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# Assessment of Patients' Satisfaction Towards General Medical Laboratory Services at Shenen Gibe Public Hospital, Jimma Town, South West Ethiopia

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**Abstract**
**Background**: A rapid transformation is undergoing to meet the ever-increasing needs and demands of patients population in health care industry. Satisfaction is the extent to which the client feels their needs are fulfilled and their expectations are being met by the service provider. Furthermore, understanding the level of customer satisfaction and identifying the factors hindering client satisfaction are the most important base lines to improve the quality of service being delivered.**Objective**: The aim of this study is to assess patients` satisfaction towards medical laboratory services at Shenen Gibe Hospital.**Materials and method:** A hospital based descriptive cross-sectional study was conducted from April to May 2016. Patients` satisfaction toward laboratory services were assessed by using an exit interview based questionnaire. Statistical analysis was performed by using SPSS version soft 20 soft ware. Bivariate and multivariate logistic regression was used to assess the relationship between dependent and independent variables. P value less than 0.05 was considered to be statistically significant association.**Results:** A total of 379 study participants were involved in the study. Of these, 205(54.1%) were males. About 37.4% of the respondents were found in the age range of 28-37years. **Majority,** 240(63.3%) of the study participants were found to be satisfied towards medical laboratory services provided at Shenengibe Public hospital, 96(25.3%) were dissatisfied whereas 43(11.3%) were neutral . Provision of adequate information to collect specimen (AOR=7.6, 95% C.I. =2.89-9.23, P value =0.002) and when & how to receive laboratory results (AOR= 8.1, 95% C.I=2.3-12.6, P value =0.007), respect from laboratory personnel (AOR=3.56, 95% C.I =2.87-3.99, P value =0.004) as well as less than 30 minutes( AOR=4.6, 95% C.I.=3.78-7.1 , P value =0.003) and between 1 and 2 hours(AOR=5.3, 95% C.I.=4.51-16.9, P value =0.000 ) waiting time to receive laboratory results were the determinant factors to overall of patients` satisfaction toward medical laboratory services.**Conclusion:** Overall, the satisfaction level of study participants toward medical laboratory services was 63.3%. Customer satisfaction, particularly patients` satisfaction is the corner stone of medical laboratory medicine and it is one part of quality indicators. Thus, it is very essential to improve the quality of services provided in hospital laboratories in order to fulfill the expectation of patients.
**Keywords**: Patient satisfaction, medical laboratory services, Jimma

## 1. Introduction

Patient satisfaction is the perception of care received when compared to the care expected by patients. Evaluating 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 own care , continue using medical care services and stay within a health provider (where there are some choices) and maintain with a specific system [1,2].

Connection between health service of quality and naturally experiencing quality leads to customer satisfaction. The customer satisfaction directly contributes to the experiencing quality and naturally experiencing quality also leads to customer satisfaction [2].

Customer satisfaction is the major component of quality management system, and is a significance source in the international organization for standardization (ISO). Ultimately, the laboratory procedures produce a product that is the test result for its customers. If the costumers are not well served, the laboratory is not achieving it's primarily function [3]. Philip Crosby defined quality practice as meeting the requirements of the customer he applied this practice to business and manufacturing, but it is equally important for medical laboratory [4].

Patient satisfaction is core to quality of health care; even the most technically competent core is meaningless if it is doesn't satisfy the users. In general, patients' satisfaction may influence whether a person seeks medical advice, complies with treatment and maintain a continuing relationship with health care provider or not [5]. Moreover; measuring patients` satisfaction plays an increasingly important role in the growing push towards health care provide accountability and is critical in the implementation of continues improvements in medical settings [6, 7]. Patient satisfaction often reflect their perception of the health care offered as well as the process of giving that care, compared to their expectations. It is an expression of the gap between the expected and perceived characteristics of services [8, 9].

The current trend in healthcare delivery is to work toward providing people-centered 'healthcare that

puts the client at the center in health delivery system. This means that client's views and assessments of service provided are critical in providing feedback for improving the quality of care provided. Patients` satisfaction with clinical laboratory services, therefore, has become one of the important components of providing accepted quality of care, and obtaining their feedback provides laboratory managers with opportunities to identify areas for improvement [10]. The customers of the laboratory are a very good source to discover elements of laboratory service that can be improved and they experience the services in another way than the laboratory staff and management, and may indicate weak elements in laboratory service that the laboratory was not aware of [11].

The laboratory has different types of customers , of them patients are the external customers of laboratory services and their opinions are essential components in providing laboratory managers with opportunities to identify areas for improvement the clients of the laboratory are very good source to discover elements of laboratory service that can be improved and they experience the service in another way than the laboratory staff and management, and may indicate weak elements in laboratory service and their opinions are essential components in providing laboratory managers with opportunities to identify areas for improvement [12].

A component of effective health care services is the measurement of patient satisfaction. Patient satisfaction assists in the evaluation of health care services from the patient point of view .it also facilitates the identification of problem areas and generates idea for resolving these problems monitoring patient satisfaction is an important and useful quality improvement tool for medical laboratories in particular and health care organization in general[13]

The problem related to medical laboratory are aggravated particularly at peripheral level due to lack of properly designed laboratory rooms shortage of short term of water and electric shortage of equipment and absence of effective maintenance and spare part and lack of follow up and supervision of laboratory staff are considered to be among the major medical laboratory problems[14]

There is limited data to give information about the patients` satisfaction towards medical laboratory services in study area. Thus, this study was aimed at assessing patients` satisfaction towards medical laboratory services at the study area.

## 2. Materials and methods

The study was conducted in Jimma Zone which is located south West from capital city of Ethiopia, Addis Ababa, from April to June 2016.

A hospital based, descriptive cross sectional study design was used to assess the level of patients` satisfaction toward medical laboratory services. The Shenen Gibe hospital laboratories provide different laboratory tests including parasitological tests , hematological tests including complete blood count,CD4 count ; clinical chemistry tests such as renal , liver , cardiac and hormonal function tests, immunoassays and bacteriological tests such as gene expert for multi-drug resistant mycobacterium tuberculosis , gram staining and culture.

### 2.1. Study subjects

All patients visiting the hospitals during study period were source population and those adult patients greater than eighteen years old and requested for different laboratory investigations were study population. Seriously ill patients who were unable to respond for face to face an exit interview questions were excluded from the study.

### 2.2. Sample size determination, and sampling technique

The sample size was estimated by using a minimum sample size calculating formula taking 56% prevalence from the previous conducted study. A convenient sampling technique was used to include study subjects available during data collection period.

### 2.3. Data collection techniques

An interview based structured questionnaire was used to collect data via face-to- face interview. The questionnaire contained socio-demographic characteristics of the patients and different patients` satisfaction indicators toward medical laboratory services including Cleanness of waiting area, Adequacy of sitting arrangement, and respect from the laboratory personnel, adequate information how to collect specimens and when and how to receive laboratory results . A standardized five points Linkert scales ranging from strongly disagree to strongly agree (one to five points) were used for all items. Patients` satisfaction level was classified into satisfied and dissatisfied.

### 2.4. Statistical analysis

Data were analyzed by using SPSS version 20 soft ware. Descriptive statistics was used to indicate the patients` satisfaction in percentage. To predict the factors which influence the level of patients` satisfaction towards medical laboratory services, bivariate and multi-variate logistic regression was carried out subsequently.

 

### 2.5. Ethical consideration

Letter of clearance was taken from department of medical laboratory science and pathology, Jimma University to Shenen gibe hospital authorities. The purpose of the study was explained to the study participants. The study subjects had been informed as they had full right to refuse to participate on the study or withdraw from the study at any time during the study period and this had no any effect on their treatment or care.

## 3. Results

### Socio-demographic characteristics

A total of 379 participants were attended the study, of these 205(54.1%) were males and the rests females. About 37.4% of the respondents were found in the age range of 28-37years. Majority (32.2%) of the respondents was illiterate and more than 57.8% were urban dwellers. About 160(42.2%) of the respondents were house wife, the rests were government employee, students and farmers. Majority, (45.4%) of the study participants were married, whereas the others were single, widowed and divorced. There was no statistically significant association between socio-demographic characteristics and patient satisfaction towards medical laboratory services [table 1].

**Table 1**: Socio-demographic profile of the study participants (N=379)

| Variables | Category | Number | % |
|---|---|---|---|
| Sex | Male | 205 | 54.1% |
| | Female | 174 | 45.9% |
| Age | 18-27 | 90 | 23.7% |
| | 28-37 | 142 | 37.4% |
| | 38-47 | 111 | 29.4% |
| | 48-57 | 24 | 6.4% |
| | >58 | 12 | 3.1% |
| Place of residence | Urban | 219 | 57.8% |
| | Rural | 160 | 42.1% |
| Educational status | Illiterate | 126 | 32.2% |
| | Grade 1-8 | 106 | 28.0% |
| | Grade 9-10 | 48 | 12.7% |
| | Grade 11-12 | 52 | 13.7% |
| | College and above | 47 | 12.4% |
| Occupational status | employee | 123 | 32.5% |
| | House wife | 160 | 42.2% |
| | Students | 84 | 22.2% |
| | Farmers | 12 | 3.1% |
| Marital status | Married | 172 | 45.4% |
| | Single | 115 | 30.3% |
| | Divorced | 24 | 6.3% |
| | Widowed | 68 | 17.9% |

 

**Table**-2: Relationship between levels of patients` satisfaction with independent variables towards medical laboratory services (N=379)

| Variables | Category | Sat (N) | Dis (N) | $X^2$ | df | P value |
|---|---|---|---|---|---|---|
| Sex | Male | 133 | 72 | 3.71 | 1 | 0.054 |
| | Female | 96 | 78 | | | |
| Age | 18-27 | 34 | 32 | | | |
| | 28-37 | 89 | 50 | | | |
| | 38-47 | 87 | 53 | 4.31 | 4 | 0.365 |
| | 48-57 | 11 | 11 | | | |
| | >58 | 8 | 4 | | | |
| Place of residence | Urban | 134 | 89 | | | |
| | Rural | 95 | 61 | 0.25 | 1 | 0.874 |
| Educational status | Illiterate | 79 | 51 | | | |
| | Grade 1-8 | 71 | 45 | | | |
| | Grade 9-10 | 32 | 23 | 1.20 | 4 | 0.878 |
| | Grade 11-12 | 34 | 19 | | | |
| | College and above | 13 | 12 | | | |
| Occupational status | employee | 78 | 55 | | | |
| | House wife | 97 | 61 | 0.388 | 3 | 0.943 |
| | Students | 48 | 31 | | | |
| | Farmers | 6 | 3 | | | |
| Marital status | Married | 112 | 77 | | | |
| | Single | 72 | 48 | | | |
| | Divorced | 13 | 5 | 1.28 | 3 | 0.735 |
| | Widowed | 32 | 19 | | | |

**Patients` satisfaction level towards medical laboratory services**

A total of 379 study subjects were enrolled on the study. Of these, 240(63.3%) were satisfied, 96(25.3%) were dissatisfied and 43(11.3%) were neutral with general medical laboratory services at Shenen gibe public hospital (figure.1)

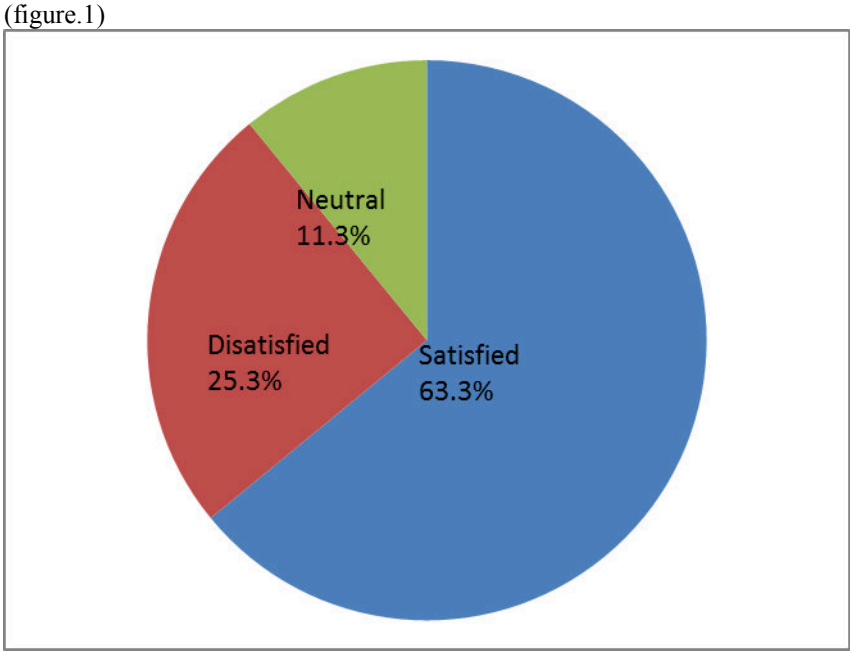


Figure 1: Level of patients` satisfaction towards general medical laboratory services at Shenen gibe public hospital ( N=379)

### 3.1. Factors affecting the level of patients` satisfaction

Cleanness of waiting area, adequate information to collect specimen and when & how to receive laboratory results as well as those patients who waited to receive laboratory results less than 30 minutes and between 1 and 2 hours had statistically significant association ( p value <0.05) with overall patient satisfaction towards medical laboratory services in bivariate logistic regression analysis .

In multiple logistic regression analysis, patients who satisfied towards adequate information when &

 

how to receive laboratory results was about 8.1 times more likely to be satisfied when compared to those patients who dissatisfied ( AOR=8.1;95% C.I=2.3-12.6; P value =0.007) . Provision of adequate information to collect specimen (AOR=7.6, 95%C.I. =2.89-9.23, P value =0.002) and when & how to receive laboratory results (AOR= 8.1, 95% C.I=2.3-12.6, P value =0.007), respect from laboratory personnel (AOR=3.56, 95% C.I =2.87-3.99, P value =0.004) as well as less than 30 minutes( AOR=4.6, 95% C.I.=3.78-7.1 , P value =0.003) and between 1 and 2 hours(AOR=5.3, 95% C.I.=4.51-16.9, P value =0.000 ) waiting time to receive laboratory results were the determinant factors to overall of patients` satisfaction toward medical laboratory services [table 5].

**Table-4**: Relationship between levels of patients` satisfaction with independent variables toward medical laboratory service (N=379)

| Variable | | Level of Satisfaction | | $X^2$ | DF | P value |
|---|---|---|---|---|---|---|
| | | Sat (N) | Not sat (N) | | | |
| Cleanness of waiting area: | yes | 213 | 16 | 142 | 1 | 0.000 |
| | No | 54 | 96 | | | |
| Adequacy of sitting arrangement: | yes | 234 | 18 | 126 | 1 | 0.000 |
| | No | 51 | 76 | | | |
| Measures taken to assure privacy : | yes | 227 | 87 | 2.99 | 1 | 0.084 |
| | No | 40 | 25 | | | |
| Respect from the laboratory personnel: | yes | 322 | 13 | 31.2 | 1 | 0.000 |
| | No | 31 | 13 | | | |
| Access to latrine: | yes | 316 | 36 | 26.5 | 1 | 0.000 |
| | No | 15 | 12 | | | |
| Adequate information to collect specimen: | yes | 57 | 67 | 59 | 1 | 0.000 |
| | No | 39 | 277 | | | |
| Adequate Information when & how to receive lab results: | yes | 83 | 117 | 0.846 | 1 | 0.357 |
| | No | 66 | 113 | | | |
| Measures taken to assure confidentiality: | yes | 111 | 97 | 41.3 | 1 | 0.000 |
| | No | 67 | 204 | | | |
| Turnaround time (TAT): | <30 minutes | 82 | 48 | | | |
| | 1-2hours | 79 | 116 | 17.3 | 2 | 0.000 |
| | >2hours | 22 | 32 | | | |

 

**Table-5**: Predictor variables of the patients` satisfaction toward medical laboratory services (N=379)

| Variable | Category | Level of Satisfaction | | COR (95% CI, P value | AOR(95% CI, P value |
|---|---|---|---|---|---|
| | | Sat (N) | Dis (N) | | |
| Cleanness of waiting area: | Yes<br>No | 213<br>54 | 16<br>96 | 3.14(2.11-6.81),0.009<br>1 | 2.51(1.32-4.11),0.07<br>1 |
| Adequacy of sitting arrangement: | Yes<br>No | 234<br>51 | 18<br>76 | 3.2(2.87-4.35),0.51<br>1 | 3.10(3.76-5.21),0.87 |
| Measures taken to assure privacy : | Yes<br>No | 227<br>40 | 87<br>25 | 1.73(1.35-2.87),0.09<br>1 | 2.13(2.8-3.4),0.12<br>1 |
| Respect from the laboratory personnel: | Yes<br>No | 322<br>31 | 13<br>13 | 2.8(2.11-6.31), 0.007<br>1 | 3.56(2.87-3.99),0.004*<br>1 |
| Access to latrine: | Yes<br>No | 316<br>15 | 36<br>12 | 0.92(0.63-1.96),0.321<br>1 | 1.86(1.9-2.18),0.45<br>1 |
| Adequate information to collect specimen: | Yes<br>No | 57<br>39 | 67<br>277 | 8.42(3.41-12.9),0.000<br>1 | 7.6(2.89-9.23),0.002*<br>1 |
| Adequate information when & how to receive lab results: | Yes<br>No | 83<br>66 | 117<br>113 | 8.6(2.56-15.43),0.001<br>1 | 8.1(2.3-12.6),0.007*<br>1 |
| Measures taken to assure confidentiality: | yes<br>No | 111<br>67 | 97<br>204 | 0.67(0.52-3.82),0.231<br>1 | 2.7(0.89-3.1),0.31<br>1 |
| Turnaround time (TAT): | <30 minutes<br>1-2hours<br>>2hours | 82<br>79<br>22 | 48<br>116<br>32 | 6.3(5.12-9.24),0.009<br>9.3(3.5-24.84),0.000<br>1 | 4.6(3.78-7.1),0.003*<br>5.3(4.51-16.9),0.000*<br>1 |

Abbreviation: Sat= satisfaction; Dis= dissatisfaction; COR= crude odd ratio; AOR=adjusted odd ratio

## 4. Discussion

The overall client satisfaction towards medical laboratory services in study area was 63.3 % which indicates that not many patients were satisfied toward the services indicating that the rate of dissatisfaction was high (39.6%). The results reported here might be explained in several ways. One explanation for the low satisfaction rate might be that patients could be ready to freely explain their dissatisfaction status because they were explained by the principal investigators that responding to the real situation during interview had no impact on their laboratory diagnosis or treatment either during data collection period or in the future when they come back to the hospital. The other possible explanation for the low satisfaction rate might be this study was conducted on the general laboratory services in the hospital, not on specific laboratory area due to this social desirability bias might not be introduced by patients.

The satisfaction rate of patients toward medical laboratory services in the study area is much lower than the study conducted in government teaching hospitals in Tehran by Akhtari-Zavare M et al in which 82% of the patients were satisfied [15], but the current study indicated higher patient satisfaction rate than similar study conducted in Tigray in which the patients` satisfaction rate was found to be 43.6% [16]. The possible justification for higher satisfaction rate might be due to focus of attention on laboratory services by Ethiopian ministry of health, 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 .The current finding is comparable to the finding reported from Ethiopia, Nekemte hospital , where 60.4% of patients were satisfied to laboratory services provided at Nekemte hospital[17].

Based on the finding, the patients` satisfaction level towards cleanness of waiting area was about 2.5 times more likely than (AOR: 2.5; 95% C.I.; 1.32-4.11) those patients who were unsatisfied to this service. The patients` satisfaction level towards TAT between 1-2 hours was about 5.3 times more likely than those ( AOR: 5.3; 95% C.I; 4.51-16.9) when compared to those patients waiting their laboratory results more than 2 hours which had statistically significant association ( P value=0.000) with patient satisfaction towards medical laboratory services. Patients` satisfaction level towards adequate information to collect specimen and when and how to receive laboratory results were about 7.6 times (AOR: 7.6; 95% C.I; 2.89-9.23; P value =0.002) and 8.1 times (AOR=8.1; 95%; 2.3-12.6; P value= 0.007) respectively more likely than those patients who had been unsatisfied to these services.

Respect from the laboratory personnel, adequate information to collect specimen, adequate information when and how to receive laboratory results as well as TAT less than 30 minutes and between 1 and 2 hours were the predictors for patients` satisfaction towards medical laboratory services.

**Conclusion:** Over all, the patients` satisfaction survey indicated that more than half of the respondents were satisfied with general medical laboratory services provided. However, there were some suggestions provided by respondents to be improved to provide overall satisfaction including adequacy of sitting arrangement and cleanness of waiting area. Customer satisfaction, particularly patients` satisfaction is the corner stone of medical laboratory medicine and it is one part of quality indicators. Thus, it is very essential to improve the quality of services provided in hospital laboratories in order to fulfill the expectation of patients**.**

**Competing interest:** There is no any conflict interest in publishing this paper from all the authors.

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**References**

1. Vinagre M, Neves J. The Influence of Service Quality and Patients' Emotions on Satisfaction. International Journal of Health Care Quality Assurance; 2008: 21(1): 87-103.
2. Donabedian A. "Methods for Deriving Criteria for Assessing the Quality of Medical Care. Med Care Rev; 1980: 37: 653–98.
3. World Health organization (WHO), Laboratory Quality Management System - Training toolkit, WHO/HSE/IHR/LYO/2009; World Health Organization, 2009.
4. Crosby B. Quality is free: the art of making quality certain. New York (NY): McGraw-Hill; 1979.
5. Larsen E, Rootman I. Physicians' role performance and patients' satisfaction. Social Science Medicine; 1976: 10: 29-32.
6. Bhargava A, Thakur A, Mishra B, Taneja J, Dogra V, Loomba P. "Patient satisfaction survey of microbiological tests done in G.B. Pant Hospital". Inter J Health Care Qual ; 2012: 25(7):555-64
7. Institute of Medicine (IOM) Medicare: A Strategy for Quality Assurance. KN Lohr (Ed.) Washington, DC: National Academy Press, 1990.
8. Richard LS, and Ronald M.E. Lessons from Theory & Research on Clinician-Patient Communication In: Karen G., Barbara K.R, K.Viswanth (eds.) Health Behavior and Health Education; Theory, Research, and Practice 4th edition. Jossey Bass; 2008: 11: 236-269.
9. Lochoro P. Measuring Patient Satisfaction in UCMB Health Institutions, Health Policy and Development. UMU Press; 2004: 2 (3) : 243-248.
10. Jones BA et al.; College of American Pathologists. Physician satisfaction with clinical laboratory services: a College of American Pathologists Q-probes study of 138 institutions. Archives of Pathology & Laboratory Medicine; 2009: 133:38–411.
11. Oja PI, Kouri TT, and Pakarinen AJ: From customer satisfaction survey to corrective actions in laboratory services in a university hospital. Int J Qual Health Care; 2006: 18(6):422–428.
12. Miller KA, Dale JC. Physicians' satisfaction with clinical laboratory services. Q-Probes (99-03). Northfield, Illinois, College of American Pathologists: 1999:1–10.
13. Meek KA, customer Service in Health Care Optimizing Your Patient's Experience, First printed in the November/December 2010 "Bulletin" 89 (6) 32
14. Oche, MO , Raji MO, Kaoje, AU, Gana G, Ango JT, Okafoagu N, Adamu H, et al, Clients' satisfaction with anti retroviral therapy services in a tertiary hospital in Sokoto, Nigeria, J. AIDS HIV Res; 2013: 5( 9): 328-333.
15. Akhtari-Zavare M, Abdullah MY, Said SB, Kamali M: Patient Satisfaction:Evaluating Nursing Care for Patients Hospitalized with Cancer in Tehran Teaching Hospitals, Iran. Global J Health Sci ;2010, 2(1):117–126.
16. Adane G: Assessment of client satisfaction in outpatient department of zonal hospital of Tigray, Ethiopia. [MPH thesis]. Addis Ababa University; 2006. 2001; 15:179–184.
17. Geletta T, Eyasu E, Mikias D. Patients Satisfaction on Clinical Laboratory Services at Nekemte Referral Hospital, Oromia, Ethiopia. Food Science and Quality Management; 2014:30:25-30.