



## Literature Review on Patient Satisfaction in Antiretroviral Treatment Services

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### ABSTRACT

Satisfaction is a feeling of pleasure or disappointment arising from comparing the perceived performance of results/products with their expectations, and patient dissatisfaction with antiretroviral (ARV) treatment services will harm people with HIV/AIDS. This study aims to determine the level of satisfaction and the factors that influence satisfaction in ARV treatment services. This study uses a literature review with DOAJ, PubMed, ScienceDirect, and Springer databases. In 13 articles analyzed, two findings discussed the level of satisfaction and factors influencing patient satisfaction. The level of satisfaction with ARV treatment services is relatively high; on average, all patients are delighted. Factors influencing patient satisfaction are divided into sociodemographic, individual, nurse or health worker, health service, and environmental factors. Every country or every health service has different services; the level of satisfaction with ARV treatment services also varies because several factors influence it; it is necessary to improve the quality of service by improving the planning of facilities and infrastructure, good time management, arrangement of resources, facilities and work environment. Provide guidance and training to health workers. HIV/AIDS patients need not be afraid to seek treatment and are more open to expressing complaints to nurses or health workers.

**Keywords:** Satisfaction, health services, antiretroviral

## I. BACKGROUND

Health services are very important for the needs of every community, and now the government must ensure that all citizens get high-quality health services tailored to their individual needs (Ministry of Health Indonesia, 2019). Someone

diagnosed with HIV/AIDS needs health services through clinical care with assistance, support and treatment. It kills the virus and cannot completely cure HIV, adding to the challenge regarding side effects and chronic drug resistance (Ministry of Health Indonesia, 2015).

antiretroviral treatment must continue to be improved and requires special attention by health workers so that HIV/AIDS patients feel satisfied with the services received; there is a potential relationship between client satisfaction and adherence to late treatment with individual satisfaction with antiretroviral services.

In research conducted by Gezahegn et al. (2021) at the Jimma city health center in Ethiopia, most clients showed low satisfaction with getting ARV drug collection services, with as many as 301 respondents (78.6%). Prevalence of people living with HIV/AIDS according to UNAIDS (2021), namely the population of people infected with HIV in the world is 38 million. Data on HIV/AIDS cases in Indonesia have found and diagnosed as many as 419,551 people (77%). Data on HIV/AIDS sufferers in East Java found in 2021 as many as 65,274 people (RI Ministry of Health, 2021). According to data from the second quarter of the SIHA report, 5,739 people were infected with HIV/AIDS in the Jember district (Ministry of Health RI, 2021). Acceptance of antiretroviral treatment (ARV) according to UNAIDS (2021) 26 million. In Indonesia, the number of people living with HIV/AIDS who routinely receive ARV treatment is 142,906 people (26%). In East Java in January-March 2021, there were 842 people (RI

Ministry of Health, 2021). There are 2,781 people with HIV/AIDS who have started ARV treatment, while 1,061 people regularly receive ARV treatment (Director General of P2P, 2021).

The gap between the number of sufferers and ARV recipients occurs, one of which is due to the dissatisfaction of HIV/AIDS patients with ARV treatment services, causing people with HIV/AIDS who have previously received ARV treatment to be vulnerable to lose to follow-up, this is related to patient non-compliance in taking treatment because patients tend to be unmotivated and lazy to go to health care facilities, people with HIV/AIDS who experience loss to follow-up will affect both clinically and on the treatment program (Sneha et al, 2017).

According to Kotler and Keller (2018), satisfaction is a feeling of pleasure or disappointment that arises from comparing the perceived performance of results/products with their expectations. Factors influencing customer satisfaction include price, company reputation, and service quality. Perceptions of customers for the service they get if the reality is more than desired, then the service is said to be of quality. Meanwhile, if the reality is less than desired, then the service is said to be of poor quality. Moreover, it is said to be satisfied if the reality is the same as desired

or expected. The gap between reality and expectations causes customer dissatisfaction (Haya & Tambunan, 2022).

Based on the description above, there are differences in the amount of data between HIV/AIDS sufferers and sufferers receiving ARV treatment, and there is dissatisfaction with ARV treatment services which harms people living with HIV/AIDS. It is necessary to do a literature review to increase literacy before conducting direct research, and this research was carried out by reviewing several articles on Patient Satisfaction with ARV Treatment Services.

## 2. METHODS

The research method uses a literature review and the data sources used are journal searches using the Doaj, PubMed, ScienceDirect, and Springer databases. The keywords used are “Satisfaction” AND “Service” AND “Treatment OR Therapy OR Medication” AND “Antiretroviral” OR ARV OR ART” AND “Patient OR Client OR PLWHA OR PLHIV”. Analysis of research articles used PICOS analysis and found 13 studies that met the criteria.

## 3. RESULTS

Table 1. General Characteristics of Articles. (Continue to page 84)

Year of publication	Frequency	Percentage (%)
2015	0	0
2016	2	15,3%
2017	0	0
2018	1	7,6%
2019	3	23%
2020	1	7,6%
2021	4	30%
2022	1	7,6%
2023	1	7,6%
<b>Total</b>	<b>13</b>	<b>100%</b>
Design	Frequency	Percentage (%)
Descriptive cross-sectional	1	7,6%
Cross-sectional	8	61,5%
Cohort Study	1	7,6%
Qualitative	3	23%
<b>Total</b>	<b>13</b>	<b>100%</b>
Database	Frequency	Percentage (%)
DOAJ	3	23%
ScienceDirect	2	15,3%
PubMed	4	30%
Springer	4	30%
<b>Total</b>	<b>13</b>	<b>100%</b>

Country	Frequency	Percentage (%)
India	1	7,6%
Africa	2	15,3%
Uganda	4	30%
Nigeria	1	7,6%
Cameroon	2	15,3%
Vietnam	1	7,6%
Spain	1	7,6%
Iran	1	7,6%
<b>Total</b>	<b>13</b>	<b>100%</b>

  

Research Setting	Frequency	Percentage (%)
Hospital	6	46,1%
HIV/AIDS Clinic (Hospital)	3	23%
ART treatment center	1	7,6%
ART treatment clinic (Hospital)	1	7,6%
Public health center	1	7,6%
HIV care and treatment clinic	1	7,6%
<b>Total</b>	<b>13</b>	<b>100%</b>

**Table 2. Article Search Results. (continue until page 87)**

ID	Author/ Title	Year	Country	Aim	Population/ Setting	Method	Results
A1	Tran et al, <i>Patient satisfaction with HIV services in Vietnam: Status, service models and association with treatment outcome</i>	2019	Vietnam	Assessing patient satisfaction on ART, the relationship between patient satisfaction and potential factors, and the progress of HIV treatment outcomes through CD count	1113 patients aged 18 years and over/ 8 HIV/AIDS Clinics (Hospitals)	Cross-sectional	Most of the respondents are satisfied (65.5%-82.5%). Factors influencing satisfaction are education, disease stage, access to information and guidance on hospital services and procedures, the responsiveness of health workers to questions and patient requests, waiting time, and administrative procedures.
A2	Tawiye, <i>Patient satisfaction and associated factors among adults attending ART clinic at Dessie referral Hospital, Amhara Region, Ethiopia</i>	2021	Ethiopia	Assessing satisfaction levels and related factors among adult patients on ART	375 adult patients/ ART Clinic (Hospital)	Cross-sectional	The level of patient satisfaction with ART services showed that 64.1% of patients were satisfied and 36.9% were dissatisfied. Factors influencing patient satisfaction with ART services include the respondent's age, educational status, the time needed to reach the hospital (30 minutes to 1 hour) and the level of stigma and discrimination.

ID	Author/ Title	Year	Country	Aim	Population/ Setting	Method	Results
A3	Somi et al, <i>Perceived Satisfaction With HIV Care And Its Association With Adherence To Antiretroviral Therapy And Viral Suppression In The African</i>	2021	Africa	Found a relationship between satisfaction with HIV care and adherence to ART.	2928 participants/ 12 HIV care and treatment clinics	Cohort Study	(89.6%) reported satisfaction while (10.4%) reported dissatisfaction. Patient satisfaction is influenced by: dissatisfaction with waiting time, building quality, service quality, the attitude of health workers, and the skills of health workers.
A4	Adissu et al, <i>Patient satisfaction with antiretroviral therapy services and associated factors at Gondar town health centers</i>	2020	Ethopia	The study aims to determine the level of patient satisfaction with antiretroviral therapy services and its determinants	663 patients/ primary health center	Cross-sectional	Overall, patient satisfaction with antiretroviral services was 75.4%. Older age, lack of signs and referrals to ART clinics, and more extended home visits to health centers influenced patient satisfaction with antiretroviral treatment.
A5	Atsebeha dan Chercos <i>High antiretroviral therapy service delivery satisfaction and its' associated factors at Midre-genet hospital</i>	2018	Ethiopia	Assessing HIV/AIDS patient satisfaction with the provision of antiretroviral therapy services and related factors	420 respondent/ Hospital	Cross-sectional	75.2% of patients were satisfied with the provision of ART services. Age, marital status, occupation, income, information provision and guidance, privacy, toilet access, and interpersonal communication significantly relate to patient satisfaction in ART services.
A6	Wung and Atashili <i>Clients' satisfaction with hiv treatment services in bamenda</i>	2016	Cameron	Assessing the level of client satisfaction with HIV services at HIV treatment centre and determining the relationship between satisfaction and the client's sociodemographic/structural characteristics.	384 respondent / Hospital	Cross-sectional	Overall satisfaction with HIV services is 91.2%, things that influence staff communication with patients, staff attitudes, client privacy and confidentiality, and staffing and facilities.
A7	Nikitha and Sushant, <i>Client satisfaction of antiretroviral therapy service delivery</i>	2021	India	Assess client satisfaction with the delivery of ART services and identify factors related to client satisfaction.	485 clients/ ART treatment center	Cross-sectional	The overall satisfaction rate among clients is 92.6%. Age, marital status, education, income, family, socioeconomic status, and length of time waiting to see a doctor are the determining factors for satisfaction with ART treatment services.

ID	Author/ Title	Year	Country	Aim	Population/ Setting	Method	Results
A8	Ajeh et al, <i>Perceived patients' satisfaction, barriers and implications on engagement in antiretroviral treatment services in cameroon within the hiv test and treat context</i>	2019	Cameron	Describe patient satisfaction, barriers, and implications for continued engagement in ART services	66 participants/ HIV clinic	Qualitative	Challenges to satisfaction with ART services include long waiting times, poor acceptance, delays between the time of HIV diagnosis and ART initiation, poor coordination between HIV testing and ART services, poor flexibility in the ART delivery system, large size/duration of ARV tablets, Unlimited treatment, side effects. Inadequate counseling, overcrowded HIV clinics, and patients not appreciating the benefits of ART were reported by patients and HCPs. Several barriers were associated with HIV T&P strategies and many limited patient involvement in ART.
A9	Maduka, O. <i>Investigating client satisfaction with antiretroviral treatment services in south-south nigeria</i>	2019	Nigeria	Knowing the client's satisfaction with certain aspects of antiretroviral treatment services, identifying the reasons for the satisfaction expressed by the client, and obtaining suggestions for increasing satisfaction.	73 people/ hospital	Qualitative	Most study participants reported being highly satisfied with confidentiality, attitudes of health workers, interpersonal communication, counseling, and drug availability. In contrast, the primary sources of dissatisfaction include overcrowding, long waiting times, and inadequate/expensive laboratory services.
A10	Molas et al, <i>Impact of the covid-19 pandemic: community and hospital shared pharmaceutical care model. satisfaction and acceptability of patients with hiv infection on antiretroviral treatment</i>	2022	Spain	Evaluating satisfaction of HIV patients taking ART in a model setting of ART delivery through community pharmacies during the pandemic.	533 patients/ Barcelona Hospital	Cross-sectional deskriptif	71.9% of these patients were delighted with the service. Satisfaction factors reported were: proximity to home, reduced risk of transmission, shorter waiting times, and time flexibility.

ID	Author/ Title	Year	Country	Aim	Population/ Setting	Method	Results
All	Mekonnen et al., <i>Predictors of service satisfaction among clients receiving antiretroviral therapy services at public hospitals in eastern ethiopia. HIV/AIDS</i>	2021	Ethiopia	Assessing predictors of service satisfaction among clients receiving antiretroviral therapy services in the hospital	413 clients/ Hospital	Cross-sectional	Client satisfaction with ART services is 76.9%. Service satisfaction with antiretroviral therapy services is related to education, lower wealth index, longer duration of treatment, shorter waiting times, disclosure of HIV serostatus, being seen by the same health care provider repeatedly, loss of medical records and social support.
A12	Abebe et al., <i>Expectation And Satisfaction Of Hiv/Aids Patients Toward The Pharmaceutical Care Provided At Gondar University Referral Hospital, Northwestern Ethiopia: A Cross-Sectional Study</i>	2016	Ethiopia	Assessing the expectations and satisfaction of human HIV/AIDS patients with pharmaceutical services provided at the Hospital	291 patients/ hospital	Cross-sectional	Respondents have relatively low satisfaction with the comfort and convenience of waiting rooms, private counseling rooms, and waiting time to get service. Moreover, they are satisfied with the convenience of the pharmacy location.
A13	Sekandi et al., <i>Patient Satisfaction Among Persons Living With HIV/AIDS And Receiving Antiretroviral Therapy In Urban Uganda: A Factor Analysis</i>	2023	Uganda	Evaluate the internal validity and reliability of the CG-CAHPS instrument to measure satisfaction, assess patient satisfaction levels in general, and identify factors associated with satisfaction levels among patients receiving ART	450 participants/ HIV/AIDS clinic	Cross-sectional	Factors of service quality significantly related to patient satisfaction: age, gender, education, marital status, patient's mental and emotional health and duration of care.

#### 4. DISCUSSION

##### The level of patient satisfaction with ARV treatment services

The results of the analysis of 13 articles are eight research articles (Tran et al., 2019); (Tawiye et al., 2021); (Somi et al., 2021); (Adissu et al., 2020); (Atsebeha &

Chercos, 2018); (Wung et al., 2016); (Nikitha & Sushant, 2021); (Molas et al., 2022) with the results that most of them were satisfied with the services received but in the study (Abebe et al., 2016) this did not match the results of this study because

the level of patient satisfaction in ARV treatment services was relatively low.

Researchers argue that every country or every health service has different services.

### Factors Influencing Satisfaction with ARV Treatment Services

#### a. Sociodemographic Factors

Seven articles have analyzed and reviewed sociodemographic factors (Atsebeha & Chercos, 2018; Tran et al., 2019; Adissu et al., 2020; Mekonnen et al., 2021; Nikitha & Sushant, 2021; Tawiye et al., 2021; Sekandi et al., 2023). The results of the analysis of research articles from Atsebeha and Chercos (2018) explain that the age group of 36-45 years is more likely to feel satisfied than the age group of 18-25 years, similar to the results of research by Adissu et al., (2020); Tawiye et al., (2021); Sekandi et al., (2023) who also explained that patients over 35 years of age were associated with increased satisfaction with antiretroviral treatment services. Younger patients are impatient and expect more information about their condition and prognosis (Nikitha & Sushant, 2021). Older patients are generally more open, and older patients have lower demands and expectations, so they feel satisfied more quickly (Arifin et al., 2019). According to researchers, age is related to service

satisfaction because differences in perspective and acceptance of service at age are influenced by emotion.

The research results (Nikitha & Sushant, 2021) found a relationship between education level and satisfaction with ARV treatment services. In line with studies (Tran et al., 2019; Mekonnen et al., 2021; Sekandi et al., 2023), patients who did not attend formal education and completed primary education are more likely to be satisfied. The results of the analysis of the article by Tawiye et al. (2021) found a relationship between education level and patient satisfaction. Research results of Atsebeha and Chercos (2018), Nikitha and Sushant (2021), and Sekandi et al. (2023) revealed marital status as a variable that was significantly related to patient satisfaction in providing ART services. Patients who were married were more likely to be satisfied with services than those who were unmarried. Results of analysis of research articles Atsebeha and Chercos, (2018); Nikitha and Sushant, (2021) income and work, patients with low income or economy are satisfied with the overall service delivery.

#### b. Individual Factors

The research results by Sekandi et al. (2023) found that one of the causes related to patient satisfaction in receiving ARV



services is high mental and emotional health. People with HIV have a higher chance of developing mood, anxiety, and cognitive impairment due to the side effects of their illness and the impact of the self-acceptance process of their situation (Remien et al., 2019). Researchers believe that HIV patients have high mental emotionality because of the side effects of the disease and adjustment, so patients are more sensitive and quickly feel dissatisfied with ARV treatment services.

The research analysis results by Ajeh et al. (2019) found a long gap between the time of HIV diagnosis and the initiation of ART, which became an obstacle in providing ART treatment services. Patients need more counseling and education about the benefits of early ART initiation. The results of an analysis of the research article by Mekonnen et al. (2021) found that a longer duration of ARV care and treatment was a predictor of satisfaction with ARV treatment services, patients who continued taking ARVs for more than four years were almost three times more likely to be satisfied. Based on the results of individual factor analysis, mental and emotional health is a problem related to patient satisfaction with ARV treatment services.

### **c. Factor nurse or health worker**

The analysis results discuss communication influencing satisfaction with ARV treatment services (Wung et al., 2016; Atsebeha & Chercos, 2018; Maduka, 2019). Health workers (doctors and nurses) discuss treatment with them and speak politely, giving advice and other information related to HIV makes patients comfortable because they get good communication. Research by Somi et al. (2021) found a link between the attitudes of health workers and patient satisfaction with ARV treatment services. The results of the article analysis by Wung et al. (2016) show that staff does not treat patients respectfully.

The research analysis results are two articles discussing the responsiveness and skills of health workers. Research by Tran et al. (2019) discusses satisfaction with the competence of health workers, namely explanation and responsiveness to patient requests related to reducing HIV with ARV treatment. Meanwhile, the research article by Somi et al. (2021) explained that some patients had negative experiences related to the skills of service providers or health workers. Based on the research study's results above, communication is a significant problem among nurses or health workers.

### d. Health service factor

Researchers found health service factors that affect patient satisfaction (Abebe et al., 2016; Atsebeha & Chercos, 2018; Ajeh et al., 2019; Maduka, 2019; Tran et al., 2019; Mekonnen et al., 2021; Nikitha & Sushant, 2021; Somi et al., 2021; Molas et al., 2022). The analysis results say that what influences satisfaction in ARV treatment services is the waiting times to get service. Long waiting times are the most common reason patients report dissatisfaction with HIV care (Biya et al., 2022).

Administrative procedures are also an obstacle for patients receiving ART in that administrative procedures must be shortened and follow guidelines to reduce discomfort (Tran et al., 2019). The availability of drugs is a problem for patient satisfaction in ARV treatment services; drug availability needs to be improved due to the supply of drugs from the government, so they do not have drugs, especially ART and routine drugs.

The results of the research analysis on toilet access cause low dissatisfaction; there are no toilets around the ART clinic, the existing hospital toilets are too dirty, and as a result, patients are forced to defecate openly in the hospital yard. Based on the results of an analysis of 9 research journals, it can be concluded that waiting

time plays a significant role in the satisfaction factor for ARV treatment services; long waiting times are due to increased visits and a lack of human resources (HR) for nurses/health workers who feel unable to serve patients.

### e. Environmental factor

Based on the results of the analysis, it was found that there were environmental factors that influenced patient satisfaction with ARV treatment services, including the distance traveled to reach the hospital because of the short distance on foot, less than half an hour to get ART services, might cause patients to feel comfortable and return home in no time (Tawiye et al., 2021).

Results of analysis of research articles Wung et al. (2016), Atsebeha and Chercos (2018), and Maduka (2019) discuss environmental factors related to patient privacy and confidentiality. Separation of the ART clinic from the hospital increases the privacy of HIV/AIDS patients. They can sometimes, or most of the time, speak with the doctor or nurse privately and comfortably because patient information is kept private.

Research conducted by Tawiye et al. (2021) explains environmental factors related to the level of stigma and discrimination; there is a significant

relationship between the satisfaction status of ART services and the level of perception of stigma and discrimination. The analysis of 5 research articles that researchers have conducted shows that patient privacy and confidentiality also arise in the satisfaction factor of ARV treatment services; privacy and patient confidentiality are maintained, making them more comfortable to come and take treatment at health services.

## 5. CONCLUSION

Each country or each health service has different services, which causes the level of satisfaction in ARV treatment services to vary, and the results of satisfaction levels tend to be high in ARV treatment services. Factors that can affect patient satisfaction with ARV treatment services include sociodemographic, individual, health worker, health service, and environmental factors.

The results of this study can be used as a basis for nursing planning to improve health services, especially ARV treatment services, so that HIV/AIDS patients are more satisfied with treatment services so they do not experience loss to follow up. Nurses must support people living with HIV/AIDS, provide treatment services without discrimination, and not stigmatize and discriminate. Communicate effectively

and promote effective communication between nurses and patients.

## AUTHOR CONTRIBUTIONS

Substantial contributions to conception, data collection, analysis, writing and revision manuscript revisions: Dodi Wijaya

## CONFLICT OF INTEREST

The authors declare no conflict of interest.

## DATA AVAILABILITY STATEMENT

The data that support the findings of this study are available from the corresponding author upon reasonable request.

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