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Measuring Quality of the Healthcare Services and Its Impact on the Patients Satisfaction

Dhuha Kadhim Ismayyir

Production Engineering and Metallurgy Dept., IE. Division, University of Technology, Baghdad, Iraq, dhuhakadhim1987@gmail.com

Abstract— Quality of health services as an essential topic for marketing the healthcare services. Therefore, this study aims to measure of the quality of perceived healthcare services and identify the satisfaction rate about the services offered at one of Baghdad city hospitals. This research is based on a questionnaire; two samples were taken. These samples involved patients and the hospital staff to perform the current study. "SERVPERF" model has been used to measure the service quality that consists of five dimensions including (Tangible, Reliability, Responsiveness, Assurance, and Empathy). In this study, "SERVPERF" model was developed to measure of the availability as a sixth dimension to cover all services quality factors in the healthcare centers. It was found that there aren't statistically significant differences between the levels of quality healthcare services provided in the hospital respect to the two samples that have been studied. Also, the quality of the healthcare services provided at this hospital was below the required level and with moderate satisfaction rate. Where, the Responsiveness was the highest satisfaction rate, while the Availability was the lowest satisfaction rate, which negatively affected on the level of quality of the healthcare services provided in that hospital.

Keywords—Service quality, SERVPERF, Patient satisfaction, Healthcare.

1. Introduction

The service organization that wants to gain competitive merit and grow must be capable to provide the quality services at faster delivery, competitive prices, and a good service to their customers [14]. Recently, there is increasing interest in hospital services, as standards of living have changed, and there is a request for better medical attention to improve life styles [16,5]. Consumer's perceptions as regarding the health care services play a critical role when select a hospital. Beside to a backdrop of growing consumerism, satisfying patients has become vital for all healthcare actions. Satisfaction in the service status is increasingly being utilized as a measure of health system performance [15]. Modern medicine step by step has a realized the patient's value and understanding of health care [10]. The quality of the health care service provides the patients with what they need (professional quality) and what they want (patient quality), and use the least resources without errors, delays and advanced level regulations [11]. In this study, it was used SERVPERF model as a tool for the measuring service quality and satisfaction of the patientsin the General Al-Sadder

Hospital. So the purpose is assessing the quality of services in a public regional hospital, as one of the most important hospital inBaghdad city, considering the quality a key parameter in the performance evaluation.

2. Literature Review

2.1 Service qualityand Customer Satisfaction

The patients are considering a main actor in the measuring and assessing the quality of health services, and their perceptions are the main indicatorduring evaluating of service quality. The service quality according to some researchers defined as "a customer's perceptions and it is judged by them not by organizations but in self". Furthermore, the service quality as well as can bedefined "conformance to customer specification" [10,1]. The service quality comprises perceptions of medical care from the patient's perspective. But, also such seemingly peripheral concerns as physical facilities and relationships with both medical personnel and paramedics [13]. Technical quality in the primary health care sector defined as the basis of technical accuracy of medical diagnoses and

procedures, or conformance to professional standards. While, functional quality refers to the way in which the patient's health care service is provided [9]. Although claiming that the technical qualities are not really useful measures to describe how patients evaluate quality of medical service, technical quality has high precedence. But, most patients do not have knowledge to assess the quality of diagnostic intervention effectively unless they have basic information for such an assessment as it is not common with patients [10]. Thus, both aspects of service qualityare important to the customer because the relative importance of the quality of the technical and functional service depends on the nature of the interaction between the employee, client and technology [12]. Some researchers however claim that the service quality is an element of the customer satisfaction that also reflects trade-offs, as well as, the situational and personal factors. Customer satisfaction is defined as a response to the customer's benefit and an assessment that a product, service, product or service provides an acceptable level of satisfaction with the consumption [16]. The patient satisfaction is one of the most important dimensions of quality and key indicators of success in the field of health care. Patient satisfaction plays a vital role in the service continuity and positively affects patient confidence [4, 8].

2.2Service Quality Measuring

The quality of service dimensions can be categorized into the technical aspect ("what" the service provided) and functional aspect ("how" to provide the service). The customers understand what they receive as a result of the process, in which resources are used, that is the technical quality or process outcome. But, also and most importantly, the awareness of how the process works itself, i.e. the functional dimension or the quality of the process for some services, it may be difficult to assess "what" (or technical quality). For example, in health care, it may be difficult for the patient (customer) to assess the technical competence of the service providers as well as the immediate results of the treatments. In the absence of the capacity to assess the technical quality, consumers rely on other measures of quality characteristics associated with the process of "how" to provide health care [6]. Parasuraman, Valerie A. Zeithaml, and Leonard L. Berry are a group of researchers in the marketing their proposed qualitative dimensions. Each dimension of service quality refers to the following [13, 17 and 3]:

• Reliability: (delivery of the promised output when certainly level).

• Responsiveness: (providing fast service and customer assistance; reaction speed plays a crucial role here).

• Assurance: (Services Company's ability to stimulate the trust and confidence in the company through the knowledge and courtesy and trustworthiness by employees).

• Empathy: (motivation and ability to give a personal interest to a customer).

•Tangible: (the emergence of the company's facilities and its staff, equipment and communications equipment). In the current study was developed service quality model was developed by adding availability as a sixth dimension. Table 1 shows the dimensions for measuring service quality and its items.

Table1: Dimensions service quality

Dimensions	Items
Tangible Physical facilities, equipment, and appearance of personal.	Equipment should have up to date.
	Physical facilities should be visually appealing.
	Employe should be well dressed.
	Physical facilities appearance should be in keeping with the services type.
Reliability Promising service performed dependably and accurately.	Things should be done by the time they promise.
	Customersshould be sympathetic and reassuring when have problem.
	Should be dependable.
	Should provide their services at the time they promised.
	Should keep accurate records.
Responsiveness Providing prompt service and help customers.	When services will be performed should not be expected to tell customers.
	To expect prompt service not realistic for customers.
	The employees don't have to be willing to help customer.
	Is OK if they are too busy to the respond to the request promptly.
Assurance Abilityof employees to inspire trust. Courtesy, knowledge.	Customer should be able to trust of employees.
	Customers should feel safe in their transactions with these stores of employees.
	The employees should be polite.
	To do their jobs well, employees should get adequate support.
Empathy Caring individualized attention the firm provides its customer	Company should give customers individual attention.
	Employees should give customers personal attention.
	Employees should know what the needs of their customers are.
	Employees should give customers the best interest from heart.
	Operating hours are convenient for all customers.

These dimensions have been identified in two models. SERVQUAL model, also called (GAP model), which compares the customers' expectations before and after delivery of the service. Parasuraman et al. [13] argued that

'the position of a consumer's perception of service quality on the continuum depends on the nature of the discrepancy between the expected service (ES) and perceived service (PS). The quality of service in SERVQUAL model was calculated according to the formula:

$$GAP\ score\ i\ =\ Ei - Pi\ (1)$$

Where, Gap score i: is the quality of item i; Ei: is the expected value of patient with item i; and Pi: is the perception value of patient with item i.

Cronin and Taylor presented the first theoretical justification for discarding the expectations of SERVQUAL and supplementing it with measures of performance. They developed a performance based measurement instrument namely, SERVPERF to focus on the service quality perception. The SERVPERF model represents only the performance measures' or service quality measurements focused only on the organizational performance as perceived by consumers rather than focusing on the difference between the consumers' perceptions of performance versus their expectations of service quality [2]. Furthermore, the service quality is measured only through the dimensions of customer perceptions rather than their expectations. While, the quality of service in SERVPERF model was calculated by the following formula:

$$Ei = Pi\ (2)$$

In the current study SERVPERF model was adopted.

3. Research Methodology

3.1 Importance and Research Problem

The study of healthcare service quality is important because it deals with one of the most vital sectors that directly affect the lives of individuals and society. The quality of health services is one of the basic dimensions of achieving the hospital's objectives, which include improving the quality of health services and making them more responsive to the needs of the members of community. Iraqi public hospitals, whether in the capital Baghdad or in the rest of the provinces, suffer from the deterioration of their service conditions and clear negligence in all the aspects representing in poor services due to lack of medical staff, lack of availability of most medicines and medical equipment, and lack of facilities for patients during their review. In addition to not allocating enough places to wait, also the hospital isn't adopting reservations systems for operating rooms in a way that provides patients with what they need smoothly. Also, the lack of service workers commensurates with the size of work in the hospital, as well as the long queues of patients. This was noticed by the researcher directly during the reviews to the Al-Shaheed Al-Sader General Hospital, one of Baghdad's hospitals city.

3.2 Research aims and Objectives

The aims of this research are:

a. Defining the medical staff in the hospital with the concept and dimensions of quality of health services to work on the activating them and focusing on them in order to achieve the goals of the hospital.

b. Determining the variance between the level of quality of health services in the hospital from the point of view of the medical staff and from the perspective of patients coming to the hospital so as to know the real level of quality of services and make the necessary improvements to meet the needs of patients.

c. Identifing of the most influential dimension in the high or low level of quality of service and indicating the rate of satisfaction with the service provided, and evaluating the quality of service to notify the management of the hospital with the importance of the most influential dimension in raising quality of the service.

3.3 Identifying the Place of Study

The case study was conducted in Al - Shaheed Al - Sader General Hospital. It is one of the largest governmental hospitals in Baghdad city which was established in 1974 in a densely populated area. It provides medical care to the people through 24 hrs. The hospital includes twelve sections, such as internal surgery, fractures and so on. Every day, the hospital receives a large number of patients up to (400) patients in natural cases. This number increases in the case of explosions and accidents.

3.4 Selecting the Instrument

In this study, SERVPERF service quality measuring instrument was used, it consists of five main variables (Dimensions), including: Reliability, Responsiveness, Assurance, Tangibility and Empathy with twenty-two sub-variables (Items). This instrument has been developed through the addition of the Availability dimension that includes all the needs of the patient to ensure his comfort when receiving this service, to measure the quality of service provided in the hospital as required by the nature of the administrators, and to include six main variables and thirty-four sub-variables.

3.5 Samples and Data Collection

Questionnaire was administered utilizing the hand delivery method where the researchers personally gave out the questionnaires to the respondents. Clear instructions on how to complete the questionnaire were provided to facilitate the completion of the statements in a manner that reflects accuracy. The consent of respondents was sought, and the participation in the study was completely voluntary. Two samples have been taken to perform the current study. One of them represent the hospital staff and the other represents the income patients. The sample size was (100); fifty patients and fifty hospital staff. Only (90)

forms were retrieved because the complete answer, and analyzed to measure the quality of health services provided in that hospital from the perspective of patients and hospital staff. The questionnaire was based on the five-point Likert scale (strongly disagree = 1, disagree = 2, neutral = 3, agree = 4, and strongly agree = 5). The values of these options reflect the weights. The arithmetic mean was calculated by dividing (4 on 5).Where (4) represents the number of spaces; (1 - 2) first space, (2 - 3) second space, (3 - 4) third space, and (4 - 5) fourth space), while, (5) represents the number of choices. When dividing (4 by 5), the length of the period is equal to (0.80), and the distribution is as follows:

From (1) to (1.79) is strongly disagree.

From (1.80) to (2.59) is disagree.

From (2.60) to (3.39) is neutral.

From (3.40) to (4.19) is agree.

From (4.20) to (5) is strongly agree.

4. Results and Discussion

The survey results have been discussed in three parts, namely analyses of the reliability measure of the questionnaire and a comparison between patients' perception and hospital staffperceptions towards the healthcare service provided in this hospital. The third section is the satisfaction level of the hospital staff and patients for the quality of healthcare services offered at this hospital.

4.1 Reliability Measure of the Questionnaire

The reliability of items was assessed by calculating the coefficient alpha [7] and Gutman split half, which measures the internal consistency of the items. Reliability measure was carried out using SPSS Software, and the outputs are shown in Table 2. For a measure not to be rejected, the coefficient value in all the cases should be above (0.7). So, it can be seen that all the items in the questionnaire are highly reliable.

Table 2: Reliability Measure Questionnaire

Patients		Hospital staff	
Reliability Test	Measure ment	Reliability Test	Measurem ent

Alpha	0.88	Alpha	0.76
Gutman	0.94	Gutman	0.87

4.2 Comparison between Patients' Perception and Hospital Staff Perceptions towards the Healthcare Service

To determine the difference between the quality of healthcare services from the hospital staff view and the patients who visited the hospital view, T test for equality of means and Levene's testfor equality of variance were performed, and based on SPSS software at a statistical significance level (α = 0.05). These tests have two forms: (1) the null hypothesis ($\mu 1 = \mu 2$) is the assumption that the difference between the two samples (hospital staff and patients) is equal, and the other alternative hypothesis ($\mu 1 \neq \mu 2$) is the assumption that the difference between the two samples (hospital staff and patients) isn't equal. Table 3clarifies these tests.

Table 3: Independent Samples Test

	Levene's test		T test		
	F	Sig.	t	df	Sig. (2-tailed)
Equal variances assumed	0.331	0.578	0.054	10	0.958
Equal variances not assumed			0.054	8.233	0.958

Table 4 manifests that the coefficient of correlation between the hospital staff and the patients = 0.938, that means the correlation isstrong and direct. This relationship can be represented, as in Figure 1 below.
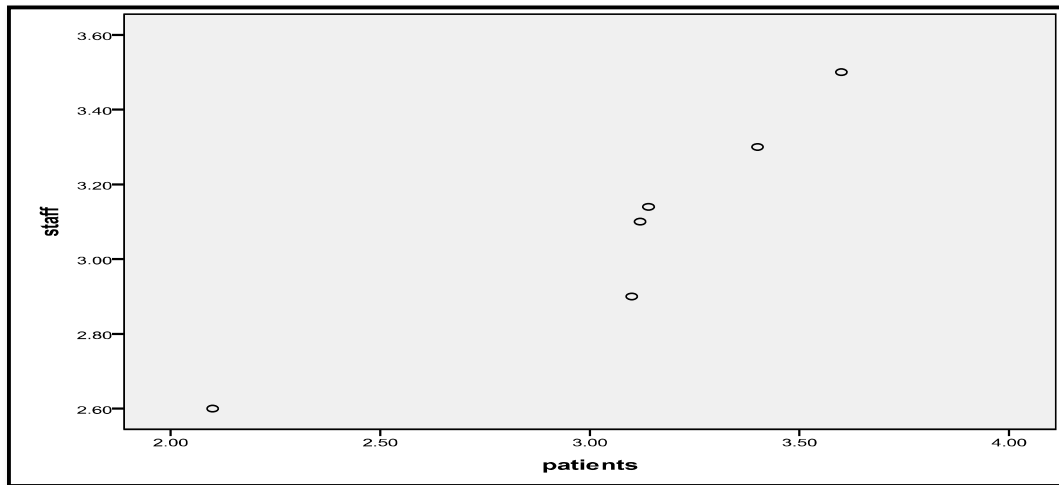
Figure 1: CorrelationRelationship between the Hospital Staffand Patients View

4.3 *Satisfaction level of the hospital staff and the patients for the quality of healthcare services*

The satisfaction for the quality of healthcareservices can be calculated by measuring its dimensions and determining the acceptance rate for each dimension, as shown in Table5.

Table 5: Satisfaction Level about Service Quality at Al-Shaheed Al-Sader Hospital

Hospital Staff				Patients			
Dimensions	Mean	Scale	Acceptance rate	Dimensions	Mean	Scale	Acceptance rate
Responsiveness	3.5	agree	66.5 %	Responsiveness	3.6	agree	56.1 %
Assurance	3.3	neutral	40.8 %	Assurance	3.4	agree	54.3 %
Reliability	3.14	neutral	37.5 %	Tangible	3.14	neutral	37.8 %
Empathy	3.1	neutral	34.6 %	Empathy	3.12	neutral	37 %
Tangible	2.9	neutral	33.6 %	Reliability	3.1	neutral	34.1 %
Availability	2.6	neutral	29.5 %	Availability	2.1	disagree	5.81 %
Service Quality	3.09	neutral	40.4 %	Service Quality	3.07	neutral	37.5

Results of Table 5 revealed that the Responsiveness dimension was the highest satisfaction rate for the two samples (hospital staff and the patient). Also, it was the most influential in the level of the health services quality at this hospital. On the other hand, the Availability dimension had the lowest satisfaction rate for the hospital staff and the patients; it was the most influential factor in low the level of the quality of healthcare services at this hospital. Generally, the quality of the health services provided at Al-Shaheed Al-Sader General Hospital was below the required level and with moderate satisfaction rate from the patient's view and their staff. The graphical representation for the satisfaction level of the hospital staff and the patients about the quality of the healthcare services is evinced Figure2.
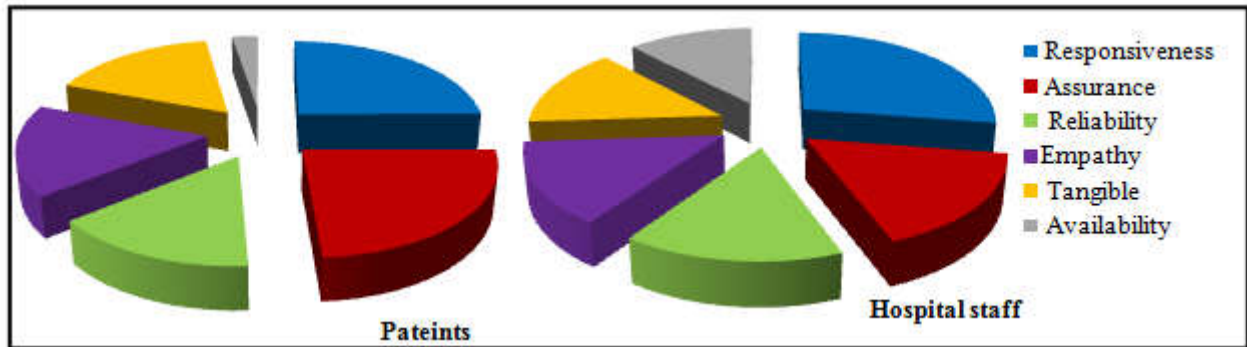

Figure 2: Level of Satisfaction about the Quality of Health Services for Hospital Staff and Patients

Pareto chart is extremely useful in order to identify the service quality dimensions that have the greatest cumulative impact in the low level of service quality in Al-Shaheed Al-Sader General Hospital and take appropriate corrective actions to them. Figure 3 and Figure 4 illustrate that.
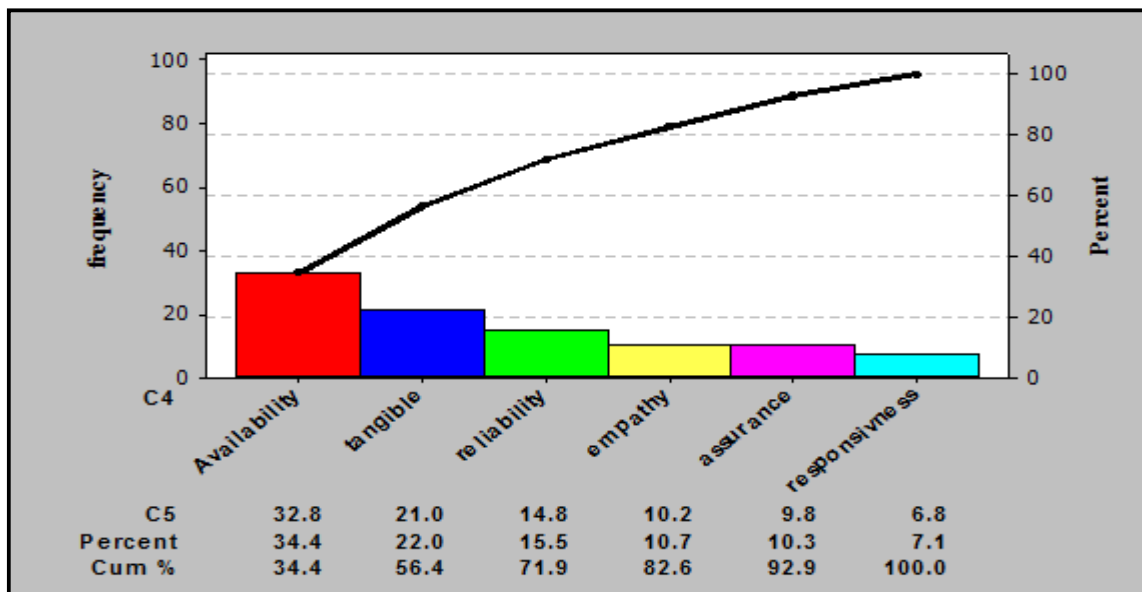

	Availability	tangible	reliability	empathy	assurance	responsivness
C5	32.8	21.0	14.8	10.2	9.8	6.8
Percent	34.4	22.0	15.5	10.7	10.3	7.1
Cum %	34.4	56.4	71.9	82.6	92.9	100.0

Figure 3. Pareto Chart for the Dimensions Quality of the Health Services Related to the Hospital Staff
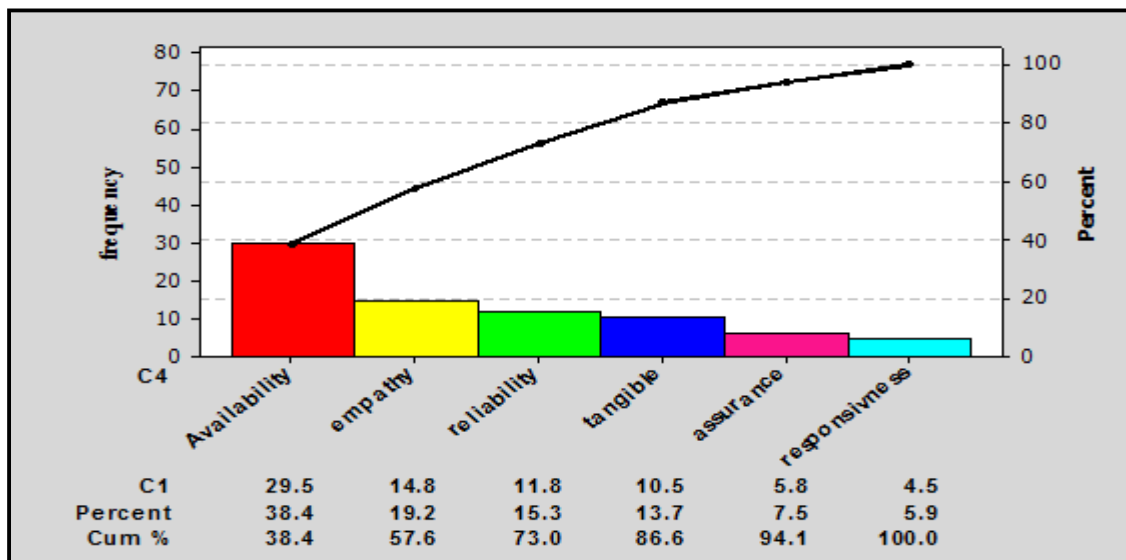
Figure 4. Pareto Chart for the Dimensions Quality of the Health Services Related to the Patients

From the two Figures (3 and 4), it is clear that the Availability dimension has the greatest impact in low level of service quality more than the other dimensions related to the hospital staff and the patients. Where, it turns out that the hospital doesn't provide facilities for patients' recuperation and recreation, and there aren't enough beds and doctors who treat the patients at this hospital. Also, most of the patients' needs are met of drugs outside of the hospital. Neither the hospital doesn't allocate enough places to wait and review, nor does the hospital apply a reliable booking system foroperations, rooms and beds, and clinical detection. The hospital doesn't have enough servicing workers adapted to the size of work and hospital space. Finally, there are no indicationsigns at this hospital.

5. Conclusion

SERVEPERF is an effective and important scale in determining the quality of the healthcare services. The study was based on two samples (hospital staff and patients) to measure the actual quality of service provided at Al-Shaheed Al-Sader General Hospital. It was found that there were no statistically significant differences between the level of quality perspective healthcare services provided in the hospital from the point of view of the staff working in the hospital and the patients visiting the hospital. Moreover, the correlation coefficient between the taken two samples was positive. On the other hand, the quality of the healthcare services provided at the hospital was below the required level and with moderate satisfaction rate respect to the two samples (patients and hospital staff). Also, it can be concluded that the most influential dimension responsible for the low quality of services provided in this hospital was the availability. While, the Responsiveness dimension was the highest satisfaction rate for the two samples (hospital staff and the patient).

Acknowledgements

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قياس مستوى جودة خدمات الرعاية الصحية وأثرها في رضا المرضى

ضحى كاظم أسمير

فرع الهندسة الصناعية، قسم هندسة الانتاج والمعادن، الجامعة التكنولوجية، بغداد/ العراق، *dhuhakadhim1987@gmail.com*

الخلاصة ــ تعد جودة الخدمات الصحية موضوعاً أساسياً لتسويق خدمات الرعاية الصحية. لذلك، تهدف هذه الدراسة إلى قياس جودة خدمات الرعاية الصحية الفعلية، وتحديد معدل الرضا عن الخدمات المقدمة في أحد مستشفيات مدينة بغداد. يعتمد البحث على استبيان حيث تم أخذ عينتين لإجراء الدراسة والتي اشتملت المرضى والعاملين في المستشفى. تم استخدام نموذجSERVPERFلقياس جودة الخدمة التي تتكون من خمسة أبعاد تشمل (الملموسة، الموثوقية، الاستجابة، الضمان، التعاطف). في هذه الدراسة تم تطوير هذا النموذجلقياس الاتاحية كبعداً سادساً لتغطية جميع عوامل جودة الخدمات في مراكز الرعاية الصحية. لقد وجد أنه لا توجد فروق ذات دلالة إحصائية بين مستوى جودة خدمات الرعاية الصحية المقدمة في المستشفى فيما يتعلق بالعينتين اللتين تمت دراستهما. كذلك، كانت جودة خدمات الرعاية الصحية المقدمة في هذا المستشفى أقل من المستوى المطلوب وبمعدل رضا معتدل. حيث كان بعد الاستجابة أعلى معدل رضا، في حين بعد الاتاحية كان أدنىمعدل رضا، والتي أثرت سلباً على مستوى جودة خدمات الرعاية الصحية المقدمة في هذه المستشفى.

الكلمات الرئيسية ــ جودة الخدمة، رضا المرضى، ابعاد جودة الخدمة، مقياس SERVPERF، الرعاية الصحية.