



A Study on Perceived Service Quality in the Indian Rural and Urban Hospitals

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Abstract

Background/Objectives: Hospital service quality is the variation between the patient's perceptions about the services delivered by a healthcare organization and their expectations about healthcare organizations delivering such services. Patient perspective is the ultimate indicator of healthcare service quality as it enables them to judge the performance of the services provided by the hospital. A huge gap exists between the quality of the healthcare services provided by the hospitals in rural and urban areas. **Methods/Statistical analysis:** The quantitative study was conducted to understand the perceptual differences in the service quality between the urban and rural hospitals. **Findings:** It was a survey that documented the patient perspective of hospital service quality by measuring various dimensions like healthcare delivery, facilities, financial access to care, diagnostic aspects of care, health personnel conduct and drug availability. The sample consisted of 115 residents, chosen based on convenience, from urban and rural areas. The responses were analyzed using SPSS 20 software. **Improvements/Applications:** From the findings, it was inferred that there are perceptual differences in the service quality between rural and urban hospitals. Further, perceptual differences exist in the facilities provided between the rural and urban hospitals. Financial and physical access to care widely differ between rural and urban hospitals. Overall, the perception of service quality is higher in the urban hospitals than in the rural hospitals. Thus, study provides insights to the hospital administrators and the managers in enhancing the quality of services, based on the perceptions and needs of the patients.

Index Terms

Hospital service quality, Patients, Perceptual differences, Rural area, Urban area.

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I. INTRODUCTION

Health and healthcare should be differentiated from one another, as health is not correctly perceived as the main function of healthcare. Healthcare systems are very complex with its various features – quality customer care, healthcare providers, insurance, etc. interacting with each other. The healthcare sector in India also faces many challenges such as moderate physical infrastructure and the need for improvement, poor awareness regarding health insurance and unavailability of trained medical providers. Under the context of the Indian Constitution, health is a subject of the state, with each state having its own healthcare delivery system in rural as well as the urban areas of the state.

Rural areas are located outside cities, towns, etc. such as villages, with minimal settlements and low population. Urban areas are established with urbanization such as towns, cities, suburbs, etc.

Service quality is the variation between the perceptions of the consumer about the services that are delivered by an organization and their expectations about organizations delivering such services. Hospital service quality is the variation between the patient's perceptions about the services delivered by a healthcare organization and their expectations about healthcare organizations delivering such services [1]. Service quality measurement is not one-dimensional [2], and it is how the service consistently meets and enhances the patient's expectations [3]. Perceived service quality is the evaluative tool by the consumers that enables them to judge the performance of the services provided by the organization [4]. Patient perspective is the ultimate indicator of healthcare service quality [5]. The stakeholders of the healthcare sector, government institutions and the consumers are focusing mainly on quality healthcare service delivery so as to meet the increasing customer demands and keep up the value for money [6].

Consumers demand better healthcare services that support their lifestyles, which has led to a positive significant growth in the healthcare service sector. India has emerged as a preferable healthcare destination for nearby countries due to the quality of services and treatments available at a lower costs [7]. A huge gap exists between the quality and pricing of the healthcare services that are provided by the hospitals in rural and urban areas. The rural hospitals have limited number of resources; whereas the hospitals in urban areas charge higher prices which are unaffordable for the people in the rural areas. In urban areas, the healthcare service facilities are basically run for the purpose of profit. The funds provided by the government to run the healthcare services in rural areas are insufficient [8]. Charitable organizations provide healthcare service facilities at

low costs or are free of cost, depending on the patient's income. There is a change in the requirement of the type of any healthcare services due to the lifestyles of the people and related diseases like cardiovascular disease, diabetes, etc. The infrastructure of the healthcare organizations play an important role. The transport facilities and roads that connect to the remote rural areas of India to the urban areas are limited, thus, easy accessibility to healthcare services from the rural areas are difficult. The Indian government has plans to enhance the health infrastructure in rural areas by upgrading the number of clinics, hospitals, laboratories and other healthcare services [9]. Telemedicine is another aspect that provides an easy access to quality healthcare to the people in rural areas.

A. Need for the study

Delivering excellent quality of service in hospitals has become very important as India is the preferred healthcare destination that provides cost-effective services to patients coming from different parts of the world. In the Indian healthcare sector, here is a wide gap between the perceptions of the patient and their expectations and also between the perceptions of the management about the patient's expectations and the actual expectations of the patients [12]. Thus, it is important to understand the patient's perceptual differences regarding the service quality of hospitals from two different sections of India, i.e. urban and rural hospitals. This would also help us to understand the various dimensions of healthcare service quality and how it differs in urban and rural areas. Hence, the study provides insights to the hospital administrators and the managers in enhancing the quality of services, based on the perceptions and needs of the patients.

B. Scope of the study

The study was limited to the rural and urban population of Dakshina Kannada and Udupi districts. The study will help us to understand the various measures of healthcare service quality and how it differs in urban and rural areas. Based on the patient's perceptual differences in the service quality of the hospital, the management can improve the quality of services provided in the hospital. The future researchers can study on the rural and urban population of various other districts and states in India. As the study focused on various dimensions of hospital service quality, the future researches can focus on one or two selected dimensions based on which an in-depth comparative study can be conducted between urban and rural hospitals.

C. Objectives

- To understand the perception of patients regarding the service quality of hospitals in rural and urban areas.
- To study the perceptual difference in the healthcare delivery between rural and urban hospitals.
- To study the perceptual difference in the facilities provided between rural and urban hospitals.
- To study the perceptual difference in the financial and physical access to care between rural and urban hospitals.

D. Hypothesis

- H1: There is a significant difference in the service quality of hospitals between rural and urban areas.
- H2: There is a significant difference in the healthcare delivery between rural and urban hospitals.
- H3: There is a significant difference in the facilities provided between rural and urban hospitals.
- H4: There is a significant difference in the health personnel conduct and drug availability between rural and urban hospitals.
- H5: There is a significant difference in the financial and physical access to care between rural and urban hospitals.

E. Limitations of the study

The study was conducted in a short span of 4 weeks. It is limited to the rural and urban population of Dakshina Kannada and Udupi districts, and the perceptions may vary across various other districts. The study emphasizes on the general perceptions of the patients regarding various hospital service quality dimensions in any urban or rural hospital that they have visited, and not on any particular service quality dimension in any particular hospital.

II. REVIEW OF LITERATURE

A. Service quality

The healthcare service quality consists of three parts – structure, process and outcome [13]. Structure defines the infrastructure, resources and technology; process defines the interaction between the patients and healthcare service providers which gives rise to health outcomes; outcomes are defined in term of disability, death, responsiveness or patient satisfaction [14]. Furthermore, healthcare service

quality has two dimensions – functional and technical quality [15]. Functional quality defines the way in the service has been delivered to patients; technical quality defines the accuracy of the medical procedures and diagnoses in terms of its technicality. Several researchers have used various concepts to estimate service quality in the healthcare sector. Researchers Reidenbach and Smallwood [16] conceptualized service quality through patient confidence, support services, treatment quality, waiting time, physical appearances and empathy. Researchers Vandamme and Leunis [7] measured service quality from the patient's perspective in terms of tangibles, assurance, staff quality, medical responsiveness, personal values and beliefs. Researchers Toms and Ng [17] assessed service quality in terms of relationship, empathy, mutual respect, religious needs and dignity as intangible factors; and physical environment and food as tangible factors of the services. Researcher Lam [18] developed the SERVQUAL scale to measure the quality of healthcare services. It was found that physical facilities were least important from the patient perspective; and physician care, nursing care and its outcome were the technical aspects of care whereas noise, room temperature, food, cleanliness, privacy and parking were the interpersonal aspects of care. Responsiveness, cost, communication, cleanliness and courtesy were the service quality dimensions for hospitals in Thailand [19]. Medicine availability, staff behavior, medical information and the hospital infrastructure are also various dimensions of perceived service quality in the healthcare sector [20]. To deliver quality healthcare services, physician-patient interaction, personalization and interpersonal care plays a very important role. Researchers Andaleeb and colleagues [8], [21-24] have come to the conclusion that the functional aspects of healthcare service quality are important whereas McGorry and Carman [25, 26] found that the technical aspects of healthcare service quality are important. In the Indian healthcare sector, there is a wide gap between the perceptions of the patient and their expectations and also between the perceptions of the management about the patient's expectations and the actual expectations of the patients [12].

Service quality influences the buyer's satisfaction as well as purchase intentions. Providing service quality is entirely in the power of the service provider, and enhancing the service quality influences patient satisfaction. Healthcare service quality and patient satisfaction are closely related aspects [27, 28]. The quality of the service provided influences the patient satisfaction and intentions in terms of their behavior like positive and negative word of mouth, willingness to pay more, revisits, complaints, etc. [29].

Patients are unable to accurately assess the quality of services in terms of its technicality, thus, functional quality is the main determinant of evaluating the patient perception of service quality [4], [15]. Perceived service quality is an important aspect that influences the patient perception of the value, and in turn, their intentions in purchasing the services [30, 31]. The world health organization has defined healthcare service quality in terms of its cost effectiveness, efficiency and social acceptability [32]. Social acceptability clearly indicates and highlights patient's perspective [33]. A patient survey revealed the dimensions that measure service quality are physical comfort, patient preferences, involvement of family, coordination of care, emotional support, information and education [1]. Further, tangibles like food, accommodation, privacy; admission, nursing care, visitor's access and discharge are the various dimensions that conceptualizes service quality in hospitals [34]. Also, personal conduct and practices, healthcare delivery, adequacy of services and resources, physical and financial accessibility of care are the determinants of measuring perceived service quality in hospitals [35].

B. Hospital service quality in rural and urban areas

According to the UNICEF, 70 percent of population of India lives in rural areas. According to the World Bank, 41.6 percent of the population in India has income below \$1.25 per day and 75.6 percent has below \$2 per day [36]. This is thus, characterized as the BoP segment, residing in informal market and differing from mid to high-income statuses.

Service quality today deals with cost saving, market share and profits [37].

A huge gap exists between quality and pricing of the healthcare services that are provided by the hospitals in rural and urban areas. Hospitals in urban and rural areas need to evaluate their non-financial as well as financial performance to enhance function and competitiveness. The rural hospitals have limited number of resources; hospitals in urban areas charge higher prices making the services beyond the reach of the BoP segment.

The performance of rural hospitals as compared to that of urban hospitals is very poor in terms of the distribution of qualified doctors and in the actual delivery of quality service to its patients [9]. In urban hospitals, reliability and equitable treatment are important dimensions of service quality. Efficiency and privacy play major roles in the measuring the service quality in urban hospitals [8]. The determinant social responsibility is vital as some part of the GDP is provided by the government of India on rural healthcare services. Due to the lack of accountability, the subsidies provided by the

government are not accessed by the beneficiaries in real, and thus, 63 percent of the rural households and 70 percent of the urban households have resorted to private sector as their primary source of healthcare [11].

Studies have revealed that the determinants of service quality developed for one culture may not be applicable to another culture. Further tests and validation would be required prior to accepting any of the factors that conceptualizes service quality in one's culture [38-40]. Less number of people in India have insurance cover and are unable to access the medical services due to their high costs that are offered by urban hospitals. Hospitals in rural areas have been built to deliver healthcare services enabling the well-being of the people living there, such that the basic purpose is equality before the law [41]. The local or state governments are responsible to ensure easy access to quality healthcare to each citizen regardless of social, geographic or economic statuses [42]. Availability is the main issue in rural hospitals, due to which the health management has opted for cost-cutting strategies to solve the dilemma. Thus, as the distance between the consumer and the service sites increase, it will impact the demand and service negatively due to lesser utilization of the services leading to delayed diagnosis or excluding the consumers [43]. Furthermore, the attitude of each individual to healthcare services vary between urban and rural areas wherein the variations are due to the values and habitual barriers in the local social systems [44]. Perceived usefulness or feasibility of the service provided encompasses the service value in term of economic dimensions, including direct expenses and other monetary benefits; and indirect costs that are related to transactions. It is also subjective as it depends on each individual's expectations, values and needs [45].

III. RESEARCH METHODOLOGY

A. Sources of data

Primary data was collected through structured questionnaires. The data was collected from the residents of rural and urban areas. Secondary data was gathered from various publications, manuals, articles and journals from various sources from the Internet.

B. Measurement scale

The perceived service quality between rural and urban hospitals was measured using a scale developed by Parasuraman, Zeithaml and Berry (1985) which was administered using 5-point Likert Scale (5= Excellent, 4= Very Good, 3= Good, 2=

Fair, 1= Poor). The items in the scale are comprised of the dimensions of service quality in a hospital, i.e. healthcare quality, interpersonal and diagnostic aspects of care, facilities, health personal conduct and drug availability, financial and physical access to care. Based on the experience at the preferred hospital (urban or rural area), the perception of service quality among the residents of urban and rural areas was assessed.

C. Sampling design

115 respondents were selected for the quantitative study. The respondents were chosen from urban areas (Mangalore, Manipal and Udupi) and rural areas (Parkala, Mulki, Kateel and Bajagoli), using convenient sampling method. The respondents were from all the age groups, from the age of 18 to 40 years and above. People below the age of 18 years were excluded from the study. Almost equal responses were collected from both urban as well as rural areas.

D. Tools used for the data analysis

SPSS 20 software was used for data analysis. Various statistical tools were used to find out relationship and factors affecting to the perceived service quality and the perceptual differences between rural and urban hospitals. To check the reliability of the study, Cronbach's Alpha test was done. t-Test was used to check the relationship between two variables.

E. Reliability of the scale

Table 1 represents the reliability of the items in the questionnaire.

Table 1. RELIABILITY STATISTICS

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.968	.968	23

In order to measure the internal consistency or reliability, the Cronbach's Alpha is commonly used. The Cronbach's Alpha was run on a sample of 115 responses. The Alpha co-efficient for the 23 items of perceived service quality is 0.968, which means all the items have relatively high internal consistency.

IV. DATA ANALYSIS AND INTERPRETATION

A. Demographic profile

The description of demographics is presented in the table (Annexure 1). The analysis of the study revealed that it comprised of 48.7% of females and 51.3% of males. The age profile revealed that respondents of age profiles 18-25, 26-30, 31-40 and above 40 years comprised of 40.9%, 20.9%, 17.4% and 20.9% respectively. The educational profile of the respondents revealed that 13.9% were SSLC passed, 13.9% were PUC passed, 27.8% were graduates, 28.7% were post graduates and 15.7% belonged to the other category. Upon analyzing the 115 respondents it revealed that 43.5% preferred rural hospitals where as 56.5% preferred urban hospitals.

B. Testing of hypothesis

The data pertaining to the identified construct were treated using t-statistics (independent t-test) to examine whether the perceptions vary with respect to preferred hospitals.

H1: There is a significant difference in the service quality of hospitals between rural and urban areas.

The table (Annexure 2) indicates that there is a significant difference in the perceived service quality between rural and urban hospitals. This inference is validated by the low significant value (0.047) which is less than threshold value of 0.05. This result is also proved by the table (Annexure 2), where the mean value of service quality for urban hospitals is 3.916, whereas that of rural hospitals is 2.275. It can be inferred that the perceived service quality is better in urban hospitals than in rural hospitals.

H2: There is a significant difference in the healthcare delivery between rural and urban hospitals.

The table (Annexure 3) indicates that there is no significant difference in the healthcare delivery between rural and urban hospitals. This inference is validated by the significant value of 0.179, which is more than threshold value of 0.05. There is also no much difference in the mean value of rural and urban hospitals (3.060 & 3.936). It can be inferred that the healthcare delivery is perceived as same in both urban and rural hospitals.

H3: There is a significant difference in the facilities provided between rural and urban hospitals.

The table (Annexure 4) indicates that there is a significant difference in the facilities provided between rural and urban hospitals. This inference is

validated by the low significant value (0.040) which is less than threshold value of 0.05. This result is also proved by the table (Annexure 4), where the mean value for urban hospitals is 3.987, whereas that of rural hospitals is 2.364. It can be inferred that the facilities provided is better in urban hospitals than in rural hospitals.

H4: There is a significant difference in the health personnel conduct and drug availability between rural and urban hospitals.

The table (Annexure 5) indicates that there is no significant difference in the health personnel conduct and drug availability between rural and urban hospitals. This inference is validated by the significant value of 0.275, which is more than threshold value of 0.05. However, there is a difference in the mean value of rural and urban hospitals (2.580 & 4.061). It can be inferred that the health personnel conduct and drug availability is much better in urban hospitals than in rural hospitals.

H5: There is a significant difference in the financial and physical access to care between rural and urban hospitals.

The table (Annexure 6) indicates that there is a significant difference in the financial and physical access to care between rural and urban hospitals. This inference is validated by the low significant value (0.046) which is less than threshold value of 0.05. This result is also proved by the table (Annexure 6), where the mean value for urban hospitals is 3.946, whereas that of rural hospitals is 2.330. It can be inferred that the financial and physical access to care is better in urban hospitals than in rural hospitals.

V. FINDINGS

As observed in the results, there was a significant difference in the perception of service quality between the rural and urban hospitals. The perceived service quality was found to be better in urban hospitals than in rural hospitals. Thus, H1 can be accepted. There were no perceptual differences in the healthcare delivery between rural and urban hospitals, thus H2 can be rejected. There were perceptual differences in the facilities provided between rural and urban hospitals, where the perception was better in urban hospitals. This can be further explained by factors like adequacy of rooms, appearance of the staff, the availability of doctors for women and cleanliness of the hospital, which were found to be better in urban hospitals than in rural hospitals. Thus, H3 can be accepted. There were no perceptual differences in the health personnel conduct and drug availability between rural and

urban hospitals, thus H4 can be rejected. However, factors like compassion and support of the health personnel and the availability of drugs were found to be better in urban hospitals than in rural hospitals. Further, a significant difference was observed in the financial and physical access to care between the rural and urban hospitals. This can be further explained by factors like financial feasibility of the treatment, easy approachability and the ease in obtaining drugs which were found to be better in urban hospitals than in rural hospitals. Thus, H5 can be accepted.

VI. CONCLUSION

Hospital service quality is the variation between the patient's perceptions about the services delivered by a healthcare organization and their expectations about healthcare organizations delivering such services. Patient perspective is the ultimate indicator of healthcare service quality as it enables them to judge the performance of the services provided by the hospital. A huge gap exists between the quality of the healthcare services provided by the hospitals in rural and urban areas. It was observed that there are perceptual differences in the service quality of hospitals between rural and urban areas, where the perception of service quality is higher in the urban hospitals than in the rural hospitals. Perceptual differences exist in the facilities provided between the rural and urban hospitals. Further, financial and physical access to care widely differ between rural and urban hospitals.

VII. MANAGERIAL IMPLICATIONS

Patient perspective is very important in evaluating the performance of the hospital. The study can be used by the hospital administrators and managers to enhance the quality of services provided by the hospital. The performance of the services provided by the hospital can be analyzed and improved based on the needs and expectations of the patients. This will improve the value of the services provided and thus, enhance the overall performance of the hospital.

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ANNEXURE 1

Table 1: Demographic analysis

Variable	Category	Frequency	Percentage
Gender	Male	59	51.3
	Female	56	48.7
Age	18-25	47	40.9
	25-30	24	20.9
	30-40	20	17.4
	Above 40	24	20.9
Educational level	SSLC	16	13.9
	PUC	16	13.9
	Graduate	32	27.8
	Post graduate	33	28.7
	Other	18	15.7
Preferred hospital	Rural	50	43.5
	Urban	65	56.5

ANNEXURE 2

Table 2: Data showing differences in the service quality of hospitals between rural and urban areas.

Group Statistics				
PREFERRED HOSPITAL	N	Mean	Std. Deviation	Std. Error Mean
SERVICEQUALITY RURAL HOSPITALS	50	2.2756	.93766	.13261
URBAN HOSPITALS	65	3.9166	.64366	.07984

Independent Samples Test									
		Levene's Test for Equality of Variances		t-test for Equality of Means					
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference
SERVICEQUALITY	Equal variances assumed	4.049	.047	-11.116	113	.000	-1.64102	.14763	-1.93349 -1.34854
	Equal variances not assumed			-10.602	82.647	.000	-1.64102	.15478	-1.94889 -1.33314

Activate Windows

ANNEXURE 3

Table 3: Data showing differences in the healthcare delivery between rural and urban hospitals.

Group Statistics				
PREFERRED HOSPITAL	N	Mean	Std. Deviation	Std. Error Mean
HD RURAL HOSPITALS	50	3.0600	.80920	.11444
URBAN HOSPITALS	65	3.9363	.63589	.07887

Independent Samples Test									
		Levene's Test for Equality of Variances		t-test for Equality of Means					
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference
HD	Equal variances assumed	1.831	.179	-6.504	113	.000	-.87626	.13472	-1.14318 -.60935
	Equal variances not assumed			-6.305	90.904	.000	-.87626	.13899	-1.15234 -.60018

ANNEXURE 4

Table 4: Data showing differences in the facilities provided between rural and urban hospitals.

Group Statistics					
	PREFERRED HOSPITAL	N	Mean	Std. Deviation	Std. Error Mean
F	RURAL HOSPITALS	50	2.3640	.92466	.13077
	URBAN HOSPITALS	65	3.9877	.63529	.07880

Independent Samples Test									
		Levene's Test for Equality of Variances		t-test for Equality of Means					
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference
									Lower Upper
F	Equal variances assumed	4.302	.040	-11.150	113	.000	-1.62369	.14563	-1.91221 -1.33518
	Equal variances not assumed			-10.635	82.697	.000	-1.62369	.15267	-1.92737 -1.32001

ANNEXURE 5

Table 5: Data showing differences in the health personnel conduct and drug availability between rural and urban hospitals.

Group Statistics					
PREFERRED HOSPITAL		N	Mean	Std. Deviation	Std. Error Mean
PCD	RURAL HOSPITALS	50	2.5800	.87497	.12374
	URBAN HOSPITALS	65	4.0615	.71902	.08918

Independent Samples Test									
		Levene's Test for Equality of Variances		t-test for Equality of Means					
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference
									Lower Upper
PCD	Equal variances assumed	1.202	.275	-9.964	113	.000	-1.48154	.14869	-1.77611 -1.18696
	Equal variances not assumed			-9.713	93.759	.000	-1.48154	.15253	-1.78440 -1.17868

ANNEXURE 6

Table 6: Data showing differences in the financial and physical access to care between rural and urban hospitals.

Group Statistics					
	PREFERRED HOSPITAL	N	Mean	Std. Deviation	Std. Error Mean
FNP	RURAL HOSPITALS	50	2.3300	.91535	.12945
	URBAN HOSPITALS	65	3.9462	.63043	.07820

Independent Samples Test									
		Levene's Test for Equality of Variances		t-test for Equality of Means					
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference
									Lower Upper
FNP	Equal variances assumed	4.074	.046	-11.200	113	.000	-1.61615	.14429	-1.90203 -1.33028
	Equal variances not assumed			-10.686	82.839	.000	-1.61615	.15123	-1.91696 -1.31535