

Evaluating and Ranking Service Quality Factors in a Referral Clinic

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Abstract

Background and Objectives: Service quality evaluation is inevitable for the performance success of a health center. The purpose of this study was to evaluate and rank the quality of service factors in a selected referral clinic.

Methods: The study participants were from a well-known referral clinic. The data collection tool was adopted based on the standard SERVQUAL questionnaire, customized for the circumstances and status of the clinic. The data were analyzed using nonparametric Wilcoxon and Friedman tests through SPSS v.23 software. In this research, the quality gap was obtained from the difference between expectations and perceptions (E-P).

Findings: A total of 267 patients were examined. In each of the 6 dimensions evaluated in the SERVQUAL questionnaire, there was a significant difference between the mean of expectations and perceptions. The greatest gap was the accessibility dimension (1.41) and the lowest disparity was in empathy dimension (0.86). Based on Friedman test results, patients ranked the accessibility with 4.12 points as the most important dimension and the empathy with 2.90 as the least important dimension.

Conclusions: There was a significant gap in all dimensions of the service quality of the studied clinic. Therefore, the patients' expectations were not on par with the clinic services. Thus, the clinic needs to improve its services in all of the studied quality dimensions.

Keywords: Healthcare service quality, SERVQUAL, Outpatient Clinic, Quality Management.

Background and Objective

Quality as an important aspect of real life needs to be taken into account for improving the service systems.¹ The quality of a product or service is evaluated according to the degree of compliance of that product or service with the defined standards. Researchers present service quality as 'the discrepancy between consumer's perceptions and expectations.'² Nowadays, the quality of services especially in organizations with a high volume of referrals (such as hospitals, clinics, health centers, etc) has become very important critical. Evaluation of service quality helps the organization to achieve desired results in a competitive environment and in the long term will make the organization more profitable. Improving the quality of services for service organizations has become an important issue to meet customer expectations and satisfaction.³ For the role it plays in the life of patients measuring the quality of services in a health care organization is deemed

to be more important than the other organizations.^{4,5} Various methods and tools can be used to evaluate the quality of services, which are different in terms of definition, content and type of measurement.⁶ Statistical methods, benchmarking, importance-performance analysis, and SERVQUAL model are among the most important methods. Although quality control has a long history, the use of the SERVQUAL method for measuring and evaluating the quality of nearly 2 decades has been seriously considered by the researchers.^{7,8} SERVQUAL was presented as a gap theory by Parasuraman et al in 1985⁹. The theory assumes that each customer perceives service quality as a 'gap' between his/her original expectations and the actual received service.¹⁰ SERVQUAL represents service quality as the discrepancy between a customer's expectations for a service offering and the customer's perceptions of the service received. This theory is used for evaluating service quality in the service sector. It is also suitable for measuring service quality in hospitals.^{11,12} However, its suitability should be assessed in different settings. Patients from different parts of the world have different needs of service quality

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based on the social, cultural, and economic conditions.

The SERVQUAL model, due to high compatibility with various service environments, the relative importance of 5 dimensions (tangibility, reliability, responsiveness, assurance and empathy) in understanding service quality, and the ability to analyze demographic, and psychological characteristics and other areas has a high reliability over other quality assessment methods.^{13,14} Patients' expectations and their satisfaction with the process presented in therapeutic organizations is one of the characteristics of the appropriate conditions in these organizations. In this regard; it is possible to examine the gap by examining the existing gap between the current and the desirable situation.¹⁵ The service quality gap is obtained from the difference between perceived services and expected services. The negative gap indicates that the patients' expectations are not met, a positive gap shows the services are more suitable than patient expectations, and a zero-gap condition means a matching of expectations and services. Therefore, the less gap exists between expectation and perceived services, the more desirable and appropriate health services is provided. The aim of the research is to evaluate and rank the quality of services in a selected referral clinic using the SERVQUAL model in 2018.

Literature Review

Economic conditions form the people's expectations of service quality and lifestyle around the world. Customer perception plays an important role in the failure of the service.¹⁶ As a result, organizations use a variety of methods to improve customer service in the current economic environment^{9,17}. The foundation of the service industry is the relationship between the customer and the service provider.¹⁸ Several studies have been carried out on the relationship between services and customer satisfaction in service organizations.¹⁹ In clinics, customers are patients and providers are clinicians and physicians who differ in their intellectual skills, knowledge, and attitudes. Najafi et al proposed the data envelopment analysis (DEA) model for evaluation and improvement of quality.²⁰ Also, Hatam used DEA to evaluate the efficiency of the hospitals and presented the capability of DEA for this kind of evaluation²¹. Also, Kiadaliri et al reviewed the literature on the application of DEA for examining the estimated technical efficiency of Iranian hospitals.²² Karydis et al studied the expectations and perceptions of Greek patients regarding the quality of dental services using the SERVQUAL model.²³ In their research, 4 quality dimensions including reliability, responsiveness, assurance, and empathy were considered. Their results

showed that all aspects of quality have a gap in their case study. Mirghafoori and Zare Ahmadabadi, used the SERVQUAL model to analyze the quality of health care provided at Shahid Rahnemoun Hospital in Yazd.²⁴ In this research, 5 dimensions of tangibility, responsiveness, assurance, reliability, and empathy for measuring the quality of services were used. In 2010, Mohammadnia et al conducted a study to assess reliability, responsiveness, assurance, and empathy regarding the quality of nursing care services in 3 social care hospitals in Tehran.²⁵ Using SERVQUAL standard questionnaire, they obtained satisfaction percentages of each quality component. In 2011, a study was conducted by Chakravarty to assess the quality of hospital outpatient services in India using the SERVQUAL method and 5 quality dimensions that included tangibility, reliability, responsiveness, assurance, and empathy.²⁶ Nekoei-Moghadam and Amiresmaili evaluated the quality of teaching in the hospitals of Kerman University of Medical Sciences.²⁷ They used the SERVQUAL model with 5 dimensions of tangibility, reliability, responsiveness, assurance, and empathy. In this study, all aspects of quality have a negative gap. Tabibi et al used the SERVQUAL model and dimensions of tangibility, responsiveness, reliability, assurance, and empathy in 2012 to assess the quality of services offered in outpatient clinics in Tehran hospitals.²⁸ In this study, after determining the existing gaps between perception and expectation of patients, Friedman test was used to rank 5 dimensions of quality. Zarei et al assessed the quality of services provided in eight private hospitals of Tehran.²⁹ Using the SERVQUAL model, they achieved the gap between expectations and patients' perception in 5 dimensions: tangibility, reliability, responsiveness, assurance, and empathy. Hekmatpou et al, conducted a study in hospitals affiliated to Arak University of Medical Sciences to evaluate the quality of service using the SERVQUAL model.³⁰ They added accessibility dimension to 5 dimensions of tangibility, reliability, responsiveness, assurance, and empathy. Havasbeigi et al evaluated the quality of services provided to outpatients in public hospitals in Ilam and Kermanshah, using the standard SERVQUAL questionnaire and ranking 5 dimensions of quality by Friedman test.³¹ Gorji et al reviewed and evaluated the quality of services provided in Tehran Imam Khomeini Educational and Therapeutic Complex in 2013 using the SERVQUAL model.³² In this study, like Hekmatpou et al, accessibility also is added to 5 dimensions of service quality. Bahadori et al determine the quality of the services provided in 4 hemodialysis centers in Kerman using the SERVQUAL model.³³ Naqavi et al was conducted in drug addiction treatment centers of Kerman using the SERVQUAL model.³⁴ Ghobadi et al evaluated

service quality and rank the factors using the SERVQUAL model in Kowsar University of Medical Sciences of Ardabil University of Medical Sciences.³⁵ Belaid et al assessed the quality of health services using SERVQUAL method at the institutions of the Algerian Bashar State Hospital, and the impact of 5 dimensions of quality on patient satisfaction.³⁶ Mohebbifar et al assessed service quality of 6 teaching hospitals of Qazvin University of Medical Sciences using the SERVQUAL model.³⁷ Bastani et al evaluated the 6 dimensions (tangibility, reliability, responsiveness, assurance, empathy, and accessibility) of quality of outpatient services provided in Motahari clinic in Shiraz using the SERVQUAL model.³ Al Fraihi et al assessed the quality of hospital outpatient services in Saudi Arabia using the SERVQUAL model, taking into account the 5 dimensions of quality of service.³⁸ In their paper, the greatest gap in the ranking of dimensions was prioritized. Oliae et al assessed the quality of midwifery services of Isfahan health centers using the SERVQUAL model.³⁹ In their study, there was a negative gap in all aspects. Rezaei et al evaluate the quality of teaching hospitals affiliated to Kermanshah University of Medical Sciences using SERVQUAL model.⁴⁰ The results indicate a negative gap in all aspects of quality. Motaghd et al measured the service quality in the 4 selected health centers in west of Tehran using the SERVQUAL model and adding accessibility to the 5 dimensions of quality.⁴¹ Haghshenas et al assessed the quality of the perceived and expected outpatient services.¹⁵ Their research was carried out in 14 hospitals of Tehran University of Medical Sciences using SERVQUAL method. Shafiq et al measure the quality of service and rank 5 quality dimension in nine hospitals (5 public and 4 private) of Lahore, Pakistan using the SERVQUAL tool.¹⁹ Fan et al determined the gap between expectations and quality of service perceptions to create solutions and improve the quality of health services in 27 hospitals in China by standard SERVQUAL methodology.⁴² Ziari et al applied SERVQUAL model to measure the quality of hospitalized services in gynecology and children's departments in Semnan,

Amir-Al-Momenin hospital.⁶ Yavari et al assessed the quality of services provided by 6 specialized Shiraz clinics using the SERVQUAL model and its impact on recipient responses including emotional (such as satisfaction and commitment), cognitive (such as trust) and behavioral (such as loyalty and oral advertising).⁴³ Mendes et al identified the expectations and perceptions of clients in the surgery department of a private hospital in Brazil in terms of the quality of services provided to patients and their fellows using the SERVQUAL model and 5 dimensions of quality.⁴⁴

According to literature review, most researchers have used somehow the standard SERVQUAL questionnaire. Only limited number have added accessibility dimension to the classic quality dimensions including tangibility, reliability, responsiveness, assurance, and empathy (Table 1).

In our research, 5 quality dimension (tangibility, reliability, responsiveness, assurance, empathy, and accessibility) are selected based on the structured interviews conducted with the managers and experts of the selected clinics who are quality manager, human relationship head and surgery specialist, respectively. The contribution of the research is to consider accessibility dimension and the sub-criteria of the dimensions. In the research, the questions of the SERVQUAL model are selected and modified according to the conditions of the referral clinic as the case study and the accessibility dimension was added to the model.

According to the previous research, the SERVQUAL model is developed to assess and evaluate the quality of services provided in a clinic. Table 2 summarizes the literature review of the SERVQUAL model in the healthcare systems.

Methods

This descriptive-analytic study was carried out from March to June 2018. The data collection tool was based on the SERVQUAL questionnaire, which is customized according to the conditions and status of the clinic. The sample size was 267 people who referred to the clinic. Experts in

Table 1. Comparison of the Accessibility Criteria in the Research

Ref	Year	Providing Convenient Facilities for Patient Entourage	Availability of the Clinic/Hospital	Payable Costs	Access to Nurses and Doctors (Access to Care)	24.7 Service	The Availability of Facilities to Pay for Treatment Costs at the Clinic
(30)	2012				*		
(45)	2014	*	*	*	*	*	
(3)	2016	*	*	*			
(41)	2016		*				
Our study	2018	*	*				*

Table 2. Summary of the Literature Review of SERVQUAL Model in Healthcare Systems

Ref	Year	Location	Tangibility	Reliability	Responsiveness	Assurance	Empathy	Accessibility	Economic
(23)	2001	Greece		*	*	*	*		
(24)	2007	Yazd-Iran	*	*	*	*	*		
(25)	2010	Tehran-Iran		*	*	*	*		
(26)	2011	India	*	*	*	*	*		
(27)	2011	Kerman-Iran	*	*	*	*	*		
(28)	2012	Tehran-Iran	*	*	*	*	*		
(29)	2012	Tehran-Iran	*	*	*	*	*		
(30)	2012	Arak-Iran	*	*	*	*	*		*
(31)	2013	Elam & Kermanshah-Iran	*	*	*	*	*		
(32)	2013	Tehran-Iran	*	*	*	*	*		*
(33)	2014	Kerman-Iran	*	*	*	*	*		
(34)	2014	Kerman-Iran	*	*	*	*	*		
(35)	2014	Ardabil-Iran	*	*	*	*	*		
(36)	2015	Bechar- Algeria	*	*	*	*	*		
(37)	2015	Qazvin-Iran	*	*	*	*	*		
(3)	2016	Shiraz-Iran	*	*	*	*	*		*
(38)	2016	Saudi Arabia	*	*	*	*	*		
(39)	2016	Isfahan-Iran	*	*	*	*	*		
(40)	2016	Kermanshah-Iran	*	*	*	*	*		
(41)	2016	Tehran-Iran	*	*	*	*	*		*
(15)	2017	Tehran-Iran	*	*	*	*	*		
(19)	2017	Lahore- Pakistan	*	*	*	*	*		
(42)	2017	China	*	*	*	*	*		*
(6)	2018	Semnan-Iran	*	*	*	*	*		
(43)	2018	Shiraz-Iran	*	*	*	*	*		
(44)	2018	Brazil	*	*	*	*	*		

service quality validate the content of the questionnaire. The customized questionnaire consists of 3 sections: descriptive characteristics, expectations, and perceptions. The first section contains descriptive characteristics of the referrals such as gender, marital status, age, education, insurance status, supplementary insurance, visit frequency and occupational status. Some of the initial data are presented in Figures 1 and 2.

The second and third sections were used to evaluate the patients' expectations and perception of the quality of services received. Each section of expectations and perceptions of the service includes 6 dimensions. These dimensions included tangibility (6 questions), reliability (7 questions), responsiveness (4 questions), assurance (6 questions), empathy (2 questions) and accessibility (3 questions). Scoring questions are based on Likert 5-point scales.

Expert opinions were used to ensure the validity of the SERVQUAL questionnaire. For reliability measure, Cronbach's alpha coefficient is used. The coefficients for

the entire questionnaire (28 sub-criteria) in expectations and perceptions were 94.8% and 94.9%, respectively, and the reliability of the questionnaire was acceptable.

For statistical analysis, the normal distribution of data using Kolmogorov-Smirnov test was used. Due to the non-normal data, a non-parametric Wilcoxon test was used to test the existence of a significant difference between the mean expectations and perceptions. The Friedman test was used to rank variables (quality dimensions). The test is used to compare dimensions in terms of their average rating. The SPSS 23 software is used to analysis.

Results

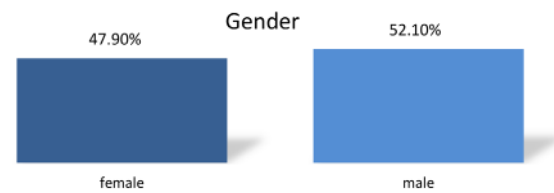
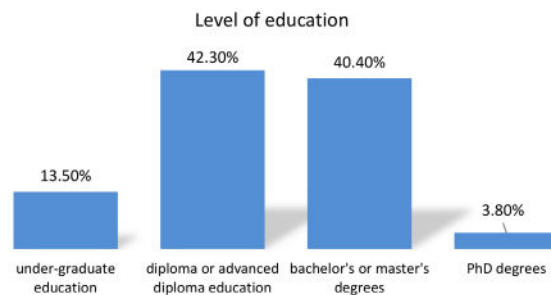
Sample Characteristics

This study was conducted on 267 patients referring to selected clinics, where missing data was replaced using the Expectation Maximization (EM) algorithm method. The descriptive characteristics of study referrals are described in Table 3. 47.9% of referral were female and 52.1% male. 25.1% of them were single, and 71.9% were married.

Table 3. Descriptive Characteristics of Patients

Descriptive Characteristics	Percent
Gender	
Female	47.9
Male	52.1
Marital status	
Single	28.1
Married	71.9
Age (y)	
< 20	7.1
21-25	22.1
26-30	23.6
31-35	24.3
36-40	7.5
41-45	6.8
>46	8.6
Level of education	
Under-educated	13.5
Diploma or Advanced Diploma	42.3
Bachelor's or Master's Degree	40.4
PhD	3.8
Insurance status	
Healthcare service	29.6
Social security	54.3
Others	7.9
Not having	8.2
Supplemental health insurance	
Having insurance	54.3
Not having	45.7
Visit frequency	
Once time	17.2
Couple of times	26.2
More than 3 times	56.6
Occupation status	
Student	18
Government's employee	24
Self-employment	27
Housekeeper	25
Others	6

Moreover, 7.1% were younger than 20 years old, 22.1% were aged 21 to 25 years old, 23.6% were aged 26 to 30 years old, 24.3% were aged 31 to 35 years old, 7.5% were aged 36 to 40 years old, 6.8% were aged 41 to 45 years old, and 8.6% were older than 46 years old. Also, 13.5% had under-graduate education, 42.3% had diploma or associate degrees, 40.4% had bachelor or master degrees, and 3.8% had Ph.D degrees. In terms of the insurance status, 29.6% had healthcare service, 54.3% had social security, 7.9% had other insurance, and 8.2% had

**Figure 1.** Percentage of Female and Male.**Figure 2.** Percentage of Education.

no insurance. Also, 17.2% were visited by clinic physicians once, 26.2% were visited twice, and 56.6% were visited more than 3 times. In terms of the occupational status, 18% were students, 25% were government employees, 27% were self-employed, 25% were housekeepers, and 6% had other jobs.

As it is presented in Figure 1, the numbers of statistical population, which was divided into 2 classes of male and female, are quite equal. Due to low-expense and expectation level, most clients have diploma and advanced diploma degree in Iran educational system. Despite this fact, other parts of society are attracted to this sort of clinics because of employing professional and top notch physicians and specialist doctors (Figure 2).

Reliability and Validity

The Cronbach's alpha coefficient is the most common means of evaluating the reliability of the questionnaire. This coefficient was higher than 0.70, which proves the reliability of the questionnaire.¹⁹ The coefficient for total questionnaire in expectations and perceptions was 0.948 and 0.949, respectively. These coefficients indicate that all questionnaires are extremely dependable.

In order to ensure the validity of the questionnaire, expert opinions were used by structured interviews.

Measurement of Quality Gap

Considering the results of non-parametric Wilcoxon test in all 6 dimensions evaluated in the SERVQUAL

questionnaire, there is a significant difference between the mean expectations and the mean of the administrators. Table 4 shows the average of the expectations and perceptions of patients as well as the quality gap in Six dimensions of service quality based on the standard SERVQUAL model. Based on the results, the average total

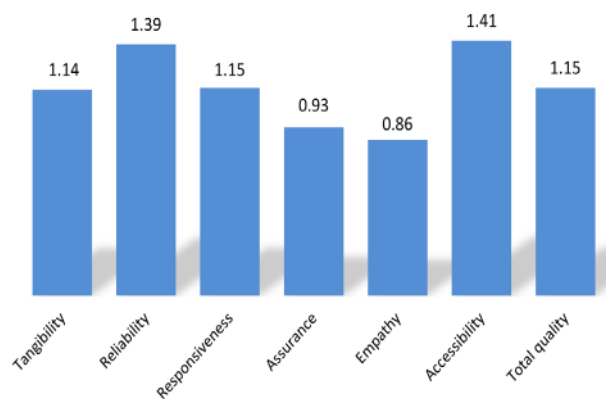
scores of expectations and perceptions of service quality were 4.31 and 3.17, respectively (Table 5 and Figure 3). The results indicated that the mean expectation-perception gap for tangibility, reliability, responsiveness, assurance, empathy, and accessibility were 1.14, 1.39, 1.15, 0.93, 0.86, and 1.41, respectively. This study indicates that the

Table 4. Average Expectations, Perceptions, and Service Quality Gaps in the Clinic

Dimensions		Expectations	Perceptions	Gap
		E	P	E-P
Tangibility				
1	Cleanliness of clinic environment	4.36	3.52	0.84
2	Appropriate medical equipment	4.48	3.51	0.96
3	Clean appearance of doctors and clinic staff	4.15	3.57	0.58
4	Presence of guidance signs	4.30	3.31	0.98
5	Comfort and cleanliness of waiting room	4.52	2.85	1.67
6	Suitable facilities	4.21	2.73	1.79
Total		4.39	3.25	1.14
Reliability				
7	The suitability of the time spent on receiving the service	4.32	2.69	1.64
8	The level of employee interest in doing work and providing services to patients	4.39	2.99	1.39
9	Providing information to patient about the process and the time of delivery	4.49	2.95	1.54
10	Doing things in accordance with the commitments given	4.40	3.09	1.30
11	Providing services in accordance with the set time (appointment time)	4.46	2.69	1.78
12	The suitability of the provided services and the cost of payment	4.25	3.66	0.6
13	Providing services at the suitable time and in a timely manner	4.42	2.94	1.48
Total		4.39	3.00	1.39
Responsiveness				
14	Doctors listening to the patients	4.60	3.66	0.94
15	Announcing the exact time to give service	4.38	2.93	1.45
16	Suitable behavior of doctors and staff towards patients	4.54	3.39	1.15
17	Guidance required by the Clinical Information Officer	4.36	3.29	1.07
Total		4.47	3.32	1.15
Assurance				
18	Trust and confidence to the medical staff	4.14	3.31	0.84
19	Feeling safe and relaxed in patients	4.34	3.26	1.09
20	Regard for human beings and respect for patients	4.37	3.27	1.10
21	To respect patient privacy by doctors and staff	4.43	3.61	0.82
22	Answering patient questions by doctors and staff	4.48	3.54	0.94
23	Describing patient conditions as necessary	4.28	3.51	0.77
Total		4.34	3.42	0.93
Empathy				
24	Quantity and quality of services provided by feedback from patients	3.88	3.01	0.88
25	Convenient working hours for referring Patients	4.26	3.42	0.84
Total		4.07	3.22	0.86
Accessibility				
26	Providing convenient facilities for patient entourage	4.01	2.63	1.37
27	The availability of facilities to pay for treatment costs at the clinic	4.19	3.42	0.77
28	Suitable location for the clinic in terms of traffic and access	4.46	2.37	2.10
Total		4.22	2.81	1.41

Table 5. Mean Scores of Expectation, Perception of the Patients and Quality Gap of Services Provided by the Clinic

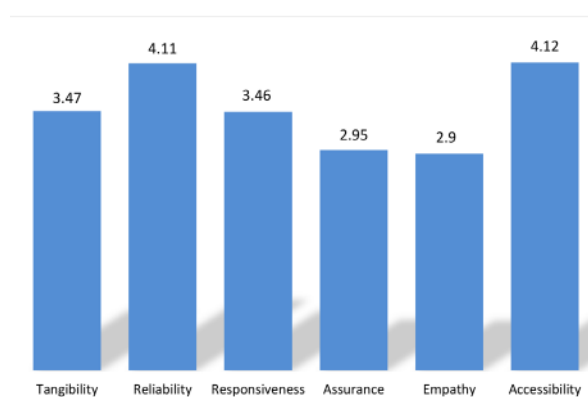
Dimensions	Expectations	Perceptions	Gap	Ranking Based on the Most Gap
Tangibility	4.39	3.25	1.14	4
Reliability	4.39	3.00	1.39	2
Responsiveness	4.47	3.32	1.15	3
Assurance	4.34	3.42	0.93	5
Empathy	4.07	3.22	0.86	6
Accessibility	4.22	2.81	1.41	1
Total quality	4.32	3.16	1.15	

**Figure 3.** Quality Gap of Services Provided by Clinic.

greatest gap was related to accessibility dimension (1.41) and the lowest gap was related to empathy dimension (0.86). Because the clinic location was in one of the crowded streets without enough parking lot, accessibility dimension leads to be an important factor for people. So, to improve the patient satisfaction should construct some parking lots. In order to reduce the gap in the reliability dimension, suitable facilities such as heating and cooling systems should be improved. Likewise, to reduce the gap of other dimensions, it is necessary to improve the scheduling appointment time and to provide services in a timely manner. The ranking of the dimensions and sub-criteria for the gap are shown in Table 5 and Table 6, respectively. The highest gap (rank 1) requires more planning and attention. Figure 4 shows the status quo of service quality indicators, with the highest rating for the accessibility dimension with a score of 4.12, and the lowest for the empathy dimension with a score of 2.90 in the following.

Discussion

The purpose of this study was to evaluate and rank the quality of service factors in the selected referral clinics, using the SERVQUAL model. To determine the quality gap, the difference between the points of the referrals to the desired condition of the quality of services and

**Figure 4.** Ranking of Quality Indicators in Clinic Using Friedman Test.

their score to the current status of service quality was calculated. According to the results, there was a gap in all dimensions of quality that indicates that the expectations are not met. In this study, the highest gap and the lowest gap were related to accessibility dimension and empathy dimension, respectively. In a study by Nekoei-Moghadam and Amiresmaili in the educational hospitals of Kerman University of Medical Sciences, the most tangible dimension was followed by the lowest level of service security.²⁷ In another study by Al Fraihi et al at a hospital in Saudi Arabia, results show that there is a gap between all the dimensions of the service quality gap, with the most tangible and physical gap and the least disparity in the dimension of empathy.³⁸ A study by Oliaee et al was conducted to evaluate midwifery services in health centers in Isfahan, which has tangible and physical dimensions and service guarantees with the highest and lowest gaps, respectively.³⁹ In Table 7, the comparison of the results of previous studies with the present study is summarized.

Conclusions

According to the research, there were gaps in all aspects of the quality of services including tangibility, reliability, responsiveness, assurance, empathy, and accessibility. This shows that the expectations of the clinic are not met, which requires planning to improve all aspects of quality of

Table 6. Sub-criteria Rating Based on the Most Gaps

Sub-criteria	Service Gap	Ranking
Suitable location for the clinic in terms of traffic and access	2.10	1
Suitable facilities	1.79	2
Providing services in accordance with the set time (appointment time)	1.78	3
Comfort and cleanliness of waiting room	1.67	4
The suitability of the time spent on receiving the service	1.64	5
Providing information to patient about the process and the time of delivery	1.54	6
Providing services at the suitable time and in a timely manner	1.48	7
Announcing the exact time to give service	1.45	8
The level of employee interest in doing work and providing services to patients	1.39	9
Providing convenient facilities for patient entourage	1.37	10
Doing things in accordance with the commitments given	1.30	11
Suitable behavior of doctors and staff towards patients	1.15	12
Regard for human beings and respect for patients	1.10	13
Feeling safe and relaxed in patients	1.09	14
Guidance required by the Clinical Information Officer	1.07	15
Presence of guidance signs	0.98	16
Appropriate medical equipment	0.96	17
Doctors listening to the patients	0.94	18
Answering patient questions by doctors and staff	0.94	19
Quantity and quality of services provided by feedback from patients	0.88	20
Cleanliness of clinic environment	0.84	21
Trust and confidence to the medical staff	0.84	22
Convenient working hours for referring Patients	0.84	23
To respect patient privacy by doctors and staff	0.82	24
Describing patient conditions as necessary	0.77	
The availability of facilities to pay for treatment costs at the clinic	0.77	
The suitability of the provided services and the cost of payment	0.60	
Clean appearance of doctors and clinic staff	0.58	

services. Our findings indicate that the greatest gap was related to the accessibility dimension and the lowest gap related to empathy dimension. Because the clinic location was in one of the crowded streets without enough parking lot, accessibility dimension seems to be an important factor of satisfaction. According to the results, it is suggested that managers and authorities pay more attention to timely provision of services to patients according to established standards and create a clean and well-equipped waiting room in order to meet the needs of the patients. However, these gaps and expectations in some cases may be due to the patients' lack of knowledge of the standards and the rules of the Ministry of Health and/or related organizations. Since there are a large number of clinics and hospitals to provide services, evaluating the quality of service can be a competitive advantage for them. Through awareness of the expectations of the referrals, we can provide a good basis for improving the plans and programs undertaken by clinics and hospitals. According to the present study,

other referral clinics and hospitals in particular, optical, skincare and otorhinolaryngology clinics that have similar characteristics such as geographic location, traffic, etc, can use the results of this study.

The results of this research can improve the patient service and ultimately lead to increase in satisfaction and re-referral of patients to the clinic as well as managerial decisions.

Further studies are recommended to assess the quality of services regularly and apply quality management tools such as 6 sigma, 5S, FMEA and house of quality for improving the services quality dimensions. In addition, similar projects in the hospitals and other health centers are suggested to be implemented and compared to the current study's results. The managers of clinic claimed that the existing gap is because of lack of clients' knowledge about the health standards. It is recommended that some brochures about these standards be distributed among the clients during the waiting period.

Table 7. Comparison of the Results of Previous Studies With This Study

Ref	Year	Location	Most Gap	Lowest Gap
(23)	2001	Greece	Responsiveness	Assurance
(26)	2011	India	Responsiveness	Reliability
(27)	2011	Kerman-Iran	Tangibles	Assurance
(28)	2012	Tehran-Iran	Empathy	Assurance
(29)	2012	Tehran-Iran	Empathy	Tangibles
(30)	2012	Araak-Iran	Accessibility	Assurance
(31)	2013	Ilam and Kermanshah-Iran	Assurance	Tangibles
(32)	2013	Tehran-Iran	Accessibility	Assurance
(33)	2014	Kerman-Iran	Empathy	Tangibles
(34)	2014	Kerman-Iran	Empathy	Reliability
(35)	2014	Ardabil-Iran	Empathy	Assurance
(3)	2016	Shiraz-Iran	Responsiveness	Tangibles
(38)	2016	Saudi Arabia	Tangibles	Empathy
(39)	2016	Isfahan-Iran	Tangibles	Assurance
(40)	2016	Kermanshah-Iran	Assurance	Responsiveness
(15)	2017	Tehran-Iran	Responsiveness	Tangibles
(19)	2017	Lahore- Pakistan	Assurance	Reliability
Our study	2018	Kerman-Iran	Accessibility	Empathy

Authors' Contributions

Bahareh Farahbakhsh contributed to the conceptualization, methodology, writing-original draft, data gathering and analysis of this research. Seyed Hamed Moosavirad and Yasaman Asadi and Alireza Amirbeigi also contributed to the conceptualization, methodology and data analysis and reviewing and editing of this study. All authors read and approved the final manuscript.

Conflict of Interests

The authors declare that they have no conflict of interest.

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