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RESEARCH ARTICLE

Assessment of Health Care Service Quality and its Relation with Patient Satisfaction in Private Hospital

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Abstract: Background: The background of this study is rooted in the increasing global emphasis on patient-centered care, where private hospitals must continuously assess and improve service quality to meet rising patient expectations and ensure satisfaction, loyalty, and better healthcare outcomes. This study aimed to examine patients' expectations and perceptions of various dimensions of service quality at private Hospital, evaluate overall satisfaction and its key influencing factors, identify gaps between service quality and satisfaction, assess healthcare service quality, analyze variations across socio-demographic groups, and provide recommendations for improvement. Subjects and methods: The study adopted a descriptive survey design using a structured questionnaire administered to patients admitted to Private Hospital for more than 48 hours, with a simple random sampling technique applied to a population of 900 patients to select a representative sample of 250 respondents, ensuring confidentiality, voluntary participation, and methodological rigor for reliable and generalizable findings. Conclusion: The study identified significant negative gaps between patient expectations and perception at Private Hospital, emphasizing the need for management to prioritize service improvements. In the competitive private healthcare sector, accommodation quality is a key differentiator, and the private hospital should focus on enhancing services from admission to discharge. Using the SERVQUAL model, the study highlights strengths and weaknesses in current practices and provides a foundation for future research to improve patient experiences across the industry.

Keywords: Healthcare Service Quality; Patient Satisfaction; Private Hospitals; SERVQUAL model.

INTRODUCTION

In the contemporary healthcare environment, the quality of services provided has emerged as a central determinant of patient satisfaction, organizational effectiveness, and hospital competitiveness. Whereas in earlier decades clinical outcomes were the primary yardstick of performance, modern patients increasingly evaluate care experiences holistically considering not only medical treatment but also the manner, responsiveness, and environment in which services are delivered (Fatima et al., 2018). With greater access to information and alternative providers, patients now function as active consumers of healthcare services, and their satisfaction directly influences the long-term sustainability of hospitals.

This reality is especially evident that there is rapidly expanding private healthcare sector. Driven by population growth and heightened expectations for high-quality care, private hospitals are under constant pressure to deliver superior services to diverse patient groups (Kwateng et al., 2019). In these settings, patient satisfaction is not merely a desirable outcome but a critical performance indicator that affects loyalty, reputation, and financial stability. Patients who report positive experiences are more likely to adhere to treatment plans, return for future care, and recommend the private hospital to others, whereas dissatisfaction often results in complaints, disengagement, or a switch to competitors (Kwateng et al., 2019).

Measuring and managing healthcare service quality is therefore essential. Among the tools available, the SERVQUAL model has become one of the most widely used frameworks for assessing service quality. Originally developed for general service industries, SERVQUAL has been adapted to healthcare contexts to capture both tangible and intangible aspects of service delivery (Owusu-Frimpong et al., 2010). Its five core dimensions—tangibility, reliability, responsiveness, assurance, and empathy—together with additional elements such as staff support and resource adequacy, offer a comprehensive lens for evaluating how patients perceive and assess hospital services (Owusu-Frimpong et al., 2010). By comparing patient expectations with perceptions, the model highlights service gaps and provides actionable insights for improvement.

In the private healthcare environment these gaps are particularly salient. Although private hospitals are often associated with superior facilities and shorter waiting times, patients' expectations tend to be considerably higher than in public hospitals. Prior research indicates that dissatisfaction commonly arises in areas such as responsiveness, communication, and individualized care—even when clinical outcomes are positive (Shabbir et al., 2016). Addressing these shortcomings requires not only investment in infrastructure and technology but also staff training, improved communication channels, and policies that place patients at the center of care delivery (Shabbir et al., 2016).

This study seeks to evaluate the quality of healthcare services at a private Hospital using a Modified SERVQUAL model and to examine its relationship with patient satisfaction. It focuses on the gaps between patient expectations and perceptions across multiple dimensions of service quality, assesses the influence of these gaps on overall satisfaction, and explores demographic variations. The findings are expected to generate actionable recommendations for hospital management and contribute to broader discussions on healthcare quality improvement in the private sector.

REVIEW

Patient satisfaction has become one of the most important indicators of hospital performance, especially in private healthcare institutions where competition is intense and patients expect both advanced clinical care and supportive service delivery (Kalaja et al., 2023).

The study of patient satisfaction originated in the early 1950s, with initial investigations centered on how physicians interacted with their patients. During the 1960s, research interest grew rapidly, leading to broader explorations of the various aspects influencing patients' perceptions of healthcare services. In recent decades, patient satisfaction has become a major area of focus within healthcare management and policy, as it serves as a vital measure of service quality and the overall experience of care. Although it was once treated primarily as a customer service concern, modern perspectives recognize patient satisfaction as a core indicator of healthcare quality and system effectiveness (Hefner et al., 2019).

Healthcare is recognized as a basic human need, and contemporary health systems emphasize not only clinical outcomes but also the patient experience throughout the care continuum. Because healthcare combines technical competence with interpersonal elements such as communication, empathy, and responsiveness, it is inherently complex and difficult to evaluate compared with tangible products (Zamil et al., 2012).

Scholars describe healthcare quality as multidimensional, encompassing infrastructure, processes of care, and patient outcomes. Broader concepts such as safety, timeliness, equity, and patient-centeredness align with the global movement toward people-centered care. Service quality in healthcare is frequently measured by the extent to which providers meet or exceed patient expectations, which vary across individuals and contexts (Ampaw et al., 2020).

Several studies conducted across East Asian and other developing regions have also explored the concept of patient satisfaction within healthcare systems. For instance, research in Asian countries has analyzed patient perceptions of private healthcare institutions and the quality of outpatient services using structured questionnaires covering various dimensions of care (Zarei et al., 2015). In addition to the technical competence and professionalism of medical staff, these studies emphasize the importance of factors such as staff reliability, responsiveness in emergency situations, accessibility of clinics, and the adequacy of basic amenities, including cleanliness and comfort (Lescher & Sirven, 2019). A consistent theme emerging from these investigations is that patient satisfaction extends beyond the mere effectiveness of treatment or physicians' expertise. Rather, it is a multifaceted construct influenced by several service-related and environmental factors, underscoring the role of patient engagement as a critical foundation of effective clinical governance.

Over time, several models have been developed to assess service quality in hospitals. Among these, the SERVQUAL framework introduced by Parasuraman, Zeithaml and Berry (1985) remains one of the most widely applied. It focuses on five key dimensions—tangibility, reliability, responsiveness, assurance, and empathy—and evaluates the gap between what patients expect and what they actually experience, thereby helping to identify areas requiring improvement. Adaptations of SERVQUAL for healthcare settings often incorporate additional variables such as staff interaction and the private hospital environment to reflect the sector's unique characteristics (Ali et al.,2021).

Recent research has also extended SERVQUAL to non-healthcare domains. For instance, Abdallah and Adel (2020) assessed Egyptian internet service providers and found that while the original five dimensions remain relevant, a new "Performance" dimension—covering connection speed, stability, sustainability, technical support, and value for money—is essential for a comprehensive assessment. Their analysis revealed a significant misalignment between customer priorities (speed and sustainability) and provider strengths (stability and technical support), with reliability, the added performance dimension, and empathy emerging as the strongest predictors of overall satisfaction (Abdallah & Adel, 2020).

A similar approach has been adopted in the information systems sector, where Taha, Abdallah and Adel (2024) proposed the ISSERVQUAL model. This enhanced framework supplements the standard five dimensions with a "Performance" dimension addressing technical features, consistency, and value for money. Their research demonstrated that this new dimension, along with reliability and empathy, was most predictive of customer satisfaction, and it highlighted a misalignment between customer expectations and provider performance (Taha et al., 2024). These findings collectively suggest that while SERVQUAL provides a robust foundation, effective application requires tailoring to the specific industry and customer base.

Patient satisfaction itself is shaped by both cognitive and emotional factors. Patients compare their expectations

with the care received while also forming affective responses related to trust, comfort, and respect. High satisfaction levels are linked to better adherence to treatment, repeat utilization of services, and positive word-of-mouth recommendations, whereas dissatisfaction can undermine trust and prompt patients to seek alternative providers (Charalambous et al.,2018). Evidence consistently shows a close relationship between service quality and patient satisfaction. Dimensions such as reliability, responsiveness, and empathy are frequently cited as the strongest predictors of satisfaction. Studies also reveal persistent gaps between patient expectations and perceptions, particularly in areas such as communication, staff responsiveness, and the quality of facilities underscoring the need for ongoing service evaluation and improvement strategies (Wulandari et al., 2023).

In sum, the literature underscores that healthcare service quality is multidimensional, combining medical expertise with supportive, empathetic interactions. Patient satisfaction emerges as a critical outcome of service quality, directly influencing trust, loyalty, and hospital reputation. Hospitals that continuously monitor and improve service quality are more likely to achieve higher satisfaction levels and sustain a competitive advantage in the private healthcare market.

METHODOLOGY

3.1 Introduction

This section explains the methodological framework adopted to evaluate healthcare service quality and patient satisfaction at the private hospital. It presents the research design, sampling plan, data-collection instruments, pilot testing, and the statistical techniques employed. Each component was carefully selected to align with the study objectives and to support the descriptive, inferential, and multivariate analyses.

3.2 Research Design

A research design serves as the blueprint for data collection and analysis. The present study employs a descriptive research design, which is appropriate for describing the characteristics of the sample as expressed by respondents. The study follows a survey strategy, focusing on patients hospitalized for more than 48 hours at a private hospital. Questionnaires were randomly distributed to patients before discharge to ensure relevance of responses. To enhance the quality of feedback, the study's objectives were explained to participants, and confidentiality was assured. The questionnaire was designed with reference to previous studies in healthcare service quality and adapted to the specific context of the private hospital **.**

3.3 Methodology

This section outlines the sampling strategy, sample size justification, and research instruments used in the study**.**

3.3.1 Sampling Frame and Technique

The target population consisted of all patients admitted to Private Hospital for more than 48 hours during the study period (N = 900). A simple random sampling technique was employed, using the private hospital's admission roster as the sampling frame. Only patients who voluntarily agreed to participate were included **.**

3.3.2 Sample Size and Justification

The study employed a total sample of 250 patients, determined through statistical, methodological, and practical reasoning to ensure adequate representation of the target population. The overall population of eligible patients consisted of 900 individuals. Based on the sample size determination formula developed by Krejcie and Morgan (1970), a sample of 269 respondents would be appropriate for a population of this size, assuming a 95% confidence level and a 5% margin of error. The selected sample of 250 participants closely approximates this recommended figure and provides an allowance for possible non-responses, thereby maintaining statistical adequacy and reliability.

Furthermore, the study analyzed seven SERVQUAL dimensions—Tangibles, Reliability, Responsiveness, Assurance, Empathy, Paramedical/Support Staff, and Adequacy of Resources—which required a sufficient number of observations to perform regression and other inferential analyses. Following the guidelines proposed by Hair et al. (2019), a sample of 250 observations provides more than 80% statistical power to detect significant relationships among the study variables. Additionally, with a sample size of 250 drawn from a population of 900, the recalculated margin of error is approximately 5.5% at the 95% confidence level, which is considered acceptable within the context of healthcare research. Hence, the selected sample size meets both statistical and methodological standards, ensuring the robustness of the study's findings.

3.3.3 Research Instrument

The study employed a **Modified SERVQUAL Questionnaire** developed from **Parasuraman et al. (1988)**, adapted to include dimensions relevant to the private hospital context. The instrument measured both **perceived** and **expected** service quality across the following factors: **(16).**

Service Quality Factors	No. of Statements
Tangibles	4
Reliability	5
Responsiveness	4
Assurance	4
Empathy	5
Paramedical/Support Staff	3
Adequacy of Resources & Services	5
Overall Satisfaction	5

A **five-point Likert scale** was used, ranging from:
1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly Agree.

The questionnaire was divided into three sections:

1. Socio-economic profile of respondents.
2. Perceived and expected values of healthcare service quality.
3. Overall patient satisfaction.

3.4 Data Collection

The study was descriptive in nature and relied on **primary data** collected through structured questionnaires. Surveys were administered face-to-face with patients before discharge, or alternatively through Google Forms and QR codes provided at the discharge office. Participation was voluntary, and informed consent, anonymity, and confidentiality were assured.

3.5 Pilot Study

A **pilot test** was conducted with 30 patients to evaluate the clarity, relevance, and reliability of the questionnaire. Feedback led to minor modifications to wording and sequencing. The final version demonstrated strong internal consistency, as indicated by high Cronbach's alpha values(0.955 for perceived items and 0.984 for expected items).

ANALYSIS AND INTERPRETATION

Table 1: Gender Distribution of Respondents

Gender	Frequency	Percent
Female	165	65.84
Male	85	34.16
Total	**250**	**100.00**

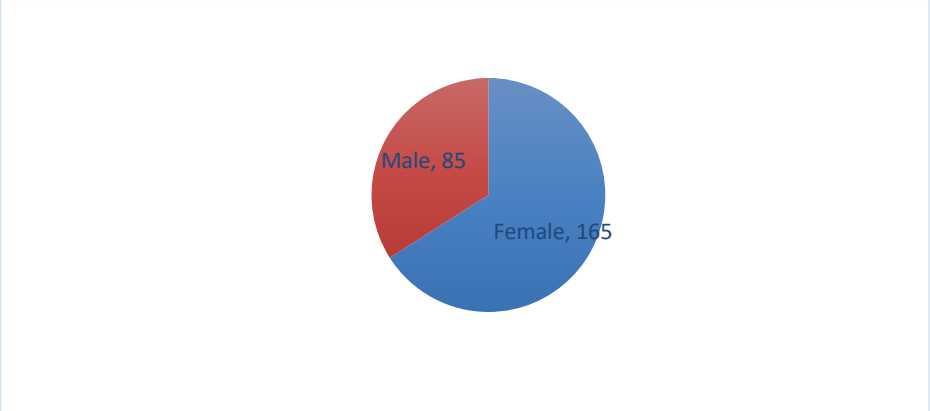

Figure 1:Personal profile of the Respondents

The table shows that the majority are female, accounting for 65.84%, while 34.16% are male. This indicates that female patients constitute a larger proportion of the private hospital's clientele, This gender imbalance could reflect differences in health-seeking behavior, awareness of preventive care, or attitudes toward healthcare utilization. Understanding this pattern is important, as it may influence perceptions of service quality and overall patient satisfaction levels across gender groups.

Table .2: Age Distribution of Respondents

Age	Frequency	Percent
More than 45 years	111	44.39
From 36 Years to 45 Years	108	43.39
From 25 Years to 35 Years	22	8.35
Below 25 Years	9	3.87
Total	**250**	**100.00**

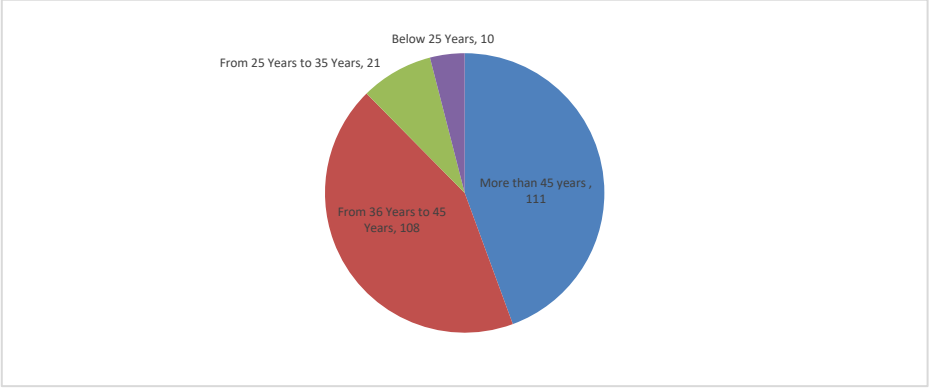

Figure 2: Age Distribution of Respondents

The table detailing the age distribution of respondents reveals that the largest proportion (44.39%) are aged above 45 years, followed closely by those between 36 and 45 years (43.39%). A smaller percentage (8.35%) fall within the 25–35 years category, while only 3.87% are under 25 years. This pattern indicates that the majority of patients accessing healthcare services in the study setting are middle-aged or older adults. Such a distribution may suggest that healthcare utilization increases with age, possibly due to a higher prevalence of chronic health conditions and greater health awareness among older populations. These insights are relevant, as age can influence perceptions of service quality, expectations, and satisfaction with healthcare delivery.

The suitability of the data for factor analysis was evaluated using The Kaiser-Meyer-Olkin (KMO) measure and Bartlett's Test of Sphericity were applied to check data suitability for factor analysis. KMO values of 0.747 (perceived) and 0.758 (expected) exceeded the 0.70 threshold, indicating adequate sampling. Bartlett's Test was significant (χ^2 = 9912.263 and 13254.800, $p < 0.001$), confirming correlations among variables and supporting the use of factor analysis.

Table 3: KMO and Bartlett's Test

Test	Perceived Value	Expected Value	Interpretation
KMO Measure	0.747	0.758	Acceptable (>0.7)
Bartlett's χ^2	9912.263	13254.800	$p < 0.001$
Degrees of Freedom	250	250	—

Factor Extraction

Principal Component Analysis (PCA) conducted on the expected value data identified nine factors with eigenvalues > 1, explaining 67.69% of the total variance. The first component explained 16.45%, and the rotated solution distributed variance more evenly, confirming the multidimensional nature of service quality.

Table 4: Total Variance Explained (Perceived Value)

Component	Initial Eigenvalues			Extraction Sums of			Rotation Sums of		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	4.935	16.45	16.45	4.935	16.45	16.45	3.554	11.85	11.85
2	3.777	12.59	29.04	3.777	12.59	29.04	3.204	10.68	22.53
3	2.566	8.55	37.59	2.566	8.55	37.59	2.483	8.28	30.80
4	2.123	7.08	44.67	2.123	7.08	44.67	2.286	7.62	38.43
5	1.700	5.67	50.33	1.700	5.67	50.33	2.121	7.07	45.50
6	1.508	5.03	55.36	1.508	5.03	55.36	1.896	6.32	51.82
7	1.399	4.66	60.02	1.399	4.66	60.02	1.826	6.09	57.90
8	1.215	4.05	64.07	1.215	4.05	64.07	1.562	5.21	63.11
9	1.086	3.62	67.69	1.086	3.62	67.69	1.375	4.58	67.69

The *Initial Eigenvalues* column shows the variance explained by each component before rotation, with the first component accounting for 16.45% and the first nine components together explaining 67.69%, meeting the Kaiser Criterion (eigenvalues > 1). After Varimax rotation, the variance was more evenly distributed, improving clarity and revealing stronger factor structures, while the cumulative variance of 67.69% confirms that the extracted components capture a substantial proportion of the dataset's information. The rotated component matrix from PCA further identified the key dimensions shaping patients' perceptions of service quality, with Varimax rotation and Kaiser Normalization enhancing interpretability and converging after 30 iterations. This finding implies that the SERVQUAL model dimensions used in this study are both conceptually and statistically valid for assessing healthcare service quality in the sampled population. The rotated component matrix from the PCA further highlighted the primary dimensions influencing patients' perceptions of service quality, confirming that service quality is a multidimensional construct. These results reinforce the suitability of the chosen factors for subsequent analyses

Table 5: Rotated Component Matrix (Perceived Value)

Rotated Matrix Component	1	2	3	4	5	6	7	8	9
Modern equipment looking	0.006	0.296	0.119	-0.05	0.842	-0.08	0	0.029	0.007
Physical facilities be visually appealing will	-0	0.301	0.155	-0.1	0.833	-0.07	0.015	0.077	-0.02
Personnel will be neat in appearance	0.054	0.478	-0.04	-0.04	0.549	-0.1	0.335	-0.09	-0.03
Materials associated with service will be visually appealing	-0.19	0.778	-0.07	0.113	0.117	0.014	0.053	0.07	0.011
Promise to do something by a certain time they will do so.	0.02	0.773	0.125	0.016	0.165	0.127	-0.13	-0.16	-0.03
Patient has a problem, show a sincere interest in solving it	0.25	0.714	0.108	-0.05	0.247	0.004	0.054	-0.11	0
Get things right the first time	0.02	0.746	0.178	0.019	0.226	0.003	-0.02	0.051	0.015
Provide their services at the time they promise to do so	0.497	0.404	0.234	-0.11	0.036	-0.15	0.206	-0.07	-0.03
Insist records on error free	0.035	0.146	0.799	-0.03	0.036	-0.01	0.001	-0.09	0.006
Personnel in will tell patients exactly when services will be performed	0.129	0.038	0.695	-0.03	0.159	-0.11	0.383	-0.02	-0.02
Personnel in will give prompt service to patients.	-0.11	0.102	0.854	0.009	0.099	-0.03	0.083	0.05	0.013
Personnel in always be willing help patients will to	0.216	-0.07	0.251	0.167	0.078	-0.01	0.759	-0.1	0.004
Personnel in will never be too busy to respond to patient request	0.124	0.026	-0.12	0.56	-0.31	0.015	0.16	0.334	0.033
The behavior of personnel in will instill confidence in patient	-0.44	0.098	-0	0.612	-0.14	0.181	0.069	0.088	0.05
Patients of will feel safe in their dealings with the private hospital	0.157	0.108	0.043	0.67	-0.01	0.276	0.03	-0.06	0.04
Personnel in consistently with patients will be courteous	0.704	0.013	-0.02	0.242	0.005	0.155	0.07	0.148	0.018
Hospital will give the knowledge to answer patients questions	-0.61	0.046	0.055	-0.23	-0.07	0.068	-0.16	0.573	0.038
Give patients individual attention	-0.53	0.153	0.126	-0.51	-0.08	0.088	-0.04	-0.24	0.06
Operating hours convenient to all their patients	0.135	0.103	-0.05	-0.77	-0.02	0.132	0.215	0.156	0.066
Staff who give patients personal attention	-0.16	0.136	0.016	-0.07	-0.07	-0.02	0.059	-0.8	0.01
Have the patients best interest at heart	0.67	0.144	-0.03	-0.08	0.048	0.011	0.009	0.272	0.051
The personnel of will understand the specific needs of their patients	-0.76	0.039	-0.06	0.177	0.036	0.217	0.107	0.013	0.013
Qualified Paramedical / Support Staff available all the time	-0.02	-0.03	-0.15	0.088	-0.09	0.866	0.083	-0.04	-0.02
Paramedical / Support staff in will show compassion and support	-0.11	0.11	0.046	0.037	-0.04	0.82	-0.15	0.091	-0.03
Paramedical / Support staff in will show adequate respect to patients	0.785	-0.04	-0.08	-0.04	-0.11	0.063	0.297	-0.3	0.013
Adequate Rooms	-0.21	0.132	0.486	0.121	-0.03	-0.11	-0.53	0.294	0.015
Waiting for consultation will be too long in	-0.11	0.199	0.268	-0.14	0.202	-0.41	0.464	0.124	0.018
Drugs are available all the time	-0.02	0.395	0.168	-0.15	-0.13	-0.09	0.423	0.065	0.014
Proper safety comfort measures be present and will	-0.06	0.019	0.008	0.042	0.029	0.003	0.004	-0.07	-0.82
Hygienic care and procedures will be followed by personnel	-0.05	0.009	0.014	0.047	0.014	-0.04	0.009	-0.06	0.821

The reliability of the instrument was tested using Cronbach's alpha for both perceived and expected service quality dimensions, with all coefficients exceeding the 0.70 threshold, confirming strong internal consistency. For perceived items, alpha values ranged from 0.969 for Tangibles and Reliability to 0.982 for Empathy, with an overall average of 0.955. Expected items showed even higher consistency, with values ranging from 0.961 for Paramedical/Support Staff to 0.996 for Tangibles and Adequacy of Resources & Services, averaging 0.984. Since all values are above 0.90, they indicate excellent reliability, showing that the items within each construct are highly correlated and consistently measure the intended concepts, making the questionnaire a dependable tool for evaluating service quality.

Table 8 Reliability Statistics :

Category	Perceived Items (α)	Expected Items (α)
Tangibles	.969	.996
Reliability	.969	.982
Responsiveness	.974	.973
Assurance	.974	.989
Empathy	.982	.990
Paramedical / Support Staff	.977	.961
Adequacy of Resources & Services	.973	.996
Average	**0.955**	**0.984**

Table 9 Consolidated Mean Score for Service quality variable:

Dimension	Perceived Mean	Perceived SD	Expected Mean	Expected SD	Gap
Tangibles	3.806	0.645	3.602	0.664	+0.204
Adequacy of Resources	3.444	0.513	3.504	0.554	-0.060
Empathy	3.230	1.054	3.148	1.084	+0.082
Paramedical Staff	3.160	0.818	3.247	0.559	-0.087
Assurance	2.861	0.734	3.056	0.672	-0.195
Responsiveness	2.796	0.901	2.898	1.036	-0.102
Reliability	2.815	1.024	3.155	0.979	-0.340

The results show that patients rated tangibles highest (Mean = 3.806), especially visually appealing facilities (Mean = 4.000) and modern equipment (Mean = 3.963). Adequacy of resources ranked second (Mean = 3.444), with positive scores for adequate rooms (Mean = 3.731) and drug availability (Mean = 3.788), though hygienic care (Mean = 2.747) lagged behind. Empathy was moderately positive (Mean = 3.230), supported by convenient operating hours (Mean = 3.741), but personalized attention (Mean = 2.741) was weaker. Paramedical/support staff scored 3.160, with staff availability (Mean = 3.519) rated higher than compassion (Mean = 2.963). In contrast, assurance (2.861), reliability (2.815), and responsiveness (2.796) were weaker, with courtesy (Mean = 2.259), error-free records (Mean = 2.222), and prompt service (Mean = 2.704) identified as shortcomings. Overall satisfaction was low (Mean = 2.489), particularly for medical care (Mean = 1.519) and hospital personnel (Mean = 2.259), s These results imply that while the private hospital performs well in visible and structural aspects of service delivery, it falls short in relational and process-based dimensions—areas that are critical for patient trust and satisfaction. The findings highlight an urgent need to strengthen staff training in empathy, communication, and responsiveness, alongside improving internal systems to enhance reliability and service efficiency. Addressing these gaps would likely lead to improved patient experiences and higher overall satisfaction

This section examines whether demographic variables such as gender and age are associated with perceived and expected service quality dimensions using chi-square tests. The null hypothesis (H_0) states that no significant association exists between demographic factors and service quality dimensions.

Table 10 Association between Gender and Dimensions of Service Quality

Dimensions	PERCEIVED VALUE			EXPECTED VALUE		
	PV	df	Sig.	PV	Df	Sig.
Tangibles	4.068	3	0.254	16.475	1	0.000*
Reliability	25.221	2	0.000*	24.490	2	0.000*
Responsiveness	1.348	2	0.510	29.638	2	0.000*
Assurance	1.348	2	0.510	0.000	1	0.998
Empathy	2.816	2	0.245	22.714	2	0.000*
Paramedical / Support Staff	0.166	2	0.921	21.312	1	0.000*
Adequacy of Resources & Services	3.185	2	0.203	0.094	1	0.760

*Note: *p < 0.05 indicates statistical significance*

Among perceived dimensions, only Reliability is significantly associated with gender (p = 0.000), while others show no difference. For expected values, gender shows significant differences in most dimensions—Tangibles, Reliability, Responsiveness, Empathy, and Paramedical Support—but not in Assurance or Adequacy of Resources.

Table 11 Association between Age and Dimensions of Service Quality

Sno	Dimensions	PERCEIVED VALUE			EXPECTED VALUE		
		PV	df	Sig.	PV	Df	Sig.
1	Tangibles	20.363	9	0.016*	52.428	3	0.000*
2	Reliability	98.657	6	0.000*	83.743	6	0.000*
3	Responsiveness	5.290	6	0.507	125.517	6	0.000*
4	Assurance	5.230	6	0.509	11.691	3	0.009*
5	Empathy	9.020	6	0.172	109.018	6	0.000*
6	Paramedical / Support Staff	52.805	6	0.000*	53.015	3	0.000*
7	Adequacy of Resources & Services	14.689	6	0.023*	12.636	3	0.005*

*Note: *p < 0.05 indicates statistical significance*

For perceived values, Tangibles, Reliability, Paramedical/Support Staff, and Adequacy of Resources vary significantly by age, while Responsiveness, Assurance, and Empathy do not. For expected values, all seven dimensions show significant age-based differences, suggesting that age strongly influences service quality expectations.

The Paired Samples Test was conducted to compare perceived and expected service quality across all dimensions, helping to determine whether gaps exist between patient expectations and actual experiences. The hypotheses guiding this test were:

- H_0: No significant difference exists between perceived and expected service quality.
- H_1: A significant difference exists between perceived and expected service quality.

Paired samples correlations were then examined to assess the strength and direction of relationships between perceived and expected scores for each service quality dimension, highlighting whether patients' expectations aligned with their actual experiences.

TABLE 12: Paired Samples Correlation between Perceived and Expected Service Quality

Dimension	Correlation (r)	Sig. (p)	Interpretation
Reliability	0.812	0.000	Strong positive and statistically significant relationship, indicating that patients' perceptions of reliability closely align with their expectations of hospital reliability.
Responsiveness	0.736	0.000	Strong and significant positive relationship, suggesting that patients' perceptions of responsiveness are largely consistent with their expectations.
Assurance	0.684	0.000	Moderate-to-strong positive and significant relationship, reflecting a high level of alignment between perceived and expected assurance.
Empathy	0.701	0.000	Strong positive and significant relationship, implying that patients' expectations of empathy are generally met by their experiences.
Paramedical / Support Staff	0.773	0.000	Strong positive and significant relationship, demonstrating that patients perceive support staff performance to be consistent with their expectations.

The correlation analysis indicates generally strong and statistically significant positive relationships between perceived and expected service quality across all dimensions. The highest correlations were observed in reliability (r = 0.812), paramedical/support staff (r = 0.773), and responsiveness (r = 0.736), signifying that patients' experiences in these areas closely mirror their expectations. Similarly, assurance (r = 0.684) and empathy (r = 0.701) also exhibited substantial positive correlations, suggesting consistent delivery of interpersonal and professional care aspects. Overall, these results imply that the private hospital's service quality performance aligns well with patient expectations across most SERVQUAL dimensions. This alignment reflects effective service delivery, patient-centered practices, and satisfactory staff-patient interaction, indicating that the private hospital has achieved a commendable level of service quality consistency from the patient's perspective.

Pearson's Correlation Coefficient was applied to assess the interrelationships among the dimensions of service quality for both perceived and expected values. This analysis was undertaken to identify how changes in one service quality dimension may influence others, thereby revealing the internal coherence of the SERVQUAL framework within the healthcare context. A strong positive correlation indicates that an improvement in one dimension (such as responsiveness) is likely to be accompanied by enhancements in others (such as assurance or empathy), suggesting that these dimensions function synergistically in shaping patient experiences. Conversely, a weak or non-significant correlation suggests that the relationship between dimensions is limited or inconsistent, meaning improvements in one area may not necessarily affect others. Understanding these interrelationships is essential for developing targeted and integrated service improvement strategies that enhance overall patient satisfaction and perceived service quality.

Table 13 ***Correlation Matrix of Service Quality Dimensions (Perceived Value)***

Dimension	Tangibles	Reliability	Responsiveness	Assurance	Empathy	Paramedical Staff	Resources
Tangibles	1	-0.007	-0.036	-0.058	-0.007	0.048	-0.059
Reliability	-	1	0.081*	0.121**	0.322**	-0.484**	0.285**
Responsiveness	-	-	1	0.470**	0.377**	-0.073*	0.270**
Assurance	-	-	-	1	0.368**	-0.111**	-0.050
Empathy	-	-	-	-	1	-0.220**	0.133**
Paramedical Staff	-	-	-	-	-	1	-0.295**
Resources	-	-	-	-	-	-	1

The ANOVA test shows the F ratio for the regression model that indicates the statistical significance of the overall regression model. The F ratio is calculated the same way for regression analysis as it was for the ANOVA technique. The variance Independent variable that is associated with dependent variable (Overall Satisfaction) is referred to as explained variance. The remainder of the total variance in Independent variable that is not associated with dependent variable is referred as unexplained variance.

TABLE 14. ***ANOVA – Association Between Perceived Value and Overall Satisfaction***

	Model	Sum of Squares	df	Mean Square	F	Sig. (p-value)
Overall Satisfaction	Regression	119.252	5	23.850	87.886	0.000(a)
	Residual	215.747	795	0.271	–	–
	Total	334.999	800	–	–	–
Predictors: (Constant), Overall Comfort of Stay at the hospital, Overall amount of Hospital Expenses in comparison with the Medical Care received, Overall Medical Care and Treatment, Overall Hospital Procedure, Overall Hospital Personnel						
b Dependent Variable: Overall satisfaction						

The larger the F ratio the more will be the variance in the dependent variable that is associated with the independent variable. The F-value of 87.886 and a significance level of 0.000 confirm the model's robustness. The null hypothesis (no relationship exists) is rejected. Thus, the relationship between the predictors and the overall satisfaction of patients is statistically significant.

These findings highlight the importance of perceived value in shaping patient satisfaction and emphasize the relevance of improving key service dimensions to enhance overall satisfaction.

FINDINGS AND DISCUSSION

The demographic profile of respondents indicates that women represented nearly two-thirds of the sample, while men accounted for just over one-third. The majority of patients were above 40 years of age, followed by those between 36 and 45, with smaller proportions in younger age groups. Most respondents held a bachelor's degree, while fewer had postgraduate, high school, or other qualifications. The majority were married, and employment was concentrated in the private sector, followed by public service, business, and other occupations. Income distribution revealed that a considerable portion earned less than 1,000 KD monthly, with fewer respondents in middle- and high-income brackets. Most participants reported having health insurance, although approximately one-quarter did not, highlighting a potential area of concern in terms of healthcare accessibility.

The dataset was confirmed suitable for factor analysis through the KMO measure of sampling adequacy and Bartlett's test of sphericity. Principal Component Analysis extracted nine significant factors for perceived service quality, explaining 67.69% of the variance, while the expected service quality model accounted for 73.21%, underscoring the multidimensional nature of healthcare service quality. Reliability testing using Cronbach's alpha yielded coefficients above 0.90 across all constructs, indicating excellent internal consistency and confirming the robustness of the SERVQUAL instrument for assessing patient perceptions and expectations. Structural equation modeling demonstrated a satisfactory fit, with reliability, assurance, and empathy emerging as the strongest predictors of patient satisfaction. Covariance analysis revealed significant positive interrelationships among dimensions such as assurance, empathy, reliability, and tangibles, indicating that improvements in one area tend to reinforce others. Conversely, paramedical staff performance displayed negative associations with several dimensions, suggesting gaps in communication and support that warrant attention.

Patients rated tangible aspects of care most favorably, particularly regarding the cleanliness, modernity, and physical condition of facilities. Adequacy of resources ranked next, although hygiene and procedural organization received comparatively lower scores. Empathy was also positively noted, with patients appreciating convenient service hours and courteous attention, though personalized care was perceived as limited. Paramedical staff performance was moderately rated, with technical competence scoring higher than emotional engagement. In contrast, assurance, reliability, and responsiveness received lower ratings, particularly in areas of promptness, staff courtesy, and accuracy of medical records. Overall satisfaction levels ranged from neutral to low, highlighting areas that require strategic enhancement to meet patient expectations effectively.

Analysis of demographic associations indicated that gender significantly influenced perceptions of reliability, while expectations varied across multiple dimensions. Age demonstrated a significant relationship with tangibles, reliability, adequacy of resources, and support staff, reflecting differing priorities across age groups. Marital status affected perceptions of reliability and support staff, while expectations varied more broadly. Similarly, income, education, and profession showed significant associations, particularly in expectation levels, suggesting that socio-demographic characteristics play a decisive role in shaping both the perception and anticipation of service quality.

Correlation analysis demonstrated generally strong positive relationships between perceived and expected service quality across all dimensions. The highest correlations were observed in reliability ($r = 0.812$), paramedical/support staff ($r = 0.773$), and responsiveness ($r = 0.736$), suggesting that patients' experiences closely mirror their expectations in these areas. Assurance ($r = 0.684$) and empathy ($r = 0.701$) also showed substantial positive correlations, reflecting consistent delivery of interpersonal and professional care aspects. These findings indicate that the private hospital's service quality performance aligns well with patient expectations, highlighting effective operational practices, competent staff performance, and a patient-centered approach. Pearson's correlation further revealed that improvements in one service quality dimension, such as responsiveness, are likely to enhance others, including assurance and empathy, illustrating the interdependent nature of healthcare service components. Negative correlations observed between paramedical staff and other areas highlight internal performance inconsistencies, suggesting the need for targeted interventions to improve support functions.

Taken together, the findings indicate that patient satisfaction is influenced by both service quality performance and socio-demographic factors. While the private hospital performs adequately in tangible and resource-related areas, it falls short of meeting higher expectations in responsiveness, staff courtesy, and personalized care. The strongest gaps are evident in these relational and process-based dimensions, which are critical for patient trust, loyalty, and overall satisfaction. To address these gaps, a patient-centered approach should be adopted, with improved communication, staff training, and service alignment with international standards. The evidence also highlights the importance of integrated service improvement strategies, emphasizing simultaneous enhancements across multiple dimensions to achieve a cumulative impact on patient satisfaction. By prioritizing these areas, the private hospital can reduce perception–expectation gaps, strengthen patient confidence, and foster sustainable improvements in the quality of healthcare delivery.

Recommendations

The study highlights several areas for improvement. Greater transparency and flexibility in pricing can ensure affordability while maintaining service standards. Stronger infection control and better facility management, including dedicated wings and strict hygiene protocols, are critical. Round-the-clock specialist availability and rapid response teams are needed to manage emergencies. Patient experiences can be improved by simplifying admissions, enhancing insurance processes, expanding infrastructure such as ambulance fleets and signage, and strengthening interdepartmental coordination. Investments in staff development, digital technologies, and patient engagement platforms can improve efficiency and communication. Finally, enhancing reliability, empathy, and responsiveness, along with clear communication of improvements, will help the private hospital build stronger patient trust and satisfaction.

CONCLUSION

The study highlights the gap between customer perceptions and expectations regarding the private hospital. Patients have very high expectations from the private hospital, and therefore, the private hospital management should take these findings seriously for future decision-making. In the highly competitive private healthcare sector, the quality of accommodations is of utmost importance in distinguishing one facility from its competitors. The private hospitals should focus on providing exceptional accommodations to patients from admission to discharge. To improve the quality of accommodation provided, the private hospital must assess the current level of service and identify key areas for improvement. The study utilized the SERVQUAL model to evaluate accommodation quality, identifying both strengths and weaknesses in the current service. Additionally, the study lays the groundwork for future research in other facilities to improve accommodation

quality across the entire industry, ultimately leading to a better patient experience.

IMPLICATIONS FOR FURTHER RESEARCH:

This study provides a foundational framework for future research in healthcare service quality and patient satisfaction. While existing literature on perceived healthcare quality and patient happiness remains limited, the following avenues are recommended for deeper exploration:

Future Research Directions

Future research can expand the scope of this study by including multiple cities to capture regional differences in healthcare expectations and patient satisfaction, while also incorporating the perspectives of key stakeholders such as doctors, nurses, and administrators to identify institutional gaps. Another important direction is to examine the relationship between service quality and patient loyalty, exploring both the direct and indirect influences of prior experiences, word-of-mouth, and marketing on patient expectations and retention.

Comparative studies in specialized healthcare settings, including ophthalmology, dental, and oncology hospitals, can provide benchmarks for service quality and highlight how patient satisfaction differs between corporate and government institutions. Research may also focus on the link between employee satisfaction and patient experience, offering valuable insights into how staff morale shapes service delivery and trust.

Demographic influences such as income, education, and the rural–urban divide should also be explored, particularly in relation to cultural expectations and their role in shaping healthcare perceptions. Equally, the effectiveness of quality management frameworks such as Total Quality Management and Lean Healthcare practices requires evaluation, alongside the development of standardized metrics for benchmarking excellence.

Methodologically, future studies may benefit from SERVQUAL-based comparative analyses across competing hospitals, longitudinal tracking of patient satisfaction to assess the effects of policy changes, and mixed-method approaches that combine quantitative data with in-depth qualitative interviews. Addressing these gaps will contribute to evidence-based improvements, ensuring that hospitals like Private not only meet but exceed patient expectations.

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