Original Research Article

ASSESSMENT OF THE QUALITY OF LIFE OF HIV-POSITIVE PEOPLE RECEIVING ART AT M.B. HOSPITAL, UDAIPUR

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ABSTRACT

Background: In the world today the efforts have been exerted to contain the pandemic by treating HIV positive people with newly discovered highly effective antiretroviral drugs. Where it has succeeded, antiretroviral therapy has altered the nature of the disease, transforming an almost uniformly fatal illness into a chronic but reasonably stable condition and maintain optimum quality of life. **Objective-** To Assess Quality of Life of people on ART at M. B. Hospital, Udaipur.

Material and Methods: An analytic cross sectional study was conducted by utilizing a sample (151) of people living with HIV attending ART clinic at M. B. hospital, Udaipur.

Results: A sample of 151 was derived from people on ART, among all WHO QOL domains, highest mean score was derived for level of independence (13.30) and physical domain (13.23). Lowest score derived was for psychological (11.25) and SRPB domain (11.83). A significant negative correlation was observed for lower physical domain scores towards advanced age. A significant positive correlation of social relationship & environmental domain was observed and Significantly lower scores were observed in people diagnosed HIV positive recently

Conclusion: Effect of high level of adherence was observed on physical, level of independence, social relationship and environmental domains. People with high level of adherence also showed significantly high scores for all domains.

Keywords: People living with HIV, Adherence to ART, Quality of life.

INTRODUCTION

In the world today, efforts have been exerted to contain the pandemic by treating HIV positive people with newly discovered, highly effective antiretroviral drugs. Where it has succeeded, antiretroviral therapy has altered the nature of the disease, transforming an almost uniformly fatal illness into a chronic but reasonably stable condition. The success of antiretroviral treatment largely depends on the frequency of use, adherence, and effectiveness of the drugs.

1.1 GLOBAL SITUATION OF HIV/AIDS: Globally, an estimated 35.3 million people were living with HIV in 2012. There were 2.3 million new HIV infections globally. At the same time, the number of AIDS deaths was also 1.6 million in 2012.

Tuberculosis-related deaths among people living with HIV have declined by 36% worldwide and slightly less in Africa. While antiretroviral therapy reduces the risk that a person living with HIV will develop tuberculosis, inadequate use is currently being made of this life-saving tool.[1]

1.2 HIV/AIDS SITUATION OF INDIA: India has achieved significant success in combating HIV/AIDS. According to HSS 2012-2013, the overall HIV prevalence among ANC attendees continued to be low at 0.35% in the country, with an overall declining trend at the national level. The HIV epidemic in India is concentrated among high-risk groups and is heterogeneous in it's distribution. Overall trends of HIV portray a declining epidemic at the national level, though regional variations exist. The Department of AIDS Control has been

monitoring levels and trends of HIV among different population groups to craft effective responses to control HIV/AIDS in India through the HIV Sentinel Surveillance System since 1998. For High Risk Groups (HRGs) and Bridge Populations, the National Integrated Biological and Behavioural Surveillance (IBBS) is currently being carried out as a strategic shift to strengthen the surveillance system among these groups. For monitoring HIV prevalence among Antenatal Clinic (ANC) attendees (considered proxy for prevalence among general population).[2]

1.3 HIV/AIDS SITUATION OF RAJASTHAN: HIV prevalence in Rajasthan is relatively low compared to the national average, though the state is considered highly vulnerable with specific high-prevalence districts. Targeted interventions, such as condom promotion and STI treatment, are actively employed, with a focus on high-risk groups like female sex workers (FSW), truckers, and migrants. While general population prevalence was stable or declining for several years, certain areas, particularly Jaipur, Chittorgarh, Rajsamand, Dholpur, Jalore, and Kota, have reported higher rates in the past. High-Risk Groups: Targeted Interventions (TIs) are concentrated on key groups: FSWs, injecting drug users (IDUs), and men who have sex with men (MSM). Heterosexual contact is the primary mode of transmission. Factors contributing to risk include migration, low literacy, and social vulnerability of women. The Rajasthan State AIDS Control Society (RSACS) operates multiple TIs, ICTC (Integrated Counseling and Testing Centres), and ART (Antiretroviral Treatment) centres to manage the infection, aiming to control the spread. Focus has been on implementing the HIV/AIDS Act 2017, improving access to treatment, and strengthening TB-HIV integrated services. As of previous surveillance reports, the prevalence among FSWs was around (1.28%), and the general population (ANC clinics) was around (0.38%-0.75%) in various high-risk, urbanized district.[3]

Services: Care, Support, Treatment (CST) services are provided through dedicated ART centres established by NACO in health facilities across the country These are linked to Centres of Excellence (CoE) and ART Plus centres at selected teaching institutions, while decentralization of some of the services is in place via Link ART centres (LAC). The ART centres are also linked to ICTCs, STI clinics, PPTCT services and other clinical departments in the institutions. Provision of free antiretroviral therapy (ART) for eligible persons living with HIV/AIDS was launched on 1 April, 2004.[4] The ART centres are established in the medicine department of Medical colleges and District Hospitals mostly in the Government sector. However, some ART centres are functioning in the sub-district and area hospitals also, mainly in high prevalence States. A set up Link ART Centres located mainly at ICTC in the district/sub-district level hospitals nearer to the patients' residence and linked to a Nodal ART centre within an accessible distance. The LAC helps in reducing cost of travel, time spent at the centre and hence helps in improving clients' adherence to ART. The scope and functions of selected Link ART Centres were expanded to include Pre-ART registration and HIV care at LAC itself. The LACs that perform Pre-ART management are also designated as "LAC plus". This helps to bridge the gap between ICTC and CST services. These patients are followed up at LAC Plus until they become eligible for ART or are referred to the ART Centre for any other reason.

Purpose of The Study

The Govt. of India launched the free ART programme on 1st April 2004. There is limited information regarding levels of adherence and predictors of suboptimal adherence to treatment among PLHA receiving ART in these centers in India. Knowledge of QOL of PLHA using antiretroviral therapy (ART) has been inconsistent. This study intends to assess some of the outcomes of ART at one such ART Centre (MB hospital, Udaipur), where free treatment and care are available under the guidelines of National Aids Control Organization (NACO).

Objectives

To Assess Quality of Life of people on ART at M. B. Hospital, Udaipur.

MATERIALS AND METHODS

Study Design: This is an analytic cross sectional study.

Study Setting: This study was conducted at the ART Centre, M. B. hospital, Udaipur after taking ethical approval and permission from NACO. This Centre is a government-owned facility attached to the hospital where antiretroviral drugs and treatment are provided free-of-charge under the guidelines of NACO.

Study Population: PLHA registered at the ART centre taking ART constituted the study population.

Inclusion Criteria: PLHA attending ART clinics, on self-administered ART for at least one month.

Exclusion Criteria: PLHA, who were less than 18 year old, were not included in the study.

Sample Size: Since assessment of adherence was one of the objectives of the study, sample size estimation was done considering the proportion of adherence from previous studies,[5,6] which was 73%. The formula used was $n=4pq/L^2$ (p=73, q (100-P) =27, L=10% of p) and the sample size calculated was 147 with 10% allowable error.

Sampling Method: A total of 1937 PLHA taking ART were registered at ART centre. PLHA (taking ART) attending the ART centre, who were fulfilling the inclusion and exclusion criteria and gave consent, were included in the study. Data was collected over a period of month. A maximum of 10 candidates were interviewed daily except for holidays (Purposive Sampling) one after another till the toll of 151 attained.

Method of Data Collection: Prior informed written consent was taken from all the patients included in

the study. For those who were illiterate, the consent was read out & explained to them in their language and consent was obtained by taking their thumb impression in the presence of a witness. All patients under the study were personally interviewed and administered the questionnaire.

The study tool consisted of the following sections:

1) Socio demographic profile: The first section consisted of the socio demographic details and the variables that were included age, sex, religion, residence, marital status, education, CD4 count, alcohol use, smoking, route of transmission, etc. This was obtained from a structured pro-forma at the time of interview. **2) Quality of life:** It consisted of WHOQOL- HIV BREF instrument (transliterated to Hindi). QOL was measured at the time of interview using this instrument.

The WHOQOL-HIV BREF,[7] is based on the WHOQOL-BREF, the shorter form of the WHOQOL-100, These items are distributed in six domains. The six domains of QOL are, **(a) Physical health** (Four items assessing areas such as presence of pain and discomfort; energy and fatigue; sleep and rest; Symptoms of PLHA); **(b) Psychological well-being** (Five items assessing areas such as Positive feelings, thinking, learning, memory and concentration, Self-esteem, Bodily image and appearance, Negative feelings)**(c) Level of Independence** (Four items assessing areas such as Mobility, Activities of daily living, Dependence on medication or treatments & Work capacity) **(d) Social relationships** (Four items assessing areas such as social contacts, family support and ability to look after family; sexual activity & social inclusion) **(e) Environment** (Eight items assessing areas such as freedom; quality of home environment; physical safety and security and financial status; involvement in recreational activity; health and social care; quality and accessibility)**(f) Spirituality/Religion/Personal Beliefs** (four items assessing areas such as SRPB (Spirituality, Religion, Personal Beliefs), Forgiveness and Blame, Concerns about the Future, Death and Dying). There are also two items that were examined separately: one that asked about the individual's overall perception of QOL and the other that asked about the individual's overall perception of his or her health. Domain scores are scaled in a positive direction (Higher scores denote higher quality of life). The mean score of items within each domain is used to calculate the domain score. Mean scores are then multiplied by 4 in order to make domain scores comparable with the scores of the WHOQOL-100, so that scores range between 4 and 20.

Statistical Analysis: The data was processed using the SPSS version 16.0 statistical software. Associations were found by using Chi Square or Fisher's exact test for categorical variables. Student-t test and ANOVA were used for comparisons among continuous variables. Pearson's test was used to observe correlation of two continuous variables.

RESULTS

A sample of 151 was derived from PLHA on ART, out of them 92 (60.9%) were male and 59 (39.1%) were female. Among both males (46.7%) and females (47.5%) highest proportion of candidates was observed from the 31 to 40 year age group. Mean age of the sample population was 38.28 years. It was 39.49 year for male and 36.39 year for female candidates and the difference was bio-statistically significant. On analysing marital status, 79.5% of sample population was observed married.

Table 1: Distribution of cases according to their Education status

Education Status	Male	Female	Total	P Value
Uneducated	22 (23.9%)	41 (69.5%)	63	
Primary	52 (56.5%)	13 (22%)	65	<0.001 (S)
Above primary	18 (19.6%)	5 (8.5%)	23	
Total	92 (100%)	59 (100%)	151	

Out of 151 candidates 42 (27.8%) were from urban area while 109 (72.2%) were from rural area. 63 (41.7%) candidates were uneducated. Around 24% male candidates were illiterate while 69.5% female candidates were illiterate and this difference was statistically significant.

-Alcohol use was observed in 8 (5.3%) candidate and 18 (11.9%) candidates were smoker and smoking was exclusively present in male group.

-Majority of candidates (76.2%) in sample population were from lower socio-economic classes (class III, class IV and class V). and 14 (9.3%) candidates were spending life without family support and all these candidates were male.

-HIV infection status disclosure to society was observed in 8 (5.3%) candidates. Among males 6.5% of candidates were having their HIV status disclosed while among females this proportion was 3.4% and 108 (71.5%) candidates were having their CD4 count below 350. Among males 75% candidates were having their CD4 count below 350 while in female group this proportion was 66.1%.

-Adherence to ART over previous 7 days statistically significant with according to residence, different education status, Effect of disclosure of HIV status in society and time since diagnosis.

Table 2: WHO QOL Domain scores

WHO QOL Domain	Mean Score	SD
Physical	13.2	1.30
Psychological	11.3	2.32
Level of Independence	13.3	1.93
Social Relationship	12.9	2.03
Environmental	13.1	1.68
Spirituality/Religion/Personal Belief	11.8	2.67
Overall	12.6	2.18

Correlation between WHO QOL Domain scores:
A significant negative correlation was observed between age and physical domain suggesting lower physical domain scores towards advancing age. All other domains were positively correlated with age and were showing higher scores towards advancing age.

- Psychological and SRPB domain were positively correlated with CD4 count.
- People who are living with HIV/AIDS for more time also having higher scores in psychological, level of independence and SRPB domains.
- A significant positive correlation of social relationship & environmental domain was observed with adherence to ART suggesting people with higher social relationship and environmental domain scores also have higher level of adherence to ART.
- The level of independence domain score was significantly higher for males (13.9) than for females (12.3).
- Literacy was found to affect the level of independence and the SRPB domain. Significantly high scores of above domain were observed for literate people.
- Significantly higher scores were observed in the psychological, level of independence, environmental, and SRPB domains of people from urban areas.
- Significantly higher social relationship and environmental domain scores were observed for people who were living with their families as compared to people living without family support.
- People with HIV status disclosed to society were having significantly lower psychological, social relationship, environmental and SRPB domain mean scores as compared to people with hidden HIV status.
- Significantly higher psychological and SRPB domain scores were observed in the group of people having their CD4 count >350 as compared to their counter group of CD4 count <350.
- Significantly lower scores were observed for these domains in people diagnosed HIV positive recently.
- Effect of high level of adherence was observed on physical, level of independence, social relationship, and environmental domains. People with a high level of adherence also showed significantly high scores for the above domains.

DISCUSSION

The present study was conducted to assess the adherence and quality of life among HIV/AIDS patients undergoing antiretroviral therapy in a free ART Centre in Rajasthan (India) under the guidelines of NACO

7.1 SOCIO-DEMOGRAPHIC CHARACTERISTIC OF THE STUDY POPULATION: The study involved 151 patients on ART, with a higher proportion of males (60.9%) than females (39.1%). The average age was 38.28 years, with females infected at an earlier age (36.39 years) than males (39.49 years). Most patients were married (79.5%), from rural areas (76.2%), and belonged to socio-economic class III, IV, and V. Notably, 41.7% were uneducated, with significantly higher illiteracy among females. In contrast to our finding, Basavaprabhu Achappa et al,8 Surendra K. Sharma et al (2010),9 A. Sarna et al (2008),[10] Shah B. et al (2007),[6] Honghong Wang et al (2009),[11] and Wang X. et al (2007),[12] found 14 %, 18%, 16.2%, 4.3%, 7.7% and 7.4 % of study population illiterate respectively. This difference was partly due to the different study setting and partly due to the fact that the majority of people in our study were from rural/tribal area. Additionally, 9.3% lived without family support, 5.3% disclosed their HIV status, 5.3% were alcoholics, and 11.9% were smokers. The majority (71.5%) had a CD4 count below 350, with a higher proportion among males (75%) than females (66.1%).

7.2 QUALITY OF LIFE: The study assessed quality of life (QOL) among HIV/AIDS patients using the WHOQOL-HIV questionnaire, finding the highest mean scores in level of independence (13.30) and physical domain (13.23), and lowest scores in psychological (11.25) and SRPB domains (11.83). Comparison with other studies, such as Gowda S et al (2012),[13] and Mahalakshmy T et al (2011),[14] revealed similar overall domain scores. Factors positively correlated with QOL included family support, higher CD4 count, and longer time since diagnosis, while HIV status disclosure was associated with lower QOL scores. Urban patients and those with higher education levels reported better QOL scores in certain domains. The study's findings are consistent with other research, including Naveet et al (2006),[15] Marashi et al (2009),[16] and Anand D et al (2012),[17] highlighting the importance of addressing stigma, ensuring family support, and promoting

adherence to ART to improve QOL among HIV/AIDS patients.

CONCLUSION

This study assessed quality of life (QOL) among 151 HIV/AIDS patients on ART. QOL scores were highest in level of independence and physical domains, and lowest in psychological and SRPB domains. Family support and high adherence were associated with better QOL scores, while disclosed HIV status and recent diagnosis had negative effects.
Recommendations: The treatment of HIV/AIDS aims to reduce mortality, prolong life, and improve quality of life. However, challenges persist, such as lower adherence rates, particularly among rural and less educated populations. To address this, efforts should focus on identifying and treating unidentified female cases, promoting education, and providing counselling to improve adherence. Innovative approaches like text message reminders can help. Ensuring an uninterrupted drug supply is crucial, and the government must take responsibility for this. Additionally, addressing physical health, social acceptance, and environmental factors can improve quality of life. Targeted programs for rural populations are needed to reduce disparities in quality of life.

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Conflicts of interest: There were no conflicts of interest.

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