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Original Article

Assessing Expectations and Perceptions of the Quality of Services of Family Physician Plan Based on SERVQUAL Model

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Abstract

Introduction: Service quality is a crucial competitive tool that service providers should strive to maintain and improve through customer-centric services. This study assessed the expectations and perceptions of the quality of urban family physician services based on the SERVQUAL model.

Methods: This descriptive-analytical study was conducted on 150 patients referred to urban centers implementing the family physician project. The data collection tool was a service quality questionnaire. The data were entered into SPSS software version 22 and analyzed using descriptive statistics and parametric tests, including paired-sample t-test, t-test, and one-way analysis of variance.

Results: The mean total score of the service quality dimensions in expectations and perceptions was 75.96±11.36 and 73.16±13.12, respectively. The highest mean scores obtained in the service quality dimensions for expectations and perceptions section were related to the service provider responsiveness dimension (mean 14.02±2.19) with 87.62% and the guarantee of committed services dimension (mean 13.50±2.39) with 84.34% of the total score in their respective areas. There was a significant gap between the expectation and perception of the quality of services provided ($P<0.02$). Moreover, there was a significant relationship between the mean score of service quality in the expectation area and both age groups and the number of annual referrals to family physician plans ($P<0.05$). The mean score of service quality in the perception section was significantly related to the highest type of services received ($P<0.05$).

Conclusion: Gathering essential information about the expectations and perceptions of service recipients can help design and formulate interventions and appropriately allocate resources, eliminate deficiencies, and improve the quality of services.

Keywords: Family physician, Service quality, SERVQUAL, Expectation, Perceptions

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Introduction

At the first level of service provision, the family physician is responsible for providing accurate and planned medical services such as free visits, medicines, and injections for covered individuals. They also monitor physical, sexual, and mental health measures and provide counseling to individuals in these areas (1,2) because they serve the widest range of clients (3). In this regard, they have the responsibility to provide health services to their population without discriminating based on gender, age, socio-economic issues, and the like (1). To improve healthcare quality, the World Health Organization (WHO) considers it the priority within health systems (4). Today, service quality is a competitive tool that service providers must strive to maintain and improve through customer-oriented services (5,6). The quality of health care services is defined by meeting the highest standards, along with the satisfaction and expectations of both recipients and service providers (7).

Regarding the different dimensions of service quality in health centers, clients play a key role in evaluating the functional aspect of healthcare quality (8). Service

quality reflects the difference between the expectations and perceptions of service recipients (9), in other words, the comparison between what people expect and what they actually receive. If expectations exceed people's perceptions, service quality is perceived as low, leading to dissatisfaction (10). Customer satisfaction is defined as happiness or unhappiness resulting from comparing perceptions with expectations of the received service (11). Several models have been introduced to evaluate service quality, including the SERVQUAL model, which is a diagnosis method for determining the strengths and weaknesses of service quality in relevant organizations by measuring and analyzing customer expectations and perceptions across five dimensions (12):

1. Tangibles: This refers to the conditions and physical space of the service delivery environment, including equipment, facilities, employees, and communication channels.
2. Reliability: It is the ability to perform the service safely and reliably.
3. Responsiveness: It refers to the willingness of employees to cooperate and help service recipients
4. Assurance: This expresses the competence and ability of employees to instill a sense of trust and confidence in the customer.
5. Empathy: This denotes the attention given to the moods of service recipients, ensuring each is treated with individual care (13).

In implementing the family physician program, the level of achievement of goals will be determined by continuous monitoring and evaluation, specifically assessing the correct performance of the family physician. Furthermore, it is crucial to evaluate this program based on the level of satisfaction of the service recipients (1). Satisfaction with the services received will lead to increased participation in care, treatment, follow-up, and return visits (14) by encouraging individuals to adhere to health recommendations and complete tasks correctly and on time (3).

Providing sufficient information on customer perceptions of service quality can be effective in identifying the organization's influential factors. Ultimately, this can help identify problems within target groups and assist decision-makers in resolving the problems of this segment of society. Considering that the family physician program has been implemented in the urban phase in Fars and Mazandaran provinces since 2012 on a pilot basis with various goals, including improving individual health and enhancing service recipient satisfaction (2), it is essential to evaluate the urban family physician program. This evaluation will help identify strengths, weaknesses, and the degree of goal achievement, allowing for formulating timely interventions before its widespread implementation across the country.

Therefore, given that awareness of patients' perceptions and expectations plays an important role in providing better health services, the present study strived to assess the gap between expectations and perceptions of service quality among clients at private-sector urban family physician program implementation sites using the SERVQUAL model.

Materials and Methods

This descriptive-analytical study was conducted cross-sectionally on 152 people who visited urban centers implementing the family physician project. The sample size in this study was calculated as 152 people based on the study by Tarrahi et al (15) and using the relevant statistical formula.

$$n=\left(\frac{z_{\frac{\alpha}{2}}+z_{\beta}}{c}\right)^2+3=139,\ \alpha=0.05,\beta=0.05,\ c=0.5\ln\left(\frac{1+r}{1-r}\right),\ r=0.3$$

$$139\times1.1=152$$

The sampling method in this study was a multi-stage method (cluster simple sampling method). From the 13 urban centers implementing the family physician program in the city and considering the division of the urban area into four parts (north, south, east, and west), two centers were randomly selected from each part as clusters. Then, 19 people from each center were entered into the study by simple random sampling. The inclusion criteria for entering the study included: individuals who were willing to honestly complete the questionnaire, were covered by the same health center, and visited the relevant health center at least once a year to receive services. The exclusion criteria were unwillingness to continue cooperating in completing the questionnaire and incomplete completion of the questionnaires. The data collection tool in this study was the SERVQUAL questionnaire, which was structured in two sections: expectations and perceptions across 5 dimensions including:

1. Tangible and physical dimensions (4 items)
2. Service assurance (5 items)
3. Responsiveness of service providers (4 items)
4. Guarantee of promised services (4 items)
5. Empathy (5 items)

Each dimension item in the section measuring expectations and perception was scored on a 5-point Likert scale, from "completely important" to "very unimportant" for expectations, and from "completely good" to "very bad" for perceptions, with scores ranging from 1 to 5.

To collect reliable information, the researcher personally visited the selected centers, explained the study to the respondents, and assured them that their information would remain confidential. The questionnaires were then distributed and collected after the specified time. Finally, the collected data were entered into SPSS version 20 software. The data from 129 completed questionnaires (23 were excluded due to incomplete responses) were analyzed using descriptive statistics and parametric tests, including paired- sample t-test, t-test, and one-way ANOVA.

Results

The largest percentage of participants in this study were in the age group of 40-59 years (54.20%), 58.20% were female, 76.80% were married, and 34.90% had a university education. Additionally, 76.70% of participants primarily visited private family physician program centers for medical services, and 32.60% visited these centers 8 to 12 times a year (Table 1). The highest mean score obtained in the service quality dimensions for both expectations and perceptions section was related to the service provider responsiveness dimension (mean 14.02 ± 2.19) with 87.62% and the guarantee of committed services dimension (mean 13.50 ± 2.39) with 84.34% of the total score in the relevant area. The mean total score for the service quality dimensions in expectations and perceptions was 75.96 ± 11.36 and 73.16 ± 13.12, respectively. Overall, a significant gap was found between the expectations and perceptions of service quality ($P < 0.02$). Moreover, a significant gap was observed between the dimensions of service assurance ($P < 0.03$) and service provider responsiveness ($P < 0.002$) in the areas of expectation and perception (Table 2).

There was no significant relationship between the mean score in the service quality dimensions in the expectation and perception sections and the variables of gender and marital status ($P < 0.05$), as depicted in Table 3. However, a significant relationship was found between the mean score in the waiting section and age groups and the number of annual visits to the private sector family physician program implementation sites ($P < 0.05$). The post hoc test using the LSD method revealed a significant relationship between the age group of 15-39 years and those over 39 years, as well as between individuals who visited 1 to 3 times a year and those who visited more than 3 times a year. There was no significant relationship between the mean score of the service quality dimensions in the perceptions section and age groups or the number of annual visits ($P < 0.05$), as illustrated in Table 4.

The mean score of service quality in the perceptions section had a significant relationship with the most types of services received ($P < 0.05$). Using the Post Hoc test using the LSD method, this significant relationship was found between people who received most prenatal and postnatal care services and those who received most medical services, as well as between people who received medical services for other reasons (e.g., services related to other age groups) and those who received general medical services (Table 4).

Table 1. Demographic and Socio-Demographic Characteristics

Variable		No. (%)
Age	15-39 years	51 (39.50)
	40-59 years	70 (54.20)
	≥60 years	8 (6.30)
Gender	Male	54 (41.90)
	Female	75 (58.20)
Marital status	Single	30 (23.30)
	Married	99 (76.80)
Education	Illiterate	1 (0.80)
	Elementary	24 (18.70)
	Under diploma	28 (21.70)
	Diploma	31 (24.00)
	University education	45 (34.90)
Most types of services received	Care during and after pregnancy	12 (9.40)
	Child care	9 (7.00)
	Treatment	99 (76.70)
	Other cases	9 (7.00)
Mean of the visits per year	1-3 times	29 (22.50)
	4-7 times	40 (31.00)
	8–12 times	42 (32.60)
	>12 times	18 (14.00)

Discussion

This study aimed to determine the expectations and perceptions of service recipients from centers implementing the Family Physician Plan in private centers. The results indicated that one of the fundamental issues from the perspective of service recipients was their expectation of appropriate and timely responsiveness of service providers. Issues such as announcing the exact time of service without delay, the availability of service providers when needed, and their enthusiasm to provide services to clients, which can be related to the communication skills of service providers, were emphasized. Therefore, health and service system managers should consider these issues in their management planning and incorporate them into the development of appropriate interventions such as organizing training workshops on interpersonal skills to better empower service providers in this area.

Among the different dimensions of service quality, the target group in this study expressed greater understanding and satisfaction in the dimension of guaranteeing promised services. In other words, from the perspective of service recipients from family physician centers in the private sector, service providers were seen as trustworthy, instilled a sense of security in clients, and provided services to clients with scientific knowledge and skills while behaving politely. However, based on the results of this study, there was a gap between the perceptions and expectations of service recipients in all dimensions of service quality, with the largest gap observed in the service assurance dimension and the smallest gap in the empathy dimension. In other words, service recipients in the service assurance dimension expected service providers to perform all their tasks and duties with commitment, interest, and accuracy during the first visit and at the promised time, as well as to maintain a proper archive of the records and files of the target group. However, in reality, there was a larger difference between expectations and perceptions in this dimension compared to other aspects of service quality. Therefore, these observed differences across all dimensions

Table 2. Examining the Existence of Significance Between the Mean Expectation and Perception of Perceived Service Quality

Variable	Mean ± SD	Percentage of Score	Minimum Score	Maximum Score	Score Range	Difference Between the Mean Expectation and the Perception	t	*df*	*P* Value
Expectation from a tangible and physical perspective	13.89 ± 2.74	86.81	4	16	4-16	0.62	1.89	128	0.06
Understanding from a tangible and physical perspective	13.27 ± 2.71	82.93	5	16	4-16				
Expectations from the perspective of service assurance	17.57 ± 2.82	70.28	7	20	5-25				
Understanding from the perspective of service assurance	16.86 ± 3.25	67.44	5	20	5-25	0.71	2.15	128	0.03
Expectations from service providers' responsiveness	14.02 ± 2.19	87.62	8	16	4-16	0.84	3.10	128	0.002
Understanding service providers' responsiveness	13.17 ± 2.67	82.31	4	16	4-16				
Expectations from the perspective of guaranteed services	13.69 ± 2.70	85.56	6	16	4-16	0.19	0.75	128	0.45
Understanding from the perspective of guaranteed services	13.50 ± 2.39	84.37	8	16	4-16				
Expectations from empathy	16.76 ± 3.22	67.04	9	20	5-25	0.41	1.29	198	0.19
Understanding from empathy	16.34 ± 3.38	65.36	7	20	5-25				
Expectations from all dimensions of service quality	75.96 ± 11.36	77.51	41	88	22-110	2.79	2.22	128	0.02
Understanding all dimensions of service quality	73.16 ± 13.12	74.65	34	88	22-110				

Note. *Paired-sample t-test; SD: Standard deviation; df: Degree of Freedom.

Table 3. Examining the Relationship Between the Mean of the Total Dimensions of Service Quality in the Expectation and Perception Section With Gender and Marital Status

Service Quality	Background Variable		Frequency	Mean ± SD	T	F	*P* Value
Expectations from all dimensions of service quality	Gender	Male	75	74.61 ± 12.89	-1.16	2.70	0.20
		Female	54	76.98 ± 10.15			
understanding from all dimensions of service quality		Male	75	73.62 ± 13.31	0.42	0.005	0.67
		Female	54	72.62 ± 13.02			
Expectations from all dimensions of service quality	Marital status	Single	30	76.36 ± 11.44	0.16	0.04	0.87
		Married	99	75.97 ± 11.29			
Understanding all dimensions of service quality		Single	30	73.30 ± 12.73	-0.11	0.009	0.90
		Married	99	73.60 ± 12.65			

Note. *Independent-sample t-test; SD: Standard deviation.

Table 4. Examining the Relationship Between the Mean of the Total Dimensions of Service Quality in the Expectation and Perception Section With Age Groups, Education, Type of Services Received, and Number of Visits

Service Quality	Background Variable		Frequency	Mean ± SD	F	*P* Value	Post Hoc Test
Expectations from all dimensions of service quality	Age groups	15-39 years	51	79.25 ± 9.73	3.40	0.01	Age group 15-39 years vs age 40-59 years and ≥ 60
		40-59 years	70	74.81 ± 10.82			
		≥ 60 years	8	65.00 ± 17.30			
Understanding all dimensions of service quality	Most received services	Care during and after pregnancy	12	78.91 ± 8.81	2.73	0.03	People receiving prenatal and postpartum care vs people receiving child-related care
		Child care	9	61.00 ± 16,28			
		Treatment	99	73.62 ± 12.89			
		Other	9	72.55 ± 11.23			
Expectations from all dimensions of service quality	Mean of visits in year	1-3 times	29	81.41 ± 6.86	3.64	0.01	People who had 1-3 visits vs more than three times a year
		4-7 times	40	75.92 ± 12.45			
		8-12 times	42	72.71 ± 11.86			
		> 12 times	18	74.83 ± 11.00			

Note. * ANOVA: One-way analysis of variance; SD: Standard deviation.

of quality can be used in planning and resource allocation. In the studies by Gholipour et al (16) and Daghiqbin and Abdolmohammadi (9), the largest gap was also related to the dimension of service assurance. Similarly, in the studies by Mollahosseini et al (17) and Aghaei Hashjin et al (7), differences were observed between the expectations and perceptions of the elderly in hospital services and patients regarding treatment quality, respectively. The largest and smallest gaps were related to the dimensions of tangibles and empathy in the elderly and responsiveness in patients, respectively.

Therefore, developing interventions and providing necessary training for all staff and stakeholders at all levels can positively impact the delivery of desired services to clients (18). In this study, the issue of expectations and perceptions of service quality was equally significant and understandable for both men and women, single and married individuals, and those with varying education levels. This suggests that the issue of quality is not specific to a particular gender, marital status, or literacy level, indicating the importance and value of service quality for all groups. However, a study by Haghshenas et al reported a significant relationship between education, marital status, gender, and the dimensions of service quality (19). Likewise, Gholipour et al found a significant relationship between age, education, and service quality (16). Meanwhile, the expectation of service quality among people aged 15 to 39 was higher than those in other age groups. It can be argued that, as people in this age group are adolescents, young adults, and middle-aged people, they tend to have more idealistic and flawless thoughts and expectations regarding the services they receive compared to other groups. This age group also has less tolerance for shortcomings or for adjusting their expectations in response to unforeseen circumstances in the service environment and with service providers compared to older, more experienced individuals. In the study by Haghshenas et al, a significant relationship was also observed between age and service quality (19).

On the other hand, the frequency of visits to receive services was inversely related to expectations of service quality. In other words, people who visited the centers implementing the family doctor plan one to three times a year had higher expectations of service quality in all dimensions, while those who visited these centers more frequently had lower expectations. This could be due to their greater familiarity with working conditions, workload, and other factors that can affect the quality of services provided by providers.

This study also found that perceptions of service quality across all dimensions were related to the type of service received. People who visited more frequently for prenatal and postpartum care, counseling, elderly care, and other services reported higher perceptions and satisfaction with service quality than those who visited primarily for medical services. People receiving care services are generally seeking supplementary and complementary services based on the conditions of that time, while those who are referred for medical services are seeking services that meets their immediate needs, which may reduce the pain caused by the disease. As a result, their perception of service quality that meet their immediate needs is more critical. On the other hand, the study by Kabir et al in 2017 indicated that the overall satisfaction with service providers in the urban family doctor project was higher than average (20). Therefore, measuring the quality of services provided remains a top priority for the Ministry of Health and Treatment, and assessing the satisfaction level of service recipients is one of these methods (21). Ultimately, the goal of service quality studies is to identify both the strengths and weaknesses in service provision to improve overall care quality.

Conclusion

Given the difference between expectations of service quality and perceptions of its reality, it is essential to gather the necessary information about the expectations and perceptions of service recipients. This will help design and formulate interventions and appropriately allocate resources to eliminate deficiencies and improve service quality. In other words, systems providing health care services to the public in the form of a family physician plan must conduct regular assessments of their service recipients (the covered population as the primary beneficiaries) and use the results to address any deficiencies or gaps in service quality, ultimately create greater satisfaction for the target group and success for the service provider system.

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Authors' Contribution

FKH-D contributed to the conception, design, data analysis, and manuscript preparation. ZM contributed to the design, manuscript preparation, editing, and review. JY-CH contributed to data analysis and preparation of the first draft. All Authors have read and approved the final manuscript.

Competing Interests

The authors declare no conflict of interests.

Ethical Approval

This study was approved by the Research Ethics Committee of Mazandaran University of Medical Sciences with the ethics code: IR.MAZUMS.REC.95.1864.

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