

Original article

Patients' satisfaction with laboratory services at Anti-Retroviral Therapy clinic of Felegehiwot Hospital, Bahirdar, North West Ethiopia

Mekashaw Tebeje^{1*}, Walelign Worku², Fikreselassie Getachew¹ and Sintayehu Abate¹

¹Ethioian Public Health Institute, Addis Ababa, Ethiopia

²University of Gondar, Gondar, Ethiopia

*Corresponding author: mekatebeje@gmail.com, Cell Phone: +251 911 7416 64, P.O.BOX 1242

Abstract

Introduction: The level of patient satisfaction with laboratory services influences adherence and retention to health care services. Likewise, monitoring of satisfaction of patients with laboratory services helps to identify opportunities for service improvements. However, it is often unnoticed in research and practice, which occasionally subjected to scientific inquiry.

Objective: To assess the magnitude and factors influencing satisfaction of patients with services at Felegehiwot Hospital ART Clinic Laboratory, Bahirdar, North West Ethiopia.

Methods: Facility-based cross-sectional study was conducted on 422 HIV/AIDS patients who were recruited on a systematic random sampling technique from March to June 2017. Data were analyzed using SPSS version 20.00 statistical software. Independent variables with P-value ≤ 0.05 on multiple logistic regression were taken as statistically significant.

Results: The overall satisfaction of patients on ART laboratory services was found to be 53.3 % (AOR 95% CI: 48.6–58.1). Patients who participated in the facility health education program were 2.18 times (AOR 95% CI: 1.24–3.84) to be more satisfied with ART laboratory services compared to those who did not participate. Besides, patients who frequently visited the ART laboratory were 5.2 times (AOR 95% CI: 1.96–13.81) to be more satisfied with laboratory services compared to those who did not. Furthermore, Patients who got sit benches at the laboratory waiting area were 2.22 times (AOR 95% CI: 1.42–3.46) to be more satisfied with laboratory services compared to those who did not. Besides, patients with lower levels of education were 2.43 times (AOR 95% CI: 1.47–4.03) to be more satisfied with the ART laboratory services compared to patients who attained higher education. Moreover, non-government employed patients were 2.77 times (AOR 95% CI: 1.20–6.38) to be more satisfied with the laboratory services compared to government-employed patients.

Conclusion: Overall, the satisfaction level of study participants toward medical laboratory services was 53.3 %. Customer satisfaction, particularly patients' satisfaction is the cornerstone of the medical laboratory and it is one part of a quality indicator. Thus, it is very essential to improve the quality of services provided in hospital laboratories to fulfill the expectation of patients.

Keywords: HIV/AIDS patients, patient satisfaction, laboratory services

Introduction

Satisfaction is one of the core outcome measures for health care services. The goal of the healthcare team is to provide the patient with the best possible health care services. Through interaction with patients seems routine to the hospital staff, the experience of receiving health care is not routine to the patients. The attention, attitude, and the information the hospital staff provides are very important to the patients. (Jawaid et al. 2009). Assessing to what extent patients are satisfied with health services is clinically relevant, as satisfied patients are more likely to comply with treatment, take an active role in their care, continue using medical care services and stay with the health care provider and maintain or adhere to a specific system. On the other hand, clients who are not satisfied with a service may have worse outcomes than others may. Because they miss

appointments, live against advice, and fail to follow treatment plans (Mindaye and Taye 2012). Patient satisfaction studies on laboratory services revealed different magnitudes around the globe and published literature are few on patient satisfaction in developing countries whereas a high volume of publications is available in developed countries (Al-Abri and Al-Balushi 2014; Emilia et al. 2014; Young et al. 2014). A study conducted in India has shown overall patients' satisfaction scores of more than 60% and several dissatisfactions were identified in the clinical laboratory and phlebotomy services (Ranjeeta et al. 2009). Another study conducted in Kuyet showed that the mean score of overall satisfaction was 4.59 out of a maximum of 5 points (Ibrahim et al. 2005). Further study in Pakistan indicated that the overall patient's experiences and satisfaction from Surgical OPD were fair to good and highlighted several areas

in which improvement can be made to increase the quality of care and patient satisfaction (Jawaid et al. 2009). Another study conducted in the UK revealed that most patients were satisfied with health care services (Mubashir et al. 2013). A similar study done in Bangladesh also showed that more than half of the study participants were satisfied with health care services (Jorge et al. 2001). Another study conducted in Bulgaria showed an affirmative response of 67% and 33% of dissatisfaction on laboratory services (Emilia et al. 2014) and a study in Korea revealed that there was 70.5% satisfaction on laboratory services (Young et al. 2014). Other studies have also shown a variable magnitude of patients' satisfaction with laboratory and other health services in Africa (Magoro et al. 2011). A study in Nigeria revealed that overall 8.9% of participants were dissatisfied with the general quality of health services (Olusimbo and Cynthia 2010).

In Ethiopia, HIV/AIDS and outpatients' satisfaction surveys were done and had different magnitudes (Birhanu et al. 2010; Mequanint and Demissie 2012). According to a study conducted at the University of Gondar Hospital, 36.4% of admitted customers were satisfied, and more than half of the study participants, (63.6%) were dissatisfied in the hospital health care services (Mequanint and Demissie 2012). According to the studies conducted particularly in ART monitoring laboratory services in Addis Ababa and Sidama Zone, the overall satisfaction of HIV/AIDS patients were 85.5% and 90.8% respectively (Mindaye and Taye 2012; Belay et al. 2013) which showed higher satisfaction level (85.5% and 90.8%) than studies conducted in Jima (77%), University of Gondar (36.4%) and Tigray (43.6%) (Getenet et al. 2008; Girmay 2006). This study was intended to assess the satisfaction of patients living with HIV/AIDS and associated factors in ART laboratory services in the fact that little was known about the satisfaction of patients at the ART clinic laboratory of Felegehiwot Hospital, Bahirdar, Ethiopia.

Methods and materials

A hospital-based cross-sectional study design was conducted at Felegehiwot Hospital, Bahirdar, Ethiopia. The study was conducted from March to June 2017. The population included in the study were age above 18yrs who have at least 3 months stay in the ART clinic and received ART laboratory services at least once in his/her time of stay. The sample size of 422 was determined using a single population proportion formula. The study participants from the sampling frame were selected by lottery method. The data were collected via face-to-face interviews using pre-tested, structured questionnaires that contains satisfaction indicators that are related to the socio-

demographic characteristics and different dimensions of ART monitoring laboratory services. Standardized 5-point Likert scales ranging from strongly disagree to strongly agree (1 to 5 points) were used for all indicators. Data were coded, cleaned, entered, and analyzed using SPSS window version 20 statistical packages for descriptive and inferential analysis. Variables having $P \leq 0.05$ on the bivariate analysis were the candidates for the multivariate analysis and factors with $p \leq 0.05$ were taken as statistically significant. The degree of association between dependent and independent variables was assessed using AOR at 95% CI. Patients' satisfaction was classified; into two categories: satisfied and dissatisfied by using the demarcation threshold formula: $\{(total\ highest\ score - total\ lowest\ score) / 2\} + Total\ lowest\ score$ (Mubashir et al. 2013).

Descriptive statistics were computed to ascertain the percentage of patient satisfaction in each satisfaction indicators. Data of sixteen satisfaction questions with Likert scale having a sum range of scores from 16-90 were transformed and computed into one new binary outcome variable and the median, 61, was taken as a cut off for satisfaction since the distribution was not normally distributed as testified by normality check of Kolmogorov-Smirnov and Shapiro-Wilk tests of normality. Scores below the median were considered as dissatisfied and scores at and above the median were considered as satisfied. Ethical clearance was obtained from the IRB of Mekelle University and ACIPH. Data were collected anonymously and confidentiality of study participants was maintained.

Results

Socio-demographic characteristics of study participants:

The study was conducted with the response rate of 100%. The mean age of the study participants was 35.28 years ($SD \pm 8.63$ years). Majority 359 (85%) of them were in the age group of 25-45 years. Fifty two percent of the study participants were married, 33% were unemployed, (27%) were unable to read and write, 89% were urban residents 340 (80%) were Orthodox in religion, and 232 (55%) of study participants belonged to the low-income class with a monthly income of < 1000 birr/month.

Level of satisfaction: The overall ART patients' satisfaction in ART laboratory service was 53.3%. According to this study, 60% and 40% of females and males satisfied with the service respectively. Relatively high satisfaction rate was also observed in language clarity of laboratories while communicating with patients 383(90.8%) and confidentiality issues 360(85.3%). In contrast, a low level of satisfaction was observed about the availability of suggestion box 70 (16.6%) through which patients could reflect their

complaints and desires to the services being

Table 1: Socio-demographic characteristics of the study participants

Characteristics	Frequency (n=224)	Percent
Sex		
Male	177	42
Female	245	58
Age		
18-24	15	3.55
25-45	359	85.1
46-65	47	11.1
>65	1	0.2
Marital status		
Single	75	17.8
Married	219	52
Divorced	79	19
widowed	49	12
Educational status		
Unable to read & write	113	26.8
1 -4 grade	43	10.2
5-8 grade	82	19.4
9-12 grades	74	17.5
Place of Residence		
Urban	374	88.6
Rural	48	11.4
Occupation		
Merchant	58	13.7
Unemployed	35	8.3
Employed	139	32.9
Farmer	17	4.0
Student	15	3.6
House wife	72	17.1
Other	86	20.4
Religion		
Orthodox	340	80
Muslim	63	15
Protestant	19	5
Average monthly income		
<1000	230	54.5
1000-2000	99	23.5
2000-5000	84	20
>5000	9	2

delivered.

Comparable rate of satisfaction was observed on ART laboratory cleanness 338(80%), keeping of patient privacy 341(80.8%), patient safety during phlebotomy 337(79.9%) location of the laboratory 327(77.5%), courtesy (politeness) of laboratorians 343(81.3%), patient welcoming and greeting 342 (81%), test result mixes up and loss 349(82.7%) and impartiality 334(79.1%).

Furthermore, more than half satisfaction level was seen in the time interval between specimen collection and result dispatch 246(58.3%), test result notification and communication 281(66.6%), length of time before phlebotomy 239(56.6%), laboratory staff availability during working hours 286(67.8%) and scientific information provision on sampling issues 264(62.6%).

Factors associated with the level of satisfaction on ART Laboratory services: Finding of this research showed that significant factors were, patients who participated the facility's health education program were 2.18 times (95% CI AOR: 1.24–3.84) more likely to be satisfied with ART monitoring laboratory services compared to those who did not participate. Patients who frequently visited the ART laboratory were 5.2 times (95% CI AOR: 1.96–13.81) more likely to be satisfied with ART monitoring laboratory services compared to those who did not visit, Patients who got sit benches at the laboratory waiting area were 2.22 times (95% CI AOR: 1.42–3.46) to be more satisfied with ART laboratory services compared to those who did not get.

Table 2: Satisfaction level of patients with laboratory services at ART Clinic of Felegehiwot Hospital, Amhara Region, North West Ethiopia variables

variables	Category, frequency, percent									
	Very Dissatisfied		Dissatisfied		Somewhat Satisfied		Satisfied		Very Satisfied	
	N	%	N	%	N	%	N	%	N	%
Accessibility of the laboratory in the hospital	3	0.7	13	3.1	79	18.7	231	54.7	96	22.7
Cleanliness and attractiveness of the laboratory	5	1.2	11	2.6	68	16.1	288	68.2	50	11.8
Availability of suggestion box for laboratory services	115	27.3	151	35.8	86	20.4	57	13.5	13	3.1
Availability of laboratory staff during working hours	9	2.1	28	6.6	99	23.5	214	50.7	72	17.1
Courtesy of laboratory staff in specimen collection	3	0.7	17	4	59	14	272	64.5	71	16.8
Communication language b/n lab staff and patients	4	0.9	4	0.9	31	7.3	280	66.4	103	24.4
Given information to patients in specimen collection	6	1.4	80	19	72	17.1	233	52.8	41	9.7
Privacy during visit to the laboratory	3	7	16	3.8	62	14.7	257	60.9	84	19.9
Safety of the phlebotomy procedure	3	0.7	21	21.5	61	14.5	239	56.6	98	23.2
Phlebotomist well coming towards HIV /AIDS pts	5	1.2	9	2.1	66	15.6	245	58.1	97	23
Length of time waited before phlebotomy	5	1.2	61	14.5	117	27.7	198	46.9	41	9.7
Result notification and communication	12	2.8	60	14.2	69	16.4	225	53.3	56	13.3
Results delivery to clinic(without being missed)	11	2.6	9	2.1	53	12.6	143	33.9	206	48.8
Confidentiality of test result by the laboratory Staff	3	0.7	20	4.7	39	9.2	211	50	114	37.7
Fairness of lab staff to treat patients	5	1.2	19	4.5	64	15.2	161	38.2	173	41
Waited time b/n phlebotomy and report of results	12	2.8	81	19.2	83	19.7	199	42.7	47	11.1

Besides, unable to read and write patients were 2.43 times (95% CI AOR: 1.47–4.03) more likely to be satisfied with the ART laboratory services compared

to literate patients. Non-government employed patients were 2.77 times (95% CI AOR: 1.20–3.8)

more likely to be satisfied with the ART laboratory services compared to government-employed patients. Patients who got married were 2.32 times (95% CI

AOR: 1.51–3.58) more likely to be satisfied with ART laboratory services compared to non-married patients.

Table 3: Factors that affect satisfaction level of ART clients at Felegehiwot Hospital ART clinic laboratory, Amhara Region, Ethiopia, 2017

Characteristics	Sub-category	Satisfaction		COR 95%CI	AOD 95%CI
		Satisfied	Dissatisfied		
Marital Status	Non-married	88	115	1	1
	Married	137	82	2.18(1.48-3.22)***	2.32(1.51-3.58)***
Education	Unable to read & write	81	32	2.9(1.82-4.62)***	2.43(1.47-4.03)**
	Literate	144	165	1	1
Occupation	Non-government employed	215	172	3.13(1.46-6.68)**	2.77(1.20-6.38)*
	Government Employed	10	25	1	1
Health education participation	Yes	196	152	2.00(1.20-3.34)**	2.18(1.24-3.84)**
	No	29	45	1	1
Regular visit to the ART laboratory	Yes	218	174	4.12(1.73-9.82)**	5.2(1.96-13.81)**
	No	7	23	1	1
Availability of adequate laboratory sit benches	Yes	159	102	2.24(1.50-3.35)***	2.22(1.42-3.46)***
	No	66	95	1	1

NB: * = *p* less than 0.05- statistically significant, ** = *P* b/n 0.001 and 0.01-strong statistical significance, *** = *p* less than 0.001-very strong statistical significance, *p* > 0.05 & if CI includes 1-notstatistically significant.

Discussion

According to this study, the overall level of client satisfaction with the ART monitoring laboratory services was 53.3 %. However, this finding is lower than the studies conducted in University of Gondar (36.4%) (Mequanint D & Demissie A (2012), Nekemte hospital, where 60.4% (Geletta et al. (2014), Addis Ababa (85.5%) (Mindaye and Taye 2012), Sidama (90.8%) (Belay et al. 2013). Also the level of client satisfaction with laboratory services was low compared to other studies conducted in Bulgaria (67%) (Emilia et al. (2014), Korea (70.5%) (Young et al. (2014). The study conducted in government teaching hospitals in Tehran by Akhtari-Zavare M et al in which 82% of the patients were satisfied (Akhtari-ZM et al. 2010).

The current study is higher than the study conducted in Tigray in which the patients' satisfaction rate was found to be 43.6% (Girmay 2006). The possible justification for higher satisfaction rate might be due to the focus of attention on laboratory services by Ethiopian ministry of health, the commitment of the laboratory personnel towards providing quality of laboratory services as well as the shift of manual laboratory procedure to automation is also increasing the patients' satisfaction. Patients who participated in the facility's health education program were 2.18 times more likely to be satisfied with ART monitoring laboratory services compared to those who did not participate, patients who frequently visited the ART laboratory were 5.2 times more likely to be satisfied with ART monitoring laboratory services compared to those who did not visit. Patients who got sit benches at the laboratory waiting area were 2.22 times to be more satisfied with ART laboratory services compared to those who did not get. Also, patients those unable to read and write

were 2.43 times more likely to be satisfied with the ART laboratory services compared to literate patients. Moreover, non-government employed patients were 2.77 times more likely to be satisfied with the ART laboratory services compared to government-employed patients. Patients who got married were 2.32 times more likely to be satisfied with ART laboratory services compared to non-married patients.

Conclusion

Overall, the satisfaction level of study participants toward medical laboratory services was 53.3 %. Customer satisfaction, particularly patients' satisfaction is the cornerstone of medical laboratory medicine and it is one part of quality indicators. Thus, it is very essential to improve the quality of laboratory services of hospitals to fulfill the prospect of patients.

Competing interest: The authors declare that they have no competing interest.

References

- Akhtari-Zavare M, Abdullah MY, Said SB, Kamali M (2010): Patient satisfaction: Evaluating nursing care for patients hospitalized with cancer in Tehran Teaching Hospitals, Iran. *Global Journal of Health Science*; 2(1):117– 126.
- Al-Abri R & Al-Balushi A (2014). Patient satisfaction survey as a tool towards quality improvement *Oman medical journal*, 29(1):3-7.
- Belay M, Abrar S, Bekele D, Daka D, Derbe M & Birhaneselassie M (2013). HIV/AIDS patients' satisfaction on ART laboratory service in selected governmental Hospitals, Sidamma Zone, Southern Ethiopia. *Science Journal of Public Health*, 1(2):85-90.

- Birhanu Z, Assefa T, Woldie W & Morankar S (2010). Determinants of satisfaction with health care provider interactions at health centres in central Ethiopia: a cross sectional study. *BMC Health Services Research*, 10:78
- Emilia G, Gabriela T, Violina K & Neli E (2014). Patients' satisfaction with laboratory services at selected medical – diagnostic laboratories in Varna, Bulgaria. *Journal of IMAB - Annual Proceeding (Scientific Papers)*, 20(2):500-501.
- Geletta T, Eyasu E & Mikias D (2014). Patients' satisfaction on clinical laboratory services at Nekemte Referral Hospital, Oromia, Ethiopia. *Food Science and Quality Management*, 30:25-30.
- Getenet H, Haileamlak A & Tegegn A (2008). Clients' satisfaction with anti-retroviral therapy services at Jimma University specialized hospital. *Ethiopian Journal of Health Science*, 18(2).
- Girmay A (2006). Assessment of clients' satisfaction with outpatient services in Tigray Zonal Hospitals. *Master thesis*.
- Ibrahim SA, Manal SA, Maged M & Adel MA (2005). Patients' satisfaction with primary health care services at capital Health Region, Kuwait. *Middle East Journal of Family Medicine*, 3(3).
- Jawaid M, Ahmed N, Alam SN, Rizvi BH & Razzak HA (2009). Patients' experiences and satisfaction from surgical out patient department of a Tertiary, care teaching hospital. *Pakistan Journal Medical Science*, 25(3):439-442.
- Jorge M, Aldana J, Helga P & Ahmed AS (2001). Client satisfaction and quality of health care in rural Bangladesh. *Bulletin of the World Health Organization*, 79: 512–517.
- Magoro MT, Hoque ME, van H & Heever D (2011). ART patients' satisfaction level regarding comprehensive HIV/AIDS care management and ART programme in Pretoria. *South Africa Journal Epidemiology and Infection*, 27(2):71-75
- Mequanint D & Demissie A (2012). Assessment of the level and factors influencing admitted customers' satisfaction with health care service in university of Gondar teaching hospital, North West Ethiopia, 3(10).
- Mindaye T & Taye B (2012): Patients satisfaction with laboratory services at antiretroviral therapy clinics in public hospitals, Addis Ababa, Ethiopia. *BMC Research Notes*, 5:184.
- Mubashir A, Jon N & Mike C (2013). Patients' experience and satisfaction with GP led walk-in centers in the UK; a cross sectional study. *BMC Health Service Research*, 13:142.
- Olusimbo K & Cynthia C (2010). Areas of dissatisfaction with primary health care services in government owned health facilities in a semi urban community in Nigeria. *Journal of Rural Tropical Public Health*, 9:19 – 23
- Ranjeeta K, Idris MZ, Vidya B, Anish K, Monika A & Singh SK (2009). Study on patient satisfaction in the government allopathic health facilities of Luck now District. India. *Indian Journal of Community*, 34(1).
- Young RK, Shine YK, In SK, Chulhun L, Chang M, Eun YL, et al. (2014). Customer satisfaction survey with clinical laboratory and phlebotomy services at a tertiary care unit level. *The Korean Society for Laboratory Medicine*, 34:380-385.