

Analyzing The Functional Dimensions Of Service Quality

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Abstract: Service quality of hospitals is recognized as an important antecedent on exploring the overall service experience of patients globally. The present study analyzes the perception of the patients regarding implementation of a new service and its effect on quality of care. It investigates patients' perceptions of the government introduced programme -VIBGYOR which uses colored bed-sheets under a weekly color coded scheme in hospitals in North India. The study also analyzed the various gaps in the perceptions and expectations of service quality by patients in the district hospitals. The study was carried out at district hospital of Panchkula, Haryana. A longitudinal study was devised for this purpose. Data was collected through area sampling and a total of 137 respondents were approached for the study. The results indicate that there was a strong positive correlation between Tangibility and Assurance (.890), Empathy and Assurance (.866) and also between Empathy and Responsiveness (.822). This study redirects that several factors of service quality act as major antecedents to create satisfied patients and reinforce positive behavioral perceptions among them. Thus, Hospitals should allocate their resources, rationally regarding the attributes of service quality based on their effective perception by the patients. These attributes should also contribute to patients' satisfaction and hence increase overall patient satisfaction.

Key Words: Gap Analysis, Service Quality, Patient, Expectations, Satisfaction, Hospitals, Color-coded

1. INTRODUCTION

THE health care industry is undergoing a transformation with the emergence of new medical and technological innovations. Services and Goods both have played a major role in the healthcare industry [1] The goods aspects comprise of medical supplies, pharmaceutical supplies, devices, etc. while the services aspects include patient-care processes, treatment delivery and care service operations which may or may not have goods or product-based connotations [2]. The increasing competition has resulted in increased stress on good service delivery to the end users which would result in increased consumer satisfaction. Consumer Satisfaction with healthcare services is an evaluation based on the emotional response to any service [3]. The much-needed outcome of a hospital services is quality of care delivered to the patients and flexible care delivery services [4]. Both performance measures and quality care to patients have been recognized as important dimensions to build a competitive advantage over other hospitals [5]. The present study assesses the role of functional dimensions of service quality delivery mechanism through the VIBGYOR scheme of Haryana Government. This scheme utilizes different colored bed sheets which alter daily under a fixed color-coded scheme. The functional quality was explored through the SERVQUAL model given by Parasurman et al [6]. The study also aims to analyze service quality in hospitals in Panchkula based on the patient's perceptions before and after the VIBGYOR scheme and analyze the various gaps which exist in the service delivery mechanism.

2 REVIEW OF LITERATURE

The term quality has been referred to as the ability to meet customer expectations and provide superior, notable and proficient services according to the standards, thereby bringing satisfaction and delight to its customers [7], [8]. Performance

measures have been identified as major precursors of service quality in the healthcare industry [9]. The various factors of healthcare services quality delivered to patients varies in various studies conducted worldwide. Reidenbach and Sandifer-Smallwood [9] derived 41 survey items from 10 dimensions earlier given by Parasurman et al. [5]. The original scale consists of five generic dimensions of Tangibles, Reliability, Responsiveness, Assurance and Empathy. Furthermore, studies have reported the primary variables in healthcare industry such as gaining the trust of the receiver of services i.e the patients, the brand image of the hospital and its reliability, the quality of the physical facilities and the treatment offered to the patients. Babakus and Mangold [10] also studied the gap between performance and expectation levels of patients where all the five SERVQUAL dimensions namely tangibility, reliability, responsiveness and empathy were contributing adequately to medical services quality. Choi [11] studied various hospitals in Korea and concluded that medical services can be classified into four dimensions of the type of treatment offered to the patients, personalized care, the promptness of service delivery and convenience of the various procedural measures provided by the hospitals. Kim et al [12] analyzed patients in various dental hospitals and clinics in Korea. The study evaluated the various service quality dimensions and concluded that the various procedural measures offered by the hospitals, the contact personnel behavioral aspects, the inclusion of technological measures in service delivery and the physical amenities provided act as major variables of service quality. Lee [13] categorized quality of healthcare services into five variables of treatment, professionalism, quality, courtesy and convenience. Hence, various antecedents of service quality have been proposed by various researchers based on the type of treatment and focus of study.

Studies by Kim et.al.[14] suggest that service quality performance and expectations measures should be effectively analyzed by hospitals to enable better delivery mechanisms to patients. Hilton et al. [15] studied the health care services provided by hospitals in Australia. They explored various gaps in the expected and actual performance delivered in this hospital. Thus, there exist many opportunities to bring about enhancement in the quality of services provided by the hospitals and thus lessen the gap amongst the expectation

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and perception levels of the patients. Satisfaction, has been measured in various researches as either a singular item [18] or a multiple item [9]. Various studies have reported that satisfaction derived from consuming or experiencing a service delivery process can be measured through a multi-attribute study and can be measured in a holistic manner. The study recounted that patient satisfaction was identified to be primarily depended upon three things [17],[18],[9],[19]. This includes the patient satisfaction towards the overall hospital services provided during his visit to the hospital, the utility intention and revisit intention of the patient. Vassiliadis, Fotiadis and Tavlaridou [20] explored the perception of patients in hospitals in Greece using the Kano model effects. The study concluded that several factors act as important variables in promoting satisfaction among the patients and in creation of revisit intention among them. It suggests that hospital managers should strategically rethink to allocate the available resources to contribute to patients' satisfaction and behavioral intentions. Hence hospitals need to appropriately strategize their services if they want to survive the increasing competition in the healthcare industry [21], [22],[23]. The present study thus aims to measure service quality satisfaction before and after the launch of VIBGYOR scheme by the government and to do the gap analysis for the same.

3 MATERIAL AND METHODS

Earlier studies conducted regarding hospital or healthcare service quality have analyzed hospitals of varying size and structure, thus making it hard to extrapolate the findings of the surveys. The service delivery mechanisms in hospitals were studied through the people involved in the service delivery chain in this hospital. The study sample included the patients in this hospital. In the present study a pilot study was primarily conducted to explore the service quality factors which affected the patients of the district hospital at Panchkula. The study was conducted for a period of two months in March and April, 2017. The study constituted hospital patients as the primary respondents for analyzing the service quality offered by the hospital. Various, items to measure service quality were derived from old works and literature in order to draw out a total of 27 content-valid items from Parasurman et al. [24]. The items with low reliability were condensed in order to assess the internal validity of the questionnaire during the pilot study. The collection of data was done through a self-administered questionnaire survey conducted on patients at a district hospital in Panchkula. Lastly, statistical data processing of the preliminary and main surveys was done with the help of SPSS 20.0. Survey development: The pilot survey helped to gain an insight into the important analysis items used to measure medical services quality in accordance with the patients perception. Twenty-Seven items were designated to measure medical services quality depending on the pilot survey and every item was measured on a five-point Likert scale to analyze the level of agreeableness from 'Strongly disagree' (1) to 'Strongly agree' (5). The sample size at a confidence level of 95% and confidence interval of 10% the population size of 1800 was calculated to be 98. However, since the study was longitudinal in nature more number of respondents (137) were included in the study so as to avoid errors afterwards. The list of patients was collected from the hospital authorities and further approached to personally administer the questionnaire. The total number of patients who were approached was 150 in this hospital and from them 137 questionnaires were retained

as complete and usable. Correlation analysis was carried out to analyze the degree of association between the various variables. Further gap analysis was conducted for the study to analyze the difference in service quality before and after the launch of the scheme.

4 RESULTS

The general demographic attributes of the respondents are shown in Table 1. The male respondents who participated in the study were 88(64%) and the remaining 48 (35.6%) were females and one respondent was transgender. The respondents in the age group of 20-30 were 12% in 30-40 were 11%, in 40-50 were 35%, 50-60 were 19% and more than 60 were 26%. Similarly, the income levels were found to be highest in the group 30,000-40,000 per month.

Table: 1 Demographic Variables

Demographic Character		N (137)	(%)
Sex	Males	88	64
	Females	48	35.6
	Transgender	1	0.5
Age(years)	20-30	16	12
	30-40	20	11
	40-50	39	35
	50-60	26	19
	More than 60	36	26
Income Level (Rs. per month)	Less than 10,000	14	10
	10,001-20,000	20	15
	20,001-30,000	22	16
	30,001-40,000	47	34
	More than 40,000	34	25

Table: 2 Mean and Standard Deviation

Variable	N	Mean	St. Deviation
Tangibility	137	3.201	0.876
Reliability	137	3.656	0.812
Assurance	137	3.087	0.935
Empathy	137	3.496	0.973
Responsiveness	137	2.963	0.906

Table: 3 Correlation Analysis

Variable	Tangibility	Reliability	Assurance	Empathy	Responsiveness
Tangibility	1				
Reliability	0.256	1			
Assurance	0.992	0.126	1		
Empathy	0.289	0.446	0.866	1	
Responsiveness	0.313	0.166	0.822	0.634	1

Table: 4 Mean of Perceptions before and after the VIBGYOR scheme and Gap Analysis

Variable	Perceptions (Before)	Perceptions (After VIBGYOR)	Service Gaps	Paired T-Test
Tangibility	3.201±0.876	4.73±0.277	1.52	.24
Reliability	3.656±0.812	4.21±0.344	.554	.11
Assurance	3.087±0.935	3.56±0.243	.48	.06
Empathy	3.496±0.973	3.54±0.132	.04	.03
Responsiveness	2.963±0.906	4.28±0.453	1.31	.18

5 DISCUSSION

The descriptive statistics for the study reveals the mean values for Tangibility, Reliability, Assurance, Empathy and Responsiveness as 3.201, 3.656, 3.087, 3.496 and 2.963. The correlation analysis reveals a strong positive correlation between Tangibility and Assurance (.992) and between Empathy and Assurance (.866) and also between Assurance

and Responsiveness (.822). This suggests that the physical appearance of service elements and caring and individualized attention together can have a significant effect on patient's perception of services delivery. Similarly, the knowledge of the person's involved in the services delivery process and their ability to stimulate trust and confidence amid the patients also influence the way services are perceived by patients. There was moderate correlation between Reliability and Empathy (.446). There was less correlation between Tangibility and Reliability (.256) and between Reliability and Responsiveness (.166). This relates to the fact that besides the physical facilities the ability to perform the required services by the personnel are also crucial to the total service experience especially in a medical service delivery platform where the patients seek prompt, dependable and accurate services. The study also analyzed the service quality gaps among the various variables of service quality. This was analyzed before and after the VIBGYOR scheme. The data reveals that the service quality gap in terms of tangibility became more positive (1.52) with the VIBGYOR scheme. The change in the bedsheets had a profound influence in the way the ward appeared to the patients and their caretakers. Various other studies have also reported quality of medical services offered as a major factor in a large-sized hospital. Thus, hospitals which fail to satisfy this basic requirement will retain this as a limiting factor and would lead to dissatisfaction of the patients. However, if the hospital readily achieves this requirement then it may lead to more patient satisfaction [11]. The attention which the physical facilities gained also had a strong influence in the way patients perceive the services delivery process. Similar results were reported by Mohammadi and Mohammadi [25] where least negative quality gap was seen in tangibility dimension at health centers of Iran. Similarly, the willingness of the employees to help the patients also increased as they were visiting the wards on a daily basis to change the sheets. Thus, the prompt services delivery of the bedsheets had a great impact on the responsiveness (1.31) of the hospital staff which was also acknowledged by the patients. Since the staff was able to perform their services dependably and accurately hence the reliability of the services delivered also increased (.554). Similar results were reported by other studies, who suggested that the reliability variable was also strongly associated with patient satisfaction. Pekkaya and Imamoglu (2019) [26] also found reliability to be the most significant determinant in service satisfaction with healthcare. There were seen positive signs in both assurance and empathy also but it was not a major change than witnessed before the scheme was launched. Caring and individualized attention did not have a major change (.48) before and after the scheme but some positive change can be sought in near future. The results of Hansen et al. [27], study, in Afghanistan also concluded that maintaining a strong communication with patients is a strong determinant of clients' perceived quality of services. Ali et al. [28] in their study of service quality gap analysis found patient perception to be higher than the expectation. It highlighted the importance of proper dissemination of information to patients regarding latest facilities available. The ability to inspire trust and confidence also had slight influence (.04) during the scheme. The results bear similarity to the study of Karydis et al. [29] who suggested that service quality gaps in the three dimensions of responsiveness, empathy and reliability was observed in the hospitals under study.

6 CONCLUSION

The study reflects the outcomes of a scheme launched by the government which had an influence on the tangibility dimension of service quality delivery mechanism. The study concludes that a daily change in the bedsheets as required by the VIBGYOR scheme not only helped in physical appearance of the wards but also increased the number of times the staff interacted with the patients. This increased contact period resulted in positive influences on the willingness of the staff to provide prompt services to the patients. It also helped them to perform the required services dependably and accurately. Thus, district hospitals should frame adequate strategies to take quality care initiatives for the patients and adequately improve their health care delivery mechanisms.

7 LIMITATIONS

This study bears various limitations largely due to the scope devised by the present study. First, the services offered by various hospitals depend on the administration and type of the hospital under study. This survey is carried upon one large sized district hospital in Panchkula, and therefore the results of this survey may not be extrapolated to other hospitals without discretion. This research study was based on the outcomes of a single government scheme launched during the study and thus related research on different hospitals is required in future. Secondly, present study is aimed at a specific sample of a single district hospital in a limited duration of time. Further studies may focus on longitudinal aspects of the study for a larger duration of time. Finally, continuous research on analyzing other important attributes of service quality may be required in further studies to generalize the study on a larger scale. Hospitals should thus reasonably earmark their available resources to these attributes of service quality based on their effective perception by the patients. These attributes should also contribute to patients' satisfaction and hence increase overall patient satisfaction.

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