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General Medicine

ASSESSMENT OF VARIOUS HEALTH PARAMETERS OF PATIENTS ON ANTIRETROVIRAL THERAPY (ART) IN WESTERN RAJASTHAN

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ABSTRACT

PURPOSE-Assessment of various health parameters of patients on Antiretroviral therapy (ART) in Western Rajasthan
METHODOLOGY-All patients who were enrolled in institute record system during the study period recorded in master cards and an ART register. Patients attended the ART clinic each month, at which time their outcome status was entered on the master card and they were given another month supply of ART drugs.
RESULTS-57.41% males and 42.49% females were enrolled. The significant age group of 31-45 years were 50.38%. Mostly patients were from the rural background (57.25%). 66.28% were alive on ART, while died 11.95%, 7.25 % patients were lost to follow up. Patients who had stop ART reason included the high cost of transport to clinic 36.84% patients, religious beliefs 10.53%, persuasion by relative 8.77%, could not trace address 21.05%.
CONCLUSION- Reproductive age group and male preponderance with rural background were more prone to get HIV infections. Maximum number of patients were alive on ART therapy in our study that means ART therapy is a good option for these kind of patients. Major cause of lost to follow up was high cost of transport to clinic followed by could not trace the address.

KEYWORDS : HIV, ART Centre, Socio-demographic profile, HAART

INTRODUCTION

HIV continues to be a major global public health issue. In 2015, an estimated 36.7 million people were living with HIV (2.1 million people became newly infected with HIV) – a global HIV prevalence rate among persons age 15 -49 years was 0.8%. The vast majority of this number live in low- and middle- income countries. As of June 2016, 18.2 million people were accessing antiretroviral therapy, up from 15.8 million in June 2015 and 7.5 million in 2010. In 2015, around 46% of all people were living with HIV had access to treatment. In 2015, some 77% of pregnant women were living with HIV had access to antiretroviral medicines to prevent transmission of HIV to their babies.[1]

An estimated 25.5 million people were living with HIV in Sub-Saharan African countries.[1] In nine Southern African countries, seroprevalence data indicate that >10 % of adult population age 15-49 years is HIV infected. In addition, among high risk individuals who live in urban areas of sub Saharan Africa, seroprevalence is now >50 % in some places. Heterosexual exposure is the primary mode of HIV transmission in sub Saharan Africa.[2]

In Asia and the pacific, an estimated 5.1 million people were living with HIV at the end of 2015. In this region of the world, HIV prevalence is highest in Southeast Asian countries. Among countries in Asia only Thailand has an adult seroprevalence rate of > 1%.However, The Population of many Asian nations are so large (especially India and china) that even low infection and seroprevalence rates result in large numbers of people were living with HIV.[3]

Among the states / Uts in 2015 Manipur has shown the highest estimated adult HIV prevalence of 1.15% followed by Mizoram (0.8%), Nagaland (0.78%), Andhra Pradesh and Telangana (0.66%) are beside these state Maharashtra, Chandigarh, Tripura, Tamilnadu have shown estimated adult HIV prevalence > 0.26, while Odisha, Bihar, Sikkim, Delhi, Rajasthan & West Bengal have shown an estimated adults HIV prevalence in the range of 0.21-0.25 % other state/Uts have level of adult HIV prevalence below 0.20 %.[4]

In 2015 adult HIV prevalence was estimated at 0.30 % among male and at 0.22 % among female. Adult HIV prevalence at national level has continue its steady decline from an estimate peak of 0.38 % in 2001-03 through 0.34% in 2007 and 0.28% in 2012 to 0.26% in 2015.[4]

In many poor resources countries that are scaling up antiretroviral therapy (ART), 5–25% of patients are reported as "Lost to follow–up". There is no published information about the precise outcome status of these patients[5].

Treatment outcomes reported from various clinics in Sub–Saharan Africa, Haiti, Asia and South America have been good, comparable with those observed in countries with higher incomes. Patient outcomes are usually categorized as patients alive and on treatment, stopped treatment transferred to another facility, dead of lost to follow–up. Depending on the facility, patients are classified as lost to follow–up if they have missed two or more consecutive clinic appointments or have not been seen for at least 2 or 3 months.

MATERIAL AND METHODS

This retrospective based systemic analysis was conducted on patients of ART PLUS Centre that were attached to Department of General Medicine, Dr. S.N. Medical College & Mathura Das Mathur Hospital, Jodhpur, Rajasthan from April 2015 to March 2017. Patients in the age group from 16 to 75 years. All patients who were enrolled in institute record system during the study period recorded in master cards and an ART register. Patients attended the ART clinic each month, at which time their outcome status was entered on the master card and they were given another month supply of ART drugs.

Inclusion Criteria:
1.All patients those who are on antiretroviral Therapy
2.Age ≥ 15 years to 75 years
3.Either sex

Exclusion Criteria:
1.Patient not on antiretroviral therapy
2.Age less than 15 years
3.Pregnant women

Tools
Patient information regarding age, sex, mode of transmission, occupation, education, socioeconomic status, hematological profile, CD4 count, ART treatment, was recorded in master cards and ART register.

Statistical Evaluation:
Data collected was entered into MS Excel spread sheet and summarized according to type of variables. Nominal / Categorical variables were summarized as frequency and percentage and were analyzed using Chi-square test / Fischer Exact test as applicable. All statistical analysis was done using Epi info version 7.2.1.0 statistical software and Open Epi version 3 software. P value < 0.05 was taken as statistically significant.

RESULTS
Out of 786 patients, male patients were 452 (57.41%) and female patients were 334 (42.49%). Male to female ration 1.35:1. This ratio
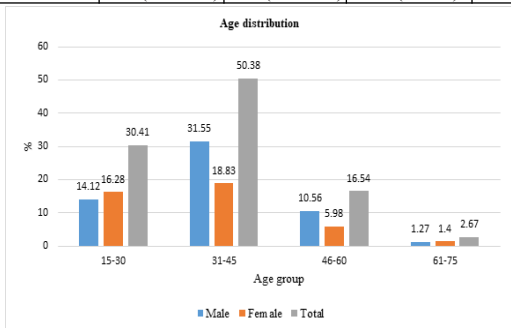
was statistically significant (p<0.0001*).
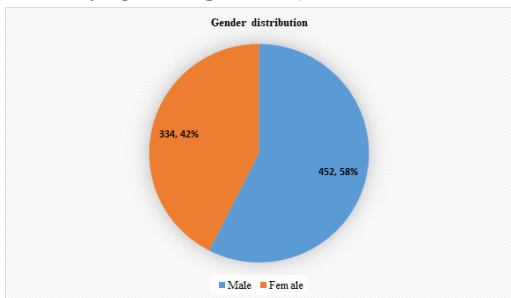
The distribution of patients according to the age showed that the maximum number of patients 396 (50.38%) were in the age group of 31-45 years, while 16-30 years age group ranked 2nd in table No.1. age of the patients ranged between 16 years to 75 years.

Table No 1- Showed age distribution of the patients

Age (in years)	Male	Female	Total	p value
15-30	111 (14.12%)	128 (16.28%)	239 (30.41%)	0
31-45	248 (31.55%)	148 (18.83%)	396 (50.38%)	
46-60	83 (10.56%)	47 (5.98%)	130 (16.54%)	
61-75	10 (1.27%)	11 (1.40%)	21 (2.67%)	
Total	452 (57.41%)	334 (42.49%)	786 (100%)	

Out of 786 patients 450 (57.25%) were from rural area & 336 (42.74%) were from urban area. This ratio was statistically significant (p<0.0001*)
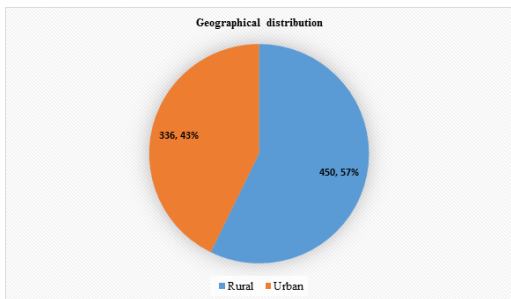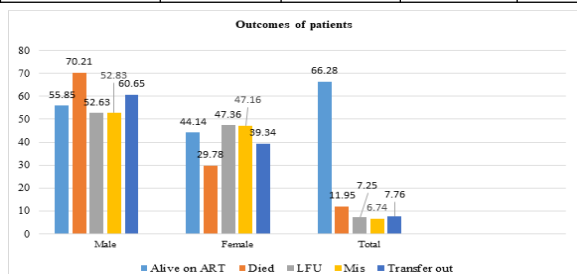

Table No 2- showed outcomes of the patients

Outcome Status	Male	Female	Total	p value
Alive on ART	291 (55.85%)	230 (44.14%)	521(66.28%)	0
Died	66 (70.21%)	28 (29.78%)	94(11.95%)	
Lost to follow up (LFU)	30 (52.63%)	27 (47.36%)	57 (7.25%)	
Mis	28 (52.83%)	25 (47.16%)	53 (6.74%)	
Transfer out	37 (60.65%)	24 (39.34%)	61 (7.76%)	
Total	452	334	786	

In table no 2 out of total 786 patients , 521 (66.28%) were alive on ART, while died 94 (11.95%) patients , 57 (7.25 %) patients were loss to follow up while Mis patients were 53(6.74%) and rest of transfer out patients in our study were 61 (7.76%).

Table No 3- Showed the reason of stop the ART therapy

Stop Reason	No. of patients	Percentage	p value
High cost of transport to clinic	21	36.84	0.001*
Religious beliefs	6	10.53	
Persuasion by relative stop ART	5	8.77	
Could not trace address	12	21.05	
CD4 improvement	4	7.02	
Other	9	15.79	
Total	57	100	
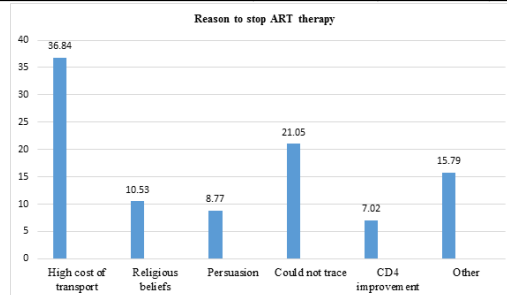
As shown table no. 3 out of 57 patients who had stop ART reason included the high cost of transport to clinic 21(36.84%) patients, religious beliefs 6 (10.53%), persuasion by relative stop ART 5 (8.77%), could not trace address 12 (21.05%), CD4 improvement 4 (7.02%) and other 9 (15.79%).

DISCUSSION
The disease of the present era increasing its dimensions all over the world, thought to be incurable, only a iceberg of which is visible was chosen the subject of present study. It was aims that defining its epidemiological, demographical study and various health parameter of ART.

In the present study the male and female ratio was 1.35: 1 (452 male & 334 female). A survey was carried out by Kumawat S et.al[6].in North-west Rajasthan India (Feb 2015 to Nov 2015) at Sardar Patel Medical College Bikaner observed a ratio of 1.37:1 male and female (173 male &126 female). Study by Nayak UB et.al[7] in Government Wenlock hospital, Mangalore from august 2011 to august 2013 observed male to female ratio of 2.09:1 (67.64% male and 32.35% female). Not only Rajasthan but all over in India the male group is more infective than female. The observation is alarming and clear cut showed that the female act as a reservoir of infection.

The present study maximum number of patients were in age group 31-45 year, n= 396 (50.38%) while 16-30 years age group ranked 2nd, n= 239 (30.41%). In a study done by Mandal et.Al[8], 81.16% of cases were in age group of 20-40 years. Similar observation was made by Kumawat S et.al[6] who observed majority of (82.66%) patients in adult (15-49) age group. which is sexually active and productive age group. This is nearly similar to the national level statistics in which NACO[9] has reported that, 86% of the cases were in the adult age group.

In the present study maximum patients were from rural area 57.25% rural (n=450) than urban area 42.74% (n=336) both in male & female. Study done by Nayak UB et.al[7] at observed 69 (67.64%) were residing in rural area while 33 (32.35 %) in urban area. Similar finding were reported by Joardar et.al[10] and Joge US et.al[11]. Srikant p.et.al[12] in a study conducted at CMC vellore, observed predominance of HIV infection in urban 63% than rural area 36%. This finding is dissimilar to the finding of the present study. The difference may be related to a difference in northern & southern India.

Among the various health parameter in our study maximum number of patients were alive 521(66.28%) while died patients were 94 (11.95%) and loss to follow up were 57 (7.25%). Similar study by E Libamba et.al[13] observed outcome of 37840 patients started maximum number of patients were alive 74%, died patients were

10% while lost to follow up patients 8 %. GP Bisson et.al[14] who were observed similar type of results. Study by R Weigh et.al[15] observed 48 % were lost to follow up patients and 52% patients were alive, dead, transfer out and stopped the treatment. SD Lawn et.al[16] were observed between September 2002 and august 2005 lost to follow up patients 2.3%. A survey was carried out by JKL Yu SSC Chen et.al.[5] in malawi observed loss to follow up case figure 5%. Study by Deribe K et.al[17] in Jimma Ethiopia from Jan. 2005 to Feb. 2007 observed out of 1270 patients who started ART, 915(72.0%) were active ART users and 355 (28.0%) had missed two or more clinical appointment. The latter comprised 173 (13.6%) defaulters, 101 (8.0%) who transferred out, 75 (5.9%) who died and 6 (0.5%) who restarted ART. Geng EH et.al[18] observed 829 (22.85%) patients of lost to follow up. In many resource poor countries that are scaling up antiretroviral therapy, 5-25 % of patients were reported as lost to follow up.

In our study maximum number of patients were lost to follow up case in 31-45 years age group. Study by R Weigh et.al[15] observed lost to follow up were in adult age. Similar results were observed by JKL Yu et.al[5] who also observed lost to follow up commonly found in 35 years age.

Among to various cause of lost to follow up of ART in our study leading cause of failure was high cost of transport to clinic 21 (36.84%) followed by remaining patients could not be traced, with an incorrect address in the register were 12 (21.05%) patients. Similar results were observed by JKL Yu et.al[5] in Malawi observed 13 patients (35 %) were lost to follow up due to high cost of transport to clinic while could not traced patients 27%. Maskew Met.al[19] observed similar results show that the leading cause to failure to follow up was financial (34 % of patients). Patients cited transport costs and having to pay to open a file at each visit as the biggest monetary obstacles to obtaining treatment. Similar results were observed by Geng EH et.al[18] in Mbarara, Uganda from January 1,2004 to September 30,2007 observed 829 become lost to follow up (cumulative incidence at 1, 2, and 3 years of 16%,30% and 39%) common reasons were transportation or finances. This study highlighted financial difficulty as the major obstacle to obtaining treatment.

CONCLUSION
Reproductive age group and male preponderance with rural background were more prone to develop the HIV infections. ART therapy was a good option for the patients with more favourable and less adverse outcomes. Most common reason for the lost to follow was high cost for transport to clinic. New ART clinics in better locations, set up outreach clinic or look into ways of financially supporting patients to clinics and ensure that the address recorded for the patient is correct in order to facilitate contact tracing if this become necessary.

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