

Socio-Demographic Profile and Adherence to Anti-Retroviral Treatment among HIV/AIDS Patients Attending the ART Centre in Tamil Nadu

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ABSTRACT

Background: Epidemiology of HIV infection in India is varied and depends on multitude of factors such as socio-demographic profile, geographic location and behavioural pattern. HIV/AIDS is not only a public health issue in India but also one of the most serious socioeconomic and developmental concerns as nearly 86% of reported cases occur in sexually active and economically productive age group (15-49yrs). Thus, for planning targeted interventions, it is essential to know the socio-demographic and clinical profile of the HIV/AIDS patients in a particular area as important for control of HIV replication, disease progression and ultimately containment of the disease. Hence this study was planned to describe the Socio-demographic profile and ART treatment adherence of People Living with HIV/AIDS attending The ART Centre, KKGmch, Asaripallam, Kanyakumari District, Tamil Nadu. **Objectives:** To describe the Socio-demographic profile and ART treatment adherence of People Living with HIV/AIDS attending The ART Centre, KKGmch, Asaripallam, Kanyakumari District, Tamil Nadu. **Materials & Methods:** This was a Cross-sectional study conducted among adult people living with HIV/AIDS who were on treatment at ART centre. The study was done during January 2014 to July 2014. The data was collected by using a semi structured questionnaire derived from WHO-BREFQOL. **Result:** The age of the study population varies from minimum 18 to maximum 59 years with the mean \pm SD age of 39.5 ± 8.3 years. Around 69 (46.0%) participants are in the 31 – 40 years age group followed by 51 (39.0%) are in the 41 – 50 years age group. Regarding the Family type, 127 (84.7%) are from nuclear family; 19 (12.7%) are from extended family and another 4 (2.7%) are from the Joint family. The prevalence of opportunistic symptoms among the study participants, around 44% of the study participants developed respiratory related symptoms followed by Skin (24%). Among 150 subjects taking ART, 120 (80.0%) are receiving Regimen 1 and 30 others (20%) are receiving Regimen 2. Around 92 (61.3%) have good adherence to ART. 53 (35.3%) have fair and 5 (3.3%) have poor adherence. **Conclusion:** Non-adherence as a hindering factor for the success of therapy is well-established.

KEY WORDS: HIV/AIDS, Socio-demographic profile, Drug Adherence, Targeted intervention.

Introduction

The Human Immunodeficiency Virus (HIV) / Acquired Immuno Deficiency Syndrome (AIDS) is a serious global public health concern as it causes a fatal illness which breaks down the body's immune system, leaving the victim vulnerable as a host of life-threatening opportunistic infections, neurological disorders or unusual malignancies.^[1]

Globally 37.9 million people are estimated to be living with HIV infection (PLHIV).

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According to the National AIDS Control Organization (NACO, New Delhi) the total number of people infected with HIV in India is estimated to be 2.1 million in 2015 with a sero-positivity rate of 1.86%.^[1,2] Maharashtra was estimated to have the highest number of PLHIV (3.96 lakh), followed by Andhra Pradesh (3.14 lakh), Karnataka (2.69 lakh), Uttar Pradesh (1.61 lakh), Telangana (1.58 lakh), Tamil Nadu (1.55 lakh), Bihar (1.34 lakh) and Gujarat (1.04 lakh).

The overall HIV prevalence trend among adult (15–49 years) has been declining in India and has been stabilizing in recent years which accounts to 0.22% with 0.24% and 0.20% among adult males and adult females respectively. In Tamil Nadu the Incidence ranges from 0.05–0.09 per 1000 uninfected population.^[3,4]

Epidemiology of HIV infection in India is varied and depends on multitude of factors such as socio-demographic profile, geographic location and behavioural pattern. Epidemiological data on HIV with regard to socio-demographic factors and risk behaviour of the population in a specific region are important in providing vital information which may be used for effective control measures in that region.^[5] In 2004, the Indian government began providing free Anti-Retroviral Therapy (ART) in a phased manner, through established ART centres. Subsequently, the incidence of tuberculosis and opportunistic infections decreased,^[6,7] despite ART is provided free by the government; there are a large number of sero-positive people who do not come forward to receive treatment. Non-adherence to ART is another aspect which affects the overall success of the programme.^[8]

HIV/AIDS is not only a public health issue in India but also one of the most serious socioeconomic and developmental concerns as nearly 86% of reported cases occur in sexually active and economically productive age group (15-49 yrs). Also, due to prevailing socioeconomic conditions, poor awareness and lack of facility for diagnosis in rural setup the incidence of HIV infection is highly under reported from these areas and deaths of young adults have a damaging impact on their families, communities as the skills are lost, workforce shrinks and children are orphaned. Thus, for planning targeted interventions, it is essential to know the socio-demographic and clinical profile of the HIV/AIDS patients in a particular area as important for control of HIV replication,

disease progression and ultimately containment of the disease.^[9] Hence this study was planned to describe the Socio-demographic profile and ART treatment adherence of People Living with HIV/AIDS attending The ART Centre, KKGMCH, Asaripallam, Kanyakumari District, Tamil Nadu.

Objective

To describe the Socio-demographic profile and ART treatment adherence of People Living with HIV/AIDS attending The ART Centre, KKGMCH, Asaripallam, Kanyakumari District, Tamil Nadu.

Materials and Methods

This Cross-sectional study was conducted over a period of 6 months from Jan 2014 to July 2014. Both genders, aged more than 18 years attending ART Centre currently on ART treatment are included, whereas terminally ill PLWHA and who did not give consent were excluded from the study. Total 150 PLWHA (87 Males and 63 Females) registered from 1st Jan to 31st March 2014 at the ART clinic of Kanyakumari Government Medical College, Asaripallam were included for the study. Semi structured questionnaire was used to collect data from the study subjects on their Socio-demographic details, personal habits, Place of HIV diagnosis, ART regimen followed and adherence to the treatment. The data gathered was entered in Excel spreadsheet version 2007 and was analysed by using the SPSS version 16. Simple Percentages, Proportions, mean \pm SD were calculated. Ethical approval of the protocol was obtained from the Institutional Human Ethics Committee of Sree Mookambika Institute of Medical Sciences (SMIMS), Kulasekaram, Kanyakumari district, Tamil Nadu, India. The permission to gather information for a period of six months from the registered PLWHA at ART centre was obtained from the higher authorities. Permission letters from Tamil Nadu State AIDS Control Society (TANSACS) [No - 008045/CST/2009/2014] and Permission letter from Asaripallam Government Medical College [No — 5422/ME2/2014].

Results

Total 150 participants included in the study.

Majority of the study participants are males 87 (58.0%). The age of the study population varies from minimum 18 to maximum 59 years with the mean \pm SD age of 39.5 \pm 8.3 years. Around 69 (46.0%) participants are in the 31 – 40 years age group

Table 1: Distribution based on socio-demographic characteristics of the study population (n=150)

Socio-demographic variables	Frequency (%)
Age (Years)	
18-30	15(10%)
31-40	69(46%)
41-50	51(34%)
51-60	15(10%)
Gender	
Male	87(58%)
Female	63(42%)
Religion	
Hindu	76(50.7%)
Christian	68(45.3%)
Muslim	6(4%)
Type of family	
Nuclear	127(84.7%)
Joint	4(2.7%)
Extended	19(12.7%)

followed by 51 (39.0%) are in the 41 – 50 years age group. Regarding the Family type, 127 (84.7%) are from nuclear family; 19 (12.7%) are from extended family and another 4 (2.7%) are from the Joint family. (Table 1)

Of the 150 study subjects, 141 (94.0%) are Heterosexuals, 5 (3.3%) are Homosexuals and 4 (2.7%) are Bisexuals. Around 22 (14.7%) are Living alone and out of them, 19 (86.4%) were living alone after detection of HIV positives. Other 3 (14.6%) are due to some other reasons. Of the 128 who are not living alone, 121 (94.5%) are living with Family members and another 7 (5.5%) are living with care giver. Majority 64.6% (97) are married and living together followed by 21.3% (32) is widowed. Of the 32 Widowed, 11 (34.7%) are due to HIV status and others 21 (65.6%) are due to other reasons. (Table 2)

Figure 1 shows the distribution of participants based on personal habits, of the 150 subjects, 37 (24.7%) are smokers, another 37 (24.7%) are occasionally smoking and 76 (50.7%) are never smokers. Regarding Alcohol status, 18 (12.0%) are alcoholic and 47 (31.3%) are occasionally taking alcohol and 85 (56.7%) are never taken alcohol. While 9 (6.0%) are Betel nut /Tobacco users and none of them are regular drug users.

Table 2: Frequency distribution of study participant current status of living (n=150)

Variables	Frequency (%)
Sexual orientation	
Heterosexual	141(94%)
Homosexual	5(3.3%)
Bisexual	4(2.7%)
Living alone	
Yes	22(14.7%)
No	128(85.3%)
Living Alone after detection of HIV	
Yes	19(12.6%)
No	131(87.4%)
Living with Whom? (n=131)	
Family members	121(92.4%)
Care givers	10(7.6%)
Marital status	
Unmarried	16(10.7%)
Married and living together	97(64.6%)
Widowed	32(21.3%)
Separated	4(2.7%)
Divorced	1(0.7%)
Widowed due to HIV (n=32)	
Yes	11(34.4%)
No	21(65.6%)

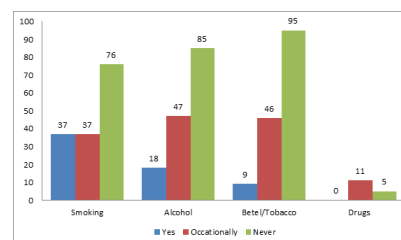


Figure 1: Distribution of the participants based of personal habits (n=150)

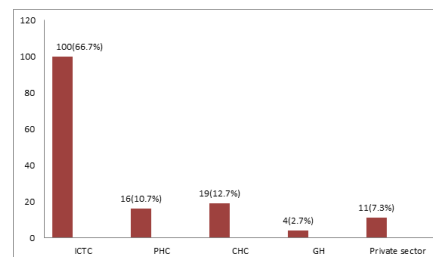


Figure 2: Distribution of study participants based on place of HIV diagnosis (n=150)

Figure 2 shows the distribution of study participants based on place of HIV diagnosis and majority of the subjects 100 (66.7%) were diagnosed at ICTC followed by 19 (12.7%) were at CHC and 16 (10.7%) were at PHC and 4 (2.7%) were diagnosed at GH. Only 11 (7.3%) were diagnosed at Private sector.

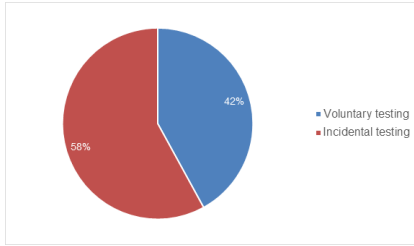


Figure 3: Type of HIV/AIDS testing among the study participants

Out of 150 subjects, 63 (42.0%) were diagnosed by voluntarily coming forward for testing while others 87 (58.0%) were diagnosed to have HIV incidentally (Figure 3).

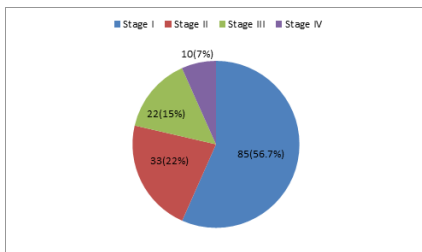


Figure 4: Distribution of study participants based on HIV staging (n=150)

In the study population, majority 85 (56.7%) are in the Stage I of the disease, followed by 33 (22.0%) are in the Stage II. (Figure 4)

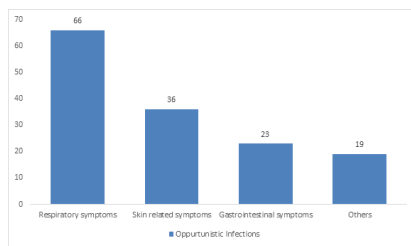


Figure 5: Prevalence of opportunistic infections symptoms among the study participants (n=150) * multiple response

Figure 5 shows the prevalence of opportunistic symptoms among the study participants, around 44% of the study participants developed respiratory related symptoms followed by Skin (24%).

Table 3: Distribution of study participants based on opportunistic infections current and previous status (n=150)

Opportunistic infections	Current	Previous
Respiratory symptoms (n=66)	10 (15%)	56 (85%)
Gastrointestinal symptoms (n=23)	3 (12%)	20 (88%)
Skin (n=36)	6 (17%)	30 (83%)
Others (n=19)	8 (42%)	11 (58%)

From Table 3 on frequency of patients having current and previous opportunistic infections, out of 66 Opportunistic Infections of Respiratory symptoms, 10 (15.6%) are currently present and out of 23 Opportunistic Infections of Gastro Intestinal symptoms, 3 (11.6%) are currently present.

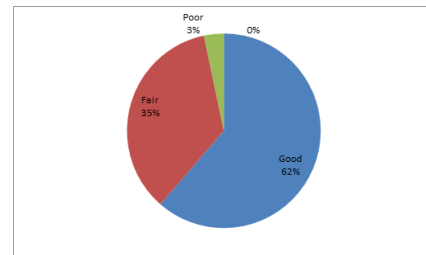


Figure 6: Study participants Distribution based on adherence to ART (N=150)

Of the total 150 subjects taking ART, 120 (80.0%) are receiving Regimen 1 and 30 others (20%) are receiving Regimen 2. Around 92 (61.3%) have good adherence to ART. 53 (35.3%) have fair and 5 (3.3%) have poor adherence.

Discussion

There were 150 randomly selected PLWHA participated in this study. Among them 58.0% are Males and 42.0% are Females. Ratio of Male to female attending the ART centre is 1.38:1. Male is outnumbered the female and this is consistent with other studies.^[10,11] The age of the study population varies from minimum 18 to maximum 59 years with the mean age of 39.53 years with standard deviation of 8.32 years. Majority of them (46.0%) are in the 31 – 40 years age group followed by 39.0% are in the 41 – 50 years age group. Another 10.0% are in the 18 – 30 years and 51 – 60 years age group each. This consistent with many studies where the peak age of the PLWHA attending ART clinic is 31 – 40 years age

group.^[12-14]

Regarding the Religion of the study subjects, half of them are Hindus (50.7%) and another 45.3% are Christians. This was comparable with the religious statistics of the district as 51.3% Hindus, 44.5% Christians and 4.2% Muslims^[15]. This shows the religious category in not having any influence on the prevalence of HIV.

Of the total 150 subjects, majority of them 62.7% are married and living together followed by 21.3% are widowed. Unmarried category contributes to 10.7%, Separated 2.7%, Living as Married 2%, and Divorced 0.7%. This scenario is comparable with the study done by Nirmal *et al.*^[16] Chennai where 60% of the respondents were married, 10% were single, 13.33% were widowed, 13.33% were separated, and 3.33% divorced.

Regarding the place of diagnosis, majority of the subjects (66.7%) were diagnosed at ICTC followed by (12.7%) at CHC and 10.7% were at PHC. Of the 150 subjects 42.0% were diagnosed by voluntarily coming forward for testing while others 58.0% were diagnosed to have HIV incidentally. This reflects the awareness and attitude of people through NACO and other organizations and the trust of people on the quality of services available in public sector for services on HIV/AIDS.

In the study population, majority 56.7% are in the Stage I of the disease, followed by 22.0% are in the Stage II. Another 14.7% are in the Stage III and 6.7% are in the Stage IV of the disease. Total 44.0% of the study subjects have ever had Opportunistic Infections of Respiratory symptoms followed by Skin and Gastrointestinal symptoms. This is comparable with the findings of the study^[17] done on The Functional Status of Patients with AIDS Attending Antiretroviral Treatment Centre attached to the Kozhikode Medical College Hospital in Kerala where 62% of the studied cohort had many of the opportunistic infections associated with AIDS, 33.3% were suffering from Tuberculosis (TB), 36% were affected with Candidiasis and 8.7% had pneumocystis carnie pneumonia.^[17]

Of the total 150 subjects taking ART, 80.0% are receiving Regimen 1 and others (20%) are receiving Regimen 2. Around 61.3% have good adherence to ART, 35.3% have fair and 3.3% have poor adherence. Similar to our findings, study conducted by Bandyopadhyay A *et al*^[18] reported treatment

adherence of around 60%. In contrast to our finding, meta-analysis study^[19] and Joshi *et al.*^[20] reports 75% of adherence.

Conclusion

Of the People Living with HIV/AIDS (PLWHA) attending the ART Centre, KKGMCH, Asaripallam, Kanyakumari District, Tamil Nadu, 58.0% are Males and 42.0% are Females and most of the PLWHAs are in the 30-40 age group. Majority 62.7% (94) are married and living together followed by 21.3% (32) are widowed. Unmarried contributes to 10.7% (16), Separated 2.7% (4), Living as Married 2% (3), and Divorced 0.7% (1). Of the 32 widowed, 11 (34.7%) are due to HIV status, 14.7% of the PLWHA are Living alone. 86.4% of the PLWHA Living alone are due to detection as HIV positives. 24.7% of the PLWHA are smokers; 12.0% are alcoholic; 6.0% are Betel nut/Tobacco users and none of them are regular Drug users. Majority of PLWHA (94.0%) are Heterosexuals and 3.3% are Homosexuals and 2.7% are Bisexuals. 93.7% of the PLWHA were diagnosed at Public sector and 42.0% were diagnosed by voluntary counselling and testing. 80.0% of the PLWHA are receiving Regimen 1 of ART and 61.3% have good adherence to ART.

Limitations

As the samples were drawn from the PLWHAs came to the ART centre on the day of the data collection, it may not reflect the true status of those registered with ART centre and these scores may be a better HRQOL compared to all those registered with ARTC centre.

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