

Original Article

LATE REPORTING AMONG NEWLY REGISTERED PATIENTS FOR ANTI RETROVIRAL THERAPY IN A CENTRAL DISTRICT UJJAIN, INDIA

Vidit Khandelwal¹, Yogesh D Sabde², Riddhi Pradhan³, Mehta Chandra Sathsh⁴

Financial Support: None declared

Conflict of interest: None declared

Copy right: The Journal retains the copyrights of this article. However, reproduction of this article in the part or total in any form is permissible with due acknowledgement of the source.

How to cite this article:

Khandelwal V, Sabde YD, Pradhan R, Sathsh MC. Late Reporting Among Newly Registered Patients for Anti Retroviral Therapy in a Central District Ujjain, India. *Natl J Community Med* 2013; 4(4): 624-7.

Author's Affiliation:

¹Resident; ²Professor, Department of Community Medicine, R.D. Gardi Medical College, Ujjain; ³Resident, Department of Microbiology, Pramukh swami Medical College, Karamsad; ⁴Professor and Head, Department of Community Medicine, R.D. Gardi Medical College, Ujjain

Correspondence:

Dr. Yogesh Sabde,
E-mail: sabdeyogesh@gmail.com

Date of Submission: 13-10-13

Date of Acceptance: 06-12-13

Date of Publication: 31-12-13

ABSTRACT

Introduction: Current trends in HIV/AIDS epidemic demand quality and sustainable programs to provide universal access to antiretroviral therapy (ART). The inherent disparities in population subgroups result in changing profiles of ART beneficiaries which are needed to account for with reference to regional findings. Present study aims to explore the socio demographic and clinical profile of the patients reporting at an ART center in central India.

Methods: Facility based cross sectional study at an ART center in a tertiary care hospital in Ujjain district of central India. The study included all newly registered people living with HIV/AIDS (PLHA) over 18 years of age, during one year period.

Results: The study reports findings of 297 participants. Majority of the patients belonged to poorer socioeconomic strata. The representation of women and people from rural areas was lesser than expected. One third PLHA came late in the course of disease (stage III and IV). The average haemoglobin level (9.6gm%) and weight (45.4Kg) of the PLHA indicated their poor nutritional status.

Conclusion: Late reporting at the initiation of ART was reported in about one third of the patients which could adversely affect effectiveness of ART. Efforts to investigate lesser representation of women and rural people are indicated. The study raised concerns about the possible routes of transmission need more investigation.

Key Words: People Living with HIV/AIDS (PLHA), clinical profile, Antiretroviral Therapy (ART).

BACKGROUND

In 2012 more than 9.7 million people living with HIV were receiving ART in the low and middle income countries¹. The most important challenge in the control of HIV is that it cannot be cured but can only be suppressed with specific treatment called anti retroviral therapy (ART). In 2011, WHO Member States adopted a new Global health sector strategy on HIV/AIDS for 2011-2015².

In India the ART programme was launched by the government on 1st April 2004³. It has been reported that the utilization pattern of ART is strongly influenced by the sociodemographic and clinical profile of the beneficiaries. The socio demographic and clinical profile of the people living with HIV/AIDS (PLHA) varies considerably across different geographic regions and patient subgroups owing to the variations in the agent, cultural and social factors, exposure pat-

terns and the quality of health care services^{4,5}. The clinical stage at which the disease is reported at the first time for the initiation of ART is an important determinant of the effectiveness of ART. The initiation of ART also has significant impact on this variation leading to reduction in severity of symptoms on one hand but addition of side effects on the other⁵. Therefore constant supervision of the changing profiles of beneficiaries is needed to ensure the success of ART. This is of particular importance at the time of initiation of ART to consolidate the compliance and follow up. Though studies reporting clinical/demographic profile have been published from across India, no such study has been ever undertaken in the study settings till date. On this background the present study was carried out to present the socio-demographic characteristics and clinical profile who have accessed care for the first time at an ART centre in, Ujjain district of Madhya Pradesh (MP), India.

METHODS

Study was conducted at Anti retroviral therapy (ART) center, R.D. Gardi Medical College Ujjain MP, India as a facility based cross sectional study. R.D. Gardi Medical College is a rural, not for profit, private, tertiary care hospital located about 8 kilometers away from the Ujjain city which an urban area with population 0.5 million and is the administrative headquarter of the district.

The data was collected from 1st Feb 2012 to 31st March 2012. The study included all newly registered PLHA at study setting with age ≥18 years of age. The data was collected using pre-tested semi structured questionnaire administered by trained investigator with the help of ART counsellor during face to face interviews of study participants. The socio demographic details included age, sex, marital status, HIV-related risk factors (history of multiple heterosexual partners, blood transfusion, MSM (men who have sex with men), injecting drug use, unsafe injections and history of alcohol, smoking, education, occupation and socioeconomic status. B.G. Prasad’s classification was used to classify socioeconomic status of the subjects^{6,7}. Clinical profile was recorded from the official record sheets of the patients. The study variables included bodyweight, CD4 count, hemoglobin, World Health Organization (WHO) clinical stage⁸ and WAB (working, ambulatory and bedridden) functional status of the study subjects⁹. The data was entered in epidata version 3 and analysed using Stata version 10. The association between the clinical profile and socio demographic factors was explored with univariate and multivariate analysis.

Ethical considerations

Permission was obtained from the respective authorities for the study. Approval was taken from ethical committee of R.D. Gardi Medical College before starting the study. Written informed consent obtained from the subjects after explaining the purpose, nature and procedure of the study in prescribed protocol as developed by NACO Delhi. The information was collected in line with ethical principal of Belmont report 1978¹⁰. They were assured that confidentiality of their personal information.

RESULTS

Sociodemographic profile: A total of 297 subjects fulfilled the selection criteria. The average age of the study population was 36.83 years (SD=10.08). Table 1 shows the distribution of sociodemographic factors among the study subjects. Table 2 describes the use of alcohol and smoking among the participants. Table 3 shows the distribution of study subjects according to risk behaviour.

Table 1: Socio-demographic profile of study participants

Socio-demographic Variables	Frequency (N= 297) (%)
Age (yr)	
18-30	93 (31.3)
31-40	123 (41.4)
41-50	50 (16.8)
51-60	23 (07.7)
>60	08 (02.7)
Sex	
Male	186 (62.6)
Female	111 (37.4)
Address	
Urban	135 (45.5)
Rural	162 (54.5)
Marital status	
Married	237 (79.8)
Divorce	09 (03.0)
Widow	26 (08.8)
Single	25 (08.4)
Religion	
Hindu	280 (94.3)
Muslim	16 (05.4)
Christian	01 (0.3)
Education	
Graduate or post graduate	22 (7.4)
Intermediate	15 (5.1)
High school certificate	21 (7.1)
Middle school certificate	30 (10.1)
Primary school certificate	90 (30.1)
Illiterate	119 (40.1)
Occupation	
Semi-Professional	5 (01.3)
Clerical, Shop-owner, Farmer	20(06.7)
Skilled worker	09 (3.0)
Semi-skilled worker	29(09.8)
Unskilled worker	47(15.8)
Unemployed	187 (63.0)
Socioeconomic class (B.G.Prasad’s classification)	
Class II	08 (02.7)
Class III	30 (10.1)
Class IV	79 (26.6)
Class V	180 (60.6)

Table 2: Distribution of personal habits among the study participants

Personal habit	Frequency (N= 297) (%)
Alcohol use	
Habitual	10 (03.4)
Social	123(41.4)
Never	164(35.2)
Smoking	
Current smoker	23 (07.7)
Past smoker	98 (33.0)
Never	176(59.3)

Clinical profile: Table 4 shows the clinical staging as per WHO classification and working status of the study participants. At the initiation of treatment, majority of the subjects were in stage I (36.7%)

followed by stage II (33.0%) of the and above 30 % of subjects were in stage III and stage IV. At the initiation of treatment most of subjects (69.4%) were in working group, followed by ambulatory (22.9 %) and bed ridden (7.7%). None of the clinical profile indicators were significantly associated with the studied sociodemographic variables. The mean CD4 count of subjects at baseline (N= 290) was 151.86 cells/mm³ with a wide standard deviation of 93.08. The median CD4 count of study subject was 145.5 cell/mm³ with an inter quartile range (IQR) of 68.5 to 227.5. The mean body weight of study subject (N=297) was 45.36 with standard deviation of 8.99. The mean hemoglobin of study subject (N=223) was 9.16 gm% with standard deviation of 1.65.

Table 3 - Distribution of study subjects according to risk behavior

Risk factor for HIV	No. (N= 297) (%)
Heterosexual	229 (77.1)
Men having sex with Men (MSM)	01 (0.3)
Injecting drug user	5 (1.7)
Blood transfusion	20 (6.3)
Unsafe injection	10 (3.4)
Unknown (No response /History not available)	32 (10.77)

Table 4: Distribution of Clinical stage and WAB functional status of the subjects

Variables	Frequency (N= 297) (%)
WHO Clinical Stage	
Stage I	109 (36.7)
Stage II	98 (33.0)
Stage III	60 (20.2)
Stage IV	30 (10.1)
Functional status (WAB)	
Working	206 (69.4)
Ambulatory	68 (22.9)
Bedridden	23 (07.7)

DISCUSSION

Sociodemographic profile: In present study, the average age of the study population was 36.83 years. This is similar to other studies done in other part of India, ¹¹⁻¹² where the average age of HIV infected population ranged from 35-37 years. The proportion of males (62.6%) was greater than females (37.3 %) in this study. This may be due to less reporting by females which is similar to other studies and reflects the HIV situation in India¹³. Though the proportion of patients from rural areas (54.5%) was higher than those in urban areas (45.5) it was lesser than the district level averages (61%). This may be because of proximity of the centre to the urban area though the possibility of poor reporting from rural areas cannot be ruled out. The educational status was poor with 40.1 % being illiterates which is similar to the other studies done in

India and other developing countries^{12,14-16}. Unemployment was present in 63 % of study subjects. This may be due to low literacy levels, their HIV status and partly due to over reporting of unemployment to find out advantage of government scheme. Majority of the subjects belonged to the low socioeconomic group (Class IV and V). This may be because the study setting having free availability of drugs and its location in rural setting. Similar finding was also observed in similar study settings¹¹⁻¹².

Probable routes of transmission: Unsafe heterosexual behaviour was reported (77.1%) as the major risk factor in for the transmission of HIV. So was quoted by the other studies¹⁷⁻¹⁸. Transmission through blood transfusions, once a concern in many countries, has been nearly eliminated in developed countries by the routine screening of blood donations¹⁹. In India, also mandatory testing of blood for HIV helped in checking transmission of HIV virus through blood transfusion²⁰. Still, in present study 6.3% individuals gave the history of previous unscrupulous blood transfusion responsible for their HIV status. However, it is not easy to judge the route of infection retrospectively by clinical history only.

Late reporting: The study presents the data of PLHA at the time of the initiation of treatment. The findings reveal that, around one third PLHA came late in the course of disease (stage III and IV) which could affect effectiveness of ART drugs and treatment outcome. Same applies on working status of registered PLHA as almost 1/3rd could not manage to register in working stage. CD4 count is one of most reliable investigation for clinical staging of PLHA and used to make decision on treatment initiation. In this study 50% patient was came to centre with CD4 count less than 145.5 cell/mm³ which was quite low according to national guideline. The study could not identify any significant correlations between the late presentation of clinical stages and studied sociodemographic determinants.

Poor nutritional status: The average haemoglobin level and weight of the participants was lower than the recommended norms, which reflect low nutritional status of PLHAs. Adequate nutritional status supports immunity and physical performance²¹. Addressing poor nutritional status may, therefore, improve clinical outcomes²².

CONCLUSIONS

The clinical and socio-demographic profile of the beneficiaries was similar to those of other reports. Late reporting at the initiation of ART was reported in about one third of the patients which could adversely affect effectiveness of ART. Efforts to investigate lesser representation of women and rural people are indicated. The study raised concerns about the possible routes of transmission need more investigation.

Limitations

As the present study was conducted in a non for profit private medical college hospital, the results observed are subject to bias arising from rate of reporting in hospital setting.

Acknowledgements

The authors would like to acknowledge the authorities of ART center R.D.Gardi Medical College, Ujjain and NACO for permission to conduct the study.

We are thankful to the study subjects for their participation in the study.

REFERENCES

1. Dramatic progress achieved in global HIV response since 2001. Available at <http://www.who.int/hiv/en/> Accessed on 10th Oct 2013
2. Global Health Observatory (GHO) HIV/AIDS (<http://www.who.int/gho/hiv/en/> Accessed on 10th Oct 2013)
3. National AIDS Control Organisation, Ministry of Health and Family Welfare, Government of India. *Operational guidelines for ART centres* New Delhi: National AIDS Control Organisation, Ministry of Health and Family Welfare, Government of India; 2008. Available at <http://www.nacoonline.org/upload/Care&Treatment/ARToperational guidelines 2008.pdf> accessed on 30 June 2013
4. Joge US, Deo DS, Lakde RN, Choudhari SG, Malkar VR, Ughade HH. Sociodemographic and clinical profile of HIV/AIDS patients visiting to ART Centre at a rural tertiary care hospital in Maharashtra state of India. *Int J Biol Med Res.* 2012; 3(2): 1568-1572
5. Mir AM, Ahmad PM, Siddeque MA, Sofi FA, Ahmad SN, Dar MR. Clinical and demographic profile of HIV/AIDS patients diagnosed at a tertiary care centre in Kashmir. *J Pak Med Assoc.* 2010; 60(6): 428-431
6. Prasad BG. Changes proposed in Social classification of Indian families. *J Indian Med Assoc* 1970;55:198-9.
7. Shankar Reddy Dudala, Arlappa N. An Updated Prasad's Socio Economic Status Classification for 2013. *Int J Res Dev Health* 2013;1(2):26-28.
8. WHO case definitions of HIV for surveillance and revised clinical staging and immunological classification of HIV-related disease in adults and children. World Health Organization 2007. Available at: <http://www.who.int/hiv/pub/guidelines/HIVstaging150307.pdf>. Accessed 15 Oct 2013.
9. Patient monitoring guidelines for HIV care and antiretroviral therapy (ART). The guidelines of discussions at the WHO HIV patient ART monitoring meeting held at WHO/HQ, Geneva, Switzerland from 29-31 March 2004. Available at: <http://www.who.int/hiv/pub/guidelines/patientmonitoring.pdf> 15 Oct 2013.
10. "The Belmont Report: Ethical Principles and Guidelines for the Protection of Human Participants of Research", The National Commission for the Protection of Human Participants of Biomedical and Behavioral Research, US Department of Health and Human Services, 1978. Available at: http://www.brown.edu/Administration/Research_Administration/belmont/belmont.html Accessed 26 Nov 2013
11. Sharma SK, Dhooria S, Prasad KT, George N, Ranjan S, Gupta D. Outcomes of antiretroviral therapy in a northern Indian urban clinic. *Bull World Health Organ.* 2010 March; 88(3): 222-226.
12. George C, Yesoda A, Jayakumar B, Lal L. A prospective study evaluating clinical outcomes and costs of three NNRTI-based HAART regimens in Kerala, India. *Journal of Clinical Pharmacy and Therapeutics* 2009; 34:33-40
13. National AIDS Control Organization (2008) 'Annual Report NACO 2008-09'. Available at http://www.nacoonline.org/Quick_Links/HIV_Data Accessed on 10th Oct 2013
14. Sarna A, Pujari S, Sengar AK, Garg R, Gupta I, Vandem J. Adherence to antiretroviral therapy & its determinants amongst HIV patients in India. *Indian J Med Res* 2008 Jan;127:28-36.
15. Tessema B, Biadlegne F, Mulu A, Getachew A, Emmrich F, Sack U. Magnitude and determinants of nonadherence and nonreadiness to highly active antiretroviral therapy among people living with HIV/AIDS in Northwest Ethiopia: a cross-sectional study. *AIDS Research and Therapy* 2010; 7:2-8.
16. Oyugi JH, Tusiime JB, Charlebois ED, Kityo C, Mugerwa R, Mugenyi P, et al. Multiple Validated Measures of Adherence Indicate High Levels of Adherence to Generic HIV Antiretroviral Therapy in a Resource-Limited Setting. *J Acquir Immune Defic Syndr* August 2004; 36(5):1100-1102.
17. Wig N, Lekshmi R, Pal H, Ahuja V, Mittal CM, Agarwal SK. The impact of HIV/AIDS on the quality of life: A cross sectional study in north India. *Indian J Med Sci* 2006;60:3-12
18. National AIDS Control Organization (NACO). National AIDS Control Programme, Phase III (2007-2012), Strategy and implementation plan. November 30 2006. NACO, Ministry of Health and Family Welfare, Government of India.
19. Gayle HD, Hill GL. Global Impact of Human Immunodeficiency Virus and AIDS. *Clin Microbiol Rev* 2001;14:327-35.
20. National Aids Prevention and Control Policy online. Available at <http://nacoonline.org/upload/Policies%20&%20Guidelines/NationalAIDSControl&PreventionPolicy2002.pdf> accessed on 18th June 2013
21. De Pee S, Semba RD. Role of nutrition in HIV infection: review of evidence for more effective programming in resource-limited settings. *Food Nutr Bull.*2010;12:S313-S344.
22. Mahlangu S, Grobler LA, Visser ME, Volmink J. Nutritional interventions for reducing morbidity and mortality in people with HIV. *Cochrane database syst rev* 2007., 18Cd004536].