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A study on analyzing the service quality in the outpatient services at Apollo Hospitals, Vanagaram, Chennai

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***Abstract*---**Hospitals are the most important medical and therapeutic institution as it provides medical and hygiene services to the population. The main aim for the hospitals is to give complete healthcare, both curative and preventive, it also helps in giving training to the health workers and bio-social research. Hence it is important to give quality service. It is important to know what customers expect from the services. Service quality has been variously defined as focusing on meeting the needs and requirements, and how well the service delivered matches customers' expectations. Researcher focuses on these services and what the customers expect and what the problems faced by them. The outpatient services are analyzed and the problems or the gaps are identified. A sample size of 130 patients from the outpatient department is selected through simple random sampling method. The primary data is collected through questionnaires. This study helps in bridging the gap and eliminate the problems and complaints from the outpatient department

***Keywords*---**customer satisfaction, service quality, hospital, outpatient department.

Introduction

Health care is rapidly growing and it has gained much attention from researchers and practitioners worldwide. Due to the increasing cost, many hospitals attempt to adopt quality initiatives such as Lean and Six Sigma to improve their service

operations. Implementing such process improvement efficiently and effectively would help in delivering the highest value to customers.

The items in SERVQUAL are grouped into seven distinct dimensions including:

- ❖ Reliability: The ability to perform the promised service dependably and accurately
- ❖ Responsiveness: Willingness to help the customers and provide them with prompt services.
- ❖ Assurance: Knowledge and courtesy of employees along with their ability.
- ❖ Empathy: Care, individualized attention the firm provides to the customers
- ❖ Tangibility: Physical facilities like furniture, equipment, and appearance of personnel
- ❖ Accessibility: Location and adequate parking facilities
- ❖ Affordability: Charges for the service rendered

SERVQUAL is a management tool to identify the gaps that can cause unsuccessful delivery.

GAP 1: Gap between the expectation of the consumer and management perception
GAP 2: Gap between perception of the management and the specification of service quality
GAP 3: Gap between the specifications of service quality and service delivery
GAP 4: Gap between the communication externally and the service delivery
GAP 5: Gap between the experienced service and the expected service

Objectives

- To study the reliability, tangibility, accessibility, responsiveness and affordability of service quality provided to the outpatient department.
- To review the importance and impact of service quality.
- To find the most important dimension of service quality that affects the customer satisfaction in hospital.
- To study the need of the patient and to analyze the gap between the expected and the actual needs.
- To study the effectiveness of empathy and assurance given to the patient by the employees.

Research Methodology

Area of research

Area of the research is the outpatient department. The courtesy of the staffs towards the patients are studied along with the seven dimensions in service quality.

Research Design

This research is descriptive research. It is used to describe the characteristics of a population or phenomenon being studied. Here questionnaires are given to the patients who come as outpatients.

Sources of data

Data collection from secondary source

The data is collected from the department of Guest Relations

Data collection from primary source

The data is collected through questionnaires and through observation. The data is also got by interacting with the staffs and patients in the hospital.

Period of study

This research is carried out for two months at Apollo Specialty Hospital, Vanagaram.

Sampling Techniques

The sampling technique used here is the probability method.
From the probability method the simple random sampling method is chosen.

Methods

In this method each item of the data from the population has the same probability of being selected in the sample. The selection is made with random numbers.

Sample Size

For the research 130 patients from the outpatient department are taken.
The total samples taken are 130

Scaling technique

The scaling technique used in this research is the non-comparative scaling. Itemized rating scale is used in which the odd/even scale is used.

Statistical Tools

- Weighted Average
- Chi square
- Gap Analysis

Quality Tool

- Pareto Chart
- Fishbone Diagram

Hypothesis

A null hypothesis conflicts with an alternative hypothesis, and these are decided between the basis of data, with certain error rates. The following are used in the research

H_0= There is no evidence of a significant association between the response and the number of visits
H_1= There is evidence of a significant association between the response and the number of visits
The above hypothesis is solved by chi square.

Limitations

Although this research was carefully prepared, still there are certain limitations and shortcomings.

1) The research was conducted to find the service quality of the hospital and lasted for 2 months.
2) The Inpatient areas could have been covered if there was more time.
3) The population of the experimental group is small, only 130 patients were taken. Due to the covid-19 there were restrictions.
4) Patients coming to the hospital are illiterate which made it difficult for the collection of data from them through the questionnaire
5) Most of the patients were Bengalis hence could not collect data from them as there was a language problem.
6) Many of the patients did not return the questionnaire and many were not ready to fill the questionnaire

Review of literature

1. Jack A. Meyer, Sharon Silow-Carroll, Todd Kutyla, Larry S. Stepnick, and Lise S. Rybowski (2004) has said that all the Hospitals are searching for ways to improve quality of care and promote effective quality improvement. In this research study, the members have identified and described the key factors that contributed to the success of four high-performing hospitals across the country. The prime elements of a successful strategy, according to the study, include developing the right ways and ideas, attracting and retaining the right people, devising and updating the right in-house processes and giving staff all the right tools to do the job.[1]

[1] Jack A. Meyer, Sharon Silow-Carroll, Todd Kutyla, Larry S. Stepnick, and Lise S. Rybowski (2004) – "HOSPITAL QUALITY: INGREDIENTS FOR SUCCESS—OVERVIEW AND LESSONS LEARNED"

2. Nitin Seth and S.G. Deshmukh (2005) has said that the main purpose for this paper is to critically examine the different service quality models and to spot the issues or problems for the upcoming research based on critical inspection of the literature. This paper sophistically examines 19 different service quality models. The distinctive service quality model revealed that the outcome and measurement of these service quality are vulnerable on the type of factors like service setting, situation, time, need etc. Adjoining to these the customer's expectations towards a particular service is changing with respect to factors like time, increase in the number of appointments with a particular service, competitive environment, etc.[2]
3. M. Sadiq Sohail (2005) said that the Total quality management (TQM) has a great potential to address quality problems in a wide range of industries and improve the organizational performance. The continuous need to take actions initiated by the hospitals in developing countries like India and Iran to improve the service quality by reducing the wastage of resources has inspired the authors to develop a survey mechanism to measure the health care quality and performance in these two countries. The quality of services provided by the private hospitals in Malaysia were studied To determine the patients' expectations and perceptions of the quality of service, a comprehensive scale adapted from SERVQUAL is empirically calculated for its usefulness in the Malaysian hospital environment.[3]
4. Prattana Punnakitikashem, Nattapan Buavaraporn, Patchaya Maluesri1 and Kanokporn Leelartapin (2012) said that the purpose of this paper is to measure service quality of the hospital implementing Lean management. This paper evaluates or judges the patients' expectation and satisfaction pertaining to the hospital service quality. The data assembled or compiled from 450 patients are analyzed by using the SERVQUAL model. This model compares with the patients' perception and expectation of the service received across five dimensions of service quality including the reliability, responsiveness, assurance, empathy and tangibility. The outcome of the study has revealed that overall service quality score was positive, however, there was no significance difference between the overall patients' perception and expectation. The hospital is able to deliver the services as expected after implementing the lean service quality moderately. In this study the largest positive gap was seen between the patients' perception and the expectation in terms of tangibility. The largest gap was seen with respect to assurance. The findings helped the management team to understand areas of improvement in a better way.[4]
5. Khanchitpol Yousapronpaiboon, D.B.A and William C. Johnson, PhD (2013) this study was done to learn the aspects in judging the hospital services quality; to develop a tool for calculating the perceived service quality for hospitals; to test the accuracy, integrity and reliability of the new scale; and finally to use the results of the data collected to recommend improving

[2] Nitin Seth and S.G. Deshmukh (2005) – "International Journal of Quality & Reliability Management" Vol. 22 No. 9, Pg no. 913-949

[3] M. SadiqSohail (2005) – "Service quality in Hospitals, Managing service quality" Vol. 13, No 3 pp 197-206.

[4] Prattana Punnakitikashem, Nattapan Buavaraporn, Patchaya Maluesri1 and Kanokporn Leelartapin (2012)- "Health Care Service Quality: Case Example of a Hospital with Lean Implementation"

service quality. A cross-sectional field study was organized among the sample size of 400 hospital out-patients in Thailand. This study also focused on one outcome variable, i.e., overall service quality.[5]

Analysis and interpretations

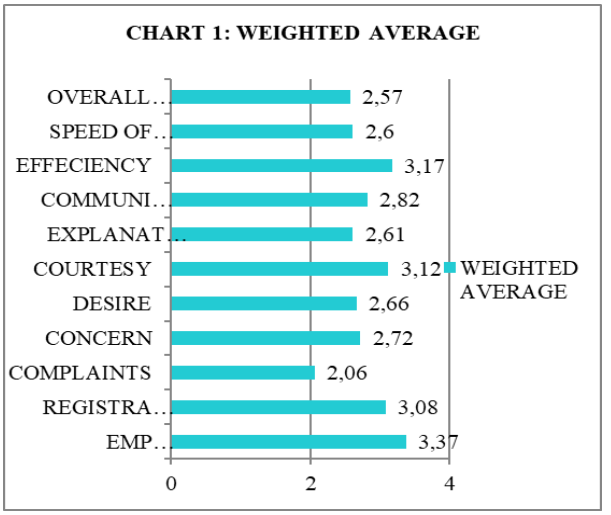
Weighted average

Analysis of the weighted average in outpatient department to the various responses

CATEGORIES	WEIGHTED AVERAGE
EMP PERFORMANCE	3.37
REGISTRATION PROCESS	3.08
COMPLAINTS	2.06
CONCERN	2.72
DESIRE	2.66
COURTESY	3.12
EXPLANATION	2.61
COMMUNICATION	2.82
EFFECIENCY	3.17
SPEED	2.6
OVERALL	2.57

Table 1: Weighted Average

The above table shows that the employee performance gives the highest Weightage of 3.37 towards the patient and the lowest Weightage of 2.06 for the speed of overall service to the patient in the hospital.



[5] Khanchitpol Yousapronpaiboon, D.B.A and William C. Johnson, PhD (2013)- "Out-patient Service Quality Perceptions in Private Thai Hospitals"

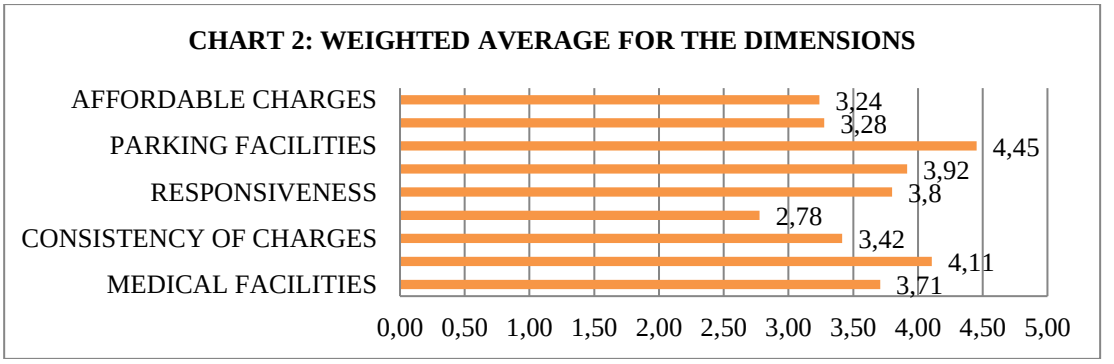
Analysis of the weighted average in outpatient department to the various responses based on the dimensions

Table 2: Weighted Average For The Dimensions

CATEGORIES	WEIGHTED AVERAGE
MEDICAL FACILITIES	3.71
ENVIRONMENT	4.11
CONSISTENCY OF CHARGES	3.42
SERVICES AT APPOINTED TIME	2.78
RESPONSIVENESS	3.8
TREATMENT WITH DIGNITY AND RESPECT	3.92
PARKING FACILITIES	4.45
ACCESSIBILITY OF LOCATION	3.28
AFFORDABLE CHARGES	3.24

Source: primary data

The above table shows that the patient gives the highest Weightage of 4.45 for the parking facilities in the hospital and the lowest Weightage of 3.24 for the affordability of charges in the hospital.



Quality tool

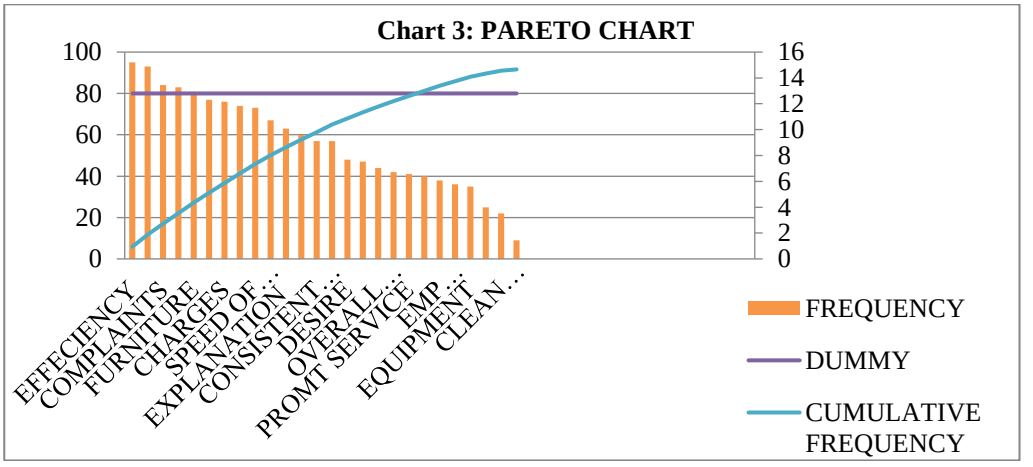
Pareto diagram

Table 3: Problems

PROBLEMS	FREQUENCY	PERCENTAGE	CUMULATIVE FREQUENCY	DUMMY
EFFECIENCY	95	0.95	0.95	80
BROUCHURES	93	0.93	1.88	80
COMPLAINTS	84	0.84	2.72	80
FEEDBACK	83	0.83	3.55	80
FURNITURE	80	0.8	4.35	80
LOCATION	77	0.77	5.12	80
CHARGES	76	0.76	5.88	80

TIME	74	0.74	6.62	80
SPEED OF SERVICE	73	0.73	7.35	80
COMPETENT	67	0.67	8.02	80
EXPLANATION	63	0.63	8.65	80
APPEARANCE	60	0.6	9.25	80
CONSISTENT CHARGES	57	0.57	9.82	80
COMMUNICATION	57	0.57	10.39	80
DESIRE	48	0.48	10.87	80
CONCERN	47	0.47	11.34	80
OVERALL SATISFACTION	44	0.44	11.78	80
COURTESY	42	0.42	12.2	80
PROMT SERVICE	41	0.41	12.61	80
REGISTRATION PROCESS	40	0.4	13.01	80
EMP PERFORMANCE	38	0.38	13.39	80
RESPONSIVE	36	0.36	13.75	80
EQUIPMENT	35	0.35	14.1	80
DIGNITY	25	0.25	14.35	80
CLEAN ENVIRONMENT	22	0.22	14.57	80
PARKING	9	0.09	14.66	80

Source: Primary Data



The main problems seen are the following

1. Efficiency of the staffs in the lab
2. No informative brochures are available about the service
3. No proper communication.
4. Feedbacks are not obtained from the patients
5. Not enough furniture in the patient area

If these problems are solved 80 percent of the problems get solved.

Servqual tool

Analysis on the perception and the expectation

Table 4: Analysis on the Perception and the Expectation

DIMENSION	EXPECTATION	PERCEPTION
TANGIBILITY	591.14	449.3
RELIABILITY	608	451
RESPONSIVE	584.75	439.25
ASSURANCE	534.5	373.3
EMPATHY	595.33	555.67
ACCESSIBILITY AND AFFORDABILITY	514.33	475.33

Source: Primary Data

The above table shows that the gap between the expected service and the perceived service is more in the dimension, reliability and assurance. The highest is the dimension empathy.

Gap analysis

Analysis on the average gap between customer expectation and their perception regarding various service features

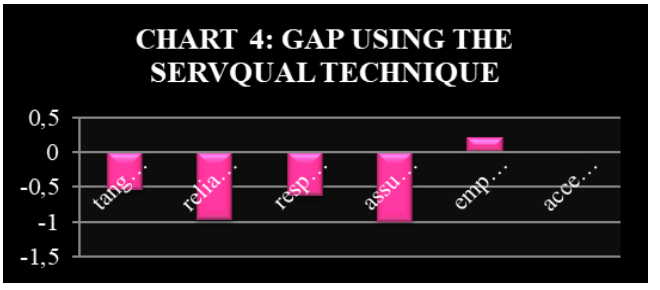
The researcher has made an attempt to analyze the average gap using the SERVQUAL technique in outpatient department to the various responses and the result is furnished below.

Table 5: The Average Gap Between Customer Expectation And Their Perception Regarding Various Service Features

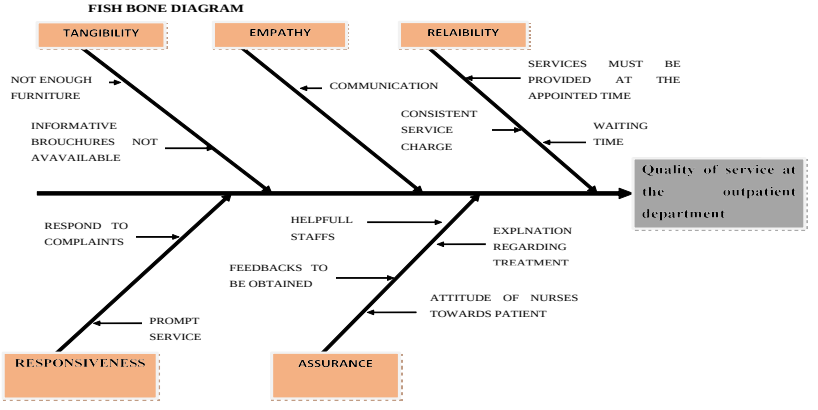
DIMENSIONS	GAPS	MEAN
TANGIBILITY		
Equipment	0.69	-0.55
Clean environment	-0.71	
Appearance	-0.30	
Brochures	-1.42	
Furniture	-2.09	
Employee performance	-1.12	
Privacy	1.11	
RELIABILITY		
Competent	-1.11	-0.97
Consistent charges	-1.27	
Time	-1.23	
Fast system	0.87	
Registration process	-1.54	

Waiting time	-1.51	
RESPONSIVE		
Prompt service	0.10	-0.62
Complaints	-2.29	
Responsive	-0.52	
Dignity	0.24	
ASSURANCE		
Concern	-0.81	-1.0
Desire	-0.49	
Courtesy	-1.44	
Explanation	-1.91	
Attitude	-0.63	
Feedback	-0.66	
EMPATHY		
Services	1.01	0.22
Communication	-0.36	
Specific need	0.00	
ACCESSIBILITY AND AFFORDABILITY		
Parking	0.94	0.03
Location	0.49	
Charges	-1.35	

Source: Primary Data



Fishbone Diagram



Chi Square Test

The following table classifies the response based on the number of times the patients visited to the hospital.

H_0= There is no evidence of a significant association between the response and the number of visits
H_1= There is evidence of a significant association between the response and the number of visits

Analysis of overall satisfaction by the patients by the number of times they have visited the hospital

The researcher has made an attempt to analyze the overall satisfaction by the patients and the result is furnished below.

Table 8: Chi Square Table

	EXTREMELY SATISFIED	SATISFIED	NEUTRAL	DISSATISFIED	EXTREMELY DISSATISFIED	TOTAL
1	0	25	2	0	0	27
2	0	21	8	0	0	29
3,5	0	27	3	0	0	30
MANY	0	44	0	0	0	44
TOTAL	0	117	13	0	0	130

Table 9: Solution Table

O	E	O-E	$(O-E)^2$	$(O-E)^2/E$
0	0	0	0	0
25	24.3	0.7	0.49	0.02
2	2.7	-0.7	0.49	0.18
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
21	26.1	-5.1	26.01	0.997
8	1.8	6.22	38.63	21.65
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
27	27	0	0	0
3	3	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
44	39.6	4.4	19.36	0.49
0	4.4	-4.4	19.36	4.4
0	0	0	0	0

0	0	0	0	0
130		1.115		27.734

Chi square=27.734
Degree of freedom= 12

The table value of chi square 12 degree of freedom at 5 percent level= 21.026

Conclusion

Since the calculated value of chi square is greater than the table value of chi square, H0 is rejected

Findings

From the research the following has found out

- 93 percent of patients responded that the parking facilities in the hospital are adequate.
- 90 percent of respondents are of the opinion that they are satisfied with the overall service of the hospital.
- 83 percent of the patients responded that the hospital has clean environment
- 81 percent of respondents felt that the treatment is done with dignity and respect. 19 percent respondents are of the opinion that the statement is neutral.
- 73 percent of respondents felt that the staffs in the hospital are responsive. 28 percent of respondents felt that they are average.
- 72 percent of respondents felt that they do not receive any informative brochures.
- 69 percent of the respondents felt that the staffs working in the labs are very effective.
- 68 percent of respondents are of the opinion that the hospital provides prompt service.
- 68 percent of respondents are of the opinion that the response for the complaints are very poor where 34 percent of respondents felt its fair but when they were asked more questions it was understood that they also feel it's poor.
- The highest gap scores are found to be assurance, reliability, responsiveness and tangibility.

Recommendations

- Furniture provided in the waiting halls must be more so that the patient and the Attender can sit and wait to consult the doctor
- Complaints from the patients must be heard without much delay and they must be corrected as soon as possible. A person can be recruited just to listen to the complaints of the patient.
- Feedbacks must be obtained from all the patients.

- Services must be provided at the appointed time for the patients. This can be done by allotting proper timings to them.
- Staffs must guide and help the patient to the desired department without any delay. Staffs must be ready to help the patient at all circumstances.
- Staffs must be prompt in communicating and ready to help whenever the patients ask for help. Staffs must be ready to help the patient at all circumstance
- Informative brochures about the treatment must be given to the patient or his Attender. The brochures can be placed in the departments which can be taken by the patient.
- Nurse attitude towards the patient must be improved as there is a gap between the expected and perceived. Nurses can be given training on it and they can attend workshops to be relived from their work stress.
- The waiting time for consulting the doctors can be reduced by increasing the number of doctors.

Conclusion

Service quality is very important for today's business, particularly in high-customer involvement industries like healthcare and financial services. Service quality enhances business performance, which underlies the widespread adoption of quality improvement initiatives in many service industries. Service quality improvement is done for achieving customer expectations and satisfaction as it has become a major challenge for service industries.From this study it's understood that the dimensions, assurance, accessibility and affordability is highly satisfied by the customer.

It is also found that the patients are treated with dignity and respect and there is privacy maintained during the treatment. The hospital has a fast retrieval of documents which makes the patient happy. The findings from the data collected revealed that the hospital has clean and comfortable environment with good housekeeping staffs. From the study it was understood that doctors and staffs in the hospital are professional and competent. Further study can be extended with larger population and the research can be carried out in-depth.

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