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Original Article

Evaluation the Quality of Health Services Based on SERVQUAL Model in Ahvaz Health Care Centers, Iran

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ABSTRACT

Background: Service quality is one of the main challenges in health systems. In quality management, service recipients play an important role in identifying their needs and preferences. The present study was carried out to evaluate the quality of health services provided in health centers of Ahvaz city based on the SERVQUAL model in 2016.

Methods: This cross-sectional descriptive study was conducted on 384 person referred to the health centers in the west of Ahvaz city in 2016. The sample were selected through quota sampling method. The SERVQUAL questionnaire which measures the five dimensions of Tangibles, Reliability, Responsiveness, Assurance and Empathy in service delivery was applied to collect the required data. The data were analyzed using paired t-test.

Results: In general, there were differences between perception and expectation of the five service dimensions and the differences were negative (expectations were beyond perceptions). The mean total difference of service quality was -0.68 (P-value < 0.05). The lowest and the highest mean scores of quality difference were obtained for reliability (-0.53) and empathy (-1.04) dimensions, (P-value < 0.001).

Conclusion: This study revealed negative differences in all five service dimensions. So, promotion and evaluation of service quality should be continuously considered in planning. Since the highest difference in service quality was observed in empathy dimension, it seems essential to hold customer service training courses for increasing communication skills for employees.

Keywords: Health service, Quality of health care, Ahvaz, Iran

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Introduction

In today's turbulent and competitive world, organizations that focus on customers and look at issues from the customers' viewpoint will be more successful in competitions. Today, customer satisfaction is one of the most commonly used terms in business environments, but

undoubtedly, making the customers satisfied or even enthusiastic will be possible by providing the quality of products and services according to and even beyond their expectations; therefore, quality is the most important factor in global competitions, and organizations have to provide high-quality products or services to compete victoriously in the market (1). Quality has been widely considered in manufacturing and industrial fields due to its tangible characteristic, but as it is intangible in the service sector , less attention has been paid to it (2).

Among various service, the health service sector has special importance. It is related to a wide range of people in societies, and more importantly, it has the duty and responsibility of maintaining community health. In recent years, by adaptation of the Alma-Ata declaration, Iranian administrators have paid particular attention to it. Effective actions to improve service delivery and gain customer satisfaction are considered very important in this sector (3, 4). Nowadays, the majority of organizations are selecting customer satisfaction index as a key criterion and evaluating the quality of their services to improve their customers' satisfaction and, consequently, their survival (5). Service quality refers to a comparison between what the customers feel there should be (expectations) and what they receive (perceptions); if expectations exceed perceptions, customers will consider the quality of the received services lower, and they will consequently feel dissatisfied (6).

In fact, desirable service quality is guaranteed when customer expectations of the intended services are satisfied or they are provided with something beyond their expectations. Several models have been defined to measure service quality. SERVQUAL is a model capable of measuring service quality, and is used to measure the quality of provided services, collect customer opinions, and determine their expectations from the services in five dimensions: tangibles, responsiveness, empathy, reliability and assurance. It is a subset of subjective models that takes customers' perceptions and beliefs into consideration (7). SERVQUAL was developed by Parasuraman et al. in the mid-1980s to measure service quality. This model tries to measure the quality of services in the environments where service quality is considered a necessity for customer satisfaction (8).

Some examples of the related studies carried out in Iran and in the world are mentioned as follows. Mohammadi and Shoghli (2008) studied the quality of primary health services provided to 300 service recipients in the health centers in Zanjan. The results of their survey showed that in general, there was a quality gap in all five service dimensions, and the gap was negative; i.e. the expectations of the visitors were beyond their perceptions (9). Kebriaie et al. (2002) conducted a study to assess the quality gap in primary health services provided in the health centers of Kashan. Their results showed that the quality scores were negative in all five dimensions of the services (10). In a study conducted by Laura et al. in Romanian public and private hospitals (2011), the service quality gap was higher in public hospitals than in private ones, so that the highest score of service quality perception in the public sector was lower than the least quality received in private hospitals

(11). Karydis et al. (2001) reviewed the perceptions and expectations of Greek patients in terms of the quality of received dental care. The results indicated that the expectations of empathy and assurance dimensions were the first priorities of the patients (12).

Disagreements over quality in different dimensions of services vary among different demographic groups, and they need to be considered when developing quality improvement programs. In this regard, the present study aimed to assess the quality of health services provided in the healthcare centers in the west of Ahvaz based on the SERVQUAL model

Methods

This cross-sectional descriptive study was conducted in Ahvaz, Southwest of Iran in 2016. The population under study consisted of the people over 18 years of age under the coverage of the health centers in the west of Ahvaz city. The sample size was determined using the Cochran formula as the form of $n = N/1+N(e)^2$. Considering N as the population size of 378545 and e as the level of precision of 0.05, a total of 384 sample size were calculated. The sample were selected through non-probability quota sampling method proportional to the size of population coverage of each center. Ahvaz West Health Center covered 15 comprehensive health services centers. Sample for each center were selected in the same proportions as recorded for the population of over 18 years of age in the country census. The instrument consisted of 22 questions made on the basis of the Likert scale, on the five dimensions of service quality including 4 questions about the physical and tangible dimension (physical facilities, equipment and appearance of personnel, 5 questions about reliability (ability to perform the promised service dependably and accurately), 4 questions about responsiveness (willingness to help consumers and provide prompt service), 4 questions about assurance (competence, courtesy and security), and 5 questions about empathy (caring and individualized attention).

In the first stage, the healthcare users were asked to state how the quality of the provided services was by that time from their point of view (perception of the current condition). The second part of the questionnaire was then provided to the participants in order to identify the patients' expectations (desired status). In fact each statement appeared twice and in the expectations section, patients answered questions on the desirable status of services, and in the perception section they answered the questions related to the current status of services.

The respondents selected one expression (totally disagree, disagree, somewhat disagree, no comment, somewhat agree, agree, and totally agree) as their benchmark for answering each question quality of the provided services. The score for each question varied from 1 to 7. The scores of the questions on each service dimension were summed up and the total score was divided into the number of the questions on that service dimension, so that the perception and expectation scores of each dimension varied from 1 to 7, as well. For calculate overall expected quality, the scores of all questions of expected quality (22 question) were summed up and divided into 22 that scores varied from 1 to 7. For calculate Overall perceived quality, all of questions of

perceived quality (22 question) were summed up and divided into 22 that scores varied from 1 to 7.

The difference in the provided service quality was achieved by subtracting the perception level scores from the expected level scores.

This questionnaire had been used previously in the health and medical environments in different countries of the world, and it had also been used over the last few years in health centers and hospitals of Iran, and its validity and reliability had been reviewed and approved several times. The Cronbach's alpha coefficients for the perception questionnaire and the expectation questionnaire were 97% and 84%, respectively (13,14).

If the obtained score was positive, it would suggest that the services provided were more than the expectations of the clients, and if it was negative, the services provided would not meet the clients 'expectations and there would be a quality gap. In case the obtained score was zero, it would mean the lack of quality gap and would also indicate that the provided services met the clients'' expectations. The perceived and expected quality were compared using paired t-test and the quality difference according to the background characteristics of the participants were compared using independent t-test and ANOVA. The significance level was considered lower than 0.05. All statistical analyses was performed in SPSS version 16.

Results

The highest percentage of the subjects were in the age group of 18-29 years (51.6%) followed by 182 subjects in the age group of 30-59 years old. Only 4 respondents (1%) were over 60 years of age. The majority of the participants were female (85.4%) and 56 subjects (14.6%) were male.

Regarding education, 140 respondents (36.5%) had lower than a high school, 132 (34.4%) had a high school diploma, and 112 of the subjects (29.1%) had academic degrees.

The mean scores of perception, expectation and quality difference in each of the expressions related to the quality of health services provided in the health centers in the west of Ahvaz city are shown in Table 1. The results showed that there are significant quality differences in all the expressions related to service quality dimensions, and the differences were negative.

Regarding service tangibles, the lowest mean score of quality difference (-0.24) was observed for expression 3 (Neat and Adorned Personnel) and the highest score (-0.89) was seen for expression 1 (Renewed and Modern Equipment in the Center). In the case of reliability, the lowest mean quality difference score (-0.42) and the highest one (-0.89) were observed for expressions 7 (Center Reliability) and 9 (Maintaining Customer Records and Files accurately), respectively. Regarding service responsiveness dimension, the lowest mean quality difference (-0.08) and the highest one (-1.06) were obtained for expressions 13 (Providing Services Fast and promptly) and 11 (Providing Appropriate and Excellent Services), respectively. In terms of service assurance, the lowest mean quality difference (-0.37) was observed for expression 14 (Customers' Trust on the Personnel) and the highest mean quality difference (-1.16) was seen for expression 17 (Personnel Support for Doing the Tasks Properly at the Health Center).Regarding service empathy, the lowest (-0.77) and the highest (-1.28) mean quality differences were found for expressions 18 (special attention to each of the clients) and 22 (appropriate time of referring to the center), respectively (Table 1).

Table 1. Mean Scores of Perception, Expectation, and Quality Difference in Each of the Expressions Related to the Quality of Health Services Provided in the Health Centers in West of Ahvaz

Dimensions	Items	Expected Quality Mean ±SD	Perceived Quality Mean ±SD	Quality Difference
Tangibles	Renewed and Modern Equipment in the Center	6.46 ± 0.84	5.57 ± 1.47	-0.89
	Physical Facilities in terms of Attractive Appearance	6.14 ± 1.01	5.39 ± 1.53	-0.75
	Neat and Adorned Personnel	6.31 ± 0.901	6.07 ± 0.94	-0.24
	Suitability of Physical Facilities with Type of Provided Services	6.30 ± 0.92	5.78 ± 1.16	-0.52
Reliability	Carrying out the Tasks at Promised Time and according to the Obligations	6.44 ± 0.76	5.85 ± 1.13	-0.59
	Interest in Solving Customer Problems	6.45 ± 0.81	5.94 ± 1.10	-0.51
	Providing the Services Properly (Center Reliability)	6.50 ± 0.78	6.08 ± 1.16	-0.42
	Providing Services at Promised Time	6.26 ± 0.90	5.80 ± 1.16	-046
	Maintaining Customer Records and Files Accurately	6.34 ± 1.04	5.66 ± 1.28	-0.68
Responsiveness	Announcing the Exact Timing of Customer Services	4.18 ± 2.17	3.68 ± 2.00	-0.5
	Providing Appropriate and Excellent Services	3.92 ± 2.19	2.86 ± 1.82	-1.06
	Employees' Constant Enthusiasm for Helping Customers	3.23 ± 2.15	2.85 ± 1.82	-0.38
	Providing Services Fast and Promptly	3.84 ± 2.33	3.76 ± 1.99	-0.08
Assurance	Customers' Trust on the Personnel	5.92 ± 1.67	5.55 ± 1.66	-0.37
	Feeling Secure in Communication with the Personnel	6.15 ± 1.40	5.68 ± 1.53	-0.47
	Personnel's Politeness and Humility	6.43 ± 1.14	5.77 ± 1.50	-0.66
	Personnel Support for Doing the Tasks Properly at the Health Center	6.23 ± 1.30	5.07 ± 1.74	-1.16
Empathy	Special Attention to Each of the Clients	4.47 ± 2.19	3.70 ± 1.97	-0.77
	Special Attention of Personnel to Customer Emotions	4.41 ± 2.17	3.62 ± 1.92	-0.79
	Understanding Customer Needs by Personnel	3.91 ± 2.18	2.78 ± 1.81	-1.13
	Personnel's Attention to Customer Interests	3.98 ± 2.15	2.76 ± 1.81	-1.22
	Appropriate Time of Referring to the Center	4.08 ± 2.24	2.80 ± 1.82	-1.28

Abbreviation: SD, Standard deviation

The mean scores of perception and expectation as well as the overall quality difference and quality difference in the five dimensions of primary health care services in the health centers in west of Ahvaz are shown in Table 2. Regarding disagreement over the quality of services, in general, the disagreement was significantly found in all service dimensions. The lowest mean quality difference (-0.53) was observed for the reliability dimension, and the highest (-1.04) was found for the empathy (Table 2).

Table 2. Mean Scores of Perception and Expectation as Well as Overall Quality Difference and Quality Difference in Five Dimensions of Primary Health Services in Health Centers in West of Ahvaz

Dimensions	Expected Quality Mean ± SD	Perceived Quality Mean ± SD	Quality Difference
Tangibles	6.30 ± 0.762	5.70 ± 1.1	-0.6
Reliability	6.40 ± 0.70	5.87 ± 0.904	-0.53
Responsiveness	4.02 ± 1.89	3.29 ± 1.56	-0.73
Assurance	6.18 ± 1.16	5.52 ± 1.40	-0.66
Empathy	4.17 ± 1.92	3.13 ± 1.61	-1.04
Overall Quality	5.36 ± 0.89	4.68 ± 0.76	-0.68

Abbreviation: SD, Standard deviation

The T-test showed that there was no significant relationship between the quality difference and sex (P-value = 0.14) and times of referral (P-value = 0.109). In addition, the ANOVA showed that there was no significant relationship between quality difference with age (P-value = 0.456) and education level (P-value = 0.994).

Discussion

The aim of this study was to assess the quality of health services provided in the health centers in west of Ahvaz based on the SERVQUAL model in 2016. The results of the study showed that there were generally quality differences in all five service dimensions, and the differences were negative. In the study by Aghamolayee et al., aimed at determining the views of women on the quality of primary health services in Bandar Abbas health centers, there were differences in the five dimensions of service quality, and the differences were negative (15). The study by Tarahi also showed a significant difference between the perceptions and expectations of the clients referring to the health centers in Khorramabad in terms of the five dimensions of service quality (16). In the study by Papanikolaou and Zygiaris (17) in primary health care centers in Greece, and also in another study by Khamis (18) in Tanzanian Hospital, there were quality differences in all dimensions, and this is consistent with the results of the present research, indicating that the expectations of service recipients exceeded their perceptions of the current situation and there were still a lot of opportunities for improvement in order to reach customer satisfaction and provide desirable health services.

In the present study, the highest quality difference was observed in the empathy dimension. Empathy refers to a special behavior with any customer according to their morals, so that the customers are convinced that their organizations understand them. The importance of appropriate behavior and understanding the needs of different individuals can play a significant role in customer satisfaction and the reduction of service quality gaps. In the

study by Zarei in Tehran hospitals (14) and the one by Aghamolayee et al. (15) aimed at determining the views of women on the quality of primary health services in Bandar Abbas health centers, the highest quality differences were observed in the empathy dimension. The study by Tarahi on the clients referring to the health centers in Khorramabad, and also the research by Jena Abadi (19) in the health centers of Zahedan, the highest mean quality differences were found in the empathy dimensions. In the study by Papa Nikolaou and Zygiaris (17) in primary health care centers in Greece, the highest gap was seen in the empathy dimension, which is consistent with the results of the present study. The study by Khamis (18) in Tanzanian hospital and the one by Kebriaie (10) in the health centers of Kashan showed the highest gaps in the responsiveness dimension. In Gholami's study (20) in Neishabour health centers, the highest quality difference was found in the tangible dimension, which is not consistent with the results of the present study.

In the present study, the lowest mean quality difference was observed in the reliability dimension. In Tarahi's study on the clients referring to the health centers in Khorramabad, and also in the research by Jena Abadi (19) in the health centers of Zahedan, the lowest mean gaps were found in the reliability dimension. The study by Papanikolaou and Zygiaris (17) in primary health centers in Greece also showed that the lowest mean gap was in the reliability dimension, which is consistent with the results of the present study. Contrary to the present study, the studies by Kebriaie (10) in the health centers of Kashan, Ali Mohammadi et al (9) in the health centers of Zanjan, and Lim in Singapore hospitals (21) showed the lowest quality gaps in the tangibles dimension. The lowest quality gaps were also seen in the empathy dimension in the studies by Saafi (22) in the health centers covered by the northern health center of Tehran, and by Gholami in the health centers of Urmia (23), that is not consistent with the results of our study.

Since the highest service quality differences were found in the empathy dimension, it seems necessary to pay more attention to this dimension when planning and communicating with clients during service provision, in order for them to feel more comfortable and be satisfied. Some strategies to achieve this goal are as follows: holding customer service training courses for the staff, holding some workshops to enhance the staff's communication skills, and considering a time that is appropriate for customers to be provided with services. Another important point is that poor quality in a dimension has an intensifying effect. This means that it may cause quality deterioration in other dimensions from the views of service recipients (23). In this regard, it is recommended to pay more attention to the dimensions in which the mean quality difference is higher (empathy and responsiveness).

Considering the results of this study and comparing them with those of similar studies indicate that the quality gap in different service dimensions varies from the viewpoints of different individuals as well as different demographic and social groups. Hence, it seems necessary for managers to develop quality improvement programs within their organizations. The first major step toward this goal is to conduct such research. Accordingly, it could be expected to adopt a model with a higher degree of compliance with the organization's conditions, which is of course more

functional, to improve the quality of services and provide service recipients with quality services beyond their expectations, while addressing the weaknesses.

Conclusion

Given the fact that there are quality differences in all five service dimensions, and the differences are negative, it is necessary to improve and evaluate the quality of services constantly in order to reduce the service quality differences, and this needs to be considered in planning.

Ethical consideration

The study protocol has been approved in Ethical Review Board of Shiraz University of Medical Sciences. Code of ethics IR.SUMS.REC.1395.S971

Conflicts of interests

Authors declared no conflict of interest.

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