



Institutional factors for customer satisfaction for laboratory services in a tertiary hospital

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DOI: 10.48047/ecb/2023.12.sa1.550

Abstract:

Introduction: Institutional factors for customer satisfaction of health services depict the extent to which individuals feel about the services rendered by the healthcare system. Moreover, the judgment of patient is the manifestation of the fulfillments of their expectations. This category of factors include quality of services, cost effectiveness, timeliness, cleanliness, availability of onsite basic facilities, behavior and attitude of personnel dealing with patients and other onsite services rendered by the hospitals. The assessment of customer satisfaction of institutional factors will help healthcare system to make required changes.

Objectives: The present study is aimed to assess the satisfaction level of patients availing laboratory services rendered by the central Biochemistry lab in a tertiary medical college hospital and to associate the same with the institution based factors contributing to their satisfaction.

Methodology: The cross sectional study is based on a random sample of 330 patients availing services of Biochemistry laboratory in a tertiary hospital. The questionnaire based survey method used Likerts' scale technique to assess satisfaction level on different institutional factors. The simple frequencies against each points on the scale and corresponding percentages were worked out.

Results: Total satisfaction was reported by 84.8% patients for cleanliness and hygiene at sample collection point, by 76.7% patients for behavior of staff at report collection point, by 90.16% patients for time spent at sample collection point, by 69.39% patients for cost incurred for the test, by 73.03% patients for turnaround time and by 90% patients for availability of dustbins as amenities provided by the hospital. The low rate of total satisfaction on cleanliness and hygiene of toilets (22%) and about 20.4% patients reporting the same as either dissatisfied or totally dissatisfied indicates the need to take immediate steps to rectify the situation.

Summary: The patients were highly satisfied with the cleanliness and hygiene at all point except toilets. Majority of the patients were totally satisfied with the behavior of staff, time spent for the test, cost of test, quality of laboratory services and amenities and facilities available at laboratory site.

Keywords: *health services, manifestation of the fulfillments, laboratory services, cleanliness and hygiene*

Introduction:

In a business oriented system, goods and services produced by the producers are made available to the customers to satisfy their needs. Producers of goods and services are on the supply side with the motto of earning profit for the investment made by them in the business. Customers/consumers of goods and services are on the demand side by spending money to satisfy their needs. The demand supply forces are crucial for the growth and development of the business. The new economic regime leading to increased liberalization and privatization of health services made it possible for the private sector to play a major role in clinical and non-clinical health services in India. It has lead to horizontal and vertical expansion of health services both in urban and rural areas. It also paved way for more competition in supply of health services with better quality, equity and cost effectiveness to some extent. The patient's level of satisfaction has been an important factor of consideration for health management system to identify gaps

and causes of dissatisfaction among patients. Hence the study of patient's perception and level of satisfaction prompted to build quality improvement in health care system. Moreover, the healthcare regulators have been shifted to a more market linked approach that will yield better patient's satisfaction and will motivate quality improvement tool to boost overall organizational performance. Diagnostics are essential in improving the patient care and help in reducing the healthcare expenses thus, solving the major economical issues related to health sector. In this context, Biochemistry laboratories holds a crucial edge in the healthcare organizational system as the series of test facilities available in Biochemistry labs helps the physicians and other specialists to diagnose and prescribe appropriate treatments based on the evidences from the laboratory tests.

The patient's satisfaction is comprised of many factors expressed as attitudes and perceptions regarding the healthcare services. It depicts the extent to which individuals feel about the services rendered by the healthcare system. Moreover, the judgment of patient is the manifestation of the fulfillments of their expectations. The same depends on the expectations of the patients and their actual experience with the services rendered by the hospitals. The level of satisfaction of the laboratory service availed by the patients can be perceived through two distinct approaches, one based on factors from service provider's side and the other through factors based on service receiver's side. The former category of factors prompting the level of patient's satisfaction on hospital laboratory services may include quality of services, cost effectiveness, timeliness, cleanliness, availability of onsite basic facilities, behavior and attitude of personnel dealing with patients and so on. The latter category of factors is associated with socio- demographic factors of the patients which determine the level of expectation of service seeking patients. With the patient centered approach, healthcare institutions can increase the patient's satisfaction levels with better amenities and facilities and being focused in improving the quality of health services. In the present study, efforts have been made to assess the level of satisfaction of patients at various points of the institution rendering laboratory services to patients.

Objectives:

The present study is aimed to assess the satisfaction level of patients availing laboratory services rendered by the central Biochemistry lab in a tertiary medical college hospital and to associate the same with the institution based factors contributing to their satisfaction.

Methodology:

A cross sectional study was conducted on patients attending clinical biochemistry laboratory of a private medical college. The study was conducted on 330 selected patients or their attendants who visited the laboratory. The type of sampling method was systematic random sampling from patients visiting the Biochemistry laboratory. About 9900 patients (N) were expected to visit biochemistry laboratory during two months (60 days) to have sample of size 330 (n). The K factor to select the random start ($N/n=K$) was worked out to be 30. A member 11 was randomly selected as the first sample or random start of the first day. The subsequent patients at 41th, 71th, 101th were included in the study till 330 sample were covered.

The interview method by using a suitably structured questionnaire was used for collecting the level of satisfaction on different aspects of laboratory services rendered to the selected patients. The questionnaire was closed ended type prepared to measure satisfaction level of patients availing services of different laboratory tests for diagnoses and treatments by the concerned doctors of clinical departments. The patients or their attendants were initially asked to provide their personal details and then to rate their opinion on five point Likert scale ranging from very satisfied to very dissatisfied.

The first part contained the basic information like registration number, age, sex, marital status residence, education status, occupation, number of visits, place of stay, distance from hospital, department by which the patient was referred, etc.

The second part comprised of rating the satisfaction on Likert scale which covered aspects like cleanliness and hygiene at sample collection point, behavior of staff, time taken in getting the report, cost of the test, quality of services and required essential facilities at the sample collection point. Cleanliness and hygiene was rated for waiting area, toilets, sample and report collection point; behavior of the staff was rated for

staff engaged at reception, technical, sample and report collection point; timeliness covered time taken at sample collection point to receipt of test reports; the cost covered was the payment made for the prescribed tests. Quality of services consisted of components like availability of prescribed test, outsourcing the test if not available in the laboratory and turnaround time, confidentiality of test results, quality of report with reference range, efficiency of laboratory and other staff, information and guidance given by staff etc. Lastly, the facilities in the laboratory included components like dustbins, drinking water, sitting arrangements, sign boards within the premises and toilets.

The numerical scores for different levels of satisfaction as per Likert scale ranged from 1 to 5 where 1 stands for completely dissatisfied situation and 5 for completely satisfied situations. Mean scores, percentages, statistical test of significance and chi-square test were calculated using options available on Excel and on line options for different statistical tests.

Results

Profile of sample respondents: The distribution of respondents according to age group visiting clinical biochemistry laboratory was (i) less than 20 years age 6%, (ii) 21-40 years 17% (iii) 41-60 years 67% and lastly (iv) more than 60 years 10% respectively. The distribution of respondents according to gender was 44% male and 56% female and according to residence were 45% urban and 55% rural respectively. The distribution of respondents according to education level was primary or below 37%, upto secondary 47% and above secondary 16%. According to occupation, 5% respondents were farmers, 29% were in services, 28% in business and 34% were house wives. In terms of number of visits of the respondents to the selected hospital, for 43% it was first visit, 36% second visit and for the remaining 21% visited three or more times. The distribution of respondents according to domicile revealed that 26% were from the same district, 25% were from same state but other districts and remaining 49% from neighboring states. About 44% respondents came from distances less than 150 km and remaining 56% came from distances more than 150 km from the hospital. The referred Departments for testing of patients included (i) Medicine covering general medicine, Psychiatric, TB & chest and Neuro-Medicine-48% (ii) Department of Surgery covering General Surgery, Orthopedics, ENT and Neuro-Surgery- 27% (iii) Obstetrics & Gynecology - 16% and (iv) Pediatrics -9%.

Level of Satisfaction: The various aspects of the service providing laboratory were identified on which the service availing patients normally apply their mind and develop their perception. The level of satisfaction on these components was ascertained using Likert scale. The results are discussed below.

(i) Cleanliness and Hygiene

The table No. 1 shows the number of patients according to their satisfaction level on the state of cleanliness and hygiene at different points in the laboratory.

Table No. 1 Participants satisfaction level for the state of cleanliness and hygiene with laboratory services at PIMS hospital

Particulars	Totally Satisfied		Satisfied		Neutral		Dis satisfied		Totally Dis Satisfied	
	No.	%	No.	%	No.	%	No.	%	No.	%
Waiting area	234	70.9	32	9.69	22	6.66	21	6.36	21	6.36
Sample Collection point	280	84.8	46	13.9	2	0.61	1	0.30	1	0.30
Toilet	74	22.42	179	54.2	30	9.09	34	10.30	33	10

Report collection point	232	70.30	37	11.2	25	7.57	32	9.69	34	10.30
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The completely satisfied score was highest for sample collection point out of all the spots like waiting area, sample collection area, toilets and report collection point with 85% respondents rating it as totally satisfied. However toilets were scored as totally satisfied by only 74 (22%) respondents. Patients who were totally satisfied with cleanliness of the waiting area were 64.8%.

(ii) Behavior of Laboratory Staff

Behavior is the way in which one acts on conducts oneself, especially towards others. Hence it was decided to see the satisfaction of customers on behavior of staff towards patients coming for investigations at different points. The results are tabulated in table 2.

Table 2: Participants satisfaction level for behavior of laboratory staff

Particulars	Totally Satisfied		Satisfied		Neutral		Dis satisfied		Totally Dis Satisfied	
	No.	%	No.	%	No.	%	No.	%	No.	%
Waiting area	261	79.0	32	9.69	13	3.93	12	3.63	12	3.63
Sample Collection point	262	79.3	27	8.18	25	7.57	24	7.27	22	6.66
Report collection point	254	76.9	23	6.96	18	5.45	13	3.93	12	3.93

The number and percentage according to satisfaction level on behavior of laboratory staff at different points in the laboratory. About 79% patients were totally satisfied with behavior of reception staff followed by 9.69% satisfied, 3.93 % neutral, 3.63 % dissatisfied and 3.63 % totally dissatisfied. The behavior of laboratory staff at sample collection point showed that 79.3% patients were totally satisfied with the attitude of sample collection technicians which was followed by 27 (8.18 %) satisfied, 25 (7.57 %) neutral, 24 (7.27 %) dissatisfied and 22 (6.66 %) totally dissatisfied. About 77% patients reported that they were totally satisfied with the behavior of staff at report collection point staff which was followed by 6.96 % satisfied, 5.45 %, neutral, 3.93 % dissatisfied and 3.93 % totally dissatisfied.

(iii) Timeliness and Cost of Laboratory Services

The time factor and cost factor of services are important for determining the level of satisfaction. The availability of services within the expected time frame implies promptness or timeliness. The impact of factors like timeliness and cost pave to the level of customer satisfaction. The table 3 depicts the number of customers according to the different level of satisfaction of laboratory services with respect to timeliness and cost of services.

Table 3: Participants satisfaction level for timeliness and cost of laboratory services

Particulars	Totally Satisfied		Satisfied		Neutral		Dis satisfied		Totally Dis Satisfied	
	No.	%	No.	%	No.	%	No.	%	No.	%
Rate of tests	229	69.39	38	11.5	30	9.09	25	7.57	28	8.48
Before sample	299	90.16	09	2.73	15	4.55	04	1.21	03	0.91

collection										
To process test	250	75.75	20	6.06	25	7.57	13	3.93	12	3.63
Report collection	228	69.09	25	7.57	28	8.48	24	7.27	25	7.57

As far as cost of tests for different investigations is concerned, 69.39% patients were totally satisfied followed by 11.5 % satisfied, 9.09 % neutral, 7.57 % dissatisfied and 8.48 % totally dissatisfied. The laboratory staff at reception counter give token number to the patients on first comes first served basis at collection point. The results showed that patient who were totally satisfied with the time waiting before the sample collection were 299 (90.6 %) which was followed by 9 (2.73%) satisfied, 15 (4.55%) neutral, 4 (1.21 %) dissatisfied and 3 (0.91 %) totally dissatisfied. In private hospitals the staff are controlled and watched by managers and lab in-charges. The results showed that the patients who were totally satisfied with the time consumed for test processing were 250 (75.75 %) which was followed by 20 (6.06 %) satisfied, 25 (7.57 %) neutral, 13 (3.93 %) dissatisfied and 12 (3.63 %) totally dissatisfied. The patients spent time at report collection point also. The patient's rating for totally satisfied with timeliness of laboratory report collection were 228 (69.09 %) followed by satisfied 7.57 %, neutral 8.48 %, dissatisfied 7.27 % and those which totally dissatisfied were 7.57 %.

(iv) Quality of Laboratory Services

The standard of something as measured against other things of a similar kind, the degree of excellence of something is known as quality. Health care systems across world are focusing policy efforts on improving the quality of health care delivered to the population. Here efforts were made to review some key events that are essential factors of quality improvement. The table 4 shows the satisfaction level of quality of laboratory services which included- 1) Availability of test, 2) Out sourcing of tests, 3) Turnaround time, 4) Reception receipt centre, 5) Sample collection staff efficiency, 6) Confidentiality of test results, 7) Report dispatch point, 8) Well equipped lab, 9) Efficient lab staff and 10) Clear information by staff.

Table 4: Patient's satisfaction level of Quality of laboratory services

Particulars	Totally Satisfied		Satisfied		Neutral		Dis satisfied		Totally Dis Satisfied	
	No.	%	No.	%	No.	%	No.	%	No.	%
Availability of test	229	69.83	27	8.18	22	6.66	28	8.48	24	7.27
Outsourcing of tests	229	69.39	26	7.87	30	9.09	22	6.66	23	6.96
Turnaround time	241	73.03	25	7.57	22	6.66	21	6.36	21	6.36
Reception receipt	241	73.03	26	7.87	29	8.78	22	6.66	22	6.66
Sample collection	218	66.06	36	10.90	30	9.09	22	6.66	24	7.27
Confidentiality of your result	221	66.9	35	10.6	29	8.78	22	6.66	23	6.96
Report dispatch point	209	63.33	35	10.60	32	9.69	29	8.78	25	7.57
Well equipped lab	220	66.66	27	8.18	25	7.57	32	9.69	26	7.87
Efficient lab staff	227	68.78	26	7.87	26	7.87	28	8.48	23	6.96
Clear information by staff	220	66.66	31	9.39	25	7.57	30	9.09	24	7.27

The patients who were totally satisfied with availability of tests were 229 that is 69.03 % followed by 8.18 % satisfied, 8.48 % dissatisfied and 7.27 % totally dissatisfied, 6.66 % neutral.

The results showed that patient who were totally satisfied with the out sourcing of tests were 229 (69.39 %) which was followed by 26 (7.87 %) satisfied, 30 (9.09 %) neutral, 22 (6.66 %) dissatisfied and 23 (6.96) totally dissatisfied. It was noted that patients who were totally satisfied with the turnaround time for the processing the tests process were 241 (73.03 %) which was followed by 25 (7.57 %) satisfied, 22 (6.66 %) neutral, 21 (6.36 %) dissatisfied and 21 (6.36 %) totally dissatisfied. The patient's rating for totally satisfied with reception receipt point were 241 (73.03 %) followed by satisfied 7.87 %, Neutral 8.78 %, Dissatisfied 6.66 % and those which totally dissatisfied were 6.66 %. The patients who were totally satisfied with the sample collection were 218 (66.06 %) followed by 10.90 % satisfied, 9.09 % neutral, 6.66 % dissatisfied and 7.27 % totally dissatisfied. The results showed that patient who were totally satisfied with the confidentiality of result were 221 (66.9 %) which was followed by 35 (10.6 %) satisfied, 29 (8.78 %) neutral, 22 (6.66 %) dissatisfied and 23 (6.96) totally dissatisfied. It was noted that patient who were totally satisfied with the report dispatch point were 209 (63.33 %) which was followed by 35 (10.60 %) satisfied, 32 (9.69 %) neutral, 29 (8.78 %) dissatisfied and 25 (7.57 %) totally dissatisfied. Patient's rating as totally satisfied with equipped laboratory were 220 (66.66 %) followed by satisfied 8.18 %, neutral 7.57 %, dissatisfied 6.69 % and those which totally dissatisfied were 7.87 %. It was noted that patient who were totally satisfied with the efficient staff were 227 (68.78 %) which was followed by 26 (7.87 %) satisfied, 26 (7.87 %) neutral, 28 (8.48 %) dissatisfied and 23 (6.96 %) totally dissatisfied. It was noted that patient who came to the lab were given clear information about the questions asked by patients. The patients who were totally satisfied were 220 (66.66 %) which was followed by 31 (9.39 %) satisfied, 25 (7.57 %) neutral, 30 (9.09 %) dissatisfied and 24 (7.27 %) totally dissatisfied.

(v) Facilities and Amenities at laboratory

In health care industries day care services, 24X7 pharmacy, ambulance, clinical laboratory services etc are important facilities. Laboratory services are important and patients coming to the laboratory are provided with facilities like proper sitting arrangement at the waiting place, proper dustbins placed at waiting area, sample collection room and so, cleaned toilets and cool drinking water and sign boards and indication which helps the patients and attendants to understand and reach the place easily. Table 5 shows satisfaction levels for facilities provided like 1) Dusbins present, 2) Sitting arrangement, 3) Toilets and drinking water, 4) Proper sign boards.

Table 5: Participants satisfaction level for the facilities at the laboratory services

Particulars	Totally Satisfied		Satisfied		Neutral		Dis satisfied		Totally Dis Satisfied	
	No.	%	No.	%	No.	%	No.	%	No.	%
Dustbins	297	90.00	12	3.64	09	2.73	08	2.42	04	1.21
Sitting arrangement	287	86.97	12	3.64	09	2.73	06	1.82	04	1.21
Toilets & drinking water	283	85.76	22	6.67	07	2.21	15	4.55	05	1.52
Proper indication or sign boards	289	87.58	10	3.03	05	1.52	15	4.55	11	3.33

Patient who were totally satisfied with the availability of dustbins were 297 (90 %) followed by 3.64 % satisfied, 2.73 % neutral, 2.42 % dissatisfied and 1.21 % totally dissatisfied. The patients who were totally satisfied with the sitting arrangement were 228 (86.97 %) which was followed by 12 (3.64 %) satisfied, 9 (2.73 %) neutral, 6 (1.82 %) dissatisfied and 4 (1.21 %) totally dissatisfied. It was noted that patients who were totally satisfied with the facilities were 287 (86.97 %) which was followed by 22 (6.67 %) satisfied, 7 (2.21 %) neutral, 15 (4.55 %) dissatisfied and 5 (1.52 %) totally dissatisfied. Patient rating for totally satisfied with facilities of proper indications present and sign boards were 289 (87.58 %) followed by

satisfied 3.03 %, neutral 1.52 %, dissatisfied 4.55 % and those which totally dissatisfied were 3.33 %.

Summary

The patients were highly satisfied with the cleanliness and hygiene at all point except toilets. Majority of the patients were totally satisfied with the behavior of staff, time spent for the test , cost of test, quality of laboratory services and amenities and facilities available at site.

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