JCHR

Journal of Community Health Research 2025; 14(1): 235-241.

Quality Assessment of Services Provided by Comprehensive Health Centers in Birjand (East of Iran) Based on SERVQUAL Model

Zahra Yoosefi [1], Dorsa Abbasi [2], Mohammad Hassan Zangouei Dovvom [3], Bita Bijari [4*]

1. Department of Pediatric, Faculty of Medicine, Birjand University of Medical Sciences, Birjand, Iran
2. Student Research Committee, Birjand University of Medical Sciences (BUMS), Birjand, Iran
3. Department of Educational Sciences, Farhangian University, Tehran, Iran
4. Cardiovascular Diseases Research Center, Department of Community Medicine, Birjand University of Medical Sciences (BUMS), Birjand, Iran

ARTICLE INFO

Original Article

Received: 13 Oct 2025
Accepted: 05 Nov 2025

OPEN ACCESS

Corresponding Author:
Bita Bijari
bita.bijari@yahoo.com

ABSTRACT

Background: Health centers play an important role in improving the health of society in the structure of the health system in Iran. This study was conducted to evaluate the quality of health services based on SERVQUAL Model (Service Quality Model) in Birjand Comprehensive Health Centers based on the perspective of the clients in 2021.

Methods: In this cross-sectional (descriptive-analytical) study, 257 health service users referring to Birjand Comprehensive Health Centers participated. The sampling method was a quota from 8 Comprehensive Health Centers in Brijand. Demographic characteristics and SERVQUAL questionnaire were completed by the participants. Furthermore, data were analyzed using Mann-Whitney U, Wilcoxon, and Kruskal-Wallis tests at a significant level of 0.05 in SPSS (16) software.

Results: The average scores of health service users' perceptions and expectations were 5.80 ± 0.56 and 6.14 ± 0.37, respectively. The average score of the gap between perceptions and expectations was also -0.34 ± 0.64. There was a significant difference between the average score of perceptions and expectation of service quality.

Conclusion: Due to the gap between perceptions and expectations of service quality, it seems that the health system policymakers should plan a program in order to improve the quality of services based on the factors affecting the quality of services.

Key Words: SERVQUAL Model, Health Centers, Quality

How to cite this paper:
Yoosefi Z, Abbasi D, Zangouei Dovvom MH, Bijari B. Quality Assessment of Services Provided by Comprehensive Health Centers in Birjand (East of Iran) Based on SERVQUAL Model. J Community Health Research 2025; 14(1): 235-241.

[DOI: 10.18502/jchr.v14i28.20717]

Introduction

In Iran, health centers are considered the smallest units of the health system (1). The main task of these centers is to meet the needs of users, and, if necessary, to refer them to more equipped centers such as hospitals (2–3).

Primary health care is the core of every country's health system, and the main purpose of this system is to improve people's health (4). Concerns about the quality of primary health care provided by government health authorities and perceived by users are increasing (5).

Quality is a complex concept with many different meanings. The quality of services can be defined as the logical difference between customers' expectations of the services (what they should be) and their perceptions (what they actually are). If expectations are higher than perceptions, the perceived quality will be lower than satisfaction, and consequently, patients will be dissatisfied (6).

In fact, if customers' expectations, or something beyond them, are met, the good quality of services will be guaranteed (7). Customers' perceptions of service quality result from comparing their expectations before experiencing the service with their actual experience of it (8).

Based on this perspective, Parasuraman et al. developed a scale to measure service quality, known as the SERVQUAL model (Service Quality Model). This model focuses on functional quality rather than technical quality, such as the accuracy of medical diagnoses and procedures (9). The SERVQUAL model measures service quality by analyzing the gap between customers' expectations and perceptions, and is also referred to as the gap analysis model (4).

Moreover, awareness of service quality can have a significant impact by identifying sources of dissatisfaction and guiding efforts to resolve them (10). Considering that a large percentage of people in different age groups are included in the target population of programs of the Ministry of Health and the World Health Organization, and that simple but essential care is provided in comprehensive health centers, this study was conducted to evaluate the quality of health services based on the SERVQUAL model in Birjand Comprehensive Health Centers from the perspective of clients in 2021.

Methods

In this cross-sectional (descriptive-analytical) study, 257 people who visited the health centers of Birjand city from September to December 2021 participated. Demographic characteristics and SERVQUAL questionnaire were completed by the participants. Inclusion criteria were being 18 or older, regular visits to the comprehensive health center, and receiving services. They were excluded from the study in case there was lack of satisfaction and cooperation and failure to complete the questionnaire.

The sample size was calculated based on the study of Karimi Matin (4) in Kermanshah, according to the main score of quality services 4.1±0.8, with 95% confidence and the level of precision of 0.15, the number of 175 people was calculated. According to the number of centers and the possibility of dropping out, 300 people have been included in the study; out of this number, 43 were dropped, and the total number of samples became 257.

The sampling method was quota-based from 8 comprehensive health centers in Birjand city according to the population covered by each center. After determining the share of each center or base and the visit there in each center, the participants were selected from among the people who had the inclusion criteria by convenience sampling.

The data collection tool is a two-part questionnaire. The first part includes questions related to the personal characters and demographic of service recipients, and the second part includes questions related to measuring their perception and expectation of the quality of the services provided. The second part is the SERVQUAL questionnaire, which was invented by Parasuraman et al., considering the five dimensions of service quality (tangibility, reliability, responsiveness, assurance, empathy) whose reliability and validity have been

[DOI: 10.18502/jchr.v14i28.20717]

proven in Iran (11).

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 (8).

In the present study, Cronbach's alpha coefficient is calculated as 0.81. The Persian version of the questionnaire was tested on few clients, and results showed that all the patients easily understood the items.

The authors visited comprehensive health centers of Birjand city. The questionnaire was completed by the participants two times, once before receiving the service to evaluate their and another after receiving the service to evaluate their perceptions. The gap between expectations and perceptions was defined as services quality, as the negative gap means low quality and the positive one indicates high quality.

After investigation of the normal distribution, data were analyzed using Mann-Whitney U, Wilcoxon, and Kruskal-Wallis tests at a significant level of 0.05 in SPSS (16) software.

Results

The number of 257 people from 8 comprehensive urban health centers participated in the study; the majority were women (86.8%) in the age group of 30-40 (40.1%). Demographic characteristics of the participants are shown in Table 1.

Table 1. Demographic characteristics of service users

Specifications		Number	Percentage
Sex	Female	223	86.8
	Male	34	13.2
Age group	<30year	103	40.1
	30-40 years	104	40.5
	>40 years	50	19.4
Education	Non-university education	120	46.5
	university education	137	53.5

The average score of the gap between perceptions and expectations in the participants was -0.34 ± 0.64. The biggest gap in the tangibles dimension was -0.66 ± 0.95, and the smallest gap in the empathy dimension was -0.30 ± 0.97.

The average score users' expectations were significantly higher than users' perception (Table 2), except in two centers. In each of the comprehensive health centers, the average score of users' expectations was significantly higher than the score of their perception of the quality of services.

Table 2. Comparison Mean and standard deviation of the service user perceptions, expectations, and service gaps

dimension	perceptions Main ±SD	expectations Main ±SD	quality gaps Main ±SD	P value
tangibles	5.56±0.88	6.23±.49	-0.66±0.95	<0.001
reliability	5.78±0.53	6.14±0.46	-0.36±0.85	<0.001
responsiveness	5.79±0.84	6.16±0.63	-0.36±1.8	<0.001
assurance	5.85±0.73	6.12±0.56	-0.26±0.88	<0.001
empathy	5.98±0.71	6.08±0.65	-0.30±0.97	0.058
Total service quality	5.80±0.56	6.14±0.37	-0.34±0.64	<0.001

There was a significant difference in all dimensions of users 'perception and expectations, $p < 0.001$, but only on dimension of empathy, the difference between the average score of perception

[DOI: 10.18502/jchr.v14i28.20717]

and expectation was not significant (p = 0.058).

There was no significant difference in the average score of users' perception and their expectations according to age group. In terms of the dimensions of the questionnaire, a significant difference was observed in the responsiveness dimension of users' perception, and this difference between the age group of less than 30 and the age group of 30-40 was significant, p=0.03. There was no significant difference between other age groups ages (Table 3).

Table 3. Comparison between service users' demographic characteristics and the mean of perception, expectations and quality gaps

Specifications		perception	expectation	quality gaps
		Main ±SD	Main ±SD	Main ±SD
Sex	Female	5.78±0.56	6.14±0.37	-0.35±0.66
	Male	5.91±0.53	6.17±0.41	-0.26±0.46
	P value	0.54	0.49	0.90
Age group	<30year	5.90±0.49	0.31±6.15	-0.24±0.55
	30-40 year	5.73±0.64	6.17±0.39	-0.44±0.72
	>40 year	5.75±0.45	6.07±0.46	-0.32±.58
	P value	0.07	0.40	0.06
Educations	Non university education	5.89±0.43	6.09±0.32	-0.20±0.46
	university education	5.73±0.64	6.18±0.41	-0.45±0.74
	P value	0.09	0.01	0.009

The average score users' perception and their expectations and dimensions according to sex were not statistically and significantly different. Only the average score of users' assurance in perception in the men were significantly higher than the women. (Table 3)

There was no significant difference in the average score of users' perception of people with non-university education and university education.

The average score of users' expectations and quality gap in people with university education was significantly higher than those with non-university education. (Table 3).

Discussion

This study, which was conducted to investigate the quality of services provided in the comprehensive health centers of Birjand city from the clients' perspective, showed a negative gap between service users' expectations and perceptions based on the SERVQUAL model. The gap between users' perceptions and expectations was -0.34. The gap reported in studies by Gholami et al. in Urmia (12), Kashfi et al. in Ahvaz (8), and Gorji et al. in Tehran (13) was -0.61, -0.68, and -0.60, respectively. In addition, a systematic review and meta-analysis in Iran reported a larger gap (-1.64) (9). In Sharifi et al.'s study in Mashhad, the quality gap in services was -1.16 (14).

The negative gap observed in the present study indicates that clients' expectations were not fully met, which highlights the need for further efforts by health workers and policymakers to improve the current situation and reduce this gap. However, the smaller gap compared to other studies in Iran may reflect either better services provided in Birjand comprehensive health centers or lower expectations among clients in this city.

In this study, the largest gap was observed in the tangibles dimension and the smallest in the empathy dimension. Similarly, Bahrami et al. in Afshar Hospital, Yazd, also found the largest gap in tangibles (15). In contrast, Mohammadi et al. in Zanjan hospitals (16) reported the largest gap in reliability and the smallest in tangibles. In studies by Kebriaei et al. in Kashan (17) and Lim et al. in Singapore (18), the smallest gap was observed in tangibles. In contrast, studies by Gholami et al. in Neishabur (19) and Urmia (12) found the smallest

[DOI: 10.18502/jchr.v14i28.20717]

gap in empathy, similar to the present study.

Factors such as medical equipment, staff attitude and behavior, staff skills and error rates, waiting time, empathy, and communication all influence service quality. Health centers often lack adequate medical equipment and human resources. Moreover, urban migration has increased the number of clients, resulting in longer waiting times and lower perceived service quality. On the other hand, good communication between staff and patients in Birjand may explain why the empathy dimension showed the smallest gap.

In this study, no significant difference was found in users' perceptions, expectations, or quality gaps according to age group. This finding is consistent with studies by Jaafari et al. (20) and Rezaei et al. (21). However, Baghianimoghadam et al. (1) and Zahiri et al. (22) reported that satisfaction increased with age. Since clients of comprehensive health centers come from all age groups, differences in attitudes and perspectives may affect perceptions and expectations.

Similarly, no significant difference was observed between men and women in perceptions, expectations, or quality gaps. Only in the reliability dimension was men's perception score significantly higher than women's. This suggests that service quality determines client satisfaction, regardless of gender. Similar findings were reported by Margolis et al. (23) and Rezaei et al. (21), who also found no gender differences in service quality perceptions.

In the present study, clients with university education reported significantly higher expectations and quality gaps compared to those with non-university education. This finding is consistent with studies by Seydi et al. (24) and Kazemeini et al. (25). As education levels increase, individuals become more aware of their rights and more knowledgeable, which may explain their higher expectations and perceived differences.

Strengths and limitation of the study

The strength of the current study was using standard and valid questionnaires with high responsiveness. The limitation of the present study was convenience sampling method in each health center. Despite the fact that samples were taken from all health centers, the study cannot be generalized to all people in Birjand city.

Conclusion

Overall, the level of expectations from services was higher than the level of perceptions. This gap may be due to inadequate medical equipment, an imbalance between staff numbers and population coverage, outdated buildings and equipment, and limitations in staff skills and abilities. Further research is necessary to determine the quality of services provided in the comprehensive health centers from the clients' perspective and to identify the causes of the difference between the users' expectations and perceptions

Acknowledgments

Authors appreciate all the people participating in the project.

Conflict of interest

The authors declared no conflict of interests.

Funding

The authors received no financial support for the research

Ethical considerations

This study was approved by the Ethics Committee of Birjand University of Medical Sciences

Code of ethics

IR.BUMS.REC.1400.155

Authors' contribution

B. B and Z. Y, designed the study; Z. Y and MH. Z, collected the data; B. B and D. A, analyzed and interpreted the data; B. B and Z. YH, drafted the manuscript; B. B and D. A, critically revised the manuscript; and Z. Y, B. B and D. A, approved the final text.

[DOI: 10.18502/jchr.v14i28.20717]

References

1. Baghianimodam MH, Gerayloo S, Sharifi E, et al. A survey of client satisfaction from The delivery of services in urban health centers of Yazd. JCHR. 2014; 3(1): 59-66. [Persian]
2. Javady M, Zareach A, Samiee S, et al. Assessing the of janbazan satisfaction form medical health services with demographic characteristic. Iran J War Public Health. 2010; 2(3): 28-35. [Persian]
3. Zahiri R, Taheri M. Client satisfaction with health services delivery in Urban and Rural Health Centers in Markazi Province. Sjsph. 2010; 8(3): 61-72. [Persian]
4. Matin BK, Rezaei S, Moradinazar M, et al. Measurement of quality of primary health services by servqual model: Evidence from urban health centers in west of Iran. Res J Med Sci. 2016; 10(5): 475–80. [Persian]
5. Maharlouei N, Akbari M, Akbari M, et al. Socioeconomic status and satisfaction with public healthcare system in Iran. Int J Community Based Nurs Midwifery. 2017; 5(1): 22–9. [Persian]
6. Ajam M, Sadeghifar J, Anjomshoa M, et al. Assessing quality of healthcare service by the SERVQUAL model: A case study of a field hospital. J Mil Med. 2014; 15(4): 273–9. [Persian]
7. Sahney S, Banwet DK, Karunes S. An integrated framework of indices for quality management in education: A faculty perspective. TQM J. 2008; 20(5): 502–19.
8. Kashf SM, Raufi D, Rakhshani T, et al. Evaluation the Quality of Health Services Based on SERVQUAL Model in Ahwaz Health Care Centers, Iran. Casp J Heal Res. 2019; 4(1): 1–5. [Persian]
9. Teshnizi SH, Aghamolaei T, Kahnouji K, et al. Assessing quality of health services with the SERVQUAL model in Iran. A systematic review and meta-analysis. Int J Qual Heal Care. 2018; 30(2): 82–9. [Persian]
10. González N, Quintana JM, Bilbao A, et al. Development and validation of an in-patient satisfaction questionnaire. Int J Qual Heal Care. 2005; 17(6): 465–72.
11. Safi MH, Fereydounfar AA, Arshi SH. Quality of Primary Health Services in the Clinics of Shomal Health Center of Tehran.*SALĀMAT-I IJTIMĀĪ (Community Health).* 2014; 1(1): 54-61. [Persian]
12. Gholami A, Salarilak S, Gharaaghaji R, et al. QUALITY GAP IN PRIMARY HEALTH CARE IN URMIA HEALTH CARE CENTERS, 2009. Studies in Medical Sciences. 2010; 21(4): 347-353. [Persian]
13. Gorji HA, Tabatabaei SM, Akbari A, et al. Using the service qualitygap's model (SERVQUAL) in Imam Khomeini teaching hospital: 2012. J Heal Adm. 2013; 16(51): 7–18. [Persian]
14. Sharifi T, Hosseini SE, Mohammadpour S, et al. Quality assessment of services provided by health centers in Mashhad, Iran: SERVQUAL versus HEALTHQUAL scales. BMC health services research. 2021; 21(1): 1-7. [Persian]
15. Ranjbar EM, Bahrami MA, Zare AH, et al. Gap analysis between perceptions and expectations of service recipients through Servqual approach in Yazd, Afshar Hospital. 2010; AFSHAR HOSPITAL. TOLOO-E-BEHDASHT. 2010; 9(2-3 (29)): 75-85. [Persian]
16. Mohammadi A, Shoghli A. Survey on quality of primary health cares in Zanjan District Health Centers. J Adv Med Biomed Res. 2008; 16(65): 89–100. [Persian]
17. Kebriaei A, Akbari F, Hosseini SM, et al. Survey on quality gap in primary health care in Kashan health centers. J Inflamm Dis. 2004; 8(2): 82–8. [Persian]
18. Lim PC, Tang NK. A study of patients' expectations and satisfaction in Singapore hospitals. Int J Health Care Qual Assur Inc Leadersh Health Serv. 2000; 13(6-7): 290-9.
19. Gholami A, Salarilak S, Gharaaghaji R, et al. Quality gap in primary health care in Urmia health care centers, 2009. Urmia Med J. 2010; 21(4): 347–53. [Persian]
20. Jaafari F, Johari Z, Zaieri F, et al. Evaluation of satisfaction and effective factors on inpatient in health center. Daneshvar Med. 2006; 4(66): 15–22. [Persian]
21. Rezaei B, jamali A, Rezaeian M, et al. Satisfaction Rate Regarding Services Provided in Health-Care Centers and Its Effective Factors in Rafsanjan, 2017: A Descriptive Study. JRUMS 2019; 18(6): 573-586. [Persian]
22. Zahiri R, Taheri M. Client satisfaction with health services delivery in Urban and Rural Health Centers in Markazi Province. J Sch Public Heal Inst Public Heal Res [Internet]. 2010 [cited 2022 Sep 12]; 8(3): 61–72. [Persian]
23. Margolis SA, Al-Marzouqi S, Revel T, et al. Patient satisfaction with primary health care services in the United Arab Emirates. Int J Qual Heal care. 2003; 15(3): 241–9.
24. Seydi M, Heydari A. Patients satisfaction with General practitioners of Qom city and its influential factors between

[DOI: 10.18502/jchr.v14i28.20717]

2005-2006. Sci J Med Counc. 2008; 26(4): 65–72. [Persian]
25. Kazemeini SK, Mohammadi F, Owlia F. Evaluation of satisfication rate of patients admitted to Yazd Shaheed Sadoughi burn hospital in first nine months of the year 2011. Tolooebehdasht. 2013; 11(4): 91–102. [Persian]

[DOI: 10.18502/jchr.v14i28.20717]