

Original Research Article

Assessments of patient and health care workers satisfaction on the laboratory services in St. Paul's hospital millennium medical college, Addis Ababa, Ethiopia

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ABSTRACT

Background: Satisfaction is one of the meaningful indicators of users' experience of health care services in general and laboratory service in particular. Understanding the level of this satisfaction in public laboratory service is the most important for the improvement of health care delivery in any country at large. The aim of this study was to assess level of patient and health care workers satisfaction on the laboratory services in St. Paul's hospital millennium medical college, Addis Ababa, Ethiopia.

Methods: A cross sectional study was conducted from May 1 to 30, 2016 in St. Paul's hospital millennium medical college. Data were collected using structured questionnaire, through face to face interview, entered to Epi-Info version 5.3.1 and exported to SPSS version 20.0 for analysis. Satisfaction score was calculated by using Likert's five scale giving a value of 1 for poor satisfaction level up to a value of 5 for excellent. Chi-square tests were employed and P-value less than 0.05 considered as statistically significance.

Results: The findings of the study showed that the overall satisfactions level with the laboratory services in the hospital were 55.9% for the patient and 60% for health care workers. Satisfaction was reported to be highest (74.2%) on the hospitability of laboratory professionals to their patients, from patient satisfaction level and (73.8%) with the language of laboratory professional communication skills to their patient from health care worker satisfaction.

Conclusions: The study showed that low satisfaction level rate laboratory service in both the patient and health care workers. Therefore, the hospital laboratory director and managers consider these service areas in order to solve the identified problems.

Keywords: Patient satisfaction, Health care worker satisfaction, Laboratory services

INTRODUCTION

Ethiopia has the worst health status in the world as could be attested by accepted health indicators. The major constituents include inefficient utilization of the availability of human material resources, health service management together measuring the efficiency of health care units, patient waiting time and customer satisfaction.¹ Learning about clients' preference regarding the laboratory service is an extremely valuable input for

designing, organizing health care service, and for the accreditation of one organization.² Medical laboratory Service is a component of health care delivery system that serves as a network by providing range of rests relevant to medical and surgical activities in the hospitals. In addition; it enables physicians and other health care professionals to make appropriate evidence based diagnostic or therapeutic decisions for their patients. Because of laboratory services have a direct impact on many aspects of patient care including, length of stay,

patient safety, resource utilization, knowing of patient satisfaction level with both private and public laboratory service is the most important improvement of health care delivery in any country.^{2,3} Thus, it is logic that the quality of health services be evaluated on the basis of the patients, who are after all the final recipient of the process outcome of the services and health care providers, since the health service's product primarily concerns the patients themselves and their health care providers.⁴ Not only for health care service, now days the burning issue for other service providing organization might be also the level of satisfaction of customers with the available service. The laboratory, as part of the health in the community, will continue to undergo an explosion of change, so that a whole array of work flow and design factors must be incorporated in to the physical layout of the laboratory, but may need to be adapted during the life of the building to totally unrelated functions or may be probably staffed by ignorant and low educated level of professionals as compared to changes in the technology or service demands.^{5,6} So the main objective of this study was to assessment of patient and health care workers satisfaction on the laboratory services in St. Paul's Hospital Millennium Medical College (SPHMMC), Addis Ababa, Ethiopia.

METHODS

Study area and period

The study was conducted in St. Paul's Hospital Millennium Medical College (SPHMMC) Addis Ababa, which is the capital city of Ethiopia from February 15 to March 15, 2016.

SPHMMC is a referral hospital in Addis Ababa under the Ethiopian Federal Ministry of Health (FMOH). It is the second largest public hospital in the nation, built by the Emperor Haile Selassie in 1961 with the help of the German Evangelical Church. In addition to providing health care service, SPHMMC is a teaching health institution. On average the hospital service serves 2310 new and 4065 repeated patients per month. It is estimated to provide laboratory service around 309,964 people annually. It has 13 a department out of which laboratory department is among the lists which give medical care service. The document obtained from the laboratory department showed for the services given and test menus of; 72,048 patients for clinical chemistry (liver and renal function tests), 131,256 for hematology (Complete Blood Count, CD4 count), 10,000 for microbiology, 15,124 for parasitology, 27,884 for serological tests, 47,980 for urinalysis tests, 3,604 for blood transfusion test and 2,068 for hormonal assays laboratory tests served per year. Regarding the laboratory professionals staff members who were actively engaged work were; 1 M.Sc./Laboratory Manager/, 1 M.Sc./microbiologist/, 30 B.Sc medical laboratory technologists, 7 diploma holders/ laboratory technicians/, 4 phlebotomist, 5 data clerk, 3

runner and 5 cleaners, which gives totally, 56 staff members.

Study design

Facility based cross sectional study was conducted to determine the level of patient's and health care providers' satisfaction on the laboratory services.

Source of population

Source of population for the study was all who are consumer of laboratory service in SPHMMC.

Study population

The study population was all out patient after their laboratory test issued during the time of exit and health care worker who requested different laboratory tests for the patients.

Sample size

The sample size is estimated based on the assumption of single population proportion formula, taking the previous study satisfaction level of the patient attending the laboratory service was satisfied 87.6%, and health care workers 80%, 5% margin error, and 95% confidence level, i.e.\

$$n = \frac{(z^{\alpha/2})^2 p(1-p)}{d^2} \Rightarrow \frac{(1.96)^2 0.876(1-0.876)}{(0.05)^2} = 167 \text{ samples from the patient \&}$$

$$\frac{(1.96)^2 0.80(1-0.80)}{(0.05)^2} = 246 \text{ from health care providers, could be total of 413 subjects.}$$

Where: n = minimum sample size, P = estimated the patient satisfaction level for the study population, taken from the previous study of clients and clinician satisfaction with laboratory services in Eastern Ethiopia,⁷ d= the margin of sample error, $z^{\alpha/2}$ = the standard normal variable at $1-\frac{\alpha}{2}$ confidence level.

Sampling techniques

Systematic random sampling technique was used to select the study population.

Inclusion criteria and exclusion criteria

All laboratory users who were patients above 18 years old and health care workers who were all types of medical practitioners who use the laboratory service for patient management, including nurses, general practitioners (GPs), interns, health officers (HOs), and specialists, whereas all psychiatric patients without their relatives will be excluded from the study.

Dependent variable

Satisfaction status of patient and health care workers.

Independent variables

Age, sex, educational status, residence, quality and quantity of laboratory test menu, waiting time, privacy room of the laboratory, speed of the laboratory test /TAT/, health personnel approach to the patient, profession of health care worker etc.

Operational definitions

The respondents were asked to rate their satisfaction with laboratory service provision on a 5-point liker scale, where 1 =poor, 2 =below average, 3 =average, 4 =good, and 5 =excellent. Whereas respondents answer was considered that “NA”, if the service mentioned was not applicable to their health institutions. In addition, open-ended questions were included to hear from both patients and health care workers’ opinion on laboratory services. Satisfaction rates for services were calculated by the following formulas:

1. Overall mean satisfaction score = (No. of excellent ratings × 5) + (No. of V. good ratings × 4) + (No. of Good ratings × 3) + (No. of Fair ratings × 2) + (No. of poor ratings × 1) for overall satisfaction/total No. of ratings (1–5) for overall satisfaction with laboratory services.
2. Percentage of excellent or good ratings = (No. of excellent or good ratings for specific laboratory service category × 100)/total No. of ratings (1–5) for specific laboratory service category.
3. Percentage of fair or poor ratings = (No. of fair or poor ratings for specific laboratory service category × 100)/ total No. of ratings (1–5) for specific laboratory service category.

Data collection and processing

The English version of the questionnaire was translated in to Amharic and Oromiffa for the patients. Again it was translated back to English. The questionnaire was pre-tested on black lion hospital with similar characteristics to the study area. Findings were discussed among data collectors and supervisors for better understanding of the data collection process. Based on the pretest, the questions were revised, edited, and modified. The data collectors were trained with practical exercise for two days on the study instrument and data collection procedures techniques.

Data management

First data were checked manually for completeness and then coded, a template was prepared and entered into Epi-Info version 7.0 statistical software and cleaned thoroughly before exported to SPSS version 20 for further analysis. Corrections were made according to the original data and cleaned data were exported from Epi-Info version 7.0 to SPSS version 20 for analysis.

Data analysis procedures

A 5 point Likert scale rating of poor (1-point), fair (2-points), good (3-points), very good (4-points) and excellent (5point) were used. Association of the variables was checked by using Chi-square test. P-value < 0.05 was considered as statistically significant.

Univariate analysis was conducted using frequency, percentage and presented in the form of texts, tables and charts.

Ethical considerations

The study was conducted after getting an approval from the Institutional Review Board of the St. Paul’s Hospital Millennium Medical College.

Informed verbal consent from each individual respondent was obtained by explaining the objective and procedures of the study. The information was kept confidential.

RESULTS

A total of 213 patients and 203 health care workers participated in this study. Among the study subjects, 130 (61%) of the patients and 93 (45.8%) of the health care workers were male. The mean±SD of the patients and health care workers’ age were 30±8.9 and 28±5.6 years, respectively.

The distribution of patient participants with regard to patient source, reason to coming in the hospital laboratory and their service charges revealed that majority of the participants 193 (90.6%) were not referred from other health institutions, 187 (87.8%) were because of their sickness and 178 (83.6%) were charged to the laboratory service provided. The mean±SD monthly income for patients was 2988±1785 Ethiopian Birr (Table 1). Out of the total patient respondent 97 (45.5%) has fear of losing their laboratory results.

Degree of patient satisfaction

The overall satisfaction of the patient on the laboratory service was 55.9% with the mean±SD (2.52±0.51). More participant their residence who live in Addis Ababa, Ethiopia than who out of the city, male than female and those who came for treatment reason than checkup their health status were satisfied. Similarly the rate of satisfaction was higher among the age group 25-34 year’s old, orthodox religion followers compared to other religion followers, participants among governmental employees compared to other occupation, those who completed their college/university studies in their educational background as compared to other educational status and those how have monthly income greater than 2969 Ethiopian Birr.

Table 1: Socio-demographic characteristics of patient respondents by their percentage of level of satisfaction on the laboratory services in St. Paul’s hospital millennium medical college, Addis Ababa, Ethiopia, 2016.

Variables		Dissatisfied no (%)	Satisfied no (%)	Total no (%)	X ²	P value
Residence	A.A.	153 (71.8)	40 (18.8)	193 (90.6)	3.7	0.5
	Out of A.A.	17 (7.9)	3 (1.5)	20 (9.4)		
	Total	170 (79.8)	43 (20.2)	213 (100)		
Gender	Male	101 (47.4)	29 (13.6)	130 (61.0)	0.93	0.34
	Female	69 (32.4)	14 (6.5)	83 (38.9)		
	Total	170 (79.8)	43 (20.2)	213 (100)		
Age	15-24	35 (16.4)	11 (5.2)	46 (21.6)	1.27	0.74
	25-34	91 (42.7)	23 (10.8)	114 (53.5)		
	35-44	34 (15.9)	8 (3.7)	42 (19.7)		
	+45	10 (4.7)	1 (0.5)	11 (5.2)		
	Total	170 (79.8)	43 (20.2)	213 (100)		
Religion	Orthodox	95 (44.6)	24 (11.2)	119 (55.9)	6	0.1
	Muslim	24 (11.2)	3 (1.4)	27 (12.7)		
	Protestant	36 (17)	15 (7.0)	51 (24)		
	Others	15 (7.0)	1 (0.5)	16 (7.5)		
	Total	170 (79.8)	43 (20.2)	213 (100)		
Occupation	Govt. employee	84 (39.4)	18 (8.4)	102 (47.9)	10.2	0.07
	Private worker	35 (16.4)	6 (2.8)	41 (19.2)		
	Farmer	12 (5.7)	6 (2.8)	18 (8.5)		
	Merchant	16 (7.4)	1(0.5)	17 (7.9)		
	House wife	7 (3.2)	5 (2.4)	12 (5.6)		
	Student	16 (7.5)	7 (3.2)	23 (10.8)		
	Total	170 (79.8)	43 (20.2)	213 (100)		
Educational status	No formal education	9 (4.2)	4 (1.9)	13 (6.1)	1.6	0.66
	Primary education	22 (10.3)	7 (3.3)	29 (13.6)		
	Secondary education	59 (27.7)	15 (7.0)	74 (34.7)		
	College/university	80 (37.6)	17 (7.9)	97 (45.5)		
	Total	170 (79.8)	43 (20.2)	213 (100)		
Reason for coming to the laboratory	B/se of sickness	149 (69.9)	38 (17.8)	187 (87.8)	0.02	0.9
	For check up	21(9.9)	5 (2.4)	26 (12.2)		
	Total	170 (79.8)	43 (20.2)	213 (100)		
Payment Fees	Free of charges	24(11.3)	11 (5.1)	35 (16.4)	3.3	0.7
	No free charges	146(68.5)	32 (15.0)	178 (83.6)		
	Total	170 (79.8)	43 (20.2)	213 (100)		
Income	<1200 ETB	25 (11.7)	6 (2.8)	31 (14.6)	5.6	0.14
	1200-2250	49 (23.0)	8 (3.7)	57 (26.8)		
	2251-2969	18 (8.5)	10 (4.6)	28 (13.1)		
	>2969	78 (35.2)	19 (8.9)	97 (45.5)		
	Total	170 (79.8)	43 (20.2)	213 (100)		

However the differences were not statistically significant for all socio-demographic characteristics described below (p>0.05) (Tables 1 and 2).

From the total of 203 health care worker 110 (54.2%) were female participants. The mean age and service year of the health care worker in the hospital were 28.2 and 3.8±4.3 years, respectively. The majority of the health care worker participants were 137 (67.5%) in the age group 25-34, 80 (39.4%) service year in the hospital ranged from 6months to 2 years, 135 (66.5%) were non-

physicians (nurses, health officers and anesthesia) and 65 (32%) were amhara in their ethnicity.

Degree of satisfaction of health care workers

The overall percentage of satisfied health care workers by the laboratory services was 60.0%. Based on their response the finding of the study showed that the overall level health care worker’s satisfaction was reported to be higher for female than male, in the 25-34 year age group, in the service year of six months up to two years, Nurses

/Health Officers compared to other professionals and Amhara ethnic group. Furthermore, satisfaction with the health care workers was found to have significant

association with accessing their ethnic back ground (p=0.041), (Table 3).

Table 2: Rate and percentage of patients' satisfaction by different measuring item of laboratory services in St. Paul's hospital millennium medical college, Addis Ababa, Ethiopia, 2016.

Variables	Poor No (%)	Fair No (%)	Good No (%)	Very good No (%)	Excellent No (%)	Mean ±SD	Satisfied percentage
Location of the laboratory in the hospital	123 (57.7)	56 (26.3)	26 (12.2)	8 (3.8)	-	1.62±0.84	16
Waiting place of the hospital laboratory	129 (60.6)	44 (20.7)	31 (14.6)	6 (2.8)	3 (1.4)	1.64±0.93	18.8
Presence of professionals on working time	27 (12.7)	55 (25.8)	61 (28.6)	41 (19.2)	29 (13.6)	2.95±1.23	61.4
Presence of laboratory test menu	52 (24.4)	62 (29.1)	52 (24.4)	37 (17.4)	10 (4.7)	2.49±1.18	46.5
Cleanness of the hospital laboratory	29 (13.6)	73 (34.3)	69 (32.4)	36 (16.9)	6 (2.8)	2.61±1.01	52.1
Professional communication to the patient	24 (11.3)	49 (23.0)	74 (34.7)	52 (24.4)	14 (6.6)	2.92±1.09	65.7
Hospitability of the laboratory professionals	8 (3.8)	47 (22.1)	94 (44.1)	46 (21.6)	18 (8.5)	3.09±0.96	74.2
Privacy of the room to give samples	15 (7.0)	45 (21.1)	84 (39.4)	56 (26.3)	13 (6.1)	3.03±1.00	71.8
General waiting time in the laboratory	41 (19.2)	54 (25.4)	70 (32.9)	40 (18.8)	8 (3.8)	2.62±1.11	55.5
Waiting time to give samples	30 (14.1)	58 (27.2)	68 (31.9)	44 (20.7)	13 (6.1)	2.77±1.12	58.7
Waiting time during sample collection	25 (11.7)	61 (28.6)	71 (33.3)	43 (20.2)	13 (6.1)	2.80±1.08	59.6
Waiting time from sample collection to receive their result	48 (22.5)	50 (23.5)	65 (30.5)	43 (20.2)	7 (3.3)	2.58±1.14	54
The cleanness of latrine to collect specimen	55 (25.8)	59 (27.7)	58 (27.2)	38 (17.8)	3 (1.4)	2.41±1.09	46.4
Obtaining quality of lab results	16 (7.5)	79 (37.1)	71 (33.3)	42 (19.7)	5 (2.3)	2.72±0.94	55.3
Confidentiality of lab results	8 (3.8)	58 (27.2)	100 (47)	40 (18.8)	7 (3.3)	2.91±0.86	69
Cost of lab. Results	4 (1.9)	52 (24.4)	68 (31.9)	62 (29.1)	27 (12.7)	3.26±1.06	73.7
General satisfaction on the lab services*	12 (5.6)	49 (23.0)	105 (49)	44 (20.7)	3 (1.4)	2.89±0.84	71.4

Table 3: Socio-demographic characteristics of health care workers by their percentage of level of satisfaction on the laboratory services in St. Paul's Hospital millennium medical college, Addis Ababa, Ethiopia, 2016.

Variables	Dissatisfied No (%)	Satisfied No (%)	Total No (%)	X ²	P value	
Sex	Male	43 (21.1)	50 (24.6)	93 (45.8)	0.2	0.69
	Female	54 (26.6)	56 (27.6)	110 (54.2)		
Age in years	18-24	12 (5.9)	25 (12.3)	37 (18.2)	7.4	0.06
	25-34	73 (35.9)	64 (31.5)	137 (67.5)		
	35-44	8 (3.9)	7 (3.5)	15 (7.4)		
	>44	4 (1.9)	10 (4.9)	14 (6.9)		
Service years	<6 months	13 (6.4)	7 (3.5)	20 (9.9)	3.9	0.27
	6 months-2 years	38 (18.7)	42 (20.7)	80 (39.4)		
	2-4 years	17 (8.4)	27 (13.3)	44 (21.7)		

	>4 years	29 (14.3)	30 (14.8)	59 (29.1)		
Profession	Nurses and Health officers	64 (31.5)	71 (34.9)	135 (66.5)	0.2	0.97
	General practitioner and residents	11 (5.4)	12 (5.9)	23 (11.3)		
	Specialist Doctors	10 (4.9)	9 (4.4)	19 (9.4)		
	Others	12 (5.9)	14 (6.9)	26 (12.8)		
Ethnicity	Oromo	33 (16.3)	28 (13.8)	61 (30)	9.9	0.041
	Amhara	23 (11.3)	42 (20.7)	65 (32)		
	Tigray	14 (6.9)	16 (7.9)	30 (14.8)		
	SNNP	18 (8.9)	8 (3.9)	26 (12.8)		
	Others	9 (4.4)	12 (5.9)	21 (10.3)		

Table 4: Rate and percentage of satisfaction of health care workers by different measuring items of laboratory services in St. Paul’s hospital millennium medical college, Addis Ababa, Ethiopia, 2016.

Variables	Poor No (%)	Fair No (%)	Good No (%)	Very good No (%)	Excellent No (%)	Not Applicable	Mean ±SD	Satisfied %
Availability of laboratory staff on working hours	19 (9.4)	37 (18.2)	56 (27.6)	45 (22.2)	37 (18.2)	9 (4.4)	3.4±1.4	68
Adequacy of test menu on laboratory request	24 (11.8)	40 (19.7)	66 (32.5)	53 (26.1)	16 (7.9)	4 (2)	3±1.2	66.5
Critical value notification of the laboratory staff	37 (18.2)	44 (21.7)	61 (30)	39 (19.2)	16 (7.9)	6 (3)	2.9±1.3	56.8
Language of lab for communication	17 (8.4)	31 (15.3)	61 (30)	55 (27.1)	34 (16.7)	5 (2.5)	3.4±1.2	73.8
Courier service	16 (7.9)	38 (18.7)	74 (36.5)	41 (20.2)	21 (10.3)	13 (6.4)	3.3±1.3	67
Hospitality of lab professionals	21 (10.3)	31 (15.3)	57 (28.1)	49 (24.1)	37 (18.2)	8 (3.9)	3.4±1.4	70.4
Quality/reliability of laboratory results	34 (16.7)	43 (21.2)	57 (28.1)	47 (23.2)	18 (8.9)	4 (2)	2.9±1.3	60.2
Waiting time	47 (23.2)	50 (24.6)	48 (23.6)	38 (18.7)	15 (7.4)	5 (2.5)	2.7±1.3	49.7
Courtesy of laboratory staffs	27 (13.3)	48 (23.6)	67 (33)	33 (16.3)	17 (8.4)	11 (5.4)	3±1.3	57.7
Reporting of complete test results	27 (13.3)	55 (27.1)	50 (24.6)	46 (22.7)	18 (8.9)	7 (3.4)	3±1.3	56.2
Timely test results for HIV /AIDS patient care	55 (27.1)	33 (16.3)	51 (25.1)	26 (12.8)	13 (6.4)	25 (12.3)	3±1.7	44.3
Getting urgent result	55 (27.1)	49 (24.1)	41 (20.2)	26 (12.8)	23 (11.3)	9 (4.4)	2.7±1.5	44.3
Confidentiality of laboratory professionals	22 (10.8)	28 (13.8)	55 (27.1)	45 (22.2)	40 (19.7)	13 (6.4)	3.5±1.4	69
General satisfaction on the lab services	47 (23.2)	38 (18.7)	60 (29.6)	35 (17.2)	19 (9.4)	4 (2)	2.8±1.4	56.2

Based on responses from Likert scale, overall mean rate of satisfaction was 3±0.8. The lowest [2.7±1.5] and the highest [3.4±1.2] rate of satisfaction were found for

timely test results for HIV /AIDS patient care or getting urgent result and language of lab for communication, respectively (Table 4).

DISCUSSION

The Likert scale results of the patient ratings for the level of satisfaction of laboratory services measured the lowest rate percent of satisfaction on the convenient site location of the laboratory (16%), waiting place of the hospital laboratory (18.8%), cleanliness of the latrines for specimen collection (46.4%) and the availability of test menu in the hospital laboratory (46.5%). Those identified problems are also supported in other studies.^{3,7,8} This may be related to the problem that laboratory personnel are not involved in designing the infrastructure of the laboratory rooms or negligence to post the sign and direction indicators for the laboratory.

The highest level of patient satisfaction was seen on hospitability of laboratory professionals (74.2%), the cost of laboratory test menu price (73.7%) and the privacy of the room to give laboratory specimens (71.8%).

Concerning the issue of health care workers satisfaction; the present study showed that the lower level of satisfaction percent observed for getting urgent result (44.3%), timely test results for HIV/AIDS (44.3%) and waiting time for different laboratory test results (49.7%) as compared to other study.⁷ This could be due to differences in the laboratory organization rules and regulation.

The levels of satisfactions among health care workers were high for communication skills (73.8%) and hospitality of laboratory professionals (70.4%) from the patient and other health professionals in the hospital laboratory.

This study showed that overall satisfaction of patients and Health Care Workers (HCWs) with from the laboratory service of St. Paul's Hospital Millennium Medical College (SPHMMC), Addis Ababa, Ethiopia was 55.6% and 60%, respectively. This overall patient satisfaction result is in line with the study conducted in other parts of the country like Bahirdar Felege Hiwot Referral Hospital, North West Ethiopia (57.8%) and the study of outpatient medical services in rural healthcare facilities, South West Ethiopia (57.9%).^{9,10}

In contrasting with other studies in Ethiopia: the overall satisfaction of this study is lower as compared with some public hospitals laboratory satisfaction studies of selected government hospitals in eastern Ethiopia which is overall patient satisfaction (87.6%) and (80%) for clinical service providers and the assessment of clients' satisfaction with health service deliveries at Jimma University Specialized Hospital, Ethiopia (77%).^{2,7} The difference might be due to service given and facility factor between hospitals and the difference between urban and rural settings, or the reason could be due to high expectation by those who found more urbanized areas as compared to those who came from rural. The other reason could be the present study area serves as a teaching center so that health

professionals at different level are expected to demonstrate their learning teaching activity in addition to their normal service. This higher dissatisfaction rate with waiting time could be attributed to the increased number of clients.

As compared to other findings conducted to the specific laboratory services in Ethiopia, sidamma zone, The overall satisfaction on ART laboratories by HIV/AIDS patients was (90.8%), in public hospitals, Addis Ababa, Ethiopia (85.5%).^{11,12} The current study result was low. This could be due to the differences in hospital laboratory organization and infrastructure, the roles of the hospital supporters' especially non-governmental organizations, and available human resources. The current study finding also different from the study done on malaria diagnostic service in Amhara region, North West Ethiopia (90.7%) and Users' and health service providers' perception on quality of laboratory malaria diagnosis in Tanzania (73.8%) of clinician and 90.2%, of patients or care-takers.^{13,14}

The results of this study indicate that only patients interviewed were satisfied (55.6%) with the services they received at SPHMMC laboratory. This result again lowers than a study done on Patient Satisfaction at a Multi Super Specialty Hospital in Delhi (76%).⁸ The reason for this big difference could be due to the difference in the number and type of health care provider's and their educational status in those mentioned health delivery services. However, the overall health care workers satisfaction level (60%) almost similar to the study done in Nekemte Referral Hospital, Western Ethiopia (62.8%) (getting urgent result (44.3%), timely test results for HIV/AIDS (44.3%) and waiting time for different laboratory test results (49.7%) were areas of indicators for low this overall low results, and also similar with the study of customer satisfaction survey with clinical laboratory and phlebotomy services at a tertiary care unit level (58.1%).^{15,16}

CONCLUSION

The overall rate percentage satisfaction in both patients and health care workers with the laboratory services was low. Least level of patient satisfactions rate were found for some laboratory services such as the location and site of the laboratory, waiting place of the laboratory and the cleanness of latrine to collect laboratory specimen. However, majority of the patients were satisfied by the hospitability of the laboratory professionals and the cost of laboratory price services.

Whereas from the health care worker satisfaction rate getting urgent result, timely test results for HIV /AIDS patient care and waiting time to get the patient results were also services which scored low percentages. High satisfaction rates for health care workers were observed again in hospitability of laboratory professionals and

language of laboratory professional communication skills from their patients and the rest of health professionals.

Therefore, the laboratory professionals should participate to give his professional suggestion in designing of the laboratory infrastructures and post different sight indicators to look for easy the laboratory area, sections and comfortable waiting rooms. The laboratory departments, health care workers and the hospital managements should work closely in their day to day activities to solve the identified problems.

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