Client Satisfaction of Antiretroviral Therapy Service Delivery: A Cross-Sectional Study at an Antiretroviral Therapy Center

Abstract

Context: People living with HIV (PLHIV)/AIDS are faced with the task of maintaining optimal health status despite an increasing insult to their immune status. Antiretroviral therapy (ART) centers provide comprehensive services to all PLHIV enrolled under the program. Patients with higher satisfaction levels may also have improved health outcomes. Aim: The aim of this study was to assess the client’s satisfaction on ART service delivery and to identify the factors associated with client’s satisfaction. Settings and Design: This was a facility-based, cross-sectional study. Materials and Methods: The study was conducted from August to October 2018 at the ART center of Rajamahendravaram. A total of 485 HIV-positive clients above the age of 15 years on ART for >6 months were selected by systematic random sampling after taking informed verbal consent. Data were collected by interviewing with the help of a validated structured English-version Likert-scale questionnaire, that is, University of Gondar College of Medicine and Health Sciences Institute of Public Health Pro forma. Statistical Analysis Used: Binary logistic regression and Chi-square test were conducted to identify the association between the explanatory variables and outcome variables (patient satisfaction). Results: The mean age of the clients was 39.6 ± 9.9 years. The overall satisfaction rate among the clients was 92.6%. Age, marital status, education, family income, socioeconomic status, and the waiting period to see the doctor were statistically significantly associated with the level of satisfaction of the clients (P < 0.05). Conclusion: The present study shows high levels (92.6%) of client satisfaction with services provided at the ART center, Rajamahendravaram. This motivates the health-care workers, program planners, and policymakers for a better continuum of care.

Keywords: Antiretroviral therapy delivery services, Associated factors for client satisfaction

Introduction

Patient satisfaction plays a vital role in evaluating a hospital’s performance. The perception of care and the quality of care are the pillars on which health care stands. People’s lives are directly affected by the health-care industry in their vulnerable situations. Making sure it does so in a pleasant, satisfying manner pays off for everyone.\(^1\)

Patient satisfaction is the patient’s perception of care received compared with the care expected by them.\(^2\) Its assessment aids in knowing the clients’ expectations of the health services, recognizing their difficulties, and evaluating health care. Increased patient satisfaction leads to an increase in patient compliance and augments treatment adherence. Patients who are dissatisfied may have worse outcomes as they may not follow the required treatment plans.\(^3\)

During the evaluation of health outcomes and quality of care, patient satisfaction is considered an essential component.\(^4\) Improvement of communication and building a stronger health provider and patient relationship can be done based on the feedback provided by the clients. Identifying the barriers the clients face will help in providing comprehensive care for HIV/AIDS patients.\(^5,6\)

Information about patient satisfaction can serve as a tool in decision-making and learning. It can also serve as a means of holding health-care providers’ accountable and draw the attention of health-care providers and administrators. Monitoring a health center’s performance, determining the patient’s needs, planning the development of services, and evidence to
support fundraising can be attained based on the patient’s satisfaction.[7]

People living with HIV (PLHIV), while availing antiretroviral therapy (ART) services, face a lot of administrative and procedural problems in hospitals, which affect their level of satisfaction with the services provided. Patient satisfaction is related to several factors, including lifestyle, past experiences, future expectations, and the value of both individuals and the society.[8]

The chances of successfully implementing an HIV program intervention are directly related to the levels of patient satisfaction and quality of care, which are affected by weakened and overloaded health systems.[9] In resource-limited settings, it is even more crucial to ensure a high quality of care and patient satisfaction, to maximize the benefits of scarce resources.[10]

This study aims to assess the client’s satisfaction with the antiretroviral service delivery provided at a ART center. The ART center is situated in East Godavari district, which has the highest prevalence of HIV/AIDS in Andhra Pradesh. The HIV positivity among the integrated counseling and testing center (ICTC) attendees of East Godavari was 3.6%, according to the Andhra Pradesh State AIDS Control Society ICTC data report, 2015–2016.[11] This makes it even more important to assess the patient’s satisfaction to further improve the service utilization in this area. The objectives of the present study were to assess patients’ satisfaction with ART service delivery and identify the factors associated with client satisfaction.

Because we do not have much information about the patient’s satisfaction with the ART service delivery and its associated factors in Andhra Pradesh, understanding it in the local context is critical in improving the quality and effectiveness of the care PLHIVs receive.

Materials and Methods

Study design and study setting

A facility-based, cross-sectional study was conducted from August to October 2018.

Study population

Based on a study conducted in West Bengal, India,[12] it was seen that the overall satisfaction of the clients was 76%; taking relative precision of 5% and confidence interval of 95%, the sample size was calculated to be 485.

Ethics

Permission was obtained from the institutional ethics committee before conducting the study.

Sampling frame

PLHIVs of more than 15 years of age and who were on ART for at least 6 months were included in the study. PLHIVs who were uncooperative and severely debilitated and unable to respond (mentally/physically) were excluded from the study. The participants were selected by systematic random sampling. The outpatient department register of the ART center was taken as the sampling frame. The first participant was chosen randomly by lottery method from 1 to 68 numbers. Then, every 68th client presenting to the ART center was interviewed. If he/she did not fulfill the inclusion criteria, then the next client was interviewed consecutively.

Data collection

Before taking the interview, the study participants were explained about the purpose of the study, and their informed verbal consent was taken. The informed verbal consent of the parents/guardian was taken for participants below 18 years of age. The participants were ensured that their identity would be kept confidential.

Study tool

Patients visiting the ART center for treatment were interviewed with the help of a predesigned, pretested, structured English-version Likert-scale questionnaire, that is, University of Gondar College of Medicine and Health Sciences Institute of Public Health Pro forma.[13]

The pro forma recorded data regarding the necessary demographic information, patient satisfaction regarding the ART service delivery, and the factors related to the patient’s satisfaction. The pro forma was pilot tested to validate it.

Satisfaction was assessed by asking about different components in each of the five domains described in Table 1.[14] Satisfaction for each component was assessed using a 5-point Likert scale.

Study variables

The study variables were categorized into sociodemographic variables and variables related to the domains of satisfaction. Sociodemographic variables included age, gender, educational status, employment, marital status, monthly income, socioeconomic status, distance from the ART center, and duration of ART. Variables related to the domains of satisfaction were staff–patient communication, staff attitude, waiting period, privacy, infrastructure, and amenities.

Data management

Data were entered, compiled in Microsoft Excel 2007, and analyzed using IBM Corp. Released 2011, IBM SPSS Statistics for Windows, Version 20.0. Armonk, NY, IBM Corp. Binary logistic regression and Chi-square test were conducted to identify the association between the explanatory variables and outcome variables (patient satisfaction). Variables that have P < 0.05 were considered statistically significantly associated variables. The data obtained from the open-ended question regarding the
client’s suggestions were coded, categorized, and analyzed using Creswell’s method.[13]

**Results**

A total of 485 clients attending the ART were interviewed. The mean age of the clients was around 39.6 ± 9.9 years. About 56% were between 31 and 45 years of age. The mean distance to the ART center that the client has to travel was around 20.96 ± 13.15 km. The majority of the clients (49.7%) are illiterates. Unemployed clients constituted approximately 35.3%, and unskilled workers constituted about 36.7%. The overall client satisfaction was around 92.6%. The mean waiting period to be seen by a health-care provider was 13.5 ± 6.3 min.

The distribution of the level of satisfaction of the clients related to the five domains is depicted in Table 2. The majority of the clients were satisfied with the staff–patient communication and staff attitude. Less than 60% of the clients were satisfied with the waiting period (53%), the convenience of the service hours (45%), availability of toilets (55%), and cleanliness of toilets (58%).

Table 3 depicts the association between the variables and the overall satisfaction of the clients attending the ART center. The overall satisfaction was dichotomized based on the score ranging from 0 to 10 given by the participants regarding their overall satisfaction with the services they received. A score >5 was taken as satisfied for overall satisfaction. Age (31–45 years), marital status (married), education (illiterates), family income (2500–5000 rupees), socioeconomic status (upper lower), and waiting period to see the doctor (16–30 min) were statistically significantly associated with the overall satisfaction (satisfied) of the clients ($P < 0.05$).

The strength of association between the explanatory variables and the overall satisfaction was assessed by binary logistic regression, as depicted in Table 4. The variables with $P < 0.05$ were considered statistically significantly associated with the level of satisfaction. On unadjusted analyses, patients who were satisfied with the ART services were more likely to be older (odds ratio [OR] = 1.104, $P = 0.001$), employed (OR = 4.404, $P = 0.031$), satisfied with the counseling services (OR = 3.961, $P = 0.016$), with privacy (OR = 2.880, $P = 0.000$), and treated with courtesy and respect (OR = 2.588, $P = 0.003$).

Figure 2 denotes the thematic analysis of the suggestions of the participants regarding the ART service delivery at the ART center at Rajamahendravaram. Majority (70.3%) of the participants suggested that the waiting period to avail services should be shortened. About 55.3% of the participants advised that more health-care providers should be recruited. Around 51.7% of the participants were concerned about the availability of pensions. About 40% of the participants requested the provision of moral and emotional support by the health-care workers. Improved toilet facilities (32.5%), waiting area facilities (31.3%), counseling services (13.8%), inpatient services (11.7%), drug availability (5%), and health education (3.2%) were few suggestions. Around 11.1% of the participants complained that the health-care providers were breaching confidentiality at their residence and 5.3% complained about the provision of rice.

**Table 1: Five domains and their components related to the level of satisfaction**

| Domains                  | Components                                      |
|--------------------------|-------------------------------------------------|
| Staff attitude           | Empathetic approach                              |
|                          | Understanding the patients’ pain                 |
|                          | Courtesy and respect                             |
| Staff-patient communication| Understandable information                       |
|                          | Provision of health information                   |
|                          | Explaining health problems                        |
|                          | Counseling services                               |
|                          | Willingness to answer                             |
|                          | Guidance                                         |
| Infrastructure and amenities| Availability of drugs                            |
|                          | Infrastructure and facility                       |
|                          | Availability of toilets                           |
|                          | Cleanliness of toilets                            |
| Privacy                  | Measures to ensure privacy                        |
| Waiting period           | Waiting time to be seen by a health worker        |
|                          | Convenience of service hours                      |

**Discussion**

Patient satisfaction is an essential pillar in assessing the quality of health-care delivery. Knowledge about the client’s satisfaction at any health center is necessary to know the needs of the clients and help in improving the existing facilities. An ART center caters services for HIV/
AIDS patients, thereby assessing their level of satisfaction is vital in improving the services they receive. Higher levels of satisfaction are implicated in a better prognosis of the clients.

The overall satisfaction of the clients is around 92.6% in the present study. A study conducted by Dixit et al. in a tertiary care hospital, Chhattisgarh, India,[16] reported an overall satisfaction of 61.2%, which is way lower than the level of satisfaction of the present study. The overall satisfaction of the clients could be influenced by the population characteristics and the client’s perception. Wung et al. reported a satisfaction level of 91.2% in a study done at Bamenda, Cameroon, which is similar to the finding of the present study.[17] However, certain aspects such as waiting period, convenience of the service hours, and clean toilet facilities needed further improvement. These factors did not influence the overall satisfaction much, which could be due to the satisfactory provision of other aspects such as staff attitude, staff–patient communication, and privacy, with more than 90% satisfaction.

Less than 60% of the clients were satisfied with the waiting period (53%), the convenience of the service hours (55%), and the availability of drug (85.4%).

Table 2: Distribution of clients based on the levels of satisfaction

| Variables                                      | Strongly agree/very satisfied, n (%) | Agree/ satisfied, n (%) | Neutral, n (%) | Disagree/ dissatisfied, n (%) | Strongly disagree/ very dissatisfied, n (%) |
|------------------------------------------------|--------------------------------------|-------------------------|----------------|--------------------------------|-------------------------------------------|
| Staff attitude                                 |                                      |                         |                |                                |                                           |
| Empathy of health-care providers               | 176 (36.3)                           | 301 (62.1)              | 4 (0.8)        | 4 (0.8)                        | 0                                         |
| Courtesy and respect                          | 267 (55.0)                           | 210 (43.2)              | 0              | 3 (0.6)                        | 5 (1)                                     |
| Staff-patient communication                    |                                      |                         |                |                                |                                           |
| Understandable health information              | 271 (55.9)                           | 208 (42.9)              | 2 (0.4)        | 4 (0.8)                        | 0                                         |
| Satisfaction regarding health information      | 186 (38.4)                           | 295 (60.8)              | 0              | 4 (0.8)                        | 0                                         |
| Satisfaction regarding counseling              | 268 (55.3)                           | 196 (40.4)              | 0              | 15 (3.1)                       | 6 (1.2)                                   |
| Willingness to answer questions                | 306 (63.1)                           | 170 (35.1)              | 3 (0.6)        | 6 (1.2)                        | 0                                         |
| Guidance                                       | 375 (77.3)                           | 102 (21)                | 3 (0.6)        | 5 (1)                          | 0                                         |
| Infrastructure and amenities                   |                                      |                         |                |                                |                                           |
| Availability of drugs                          | 414 (85.4)                           | 58 (12)                 | 5 (1)          | 8 (1.6)                        | 0                                         |
| Availability of toilets                        | 50 (10.3)                            | 219 (45.2)              | 105 (21.6)     | 100 (20.6)                     | 11 (2.3)                                  |
| Satisfaction related to infrastructure and facility | 279 (57.5)                           | 186 (38.4)              | 12 (2.5)       | 8 (1.6)                        | 0                                         |
| Waiting hall ambience                          | 62 (12.8)                            | 348 (71.8)              | 24 (4.9)       | 48 (9.9)                       | 3 (0.6)                                   |
| Privacy                                        |                                      |                         |                |                                |                                           |
| Satisfaction regarding privacy                 | 216 (44.5)                           | 253 (52.2)              | 0              | 16 (3.3)                       | 0                                         |
| Waiting period                                 | 71 (14.6)                            | 260 (53.6)              | 6 (1.2)        | 145 (29.9)                     | 3 (0.6)                                   |

Figure 2: Thematic analysis of clients’ suggestions
Table 3: Association between the variables and the overall satisfaction of the clients

| Variables                  | Distribution (n=485) | Overall satisfaction | P  |
|----------------------------|----------------------|----------------------|----|
| Age (years)                |                      |                      |    |
| 15-30                      | 96 (19.8)            | 0                    | 96 (100) | 0.004 |
| 31-45                      | 271 (55.9)           | 29 (10.7)            | 242 (89.3) |
| 46-60                      | 102 (21)             | 7 (6.8)              | 95 (93.2) |
| >60                        | 16 (3.3)             | 0                    | 16 (100)  |
| Sex                        |                      |                      |    |
| Male                       | 203 (41.9)           | 17 (8.3)             | 186 (91.7) | 0.498 |
| Female                     | 283 (58.1)           | 19 (6.7)             | 263 (93.3) |
| Marital status             |                      |                      |    |
| Single                     | 22 (4.5)             | 0                    | 22 (100)  | 0.025 |
| Married                    | 297 (61.2)           | 17 (5.7)             | 280 (94.3) |
| Widowed                    | 154 (31.8)           | 19 (12.3)            | 135 (87.7) |
| Separated                  | 12 (2.5)             | 0                    | 12 (100)  |
| Educational status         |                      |                      |    |
| Professional               | 0                    | 0                    | 0               | 0.000 |
| Graduate or postgraduate   | 22 (4.5)             | 8 (36.3)             | 14 (63.6)   |
| Intermediate or diploma    | 14 (2.8)             | 9 (64.2)             | 5 (35.7)    |
| High school                | 75 (15.4)            | 3 (4.0)              | 72 (96)     |
| Middle school              | 81 (16.7)            | 5 (6.1)              | 76 (93.9)   |
| Primary school             | 52 (10.7)            | 5 (9.6)              | 47 (90.3)   |
| Illiterate                 | 241 (49.6)           | 15 (6.2)             | 226 (93.7)  |
| Occupation                 |                      |                      |    |
| Profession                 | 17 (3.5)             | 0                    | 17 (100)    | 0.159 |
| Semi-profession            | 24 (4.9)             | 3 (12.5)             | 21 (87.5)   |
| Clerical or shop owner     | 19 (3.9)             | 0                    | 19 (100)    |
| Skilled worker             | 17 (3.5)             | 3 (17.6)             | 14 (82.4)   |
| Semi-skilled worker        | 59 (12.1)            | 3 (5.3)              | 56 (94.7)   |
| Unskilled worker           | 178 (36.7)           | 10 (5.6)             | 168 (94.4)  |
| Unemployed                 | 171 (35.2)           | 17 (9.9)             | 154 (90.1)  |
| Address                    |                      |                      |    |
| Urban                      | 153 (31.5)           | 12 (7.8)             | 141 (92.2)  | 0.810 |
| Rural                      | 332 (68.5)           | 24 (7.2)             | 308 (92.8)  |
| Distance from residence (km)|                    |                      |    |
| 5-15                       | 161 (33.2)           | 15 (9.3)             | 146 (90.7)  | 0.739 |
| 16-25                      | 132 (27.2)           | 8 (6.0)              | 124 (94)    |
| 26-35                      | 136 (28)             | 11 (8.0)             | 125 (92)    |
| 36-45                      | 45 (9.3)             | 2 (4.4)              | 43 (95.6)   |
| 46-55                      | 7 ()                 | 0                    | 7 (100)     |
| 56-65                      | 6 ()                 | 0                    | 6 (100)     |
| Family income              |                      |                      |    |
| >19,575                    | 37 (7.6)             | 5 (13.5)             | 32 (86.5)   | 0.011 |
| 9788-19,574                | 166 (34.2)           | 13 (7.8)             | 153 (92.2)  |
| 7322-9787                  | 103 (21.2)           | 3 (2.9)              | 100 (91.1)  |
| 4894-7322                  | 89 (18.4)            | 2 (2.2)              | 87 (91.8)   |
| 2936-4893                  | 36 (7.4)             | 6 (16.7)             | 30 (83.3)   |
| 980-2935                   | 38 (7.8)             | 4 (10.5)             | 34 (89.5)   |
| <979                       | 16 (3.4)             | 3 (18.8)             | 13 (81.2)   |
| Socioeconomic status       |                      |                      |    |
| Upper                      | 15 (3.1)             | 2 (13.3)             | 13 (86.7)   | 0.047 |
| Upper middle               | 94 (19.4)            | 11 (11.7)            | 83 (88.3)   |
| Lower middle               | 165 (34)             | 5 (3.0)              | 160 (97)    |
| Upper lower                | 191 (39.4)           | 15 (7.9)             | 176 (92.1)  |
| Lower                      | 20 (4.1)             | 3 (15)               | 17 (85)     |

Contd...
Table 3: Contd...

| Variables | Distribution (n=485) | Overall satisfaction | P |
|-----------|----------------------|----------------------|---|
| Waiting period to see the doctor (min) | | | |
| 5-15 | 171 (35.3) | 12 (7.0) | 159 (93) | 0.000 |
| 16-30 | 308 (63.5) | 21 (6.8) | 287 (93.2) | 0.036 |
| 31-60 | 16 (3.2) | 3 (18.7) | 13 (81.3) | 0.253 |

Table 4: Binary logistic regression

| Explanatory variables | OR (95% CI) | P |
|-----------------------|-------------|---|
| Age (years) | | | |
| <40 | 1 | 0.001 |
| >40 | 1.144 (1.104-1.173) | 0.635 |
| Sex | | | |
| Male | 1 | 0.785 |
| Female | 0.029 (0.006-0.139) | 0.114 |
| Education status | | | |
| Literate | 1 | 0.000 |
| Illiterate | 0.01 (0.000-0.044) | 0.001 |
| Socioeconomic status | | | |
| Upper | 1 | 0.530 |
| Lower | 0.019 (0.000-0.730) | 0.033 |
| Courtesy and respect | | | |
| Satisfied | 1 | 0.016 |
| Unsatisfied | 3.961 (1.290-12.159) | 0.001 |
| Satisfaction related to counseling | | | |
| Satisfied | 1 | 0.000 |
| Unsatisfied | 2.880 (1.680-4.938) | 0.001 |
| Satisfaction related to privacy | | | |
| Satisfied | 1 | 0.003 |
| Unsatisfied | 2.588 (1.381-4.848) | 0.001 |

OR: Odds ratio, CI: Confidence interval

ART center (OR = 1.712, P = 0.036), and were adherent to highly active antiretroviral therapy (OR = 2.003, P = 0.016). Age plays a major role as younger clients get impatient easily and are hard to satisfy, hence health-care workers have to deal accordingly. Literate clients expect more information regarding their condition and prognosis, which can be difficult to provide in ARTs with less workforce.

Males (OR = 0.40, P = 0.030) and unemployed clients (OR = 0.42, P = 0.048) were less satisfied compared to females and employed clients in a study conducted by Wung et al. at Cameroon, similar to the findings in this study. This could be due to the difference in temperament and personality issues. Married clients and clients without income had higher levels of satisfaction compared to unmarried clients and clients with monthly income, in a study done at Ethiopia.

Clients belonging to lower socioeconomic status were satisfied with the overall service delivery compared to clients belonging to upper socioeconomic class, as observed in the present study. This could be due to the varying level of expectation and perceptions between the two groups. The clients who were satisfied regarding the courtesy and respect they received, counseling, and privacy were more likely to be satisfied with the overall service delivery when compared to the clients who were dissatisfied with the above three aspects in the present study.

The majority of the patients (93.6%) waited 30 min to 1 h before examination by health providers in a study done by Atebeha and Chercos at Midre-Genet Hospital, Northwest Tigray, Ethiopia, which is similar to the findings of the present study. The more the waiting period, the lesser is the satisfaction among the clients. Improved receptiveness and attention among the clients can be observed if the waiting period is shorter.

The majority of the clients have suggested shortening the waiting period to be seen by a health-care provider. Similarly, in a study conducted in Cameroon, 90% and 58.9% suggested to recruit more health-care providers and decrease the waiting period.

However, we could identify few limitations in this study. There was a possible social desirability bias in this study, that is, it was possible to establish an association but no causal relationships.
Conclusion

The present study showed high levels (92.6%) of client satisfaction with services provided at the ART center, Rajamahendravaram. The high levels of satisfaction act as a driving force for health-care workers, program planners, and policymakers for maintaining a better continuum of care. Understanding the needs and requirements of the clients help health-care providers in serving them better.

Recommendations

- As the mean distance from the client’s residence and the ART center is around 20 km, transportation facilities or some incentives provided will encourage the clients
- Recruitment of more health-care providers is necessary to reduce the waiting period to be seen by them
- Hygienic conditions maintained in and around the center leads to a pleasant experience for the clients
- Special care to be catered to the older and illiterate clients to eliminate any confusion or difficulty in receiving the services.

Acknowledgment

The authors would like to acknowledge the study participants and the staff of the ART center.

Ethical clearance

Study was conducted after approval from the Institutional Ethics Committee.

Financial support and sponsorship

Nil.

Conflicts of interest

There are no conflicts of interest.

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