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

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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 Quality and 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 indicator during 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 be defined “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 quality are 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].

2.2 Service 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.

Table 1: Dimensions service quality

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

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. Identifying 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 staff perceptions 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 | Measure ment |
| 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 test for 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 (μ1 = μ2) is the assumption that the difference between the two samples (hospital staff and patients) is equal, and the other alternative hypothesis (μ1 ≠ μ2) is the assumption that the difference between the two samples (hospital staff and patients) isn’t equal. Table 3 clarifies 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 is strong and direct. This relationship can be represented, as in Figure 1 below.
Figure 1: Correlation Relationship between the Hospital Staff and 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 healthcare services can be calculated by measuring its dimensions and determining the acceptance rate for each dimension, as shown in Table 5.

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

| Dimensions       | Hospital Staff |   |   |   | Patients |   |   |   |
|------------------|----------------|---|---|---|----------|---|---|---|
|                  | Mean           | Scale | Acceptance rate | Mean           | Scale | Acceptance rate |
| Responsiveness   | 3.5            | agree | 66.5%            | 3.6            | agree | 56.1%           |
| Assurance        | 3.3            | neutral | 40.8%          | 3.4            | agree | 54.3%           |
| Reliability      | 3.14           | neutral | 37.5%          | 3.14           | neutral | 37.8%          |
| Empathy          | 3.1            | neutral | 34.6%          | 3.12           | neutral | 37%             |
| Tangible         | 2.9            | neutral | 33.6%          | 3.1            | neutral | 34.1%           |
| Availability     | 2.6            | neutral | 29.5%          | 2.1            | disagree | 5.81%          |
| Service Quality  | 3.09           | neutral | 40.4%          | 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 Figure 2.

![Figure 2: Level of Satisfaction about the Quality of Health Services for Hospital Staff and Patients](image)

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.

![Figure 3. Pareto Chart for the Dimensions Quality of the Health Services Related to the Hospital Staff](image)
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 for operations, 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 indication signs 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).

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References

[1] A. Parasuraman, V. A. Zeithaml, and L. Leonard, 1990 “Delivering Quality Service: Balancing Customer Perceptions and Expectations”, New York: The Free Press, pp. 15-36.

[2] B. Culiberg, 2010 “Identifying Service Quality Dimensions as Antecedents to Customer Satisfaction in Retail Banking”, Economic and Business Review, 12 (3), 151–166.

[3] D. Subashini and S. Poongodi, 2007 “Service Quality and Patient’s Satisfaction in Health Care Sector with Special Reference to Erode District”, Journal of Humanities and Social Science, 23-27.

[4] E. K. Yarimoglu, 2014 “A Review on Dimensions of Service Quality Models”, Journal of Marketing Management, 2 (2), 79-93.

[5] F. A. Carrillat, F. Jaramillo, and J. P. Mulki, 2007 “The validity of the SERVQUAL and SERVPERF scales. A meta-analytic view of 17 years of research across five continents”, International Journal of Service Industry Management, 18 (5), 472-490.

[6] K..S. Gupta and V. Rokade, 2016 “Importance of Quality in Health Care Sector”, Journal of Health Management 18(1). Expectations”, New York: The Free Press, pp. 15-36.
[7] L. Cronbach, 1951 “Coefficient alpha and the internal structure of tests. Psychometrica”, Vol. 16, No. 3, 297-334.

[8] M. Akdere, Top M. and Tekingündüz S. 2018, “Examining patient perceptions of service quality in Turkish hospitals: The SERVPERF model”, Total Quality Management Journal, 1-11.

[9] M. Amin and S. Z. Nasharuddin, 2013 “Hospital Service Quality and Its Effects on Patient Satisfaction and Behavioral Intention”, Clinical Governance: An International Journal, 18 (3), 238-254.

[10] N. K. Aliman and W. N. Mohamad, 2013 “Perceptions of Service Quality and Behavioral Intentions: A Mediation Effect of Patient Satisfaction in the Private Health Care in Malaysia”, International Journal of Marketing Studies, 5 (4).

[11] O. Tefera, 2017 “Service quality, customer satisfaction and loyalty: The perceptions of Ethiopian hotel guests”, African Journal of Hospitality, Tourism and Leisure, 6 (2).

[12] R Al-Damen., 2017 “Health Care Service Quality and Its Impact on Patient Satisfaction “Case of Al-Bashir Hospital”, International Journal of Business and Management; 12(9).

[13] R. Kalaja, R. Myshketa, and Scalera F., 2016 “Service Quality Assessment in Health Care Sector: The Case of Durrës Public Hospital”, Procedia - Social and Behavioral Sciences, 235, 557 – 565.

[14] S. Abu-Kharmeh, 2012, “Evaluating the Quality of Health Care Services in the Hashemite Kingdom of Jordan”, International Journal of Business and Management, 7 (4), 195-205.

[15] S. Kumaraswamy, 2012 “Service Quality in Health Care Centres: An Empirical Study”, International Journal of Business and Social Science, 3 (16).

[16] S. T. Pariwisata, 2017 “Service Quality, Customer Value and Patient Satisfaction on Public Hospital in Bandung District, Indonesia”, International Review of Management and Marketing, 7 (2), pp.187-192.

[17] T. Mutle and L. Shonhe 2017, Customers’ perception of Service Quality and its impact on reputation in the Hospitality Industry, African Journal of hospitality, Tourismand Leisure 6 (3).
قياس مستوى جودة خدمات الرعاية الصحية وأثرها في رضا المرضى

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الخلاصة - تعد جودة الخدمات الصحية موضوعًا أساسيًا لتسويق خدمات الرعاية الصحية. لذلك، تهدف هذه الدراسة إلى قياس جودة خدمات الرعاية الصحية الفعلية، وتحديد معدل رضا المرضى عن الخدمات المقدمة في أحد مستشفيات مدينة بغداد. يعتمد البحث على استبيان حيث تم أخذ عينات من مجمل الخدمات التي تشكل جودة الخدمة التي تتكون من خمسة أبعاد تشمل (الملموسة، الموثوقية، الاستجابة، الضمان، التواصل). في هذه الدراسة تم تطوير هذا النموذج للمقياس الانتقائي لقياس جودة خدمات الرعاية الصحية في المستشفى. لقد وجد أنه لا يوجد فروق ذات دلالة إحصائية بين مستوى جودة خدمات الرعاية الصحية المقدمة في هذا المستشفى أفرغ من المستوى المطلوب، ومعالج رضا معتدل. حيث كان بعد الاستجابة أعلى معدل رضا، في حين بعد الانتهاء كان أدنى معالج رضا، والتي تأثر سلبًا على مستوى جودة خدمات الرعاية الصحية المقدمة في هذا المستشفى.

الكلمات الرئيسية - جودة الخدمات، رضا المرضى، أبعاد جودة الخدمة، مقياس SERVPERF، الرعاية الصحية.