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Patients' Expectations and Perceptions of Service Quality in the Selected Hospitals

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ABSTRACT

Background: Hospital's success depends on patients' expectations, perceptions, and judgment on the quality of services provided by hospitals. This study was conducted to assess the patients' perceptions and expectations from the quality of inpatient health care in Vali-Asr hospital, Ghaemshahr, and Imam Khomeini and Shafa Hospitals, Sari. **Materials and Methods:** This study is applied regarding the objective of the study. Considering the research methodology, it is a descriptive – analytical study. The sample of this study consists of 600 patients with at least 24 hours of being hospitalized in internal, surgery, women, and children sectors of Vali-Asr, Ghaemshahr, Imam Khomeini, and Shafa Hospitals. Using random sampling method, the classifications relevant to the size of each class were selected. The data required was collected through the standard SERVQUAL questionnaire and then it was analyzed using the SPSS software. **Results:** The overall mean value and standard deviation of expectations were equal to 10.4 and 28, respectively. The mean value for the field of perception was 69.2 and the relevant standard deviation was 26. In terms of patients and hospital visits in concrete cases, the highest priority is related to empathy. The second priority is related to physical appearance, the third priority is related to responsiveness, the fourth priority is related to assurance, and the lowest priority is related to the reliability of the SERVQUAL approach. Examining the gap between patients' perceptions and expectations, the widest gap was observed in the Vali-Asr Hospital with the mean and SD (-92.0±39.0) and the lowest gap was observed in Shafa Hospital with the mean value of (-39.9±44.0). According to The Kruskal-Wallis test, the difference observed in these three hospitals were significant. **Conclusion:** The results showed that patients' expectations had not been met in any of the examined dimensions and their consent has not been achieved. It seemed that necessary for managers and relevant authorities to plan and pay special attention to this important issue.

Key words: Service Quality, satisfaction, inpatients, SERVQUAL approach.

1. INTRODUCTION

The main mission of hospitals is to provide quality care services for patients and to meet their needs and expectations. Fulfilling this important mission requires the quality institutionalization in hospitals (1). Accordingly, in 1983, the America National Health Service passed law that all health care centers in America should use the recipients' comments in setting their plans and consider these comments in the eval-

uation of training programs designed for the staff. Despite the increased number of hospitals and hospital activities, the improved quality of health care services has become a priority concern for patients (2). The quality of health services in many countries, especially developing and Third World countries has become a pressing issue. In our country, patients are always looking for a hospital with better quality of health care services. Therefore, better ser-

vice qualities can be considered as a means to achieve more support, competitive advantage, and long-term profitability (3). Today, quality is defined by customers' demand & customer's perceptions and expectations are considered as the most fundamental determinant factors of quality (4). Providing sufficient information on the grounds of the customer's perception of the service quality can help organizations to identify the dimensions that affect the organization's competitive advantage. On the other hand, it can prevent the wasting of resources (5). In order to determine the gap of the service quality in hospitals and health care centers, the SERVQUAL approach has been used in many studies. This service conceptual model was introduced in 1985 by Parasuraman et al. This tool measures the patients' perceptions and expectations of services in 5 different dimensions, including physical or concrete dimensions, reliability, responsiveness, assurance, and empathy. The difference between customer's expectations and perceptions of service provided is called the service quality gap (6). Successful organizations are trying to meet the environmental demands and needs and this is not made possible unless organizations understand the need to move towards being customer-centered. In fact, customer-centered organizations set their activities based on the expectations and preferences of their customers and are to satisfy the needs and expectations of customers and considering their expectations as service quality standards is of essence (7). Hospitals are the most important element of the health care system and in terms of resources, about half of health care costs is allocated to them account since the largest and most expensive operational units are health care systems attracting a majority of capital, financial, and human resources (8-11).

Considering that patients compare the quality of services in health systems with their expectations, in order to assess the gap between the expectations and perceptions of service quality, patients' expectations and perceptions of service quality in Mazandaran University of Medical Sciences was evaluated in 2014. Determining the gap of quality services provided by the health centers, this study was to provide the proper grounds for the development of programs and projects by authorities and service suppliers to increase patients' satisfaction with services.

2. MATERIALS AND METHODS

This study is applied regarding the objective of the study. Considering the research methodology, it is a descriptive – analytical study. In terms of data collection, it is regarded as a survey. Two methods were used to gather information: library method and the standard SERVQUAL questionnaire. This questionnaire consists of general questions (age, sex, marital status, education, hospitalization records of Imam Khomeini Hospital, the number of hospitalizations in this Hospital, length of hospitalization) as well as 22 questions in the areas of concrete cases (questions 1 to 4), reliability (questions 5 to 9), responsiveness (questions 10 to 13), assurance (questions 14 and 17), and empathy (questions 18 and

22) in a 5-point Likert scale (strongly disagree, disagree, indifferent, agree and strongly agree), respectively. To calculate the validity of the questionnaire, content validity was used in the way that, considering the questionnaire being standard, professors of this field were also consulted with and the content validity was approved.

To test the reliability, internal consistency (Cronbach's alpha) was used and the values of Cronbach's alpha were equal to .88 for service quality dimension, .83 for concrete cases, .87 for reliability, .90 for responsiveness, .91 for assurance, and .80 for empathy. The study population included those patients with at least 24 hours of being hospitalized in internal, surgery, women, and children sectors of Vali-Asr, Ghaemshahr, Imam Khomeini, and Shafa Hospitals. According to the statistics of 2013, there were 10,000 people. Groups of samples (subjects) were selected using stratified random sampling method in which the hospital sector is regarded as a class and the sample size in each class was also selected proportional to the size of the class. Moreover, the sample size was determined to be 622 subjects by using Cochran formula (with Type I error of .01, estimation error of 5%, and p-value of .5). In order to make comparison between the current and desired status of the test and to determine the priority of services provided, paired sample t-test and Friedman's rank test were used, respectively.

3. RESULTS

The gender distribution of respondents in the study showed that they consists of 161 men (26.8%) and 439 women (2/73 percent). Regarding the marital status of respondents, 64 persons were single (10.7%) and 536 persons were married (3/89 percent). Regarding respondents' age, table of descriptive statistics in this study showed that the average age, median, mode, standard deviation, minimum, and maximum were 39.94, 38, 37, 10.99, 5, and 70, respectively. With regard to patients' level of education, it was observed that there were 36 illiterate persons (6%), 79 below-diploma persons (13.2 percent), 161 persons diploma persons (26.8 percent), 34 persons AA holders (7.5 per cent), 242 persons BA holders (3/40 percent), and 48 persons MA or PHD holder (8%). Descriptive statistics of the distribution of patients in hospital sectors showed that there were 180 persons in the interior section (almost 30%), 150 persons in general surgery sector (25 percent), 168 persons in women sector (28 percent), 102 persons in children sector (17%). Finally, in the case of hospitals' descriptive statistics, results showed that there were 290 persons hospitalized in Sari Imam Khomeini Hospital (3/48 percent), 170 persons in Sari Shafa hospital (28.4%) and 140 persons in Ghaemshahr Vali-Asr hospital (23.3 percent).

After collecting data on study variables and running Kolmogorov-Smirnov test, the results showed that all variables in both areas of perceptions and expectations are abnormal. Then, Binomial test was used to check the status of the variables examined. As it is observed, since the 5-point Likert-scaled questionnaire was used, we have to check the status of perception and its dimensions by the Binomial test. In this test, the cut-off point

is regarded 3. The ratio of people with scores less than 3 is compared with the ratio of people with scores greater than 3. If the *sig.* value is less than .05, the equality hypothesis of these two categories is rejected and is determined if it is appropriate or inappropriate. Regarding the scores in perceptions, all 600 participants obtained a score greater than 3. It means that 100 percent of participants in the study obtained the perception scores greater than 3, which is a satisfactory score. Overall, it can be said that the perception score in the hospitals under consideration is greater than average. On the other hand, according to the above table, the perception dimension scores have the same condition and are higher than the average. To check the gap between perception and expectation scores, paired Wilcoxon test was used. As it is observed in Table 2, the total mean value for expectation is 4.06 and the standard deviation is equal to 0.45. The mean and standard deviation of perception is equal to 0.4 and 0.33, respectively. According to Wilcoxon Z value of -19.77 and the *sig.* value which is less than 0.05, the hypothesis of mean equality for expectations and perceptions is rejected. This means that there is a significant difference between the visitors and patients' expectations and perceptions in Sari Imam Khomeini Hospital, Ghaemshahr Vali-Asr Hospital, and Sari Shafa Hospital.

Variable	Group	Frequency	Ratio Of The Group	Sig.	Results
perception	the score less than or equal to 3	3	0.01	0.00009	The ratios are not equal.
	Score greater than 3	597	0.99		
Perception reliability	the score less than or equal to 3	0	0	0.00009	The ratios are not equal.
	Score greater than 3	600	1		
Perception responsiveness	the score less than or equal to 3	4	0.01	0.00009	The ratios are not equal.
	Score greater than 3	597	0.99		
Perception assurance	the score less than or equal to 3	27	0.05	0.00009	The ratios are not equal.
	Score greater than 3	573	0.95		
Perception empathy	the score less than or equal to 3	7	0.01	0.00009	The ratios are not equal.
	Score greater than 3	593	0.99		
Perceptions (total score)	the score less than or equal to 3	0	0	0.00009	The ratios are not equal.
	Score greater than 3	600	1		

Table 1. Reviewing the current status of the variables of perceptions based on Binomial test

The mean and standard deviation of concretes in the field of expectation are 4.62 and 0.47, respectively. The mean and standard deviation of concretes in the field of perception are 4.62 and 0.47, respectively. Regarding the *t*-value of -19.45 and *sig.* value being less than 0.05, the equality hypothesis for concrete mean scores in

both fields of expectation and perception is rejected. The mean and standard deviation of reliability in the field of expectation are 4.62 and 0.47, respectively. The mean and standard deviation of reliability in the field of perception are 4.31 and 0.36, respectively. Regarding the *z*-value of -13.12 and *sig.* value being less than 0.05, the equality hypothesis of reliability mean scores in both fields of expectation and perception is rejected. The mean and standard deviation of responsiveness in the field of expectation are 4.61 and 0.47, respectively. The mean and standard deviation of responsiveness in the field of perception are 3.89 and 0.46, respectively. Regarding the *z*-value of -19.27 and *sig.* value being less than .05, the equality hypothesis

Variable	Mean	Standard Deviation	Z-Value (Wilcoxon)	Sig.	Result
Perceptions (general)	4	0.33	-19.77	0.00009	Rejected
Expectations (general)	4.61	0.45			
Concrete perceptions	3.93	0.43	-19.45	0.00009	Rejected
Concrete expectations	4.62	0.47			
Perception reliability	4.31	0.36	-12.13	0.00009	Rejected
Expectation reliability	4.62	0.47			
Perception responsiveness	3.89	0.46	-19.27	0.00009	Rejected
Expectation responsiveness	4.61	0.48			
Perception assurance	3.82	0.48	-20.36	0.00009	Rejected
Expectation assurance	4.60	0.46			
perception empathy	3.97	0.34	-18.38	0.00009	Rejected
Expectation empathy	4.61	0.47			

Table 2. Paired Wilcoxon test to examine the differences between the perceptions and expectations

of responsiveness mean scores in both fields of expectation and perception is rejected. The mean and standard deviation of assurance in the field of expectation are 4.61 and 0.46, respectively. The mean and standard deviation of assurance in the field of perception are 3.82 and 0.48, respectively. Regarding the *z*-value of -26.30 and *sig.* value being less than 0.05, there is a significant difference between the visitors and patients' expectations and perceptions with regard to assurance dimension in Sari Imam Khomeini Hospital. Finally, the mean and standard deviation of empathy in the field of expectation are 4.60 and 0.47, respectively. The mean and standard deviation of empathy in the field of perception are 3.97 and .34, respectively. Regarding the *z*-value of -38.18 and *sig.* value being less than 0.05, the equality hypothesis of empathy mean scores in both fields of expectation and perception is rejected. As a result, there is a significant difference between the visitors and patients' expectations and their perception in all dimensions examined in Sari Imam Khomeini Hospital and the patients' satisfactions

in these fields have not been met. In this part, we are to explain in which field the gap between the perceptions and expectations is more. To this end, Friedman test is used. As it is observed in Table 3, the greatest gap is for assurance with the mean of -0.78, standard deviation of .52, and rank mean of 2.27. The smallest gap is related to reliability with the mean and SD (0.52±4.83) With regard to Friedman statistics of 664.34 and the sig. value being less than 0.05, the equality hypothesis is rejected and the result is that the difference between the gaps in the different areas is unequal.

As it can be observed in the above table, the results of Kruskal-Wallis test show that, the greatest gap of the three hospitals was related to Sari Shafa Hospital with the mean of -0.92 and standard deviation of .39. The lowest gap was in Vali-Asr Hospital with the mean of -0.39 and the standard deviation of 0.44. Moreover, the amount of gap in Sari Imam Khomeini Hospital was -0.35 with the standard deviation of 0.04. According to the Kruskal-Wallis statistics and the sig. value being less than .05, the difference observed among the three hospitals was significant.

4. DISCUSSION

The results showed that the greatest gap of the three hospitals with regard to the dimensions of concretes, reliability, responsiveness, assurance, and empathy was related to Sari Shafa Hospital and the lowest gap for the dimensions discussed was observed in Ghaemshahr Vali-Asr Hospital. According to the statistics and the sig. value which is less than .05, a significant difference was observed among these three hospitals. Examining the gap in perceptions and expectations, the greatest gap was related to the dimensions of assurance and the lowest gap was relevant to reliability and the difference be-

Variable	Mean	Standard Deviation	Rank Mean	Priority
Concretes	-0.68	0.52	2.68	second
Reliability	-0.30	0.52	4.38	Fifth
responsiveness	-0.71	0.57	2.72	Third
Assurance	-0.78	0.52	2.27	First
Empathy	-0.63	0.54	2.95	Fourth
Friedman Statistic	664.34	Sig.	0.0009	

Table 3. Examining the gap in the field of perceptions and expectations using Friedman Test names of average rating

tween the gaps in the different areas is unequal. In none of the surveyed dimensions, patients' expectations have not been met and their consent has not been obtained. The results of a study conducted by Tabibi, et al. showed that there is a significant difference among the patients' perceptions and expectations regarding 5 dimensions of service quality in these hospitals. Patients visiting the clinics ranked assurance with the score of 4.41 and personnel's responsiveness with the score of 2.21 as the most important and the least important dimensions (11). However, the findings of the Havasbeigi's study also showed significant differences among the patients' perceptions and expectations regarding five dimensions of service quality in the hospitals. Patients visiting the

	Hospital	Number	Mean	Standard Deviation	Kruskal-Wallis Value	Sig.
Gap	Imam Khomeini	290	-0.53	0.40	124.81	0.0009
	Vali-Asr	140	-0.39	0.44		
	Shafa	170	-0.92	0.39		
Concrete gaps	Imam Khomeini	290	-0.63	0.49	78.02	0.0009
	Vali-Asr	140	-0.46	0.48		
	Shafa	170	-0.95	0.49		
Reliability gaps	Imam Khomeini	290	-0.21	0.48	89.68	0.0009
	Vali-Asr	140	-0.09	0.48		
	Shafa	170	-0.61	0.47		
Responsiveness gap	Imam Khomeini	290	-0.60	0.48	146.66	0.0009
	Vali-Asr	140	-0.43	0.55		
	Shafa	170	-1.13	0.49		
Assurance gap	Imam Khomeini	290	-0.76	0.48	33.86	0.0009
	Vali-Asr	140	-0.63	0.52		
	Shafa	170	-0.95	0.52		
Empathy gap	Imam Khomeini	290	-0.49	0.52	188.44	0.0009
	Vali-Asr	140	-0.35	0.44		
	Shafa	170	-1.09	0.46		

Table 4. Examining the gap differences and its dimensions using the Kruskal-Wallis test

clinics ranked concreteness with the score of 3.47 and assurance with the score of 2.06 as the most important and the least important dimensions (12). Hekmatpour's et al. study examined the quality of health care in Arak hospitals and showed there are significant differences among all dimensions of patients' expectations and perceptions from service quality and patients' perception of quality in none of the dimensions was consistent with their expectations. It means that all hospitals failed to meet patients' expectations in any of the quality dimensions. Moreover, the overall rate of perceived service quality does not correspond to patients' average expectations. However, in Hekmatpour' study, the greatest quality gap was related to access to health care dimension and the lowest gap was relevant to service assurance. This is not compatible with the current study (13). Also, in all of domains of services in Caha study, patients' expectations of the services provided were higher than their perceptions and the gaps between patients' perceptions and their expectations were negative. The highest negative gap was in responsiveness dimension and the lowest negative gap was in assurance dimension. The negative gaps indicate that patients' expectations of the services provided are higher than their perceptions (14). In a study by Sabahi et al., to evaluate the hospitals' service quality from the perspective of patients being hospitalized, the results showed that the mean score was significant for all dimensions in hospitals and the highest and lowest quality scores were relevant to empathy and concreteness, respectively (15). It was observed from the results of Abedi study, in perception part; there was a significant difference in all groups except for responding and behavior, while, in expectation level, no significance in the age of the dimensions except for access. Also, the satisfaction status of patients in Imam Hospital clinic

in Sari was good (16). Several factors can create a gap between the patients' expectations and perceptions. In Ranjbar et al. paying attention to the health care of the patient's room, removing patients' problems during hospitalization, a commitment to providing quality service, and providing the appropriate, clean, and beautiful physical environment are the most important problematic factors. Moreover, using proper equipment, prioritizing tasks in rush hours, having clean clothes while providing services are the most critical factors in Yazd Afshar Hospital (17). The results revealed that there is a gap between the expected and perceived quality of hospital patients. Patients' expectations are beyond their understanding of the current situation and none of the aspects of the service is met in their expectations. However, patients' expectations in both concretes and responsiveness of service quality and received service qualities are more than other dimensions and service quality has been downloaded more than other aspects. And these two dimensions had the greatest impact on service quality gap. In Mahdizadeh' study, these factors and cooperation in evaluating the quality of health care and hospitalized patients' satisfaction using newly developed SERVQUAL method in physical environment and facilities showed that the patients' expectation score in all aspects was higher than their perception score and the most gap was related to concretes and the lowest gaps was observed in responsiveness (18). The problem of service quality is mostly related to those organizations which do not focus on understanding and meeting customers' needs and demands. The service organization should put themselves in their customers' boat and lay their own policies on the basis of their views. Lack of direct relationship with customers leads the customers' expectations not to meet. As a result, there would be a controversy among customers regarding the service quality provided and security factors (19). This study and other studies conducted in hospitals and other health care centers show that patients' expectations are not met in none of the aspects and they are not satisfied. The negative gap (expectations more than perceptions) in all dimensions of quality showed that it is necessary to improve service quality in all dimensions. In order to lessen the gap of all five dimensions of quality and provide desired services, it is recommended that hospital managers by planning and their optimal management take the patients' needs into account (20). This necessitates managers and the relevant authorities, special attention to planning. In addition, the proper use of tools such as SERVQUAL seems necessary in evaluating hospitals' service quality and in enabling managers and experts to identify the grievances. And since the difference between customers' expectations and their received services increases over time regardless of the new approaches or actions, hospital authorities should implement expectation management through which they become aware of the source or sources of the customers' expectation formation and become sure of their customers' logical needs, their own abilities and their organization's capabilities in meeting the patients' needs.

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