An Examination of the Relationship Between Service Quality and Patients' Satisfaction in the Hospital Industry

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Abstract

This study attempted to measure the influence of various hospital service quality on patient's satisfaction. This study identified five dimensions of hospital service quality. These are: Clinical Care, Admission Procedure, Reliability, Trust, and Infrastructure. This study was conducted in Erode, Coimbatore, Salem, and Karur city in Tamil Nadu. This study employed the questionnaire method to collect data from the patients. Data collected were analyzed by using statistical tools such as factor analysis, multiple regression, correlation, and Cronbach's alpha. The study also supported that Clinical Care, Admission Procedure, Reliability, Trust, and Infrastructure affect patients' satisfaction. Among the male patients, there was a significant impact of all dimensions of service quality on patients' satisfaction ; whereas, among the female patients, it was Clinical Care and Trust. Furthermore, the highly perceived hospital service quality dimensions among the patients are Trust and Clinical Care. The study findings have significant implications for hospital administrators. This study can also used as a tool by the hospital administrator to identify various dimensions of hospital service quality where improvements are needed to enhance patients' satisfaction.

Keywords: **clinical care, trust, reliability, infrastructure, service quality**

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In the global and highly competitive economy, it is fatal for a business organization to be non-customer oriented. Indeed, to survive, organizations need to produce products and services of very good quality that yield highly satisfied and loyal customers (Fecikova, 2004). Patient satisfaction and quality care are important indicators for the success of healthcare enterprises. To sustain growth and competency, it is necessary for a hospital to focus its attention on quality and efficiency of its services in a continuous manner (Buhaug, 2002). Parsuraman, Zeithaml, and Berry (1988) defined service quality as the gap between customers' expectations of service and their perception of the service experience.

Several researchers have developed alternative concepts for service quality like the Nordic view (Gronroos, 1984) and the American view (Parsuraman, Zeithaml, & Berry, 1988). The Nordic view explains service quality on two dimensions, that is, functional and technical quality. The American view explains service quality on five dimensions - tangibility, empathy, assurance, reliability, and responsiveness. Various researchers have developed the service quality framework for a variety of sectors like retail store (Dabholkar, Thrope, & Rentz, 1996) ; hotel (Ingram & Daskalakis,1999) ; logistics service quality (Mentzer, Flint, & Hult, 2001) ; banks (Bahia & Nantel,

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2000) ; universities and hospitals (Bigne, Moliner, & Sanchez, 2003) for assessing perceived service quality. As patients are often unable to assess the technical quality of medical services accurately and these services are dominant in credence qualities (Zeithaml & Bitner, 2003), functional quality is the primary determinant of patients' perception of quality (Donabedian, 1980).

The health care industry is witnessing unprecedented challenges and changes in terms of technology, infrastructure, prices, and so forth that has led to identified competition among health care units (Chahal & Kumari, 2010). The health care units' movement towards managed health care systems, with focus on patient satisfaction and loyalty, is the key strategy to sustain competition (Singh, 2005). Several studies have established the link between hospital service quality and patient satisfaction. Reidenbach and Smallwood (1990) identified that the overall scale quality perception of patients, their satisfaction, and their willingness to recommend to others were strongly correlated to each other in different hospital settings particularly in-patients, out-patients, and emergency care patients. Service quality has received wide academic research over the past two decades because previous studies have revealed that high levels of perceived customer service quality can exert a positive influence on customer satisfaction (Cronin & Taylor, 1992 ; Parasuraman, Berry, & Zeithaml, 1991) and firm profitability (Lasser, Manolis, & Winsor, 2000). Several researchers also claimed that there is a direct relationship between service quality and relationship quality (Meng & Elliott, 2008; Ndubisi, Khoo - Lattimore, Yang, & Capel, 2011).

Customer satisfaction has long been recognized as a central concept and a critical goal of all business activities (Morgan, Anderson, & Mittal, 2005 ; Yi, 1990). Morgan et al. (2005) identified a significant relationship between a company's financial performance and the satisfaction of its customers. Prior research shows that satisfied customers stick with certain specific firms (Zeithaml, Berry, & Parasuraman, 1996) and are more willing to provide feedback (Olorunniwo & Hsu, 2006) and make recommendations (Gray, 2006).

Review of Literature

Service quality and satisfaction are distinct constructs with service quality considered as an antecedent to satisfaction (Taylor & Thomas, 1994). Service quality is a customer's judgement of the overall excellence or superiority of a service (Zeithaml, 1988). Several studies have been conducted to assess perceived service quality of the hospital sector in different countries. Donabedian (1980) identified seven attributes of health care quality: efficacy, effectiveness, efficiency, optimality, acceptability, legitimacy, and equity. Carman (1990) identified admission, tangibles, accommodation, tangible food, tangible privacy, nursing, explanation, visitor access, courtesy, discharge planning , and patient accounting to be the important dimensions of perceived service quality for hospitals. Brown and Swartz (1989) evaluated medical services from both the provider and customer perspectives by conducting a gap analysis and found that physician interaction was the most significant independent variable influencing customer satisfaction.

Jabnoun and Chacker (2003) evaluated the service quality perceptions of patients between private and public hospitals in UAE. It was found that reliability, responsiveness, supporting skills, empathy, and tangibles were the dimensions of the service offered and the researchers also identified that private and public hospitals significantly differed in terms of all these dimensions except supporting skills. Andaleeb (1988) identified communication, cost, facility, competency, and demeanour to be the important determinants of patient satisfaction in hospital services. Otani and Kurz (2004) found that the admission process, physician care, compassion to family / friends, pleasantness of surroundings, and the discharge process were the critical dimensions of service quality in case of hospitals in USA. Rose, Uli, Abdul, and Ng (2004), in their study on service quality dimensions in a Malaysian hospital, found interpersonal aspect, patient satisfaction, cost, technical aspect, outcome of the care, access time, amenities, and social support to be the key dimensions of service quality in case of hospitals.

Customer perception with regard to evaluation of health care quality has been studied by a number of researchers (Donabedian, 1980, 1982 ; Palmer, 1991; Reerink & Sauerborn, 1996). Several researchers observed

that quality perception impacts satisfaction, that is, service quality is an antecedent of satisfaction (Cronin & Taylor, 1992 ; Heskett, Sasser, & Schlesinger, 1997 ; Kasper, Van Helsdingen, & De vries, 1999 ; Parasuraman, Zeithaml , & Berry, 1994 ; Storbacka, Strandvik, & Gronroos, 1994), and it exerts a strong influence on purchase intentions (Cronin & Taylor 1992).

Studies conducted in Nigeria (Uzochukwu, Onwujekwe, & Akpala, 2004), Bangladesh (Andaleeb, 2000), Nepal (Lafond, 1995), Vietnam (Guldner & Rifkin, 1993), and Sri Lanka (Akin & Hutchison, 1999) supported the strong relationship between patient perception and health care service utilization. Reidenbach and Smallwood (1990) identified patient confidence, business competence, treatment quality, support service, physical appearance, waiting time, and empathy to be the important dimensions of service quality. A study conducted by Ramsaran-Fowdar (2008) found that reliability & fair and equitable treatment were the most important service quality dimensions in Mauritius health care services.

Narang (2011) examined patients' perception towards quality of services in public health care centres in rural India. The results showed that respondents' perception towards health care quality were not favourable. Jayesh and Garg (2010) developed a scale for measuring perceived service quality for public hospitals from the patients' perspective. The study identified five dimensions of hospital service quality. These are: admission, medical service, overall service, discharge process, and social responsibility. Atinga, Abekah - Nkrumah, and Domfeh's (2011) study on managing health care quality in Ghana revealed that support care, environment of the facility, and waiting time were significant predictors of patient satisfaction. Naidu (2009) found that health care quality influenced patient satisfaction, which in turn influenced positive patient behaviour such as loyalty. Muslim and Siti (2013), in their study on hospital service quality and its effects on patient satisfaction and behavioural intention, showed that admission, medical service, overall service, discharge, and social responsibility had a significant relationship with hospital service quality.

Lien, Wu, Chen, and Wang (2014) examined the effect of service quality on trust. The study findings revealed that interaction quality and outcome quality positively influenced patients' trust in the original hospital. The study also concluded that trust in the original hospital and its allied hospitals positively influenced patients' willingness to recommend the allied hospitals. Ehsan (2015) assessed the service quality of hospital outpatients departments from the patients' perspective. The study found that physician consultation, information provided to the patient, and the physical environment of the clinic were the factors determining quality of outpatient services. Shabbir, Malik, and Malik (2006) explored the relationship between healthcare perceived service quality and patient loyalty. The study concluded that health care perceived service quality had a significant effect on patients' loyalty. Furthermore, patient satisfaction also mediated the relationship between healthcare perceived service quality and patient loyalty. Singh (2009) found that as a result of globalization, the health care sector in India has been attracting patients from U.S., Europe, Asia, and other developing and developed countries.

Although several studies have been conducted with regard to hospital service quality, most of the studies have been conducted in Western countries. Only limited research has been conducted in India. Also, with regard to hospital service quality, there is no exclusive study that has been conducted in Erode District, Tamil Nadu. Therefore, we intend to fill the gap by examining the relationship between hospital service quality and patient satisfaction.

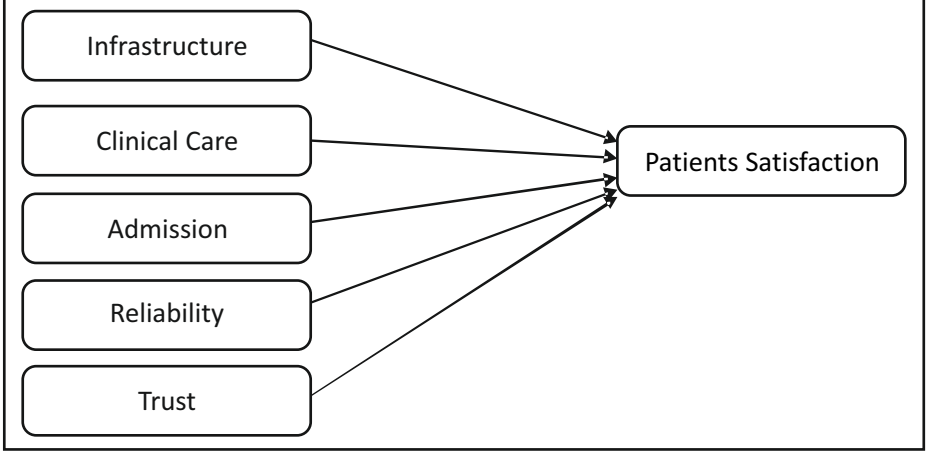
Research Framework

(1) Proposed Research Model : This study is approached with the use of the proposed model (see Figure 1).

(2) Objectives of the Study : Based on the proposed research model, the objectives of the study are :

(i) To identify important antecedents of hospital service quality.

Figure 1. Proposed Research Model



(ii) To measure the impact of hospital service quality in case of male and female patient satisfaction.

(iii) To measure the impact of hospital service quality with respect to patient satisfaction.

(iv) To examine the relationship between various dimensions of hospital service quality and patient satisfaction.

(3) Instrument Development : We used the questionnaire method for collecting data from the patients. The variables relating to the present study are drawn from the studies of : Parasuraman et al. (1985) ; Sureshchandar, Rajendran, and Anantharaman (2002) ; Olorunniwo, Hsu, and Udo (2006) ; Reidenback and Smallwood (1990) ; Otani and Kurz (2004) ; Gronroos (1982); Baldwin and Sohal (2003) ; Rohini and Mahadevappa (2006) ; Boshoff and Gray (2004) ; Duggirala, Rajendran, and Anantharaman (2008) ; and Balasubramanian, Konana, and Menon (2003).

(4) Methodology : The scope of the study is confined only to multi speciality hospitals situated in Erode, Coimbatore, Salem, and Karur city, Tamil Nadu, India. From each city, 10 hospitals were selected for the study. We adopted the questionnaire method for collecting data from the respondents. The questionnaire consisted of three parts. The first part of the questionnaire covered the demographic profile of the patients. The second part of the questionnaire covered variables relating to the hospital service quality, and the third part of the questionnaire consisted of variables relating to patient satisfaction. This study was conducted from January - July 2015. Due to non-availability of the sampling frame, we employed purposive sampling method for collecting data from the respondents. The sampling unit for the current study was male and female patients who were taking medical treatment from the said hospitals. The purpose of the study was clearly explained to the patients before collecting data.

Before administering the questionnaire to the patients, we conducted a pilot study. Furthermore, we developed the questionnaire after discussion with a panel of patients, academic and medical experts. Based on their feedback, suitable modifications were made in the questionnaire. Even though we made several efforts to collect data from the respondents, we were able to collect the data from only 250 patients.

(5) Descriptive Statistics : An analysis of the gender composition of the patients revealed that 61% of patients were men, while 39% of the patients were women. The important levels of educational qualification among the patients were post graduation and professionals which constituted 30.6% and 22.8% of the total respondents, respectively. Around 48% of the customers earned between ₹ 5, 000 to ₹ 1, 00,000 as monthly salary. Only 31% of

the patients were less than 35 years old, and 52% hailed from an urban area. Approximately 49% of the patients had taken treatment for more than 2 years in the same hospital.

(6) Proposed Hypotheses : In order to study the impact of hospital service quality (independent variables) on patients' satisfaction (dependent variable), multiple regression analysis was administered. A following set of null hypotheses are proposed :

- Ho_1: The Clinical Care dimension has no significant impact on patients' satisfaction.
- Ho_2: The Admission Procedure dimension has no significant impact on patients' satisfaction.
- Ho_3: The Reliability dimension has no significant impact on patients' satisfaction.
- Ho_4: The Trust dimension has no significant impact on patients' satisfaction.
- Ho_5: The Infrastructure dimension has no significant impact on patients' satisfaction.

(7) Reliability of the Instrument : The reliability test was administered to determine how strongly the attributes were related to each other (Hair, Anderson, Tatham, & Black, 2003). All scales are reliable (see Table 1) as Cronbach's alpha ranges from 0.814 to 0.894, exceeding the recommended threshold of 0.70 (Nunnally, 1978).

In order to examine the validity of the variables included in hospital service quality, the confirmatory factor analysis was administered. The CFA results for standardized factor loading, its *'t'* statistics, composite reliability, and average variance extracted for each hospital service quality dimensions are analyzed. The results are exhibited in the Table 2.

As shown in the Table 2, the values of the average variance extracted (AVE) are greater than 0.5, which supports the convergent validity (Fornell & Larcker, 1981). The *'t'* statistics of the standardized factor loading are significant at the 5% level, which reveals the convergent validity of the hospital service quality factors. It is also proved by the composite reliability and AVE since these values are greater than its minimum threshold of 0.50 and 50 %, respectively.

Table 1. Reliability Coefficient of Hospital Service Quality Dimensions

S.No.	Service Quality Dimensions (SQD)	No. of Original Statements	No. of Variables Retained	Cronbach's Alpha
1.	Clinical Care	4	4	0.842
2.	Admission Procedure	5	4	0.863
3.	Reliability	5	5	0.814
4.	Trust	4	4	0.894
5.	Infrastructure	5	5	0.834

Table 2. Validity of Hospital Service Quality Dimensions

S.No	Service Quality Dimensions (SQD)	Range of Standardized Factor Loading	Range of *'t'* Statistics	Composite Reliability	Average Variance Extracted (AVE)
1.	Clinical Care	0.8714-0.6114	5.1314*-2.4814	0.7214	53.28
2.	Admission Procedure	0.8314-0.6172	4.271*-2.2741	0.7714	55.72*
3.	Reliability	0.8428-0.6162	3.7214*-2.6218	0.7148	54.79
4.	Trust	0.8814-0.6214	4.2814*-2.9741	0.7724	53.48
5.	Infrastructure	0.8216-0.6249	3.7851*-2.2762	0.6787	52.74

*Significance at the 5% level

Data Analysis and Results

In order to measure the various dimensions of hospital service quality, exploratory factor analysis was administrated. To assess the exploratory factor analysis (EFA), four commonly used assumptions were followed (Hair, Anderson, Tatham, & Black, 1998 ; Field, 2000). Sampling adequacy (Kaiser-Meyer-Olkin measure : 70.5); the minimum eigen value for each to be one; considering the sample size, factor loading of 0.4 for each item was considered as the threshold for retaining items to ensure greater confidence and varimax rotation was used since it is a good general approach that simplifies the interpretation of factors (Field, 2000, p.449).

The Table 3 shows the results of exploratory factor analysis for the hospital service quality components. An index of Kaiser's measure of sampling adequacy (0.764) and Bartlett's test of sphericity ($p \leq 0.00$) suggest that factor analysis is suitable for analyzing the data.

The most important dimension of hospital service quality is Clinical Care since its Eigen value and the percentage of variation explained by the factor are 5.208 and 14.700%, respectively. The second and third factors identified by the factor analysis are Admission Procedure and Reliability, since their respective Eigen values are 2.352 and 1.568. These two dimensions consist of four and five variables each. The percentage of variance explained by these two factors is 14.025% and 12.339%, respectively. The fourth factor represents 'Trust' and the fifth factor represents 'Infrastructure'. The percentage of variation explained by these factors is 7.892% and 6.358%, respectively. The above-mentioned five hospital service quality dimensions explain the variable in service quality to the extent of 55.314%.

The patients' perceptions on various dimensions of hospital service quality have been measured by mean score of Clinical Care, Admission Procedure, Reliability, Trust, and Infrastructure. The results are exhibited in the Table 4.

The highly perceived factors for hospital service quality among the patients are Trust and Clinical Care since their respective mean score is 3.96 and 3.93, respectively. Higher fluctuation is identified in the patients'

Table 3. Hospital Service Quality Dimensions

S.No	Hospital Service Quality Dimensions	No. of Variables included	Eigen Value	Percentage of Variance Explained	Cumulative Percentage of Variance Explained
1.	Clinical Care	4	5.208	14.700	14.700
2.	Admission Procedure	4	2.352	14.025	28.725
3.	Reliability	5	1.568	12.339	41.064
4.	Trust	4	1.462	7.892	48.956
5.	Infrastructure	5	1.227	6.358	55.314

KMO Measures of Sampling Adequacy = 0.764 ; Bartlett's Test Sphericity Chi-Square Value = 1922.503

Table 4. Mean Score, Standard Deviations, and Correlation Among Hospital Service Quality Dimensions

S.No	Service Quality Dimensions (SQD)	Mean Score Deviation	Standard of Variation	Co-efficient	CC	AP	RE	TR	IN	PS
1.	Clinical Care (CC)	3.93	0.56477	14.37	1	0.054	0.417**	0.142**	0.473**	0.588**
2.	Admission Procedure (AP)	3.87	0.46141	11.92		1	0.074	0.462**	0.005	0.389**
3.	Reliability (RE)	3.78	0.58446	15.46			1	0.368**	0.182**	0.522
4.	Trust (TR)	3.96	0.48561	12.26				1	0.053	0.516**
5.	Infrastructure (IN)	3.92	0.58045	14.81					1	0.458

** Correlation is significant at the 0.01 levels (2 tailed) . PS = Patient's Satisfaction

perception on Infrastructure since the respective coefficient of variation is 14.81%. Reliability scores the least mean score (3.78) and a lesser fluctuation is seen in the perception of Admission Procedure since its relative coefficient is 11.92%. Furthermore, the interrelationship between patients' perception on various hospital service quality factors is examined with the help of the Karl Pearson correlation coefficient and its respective significance. With reference to Clinical Care, a significant positive relationship is identified with Reliability, Trust, Infrastructure, and patient satisfaction. Regarding Admission Procedure, a significant positive relationship is noticed in case of Trust and customer satisfaction. Reliability has a significant positive relationship with Infrastructure since its correlation is significant at the 0.01 level of significance. In addition, Trust also has a significant positive relationship with patient satisfaction.

(i) Influence of Hospital Service Quality Dimensions with Reference to Male Patients' Satisfaction : In order to examine hospital service quality and male patients' satisfaction, multiple regression analysis has been used. The mean score of patient satisfaction is treated as a dependent variable ; whereas, the mean score of perception of various hospitals' service quality is considered as the independent variable. The fitted regression model is :

$$Y = a + b_1X_1 + b_2X_2 + b_3X_3 + b_4X_4 + b_5X_5 + e$$

where,

Y = Mean score of male patients' satisfaction,
X_1 = Mean score of male patients' perception of Clinical Care,
X_2 = Mean score of male patients' perception of Admission Procedure,
X_3 = Mean score of male patients' perception of Reliability Dimension,
X_4 = Mean score of male patients' perception of Trust,
X_5 = Mean score of male patients' perception of Infrastructure,
a = Intercept,
e = Error term.

The results of the regression analysis for hospital service quality on male patients' satisfaction are exhibited in the Table 5.

Table 5. Influence of Hospital Service Quality Dimensions on Male Patients' Satisfaction

S.No	Independent Variables	Standardized Co-efficient	*t*-value	Significance	Collinearity Statistics	
					Tolerance	VIF
1.	Constant		1.051	0.296	-	-
2.	Clinical Care	0.231	4.691	0.000**	0.568	1.762
3.	Admission Procedure	0.227	5.268	0.000**	0.741	1.350
4.	Reliability	0.334	7.472	0.000**	0.685	1.460
5.	Trust	0.263	5.997	0.000**	0.711	1.406
6.	Infrastructure	0.394	9.186	0.000**	0.744	1.344
R Square				0.860		
Adjusted *R* Square				0.853		
F Value				125.377		
Significance				0.000		

** 1% significance level

The interpretation of the regression is based on the standardized coefficient beta (β) and R^2. In terms of patient satisfaction, the results reveal that hospital service quality has a positive and significant relationship with patient satisfaction. The Table 5 indicates that 85.3% of the variation in patient satisfaction in the hospitals is explained by hospital service quality dimensions. On the other hand, the findings reveal that Infrastructure is the strongest predictor of variation in patients' satisfaction ($\beta = 0.394$, $t = 9.186$, $p < 0.01$). The findings related to Reliability reveal that it has a positive impact on patient satisfaction ($\beta = 0.334$, $t = 7.472$, $p < 0.01$). This is followed by Trust ($\beta = 0.263$, $t = 5.997$, $p < 0.01$), Clinical Care ($\beta = 0.231$, $t = 4.691$, $p < 0.01$), and Admission Procedure ($\beta = 0.227$, $t = 5.268$, $p < 0.01$).

(ii) Influence of Hospital Service Quality Dimensions on Female Patients' Satisfaction : In order to test the impact of hospital service quality and female patients' satisfaction, we again used multiple regression. The mean score of female patients' satisfaction is treated as the dependent variable ; whereas, the mean score of female patients' perception regarding various hospitals' service quality is considered as the independent variable. The fitted regression model is :

$$Y = a + b_1X_1 + b_2X_2 + b_3X_3 + b_4X_4 + b_5X_5 + e$$

where,

Y = Mean score of female patients' satisfaction,
X_1 = Mean score of female patients' perception on Clinical Care,
X_2 = Mean score of female patients' perception on Admission Procedure,
X_3 = Mean score of female patients' perception on Reliability,
X_4 = Mean score of female patients' perception on Trust,
X_5 = Mean score of female patients' perception on Infrastructure,
a = Intercept,
e = Error term.

Regarding the impact of hospital service quality on female patients' satisfaction, hospital service quality dimensions explain 47.2 % of the variation. The results (see Table 6) indicate that Clinical Care is the strongest

Table 6. Influence of Hospital Service Quality Dimensions on Female Patients' Satisfaction

S.No	Independent Variables	Standardized Co-efficient	*t*-value	Significance	Collinearity Statistics	
					Tolerance	VIF
1.	Constant	-	0.246	0.807	-	-
2.	Clinical Care	0.391	4.458	0.000**	0.752	1.329
3.	Admission Procedure	0.201	2.283	0.025	0.752	1.330
4.	Reliability	0.144	1.573	0.119	0.690	1.450
5.	Trust	0.300	3.065	0.003	0.604	1.656
6.	Infrastructure	0.105	1.208	0.231	0.770	1.298
R Square						0.501
Adjusted *R* Square						0.472
F Value						17.293
Significance						0.000

** 1% significance level.

predictor of variation in patients' satisfaction from hospitals (β = 0.391, t = 4.458, p <0.01) and Trust (β = 0.300, t = 3.065, p <0.05). Admission Procedure, Reliability, and Infrastructure did not have a significant impact on female patients' satisfaction.

(iii) Impact of Hospital Service Quality Dimensions on Patients' Satisfaction : In order to test the impact of hospital service quality dimensions on patient satisfaction, multiple regression analysis was conducted. The mean score on patient satisfaction (both male and female) is treated as the dependent variable ; whereas, the mean score of perception of various hospital service qualities are considered as the independent variables.

The fitted regression model is :

$$Y = a + b_1X_1 + b_2X_2 + b_3X_3 + b_4X_4 + b_5X_5 + e$$

where,

Y = Mean score of Patient Satisfaction,
X_1 = Mean score of Clinical Care dimension,
X_2 = Mean score of Admission Procedure dimension,
X_3 = Mean score of Reliability dimension,
X_4 = Mean score of Trust dimension,
X_5 = Mean score of Infrastructure dimension,
a = Intercept,
e = Error term.

Hair et al. (1998) suggested that a tolerance value of less than 0.10 is problematic. As none of the tolerance values fall below the 0.10 cut-off, multicollinearity is not considered to be a problem in the data.

Finally, the results (see Table 7) reveal a 65.1% variation in patient satisfaction in the hospital service quality dimensions. The findings reveal that Clinical Care is the strongest predictor of variation in hospital service quality, (β = 0.326, t = 6.253, p <0.01). Next in sequence are Trust (β = 0.267, t = 5.165, p <0.01), Infrastructure (β = 0.248, t = 5.139, p<0.01), Admission Procedure (β = 0.230, t = 4.779, p <0.01), and Reliability

Table 7. Influence of Hospital Service Quality Dimensions on Patients' Satisfaction

S.No	Independent Variables	Standardized Co-efficient	*t*-value	Significance	Collinearity Statistics	
					Tolerance	VIF
1.	Constant	-	0.748	0.434	-	-
2.	Clinical Care	0.326	6.253	0.000**	0.661	1.512
3.	Admission Procedure	0.230	4.779	0.000**	0.775	1.291
4.	Reliability	0.225	4.495	0.000**	0.718	1.394
5.	Trust	0.267	5.165	0.000**	0.674	1.484
6.	Infrastructure	0.248	5.139	0.000**	0.775	1.290
R Square						0.651
Adjusted *R* Square						0.642
F Value						72.241
Significance						0.000

** 1% significance level

Table 8. Testing of the Hypotheses

Sl No	Hypothesis	Beta	*t*	Results
1	Ho1: The Clinical Care dimension has no significant impact on patients' satisfaction.	0.326	6.253	Rejected
2	Ho2: The Admission Procedure dimension has no significant impact on patients' satisfaction.	0.230	4.779	Rejected
3	Ho3: The Reliability dimension has no significant impact on patients' satisfaction.	0.225	4.495	Rejected
4	Ho4:The Trust dimension has no significant impact on patients' satisfaction.	0.267	5.165	Rejected
5	Ho5: The Infrastructure dimension has no significant impact on patients' satisfaction.	0.248	5.139	Rejected

($\beta = 0.225$, $t = 4.495$, $p < 0.01$). The study also confirms that there is a significant influence of Clinical Care, Admission Procedure, Reliability, Trust, and Infrastructure on patient satisfaction.

The Table 8 reveals the testing of the hypotheses. The factors namely Clinical Care, Infrastructure, Trust, Admission Procedure, and Reliability are statistically significant at the 1% level of significance. Hence Ho_1, Ho_2, Ho_3, Ho_4, and Ho_5 are rejected, implying that these dimensions of hospital service quality have a great influence on patients' satisfaction levels. Amongst these five factors, Clinical Care is the most significant factor having the highest standardized co-efficient value of 0.326.

Discussion

The interpretation of the regression is based on the standardized co-efficient beta (β). This study identified five important dimensions of hospital service quality. These are, Clinical Care, Admission Procedure, Reliability, Trust, and Infrastructure. This study rejects the null hypotheses, implying that there is a significant impact of Clinical Care, Admission Procedure, Reliability, Trust, and Infrastructure dimensions on patient satisfaction. It is inferred from the Table 7 that Clinical Care, Admission Procedure, Reliability, Trust, and Infrastructure significantly impact patient satisfaction. A comparison of Tables 5 and 6 reveals that regression coefficient of clinical care is 0.391 for female patients ; whereas, it is 0.231 for male patients. Female patients gave less importance to Infrastructure as compared to male patients, but they assigned high level of importance to Clinical Care, which is evident from the coefficient value of 0.391 and 0.231 assigned by male patients. Furthermore, Admission Procedure has a regression coefficient of 0.227 for male patients' perceptions ; whereas, female patients scored a β value of 0.201. Trust has a β value of 0.263 and 0.300 in male and female patients' perceptions, which shows that male and female patients were more concerned about Trust in the hospital. Furthermore, all hospital service quality dimensions in case of male patients appear to have a significant impact on male patients' satisfaction levels. The highly perceived hospital service quality dimensions among the patients are Trust and Clinical Care.

In line with the study findings, Needleman and Buerhaus (2003) highlighted the vital contribution of nurses to the quality of patient care. Trust was found to affect user adoption of various services like online news services (Chen & Corkindale, 2008), mobile banking (Kim, Shin, & Lee, 2007), mobile shopping (Lu & Su, 2009), and mobile CRM (Sohn, Lee, & Lee, 2011).

Managerial Implications

The study findings have significant implications for hospital administrators. The study findings would help managers to ascertain priorities of patients. This study can also be used as a tool by the hospital administrators to identify various dimensions of hospital service quality where improvements are needed to enhance the patients' satisfaction levels.

The hospital sector has become intensively competitive on account of globalization. Therefore, hospital administrators need to understand how patients rate service quality and what critical dimensions contribute to improving service quality. On the other hand, from a practical perspective, the hospital administrator could use the findings of the present study to improve the service quality of a hospital, which will ensure its survival in a highly competitive market. Clearly, the findings of this study indicate that hospital administrations need to effectively manage hospital service quality dimensions (i.e. Clinical Care, Trust, Infrastructure, Admission Procedure, and Reliability, since these dimensions can lead to patient satisfaction). These research findings would provide insights to hospital administrators to retain their existing patient base and increase their satisfaction.

Limitations of the Study and Scope for Future Research

The most important limitation of this study is the use of purposive sampling. Therefore, the results may not be representative of the patients' perceptions of the whole population of the study area. Future studies in hospital service quality could address this issue by using some other methods of sampling. Second, several other factors can also be included as consequences of hospital service quality. For example, patient's loyalty. This study considered patient perception towards hospital service quality and future studies should examine attenders' perceptions towards hospital service quality and its consequences on hospital performance. In the future, similar studies could be conducted in other countries, particularly those with different cultural and social environments.

The research did not examine the relationship between hospital service quality and patients' retention. Future research could look at the relationships among overall patient satisfaction and patient retention. This study only focused on a relatively small number of multispeciality hospitals chosen from a limited geographical area, so generalization of the results may not work. The current study was limited to measuring the perceived service quality of multispeciality hospitals only. Therefore, it is suggested that future research should be carried out by comparing the service quality of multispeciality hospitals and government hospitals. Furthermore, this research considered patients' perceptions towards hospital service quality and further research should examine employees' perception towards hospital service quality and its outcomes on hospital performance.

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