested through the ICTCs every year. It is essential to maintain effective coordination with the RCH and TB programmes as well as with the antiretroviral therapy (ART) programme, and visit key persons in the facilities run by these programmes once in a fortnight so as to strengthen linkages and minimize loss of clients during referrals. Follow-up counselling also includes establishing linkages and referrals to services for care and support including ART centre, nutrition, home-based care and legal support.[5] Linkages between targeted prevention interventions and HIV counselling and testing, care and treatment services should be strengthened to ensure equity of access by high-risk populations. [6]

This study was therefore undertaken to understand the epidemiological profile of HIV positive individuals and to understand the ICTC linkages with other care and support services for PLWHA. The objectives of this study are to assess the socio-behavioural profile of sero-positive individuals and to assess the utilisation of ICTC services for treatment and care.

MATERIALS AND METHODS

The permission from Head of institution and Medical officer in charge of ICTC and clearance from Ethics Committee was obtained before starting the study.

The study was undertaken in an Integrated Counselling and Testing Centre of a medical college in a rural area of Nalgonda district of Andhra Pradesh. It was a retrospective cross sectional study conducted for the period January 2011 to September 2011. Data was collected for all sero-positive individuals from ICTC registered during the above period by using predesigned questionnaire. The number of individuals registered during this period was 123. Data was collected in two parts which comprised of socio-demographic profile and utilisation of ICTC services. The variables studied were age, sex, level of education, occupational status, marital status, risk behaviour, centre of referral, ICTC service linkages and CD4 count. Data was compiled and analysed using SPSS statistical package version 19 and presented in range, percentages, Chi-Square Test.

RESULTS

A total of 123 individuals were registered during the study period. Out of 123, 60 were males and 62 were females and 1 was transgender. Majority (51.21%) belonged to the age group of 31-50 years followed by 31.7 % who belonged to the age group of 10-30 years and 17.1 % were above 51 years. Mean age was 37.6 years (± 12.48). [Table 1]

Table 1: Age and Gender distribution of study subjects

Age (Yrs)	Males (%)	Females (%)	TG/TS (%)	Total (%)
10-30	13 (21.7)	26 (41.93)	0	39 (31.7)
31-50	36 (60)	26 (41.93)	1(100)	63 (51.21)
>51	11 (18.33)	10 (16.13)	0	21 (17.1)
Total	**60 (48.8)**	**62 (50.40)**	**1 (0.81)**	**123 (100)**

Majority (43.44%) of them were illiterate and 26.2% of them were educated up to primary class and equal numbers were educated up to secondary class. Around 44% of the females and equal number of males were illiterate. 36% of the females were educated up to primary class and 32% of males were educated up to secondary class. Statistically significant association was found between gender and educational status (P=0.014). [Table 2]

Table 2: Sociodemographic profile of study subjects

Factors	Males (%)	Females (%)	Total (%)	P value
Education				
Illiterate 26 (43.3)	27 (43.54)	53 (43.44)	< 0.014	
Primary	10 (16.66)	22 (35.48)	32 (26.22)	d.f. =3
Secondary	19 (31.66)	13 (20.96)	32 (26.22)	
College & above	5 (8.33)		5 (4.09)	
Occupation				
Daily wages	40 (66.66)	39 (62.9)	79(64.75)	< 0.0594
Salaried	4 (6.66)	1 (1.61)	5 (4.09)	d.f. =6
Business	2 (3.33)	5 (8.06)	7 (5.73)	
Housewife	-	4 (6.45)	4 (3.27)	
Retired	4 (6.66)	7 (11.29)	11 (9.01)	
Student	1 (1.66)	5 (8.06)	6 (4.91)	
Agricultural	9 (15)	1 (1.61)	10 (8.19)	
Marital status				
Married	56 (93.33)	35 (56.45)	91 (74.59)	< .0001
Single	3 (5)	3 (4.83)	6 (4.91)	d.f. =3
Divorce/ Single	1 (1.66)	7 (11.29)	8 (6.55)	
Widow	0	17 (27.41)	17 (13.93)	

With reference to their occupational status 66.6 % of males and 62% of females were working on daily wages followed by housewives and males working as salaried and in agricultural sector. Statistically significant association was found between gender and occupational status (P=0.0594). [Table 2]

Majority (93.33%) of the males and more than half i.e. 56.45% of the females were married. Also a quarter (27.41%) of the females was widows. Statistically significant association was found between gender and marital status (P=0.0001). [Table 2]

Majority (35.24%) of them had voluntarily visited the ICTC followed by 26.22% who were referred by private health facility, 13.93% were referred from the RNTCP OPD thus reflecting the TB-HIV coordination and also 7.4% were referred from the STI clinic and Community Care centre. [Table 3]

Table 3: Distribution of subjects as per center of referral (n=122)

Referred by	Males (%)	Females (%)	Total (%)
Obstetrics and Gynaecology	-	5 (8.06)	5 (4.1)
RNTCP OPD	9 (15)	8 (12.90)	17 (13.93)
Government facility	3 (5)	3 (4.83)	6 (4.91)
STI clinic	5 (8.33)	4 (6.5)	9 (7.4)
Community Care centre	5 (8.33)	4 (6.5)	9 (7.4)
Private health facility	16 (26.7)	16 (25.8)	32 (26.22)
Pre-surgical	0	1 (1.61)	1 (0.81)
Self	22 (36.7)	21 (33.9)	43 (35.24)
Total	**60 (100)**	**62 (100)**	**122 (100)**

Chi square value = 6.27 d.f. = 7 p value< 0.5082

In reference to risk group 54.83% of females and 46.7% of males had multiple sexual partners, 23.33% of males were truckers, 22.6% of females

had sexually transmitted disease and 15% of males and 12.9% of females had pulmonary tuberculosis. Significant association was found between gender and risk group (P=0.0009). [Table 4]

Table 4: **Distribution of subjects as per their risk groups (n=122)**

Risk group	Males (%)	Females (%)	Total (%)
Pulmonary Tuberculosis	9(15)	8 (12.9)	17 (13.9)
Extra-Pulmonary Tuberculosis	3 (5)	6 (9.7)	9 (7.4)
Sexually transmitted diseases	6 (10)	14 (22.6)	20 (16.4)
Truckers	14 (23.3)	0	14 (11.5)
Others*	28 (46.7)	34 (54.8)	62 (50.8)
Total	**60 (100)**	**62 (100)**	**122 (100)**

*(Having multiple sexual partners), **Chi square value = 18.8 d.f. = 4 p value< 0.000**

Regarding their risk behaviour 109 out of 122 individuals practiced heterosexual behaviour and only 2 of them had history of use of infected syringe and needle and only one practiced homosexual behaviour. [Table 5]

Table 5: Distribution of subjects as per their risk behaviour (n=123)

Risk Behaviour	Individuals (%)
Heterosexual	109 (88.6)
Homosexual	1 (1)
History of infected syringe & needle	2 (1.6)
Parent to child	5 (4.1)
Not specified	6 (4.7)
Total	**123 (100)**

Spouse status was available only in 48% of the study group and 71% of them were positive. More than 90% of them were referred to ART centre and RNTCP OPD thus reflecting the established linkages with Care and treatment centre. Around 40% of them were referred to STI clinic and Community care centre. [Table 6].

Table 6: Distribution of subjects as per ICTC service linkages (n=123)

Referred to	Individuals* (%)
NGO TI's	3 (2.43)
Obstetrics and Gynecology	5 (4.06)
RNTCP OPD	113 (91.86)
Government facility	29 (23.57)
ART Centre	116 (94.30)
STI clinic	46 (37.39)
Community Care Centre	46 (37.39)
Private health facility	88 (71.54)

* Multiple responses

ART was initiated for 80% of the study group, the males and females being equal in number. Data on CD4 count was available only for 78 individuals, 62.82% of them having CD4 count less than 350 with 60% of them being males and 66% being females. Mean CD4 count was 317.84 (± 116.8). [Table 7]

Table 7: Distribution of subjects as per CD4 count (n=78)

CD4 count	Males (%)	Females (%)	Individuals (%)
< 250	12 (30)	8 (21.1)	20 (25.64)
251-350	12 (30)	17 (44.73)	29 (37.2)
>351	16 (40)	13 (34.21)	29 (37.2)
Total	**40 (100)**	**38 (100)**	**78 (100)**

Chi square value = 1.92 d.f. = 2 p value< 0.3824

DISCUSSION

In our study we observed that 50.40% are males and 48.8% are females. Majority (51.21%) belonged to the age group of 31-50 years followed by 31.7 % who belonged to the age group of 10-30 years ie the majority belonged to the sexually active age group. A study done by Bhandarkar PN et al in Karimnagar revealed that majority belonged to the age group of 15-45 years.[2]

Majority (43.44) of them were illiterate and this finding was in contradiction from the coastal Karnataka study done by Jayarama S et al which showed only 3% illiterate group.[4] Around 44% of the females and equal number of males were illiterate. A similar finding of 32.1% of males and 45.1% of females being illiterate was observed in a study conducted by Chennaveerappa PK et al in a medical college in Hassan.[7] We can therefore say that improving

the educational status will help to reduce the burden by increasing their awareness levels. This finding was different from the study conducted by Kumar A et al in Udipi which showed that 14.3% of males and 26.5% of females were illiterates.[3] Statistically significant association was found between gender and educational status (P=0.014) and this finding was similar to the study conducted Bhandarkar PN et al in Karimnagar. [2]

It was noted that 64.7% of them were working on daily wages and 6.4% were housewives which was mostly similar to the study conducted in a medical college ICTC in Navi Mumbai by Dutt G Rekha et al [8] and study conducted by Darbastwar Mohan et al in ICTC of a medical institute.[9]

Majority (93.33%) of the males and more than half i.e. 56.45% of the females were married. Majority of the clients being married signifies the necessity of counselling and testing of their spouses and also to assess the need of PPTCT interventions in these married seropositive women. A North India study done by Vyas Nitya et al showed that majority i.e around 80% of both males and females were married.[10] Study done by Bhandarkar PN et al in Karimnagar showed that 77.1% males and 66.2% females were married.[2] However a study done by Joardar G K et al in West Bengal showed different findings where 51.3% males were married and 88.3% females were married.[11] In a Thailand study as well, divorcees and widows were found more likely to be HIV positive.[12] Statistically significant association was found between gender and marital status (P=0.0001). Similar association was observed in the Bhandarkar PN et al study.[2]

Majority (35.24%) of them had voluntarily visited the ICTC followed by 26.22% who were referred by private health facility, 13.93 were referred from the RNTCP OPD thus reflecting the TB-HIV coordination and also 7.4% were referred from the STI clinic and Community Care centre. This may be attributed to either increased awareness about the disease; lesser stigma associated with it nowadays, expanded coverage of testing or probably due to more number of people feeling the need to get tested just because of availability of anti-retroviral therapy (ART). Study done by Kumar A et al in Udipi also showed that 50% of them visited voluntarily whereas others were referred by another doctor.[3] However study done by Chennaveerappa PK et al in Hassan [7] and Sharma R in Ahmedabad [13] showed that less than a quarter of them came voluntarily.

In reference to risk group 54.83% of females and 46.7% of males had multiple sexual partners, 23.33% of males were truckers, 22.6% of females had sexually transmitted disease and 15% of males and 12.9% of females had pulmonary tuberculosis. Significant association was found between gender and risk group (P=0.0009). The long distance truck drivers are a highly mobile group in whom the contact with multiple sexual partners is quite common.[14] A study done by Bhandarkar PN et al in Karimnagar also showed similar findings of 70% males and 57% females having multiple sexual partners.[2] Similar findings were observed in a study done in Hassan, Coastal Karnataka and Ahmedabad where majority reported of having multiple sexual partners.[7, 4, 13]

Regarding their risk behaviour 109 out of 122 individuals practiced heterosexual behaviour and only 2 of them had history of use of infected syringe and needle and only one practiced homosexual behaviour. This was supported by the Hassan [7] and Udipi study.[3] Unprotected heterosexual intercourse is the predominant mode of transmission of HIV in India (about 84%).[10]

Spouse status was available only in 48% of the study group and 71% of them were positive. In a study by Bhandarkar PN et al in Karimnagar the spouse HIV positive status was about 32.9% among males and 49.8% among females.[2] Study done by Mohan Darbastwar also showed similar findings.[9]

More than 90% of them were referred to ART centre and RNTCP OPD thus reflecting the established linkages with Care and treatment centre. Around 40% of them were referred to STI clinic and Community care centre. Linkages of ICTC with DOTS centre, STI clinic, Government and private hospitals, ART centre and CCC has been emphasised in module on operational guidelines for CCC.[15] There is also a need for better counselling services so that HIV-positive people register for ART before they reach the late stages of the infection.[6]

CD4 count was less than 350 in 62.82% of them with 60% of them being males and 66% being females. Mean CD4 count was 317.84 (± 116.8). In a study done by Bhandarkar PN et al in Karimnagar the mean CD4 count was 270.63.[2]

CONCLUSION

The study reflected the need to have specially packaged programmes on the risk and vulnerability to HIV/AIDS for specific groups like illiterates, poor occupational status. There is a need to develop and strengthen public private partnership as data shows private health facility to be one of the major referring centers. Consolidate and further strengthen the efforts done in developing linkages in care and support of PLWHA through ICTC. Strengthening of IEC activities is to be done for ensuring early reporting of subjects to ICTC so that prompt referral and ART initiation can be done. Spouse testing and counseling should be ensured and outreach workers should ensure the follow up of these clients in regards of their CD4 testing and appropriate referral to care and treatment centers.

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