

HIV/AIDS patients' satisfaction on ART laboratory service in selected governmental hospitals, sidamma zone, southern Ethiopia

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Abstract: Background: Monitoring HIV/AIDS patient satisfaction is important and useful tool for quality improvement on ART laboratories in particular and health care organizations in general. Objectives: To assess satisfaction of HIV/AIDS patients at selected governmental hospitals, Southern Ethiopia, Sidama Zone. Methodology: A cross-sectional descriptive survey was conducted at Hawassa University Referral Hospital and Yirgalem Zonal Hospital ART laboratories. Data were collected using face-to-face interviews with HIV/AIDS patients at the exit of the ART laboratories. Statistical analysis was conducted using SPSS for windows version 20 & Epi info 7.1. Results: The rate of satisfaction of patients was statistically different among the study hospitals (p -value = 0.00). The Likert scale results of patient satisfaction of the laboratory services revealed that the mean rating values ranged from 3.07 (± 0.96) to 4.25 (± 0.56) out of a possible 5. While the patients were satisfied with the quality of laboratory in general and cleanliness and attractiveness of the laboratory room, they were dissatisfied with the location and cleanliness of the latrines used for specimen collection and information provided to patients during specimen collection. Conclusion: HIV/AIDS patients were generally satisfied with many of the ART laboratory services. There were differences in the levels of satisfaction of HIV/AIDS patients among the laboratories in the study hospitals in Southern Ethiopia, Sidama zone. There was a lower satisfaction rate observed in Hawassa University Referral Hospitals than in Yirgalem hospitals. Recommendations: The hospital administrators and laboratory chiefs should work on the enhancement of laboratory services. Hospital administration needs to work with laboratory units in designing laboratory infrastructure. A concerted effort to improve the cleanliness of the latrines is needed.

Keywords: HIV/AIDS Patients, Satisfaction, ART Laboratory Services

1. Introduction

HIV/AIDS remains a major public health problem in sub Saharan Africa. With an estimated 1.1 million people living with HIV, Ethiopia has one of the largest populations of HIV infected people in the world. In Ethiopia, a total of 350,000 people were estimated to require ART in 2010. In South Nations Nationalities People Region (SNNPR) there are 25 ART sites and they provide service for more than 30,000 patients [1].

Patient satisfaction reflects provider's ability to successfully deliver care that meets patients' expectations and needs [2, 3]. A number of factors have been shown to

influence patients' satisfaction with health care services including patients' socio-demographic characters, physical health status, patients' personal understanding and expectations from various health care services [4-6]. The general physical appearance of the clinic as well as the general environment of the premises also influences the overall satisfaction of the patient [7]. Length of waiting time before seeing the doctor has also been shown to influence patient satisfaction [8].

If patients are dissatisfied with the quality of care they receive, they may not adhere to treatment regimen, or they may fail to attend follow-up visits [9].

For patients suffering from HIV/AIDS in particular, adherence to regimen and strict follow up schedules play a

central role in treatment success. Any laboratory should have a written policy focusing on customer's satisfaction, and should periodically measure and evaluate their customer's satisfaction [10, 11]. In most cases, surveys for laboratory service are conducted, but authorities often fail to integrate the results into the continuous quality improvement and strategic planning processes. Moreover, most of laboratory management, do not often act upon customer service feedback [12]. This study may assist in the evaluation of health care services from patients' point of view. It also facilitates the identification of problem areas and generates ideas for resolving these problems.

2. Methodology

2.1. Study Context

A hospital based cross-sectional descriptive study was conducted from May 7-21, 2012, on HIV/AIDS patients who attend the ART laboratories in the selected, Hawassa Referral and Yirgalem hospitals, which are the main hospitals that serve a large population in SNNPR region. HIV/ AIDS patients aged 18 years and above or proxy respondents for children plus care givers who were receiving the ART laboratory service (for at least 3 months) during the study period were included in the survey.

2.2. Data Collection Methods

Data was collected from HIV/AIDS patients by conducting face-to-face interviews at the exit of the ART laboratory. The translated Patients' Satisfaction Questionnaire in 'Amharic' was used to guide the researcher. The questionnaire consists of satisfaction indicators, socio-demographic characteristics of the patients and different dimensions of ART monitoring laboratory services.

Standardized 5-point Likert scales ranging from very dissatisfied to very satisfied (1 to 5 points) were used to measure satisfaction status for all items. The standard questionnaire was pre-tested before the collection of entire data. Twenty randomly selected HIV/AIDS patients who receive service from the ART laboratory were interviewed in Hawassa University Referral Hospital (HURH). These patients were not included in the sample size.

2.3. Sample Size and Sampling Procedure

The sample size was estimated based on the assumption that 50% of the patients attending ART clinic laboratories are satisfied, a 5% margin of error, and a 95% confidence level ($P = 50\%$ was taken. The initial sample size was 384 however, considering 10% non response rate the final sample size was 422. For comparison purpose equal numbers of respondents were considered from each hospital.

2.4. Statistical Analysis

Then data analysis was made using SPSS for windows version 20 & Epi info 7.1. Associations of the variables were computed using the chi-square and were interpreted based on the finding of the response. Interpretation at $P < 0.05$ using 95% confidence intervals was done for statistical significance.

2.5. Ethical Consideration

The study protocol was submitted to the department of Medical Laboratory Sciences (MLS) and Ethical Committee (IRB) of the Hawassa University College of Medicine and Health Sciences before the data collection starts. The data collection was undertaken solely on the patients' willingness to respond for the interview.

3. Result

3.1. Socio-Demographic Characteristic of Patients

Table 1: Socio-demographic characteristics of respondents in HURH and YAH, 2012 ($n=422$)

Background characteristics		Frequency (%)
Residence	Urban	311(73.7%)
	Rural	111(26.3%)
Sex	Female	227(53.8%)
	Male	195(46.2%)
Religion	Orthodox	204(48.3%)
	Protestant	180(42.7%)
	Muslim	35(8.3%)
	Catholic	3(0.7%)
	Sidama	136(32.2%)
Ethnicity	Amhara	119(28.2%)
	Wolayta	56(13.3%)
	Oromo	59(14%)
	Tigray	21(5%)
	Gurage	20(4.7%)
	Others	11(2.6%)
	Merchant	132(31.3%)
	Unemployed	41(9.7%)
	government employed	78(18.5%)
	Farmer	53(12.5%)
Occupational status	Student	32(7.6%)
	House wife	67(15.9%)
	Others	19(4.5%)
	Illiterate	61(14.5%)
	literacy campaign	11(2.6%)
Educational status	1-8 th grade	142(33.6%)
	9-12 th grade	134(31.8%)
	Diploma and Degree	74(17.6%)
Duration on ART laboratory service (in years)	<1	42(10%)
	1-2	100(23.7%)
	3-5	174(41.2%)
	>5	106(25.1%)

A total of 422 HIV/AIDS patients were enrolled in the study and the response rate was 100%. Among these 311 (73.7%) of the patients were from the urban areas. There was comparable gender distribution with slight female predominance (53.8%) and the mean age of the respondents was 36 with a standard deviation of 8 years. Concerning the ethnic composition of the patients, 136 (32.2%) of them were Sidama, and 204 (48.3%) were followers of Orthodox.

Merchants account for 31.3%, while, 290 (68.7%) were married. Considerable number of patients (83.4%) were literate of whom 74 (17.5%) had educational level above 12th grade and 66.3% of them receive ART laboratory service for more than 3 years as shown in Table 1.

3.2. Different Aspects of HIV/AIDS Patient

3.2.1. Satisfaction on ART Laboratory Services

The Likert scale results revealed that the mean rating (M) values ranged from 3.07 (± 0.96) to 4.25 (± 0.56). The language that the laboratory staff used to communicate with the patients (M= 4.25 (± 0.56)) was rated the highest, whereas, cleanliness of the latrines for collection of specimens (M= 3.07 (± 0.96)) was rated the lowest.

The perception about the quality of laboratory in general (M= 4.22 (± 0.62)), the cleanliness and attractiveness of the laboratory room (M= 4.17(± 0.67)), keeping confidentiality

of patient results by the laboratory Staff (M= 4.16(± 0.60)) and location of the laboratory in the hospital (accessibility) were rated satisfied to very satisfied as shown in Table 2.

Privacy during patient visit to the laboratory (M=3.91(± 0.85)), Adequacy of facilities in the ART laboratory (M=3.89(± 0.86)), Safety of the phlebotomy procedure (M=3.86(± 0.74)), Phlebotomist attitude towards HIV /AIDS patients and availability of laboratory staff during working hours were rated moderately satisfied to satisfied as shown below in Table 2.

However, Information provided to patients during specimen collection (M=3.37(± 1.09)), the length of time patients wait before phlebotomy or waiting time (M=3.30(± 0.94)), location of the latrine for collection of specimen and length of time patients wait between phlebotomy and notification of results (TAT) were rated dissatisfied to moderately satisfied as shown in Table 2.

Table 2 : HIV/AIDS Patients' Ratings of Satisfaction with Different Aspects in HURH and YAH, 2012.

Variable	Hospital s	Very dissatisfied [1point]	Dissatisfied [2points]	Moderately satisfied [3points]	Satisfied [4points]	Very satisfied [5points]	Total	Mean rating (\pm SD)
Location of the laboratory in the hospital (accessibility)	HRH	14 (6.6%)	20 (9.5%)	28 (13.3%)	119 (56.4%)	30 (14.2%)	211	3.62(± 1.05)
	YAH	1 (0.5%)	0	8 (3.8%)	87 (41.2%)	115 (54.5%)	211	4.49(± 0.62)
	Total	15 (3.6%)	20 (9.5%)	36 (8.5%)	206 (48.8%)	145 (34.4%)	422	4.06(± 0.97)
Cleanliness and attractiveness of the laboratory	HRH	1 (0.5%)	3 (1.4%)	39 (18.5%)	134 (63.5%)	34 (16.1%)	211	3.93(± 0.67)
	YAH	0	0	11 (5.2%)	103 (48.8%)	97 (46%)	211	4.41(± 0.59)
	Total	1 (0.24%)	3 (0.7%)	50 (11.8%)	237 (56.2%)	131 (31.0%)	422	4.17(± 0.67)
Availability of laboratory staff during working hours	HRH	10 (4.7%)	22(10.4%)	70 (33.2%)	99 (46.9%)	10 (4.7%)	211	3.4(± 0.91)
	YAH	2 (0.9%)	5 (2.4%)	27 (12.8%)	146 (69.2%)	31 (14.7%)	211	3.94(± 0.67)
	Total	12 (2.8%)	27 (6.4%)	97 (23%)	245 (58%)	41 (9.7%)	422	3.65(± 0.85)
Courtesy of laboratory staff during specimen collection	HRH	8 (3.8%)	21 (10%)	77 (36.5%)	91 (43.1%)	14 (6.6%)	211	3.34(± 0.89)
	YAH	0	5 (2.4%)	30 (14.2%)	162 (76.8%)	14 (6.6%)	211	3.88(± 0.54)
	Total	8 (1.9%)	26 (6.2%)	107(25.4%)	253 (60%)	28 (6.6%)	422	3.63(± 0.78)
Language that the laboratory staff used to communicate with patients	HRH	0	1 (0.5%)	13 (6.2%)	107 (50.7%)	90 (42.7%)	211	4.36(± 0.62)
	YAH	0	1 (0.5%)	8 (3.8%)	162 (76.8%)	40 (19%)	211	4.14(± 0.48)
	Total	0	2 (0.5%)	21 (5%)	269 (63.7%)	130 (30.8%)	422	4.25(± 0.56)
Information provided to patients during specimen collection	HRH	42(19.9%)	27(12.8%)	54(25.6%)	78 (37%)	10 (4.7%)	211	2.93(± 1.22)
	YAH	0	19 (9.0%)	20 (9.5%)	153 (72.5%)	19 (9.0%)	211	3.82(± 0.72)
	Total	42 (10%)	46(10.9%)	74 (17.5%)	231 (54.7%)	29 (6.9%)	422	3.37(± 1.09)
Privacy during your visit to the laboratory	HRH	9(4.3%)	19 (9.0%)	36 (17.1%)	104 (49.3%)	43 (20.4%)	211	3.73(± 1.02)
	YAH	0	2 (0.9%)	21 (10%)	144 (68.2%)	44 (20.9%)	211	4.09(± 0.58)
	Total	9 (2.1%)	21 (5%)	57 (13.5%)	248 (58.8%)	87 (20.6%)	422	3.91(± 0.85)
Safety of the phlebotomy procedure	HRH	6 (2.8%)	9 (4.3%)	35 (16.6%)	132 (62.6%)	29 (13.7%)	211	3.8(± 0.83)
	YAH	0	4 (1.9%)	38 (18%)	138 (65.4%)	31 (14.7%)	211	3.93(± 0.63)
	Total	6 (1.4%)	13 (3.1%)	73 (17.3%)	270 (64%)	60 (14.2%)	422	3.86(± 0.74)
Phlebotomist attitude towards HIV /AIDS patients	HRH	5 (2.4%)	15 (7.1%)	49 (23.2%)	116 (55%)	26 (12.3%)	211	3.68(± 0.87)
	YAH	0	3 (1.4%)	41 (19.4%)	134 (63.5%)	33 (15.6%)	211	3.93(± 0.64)
	Total	5 (1.2%)	18 (4.3%)	90 (21.3%)	250 (59.2%)	59 (14%)	422	3.81(± 0.77)
Location of the latrine for collection of specimen (e.g. urine, stool)	HRH	30(14.2%)	42(19.9%)	61 (28.9%)	72 (34.1%)	6 (2.8%)	211	2.91(± 1.11)
	YAH	3 (1.4%)	18 (8.5%)	69 (32.7%)	114 (54%)	7 (3.3%)	211	3.49(± 0.76)
	Total	33 (7.8%)	60(14.2%)	130 (30.8%)	186 (44.1%)	13 (3.1%)	422	3.20(± 0.99)
Cleanliness of the latrine for collection of specimen	HRH	23(10.9%)	57 (27%)	70 (33.2%)	59 (28%)	2 (0.9%)	211	2.81(± 0.99)
	YAH	3(1.4%)	34(16.1%)	70 (33.2%)	96 (45.5%)	8 (3.8%)	211	3.34(± 0.84)
	Total	26 (6.2%)	91(21.5%)	140 (33.2%)	155 (36.7%)	10 (2.4%)	422	3.07(± 0.96)

Variable	Hospital s	Very dissatisfied [1point]	Dissatisfied [2points]	Moderately satisfied [3points]	Satisfied [4points]	Very satisfied [5points]	Total	Mean rating (±SD)
Length of time you wait before phlebotomy (waiting time)	HRH	22(10.4%)	42(19.9%)	55 (26.1%)	90 (42.9%)	2 (0.9%)	211	3.04(±1.04)
	YAH	2 (0.9%)	16 (7.6%)	63 (29.9%)	120 (56.9%)	10 (4.7%)	211	3.57(±0.74)
	Total	24 (5.7%)	58(13.7%)	118 (28%)	210 (49.8%)	12 (2.8%)	422	3.30(±0.94)
length of time you wait between phlebotomy and Notification of results (TAT)	HRH	33(15.6%)	43(20.4%)	61 (28.9%)	72 (34.1%)	2 (0.9%)	211	2.84(±1.09)
	YAH	1 (0.5%)	30(14.2%)	54 (25.6%)	116 (55%)	10 (4.7%)	211	3.49(±0.81)
	Total	34 (8.1%)	73(17.3%)	115 (27.3%)	188 (44.5%)	12 (2.8%)	422	3.12(±1.01)
Result notification and communication	HRH	0	3 (1.4%)	19 (9.0%)	170 (80.6%)	19 (9.0%)	211	3.97(±0.49)
	YAH	0	5 (2.4%)	25 (11.8%)	157 (74.4%)	24 (11.4%)	211	3.95(±0.57)
	Total	0	8 (1.9%)	44 (10.4%)	327 (77.5%)	43 (10.2%)	422	3.96(±0.53)
Results delivery to clinic (without being missed)	HRH	3(1.4%)	1 (0.5%)	28 (13.3%)	143 (67.8%)	36 (17.1%)	211	3.99(±0.67)
	YAH	0	2 (0.9%)	19 (9.0%)	162 (76.8%)	28 (13.3%)	211	4.02(±0.51)
	Total	3 (0.7%)	3 (0.7%)	47 (11.1%)	305 (72.3%)	64 (15.2%)	422	4.00(±0.57)
confidentiality of your results have been kept by the laboratory Staff	HRH	0	2 (0.9%)	14 (6.6%)	130 (61.6%)	65 (30.8%)	211	4.22(±0.6)
	YAH	1 (0.5%)	2 (0.9%)	15 (7.1%)	151 (71.6%)	42 (19.9%)	211	4.09(±0.59)
	Total	1 (0.24%)	4 (0.9%)	29 (6.9%)	281 (66.6%)	107 (25.4%)	422	4.16(±0.60)
Laboratory staff treats all patients fairly and equivalently	HRH	0	11 (5.2%)	23 (10.9%)	122 (57.8%)	55 (26.1%)	211	4.05(±0.76)
	YAH	1 (0.5%)	2 (0.9%)	18 (8.8%)	142 (67.3%)	48 (22.7%)	211	4.11(±0.62)
	Total	1 (0.24%)	13 (3.1%)	41 (9.7%)	264 (62.6%)	103 (24.4%)	422	4.08(±0.69)
Adequacy of facilities in the ART laboratory	HRH	4 (1.9%)	22(10.4%)	43 (20.4%)	120 (56.9%)	22 (10.4%)	211	3.64(±0.88)
	YAH	0	10 (4.7%)	17 (8.1%)	117 (55.5%)	67 (31.8%)	211	4.14(±0.76)
	Total	4 (0.95%)	32 (7.6%)	60 (14.2%)	237 (56.2%)	89 (21.1%)	422	3.89(±0.86)
Perception about the quality of laboratory in general	HRH	0	4 (1.9%)	25 (11.8%)	144 (68.2%)	38 (18%)	211	4.02(±0.61)
	YAH	0	0	7 (3.3%)	111 (52.6%)	93 (44.1%)	211	4.41(±0.56)
	Total	0	4 (0.95%)	32 (7.6%)	255 (60.4%)	131 (31%)	422	4.22(±0.62)

Table 3 : Distribution by overall levels of Satisfaction at Selected Hospitals in Sidama Zone, Southern Ethiopia, 2012

Level of satisfaction of HIV/AIDS patients among Hospitals							Chi-square (p-value)
Hospital name	Very dissatisfied	Dissatisfied	Moderately satisfied	Satisfied	Very satisfied	Total	
HRH	11 (5.2%)	19 (9%)	42 (20%)	111 (52.6%)	28 (13.2%)	211	19.58 (0.000)
YAH	1 (0.4%)	8 (3.8%)	30 (14.2%)	132 (62.6%)	40 (19%)	211	
Total	12 (2.8%)	27 (6.4%)	72 (17.1%)	243 (57.6%)	68 (16.1%)	422	

The rate of satisfaction was statistically different among the study hospitals (p-value 0.000) as shown in Table 3. The overall HIV/AIDS patient satisfaction on ART laboratory service was 85.8% and 95.7% in Hawassa University Referral Hospital and Yirg-Alem Hospital respectively. The rating of “very satisfied” plus “satisfied” ranged from 139 (65.8%) in HURH to 172 (81.5%) in YAH.

Both males and females were equally satisfied. There was no statistically significant association between HIV/AIDS patient's satisfaction and their residence, sex, or age. While, there was statistically significant association between HIV/AIDS patient's satisfaction and educational status as indicated in Table 4.

Table 4: Comparison of overall level of HIV/AIDS patients' satisfaction with ART laboratory Services provided at HURH and YAH by selected socio-demographic characteristics, 2012.

Characteristics		Dissatisfied No (%)	Satisfied No (%)	p-value
Residence	Urban	26 (8.3%)	285 (91.6%)	0.295
	Rural	13 (11.7%)	98 (88.3%)	
Sex	Female	21 (9.3%)	206 (90.7%)	0.99
	Male	18 (9.2%)	177 (90.8%)	
Age (in years)	<=19	0	4	>0.2
	20-24	3 (13.0%)	20 (87.0%)	
	25-29	9 (11.4%)	70 (88.6%)	
	30-34	11 (12.5%)	77 (87.5%)	
	35-39	8 (8.2%)	89 (91.8%)	
	40-44	5 (7.7%)	60 (92.3%)	
	45-49	2 (6.5%)	29 (93.5%)	
	50-55	1 (3.7%)	26 (96.3%)	
	>=56	0	8	
	Illiterate	1 (1.6%)	60 (98.4%)	
	literacy campaign	3	8	
Educational status	1-8 th grade	16 (11.3%)	126 (88.7%)	< 0.05
	9-12 th grade	12 (9%)	122 (91%)	
	Diploma and Degree	7 (9.5%)	67 (90.5%)	

4. Discussion

The degrees of satisfaction were not statistically different by age and this was similar to the findings conducted by Birna Abdosh 2006 [13]. On the other hand, the degrees of satisfaction were statistically different by educational status, which was similar to the findings conducted by Fekadu A. et al. 2011 [14]. However, the degree of satisfaction among ART laboratory patients was statistically different among the two hospitals studied. The overall satisfaction on ART laboratories by HIV/AIDS patients was 90.8%; the result reported here could be explained in several ways; one explanation could be due to introduction of social desirability biases by clients as clients might not be ready to tell their dissatisfaction status freely since interviews were conducted within the hospitals setting. Again, it should be remembered that, unless special precautions are taken, clients may be reluctant to reveal their opinions for fear of alienating their attendants as ART monitoring laboratory services are given free of charge [15]. A similar study conducted by Tedla M. and Bineyam T. in government hospitals in Addis Ababa, showed 85.5 % satisfaction level [16]. This could be due to the differences in hospital infrastructure, the roles of the hospital administrators, financial resource allocation, available human resources and other variables.

In comparison with other studies describing patient satisfaction in outpatients department, our study showed higher satisfaction level (90.8%) than studies conducted in

Jimma (77%) and Tigray (43.6%) [14,17]. The underlying justifications for higher clients' satisfaction with ART monitoring laboratory services could be attributed to current efforts taken to improve ART monitoring laboratory service in Ethiopia by different stakeholder. Furthermore, clients are also benefiting from improved quality of life, decreased morbidities and mortality due to ART. In addition, study time and design might have also contributed.

The Likert scale results of the patient ratings for the level of satisfaction of laboratory services revealed the lowest rate of satisfaction with cleanliness of the latrines for specimen collection at (3.07(+0.96)), length of time patients wait between phlebotomy and notification of results (TAT) (3.12(+1.01)) and the information provided to the patients during specimen collection about laboratory procedures (3.37(+1.09)). Similar problems were identified by a study from Tanzania in 2008 [7]. A reduction in mean rating was also observed in the location of the latrines leading to difficulty in finding the latrines to provide specimens like stool and urine (M= 3.20(+0.99)). This may be related to the overall problem that laboratory personnel are not involved in designing the infrastructure of the laboratory rooms in Ethiopia.

5. Conclusions

There were differences in the levels of satisfaction of HIV/AIDS patients among the laboratories in the study

hospitals. There was a lower satisfaction rate observed in Hawassa University Referral Hospital than in Yirgalem hospital. Patient satisfaction was lowest with the sanitation of the latrines, length of time patients wait between phlebotomy and notification of results (TAT) and the lack of information about the procedures that patients should follow in the collection of specimens.

6. Recommendations

The hospital administrators and laboratory chiefs should work on the enhancement of laboratory services. Hospital administration needs to work with laboratory units in designing laboratory infrastructure. A concerted effort to improve the cleanliness of the latrines is needed. Provision of relevant information to patients who use the laboratories is also need to be improved. Moreover, the length of time patients wait between phlebotomy and notification of results (TAT) should be decreased by increasing laboratory personnel and equipments. Furthermore, additional resources need to be directed to laboratory services in these hospitals. Finally, patient satisfaction should be viewed as an important issue in health care organizations and further studies on the subject of patient satisfaction are recommended. These studies can uncover details associated with patient satisfaction in hospitals and other health care organizations and lead to improved overall medical care of patients in Ethiopia.

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