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Service Quality In Healthcare Facilities: An Examination In Dehradun

*[1]Som Aditya Juyal, [2]Amit Nautiyal, [3]Apurvaa Trivedi

Abstract

Service quality is a paramount concern for both healthcare providers and patients, prompting a shift toward more personalized and comprehensive care. In the healthcare sector, delivering quality care is essential, necessitating an exploration of the drivers behind service quality. This paper reviews the literature on service quality dimensions in healthcare and conducts a study in the Dehradun district of Uttarakhand, India, to investigate patient perceptions and expectations of service quality in hospitals. The study employs the SERVQUAL model to assess service quality dimensions, including Tangibility, Reliability, Responsiveness, Assurance, and Empathy (RATER). The findings reveal that patients assign similar levels of importance to each dimension, with Assurance ranking the highest. However, significant gaps exist between patient expectations and perceptions across all dimensions except Assurance, indicating potential dissatisfaction. Assurance exhibits the most substantial expectation-perception gap. To address these gaps and enhance overall patient satisfaction, hospitals should focus on strategic and operational planning aimed at improving Assurance-related aspects, such as trustworthiness and communication. The study identifies four distinct service quality dimensions: Empathy, Tangibility, Responsiveness, and Reliability, underscoring the need for equitable attention to each dimension to enhance healthcare service quality. The study's limitations include a small sample size from a single region and reliance on self-reported survey data, which may introduce response bias. Further research with larger and more diverse samples is recommended to validate and expand upon these findings. Future research should also consider different hospital settings and regional variations to gain a more comprehensive understanding of patient perspectives on healthcare service quality.

Keywords: *Service Quality, Healthcare Facilities, Patient Perceptions, Patient Expectations, Patient Satisfaction.*

INTRODUCTION

Both hospitals and patients consider service quality to be a significant priority. As a result, there is an increased focus on ensuring that services are of the highest possible quality. This has forced hospitals to focus on providing more comprehensive and personalized services to their patients, in order to better meet their expectations and improve their overall experience. To provide quality service, healthcare professionals must demonstrate a commitment to providing the highe[1]st possible care for their patients. To gain a deeper understanding of the customer experience, further research is needed to explore the underlying drivers of service

*[1,2,3]Himalayan School Of Management Studies, Swami Rama Himalayan University, Dehradun
Corresponding Author: Som Aditya Juyal*

quality (Johnston, 1995). To guarantee customer satisfaction, it's crucial to comprehend and tackle the elements affecting service quality. Since healthcare is perceived to operate differently from other industries (Kritchanchai, D., 2012), the approach to delivering quality care must be tailored to meet the unique needs of this sector. As a result, hospitals must focus on providing superior services that exceed customer expectations in order to remain competitive and successful. In other words, modern hospitals must focus on not just being competent in the medical field, but also providing a pleasant and fulfilling experience for their patients. Patients feel more comfortable and secure when they are treated with compassion and understanding, making the hospital experience more pleasant and less intimidating. By combining technology and human interaction in the hospital setting, patients would have access to the latest medical breakthroughs. In addition, they would have the opportunity to receive care and compassion from healthcare professionals. This would likely lead to improved patient outcomes and satisfaction. Thus, it helps ensure patient satisfaction and ensures that the highest standards of care are maintained. Clearly, accurate and timely diagnoses and procedures are essential for maintaining the highest quality of care. Professional healthcare organizations are dedicated to enhancing patient outcomes through quality-focused initiatives and protocols. By taking this approach, the organization can ensure that its objectives are met and that the greatest possible results are achieved (Babakus Emin & W Glynn Mangold, 1992). By doing so, hospitals can ensure that their resources are being utilized as efficiently as possible, leading to better health outcomes.

Enhancing the quality of care is an obvious goal for any hospital, and measuring service quality is a smart way to start. Additionally, the need to examine patient satisfaction and the overall efficiency of hospital operations is also critical.

REVIEW OF LITERATURE

Service Quality

The SERVQUAL model developed by (Parasuraman et al. 1985) has evolved into a widely recognized benchmark for assessing customer satisfaction, adaptable to various industries and service sectors. Furthermore, healthcare facilities, including clinics and medical centers, have adopted this model to evaluate their service delivery. To meet customer expectations effectively, service providers must endeavor to comprehend their clients' needs and customize their services accordingly (Parasuraman et al., 1985).

Gap scores, which gauge the difference between an individual's perceptions and expectations, serve as a crucial metric. A higher gap score indicates a more significant variance between perception and expectation. A high positive gap score suggests that expectations have been met, while a low or negative gap score indicates disappointment. This framework allows for a meaningful assessment across various dimensions, offering insights into areas of strengths and weaknesses.

In the 1980s, research efforts shifted towards exploring how organizations could excel in terms of service quality (Parasuraman, 1985). These dimensions encompass both tangible aspects, such as the quality of the physical environment, and intangible elements, such as the behavior of service personnel (Lehtinen and Lehtinen 1985) introduced the concepts of physical and interactive quality, while (Gro¨nroos 1984) identified dimensions such as technical, functional, and the firm's image. Their work formed the basis for a more comprehensive approach to service marketing, one that focuses on the overall service experience for the customer.

Subsequent studies built upon this concept of service quality, highlighting the gaps between customers' expectations and perceptions (Parasuraman et al., 1985). This emphasized the

pivotal role of customer service in creating a positive consumer experience (Berry et al., 1985). In subsequent years, (Parasuraman and his colleagues 1988) provided evidence that the elements of reliability, assurance, tangibles, empathy, and responsiveness constitute fundamental elements within the holistic service quality experience.

Service Quality Dimension in a Hospital – A Review

Since the inception of Parasuraman's SERVQUAL model, researchers have engaged in ongoing debates about the determinants of service quality. This remains a pertinent question as customers increasingly demand elevated levels of quality in their service interactions. Practitioners continually seek guidance and recommendations regarding what constitutes service quality for their offerings. Additionally, they often reposition their services by adjusting various attributes, such as tangibility or customer interaction, to meet evolving customer expectations (Chowdhary & Prakash, 2007).

Understanding these factors is crucial to ensuring that services align with customer expectations (Zakaria, H. et al., 2010). This understanding has enabled healthcare institutions to identify areas for improvement and gain better insights into patient needs. Consequently, there exists a plethora of service quality dimensions for researchers to choose from when measuring customer satisfaction. These dimensions include accessibility/affordability (Lim and Tang, 2000), caring and outcomes (Adams, 2001), among others.

(Johnston 1995) expanded the SERVQUAL model to encompass 18 dimensions, while (Reidenbach and Sandifer Smallwood 1990) streamlined it to include seven dimensions, which consist of patient confidence, empathy, treatment quality, waiting time, physical appearance, support services, and business aspects. Additionally, various researchers have developed measurement scales that offer reliable and valid assessments of hospital service quality. These scales serve as valuable tools for comparing and benchmarking performance across different hospitals (Hulka et al., 1970; Fitzpatrick, 1991).

(Hulka et al. 1970) emphasized three critical dimensions: personal relationships, convenience, and professional competence. (Thompson 1983) argued that addressing seven dimensions, including tangible communications, staff-patient relationships, waiting times, admission and discharge procedures, visiting protocols, and religious needs, could enhance patient satisfaction. (Baker 1990) focused on consultation time, professional care, and the depth of the patient-provider relationship.

Through content analysis, (Tomes and Ng 1995) identified eight dimensions, including empathy, understanding of illness, mutual respect, dignity, food quality, physical environment, and religious considerations. (Camilleri and O'Callaghan 1998) evaluated hospital service performance, incorporating dimensions like medical and technical care, service personalization, pricing, environmental factors, patient amenities, accessibility, and catering. The five variables—communication, cost, facility, competence, and demeanor—help define the overall level of patient satisfaction, forming a comprehensive measure of service quality (Andaleeb, 1998).

((June et al. 1998) identified eleven dimensions through focus group interviews. These dimensions include tangibles, courtesy, reliability, communication, competence, understanding of customer needs, access responsiveness, caring, patient outcomes, and collaboration. (Hasin et al. 2001) pinpointed five dimensions: communication, responsiveness, courtesy, cost, and

cleanliness. These five dimensions are crucial in providing excellent customer service as they underpin customers' overall experience evaluation.

(Walters and Jones 2001) introduced additional elements—security, performance, aesthetics, convenience, economy, and reliability—to assess service quality in hospitals. The quality of care relies on the balanced integration of these dimensions of healthcare service quality: curing, caring, access, and the physical environment, as each plays a vital role in patient satisfaction (John, 1989).

(Jabnoun and Chaker 2003) identified ten dimensions: tangibles, accessibility, understanding, courtesy, reliability, security, credibility, responsiveness, communication, and competence. Furthermore, (Dagger et al. 2007) found that customers exhibited a strong preference for technical and environmental quality, with interpersonal quality having a relatively lesser impact on their perceptions. (Huseyin Arasli et al. 2008) underscored the importance of fostering teamwork, collaboration, and mutual respect between staff and patients.

(Jayesh P. Aagja and Renuka Garg 2010) demonstrated the significance of excellent leadership skills in managing staff and ensuring the highest quality of care throughout every step of the patient experience. (Padma et al. 2010) utilized various criteria, including but not limited to infrastructure, personnel competence, clinical care processes, administrative procedures, safety measures, hospital reputation, social accountability, and the reliability of the hospital, to evaluate service quality and measure patient satisfaction levels.

Research Gaps

From the literature review, gaps identified are:

1. While the importance of quality service in hospitals for ensuring favorable patient outcomes is widely recognized, there is a notable scarcity of comprehensive studies in this area.
2. Hospital service quality is inherently multi-dimensional, and the specific components and dimensions of quality tend to vary between different studies and contexts.
3. The existing body of research predominantly originates from developed countries, which raises questions about the applicability of these findings in the context of India. Further research is needed to assess how these constructs and dimensions of service quality apply in the local Indian context, as well as to explore the potential cross-cultural variations in service quality perceptions (Kettinger et al., 1995; Karatepe et al., 2005).

RESEARCH METHODOLOGY

Research Objectives

1. To accurately determine which factors play the most vital role in providing high-quality care in a hospital setting.
2. To quantify the difference between customer expectations and the level of service they receive, a logical and effective approach is necessary.

Research Hypothesis

1. There is a significant and measurable gap between perceived and expected service quality in the healthcare sector.
2. Service quality dimensions of healthcare services are in line with the SERVQUAL model.

Research Setting

To better understand customer satisfaction, surveys were sent out to those who have experienced the hospital's services to gauge their overall experience. The questionnaire seeks to gain an insight into the patient's experience of the care they received and their overall opinion of the hospital's service quality. The data was collected from the 112 respondents from the Dehradun region and is used to analyze and compare the service quality perception and expectations of patients.

Questionnaire Design and Data Collection

The structured survey questionnaire method was employed to gather relevant data for this study. The questionnaire was designed in two parts to capture comprehensive information.

Part A focused on collecting demographic information to characterize the respondents. It solicited details about respondents' gender, age, educational qualifications, income level, transaction frequency, and preferred banking services.

Part B encompassed questions related to the five distinct SERVQUAL dimensions concerning respondents' expectations and perceptions. Respondents were asked to rate these dimensions using agreement – disagreement scale.

To ensure the validity of the questionnaire, it was initially developed in English and subsequently subjected to a pilot study involving expert validation. The final questionnaire was then distributed to a total of 100 participants through Google Forms. Ultimately, 112 responses were deemed suitable for inclusion in the data analysis after a thorough review.

Statistical Analysis

The analysis is conducted and analyzed in order to draw meaningful conclusions, which are discussed in detail below.

Demographic Information

The demographics of the collected data are detailed in table 1. From the survey analyzed, 42.9 % were female and 57.1 % were male respondents. More than half of the respondents were 25-35 years old (58% of them) and most had a graduate degree (63. 4%). On the other hand, about one-third of the respondents make INR 50,001 to 1,00,000 a month. The majority of respondents are married with youngest child less than six years old (39.3%).

Table1.Demographic Characteristics of Respondents

Variable	Category	Numbers	Percentag
Gender	Female	48	42.9
	Male	64	57.1
Age (in years)	Less than 25	14	12.5
	25 – 35	65	58.0
	35 – 45	26	23.2
	45 – 60	07	06.3
Education	Senior Secondary	04	03.6
	Graduation	71	63.4
	Post-Graduation	27	24.1
	Professional	10	8.9

Income (per month)	Up to ₹ 25,000	23	20.5
	₹25,001 - ₹50,000	29	25.9
	₹50,001 - ₹1,00,000	38	33.9
	₹1,00,001 - ₹2,00,000	12	10.7
	Above ₹2,00,000	10	09.0
Family Life Cycle Stage	Bachelor	22	19.6
	Married with no children	32	28.6
	Married with youngest childless than six years	44	39.3
	Married with youngest child more than six years	14	12.5

Source: Primary Data

Reliability Analysis

Reliability Analysis was conducted using Cronbach's Alpha (table 2).

Table 2. Cronbach's Alpha

Service Expectations		**Service Perception**		**Importance**	
# of Items	**Alpha**	**# of Items**	**Alpha**	**# of Items**	**Alpha**
22	0.889	22	0.872	05	0.883

Source: Primary Data

The Cronbach's Alpha values for all three measures, i.e. service expectations, service perception and importance was found to be acceptable.

DATA ANALYSIS & INTERPRETATION

RATER Scale – Importance

The importance of service quality dimensions (RATER) for the HOSPITAL suggests similar levels of importance for each variable. However, it is highest for ASSURANCE ($\mu = 3.81$, $\sigma = 1.19$) and lowest for RESPONSIVENESS ($\mu = 3.53$, $\sigma = 1.11$).

Table 3. RATER Importance

Variable	**μ**	**σ**
TANGIBLITY The appearance of the bank's physical facilities, equipment, personnel and communication materials.	3.54	1.16
RELIABLITY The hospital's capability to consistently and accurately deliver the committed services	3.62	1.10
RESPONSIVENESS The hospital's readiness to aid customers and offer timely service	3.53	1.11
ASSURANCE The hospital staff's expertise and politeness, along with their capability to inspire trust and assurance.	3.81	1.19
EMPATHY The personalized and compassionate care extended by the hospital to its patients	3.58	1.24

Source: Primary Data

RATER Scale – Expectations & Perception Gap

An independent sample t-test was conducted to see if differences occur in the expectation and perception levels among the five service quality dimensions (RATER) for the HOSPITAL. The results suggest significant differences among all service quality dimensions i.e. TANGIBLITY, RELIABLITY, RESPONSIVENSS and EMPATHY, expect ASSURANCE (see table 4).

Table 4. RATER Expectations and Perception Levels

Variable	Service	μ±σ	t	P
TANGIBLITY	Expectations	13.49 ± 3.95	7.789	0.00
	Perceptions	17.78 ± 4.31		
RELIABLITY	Expectations	18.16 ± 4.19	7.113	0.00
	Perceptions	14.46 ± 3.57		
RESPONSIVENESS	Expectations	14.71 ± 3.32	7.321	0.00
	Perceptions	18.48 ± 3.83		
ASSURANCE	Expectations	14.37 ± 3.60	0.342	0.73
	Perceptions	14.22 ± 3.06		
EMPATHY	Expectations	17.78 ± 4.31	6.644	0.00
	Perceptions	14.50 ± 2.96		

***p < 0.05**

Source: Primary Data

Determinants of Service Quality in Hospitals

The suitability of the data for factor analysis was evaluated through the application of the Kaiser-Meyer-Olkin (KMO) test and Bartlett's test, in accordance with guidelines provided by multiple sources (Boyd et al., 2002; Malhotra, 2004; Pallant, 2007).

Table 5 indicates that the KMO value for this study is 0.786, surpassing the standard threshold of 0.5. This suggests that the sample size used for factor construction is indeed satisfactory and suitable for factor analysis.

Furthermore, Table 5 demonstrates that the calculated Chi-Square value for Bartlett's test is 891.958 with 153 degrees of freedom, at a 5 % level of significance. This calculated value exceeds the tabulated threshold, affirming that the data is highly appropriate for factor analysis.

Consequently, the collected data underwent Principal Component Analysis (PCA) with Varimax Rotation, a technique akin to Factor Analysis, to extract meaningful patterns and relationships among the variables of interest.

Table 5. KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.786
	Approx. Chi-Square	891.958

Bartlett's Test of Sphericity	df	153
	Sig.	0.000

Source: Primary Data

Table 6 presents an overview of the initial solution, the extracted components, and the rotated components. The cumulative variance explained by the seven extracted factors, which amounts to 68.246%, is deemed satisfactory as it surpasses the commonly recommended threshold of 60% (Hair et al., 2014). It's noteworthy that all ten factors have eigenvalues exceeding one, indicating their significance in the analysis. As a result, all factors have been retained for further consideration.

Table 6. Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	5.785	32.142	32.142	5.785	32.142	32.142	3.486	19.369	19.369
2	2.457	13.653	45.794	2.457	13.653	45.794	3.064	17.023	36.392
3	1.781	9.894	55.688	1.781	9.894	55.688	2.087	11.593	47.985
4	1.187	6.596	62.284	1.187	6.596	62.284	1.980	11.002	58.987
5	1.073	5.962	68.246	1.073	5.962	68.246	1.667	9.259	68.246
Extraction Method: Principal Component Analysis.									

Source: Primary Data

Table 7, the rotated component matrix, displays variables in the rows and components (factors) in the columns. Variables that exhibit rotated factor loadings equal to or exceeding 0.50 are retained as criteria for factor analysis. Furthermore, Table 7 elucidates which specific factor each of these variables loads heavily onto. Consequently, the statements have been classified into four distinct factors, as illustrated in Table 7.

Table 7. Rotated Component Matrix[a]

Items		Component			
	1	2	3	4	5
Personnel at a top-tier hospital are readily available to assist customers.	.828				
Prompt and efficient service is a hallmark of excellent hospital personnel.	.757				
Staff at an outstanding hospital are always eager to assist and provide help.	.734				
In an excellent hospital, employees consistently exhibit courteous behaviour towards customers.	.727				
Personnel in a top-tier hospital inspire confidence in customers through their actions.	.661				
The physical facilities at an excellent hospital are aesthetically pleasing.		.812			
Cutting-edge equipment is a characteristic feature of an outstanding hospital.		.749			

The appearance of hospital staff is consistently neat and professional.		.678			
Materials associated with the hospital's services are visually appealing.		.589			
Customers at an excellent hospital receive personalized attention from the staff.		.543			
Patients feel secure when dealing with an excellent hospital.			.825		
Hospital personnel at the highest level of excellence understand the unique needs of their customers.			.750		
Excellent hospitals prioritize individualized customer care.			.593		
Getting things right on the first attempt is a commitment of an outstanding hospital.				.827	
In the event of a customer issue, an excellent hospital displays genuine interest in resolving it.				.716	
When an excellent hospital makes a commitment to a specific timeframe, they uphold it.				.605	
Hospital personnel at the highest level of excellence communicate precise service delivery times.					.827
Excellent hospitals emphasize the importance of error-free record-keeping.					.716
	Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization.				
	a. Rotation converged in 11 iterations.				

Source: Primary Data

Based on the characteristics of the statements, factor 1 has been labelled as Empathy, factor 2 as Tangibility, factor 3 as Responsiveness, factor 4 as Reliability, and factor 5 as Assurance. As a result, four distinct dimensions of service quality have been identified: Service Excellence, Reliability, Empathy, and Responsiveness (refer to Table 8).

Table 8. Naming of Factors

Name	Statements	Loading
Empathy	Personnel at a top-tier hospital are readily available to assist customers.	0.828
	Prompt and efficient service is a hallmark of excellent hospital personnel.	0.757
	Staff at an outstanding hospital are always eager to assist and provide help.	0.734
	In an excellent hospital, employees consistently exhibit courteous behaviour towards customers.	0.727

	Personnel in a top-tier hospital inspire confidence in customers through their actions.	0.661
Tangibility	The physical facilities at an excellent hospital are aesthetically pleasing.	0.812
	Cutting-edge equipment is a characteristic feature of an outstanding hospital.	0.749
	The appearance of hospital staff is consistently neat and professional.	0.678
	Materials associated with the hospital's services are visually appealing.	0.589
	Customers at an excellent hospital receive personalized attention from the staff.	0.543
Responsiveness	Patients feel secure when dealing with an excellent hospital.	0.825
	Hospital personnel at the highest level of excellence understand the unique needs of their customers.	0.750
	Excellent hospitals prioritize individualized customer care.	0.593
Reliability	Getting things right on the first attempt is a commitment of an outstanding hospital.	0.827
	In the event of a customer issue, an excellent hospital displays genuine interest in resolving it.	0.716
	When an excellent hospital makes a commitment to a specific timeframe, they uphold it.	0.605
Assurance	Hospital personnel at the highest level of excellence communicate precise service delivery times.	0.827
	Excellent hospitals emphasize the importance of error-free record-keeping.	0.716

Source: Primary Data

Limitations

The present study has several limitations that should be acknowledged. Firstly, it is essential to recognize that the research is based on a relatively small sample size drawn exclusively from the Dehradun district of Uttarakhand. Consequently, the findings may not be readily generalizable to the broader population in this region, let alone to other regions within the country.

Secondly, the data collected for this study relied on self-reported survey responses. This method of data collection introduces the potential for response bias and may affect the accuracy and objectivity of the results.

Additionally, the study's outcomes are contingent upon the accuracy of the participants' responses. Individual respondents may possess varying levels of knowledge or experience, and their perceptions and expectations of service quality may be subjectively influenced by their unique experiences.

Therefore, it is essential to exercise caution when interpreting and applying the study's findings. Further research is warranted to gain a more comprehensive understanding of the underlying factors that impact the quality of services provided in the Dehradun district of Uttarakhand, potentially involving larger and more diverse samples and employing a variety of research methodologies to validate and extend the current study's conclusions.

Future Scope

In future research endeavors, there are several valuable extensions and enhancements that can be made to further enrich our understanding of patient perspectives on healthcare services. Here are some suggestions:

Diverse Hospital Settings: Expanding the study to encompass a broader range of hospitals, including both government and private healthcare facilities, would provide a more comprehensive view of the healthcare landscape.

Regional Variations: Conducting the study in various regions, urban and rural settings, and culturally diverse areas can help identify region-specific challenges and opportunities for improving service quality.

Increased Sample Size: A larger sample would allow for more robust analyses and subgroup comparisons, enabling researchers to draw more accurate conclusions about patient perceptions and expectations.

Healthcare Provider Perspective: In addition to gathering patient feedback, it may be worthwhile to explore healthcare providers' perspectives on service quality. Understanding the challenges and viewpoints of healthcare professionals can complement patient-focused research and inform collaborative quality improvement initiatives.

By expanding the scope and methodology of future research in these directions, we can gain a more comprehensive understanding of patient perspectives on healthcare services and contribute to the ongoing efforts to enhance the quality of healthcare delivery across various settings and regions.

Conclusion

Patients must be assured of receiving consistently high-quality healthcare services. In the context of hospitals, it is noteworthy that the respondents in this study did not significantly differentiate between the various service quality dimensions (RATER model). This lack of distinction underscores the importance for healthcare service providers to allocate equal attention and resources to enhancing each of these service quality dimensions. Furthermore, the study revealed substantial gaps between patients' service quality expectations and their perceptions across all dimensions except for Assurance. This finding implies that, in the eyes of the patients, the services they receive often fall short of their expectations, potentially leading to dissatisfaction. Particularly, the Assurance dimension displayed the most significant gap between what patients expected and what they actually experienced. To bridge and rectify these gaps, it is advisable for hospitals to embark on strategic and operational planning endeavors. These efforts should be geared towards refining the overall hospitalization experience for patients. By focusing on improving aspects related to Assurance, such as trustworthiness, professionalism, and communication, hospitals can effectively work to narrow the service quality gap. Ultimately, this can lead to heightened patient satisfaction and loyalty. In summary, the principal components analysis conducted in this study has suggested the existence of four distinct service quality dimensions in the context of healthcare services, namely Empathy, Tangibility, Responsiveness, and Reliability. These dimensions, when addressed comprehensively and equitably, can contribute significantly to enhancing the quality of healthcare services and, subsequently, the overall patient experience.

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