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ORIGINAL ARTICLE

A STUDY TO ASSESS THE SERVICE QUALITY OF A TERTIARY HOSPITAL ON THE BASIS OF PATIENT SATISFACTION USING SERVICE QUALITY (SERVQUAL) TECHNIQUE

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Pushpam. J. Chundamalai[1], Chanchala Jain[2], Sibi Thomas[3], Arya K. J[4]

Corresponding Author:
[1]Assistant Professor, Department of Hospital Administration, Division of Health Management, School of Medical Education, Centre for Professional and Advanced studies, Gandhinagar P.O., Kottayam, Kerala, India. Mail Id: pjnasha55@gmail.com

Co Authors:
[2]Assistant Professor, Prestige Institute of Management and Research, Indoor
[3]Prof. Professor and HOD, Department of Hospital Administration, Division of Health Management, School of Medical Education, Centre for Professional and Advanced studies, Gandhinagar P.O., Kottayam, Kerala, India
[4]Department of Hospital Administration , School of Medical Education Centre For Professional And Advanced Studies Gandhinagar Kottayam, Kerala

ABSTRACT

Background of the Study: One of the healthcare facilities where health initiatives are carried out is a hospital, which provides a variety of trained and qualified staff with the ability to handle medical issues for the recovery and preservation of good health. In this situation, the user of hospital services needs high-quality care that addresses. Objectives of the study are to assess the service quality of the hospital on the basis of patient satisfaction using Servqual technique. **Methodology:** In this research design it includes facts finding enquiries of different kinds. The major purpose of the descriptive research is for the description of state of affairs, as it exists at present. Primary source of data collected from the Patients of Indira Gandhi Co-operative Hospital, Kochi. Data are collected through questionnaires. Secondary source of data is from Healthcare journals, magazines, Internet and webinars. A total of 150 samples were taken from the population. **Result:** From the study it is found that most of the patients show a high degree of agreement towardsthe quality of service provided by the hospital and there is a very strong positive relation between service quality and patient satisfaction at Indira Gandhi Co-operative hospital, Kochi. **Conclusion:** Regular feedback collection and analysis can help identify areas for improvement, ensuring that patients receive the best possible care and have positive experiences with healthcare services. Ultimately, a satisfiedpatient is more likely to adhere to treatment plans, recommend the facility to others, and contribute to better health outcomes.

Keywords: Service Quality, Patient Satisfaction, SERVQUAL, Donabedian Model.

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INTRODUCTION

The quality of healthcare services has long been a subject of concern for both private and public healthcare service providers across the globe. Service providers are progressively facing a wide range of social, financial, political, regulatory and cultural challenges, associating with demands for greater efficiency, better quality, and lower costs. Health care institutions have to go beyond a medical view and replace it with a holistic social approach to healthcare. Precise diagnosis and treatment are not enough, patients will be looking for performance for services they are rendered. The interaction between service provider and customer is the primary core of the service businesses of different natures[1-3].

In the process of service delivery, replacing the simple concept of medical service quality with the concept of interpersonal-based medical service encounters will enhance the dynamic nature and specificity of connotation. Therefore, in recent research, the original service quality studies were replaced by the interpersonal interactive connotation of service encounters. However, past studies of the service industries focused mainly on such areas as how to establish long-term seller-buyer relationships, consumer behaviors or customers' satisfaction with the service quality [4,5].

Methods to Assess and Improve: The Donabedian model is a common framework for assessing health care quality and identifies three domains in which health care quality can be assessed: structure, process, and outcomes. All three domains are tightly linked and build on each other. Improvements in structure and process are often observed in outcomes. Some examples of improvements in process are: clinical practice guidelines, analysis of cost efficiency, and risk management, which consists of proactive steps to prevent medical errors[6].

Organizational Perspective

Cost efficiency: Cost efficiency, or cost-effectiveness, determines whether the benefits of a service exceed the cost incurred to provide the service. A health care service is sometimes not cost efficient due to either overutilization or underutilization. Overutilization, or overuse, occurs when the value of health care is diluted with wasted resources. Consequently, depriving someone else of the potential benefits from obtaining the service. Costs or risks of treatment outweigh the benefits in overused health care. In contrast, underutilization, or underuse, occurs when the benefits of a treatment outweigh the risks or costs, but it is not used. There are potential adverse health outcomes with underutilization. One example is the lack of early cancer detection and treatment which leads to decreased cancer survival rates [7, 8].

Clinical pathways: Clinical pathways are outcome-based and patient-centered case management tools that take on an interdisciplinary approach by "facilitating coordination of care among multiple clinical departments and caregivers". Health care managers utilize clinical pathways as a method to reduce variation in care, decrease resource utilization, and improve quality of care. Using clinical pathways to reduce costs and errors improves quality by providing a systematic approach to assessing health care outcomes. Reducing variations in practice patterns promotes improved collaboration among

interdisciplinary players in the health care system [9, 10].

Staffing: Research in care homes in England has shown that an organization's staffing strategy can have an impact on the quality of care. More vacant positions in staff, for example, can lead to a worse rating by the Care Quality Commission (CQC). Also, better staff retention and improving work conditions can lead to higher quality care [11].

Health professional perspective: The quality of the health care given by a health professional can be judged by its outcome, the technical performance of the care and by interpersonal relationships.

Outcome" is a change in patients' health, such as reduction in pain, relapses, or death rates. Large differences in outcomes can be measured for individual medical providers, and smaller differences can be measured by studying large groups, such as low- and high-volume doctors. Significant initiatives to improve healthcare quality outcomes have been undertaken that include clinical practice guidelines, cost efficiency, critical pathways, and risk management[12].

Clinical practice guideline: "Technical performance" is the extent to which a health professional conformed to the best practices established by medical guidelines. Clinical practice guidelines, or medical practice guidelines, are scientifically based protocols to assist providers in adopting a "best practice" approach in delivering care for a given health condition. Standardizing the practice of medicine improves quality of care by concurrently promoting lower costs and better outcomes. The presumption is providers following medical guidelines are giving the best care and give the most hope of a good outcome. Technical performance is judged from a quality perspective without regard to the actual outcome - so for example, if a physician gives care according to the guidelines but a patient's health does not improve, then by this measure, the quality of the "technical performance" is still high. For example, a Cochrane review found that computer generated reminders improved doctors' adherence to guidelines and standard of care; but lacked evidence to determine whether or not this actually impacted patient centered health outcomes [13, 14].

METHODOLOGY

Problem Statement: A study to assess the Service quality of a tertiary hospital on the basis of Patient satisfaction using Service quality (SERVQUAL) technique.

Objectives of the Study: Assess the service quality of the hospital on the basis of patient satisfaction using SERVQUAL technique. To study the service quality dimensions that is important to the patients. Also to assess the patients' perceptions from healthcare service quality. To investigate the relationship between perceived service quality and patient satisfaction

Research Design: A research design is the arrangement of condition for collection and analysis of data in a manner that aims to combine relevance to the research to the research purpose with economyin procedure.

Research design of the study is descriptive. In this research design it includes facts finding enquiries of different kinds. The major

purpose of the descriptive research is for the description of state of affairs, as it exists at present.

Secondary Data: Secondary data are collected by others for some others purpose and is used by the investigator for the purpose of investigation. These sources include hospital records, books, Internet, and journals.

Sampling Design: A sampling design is definite for obtaining a sample from a given population. The sampling design used in this study is convenient sampling method. Convenience sampling is a non- probability sampling method where units are selected for inclusion in the sample because they are the easiest access.

Sample Size: Total of 150 samples was taken from the inpatients of the General wards, Surgery, Obstetrics and Gynecology, Oncology and Cardiology were only considered. The patients above 17 years and up to 76 were taken. Both male and female patients were included.

Inclusion Criteria: Total 150 samples were taken from the population of average. Inpatients of the General wards, Surgery, Obstetrics and Gynaecology, Oncology and Cardiology were only considered. The patients above 17 years and up to 76 years were taken. Both male and femalepatients were included.

Exclusion Criteria: Outpatients are excluded. Patients below 17 years and above 76 years were excluded. Wards other than the General wards, Surgery, Obstetrics and Gynaecology, Oncology and Cardiology were excluded.

Pilot Study: The pilot study was conducted on population of 5 patients. The study was effective and feasible

Validation and Standardization: Data collection is done through personal interview and questionnaire method. Format of data collection is validated by the project guide, hospital HR Manager and Ethical committee.

Tools and Technique: Tool used to conduct the study is questionnaire method. Investigator collects the data through convenient sampling method. Questionnaire: A structured questionnaire is administered by the researcher to the respondents for collecting data.

DISCUSSION

In this section the Researcher describes, analyses, and interprets the findings. And also explaining the significance of those results and compares them with previous studies, identifies limitations, and suggests future directions for research.

Interpretation: In the Responsiveness section 78% of the patients strongly agreed to the statement 9(Keeping patients informed about when services will be performed).But only 39% strongly agreed to the statement 7 (Error-free and fast retrieval of documents at the ward).The correlation value obtained for this section is 0.861, which shows a very strong positive correlation.

In the Assurance section 44% agreed to the statement 10(The behavior of the staff instills confidence in the patients). But 20% disagreed to the statement 12(Staff who are consistently courteous)

The overall correlation value of Assurance and Patient satisfaction shows a very strong positive correlation which is 0.884.

In the Empathy section, 62% patients strongly agreed to the statement 16 (Availability of 24-hour services). The overall correlation value of Empathy and Patient satisfaction is the highest 0.915.Which shows a perfect positive correlation between Empathy and Patient Satisfaction.

In the Tangibles section, 24% patients disagreed to the statement 19(The hospital has up-to-date equipment).But 45% strongly agreed to the statement 20 (The hospital's physical facilities are visually appealing). The correlation value of Tangibles and Patient satisfaction is 0.758 which shows a positive correlation.

The results suggest that patients define health care quality in terms of the five dimensions used in the SERVQUAL model: Tangibility, Reliability, Responsiveness, Assurance and Empathy. This model was used to determine if patients' perceptions were exceeded - or not. The results identify the areas where service provision was lacking. The initial priority should be placed on Tangibles and Responsiveness as these two dimensions had the lowest results. Improvement in these two areas will be the most valuable element of service quality delivery.

The hypothesis of the study postulates that the service quality is positively related to patient satisfaction in the hospital.

Interpretation of Data Received From Questionnaire-Percentage Analysis

When a patient has a problem the staff shows sincere interest in solving the problem:

Interpretation: Out of 150 samples 55% of patients strongly agree with the statement, 30% agree with the statement, 8% disagree with the statement and 4% strongly disagree with the statement.

Hospital performs their services right at the first time

Interpretation: Out of 150 samples 48% of patients strongly agree with the statement, 41% agree with thestatement and 7% disagree with the statement.

The staff provides their services at the time they promise to do so

Interpretation: Out of 150 samples 40% of patients strongly agree with the statement, 42% agree with the statement and 14% disagree with the statement.

Staff makes information easily obtainable by the patient

Interpretation: Out of 150 samples 34% strongly agree to the statement, 46% agree to the statement, 16% disagree to the statement and 3% neither agree nor disagree to the statement.

Staff give prompt care to patients (Medical and non-medical services)

Interpretation: Out of 150 samples 52% strongly agree to the statement, 41% agree to the statement and 5% disagree to the statement.

Relation between Reliability and Patient Satisfaction-Scatter Diagram

Interpretation: Here in case of Reliability and Patient satisfaction, Karl Pearson correlation analysis explains that r=0.890, a strong positive correlation, the relationship between the

variables are strong (the nearer the value is to one, the stronger the relationship)
Which means there is strong tendency for Reliability scores with Patient satisfaction scores?

Attending of personnel whenever called
Interpretation: Out of 150 samples 75% strongly agree to the statement and 24% agree to the statement.

Error-free and fast retrieval of documents at the ward
Interpretation: Out of 150 samples 39% patients strongly agree to the statement, 36% agree to the statement, 16% neither agree nor disagree to the statement and 8% disagree to the statement.

Willingness of personnel to help patients
Interpretation: Out of 150 samples 72% patients strongly agree to the statement, 22% agree to the statement and 3% disagree to the statement.

Keeping patients informed about when services will be performed
Interpretation: Out of 150 samples 78% strongly agree to the statement, 18% agree to the statement and 2% disagree to the statement.

Relation between Responsiveness and Patient Satisfaction
Interpretation: Here in case of Reliability and Patient satisfaction, Karl Pearson correlation analysis explains that r=0.861, a strong positive correlation, the relationship between the variables are strong (the nearer the value is to one, the stronger the relationship). Which means there is strong tendency for Responsiveness scores with Patient satisfaction scores?

The behavior of the staff instills confidence in the patients
Interpretation: Out of 150 samples 42% patients strongly agree to the statement, 44% agree to the statement and 9% disagree to the statement.

Staff in the hospital wards has much knowledge to answer all patientquestions
Interpretation: Out of 150 samples, 34% patients strongly agree to the statement, 39% agree to the statement, 15% disagree to the statement and 10% neither agree nor disagree to the statement.

Staff who are consistently courteous
Interpretation: Out of 150 samples, 32% patients strongly agree to the statement, 38% agree to the statement, 20% disagree to the statement and 8% neither agree nor disagree to the statement.

Feeling safety and security in interaction with personnel
Interpretation: Out of 150 samples, 41% patients strongly agree to the statement, 43% agree to the statement, 12% disagree to the statement and 3% neither agree nor disagree to the statement.

Relation between Assurance and patient satisfaction
Interpretation: Here in case of Assurance and Patient Satisfaction, Karl Pearson correlation analysis explains that r=0.884, a strong positive correlation, the relationship between the variables are strong (the nearer the value is to one, the stronger the relationship). Which

means there is strong tendency for Assurance scores with Patient satisfaction scores?

Individual attention to patients

Interpretation: Out of 150 samples, 60% patients strongly agree to the statement, 37% agree to thestatement only 2% disagree to the statement.

Polite and friendly dealing of personnel with patients

Interpretation: Out of 150 samples, 58% strongly agree to the statement, 26% agree to the statement and 12% disagree to the statement.

Availability of 24-hour services

Interpretation: Out of 150 samples, 62% strongly agree to the statement and 38% agree to the statement.

Attention to the patients' believes and emotions

Interpretation: Out of 150 samples, 42% patients strongly agree to the statement, 41% agree to the statementand 13% disagree to the statement.

Having the patient's best interest at heart

Interpretation: Out of 150 samples, 58% patients strongly agree to the statement, 18% agree to the statement, 10% neither agree nor disagree to the statement and 10% disagree to the statement.

Relation between Empathy and Patient Satisfaction

Interpretation: Here in case of Reliability and Patient Satisfaction, Karl Pearson correlation analysis explains that r=0.915, a very strong positive correlation, the relationship between the variables are strong (the nearer the value is to one, the stronger the relationship). Which means there is strong tendency for Empathy scores with Patient satisfaction scores?

The hospital has up-to-date equipment

Interpretation: Out of 150 samples, 8% of patients strongly agree to the statement, 59% agree to thestatement, 24% disagree to the statement and 8% neither agree nor disagree to the statement.

The hospital's physical facilities are visually appealing

Interpretation: Out of 150 samples 45% of patients strongly agree to the statement, 36% of patients agree to the statement, 12% disagree to the statement and 6% neither agree nor disagree to the statement.

Staff with neat and professional appearance

Interpretation: Out of 150 samples, 63% of patients strongly agree to the patient, 30% agree to the statement, 4% either agree or disagree to the statement and only 2% disagree to the statement.

The hospital have helpful direction/written information that are easy to read and comprehend

Interpretation: Out of 150 samples, 14% of patients strongly agree to the statement, 61% agree to thestatement and 24% disagree to the statement.

The relation between Tangibles and Patient satisfaction

Interpretation: Here in case of Tangibles and Patient satisfaction, Karl Pearson correlation analysis explainsthat r=0.758, a strong positive correlation, the relationship between the variables are strong (nearer the value is to one,

the stronger the relationship). Which means there is strong tendency for Tangibles scores with Patient satisfaction scores?

I did the right thing when I decided to avail this hospital

Interpretation: Out of 150 samples, 45% of patients strongly agree to the statement, 48% agree to the statement and 5% disagree to the statement.

My decision to visit this hospital has been a wise one

Interpretation: Out of 150 samples, 49% of patients strongly agree to the patient, 34% agree to the statement, 10% either agree or disagree to the statement and 6% disagree to the statement.

The healthcare services I received corresponded to my current needs

Interpretation: Out of 150 samples, 52% of patients strongly agree to the statement, 36% agree to the statement and 9% disagree to the statement.

The overall feeling about the services of care in this hospital are better thanwhat I expected

Interpretation: Out of 150 samples, 42% of patients strongly agree to the statement, 49% agree to the statement and 6% disagree to the statement.

I am satisfied with the healthcare service I received in this hospital

Interpretation: Out of 150 samples, 52% of patients strongly agree to the statement, 35% agree to the statement and 9% disagree to the statement.

Karl Pearson Correlation Analysis: Correlation is a statistical measure that expresses the extent to which two variables are linearly related (meaning they change together at a constant rate). It's a common tool for describing simple relationships without making a statement about cause and effect.

Correlation analysis in research is a statistical method used to measure the strength of the linear relationship between two variables and compute their association. We describe correlations with a unit free measure called the correlation coefficient which ranges from -1 to +1 and is denoted by r. statistical significance is indicated with a p value. Therefore, correlations are typically written with two key numbers: r and p.

In this study used correlation analysis to determine the association between two variables: the relation between the Service quality and Patient Satisfaction in Indira Gandhi Hospital, Kochi.

Relationship between Patient Satisfaction and Reliability

That is, the relationship between Patient Satisfaction and Reliability are statistically significant.

Since the correlation coefficient for Patient Satisfaction and Reliability are 0.890, there is a perfect positive correlation between these two variables.

Relationship between Patient Satisfaction and Responsiveness: If $p<0.005$, we reject the null hypothesis. Here p value is <0.005. So we reject the null hypothesis. That is, the relationship between Patient Satisfaction and Responsiveness are statisticallysignificant.

Since the correlation coefficient for Patient Satisfaction and Responsiveness are 0.861, there is a perfect positive correlation between these two variables.

Relationship between Patient Satisfaction and Assurance

Here, the p value for the correlation coefficient=0.000. If p<0.005, we reject the null hypothesis. Here p value is <0.005. So we reject the nullhypothesis.

That is, the relationship between Patient Satisfaction and Empathy are statistically significant. Since the correlation coefficient for Patient Satisfaction and Assurance are 0.884, there is a perfect positive correlation between these two variables.

Relationship between Patient Satisfaction and Empathy

Here the p value for the correlation coefficient=0.000. If p<0.005, we reject the null hypothesis. Here the p value is <0.005. So we reject the nullhypothesis.

That is, the relationship between Patient Satisfaction and Empathy are statistically significant.
Since the correlation coefficient for Patient Satisfaction and Empathy are 0.915, there is a perfect positive correlation between these two variables.

Relationship between Patient Satisfaction and Tangibles

If p<0.005, we reject the null hypothesis. Here, p value is <0.005. So we reject the null hypothesis. That is the relationship between Patient Satisfaction and Tangibles are statistically significant. Since the correlation coefficient for Patient Satisfaction and Tangibles are 0.75, there is a perfect positive correlation between these two variables.

FINDINGS: It is found that out of the 150 samples, most of the patients show a high degree of agreement towards the statements and very few of them disagree to the statements regarding the service quality provided by the hospital.

Most of the patients are strongly and agree to the statements regarding patient satisfaction and only at negligible amount of patients disagree to the statements. In the Reliability section 55% of the patients strongly agreed to the statement 1(When patients have a problem the staff show sincere interest in solving the problem). The correlation value between Reliability and patient satisfaction shows a strong positivecorrelation[16-18].

In the Responsiveness section only 39% strongly agreed to the statement 7 (Error-free and fast retrieval of documents at the ward). The correlation value between Responsiveness and patient satisfaction shows a strong positive correlation. In the Assurance section 44% agreed to the statement 10(The behavior of the staff instillsconfidence in the patients). But 20% disagreed to the statement 12(Staff who are consistently courteous). The overall correlation value of Assurance and Patient satisfaction shows a strong positive correlation which is 0.884.

In the Empathy section, 62% patients strongly agreed to the statement 16(Availability of 24-hour services). A very strong positive correlation is obtained for the dimension Empathy and Patient satisfaction i.e., 0.915.

The healthcare system provides better caring and individualized attention to its patients. In the Tangibles section, 24% patients disagreed to the statement 19(Tangibility has the minimum correlation value of 0.75. In the Patient satisfaction section 52% strongly agreed to the statement (The healthcare services I received corresponded to my current needs). 49% patient strongly agreed to the statement (My decision to visit this hospital has beena wise one). There is a significant positive relationship between service quality dimensions such as tangibles, assurance, empathy, reliability, responsiveness and patient satisfaction. There is a significant positive relationship between Service Quality and PatientSatisfaction [19, 20].

CONCLUSION

Service quality in healthcare plays a pivotal role in shaping patient satisfaction. When healthcare facilities prioritize factors such as accessibility, communication, staff competence, and efficient processes, they can enhance the overall quality of care provided. This, in turn, leads to higher levels of patient satisfaction. A key takeaway is that patient satisfaction is not solely determined by clinical outcomes but also by the entire patient experience.

Hospitals and healthcare providers should focus on continuous improvement in service quality to meet the evolving expectations of patients. Regular feedback collection and analysis can help identify areas for improvement, ensuring that patients receive the best possible care and have positive experiences with healthcare services. Ultimately, a satisfiedpatient is more likely to adhere to treatment plans, recommend the facility to others, and contribute to better health outcomes.

This study sorts to examine the service quality in the hospital to investigate the relationship among service quality and patient satisfaction. This study examined the concept of service quality and patient satisfaction from the perspective of the patients. A high degree of servicequality is perceived among the patients and Service quality is positively related to patient satisfaction of patients in the hospital. This study will enable hospital to have a better understanding of the effects of service quality, which will lead to patient satisfaction in orderto build a long term relationship with their patients.

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