ORIGINAL ARTICLE

Patients' Satisfaction with Service Quality of a Public Hospital: An Evaluation Study (SERVQUAL Model)

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Abstract

Background: Implementing the healthcare reform plan in our country has forced the medical centres to pay more attention to the patients' rights and their satisfaction. The aim of this study was to evaluate the patient's satisfaction levels and the gap between their expectations and perceptions in Shahid Rajaee Hospital in Shiraz.

Methods: This cross-sectional study was performed aiming at evaluating the patient's satisfaction levels and the gap between their expectations and perceptions in Shahid Rajaee Hospital of Shiraz in 2015. In order to collect the data, 98 questionnaires were distributed among the patients using randomized sampling method; their validity and reliability were confirmed. Finally, through SPSS 20 software, we used descriptive statistics and the one-sample t-test for data analysis.

Results: Results showed that amongst the patients' perceptions, the highest mean belonged to Reliability dimension (3.50), and the lowest one to Assurance (3.23). In terms of the patient's expectations, the highest mean belonged to Reliability dimension (4.30) and the lowest one to Physical aspect (4.18). Of the 5 dimensions in this research, the largest gap between the patient's expectations and perceptions belonged to Responsiveness, and the smallest one to Physical aspect.

Conclusion: The results indicated that there was a significant difference between the patients' expectations and perceptions, and the quality of services provided by the hospital needed further attention. It seems that it is necessary for managers and policy makers to plan for this issue and take measures to reduce these gaps in the quality and promote better health care services.

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Introduction

Patients' satisfaction with the healthcare system is recognized by the World Health Organization (WHO) as one of the 5 indices for service quality provided by them.[1] Even though service organizations have set quality improvement as one of their priority and made several modifications, for some reasons service quality is still the biggest problem with which these organizations are faced.[2]

Hospitals are known as the main providers of health services in all countries,[3] so they should move toward their core goals which includes the provision of healthcare services with the best quality and meet the needs and expectations of the patients.[4,5] The main method used to improve the quality of healthcare services is to monitor and evaluate the quality of healthcare that is done over time by using reliable tools and models for the measurement of quality.[2] One of the best and most expensive models used to

evaluate the quality of healthcare services which was introduced by Parasuraman et al. is the SERVQUAL (service quality) model.[6, 7] This is also known as the gap analyzer model and measures the gap between expectations and perceptions of the patients about the quality of services provided by the hospitals.

Many studies have been conducted to assess the service quality gap in hospitals.[2, 8-13] In a study conducted by Mohammadnia et al. entitled "Evaluation of nursing service quality in Tehran's social security hospital, using the SERVQUAL model", it was shown that nursing services are in an acceptable quality in the studied hospitals; from the patients' perspective, the nurses played a major role in improving the quality of care and patient satisfaction.[2] Kolorozi and other's study revealed that 8% of the patients are dissatisfied with the performance of doctors and 17.2% did not find the performance of the nurses satisfactory.[8] Tabibi et al.'s study indicated that there were significant differences between the patients' expectations and perception of the actual quality of health services.[9] In another study done in Saudi hospitals, the results showed that there were no statistically significant differences between the patients' expectations and actual services level.[10]

Quality of health care provided in the health sector compared to other sectors is more important since in Shahid Rajaee Hospital which is one of the largest hospitals in Shiraz and the patients' referral is substantial, so far the quality of services has not been evaluated from the patient's viewpoint. Therefore, our objective was to evaluate the patient's satisfaction levels and the gap between patient expectations and perceptions in Shahid Rajaee Hospital in Shiraz.

Materials and Methods

In this analytic cross-sectional study, statistical population consisted of 98 hospitalized patients who were discharged in 2015. In this study, the following equation was used to estimate the sample size.

$$n = \frac{z^2 pq}{d^2}$$

According to the information listed below, the sample size was estimated by the above equation:

d=0.1, z=1.96, P=0.5, q=0.5

$$n = \frac{1.96^2 \times 0.5 \times 0.5}{0.1^2} = 96$$

A standard questionnaire was designed and localized based on the dimensions and components of satisfaction measurement in the SERVQUAL model (5 dimensions). SERVQUAL is a reliable tool for measuring the service quality; it has the following advantages compared to other service evaluation tools: high validity and reliability, possibility of matching its dimensions in a variety of service environments, relative importance of its 5 dimensions in perceiving the quality of services, and its ability to analyze based on demographic and psychological characteristics among other types. Organizations can apply this model based on their specific characteristics and needs.[14] For evaluation of the patients' satisfaction with the services received, a questionnaire was prepared consisting of two parts. The first part consists of 4 questions about demographic data of the patients, and the second part 25 items in 5 dimensions of quality, i.e. Physical (4 items), Reliability (6 items), Responsiveness (6 items), Assurance (4 items), and Sympathy (5 items). A five-point Likert scale ranging from strongly disagree (1) to strongly agree (5) was used to measure the patients' expectations and perceptions about the quality of services delivered.

We used expert opinions to validate the questionnaire, and its reliability was determined using Cronbach's alpha (higher than 0.7). Using previous studies,[15, 16] we distributed 98 questionnaires using simple random sampling and collected them after interviewing the patients.

The quality gap was calculated as the difference between the scores of expectations and perceptions. The patients were asked to rank the five dimensions of service quality with respect to the importance of the dimension. Indicators of five dimensions are shown in Table 1.

Data analysis was done using SPSS 20. T-test was used for comparing the means and the significance of the difference between the mean score of expectations and perceptions of the patients was evaluated by Wilcoxon test. A P value less than 0.05 was considered statistically significant. If the resulting score was positive, it suggested that the services provided were above the peoples' expectations and in the case of being negative, it revealed that health services provided did not meet the peoples' expectations, revealing that a quality gap exists. Zero score indicates the lack of quality gap, which shows that health services provided are in line with the people's expectations.

Results

Ninety eight patients were included in the study; of them, 68.36% (67) were men and 31.63% (31) women and the results showed the 37% were between 20-30 years old. In addition, 66% of the patients had diploma or lower education. The demographic characteristics of the study population are shown in Table 2.

Table 3 presents the mean scores of the patients' expectations, their perceptions, and size of the gap in the five dimensions of service quality based on

Table 1: Indicators of the questionnaire

Dimensions	Indicators
Physical	Hospital's facilities and equipment
	Hospitals remarkable, beautiful and attractive physical facilities
	Clean and neat appearance of the hospital staff
	Ordered filing system (patient files, etc.)
Reliability	Reliability of the hospital and its staff
	Demonstration of sincere interest in solving patients' problems
	Provision of services as soon as possible
	Service provision within the promised timetable
	Providing accurate reports and careful file keeping
	Nurses' watchfulness in provision of care
Responsiveness	Providing detailed answers to patients at all times
	Delivering necessary instructions to patients (by nurses)
	Provision of all necessary care by nurses
	Provision of emergency services when necessary
	Nurses' inner desire to help the patients
	Constant preparedness to respond to patients
Assurance	Conveying trust in patients (by nurses)
	Patients' feeling of security in their interactions with the nurses
	Polite behavior of employees toward patients
	Ability to provide care to patients
Sympathy	Patients' participation in care decision-making
	Nurses friendliness toward patients
	Appropriate visiting hours
	Specific attention to each patient based on their problems
	Hospital's concern toward patients' best interest

Table 2: Age, gender distribution, subjects' marital status and education levels

Gender	-20 Years	20-30 Years	31-40 Years	41-50 Years	+50 years	Total
Female	1	10	9	4	7	31
Male	5	27	19	7	9	67
Total	6	37	28	11	16	98
Marital Status	**Diploma or lower**	**Associate Degree**	**Bachelor's Degree**	**Master's Degree or higher**	**Total**	
Single	23	1	16	0	40	
Married	42	8	6	2	58	
Total	65	9	22	2	98	

Table 3: Mean score of the factors based on expectations and perceptions separately

Dimensions	Mean and Standard deviation				Gap
	Perception	Standard deviation	Expectation	Standard deviation	
Physical	3.38	0.79-	4.18	0.67	0.79-
Responsiveness	3.26	1.03-	4.30	0.71	-1.03
Reliability	3.50	-0.80	4.30	0.69	0.80-
Sympathy	3.27	-1.02	4.30	0.64	-1.02
Assurance	3.23	-0.97	4.21	0.68	0.97-

the SERVQUAL model. Of the means obtained for patient's perceptions, the highest one belonged to Reliability dimension, and the lowest one to Assurance. In terms of the patient's expectations, the highest mean was related to Reliability dimension, and the lowest one to Physical dimension.

As seen in Table 4, there were significant differences (gaps) between the patient's expectation and the services they had received in Shahid Rajaee Hospital in all dimensions, and the largest gap between the patient's expectations and perceptions was related to the Responsiveness dimension; also, the smallest gap was related to Physical dimension. Generally, expectations were significantly higher than the actual perceptions.

Discussion

The patients' satisfaction with a hospital is a very important index for evaluating the quality of services

Table 4: Means and standard deviations related to the 5 studied dimensions (Physical, Assurance, Responsiveness, Reliability, and Sympathy)

Dimensions	Mean Difference			P value
	Mean±SD	Confidence Level 95%		
		Lower	Upper	
Physical (expectations-perceptions)	0.79±1.06	.0580	1.01	0.001>
Assurance (expectations-perceptions)	0.97±1.16	0.74	1.21	0.001>
Responsiveness (expectations-perceptions)	1.03±1.07	0.81	1.25	0.001>
Reliability (expectations-perceptions)	0.80±1.04	0.59	1.01	0.001>
Sympathy (expectations-perceptions)	1.02±0.99	0.82	1.22	0.001>

provided by the staff and this is considered as one of the great achievements of healthcare development.[17]

The main aim of this study was to measure the service quality gap afforded by the expectations of patients and their perception in Shahid Rajaee hospital in Shiraz. Furthermore, health policy makers and hospital administrators should take measures to allocate financial resources to improve their performance, which affects the patients' perception of the quality of services. Based on the results of our study, significant gaps exist in all aspects related to the quality of services provided by the hospital. The results also showed that there was a significant difference between the perception and expectations of patients and the quality of services provided. This result is similar to those of the study conducted by Tabibi et al. in hospitals in Tehran, Iran, in 2011[7] and the study by Rezaei et al. in hospitals in Kermanshah, Iran, in 2016.[18]

As to the patient's perception, the highest mean belonged to Reliability dimension and the lowest one to Assurance; in terms of the patient's expectations, the highest mean belonged to Reliability dimension and the lowest one to Physical dimension. The study of Rezaei et al. showed that the highest and lowest gaps were found in Assurance and Responsiveness dimensions and the patients ranked Responsiveness as the most important dimension of the quality of healthcare services.[18] Kebrieyaee et al. did a study on the quality of educational services provided by Zahedan University of Medical Sciences, and evaluated the student's viewpoint on the gap between the current condition and the desired one, using the SERVQUAL model; their results showed that Responsiveness dimension obtained the largest gap, and Reliability dimension had the smallest gap.[19]

In the present study, the largest gap between expectations and perceptions was related to the Responsiveness and the smallest one to Physical dimensions.

Also, in a study carried out by Havasbeigi el al. in public hospitals in Kermanshah and Ilam, the highest and lowest negative gaps in all aspects based on SERVQUAL model were Assurance (-1.36) and Physical dimensions (-0.87), respectively.[20] In Ebrahimnia et al.'s study, the lowest level of total satisfaction was related to Accounting, and the highest one was related to the nurses' behavior; also, total dissatisfaction was significantly higher with regards to Accommodations domain.[1] Results from Kolorozi et al.'s study revealed that 88% of the patients were satisfied with the doctors' and 79.5% with the nurses' performances based on the patient's charter of right.[8] Moreover, Arefi et al.'s study showed that the highest levels of patient satisfaction were related to timely presence of nurses by the bedside, time-efficient paperwork, and effective assistance by the receptionists.[21]

Conclusion

Results revealed that there was a gap between the patient's expectation and perceptions on the services provided by Shahid Rajaee Hospital in the dimensions of Physical, Responsiveness, Reliability, Sympathy, and Assurance. The final results also showed a significant gap in the patient's satisfaction with the quality of services. Generally, in order to close the gap and improve the quality of this hospital services, we suggest the following points:

As to Physical aspects, we suggest that green space should be increased to improve the patients' mood, and the shortcomings such as installing curtains between the beds, placing tissues next to the beds, providing locker rooms where attention is paid to hygiene and disinfection of bathrooms, and increasing the attendant staff for regular disinfection of the units should be eliminated.

In terms of Assurance dimension, we recommend that measures should be taken to routinely monitor the service quality, better coordinate the relationship between the doctors and nurses, and avoid long-term hospitalizations for simple surgeries.

As to Responsiveness dimension, we recommend that the time duration of service delivery should be minimized, considering the patients' time and money; it should be determined why the Responsiveness dimension has the biggest gap, increase the number of nurses during the morning and evening rotations, and increase the accountability of the nurse station during all hours of day and night.

In Reliability dimension, we suggest constant

evaluation of the nurses and patients' satisfaction with the nurses' performance, and increase in the number of doctors during night rotations.

In terms of Sympathy, we suggest appointing someone for exclusively answering the questions and giving guidance to the patients' companions finding the reasons for the gap between patients' expectations and perceptions, and increasing the visit hours. The authors recommend that future studies should be conducted in private and social security hospitals and that their results should be compared to those of this study.

This study also had limitations. It was performed in a hospital in Shiraz city in Iran. To increase the generalizability of the results to other studies, there is a need to perform such studies in other hospitals, including private hospitals and social security hospitals.

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