

# An investigation on the quality of midwifery services from the viewpoint of the clients in Isfahan through SERVQUAL model

Zohreh Oliaee<sup>1</sup>, Alireza Jabbari<sup>2</sup>, Soheila Ehsanpour<sup>3</sup>

## ABSTRACT

**Background:** Quality of care is of great importance in health services as these services have the important mission to preserve health, and to give care to the society. The present study aimed to investigate the quality of midwifery services from the viewpoint of the clients, under coverage of health care centers in Isfahan, through SERVQUAL model.

**Materials and Methods:** This descriptive and analytical study was conducted on 218 subjects in 2014. Study population comprised the women referring to midwifery services clinics in health care centers in Isfahan. Data of the subjects ( $n = 218$ ) were collected by SERVQUAL model containing the dimensions of tangibles, reliability, responsiveness, assurance, and empathy. Data were analyzed by paired *t*-test, Spearman and Pearson correlation coefficients, and independent *t*-test through SPSS 20.

**Results:** There was a negative gap in all five relevant dimensions of giving services. The widest gap was in the mean of dimension of tangibles ( $-1.5$ ), and the narrowest gap was in the dimension of assurance ( $-0.9$ ). There was no significant association between the scores of expectations and perceptions, and age, education level, occupation, and marital status.

**Conclusions:** The obtained negative gap showed that the level of service receivers' perception from existing condition was far from their expectation, and there was a wide gap between attaining their satisfaction with midwifery services and their expectation and reaching their appropriate level of services.

**Key words:** Expectations, Iran, perceptions, services quality, SERVQUAL model

## INTRODUCTION

Customer's satisfaction, quality, and care are global subjects that affect all the organizations. Most of the organizations, for improving customer's satisfaction

and, consequently, their own survival, are willing to evaluate the strategies of their service quality, and so, the customer is considered the key indicator in this evaluation.<sup>[1]</sup> The quality of care is a judgment that is made by the customer after receiving the service and comparing their expectations with the received service.<sup>[2]</sup> One of the principle characteristics of desirable management is accepting customer's perceptions and expectations as the main factor for determining the quality.<sup>[3]</sup>

Expectations are customers' demands, meaning that what they feel a service provider must present. Perceptions are a customer's experiences or, in other words, the current status. The distance between customer's expectations and perceptions indicates the quality of service.<sup>[4]</sup> The difference

<sup>1</sup>Student Research Center, Faculty of Nursing and Midwifery, Isfahan University of Medical Sciences, Isfahan, Iran, <sup>2</sup>Health Management and Economic Research Centre, Isfahan University of Medical Sciences, Isfahan, Iran, <sup>3</sup>Department of Medical Education, Medical Education Research Centre, Isfahan University of Medical Science, Isfahan, Iran

**Address for correspondence:** Ms. Soheila Ehsanpour, Department of Medical Education, Medical Education Research Centre, Isfahan University of Medical Science, Isfahan, Iran. E-mail: Ehsanpour@nm.mui.ac.ir

Submitted: 07-Sep-15; Accepted: 10-Jan-16

### Access this article online

#### Quick Response Code:



**Website:**  
www.ijnmrjournal.net

**DOI:**  
10.4103/1735-9066.180377

This is an open access article distributed under the terms of the Creative Commons Attribution-NonCommercial-ShareAlike 3.0 License, which allows others to remix, tweak, and build upon the work non-commercially, as long as the author is credited and the new creations are licensed under the identical terms.

**For reprints contact:** reprints@medknow.com

**How to cite:** Oliaee Z, Jabbari A, Ehsanpour S. An investigation on the quality of midwifery services from the viewpoint of the clients in Isfahan through SERVQUAL model. Iranian J Nursing Midwifery Res 2016;21:291-6.

between customer's expectations and perceptions is called service quality gap.<sup>[5]</sup> By determining the gap between customers' perceptions and expectations of the quality of provided services, the process of service provision could be improved and customer's satisfaction, as a very sensitive element in today's field of competition, could be provided.<sup>[6]</sup>

Zithmal believes that expectations of services is affected by different factors such as individual needs, communication with others, past experiences, and society's environmental conditions; therefore, customers in different countries have different levels of expectations.<sup>[4]</sup>

Parasurman considers the following factors effective in determining the quality of service: The ability to provide right, in-time, and reliable services; the ability of responding to customer's problems and complaints rapidly and increase the speed of services; creating confidence and trust in customers; having sufficient professional skills and qualification; paying attention to and regarding human dignity in behaviors; and neat and tidy appearance for tangible elements like facilities and staff clothing.<sup>[7]</sup>

One of the methods to determine the quality of services is to evaluate customer's satisfaction, and one of the tools for evaluating and analyzing service quality gap is to study the difference between customer's expectations and perceptions using SERVQUAL method. This method was presented by Parasuraman, Zithmal, and Berry in the mid-80s. This tool evaluates the quality of services by comparing customer's expectations and perceptions in different dimensions. SERVQUAL model is the most important tool for measuring service quality. This model has a questionnaire that measures the quality of services in five quality dimensions of tangibles, reliability of services, responding, assurance, and empathy.<sup>[4,8]</sup>

Quality in the field of health services has a special place because the critical duty and mission of protecting the health and lives of the society is the responsibility of this part and any mistake could be irreparable; on the other hand, health services are related to a vast part of the society<sup>[9]</sup> and providing flawless and professionally standard services must be common in the society.<sup>[4]</sup> Most of the clients and patients, because of increased level of knowledge about health and medicine and also to prevent the increase in health service expenses, demand services with desirable quality.<sup>[10]</sup>

Different studies have been conducted to evaluate customer's satisfaction for improving the quality of provided services using SERVQUAL model in different sections including industry,<sup>[11]</sup> service department,<sup>[12]</sup> restaurants,<sup>[13]</sup> municipalities,<sup>[14]</sup> higher education,<sup>[15]</sup> and

banks.<sup>[16]</sup> Inside and outside Iran, in the field of health service also, this model has been used in some sections, including the following places: Tehran,<sup>[8]</sup> Zahedan,<sup>[17]</sup> Zanjan,<sup>[7]</sup> Yazd,<sup>[18]</sup> and Isfahan<sup>[19]</sup> in Iran and Singapore,<sup>[20]</sup> Korea,<sup>[21]</sup> Malaysia,<sup>[22]</sup> Sana of Yemen,<sup>[23]</sup> Ghana,<sup>[24]</sup> and England<sup>[25]</sup> outside Iran; but less attention has been paid to evaluation of service quality in different sections of primary health care of health centers, including the midwifery section.

In this regard, some cases could be mentioned: Sharifi Rad *et al.* evaluated the service quality gap of primary health services in health centers of Isfahan. Results showed that patients' expectations were way much beyond their perception of the current condition.<sup>[26]</sup> Agha Mollaei *et al.* conducted a study on the expectations and perceptions of primary health service receivers about the quality of services in health centers of Bandar Abbas. Results showed that patients did not have similar perception of different dimensions of quality of service and these differences should be considered in the programs for improving the quality of services.<sup>[27]</sup> Aron *et al.* conducted a study about the quality of medical services in health care centers of Ghana. Results showed that patients' expectations were not fulfilled during treatment.<sup>[24]</sup> Anbori *et al.* evaluated the satisfaction and loyalty of patients of private hospitals in Sana, Yemen. Their results revealed that to increase the loyalty of patients, improving the quality of provided services was necessary.<sup>[23]</sup>

The aim of the present study was to evaluate the quality of services of midwifery in the health centers of Isfahan, because women, as the mothers of families, are the pillar of health in families and their mortality, disability, and behaviors would affect all the health dimensions of the family, and the threats for the health of mothers would be a threat for the health of other age groups too. By determining the expectations and perceptions of midwifery service receivers, the policy makers, planners, and service providers could be informed about the strengths and weaknesses of the quality of midwifery services and this could be a starting point for improving the quality of services.

## MATERIALS AND METHODS

The present study was a descriptive, comparative, cross-sectional study that was conducted on women who referred to the midwifery section of the health centers of Isfahan. Inclusion criteria were being able to at least read and write, having the ability to answer the questionnaire, having a medical file at the health center, and willingness to participate in the study, and the exclusion criterion was unwillingness to participate in the study.

In the present study, considering the formula for sample size ( $z^1 = 95\%$ ,  $z^2 = 80\%$ ,  $d = 2s$ ), the number of samples required was calculated to be 218. For sampling, from the main two health centers of Isfahan, based on the covered population, 15 centers were randomly selected, and then, at each center, random sampling was conducted.

For gathering data, the standard SERVQUAL questionnaire by Parasuraman *et al.* was used.<sup>[28]</sup> The standard SERVQUAL questionnaire has 22 questions that evaluate the quality of provided services in five dimensions of tangibles (4 questions), reliability (5 questions), responding (4 questions), assurance (4 questions), and empathy (5 questions). This questionnaire was completed by the participants, once before receiving the service to evaluate their expectations (evaluation of desirable situation) and once after receiving the service to evaluate their perceptions (evaluation of current situation). The questionnaire had two parts; the first part contained demographic characteristics of the service receiver and the second part was the standard SERVQUAL questionnaire for evaluating the expectations and perceptions of participants about the quality of the provided service. Questions were scored based on 5-point Likert scale from “completely agreed” (5) to “completely disagreed” (1). Various studies have used SERVQUAL questionnaire in Iran previously and its reliability and validity have been approved.<sup>[3,5,26]</sup> In one of the studies, Chronbach’s  $\alpha$  of expectation questions was 0.8 and of perception questions was 0.9.<sup>[3]</sup>

Data were analyzed using SPSS 20; frequency distribution, mean, standard deviation, paired *t*, Pearson correlation, Spearman correlation, and independent *t* tests were used for analysis. To determine the quality of the provide care (quality gap), the score of perception was subtracted from the score of expectations. Negative score (negative gap) indicated a gap between the current status and desirable status (low quality of services) and positive score indicated a positive gap that means providing ideal services (high-quality services). A score of zero means no gap existed.

### Ethical considerations

The present study was approved by the ethics committee of Isfahan University of Medical Sciences before execution and all the ethical issues were regarded at all the stages of the study.

### RESULTS

In this study, 201 women who referred to the midwifery section of selected health centers of Isfahan were selected and their average age was  $31.8 \pm 7.3$  years, which ranged

from 18 to 61 years. Most of the participants had diploma and were married housewives.

The mean scores of expectations, perceptions, and quality gap in the midwifery section of Isfahan health centers separately for each dimension are shown in Table 1. The mean score of expectations of all the participants was higher than their score of perception in all the aspects; the highest score of expectations belonged to reliability dimension and the lowest score belonged to responding dimension. In the perception part, the highest score belonged to reliability and the lowest score belonged to tangibles.

As shown in Table 1, the highest difference in the mean scores (quality gap) was in the field of tangible quality of services and the least difference was in the field of service quality assurance.

As shown in Table 2, comparing the age and educational level in five dimensions of service quality by Spearman and Pearson correlation coefficients showed no significant relation between the scores of expectations and perceptions of the quality of midwifery services, and age and educational level.

As can be seen in Table 3, independent *t*-test showed no significant relation between the mean scores of expectations and perceptions, and employment and marital status.

**Table 1: Dimensions of midwifery service quality and mean scores for clients’ expectations and perceptions**

Dimensions of service quality	Mean score		Quality gap score	t-pair test	
	Perception	Expectation		t	P
Tangibility	16.5	18.4	-1.5	7.38	<0.001
Reliability	21.7	22.9	-1.2	5.26	<0.001
Responsiveness	16.9	18.1	-1.2	-5.96	<0.001
Assurance	17.6	18.5	-0.9	-4.79	<0.001
Empathy	21.1	22.5	-1.4	-5.49	<0.001

**Table 2: Mean scores for clients’ expectations and perceptions and demographic characteristics (age and educational level)**

Variables	Expectation scores		Perception scores	
	P	r	P	r
Age*	0.24	0.08	0.45	-0.05
Educational level**	0.60	-0.03	0.78	-0.01

\*Pearson correlation coefficient, \*\*Spearman correlation coefficient

**Table 3: Mean scores for clients’ expectations and perceptions and occupation and marital status**

Variables	Expectation scores		Perception scores	
Occupation	P=0.22	t=1.22	P=0.55	t=0.6
Marital status	P=0.35	t=0.93	P=0.15	t=1.43

## DISCUSSION

The main aim of the present study was to evaluate the quality of provided services at the midwifery sections of Isfahan health centers using SERVQUAL model. Results showed that negative gap existed in all the five dimensions of service quality (tangibles, reliability, responding, assurance, and empathy); meaning that the performance of midwifery staff has not been satisfactory for patients.

In this regard, Noor'ain *et al.* reported a significant negative relation between patients' satisfaction and the quality of provided services in Malaysia.<sup>[22]</sup> Another study revealed a gap between the expectations and perceptions of ICU patients and the gap was positive. Patients' score of perceptions was higher than their score of expectations; however, this positive difference could be due to short time of their hospitalization in the ICU (24 h) or their special condition.<sup>[29]</sup>

In the present study, the greatest gap was seen in the tangibles dimension. In this regard, Sharifi Rad *et al.*, also in Isfahan, reported that the greatest gap belonged to the tangibles dimension.<sup>[26]</sup> The greatest gap in the study of Roohi *et al.* from Gorgan,<sup>[3]</sup> Agha Mollaei *et al.* from Bandar Abbas,<sup>[27]</sup> and Papanikolaou and Zygiaris from Greece<sup>[30]</sup> was in the empathy dimension, in the study of Mohammadi and Shoghli from Zanjan<sup>[4]</sup> and Lee and Yom in Korean hospitals<sup>[21]</sup> was in the reliability dimension, in the study of Tarig *et al.* from Khartoum, Sudan<sup>[31]</sup> was in the assurance dimension, and in the study of Kebriaei *et al.* from Kashan<sup>[5]</sup> was in the responding dimension. In the study of Butt and de Cyril conducted in Malaysia, the highest negative score of service quality belonged to responding and reliability dimensions.<sup>[32]</sup> Anbori *et al.*, in a study conducted in hospitals of Sanaa, found that the greatest service quality gap belonged to responding, assurance, and empathy dimensions.<sup>[23]</sup>

In this study, the least service quality gap or, in other words, the most appropriate dimension of service quality was the assurance dimension. In this regard, Sharifi Rad *et al.*,<sup>[26]</sup> Ameryoun *et al.*<sup>[8]</sup> and Agha Mollaei *et al.*<sup>[27]</sup> also reported that the least service quality gap belonged to the assurance dimension. Also, the least service quality gap in the studies of Tarahi *et al.*<sup>[6]</sup> and Roohi *et al.*<sup>[3]</sup> belonged to the reliability dimension, in the studies of Mohammadi and Shoghli<sup>[4]</sup> and Lee and Yom<sup>[21]</sup> to the tangibles dimension, and in the study of Anbori *et al.*<sup>[23]</sup> to the tangibles and reliability dimensions.

In this study, there was no significant relation between the scores of expectations and perceptions and some

demographic characteristics like age, marital status, employment status, and educational level.

In the study of Agha Mollaei *et al.* also, the relation between service quality gap and age, educational level, and employment was not significant.<sup>[27]</sup> In the study of Tarahi *et al.*,<sup>[6]</sup> the mean score of service quality gap had a reverse correlation with the age of patients, but showed no significant relation with their educational level. In the study conducted by Gholami *et al.*,<sup>[33]</sup> there was a significant relation between patients' age and educational level, and their expectations and perceptions; meaning that as the patients' mean of age and educational level increased, the negative service quality gap also increased and patients with higher education believed that negative gap existed in all dimensions except empathy. Also, the study of Kebriaei *et al.*<sup>[5]</sup> found a significant relation between patients' expectations and perceptions, and their age and educational level and the relation was reverse. Gorji *et al.*<sup>[34]</sup> reported no significant relation between patients' expectations and perceptions, and their age, marital status, employment status, and educational level, but the relation between educational level and expectations was significant.

On comparing the results of the present study and other similar studies, it was found that different characteristics of patients, different facilities of health organizations, and the diverse nature of services have led to dissimilarity of the results. Health organization administrators could not lean on traditional methods and personal knowledge and experiences for planning and governing their own organizations and providing quality services for their customers.<sup>[35]</sup> Therefore, it is necessary for the administrators to prioritize the programs for different sections of their organizations for increased customer satisfaction and improving the quality of their organization's services by discovering the lowest and highest expectations and perceptions of customers about the current and the desirable condition.<sup>[27]</sup>

Considering that the mentioned studies have been conducted on different groups with different organizational conditions and also knowing that the study has been conducted on a special group, the results of this study are not generalizable to other fields of health system and medical services and organizations. It is recommended that in every city, for improving the quality of their organization, all the administrators of health centers should try to determine the expectations of patients at different sections of their center and conduct periodical studies based on their organizational condition and improve the quality of their organization by insisting on patients' ideas and expectations and receiving their feedback.

## CONCLUSIONS

Negative gap between the expectations and perceptions of patients indicates that patients' perception of the current situation is lower than their expectations and there is a long distance to satisfaction of patients of midwifery section and reaching the desirable condition. On the other hand, this negative gap was not similar in all the dimensions of quality, and since the greatest service quality gap in the midwifery section of Isfahan health centers belonged to the tangibles dimension, the administrators of this organization should reform the physical environment, provide up-to-date and sufficient facilities, and pay special attention to the hygiene of equipment.

## Acknowledgment

This article was derived from the master's thesis of Zohreh Oliaee with project number 393695, Isfahan University of Medical Sciences, Isfahan, Iran. We gratefully acknowledge all clients who participated in this study.

## Financial support and sponsorship

This study was financially sponsored by the research deputy of Isfahan University of Medical Sciences.

## Conflicts of interest

There are no conflicts of interest.

## REFERENCES

- Kaplan RS, Norton DP. The Strategy-Focused Organization: How Balanced Scorecard Companies Thrive in the New Business Environment. 1<sup>st</sup> ed. UK: Harvard Business School Press; 2001. p. 148-59.
- Ruset RT, Lemon KN, Zeithaml V. Return on marketing: Using customer equity to focus marketing strategy. *J Marketing* 2004;68:109-27.
- Roohi G, Asayesh H, Abdollahi A, Abbasi A. Evaluation of clients' expectations and perception gap regarding the quality of primary healthcare service in healthcare centers of Gorgan. *J Jahrom Univ Med Sci* 2011;9:41-7.
- Mohammadi A, Shoghli AR. Survey on quality of primary health care's in Zanjan District Health Centers. *J Zanjan Univ Med Sci* 2008;16:89-100.
- Kebriaei A, Akbari F, Hosseini M, Eftekhare-Ardabili H, Purreza A. Survey on quality gap in primary health care in Kashan health centers. *J Qazvin Univ Med Sci* 2004;31:82-8.
- Tarahi MJ, Hamozadeh P, Bijuanvand M, Lshgrara B. Survey on quality of health services provided in Khorramabad health care centers using the SERVQUAL model. *J Lorestan Uni Med Sci* 2012;14:13-21.
- Mohammadi A, Eftekhare-Ardabili H, Akbari-Hagigi FA, Mahmudi M, Purreza A. Measurement quality of services based on expectations and perceptions of patients in the hospital of Zanjan. *J School Health and Health Res Inst* 2003;2:71-84.
- Ameryoun A, Dopeykar N, Nasiri T, Meskarpour-Amiri M, Gholami-Fesharaki M, Karamali M, et al. Assessment the Gap between Patients' Expectations and the services provided to them in Selected Hospitals of Tehran in 2012. *Journal of Police Medicine* 2013;2:1-10.
- Jackson S. Successfully implementing TQM within health care. *Int J Health Care Qual Assur (IJHQA)* 2000;14:157-63.
- Attafar A, Esteki R, Irvani A. Quality of nursing services (contemporary level of reality and level of expectation) from nurses' viewpoint on the basis of SERVQUAL Model in Al-Zahra Hospital in Isfahan (2010). *Mod Care J* 2012;9:72-9.
- Kavandi R, Shakery F. Improve Iran Khodro customers' satisfaction from sales and after-sales services analysis of the qualitative elements map with SERVQUAL approach. *J Industrial Management* 2010;5:43-54.
- Kazemi A, Alimardani S. Servqual model development for prioritize of quality improvement measures. Case study: Customer service department of electrical in chalus. *J sharif* 2008;25:139-50.
- Raei H. Service quality dimensions by using SERVQUAL model in Mashhad fast food restaurants. Thesis of master science. Mashhad Med Sci 2013.
- Nazemi SH, Pedramneia S. Assessment and analysis of service quality SERVQUAL model. Case study: Mashhad green space. *Mashhad J* 2008;2:131-54.
- Glavandi H, Behaeshitrad R, Ghaleei A. Investigating the quality of educational services in the University of Urmia through SERVQUAL model. *J Management Development* 2012;25:49-66.
- Abdellahi J, Amin D, Moatamedi M. Evaluate the quality of banking services SERVQUAL model. Researches of the first National Conference for improvement of management practices, accounting and Industrial engineering in organizations, Islamic Azad University Gachsaran 2011.
- Jenaabadi H, Abili K, Nastiezaie N, Yaghubi Noor M. The gap between perception and expectations of patients of quality of treatment centers in Zahedan by using the Servqual model. *Payesh* 2011;10:449-57.
- Mirghafori H, Zare-Ahmad Abadi H. Analysis of hospital service quality using SERVQUAL model (A case study of Shahid Rahmemon Hospital). *J Yazd Uni Med Sci* 2007;15:84-92.
- Azarbayjani K, Attafar A, Abbasi S, Amirnejad B. Comparing patients' and nurses' expectations of nursing service and medical cares in Alzahra Teaching Hospital in Isfahan city. *Iranian J Med Edu* 2012;11:1274-81.
- Puay CL, Nelson KH. A study of patients expectation and satisfaction in Singapore hospitals. *Int J Health Care Quality Assurance* 2000;13:289-99.
- Lee MA, Yom YH. A comparative study of patients and nurses. Perceptions of the quality of nursing services, satisfaction and intent to revisit the hospital: A questionnaire survey. *Int J Nurs Stud* 2007;44:545-55.
- Noor'ain M, Dilla S, Suryani C, Siti N. Patient satisfaction with access to 1 Malaysia clinic. *J Sbspro* 2013;91:395-402.
- Anbori A, Ghani SN, Yadav H, Daher AM, Su TT. Patient satisfaction and loyalty to the private hospitals in Sana'a, Yemen. *Int J Qual Health Care* 2010;22:310-5.
- Abuosi AA, Atinga RA. Service quality in healthcare institutions: Establishing the gaps for policy action. *Int J Health Care Qual Assur* 2013;26:481-92.
- Garrard F, Narayan H. Assessing obstetric patient experience: A SERVQUAL questionnaire. *Int J Health Care Qual Assur* 2013;26:582-92.
- Sharifi Rad GR, Shamsi M, Pirzadeh A, Farzanegan P. Quality gap in primary health care services in Esfahan: Women's

- perspective. *J Educ Health Promot* 2012;1:45.
27. Agha Mollaei T, Zare S, Poodat A, Kebriaei A. Customers' perceptions and expectations of primary healthcare services quality in health centers of Bandar Abbas. *J Hormozgan Univ Med Sci* 2007;11:173-9.
  28. Parasuraman A, Zeithaml VA, Berry L. A conceptual model of service quality and its implications for future research. *J Mark* 1985;49:41-50.
  29. Regaira Martínez E, Sola Iriarte M, Goñi Viguria R, Del Barrio Linares M, Margall Coscojuela MA, Asiain Erro MC. Care quality in intensive care evaluated by the patients using a service quality scale (SERVQUAL)". *Enferm Intensiva* 2010;21:3-10.
  30. Papanikolaou V, Zygiaris S. Service quality perceptions in primary health care centres in Greece. *Health Expect* 2014;17:197-207.
  31. Tarig HM, Alamin, Adil MY. Measuring the Performance of Human Services Providers using SERVQUAL Model: Study on governmental hospitals services at Ministry of Health-Khartoum state. *J Science and Technology* 2012;14:63-71.
  32. Butt M, de Cyril E. Private healthcare quality: Applying a SERVQUAL model 2008. *Int J Health Care Qual Assur* 2010;23:658-73.
  33. Gholami A, Noori A, Khojastepoor M, Asgari M, Sajadi H. Gaps in the quality of primary health care services provided by health centers - Care Nishapur city. *Sci J Shahed Uni* 2011;18:1-11.
  34. Gorji HA, Tabatabaei SM, Akbari A, Sarkhosh S, Khorasani S. Using the service quality gap's model (servqual) in Imam Khomeini Teaching Hospital. *J Health Administration* 2012;16:7-18.
  35. Lameie A. Principles of Quality Management. 1<sup>st</sup> ed. Tehran: Health and Medical Education Ministry, National Committee for Quality Improvement; 1999. p. 34-5.