



Service Quality Dimensions and Patient Satisfaction: Evidence from Private Healthcare Services in Madurai district

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Abstract: Healthcare service quality plays a significant role in determining patient satisfaction and influencing patients' overall healthcare experiences. The present study examines the relationship between healthcare service quality dimensions and patient satisfaction in private healthcare services in Madurai district. The study focuses on four major dimensions of service quality, namely nursing care, facilities, staff services, and medical care. A descriptive cross-sectional research design was adopted, and data were collected from 175 patients using a structured questionnaire. Multiple regression analysis was employed to examine the influence of service quality dimensions on patient satisfaction. The findings reveal that healthcare service quality dimensions collectively explain 42.8% of the variation in patient satisfaction. Among the individual dimensions, facilities, staff services, and medical care were found to have significant positive effects on patient satisfaction, while nursing care did not show a statistically significant unique contribution in the regression model. The study highlights the importance of improving hospital infrastructure, staff interaction, and medical service delivery to enhance patient satisfaction in private healthcare institutions.

Keywords: Healthcare service quality; Patient satisfaction; Private hospitals; Nursing care; Hospital facilities; Staff services

1 Introduction

Healthcare is an important service sector in which the quality-of-service delivery plays a significant role in shaping patients' perceptions and experiences. Unlike many conventional services, healthcare involves considerable interaction between service providers and recipients, making the quality of interpersonal encounters, responsiveness, reliability, and physical facilities important components of patients' evaluations. The increasing expectations of healthcare consumers, greater availability of alternative providers, and growing competition among private hospitals have consequently increased the importance of service quality as a managerial concern. In the Indian healthcare sector, patients' perceptions of service quality have been identified as an important consideration in their choice and preference for hospitals (Mahapatra, 2013).

Service quality is generally understood as the consumer's evaluation of the excellence or superiority of a service. Parasuraman et al. (1988) developed the SERVQUAL instrument to measure perceived service quality and identified five principal dimensions: tangibles, reliability, responsiveness, assurance, and empathy. Tangibles represent the physical facilities, equipment, appearance of personnel, and other physical elements associated with service delivery. Reliability refers to the ability of the service provider to perform the promised service dependably and accurately. Responsiveness reflects the willingness and readiness of employees to provide prompt service and assistance. Assurance encompasses employees' knowledge, courtesy, and ability to inspire confidence, while empathy represents the provision of caring and individualised attention to customers. The SERVQUAL framework has subsequently been widely applied to healthcare services to assess patients' perceptions of service quality (Parasuraman et al., 1988).

The relevance of these dimensions is particularly evident in healthcare because patients evaluate hospitals through both technical and functional aspects of service delivery. While clinical competence and treatment outcomes



remain fundamental, patients also encounter various non-clinical elements, including hospital infrastructure, waiting time, communication, staff behaviour, administrative procedures, cleanliness, and the accessibility of healthcare personnel. Research conducted in Indian private healthcare has demonstrated that service quality perceptions are associated with patients' overall evaluation of healthcare providers. Kondasani and Panda (2015), for example, found that the quality of facilities, interactions with supporting staff, and the relationship between service providers and patients positively influenced customer perceptions in Indian private healthcare.

Patient satisfaction is another important outcome of healthcare service delivery. It represents patients' overall evaluation of the healthcare experience and may be influenced by the extent to which the services received meet their expectations. Service quality and patient satisfaction are closely related concepts, although they represent distinct aspects of the healthcare experience. Service quality focuses on patients' evaluations of specific characteristics of service delivery, whereas satisfaction represents a broader assessment of the service experience. Consequently, examining the relationship between individual service quality dimensions and patient satisfaction can provide useful insights into the aspects of healthcare delivery that are associated with favourable patient evaluations.

Previous studies have demonstrated the applicability of service quality models in private healthcare settings. Sirohi and Singh (2016), using the SERVQUAL framework among inpatients in a private hospital, examined service quality in relation to patients' experiences and satisfaction. Their findings emphasised the importance of hospital facilities, staff behaviour, timely services, and administrative processes in patients' evaluations of healthcare services. Similarly, Mahapatra (2013) applied SERVQUAL to examine patients' perceptions of healthcare services in India and reported differences between patients' expectations and perceptions across service-quality parameters.

The Indian private healthcare sector has also witnessed increasing attention to the multidimensional nature of perceived service quality. Research comparing public and private hospitals has indicated that patients may evaluate different aspects of healthcare quality depending on the institutional context. For instance, research in India identified multiple dimensions of perceived hospital service quality and found differences between public and private healthcare providers in functional and technical aspects of service delivery (Kumar & Sankaran, 2019). Such findings indicate that service quality should be examined within specific healthcare contexts rather than assuming that the contribution of each dimension is identical across hospitals, regions, and patient groups.

International research has similarly demonstrated the usefulness of SERVQUAL in understanding healthcare service quality. Alumran et al. (2021) examined service quality in public and private hospitals and used the SERVQUAL dimensions to assess patients' perceptions of healthcare services. Their study demonstrates the continued relevance of the SERVQUAL framework for evaluating patient-perceived healthcare quality and comparing service delivery across healthcare settings. More recent research has also examined the relationship between healthcare service quality, patient satisfaction, and subsequent patient-related outcomes, reinforcing the importance of patient-centred service delivery in healthcare organisations.

Despite the growing body of research on healthcare service quality, the relative contribution of individual service quality dimensions may vary according to geographical location, type of healthcare organisation, patient characteristics, and healthcare delivery practices. Evidence from Indian studies has largely focused on selected cities and states, making it important to generate context-specific evidence from other healthcare markets. Madurai district represents an important healthcare service environment in Tamil Nadu, with patients accessing services from a range of private hospitals and healthcare institutions. Understanding how patients perceive different dimensions of service quality in this context can provide useful evidence for healthcare administrators and service providers. Against this background, the present study, titled "Service Quality Dimensions and Patient Satisfaction: Evidence from Private Healthcare Services in Madurai District," examines the relationship between the five



service quality dimensions—tangibles, reliability, responsiveness, assurance, and empathy—and patient satisfaction. The study seeks to provide empirical evidence on the extent to which these dimensions are associated with patient satisfaction in private healthcare services. The findings are expected to contribute to the existing literature on healthcare service quality and provide context-specific insights for improving patient-oriented service delivery in private healthcare organisations in Madurai district.

2 Review of Literature

The conceptualization of service quality in healthcare has undergone a significant ontological shift, moving from a unidimensional construct to a multidimensional, perception-based evaluation. This evolution reflects the recognition that healthcare is a high-credence service; because patients often lack the specialized expertise to evaluate technical clinical outcomes, they rely on functional cues to judge the excellence of the service encounter. The conceptualization of service quality in healthcare is primarily rooted in the comparison between patient expectations and perceived performance, often characterized by its inherent intangibility and heterogeneity (Al-Damen, 2017). The SERVQUAL model, which evaluates this disparity between expectations and actual delivery, remains a foundational methodology for quantifying these subjective assessments (Javed et al., 2018). The major theoretical perspectives provided in the literature highlight this trajectory, moving toward increasingly nuanced assessments of the service process:

Table 1 Evolution of Service Quality Dimensions

Author(s) & Year	Core Theoretical Perspective	Dimensions of Quality
Lehtinen & Lehtinen (1982)	Three-part quality structure	Physical, Interactive, and Corporate Quality
Gronroos (1983)	Technical vs. Functional dichotomy	Technical (the outcome) vs. Functional (the process)
Berry (1983)	Outcome vs. Process focus	Outcome Quality vs. Process Quality
Parasuraman et al. (1985/1988)	SERVQUAL Multidimensional Scale	Tangibles, Reliability, Responsiveness, Assurance, and Empathy

The following Comparative Empirical Summary Matrix presents a concise synthesis of selected empirical studies on Healthcare Service Quality. The table compares the studies based on their research context, sample characteristics, service quality dimensions, methodology, and key findings. This comparative analysis helps identify common patterns, methodological approaches, and research gaps in the existing literature on healthcare service quality and patient satisfaction. It also provides a basis for positioning the present study within the broader empirical research on healthcare service quality.

Table 2 Comparative Empirical Summary Matrix: Healthcare Service Quality Studies

Study & Country	Sector / Setting	Sample Size & Sampling	Measurement Scale & Dimensions	Analytical Method(s)	Primary Empirical Findings & Key Insights
Shabbir, Malik, &	Public vs. Private Hospitals (Islamabad)	N = 600 inpatients (300 Public, 300	5 adapted Asian-context dimensions:	Multiple Linear Regression,	Private hospital patients report significantly



Malik (2016) (Pakistan)		Private); Stratified random sampling	Physician care, Nurses care, Supportive staff, Operational activities, Physical maintenance	Independent samples t-tests	higher satisfaction and loyalty ¹⁹ . Physician care is the strongest satisfaction predictor in public hospitals ⁷¹⁰ , whereas physical maintenance and nurses care dominate in private hospitals ⁸⁹ . Patient satisfaction partially mediates HCSQ and loyalty
Fatima, Malik, & Shabbir (2018) (Pakistan)	Private Healthcare Systems (Islamabad / Rawalpindi)	N = 611(381 Inpatients, 230 Outpatients across 6 private hospitals)	5 dimensions: Physical environment, Customer-friendly environment, Communication, Privacy & safety, Responsiveness	Reliability analysis, Pearson Correlation, Multiple Regression (Mediation analysis) ¹²¹⁷	Privacy & safety (beta = 0.312) and Responsiveness (beta = 0.218\$) are the strongest direct predictors of patient satisfaction and loyalty ¹⁷¹⁸ . Patient satisfaction fully/partially mediates all HCSQ dimensions to loyalty ¹²¹⁷ .
Javed, Liu, Mahmoudi, & Nawaz (2019) (Pakistan)	Public vs. Private Healthcare (Lahore & Rawalpindi)	N = 550, outpatients and inpatients	Modified 5- dimension SERVQUAL (Tangibility, Reliability, Responsiveness, Assurance, Empathy)	Deng's Grey Relational Analysis (GRA), Absolute GRA, Second Synthetic GRA, Hurwicz criteria ¹⁹²⁵	Reliability most strongly predicts patient satisfaction in public hospitals, whereas Responsiveness leads in private hospitals ²⁵ . Private sector yields higher overall satisfaction probabilities ²⁵²⁶ . Highlights standard SERVQUAL's omission of "Cost/Price," a



					critical factor in developing markets
Javed & Ilyas (2018) (Pakistan)	Public vs. Private Sector Hospitals (Lahore)	N = 456 patients with dual-sector experience	Classic 5-dimension SERVQUAL scale	Multiple Regression, Laplace Decision Criterion under uncertainty	Empathy is the primary driver of satisfaction in public hospitals (beta = 0.602)30more_horiz, while Responsiveness and Empathy lead in private hospitals3637. Patients maintain higher baseline expectations for public facilities due to perceived constitutional obligations
Agyapong, Afi, & Kwateng (2018) (Ghana)	Tertiary Hospital Delivery	N = 216\$ hospital outpatients / inpatients	Adapted 22-item SERVQUAL; EFA collapsed scale into 4 factors: Prompt Attention, Tangibles, Access, Reliability	Structural Equation Modeling (SEM in LISREL), Exploratory Factor Analysis	Perceived service quality strongly impacts patient satisfaction (gamma = 0.75\$), which in turn drives positive behavioral intentions (beta = 0.50\$)4647. Satisfaction fully mediates the SQ-behavioral intention relationship
Marković, Lončarić, & Lončarić (2014) (Croatia)	Health Tourism / Specialty Hospitals & Health Spas	N = 100+ health tourism patients48	Modified SERVQUAL adapted for health tourism, incorporating supplemental "Output Quality" amenities	Paired samples \$t\$-tests, EFA, Multiple Regression, Pearson Correlation	While clinical functional quality scored high, non-medical "Output Quality" dimensions (entertainment, sports, recreational programs) showed



					the largest negative expectation gaps (P - E = -1.78\$)49. Supplemental hospitality amenities exert the highest impact on overall tourist satisfaction
Aliman & Mohamad (2016) (Malaysia)	Private Hospital Outpatient Care	N = 300, private hospital outpatients	22-item SERVQUAL 5-dimension scale + 7-item Patient Satisfaction + 6-item Behavioral Intentions	Descriptive statistics, Multiple Linear Regression Analysis	HCSQ dimensions significantly predict 60% of the variance in patient satisfaction ($R^2 = 0.60$) and 47% of the variance in behavioral intentions ($R^2 = 0.47$)5354.
Pekkaya, İmamoglu, & Koca (2019) (Turkey)	Bulent Ecevit University Health Research & Application Centre	N = 623, hospital outpatients	22-item 9-point Likert SERVQUAL (5 standard dimensions)	Repeated measures one-way ANOVA, t-tests, Pearson Correlation58mo re_horiz	Tangibles scored the highest in perceived quality5860, but Reliability emerged as the single strongest determinant of overall outpatient satisfaction ($r = 0.458$)60.
Manulik, Rosińczuk, & Karniej (2016) (Poland)	Specialist Ambulatory Healthcare (State vs. Private)	N = 412\$ (211 State facility, 201 Private facility)	5-domain, 22-item SERVQUAL questionnaire	Shapiro-Wilk test, Mann-Whitney U\$ test, Spearman correlation	Actual received quality fell short of expectations across all domains in both sectors61. Private facility patients rated perceived service quality significantly higher across almost all domains compared to state



					facility patients (p < 0.001)
Ahmed, Tarique, & Arif (2017) <i>(Bangladesh)</i>	Healthcare Sector (Public vs. Private Hospitals)	N = 204 patients (88 Public, 116 Private)	5 SERVQUAL dimensions + Patient Satisfaction + Patient Loyalty (29 items)	EFA, Independent samples t-test, One-way ANOVA, Discriminant Analysis	Statistically significant differences exist between sectors across all 7 dimensions. Private hospital patients report higher scores for tangibles (3.92 vs 2.81), reliability (3.78 vs 2.87), satisfaction (3.65 vs 2.79), and loyalty (3.77 vs 2.92)
Purcărea, Gheorghe, & Petrescu (2013) <i>(Romania)</i>	Public Healthcare Services / Gynaecological Outpatient	Gynaecological health forum patients in Bucharest	Standard 22-item, 5-dimension SERVQUAL scale	Internal consistency analysis (Cronbach's alpha), EFA Rotation Matrix, Gap Analysis (\$P - E)	Negative gap scores across all 5 SERVQUAL dimensions, with Responsiveness exhibiting the largest deficit (Gap = -1.26), followed by Assurance (-0.91) and Tangibles (-0.92) 7779.
Lee (2017) / Lee & Kim (2017) <i>(South Korea)</i>	Healthcare Institutions / Multi-stakeholder evaluation	N = 757 respondents (Patients, Protectors, Staff)	HEALTHQUAL Scale (5 components: Empathy, Tangibles, Safety, Efficiency, Improvements of Care)	Confirmatory Factor Analysis (CFA), Structural Equation Modeling (SEM)	Establishes and validates an integrated healthcare-specific scale combining clinical care processes and hospital accreditation criteria, overcoming the limitations of generic SERVQUAL



Previous studies have highlighted that service quality dimensions such as nursing care, medical care, hospital facilities, and staff behaviour significantly influence patients' perceptions and satisfaction levels. The present study focuses on five major variables: nursing care, facilities, staff services, medical care, and patient satisfaction.

Nursing Care and Patient Satisfaction

Nursing care is considered one of the most influential dimensions of healthcare service quality because nurses maintain continuous contact with patients throughout the treatment process. The quality of nursing services, including responsiveness, empathy, communication, technical competence, and emotional support, plays a crucial role in shaping patients' perceptions of healthcare quality. Patient satisfaction is often strongly associated with nurses' ability to provide timely assistance, explain procedures clearly, and demonstrate compassionate behaviour. The SERVQUAL model proposed by Parasuraman et al. (1988) identified reliability, responsiveness, assurance, empathy, and tangibility as major dimensions influencing perceived service quality. These dimensions are particularly relevant in healthcare settings where interpersonal interactions and trust-building between nurses and patients significantly affect satisfaction outcomes. Aiken et al. (2012) highlighted that adequate nursing resources, professional competence, and supportive nursing environments contribute to improved patient outcomes and higher satisfaction levels. Their study demonstrated that nursing care quality is directly associated with patients' experiences of hospital care. Similarly, Kalisch et al. (2011) reported that nursing teamwork, communication, and patient-centred practices positively influence patient satisfaction by improving care coordination and responsiveness. In developing healthcare systems, nursing care has become an important indicator of hospital performance.

Healthcare Facilities and Patient Satisfaction

Physical facilities and hospital infrastructure represent important components of service quality evaluation. Healthcare facilities include cleanliness, hospital environment, availability of medical equipment, diagnostic services, patient rooms, waiting areas, and technological infrastructure. These tangible aspects influence patients' initial impressions and overall evaluation of healthcare services. According to the SERVQUAL framework, tangibility represents the physical appearance of facilities, equipment, and personnel that influence customers' perceptions of service quality (Parasuraman et al., 1988). In healthcare organizations, well-maintained infrastructure and modern facilities create confidence among patients regarding the reliability and effectiveness of healthcare delivery.

Donabedian (1988) emphasized that healthcare quality can be assessed through structural characteristics, including facilities and organizational resources, which influence the process and outcomes of care. Patients receiving services in well-equipped hospitals generally demonstrate higher confidence and positive perceptions regarding healthcare quality (Andaleeb, 2001).

Staff Behaviour and Patient Satisfaction

The behaviour and efficiency of hospital staff significantly influence patients' healthcare experiences. Apart from doctors and nurses, administrative employees, reception staff, technicians, and support personnel contribute to the overall perception of service quality. Courtesy, communication ability, responsiveness, and willingness to assist patients are essential factors determining satisfaction. Bowers et al. (1994) suggested that healthcare service quality depends not only on clinical performance but also on interpersonal interactions between healthcare providers and patients. According to Pakdil and Harwood (2005), communication, empathy, and responsiveness of healthcare employees are significant predictors of patient satisfaction.

Medical Care Quality and Patient Satisfaction

Medical care quality is a fundamental determinant of healthcare satisfaction and includes physicians' competence, diagnostic accuracy, treatment effectiveness, availability, and communication with patients. Patients generally



evaluate medical services based on doctors' expertise, confidence, explanations regarding illness, and involvement in treatment decisions. Donabedian (1988) explained that healthcare quality involves technical competence as well as interpersonal aspects of care. Although clinical outcomes remain important, patients also value communication, empathy, and participation in decision-making processes.

Williams et al. (1998) found that doctor-patient communication significantly influences satisfaction because patients expect healthcare providers to explain diagnoses, treatment options, and medical procedures clearly. Effective communication improves trust and reduces uncertainty among patients. Similarly, Otani et al. (2009) identified physician behaviour, communication, and quality of medical treatment as major factors affecting patient satisfaction in hospitals. Patients who perceive doctors as competent, accessible, and attentive are more likely to report higher satisfaction levels.

Patient Satisfaction as an Indicator of Healthcare Service Quality

Patient satisfaction represents the extent to which healthcare services meet or exceed patients' expectations. It is a multidimensional concept influenced by medical outcomes, interpersonal relationships, hospital facilities, accessibility, and overall service experience. Oliver (1980) proposed the expectation-confirmation theory, suggesting that satisfaction occurs when actual service performance matches or exceeds prior expectations. In healthcare, patients compare their expectations regarding treatment, communication, facilities, and staff behaviour with their actual experiences. Satisfaction is increasingly used as an important indicator of healthcare performance because satisfied patients are more likely to follow medical advice, continue using healthcare services, and recommend hospitals to others (Donabedian, 1988). According to Anderson and Fornell (2000), customer satisfaction contributes to loyalty and positive behavioural intentions in service industries.

3 Research Methodology

The present study adopted a descriptive cross-sectional research design to examine the relationship between service quality dimensions and patient satisfaction in private healthcare services in Madurai district. A descriptive research design is appropriate when the objective is to systematically describe the existing conditions, perceptions, and experiences of respondents without manipulating the study variables. The cross-sectional approach enables the researcher to collect data from patients at a specific point in time and assess their perceptions regarding various dimensions of healthcare service quality. The study focuses on evaluating the influence of four major service quality dimensions, namely nursing care, facilities, staff services, and medical care, on patient satisfaction among patients receiving healthcare services from private hospitals. A quantitative research approach was employed in the present study. The quantitative method allows measurement of patients' perceptions through structured questions and facilitates statistical analysis of relationships between service quality dimensions and patient satisfaction. The study was conducted among patients receiving healthcare services from selected private healthcare institutions in Madurai district, Tamil Nadu. Madurai is an important healthcare centre in southern Tamil Nadu, with several private hospitals providing specialized medical services. The study area was selected to understand patients' perceptions regarding healthcare service quality and satisfaction within private healthcare settings. The population of the study consisted of patients who received healthcare services from selected private hospitals in Madurai district. The target population included patients who had experienced different healthcare services, including consultation, treatment, nursing services, diagnostic facilities, and hospital support services. The participants were selected based on specific inclusion criteria to ensure that the collected data accurately represented patients' perceptions of healthcare service quality. The study included patients who had received healthcare services from selected private hospitals in Madurai district, were aged 18 years and above, were willing to participate voluntarily, and had sufficient experience with hospital services to evaluate various dimensions of service quality, including nursing care, facilities, staff services, and medical care. Patients who were critically ill and unable to provide reliable responses, those who were unwilling to participate in the study, and individuals



who had insufficient exposure to healthcare services were excluded from the research. These criteria were established to ensure the accuracy, reliability, and relevance of the responses collected for assessing patient satisfaction and service quality dimensions.

The sample size for the present study consisted of 175 patients who received healthcare services from selected private hospitals in Madurai district. The sample size was considered adequate to assess patients' perceptions regarding service quality dimensions and satisfaction levels using statistical analysis. A non-probability convenience sampling technique was adopted for selecting respondents. Patients who were available during the data collection period and fulfilled the inclusion criteria were invited to participate in the study. Convenience sampling was selected because the study focused on obtaining information directly from patients who had recent experiences with private healthcare services and were willing to provide responses. A survey method was used for collecting primary data from respondents. Data were collected using a structured questionnaire designed to measure patients' perceptions regarding healthcare service quality dimensions and overall satisfaction.

The questionnaire was administered directly to patients visiting selected private healthcare institutions. Respondents were provided with adequate instructions regarding the purpose of the study and confidentiality of their responses. A structured questionnaire was developed based on previous healthcare service quality studies and modified according to the objectives of the present research. The questionnaire was reviewed by experts in healthcare management and research methodology to ensure content validity. Necessary modifications were incorporated based on expert suggestions. The reliability of the questionnaire was assessed using Cronbach's Alpha coefficient to determine the internal consistency of the measurement items. A value above 0.70 was considered acceptable for ensuring reliability of the instrument.

4 Results and Discussion

This section presents the results of the study based on the data collected from the respondents. The analysis was carried out using both descriptive and inferential statistical techniques. Percentage analysis was used to describe the demographic profile and general characteristics of the respondents, including gender, age, occupation, and monthly income. In addition, multiple regression analysis was employed to examine the impact of the selected healthcare service quality dimensions namely nursing care, facilities, staff services, and medical care—on patient satisfaction.

Profile of the respondents

The demographic profile of the 175 respondents indicates that the sample was predominantly female, with 142 respondents (81.1%), while 33 respondents (18.9%) were male. With respect to age, the largest proportion of respondents belonged to the 21–30 years age group, accounting for 76 respondents (43.4%), followed by 55 respondents (31.4%) in the 31–40 years category. Respondents below 20 years and above 41 years each accounted for 22 respondents (12.6%). In terms of occupation, housewives constituted the largest group with 79 respondents (45.1%), followed by students with 41 (23.4%), employees with 37 (21.1%), and business respondents with 18 (10.3%). Regarding monthly income, the largest group, comprising 67 respondents (38.3%), reported an income between Rs. 20,001 and Rs. 30,000, while 56 respondents (32.0%) earned below Rs. 20,000. A further 35 respondents (20.0%) reported monthly income between Rs. 30,001 and Rs. 40,000, whereas 17 respondents (9.7%) earned above Rs. 40,001. Overall, the demographic distribution shows that the study sample was largely characterized by female respondents, individuals aged 21–30 years, housewives, and respondents within the Rs. 20,001–30,000 monthly income category.

Impact of Health care Service Quality Dimensions on Patient Satisfaction

Table 1 presents the multiple regression model examining the impact of four healthcare service-quality dimensions—nursing care, facilities, staff services, and medical care—on patient satisfaction. The multiple

correlation coefficient ($R = .654$) indicates a moderately strong positive relationship between the combined service-quality dimensions and patient satisfaction. The R^2 value of .428 indicates that 42.8% of the variance in patient satisfaction is explained jointly by nursing care, facilities, staff services, and medical care. The remaining 57.2% is attributable to factors not included in the model and random variation. The adjusted R^2 of .423 is close to R^2 , indicating that the model retains similar explanatory power after adjustment for the number of predictors. The ANOVA results demonstrate that the overall multiple regression model is statistically significant, $F(4, 395) = 73.994$, $p < .001$. Therefore, the four service-quality dimensions, considered collectively, significantly predict patient satisfaction. These findings establish that the regression model as a whole provides statistically significant explanatory information regarding variation in patient satisfaction.

Table 1 Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.654 ^a	.428	.423	.55597
a. Predictors: (Constant), nursing care, facilities, staff services, and medical care				

Table 2 ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	91.489	4	22.872	73.994	.000 ^b
	Residual	122.098	395	.309		
	Total	213.586	399			
a. Dependent Variable: Patient Satisfaction						
b. Predictors: (Constant), nursing care, facilities, staff services, and medical care						

Table 3 Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.977	.252		3.881	.000
	Nursing care	.005	.049	.004	.101	.919
	Facilities	.391	.060	.363	6.545	.000
	Staff Services	.202	.059	.197	3.446	.001

	Medical Care	.171	.052	.177	3.301	.001
a. Dependent Variable: Patient Satisfaction						

Table 4 Hypothesis Results

Predictor	B	β	t	p	Interpretation
Nursing care	.005	.004	.101	.919	Not significant
Facilities	.391	.363	6.545	< .001	Significant positive predictor
Staff services	.202	.197	3.446	.001	Significant positive predictor
Medical care	.171	.177	3.301	.001	Significant positive predictor

Among the predictors, facilities have the largest standardized coefficient ($\beta = .363$), indicating the strongest statistical association with patient satisfaction within this regression model. Holding the other predictors constant, a one-unit increase in facilities is associated with a .391-unit increase in predicted patient satisfaction. Staff services also significantly and positively predict patient satisfaction ($B = .202$, $\beta = .197$, $p = .001$), while medical care has a significant positive coefficient ($B = .171$, $\beta = .177$, $p = .001$). In contrast, nursing care is not a statistically significant predictor after controlling for the other dimensions ($B = .005$, $\beta = .004$, $p = .919$). This does not establish that nursing care is unimportant in general; rather, it indicates that it does not make a statistically significant unique contribution to patient satisfaction in this particular multivariable model. The analysis shows that healthcare service-quality dimensions collectively explain 42.8% of the variation in patient satisfaction, and the overall model is statistically significant, $F(4,395) = 73.994$, $p < .001$. Facilities, staff services, and medical care have significant positive coefficients, whereas nursing care does not have a statistically significant unique coefficient. Among the significant predictors, facilities show the largest standardized regression coefficient ($\beta = .363$).

5 Conclusion

The study concludes that service quality dimensions play an important role in shaping patient satisfaction in private healthcare services. The regression analysis confirms that nursing care, facilities, staff services, and medical care collectively contribute significantly to explaining variations in patient satisfaction. Among these factors, hospital facilities emerged as the strongest predictor, followed by staff services and medical care. Although nursing care is an essential component of healthcare delivery, it did not demonstrate a significant independent effect within the present regression model after controlling for other variables. The findings suggest that private healthcare institutions should focus on strengthening physical infrastructure, maintaining efficient service processes, improving staff responsiveness, and ensuring effective medical care to improve patient experiences. Continuous evaluation of service quality dimensions can help healthcare providers develop patient-centred strategies and enhance satisfaction levels among patients. The study provides context-specific insights for improving healthcare service delivery in private hospitals in Madurai district.

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