An Investigation of Patients' Perception on Healthcare Service Quality

Swathi K.S.[1], Gopal Krishna B.[2] and Somu. G.[3]

[1]Corresponding author, Assistant Professor, School of Management, Manipal University, 576104, Manipal, India. Email: swathi.ks@manipal.edu
[2]Professor, Manipal Institute of Technology, Manipal University, 576104, Manipal, India
[3]Professor, Kasturba Medical College, Manipal University, 576104, Manipal, India

ABSTRACT

Quality of healthcare service has become a major concern of the hospitals and the patients. The increased competition in the healthcare market along with better patients' perception of service quality makes it challenging for hospitals to provide quality services that meet patient satisfaction. Hence, there is a need to recognize the factors valued by patients in perceiving the quality of healthcare services. The aim of this research paper is to examine the major factors in the measurement of healthcare service quality as perceived by patients in Indian context. A questionnaire adapted from 5Qs model was distributed among 230 patients. The questionnaire consisted a total of 47 items which were identified to be the most relevant attributes in the measurement of healthcare service quality. As the empirical research setting this study considered the patients who availed their health care services from different private hospitals in and around Udupi.

The study explored mainly three concerns of patients such as providers' interaction with patients and the atmosphere of care provided, the infrastructural facilities in the hospital followed by the hospital processes and outcome of the service delivered. The results of this study can be useful for healthcare providers and hospital administrators to regularly monitor healthcare service quality using identified attributes and initiate continuous quality improvement programmes centring the perceptions of healthcare service consumers. This study provides a better understanding of preferences and perceptions of healthcare consumers. It also illustrates the major factors in the measurement of hospital service quality.

Keywords: Healthcare service quality; Hospital; 5Qs model; Measurement of quality; Perceived quality.

1. INTRODUCTION

Healthcare industry is one of the fastest growing sectors in the service economy in both developed and developing countries (Andaleeb, 2001). Over the past two decades, along with the exponential growth,

this sector has also witnessed changes in medical technology, development in the medical science, better educated and more aware customers than earlier decades. This has, lead to stiff competition in the healthcare market. Demand for quality care from payers and consumers of healthcare service has become a challenge for service providers and has made sustaining their competitive advantage in the market very difficult. Hence it is important for the healthcare providers to determine the factors perceived by patients to understand what is valued by them. It is also essential to know how the quality of care is apparent to the patients and to know where and how the service could be improved or changed to enhance the value from the patients' perspective.

Healthcare services and other services share some of the similar characteristics such as unequal demand (Berry & Seltman, 2008), inseparability of consumers and providers, perishability of the value of service when resources are unused and knowledge disadvantage because of lack of awareness (Berry & Bendapudi, 2007). However, health care is dissimilar from most other services in significant ways (Berry & Seltman, 2008). Healthcare is a need service (Bendapudi et. al., 2006); patients don't have control (they cannot walk in and walk out of the hospital at their will (Berry & Bendapudi, 2007); surrender their privacy and confidentiality (Berry & Seltman, 2008); labour and skill intensive services (performance of clinicians vary from one to another); made-to-order (more holistic and customized based on the needs of the patient); collaboration and cooperation of patients both during the service delivery and afterwards for successful treatment (Berry & Bendapudi, 2007; Pai & Chary, 2013). These characteristics differentiate healthcare services from other services.

Several researchers have deliberated that Healthcare Service Quality (HSQ) is a multidimensional concept (Ghosh, 2014). In literature, the service quality is usually attributed with two dimensions; technical and functional quality (Gronroos, 1984). The most widely used SERVQUAL model has been tested, revised or modified in a great number of studies conducted in various study settings (Pai & Chary, 2015; Talib et. al., 2015)). However, all the studies did not support the factor structure proposed by Parasuraman et. al., during 1988 (Umath & Marwah, 2015). Zineldin (2000) expanded the technical – functional and SERVQUAL quality models in to a framework of five quality dimensions known as 5Qs model. The 5Qs model indicates quality of object, quality of processes, quality of infrastructure, quality of interaction and care atmosphere as the five quality dimensions. These 5Q items covers both functional technical and administrative aspects of care such as doctors and nurses professional care, patients stay it the wards, infrastructure, relationship of health care services to specific patient illness, communication, patient flow process and other safety procedures (Zineldin, 2015).

Considering these advancements in the field of measurement of HSQ, this study aims at testing the 5Qs model to understand patients' perception on healthcare service quality.

2. LITERATURE REVIEW

Measuring quality of services is difficult due to its unique characteristics such as intangibility, inseparability, heterogeneity and perishability (Zeithmal et. al., 1985). That too healthcare service is dissimilar from other services. Over past several decades, an extensive research has been done on HSQ and its determinants. Various researchers have established different concepts for service quality, like Nordic view that explains service quality on two dimensions such as technical quality and functional quality (Groonroos, 1984), and

the American view explains service quality on five dimensions such as tangibility, empathy, assurance, reliability and responsiveness (Parasuraman et. al., 1985). But, most of the studies focused only on the functional dimension in the healthcare literature. Among which, SERVQUAL (Parasuraman et. al., 1985) was the very commonly used model for measuring quality of healthcare service (Andaleeb, 2001; Pai & Chary, 2015; Solayappan et. al., 2011; Talib et. al., 2015; Umath, & Marwah, 2015). Some the studies even used modified SERVQUAL model for measuring the quality of healthcare service and patient satisfaction (Amira, 2008; Ghosh, M., 2014; Kalepu, 2014; Kara et. al., 2005; Kondasani & Panda, 2015; Lee, 2017; Ranjbar et. al., 2012; Sohail, 2003; Yesilada & Direktör, 2010). Few studies considered the items such as physical facilities, admission process, diagnostic services, food, staff behavior and hygiene (Ross & Venkatesh, 2015). However, the researchers had also explored different dimensions for the assessment of service quality from the patients' perspective. Zineldinduring 2006, expanded technical–functional quality model (Gronroos, 1984) and SERVQUAL quality models into a framework of five quality dimensions and developed a new service quality model called 5Qs model. This model later used for the measurement of quality of services in different service organizations such as hospitals and universities (Zineldin 2006; Zineldin et. al., 2011; Zineldin et. al., 2014; Zineldin, 2015). The model was empirically tested for the relevance, validity and reliability in healthcare organizations especially in countries like Turkey, Jordan, Egypt and Kazakhstan (Zineldin et. al., 2006, 2010, 2011). The model was also used as an instrument to detect medical errors and other deficiencies of a healthcare organization (Zineldin, 2014).The studies that used 5Qs model for the assessment of HSQ in different countries reported that quality of infrastructure and atmosphere were the primary concern of patients in Turkey (Camgöz-Akdag & Zineldin, 2010), quality of infrastructure was the most important factor for Kazhakhstan patients (Zineldin et. al., 2011) whereas quality of infrastructure and interaction were the important dimensions as perceived by patients in Jordan and Egypt (Zineldin, 2006).

3. RESEARCH METHODOLOGY

The study is aimed to explore the dimensions of healthcare service quality from the patients' perspective in Indian context specifically referring to patients in and around Udupi and Manipal. A questionnaire was designed based on the Zineldin's 5Qs model. The questionnaire consisted a total of 47 items of five quality dimensions (5Qs). A five point Likert scale was adopted in the questionnaire to measure the dimensions of healthcare service quality. The questionnaire was reviewed and the contents were validated by three experts from the healthcare profession. The survey was carried out on a sample of 228 patients who availed healthcare services from various private healthcare organizations such as small hospitals, nursing homes and multispecialty hospitals. Convenience sampling method was adopted for choosing the respondents for the study. Questionnaire was administered for those patients who availed healthcare services within the past 3 months, bearing in mind their recalling ability regarding the service experience. The data was collected within a span of two months.

3.1. Sample Characteristics

The demographic details of the respondents are shown in Table 1. Male patients constituted 60 per cent, whereas females constituted 40 per cent. The age of the respondents ranged from 18 years to 70 years. The respondents' education qualification ranged from below 10th standard till Doctor of Philosophy.

Table 1
Sample Characteristics

Variable	Classification	Frequency	Percentage
Gender	Male	136	59.6
	Female	92	40.4
Age (in years)	18-25	45	19.7
	26-35	48	21.1
	36-45	52	22.8
	46-55	47	20.6
	56-65	34	14.9
	Above 65	2	0.9
Education Qualification	Below 10th Std.	1	0.4
	10th Std.	11	4.8
	Diploma	17	7.5
	PUC	11	4.8
	Graduate	89	39.0
	Postgraduate	91	39.9
	Others	8	3.5

4. RESULTS

4.1. Reliability of the Scale

The questionnaire had a good reliability score. The overall Cronbach's alpha for all the 47 items is 0.956 that claims the high reliability of the scale. The reliability coefficients for each of the dimensions are provided in the Table 2. The reliability estimates range between 0.720 (items related to quality of object) and 0.908 (items pertaining to quality of infrastructure).

Table 2
Scale reliability

Scales	Cronbach's alpha
Overall 47 items	0.956
Object related items	0.720
Infrastructure related items	0.908
Process relate items	0.827
Interaction related items	0.861
Atmosphere related items	0.863

4.2. Factor Analysis

The forty seven attributes associated to the 5Qs model were reduced into a new set of important variables through factor analysis. The Kaiser-Meyer-Olkin (KMO) value for these data was 0.916 that indicates adequacy of the sample for the exploratory factor analysis. Factors with eigenvalues greater than 1.0 are retained. Inspection of scree plot and eigenvalues enabled the analysis to reduce the forty seven quality

attributes into three factors. The resulting component factor matrix of the factor loadings for each variable onto each factor is given in Table 4. The factors loaded with a value greater than the significant factor criterion of 0.4 are displayed in the table. Accordingly the factors addressing quality of interaction and atmosphere, quality of infrastructure and quality of process and objective are found significant in measurement of quality of healthcare services. The factor quality of interaction and atmosphere is highly loaded with a highest value of 0. 738 and subsequently the highest loading for the factor quality of infrastructure and quality of processes and objective are 0.665 and 0.602 respectively.

4.2.1. Factor 1- Quality of Interaction and Atmosphere

The highest loading to the first factor was given to responsiveness of the physicians. Second highest loading was on the consultant providing information to the patients regarding the illness and treatment. The third highest was given to the involvement of patient and family members in deciding the treatment. This means that Patients biggest concern is physicians' responsiveness and their interaction with the patients while treating them.

4.2.2. Factor 2- Quality of Infrastructure

The second factor relates to the infrastructural facilities available in the hospitals. The highest loading given in this factor was component related to the timely availability of good food, hygiene in the care area, well dressed and continuous availability of healthcare providers and clear signage system. The factor also included components such as skill of the physicians, nurses and technicians in providing treatment, and the availability of medical equipment in the hospital.

Table 3
Rotated component factor matrix

Components	Factors		
	1	*2*	*3*
Quality Obj. 2			.410
Quality Obj. 3			.538
Quality Obj. 4			.466
Quality Obj. 6			.419
Quality Pro. 1			.581
Quality Pro. 2			.432
Quality Pro. 3			.438
Quality Pro. 4			.602
Quality Pro. 6			.589
Quality Pro. 7			.454
Quality Pro.10			.579
Quality Infra. 1		.536	
Quality Infra. 2		.541	
Quality Infra. 3		.555	
Quality Infra. 4		.608	

(Contd...)

Components	Factors		
	1	*2*	*3*
Quality Infra. 5		.646	
Quality Infra. 6		.512	
Quality Infra. 7		.531	
Quality Infra. 8		.502	
Quality Infra. 9		.524	
Quality Infra. 10		.665	
Quality Infra. 11		.655	
Quality Infra. 12		.656	
Quality Infra. 16	.485		
Quality Itrn. 1	.710		
Quality Itrn.2	.689		
Quality Itrn. 3	.611		
Quality Itrn. 4	.505		
Quality Itrn. 5	.651		
Quality Itrn. 7	.679		
Quality Atmos. 1	.593		
Quality Atmos. 2	.499		
Quality Atmos. 3	.581		
Quality Atmos. 4	.738		
Quality Atmos. 5	.541		
Quality Atmos. 6	.647		
Quality Atmos. 8	.639		

4.2.3. Factor 3: Quality of Process and Quality of Object

The third and last factor is related with quality of process and some attributes related to objective. The highest loaded attribute in this factor refers to the time taken for consultation was less than 30 minutes with the loading value 0.602. The second highest loaded attribute was the time taken for medicine dispensing process with loading a value of 0.589. The third component loaded with 0.581 that is treatment was provided without any delay. Some of the components related to quality of object also loaded in this factor such as hospital premises are safe and restored sense of wellbeing after the treatment with the loading value 0.419 and 0.410 respectively. It is also observed that a total of 83 per cent of the respondents agreed that the hospital premises are safe for their stay. Similarly 82 per cent of respondents agreed that they restored sense of wellbeing after treatment. This shows that patients were happy with the safety during their hospital stay and restoration of their health after availing services from the hospitals.

5. DISCUSSION

It was very interesting to recognize that the first and most important factor for people in Udupi and Manipal is the quality of interaction and atmosphere with highest loadings. This reveals that people are very much concerned about the interaction of healthcare providers while availing the treatment and also they look for

the atmosphere in which the healthcare services are provided. Though the study has extracted three factors, there is an overlap of components referring to the quality of interaction and atmosphere in the first factor, quality of processes and object in the third factor. It is revealed that even in Indian context the dimensions for measurement of healthcare service quality as perceived by the patients are more or less similar in Turkey, Jordan and Khazakistan (Zineldin, 2006 & 2011) but the factor loadings value differs may be based on the study settings. Hence it is ideal to consider that all the 5 dimensions of 5Qs model are relevant in the measurement of healthcare service quality as perceived by patients even in Indian context.

6. CONCLUSION

The exploratory investigation of 5Qs model in the Indian context extracted three factors. However, all the dimensions included in the model are overlaid in these three extracted factors. The results are more or less similar of the studies conducted in other countries such as Jordan, Turkey and Egypt. The findings of the study cannot be generalized to the whole of India as the study has been done in one city and therefore, need to be considered cautiously. In spite of the validity and reliability tests conducted in this study, it is recommended that such tests should be repeated to understand the suitability of the model in different study settings. Since this study has been conducted including the respondents from different hospitals, to minimize the variance in data model also could be tested for measurement of quality of healthcare services in a particular hospital. Also, the model could be used to compare the performance of public and private healthcare facilities. However, much more research is needed to generalize the suitability of 5Qs model for the measurement of quality of healthcare services in the Indian context.

References

Amira, E. (2008). Patient satisfaction in Japan. *International Journal of Healthcare Quality Assurance, 21*(7), 692-705.

Andaleeb, S.S. (2001). Service quality perceptions and patient satisfaction: a study of hospitals in a developing country. *Social science & medicine, 52*(9), 1359–1370.

Bendapudi, N.M., Berry, L.L., Frey, K.A., Parish, J.T., & Rayburn, W.L. (2006, March). Patients' perspectives on ideal physician behaviors. In *Mayo Clinic Proceedings 81*/3, 338-344. Elsevier.

Berry, L.L., & Bendapudi, N. (2007). Health care a fertile field for service research. *Journal of Service Research, 10*(2), 111-122.

Berry, L.L. & Seltman, K.D. (2008). *Management Lessons from Mayo Clinic*. McGraw Hill Companies, Columbus, OH.

Camgöz-Akdag, H., & Zineldin, M. (2010). Quality of health care and patient satisfaction: An exploratory investigation of the 5Qs model at Turkey. *Clinical Governance: An International Journal*, *15*(2), 92-101.

Ghosh, M. (2014). Measuring patient satisfaction: An empirical study in India. *Leadership in Health Services, 27*(3), 240-254.

Grönroos, C. (1984). A service quality model and its marketing implications. *European Journal of Marketing, 18*(4), 36-44.

Kalepu, R.N.P. (2014). Service quality in healthcare sector: an exploratory study on hospitals. *IUP Journal of Marketing Management*, *13*(1), 7.

Kara, A., Lonial, S., Tarim, M., & Zaim, S. (2005). A paradox of service quality in Turkey: The seemingly contradictory relative importance of tangible and intangible determinants of service quality. *European Business Review, 17* (1), 5-20.

Kondasani, R.K.R., & Panda, R.K. (2015). Customer perceived service quality, satisfaction and loyalty in Indian private healthcare. *International journal of health care quality assurance*, *28*(5), 452-467.

Lee, D. (2017). Healthqual: a multi-item scale for assessing healthcare service quality. *Service Business*, *11*(3), 491-516.

Pai, Y.P., & Chary, S.T. (2013). Dimensions of hospital service quality: a critical review: Perspective of patients from global studies. *International journal of health care quality assurance, 26*(4), 308-340.

Parasuraman, A., Zeithaml, V.A., & Berry, L.L. (1985). A conceptual model of service quality and its implications for future research. *The Journal of Marketing*, 41-50.

Ranjbar, E.M., Bahrami, M., Zare, A.H., Arab, M., Nasiri, S., & Hataminasab, H. (2012). Analysis of servqual in shahidsadoghi hospital, Yazd, Iran. *Horm Medical Journal, 16*(4):330-340.

Ross, D.S., & Venkatesh, R. (2015). An Empirical Study of the Factors Influencing Quality of Healthcare and Its Effects on Patient Satisfaction. *International Journal of Innovative Research in Science, Engineering and Technology*, *4*(2), 54-59.

Sohail, M.S. (2003). Service quality in hospitals: more favourable than you might think. *Managing Service Quality, 13*(3), 197–206. Doi: 10.1108/09604520310476463.

Solayappan, A., Jayakrishnan, J., & Velmani, S. (2011). Quality measurement for hospital services. *IPEDR*, *12*, 246-250.

Talib, F., Azam, M., & Rahman, Z. (2015). Service quality in healthcare establishments: A literature review. *International Journal of Behavioural and Healthcare Research*, *5*(1-2), 1-24.

Umath, B., & Marwah, A.K. (2015). Measurement of Service Quality in Health Care Industry using Servqual Model: A Case of Select Hospitals.

Yesilada, F., & Direktör, E. (2010). Health care service quality: A comparison of public and private hospitals. *African Journal of business management*, *4*(6), 962.

Zeithaml, V.A., Parasuraman, A., & Berry, L.L. (1985). Problems and strategies in services marketing. *The Journal of Marketing,* 33-46.

Zineldin, M. (2006). The quality of health care and patient satisfaction: an exploratory investigation of the 5Qs model at some Egyptian and Jordanian medical clinics. *International Journal of Health Care Quality Assurance, 19*(1), 60-92.

Zineldin, M., Akdag, H.C., &Vasicheva, V. (2011). Assessing quality in higher education: new criteria for evaluating students' satisfaction. *Quality in higher education, 17*(2), 231-243.

Zineldin, M., Camgöz-Akdag, H., &Vasicheva, V. (2011). Measuring, evaluating and improving hospital quality parameters/ dimensions-an integrated healthcare quality approach. *International journal of health care quality assurance, 24*(8), 654-662.

Zineldin, M., Zineldin, J., &Vasicheva, V. (2014). Approaches for reducing medical errors and increasing patient safety: TRM, quality and 5 Qs method. *The TQM Journal*, *26*(1), 63-74.

Zineldin, M. (2015). Determinants of patient safety, satisfaction and trust: With focus on physicians-nurses performance. *Clinical Governance: An International Journal*, *20*(2), 82-90.