

An Empirical Study on Dimensions of Patient Perceived Service Quality in Puducherry Hospitals

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Abstract

In those days, food considered as medicine, nowadays medicine considered as food. Technology and lifestyle changed along with Time which reflects in health. Doctors are considered as God, become businessman today. As a result healthcare industry becomes one of the emerging and challenging sectors in India. The purpose of this paper is to identify service quality variables in Indian hospitals. Further the influence of dimensions on patient perceived service quality is examined. A questionnaire was administered to the in-patients and multiple regression analysis has been used to examine the impact of the dimensions on patient perceived service quality. Findings emphasize eight distinct dimensions of patient perceived service quality and four predictors of patient perceived service quality are identified. The results of this study are limited, as they are based on Indian hospitals.

Keywords: Health care, Human factor, Non-human factor, Patient perception, Hospital service quality.

1. Introduction

As per WHO national health accounts, India's healthcare spending as a percentage of GDP has reduced from 4.4 percent in 2000 to 4.0 percent in 2010. This implies that India's healthcare expenditure has grown at a slower rate than the country's GDP. The public spend has increased, and implying that public spending has struggled to keep pace with the rise in healthcare demand. Few public-private partnerships have been successful. However, none of them has been scaled up to meet India's health challenges. While government sponsored social insurance programs have grown rapidly, nearly 75% of the population remains uncovered. To achieve the desired financial access and build the desired level of infrastructure, total spending will need to be at 5.5 percent of the country's GDP by 2022, up from current 4 percent. India's out-of-pocket spend will need to come down from the current 61 percent of total healthcare spend to 23 percent (CII, 2012). The last decade has been a landmark decade for health insurance. Total number of insured people increased from 55 million in 2003-04 to 300 million in 2009-10. Four opportunities are identified by the government. They are government sponsored social health insurance programs, cover for out-patient spends, non-communicable diseases, private insurance coverage for urban middle-class (CII, 2012). India's huge and growing population—more than a billion—could be considered one of the country's biggest assets, representing an almost limitless labor supply and consumer demand. It's already the youngest: one-fifth of the world's population under 24 years of age lives there. While this kind of population growth represents a huge opportunity, it also highlights the need to invest substantially in human-resources development, particularly in education and health care, and to create adequate employment opportunities (Zainulbhai October 2007).

2. Research Gap

Increasing competition among hospitals has heightened the need for better understanding of the role of patient service in overall strategic marketing (Reidenbach – smallwood, 1990). Even though there are other antecedents of customer satisfaction, viz., situation, individual personality, location and price, service quality gains prominence because it is mostly within the overall control of the service provider (Padma et.al, 2009). Perceived service quality is the major antecedent of patient satisfaction in almost every research work carried so far. Many researchers have proposed dimensions for measuring healthcare service quality considering the types of service encountered and the demographic conditions of the service. It has been contended that constructs of service quality that are developed in one culture might not be applicable in another culture. However, grouping perceived service quality into human factor and non human factor has not been considered by the previous researchers. This paper paved way to address this gaps and makes an effort to investigate patient's perception of hospital service quality dimensions in two different perspective namely human factor and non-human factor in Puducherry, India.

3. Objective

The objective of this study is to examine service quality variables grouped in two unique variations and its influence on patient perception of service quality in Puducherry hospitals.

4. Review of Literature

4.1. Human Factor

Human factor consists of interpersonal attitude, professional treatment and sense of well being as primary dimensions along with communication and treatment outcomes as sub dimensions.

4.1.1. Interpersonal attitude

The first primary dimension interpersonal attitude includes personal behavior and communication as sub dimensions. Duggirala et.al (2008) defined personnel quality as the patient's experience with regard to the kind of care given by the doctors, nurses, paramedical and support staff, and administrative staff in the hospital. Duggirala et.al (2008) refers communication as three way process when the third party involves, like family member to help to identify the needs of the primary patient, rather than two ways between patient-physician. Andaleeb (2008) applied regression model and found, people evaluated medical care not so much by service factors but by personages or key actors (e.g. nurses and doctors).

4.1.2. Professional Quality

The second primary dimension professional quality consists of professional treatment and treatment outcomes. Technical quality describes the outcome of the service process, or what a customer receives as a result of interacting with a service firm (Dagger et.al 2007; Brady and Cronin 2001; Donabedian 1992; Gronroos 1984; Rust and Oliver 1994; Ware, Davies-Avery and Stewart 1978).

4.1.3. Sense of Well Being

The third primary dimension sense of well being comprised reliability and trust as sub dimensions. Padma et.al (2009) opined that the whole focus of healthcare industry is patients' well-being (both physical and mental). Patients are usually in a physical or a psychological discomfort when they consume health services.

4.2. Non-Human Factor

Non-Human factor consists of physical evidence, administrative procedures and reputation as primary dimensions along with infrastructure, tangibles, safety measures, geographic convenience, social responsibility and image as sub dimensions.

4.2.1. Physical Evidence

The fourth dimension is physical evidence, which comprises a complex mix of environmental features as infrastructure, tangibles, safety measures and Geographic convenience (Dagger et.al 2007; Brady and Cronin 2001; Donabedian 1992). Duggirala et.al (2008) refers the patients' perception of quality with regard to physical facilities which includes cleanliness, maintenance and availability of services such as waiting rooms, diagnostic test rooms, operation theatres, wards, food, beds, resident rooms, ambulance services, technological capability, pharmacy, blood banks, etc., in the hospital towards satisfaction.

4.2.2. Administrative procedures

The fifth primary dimension administrative procedure includes admission process, discharge process and waiting time. Administrative service elements facilitate the production of the core service while adding value to a customer's use of a service (Dagger et.al 2007; Gronroos 1990; Ware, Davies-Avery and Stewart 1978). Padma et.al (2009) refers administrative procedures as the processes during admission, discharge and the procedures involved during patient stay in hospital.

4.2.3. Fee

The sixth primary dimension identified as fee. Rohini and Mahadevappa (2006) identified that expectations of patients on the service quality of the hospital will be higher than that of the managements perceptions, because cost incurred to get the services. So there lies a gap between patients' perceptions and their expectations. Scotti, et.al, (2007) found that enhancing service quality and customer satisfaction, rather than inflating costs, contributed to cost efficiency. Added to that, facilities with higher customer-perceived service quality and customer satisfaction tended to have lower treatment expenditures.

4.2.4. Reputation

The sixth primary dimension known as, reputation which includes social responsibility and image as secondary dimensions. The reputation of hospital has to be considered as an element of service quality (Padma et.al 2009). Duggirala et.al (2008) stated that social responsibility is the fulfillment of responsibility to society by offering free or subsidized medical services to the poor, operating in remote areas of the country, conducting awareness programmes for the poor. Padma et.al (2009) considered delivering core service is a necessary but not sufficient condition for customer satisfaction. They added, helping economically downtrodden people, by proving free treatment would boost the hospital's image and thereby improve patients' perceptions of service quality.

5. Perceived Service Quality

Perceived service quality is identified as dependent variable. Businesses in all industries are focused on customer opinions. Improving quality perceptions can help a hospital attract new customers through positive word of mouth and increase the number of repeat customers. Dagger et.al, (2007) defined service quality perception as the judgment of the discrepancy between consumer's expectations of service and actual service performance. Service quality comprises several primary dimensions, which have sub dimensions that combine related attributes into subgroups. Perception of overall service quality represented as the third order factor to the sub dimensions.

For inpatient’s overall service quality perception influenced by quality of treatment they receive, patient confidence, and their perception of business competence (Reidenbach and sandifer-smallwood (1990). Scotti, et.al, (2007) revealed in their analysis the strongest correlation of customer perceived service quality were courtesy/respect, confidence/trust in provider, communication, and clinic efficiency. Dagger, et.al (2007) identified all primary dimensions were significantly affecting perceived service quality. Padma et.al (2009) suggested that hospitals can use service quality perceptions as “voice of customers”, to construct “house of quality” from organization perspective.

6. Methodology

From the literature the researcher identified seven primary dimensions grouped as human factor and non-human factor. The three primary dimensions are Interpersonal attitude, Professional treatment and Sense of well being comes under human factor. The other four primary dimensions are Physical evidence, Administrative procedures, Fee and Reputation comes under non-human factor. Along with primary dimensions Personal behaviour, Communication, Professional Treatment, Treatment Outcomes, Reliability, Trust, Infrastructure, Tangibles, Safety measures, Geographic convenience, Social responsibility and Image as sub dimensions are used in the research. The population defined as in-patients (including attendants) in hospitals in Puducherry, India. A sample size of 440 selected using convenience sampling method. Primary data were obtained through structured questionnaire. All constructs were measured on five point Likert scale with the verbal statement ‘strongly disagree’ and ‘strongly agree’ anchor to the numerals 1 and 5 respectively. Data gathered over a 6 months period. In this research human and non-human factors treated as independent variable whereas patient perceived service quality treated as dependent variable.

7. Analysis

Table 6.1 Regression analysis - Perceived service quality Vs. Human factors

Model	R	R Square	Adjusted R Square	F	Sig
1	0.577	0.332	0.328	72.355	0.000

Predictors: (Constant), Interpersonal attitude, Professional quality, Sense of well being

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.258	.176		7.164	.000
	Interpersonal attitude	.287	.064	.251	4.477	.000
	Professional quality	.136	.069	.132	1.986	.048
	Sense of Well being	.268	.067	.259	4.005	.000

a. Dependent Variable: Perceived Service Quality

Multiple regression analysis is carried out to examine how human factors such as interpersonal attitude, professional quality and sense of well being influence perceived service quality. Table.6.1 summarizes the results of regression analysis. The adjusted R2 value is found to be 0.328 which means that 32.8 percent of the variation of dependent variable perceived service quality is influenced by independent variables (human factors), and the R2 value is also statistically significant (F = 72.355; p < 0.001). It is evident from ‘t’ value, among

the independent variables, interpersonal attitude is the most influencing variable for perceived service quality ($t = 4.477$; $p < 0.000$), which is followed by sense of well being ($t = 4.005$; $p < 0.000$). The result indicates that the least influencing variable is professional quality ($t = 1.986$) which shows that respondents may not be able to estimate the professional quality of hospital.

Table.6.2 Regression analysis - Perceived service quality Vs. Non-Human factors

Model	R	R Square	Adjusted R Square	F	Sig
1	0.717	0.514	0.510	115.107	0.000

predictors: (Constant), Physical evidence, Administrative procedure, Fee, Reputation

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.433	.162		2.670	.008
	Physical Evidence	.410	.059	.329	6.932	.000
	Administrative procedure	.314	.066	.253	4.756	.000
	Fee	-.032	.032	-.040	-1.005	.316
	Reputation	.260	.045	.266	5.738	.000

a. Dependent Variable: Perceived Service Quality

Multiple regressions are carried out to examine whether non-human factors influences perceived service quality. The four facets of non-human factors are treated as independent variables, whereas perceived service quality is used as a dependent variable. Table.2 summarises the results of regression analysis.

The measure of strength of association in the regression analysis is given by the coefficient of regression determination denoted by adjusted R^2 . The adjusted R^2 value is 0.510 which implies that 51percent of the variation on the perceived service quality is explained by the four antecedents of non-human factors used in the study. To check whether this R^2 is statistically significant, ANOVA is used. The F value obtained is 115.107 ($P < 0.000$) and hence, it is ascertained that there is a significant relationship between dependent and independent variables.

Results of regression analysis confirm that several factors influence perceived service quality and non-human factor is one among them (49 percent of variations in perceived service quality is not explained by non-human factors). An examination of t-value shows that physical evidence ($t = 6.932$), administrative procedure ($t = 4.756$) and reputation ($t = 5.738$) contribute significantly to the prediction of perceived service quality. Fee ($t = -1.005$) has a negative and insignificant relationship with perceived service quality.

Table .3 Regression analyses - Perceived service quality Vs. Both Human and non-human factors

Model	R	R Square	Adjusted R Square	F	Sig
1	0.728	0.530	0.523	69.680	0.000

Predictors: (Constant), Interpersonal attitude, Professional quality, Sense of well being Physical evidence, Administrative procedure, Fee, Reputation

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.260	.168		1.549	.122
	Interpersonal attitude	.074	.058	.065	1.285	.200
	Professional quality	-.125	.063	-.121	-1.975	.049
	Sense of Well being	.184	.059	.177	3.139	.002
	Physical Evidence	.330	.075	.265	4.391	.000
	Administrative procedure	.293	.068	.236	4.344	.000
	Fee	-.023	.033	-.029	-.714	.476
	Reputation	.255	.045	.261	5.655	.000

a. Dependent Variable: Perceived Service Quality

The regression result from the table.3 shows that all the independent variables jointly explain about 52.3 percent of the systematic variation of the dependent variable (perceived service quality). To check whether this R² is statistically significant, ANOVA is used. The F value obtained is 69.680 (P< 0.000) and hence, it is ascertained that there is a significant relationship between dependent and independent variables. An examination of t – values shows that interpersonal attitude (t = 1.285), sense of well being (t = 3.139), physical evidence (t = 4.391), administrative procedure (t = 4.344), and reputation (t = 5.655) contributed significantly to the prediction of perceived service quality professional quality (t = -1.975), fee (t = -0.714) has a negative and insignificant relationship with perceived service quality.

8. Discussion and Implications

Table.6.1 revealed that with regard to human factors interpersonal attitude gains more importance among patients. This finding is in line with Carman (1990 & 2000) and Curry and Sinclair (2002). Interpersonal attitude includes personal behavior of doctors, nurses and employees along with communication. Since hospital service is perishable, intangible factors like responsiveness, courtesy and empathy are the major factors patients can look for. Nurse politeness, willingness to listen, nurse personal attention, doctor’s responsiveness, nurse responsiveness, information about health, information to attendants, clear billing details and visitors treated courteously are perceived as interpersonal attitude. Changes in these attitudes can improve patient’s health. Interpersonal attitude of doctors and nurses can be considered as a kind of medicine in treatment and it can cure half of the disease. The interaction between patients – provider emphasize large effect on perception of service quality. Additionally task-focused communication and socio-emotional communication can be parallels and will improve interpersonal attitude. These findings are in line with Andaleeb, 2001; Kara et.al, 2005; Graugaard et.al 2005; Scotti, et.al, 2007; Dagger et.al, 2007.

The next priority is given to sense of well being. Hospitality requires heart and soul at the first instant, with caring hands and smiling faces the patient sense warmth of assurance, itself a healing effect and above all a sense of possessiveness. The patients can be assured of reliable and complete care through highly qualified staff.

Finally, professional quality is least predictor to service quality than other variables. Professional quality includes professional treatment and treatment outcomes. However the finding is not in line with Dagger et.al, (2007). Professional quality is the core of hospital service, conversely its influence on service quality perception is not much when compare to

other variables. This shows that patients can easily understand the attitude of doctors, nurses and employees; while interaction takes place with provider they are not comfortable with professional approach. Since medical field has lot of jargons which cannot be understood by the patients. They don't know the type of disease, symptoms, nature of treatment, outcome of treatment, medicine name and consequences of the medicines. Patients or attendants cannot evaluate the professional quality, core service, as it is technical in nature. Therefore they don't give much importance towards professional quality.

However doctors should take responsibility to make the patients and attendants to understand in such a way so that even an uneducated patient can discuss the ailment and treatment with the provider elaborately to take timely decision. For the above reason, doctor – patient ratio in developing countries like India has to be improved. This will provide doctors to spend enough time for communication with each patient. This finding is in line with Koch, et.al (1992); Alhashem, et.al, (2011).

The test procedures performed by staff not clearly known by the patients or attendants. The necessity of various test procedures and how it relates to their illness and treatment should be explained elaborately to the patients and attendants to get the possible outcome with comfort. Other general tests which are optional can be avoidable to reduce the cost of treatment. This can be eradicated by creating awareness about treatment process among patients and their family members, in turn, will improve customer's perception of service provider's professional quality. Similarly, insurance claim procedures are also not clearly known by most of the patients as they don't have health insurance policy for them or their family members. This may put them in a critical situation when they go for emergency treatment. Hence they need to pay out of their pocket and many times cannot be bearable. So the competency of staff cannot be assessed by them. The finding is in line with Tomes and Ng, (1995); Rohini and Mahadevappa, (2006).

Table.6.2 revealed physical evidence is the most influenced variable when compared to other variables. Physical evidence consists of infrastructure, tangibles, safety measures and geographic convenience. This finding is in line with Oswald et.al (1998) (Akdag and Zineldin, 2010) Dagger et.al, (2007). Tangibles have been shown in a number of health sector studies to be the least important factor (Anderson, 1995; Curry and Sinclair, 2002; Curry, Stark and Summerhill, 1999; Jun Petersen and Zsidin, 1998; Lam, 1997; Sewell, 1997; O'Connor, Trinh and Shewchuk 2000; Kara et.al, 2005).

Safety and security gain importance in hospital service quality. To safeguard the patients physically such as patients' allergy or reaction to certain drugs, hygiene maintained, handrails in aisles, ramps designed for wheelchairs, can influence the quality perception of patients. Older people (both patients and their attendants) and physically challenged are in need of special facilities, such as provision of ramps and elevators, checking drugs causing allergic reaction in patients, to take care of their needs (Duggirala et.al 2008; Padma et.al, 2009).

Similarly, considerable credit should be given to geographic convenience of hospital to patients. Patients would feel less inconvenienced by their treatment if access to the service itself were improved Curry and Sinclair (2002).

Table.6.3 reveals that patients' first preference is given to hospital reputation among all the variables. Reputation includes social responsibility and image. While ethical and legal service involves in hospitals and experience by patients will create reputation without special human effort and influence patient satisfaction. Reputation plays a vital role as a mediator between the provider and user through word of mouth. Sometimes corporate culture too acts as an image creator. The patients physically experienced the knowledge of technical and

functional service quality when they are inside the hospital. On the other hand, reputation can reach everyone where ever they are. Few aspects should be considered to create reputation among hospital service as follows: legal service, a long-term perspective of the provider, organizational culture, innovation, social responsibility, ethical behavior and free medical service to the poor. Finally, it is indicated that quality service given by the hospital and the responsibility shown towards the society in terms of free medical services would manipulate the patient perception of hospital reputation.

9. Conclusion

This paper empirically verified the influence of human factors, non human factors and both on perceived service quality in hospitals. Among human factors interpersonal attitude and sense of well being are influencing variable on perceived service quality. From non human factors physical evidence, administrative procedure and reputation are the predictors of perceived service quality. Conversely, the third result shows that perceived service quality influenced by sense of well being, physical evidence, administrative procedure and reputation. Overall, interpersonal attitude, professional quality and fee need special attention to improve hospital service quality.

Patients have to get awareness through education to evaluate professional's performance in terms of quality. Internal training sessions should be conducted on regular basis to update the knowledge of doctors and nurses based on latest techniques. Fee structure should be regulated by the government and implemented by all public and private hospitals. Private hospitals give the impression of hospital service as business, though patients observe as service. Therefore patients expect more committed institutions with committed professionals in hospital sector towards society.

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