



ARAŞTIRMA / RESEARCH

Relationship between the patients' sense of security and the gap in the quality of services in hospitals of Sari city, Iran

İran'ın Sari kentindeki hastanelerde hastaların güvenlik duygusu ve hizmet kalitesindeki boşluk arasındaki ilişki

Farideh Rostami¹, Aliasghar Nadi¹, Ghassem Abedi¹, Mahmood Moosazadeh¹, Ehsan Abedini¹, Fatemeh Khosravi Shadmani², Kamyar Mansori^{3,4}

¹Mazandaran University of Medical Sciences, Health Sciences Research Center, Faculty of Health, Sari, Iran.

²Shahid Beheshti University of Medical Sciences, School of Public Health, Department of Epidemiology, Tehran, Iran.

³Dezful University of Medical Sciences, School of Public Health, Dezful, Iran

⁴Iran University of Medical Sciences, School of Public Health, Department of Epidemiology, Tehran, Iran

Cukurova Medical Journal 2018;43(4):958-966

Abstract

Purpose: This study aimed to investigate the relationship between the patients' sense of security and the gap in the quality of services in the selected hospitals in the year 2015.

Materials and Methods: The present study, as applied research, followed a descriptive-analytical approach. The sample used in this study comprised 600 patients, hospitalized in Imam and Shafa Hospitals in Sari, in addition to ValiAsr Hospital in Ghaemshahr, with at least 24 hours in internal, surgery, women, and children wards. The data were initially collected through the standard SERVQUAL questionnaire with two sections of demographic and specific questions including 22 five-point Likert scale questions, and one other 76 five-point liker scale questions regarding the sense of security among the patients.

Results: The results of the study showed that the mean, median, and mode values of the gap (the distance between perceptions and expectations) equaled -0.61, 0.59, -0.55, respectively, with the Standard Deviation of 0.46. Through examining the relationship between gap and sense of security, it was observed that Spearman correlation coefficient was 0.289, which showed a significant relationship between the two elements.

Conclusion: Given the direct relationship between the gap in services and the patients' sense of security, it is essential that specific opportunities to be provided for the hospitals to improve their service quality.

Key words: Sense of security, gap, quality, hospital.

Öz

Amaç: Bu çalışmada, 2015 yılında seçilen hastanelerdeki hastaların güvenlik duygusu ile hizmet kalitesi arasındaki ilişkinin incelenmesi amaçlanmıştır.

Gereç ve Yöntem: Bu çalışmada uygulamalı araştırma olarak tanımlayıcı-analitik bir yaklaşım izlenmiştir. Çalışmamızda, Gemshahr'daki Vali Asr Hastanesi'ne ek olarak Sari'da ki, İmam ve Shafa Hastanelerinin dahiliye, cerrahi, kadın ve çocuk koşullarında en az 24 saat yatan 600 hasta yer almıştır. Veriler, iki kısımdan oluşan standart SERVQUAL anketi ile toplanmıştır; bu kısımlardan biri demografik, diğeri ise 22 beş-puanlık özelleşmiş Likert ölçekli sorular ve akabinde 76 beş-puanlık hastaların güvenlik duygusuyla ilgili Likert ölçekli sorulardan oluşmaktadır.

Bulgular: Çalışmanın sonuçları, aralığın ortalama, medyan ve mod değerlerinin (algı ve beklentiler arasındaki mesafe) 0.46 standart sapma ile sırasıyla -0.61, 0.59, -0.55'e eşit olduğunu göstermiştir. Boşluk ve güvenlik duygusu arasındaki ilişki incelendiğinde, Spearman korelasyon katsayısının 0.289 olduğu ve bu iki unsur arasında anlamlı bir ilişki olduğu görülmüştür.

Sonuç: Hizmetteki noksanlık ile hastaların güvenlik duygusu arasındaki doğrudan ilişki göz önüne alındığında, hastanelerin hizmet kalitesini iyileştirmek için özel fırsatların sağlanması esastır.

Anahtar kelimeler: Güvenlik duygusu, boşluk, kalite, hastane.

Yazışma Adresi/Address for Correspondence: Dr. Ghasem Abedi, Mazandaran University of Medical Sciences, Health Sciences Research Center, Department of Public Health, Iran. E-mail: abedighasem2017@gmail.com
Geliş tarihi/Received: 27.10.2017 Kabul tarihi/Accepted: 15.02.2018

INTRODUCTION

The sense of security is attributable to the direct and indirect experiences of people with the circumstances of their surrounding environment, and different people experience it in different ways. In terms of methodology, the sense of security is a multidimensional construct which emerges in different ways in connection with social conditions and different people, and is measurable and quantifiable in different forms¹.

The patients' sense of security and safety is emphasized in palliative and treatment care, because this feeling is related to both physical and mental aspects of patients. The safety of patients is among the main responsibilities of healthcare service providers, and providing palliative care by them to improve patients is very effective in patients' feeling safe and secure. The patients who feel safe and secure are better treated, faster discharged, and their treatment costs will be reduced². The patients' feeling safe while under healthcare is very important, hence it is crucial to maintain and improve the quality of services provided to them³. It is very important for patients and their caregivers, and especially the patients who are in the final stages of their life, to feel safe, and it is service providers who contribute to this feeling as the most direct and available persons⁴.

A sense of security is a very significant basic need for the companions of the patients who receive care at home. Even research has shown that the companions' sense of security may be much more important than feeling empowered to take care of their patients at home⁵. The presence and accessibility of the service-provider personnel is known as the most important factor contributing to the companions' sense of security, and this causes the patients and their companions to rely on hospital personnel in times of need⁶⁻⁷. The quality of such services is a significant factor in the success of healthcare organizations, in recent decades, because of its strong association with lowering the costs, increasing the profitability, customer satisfaction and loyalty, and guaranteeing the continuity of services, the service quality has become a significant research subject in the health arena, and many tools have been created to measure it.

One of the methods often used in measuring service quality is SERVQUAL model that was developed by

Parasuraman⁸. This model presented a method to understand the strengths and weaknesses of the organization service quality, and is used to measure and compare the perceptions and expectations of the customers outside the organization. This research instrument measures the customers' perception of the five dimensions of service including: physical or tangible dimension, as well as reliability, accountability, assurance, and empathy dimensions⁹.

Today, quality is defined by customers' demand & customer's perceptions and expectations are considered as the most fundamental determinant factors of quality. Hence, they compare their expectations with their perception of the services they receive¹⁰. If expectations exceed perceptions, the received service quality will be lower from the perspective of customers, and could lead to their dissatisfaction¹¹. The results of research in some hospitals showed that the patients' expectations of the quality of hospital services has a direct effect on their satisfaction with these services, as well as the type of hospital (public or private) they choose¹². Given that the quality of services is, nowadays, a distinctive and powerful competitive weapon that many service organizations have at their disposal, offering superior service quality by maintaining high quality service is a prerequisite for the success of service organizations¹³.

One of the most effective strategies to improve the quality of healthcare services is to determine the main bottlenecks in this area, and to identify their features in an appropriate scientific manner. The two valid indicators to measure the quality of services in hospitals are, first, determining the quality gap in the provided services in medical centers or hospitals through SERVQUAL model, and, then, measuring the patients' satisfaction and sense of security and their views about the quality of services at hospitals. In case, the patients are not satisfied with the services, adequate opportunities can be provided for hospitals to improve the service quality for patients.

Due to the fact that the first crucial step in the development of quality improvement programs is to appreciate the perceptions and expectations of the ones who receive the services¹⁴, improving the service quality as well as the patients' being satisfied with healthcare centers can have an effective relationship with the patients' sense of security. Therefore, the current study examined the link

between the sense of security of patients and the quality of services in the selected hospitals.

MATERIALS AND METHODS

As applied research, the current study followed a descriptive-analytical approach, and in terms of the method of collecting data it could be called a survey study. Two methods were used to collect the data in this study, library research method and standard SERVQUAL questionnaire that consisted of two sections of general questions (age, sex, marital status, education, Imam Khomeini Hospital reference record, the number of admissions to the hospital and the length of stay), as well as 22 specific questions in the areas of tangible specific questions (questions 1 to 4), reliability (questions 5 to 9), responsiveness (questions 10 to 13), assurance (questions 14 and 17), and empathy (questions 18 and 22). Also, the response section of the questions in the questionnaire was in the form of five-point Likert scales (strongly disagree, disagree, neutral, agree, and strongly agree). To calculate the validity of the questionnaire, the content validity method was used through obtaining the approval of the university professors regarding the validity of questionnaire.

At the same time, to evaluate the reliability of the questionnaire, the internal consistency method (Cronbach's alpha) was used. The Cronbach's alpha values for every dimension of the questionnaire were 0.88, 0.83, 0.87, 0.90, 0.91, and 0.80 for service quality dimension, concrete cases dimension, reliability dimension, accountability dimension, assurance dimension, and empathy dimension, respectively.

Hence, the total Cronbach's alpha of the questionnaire was equal to 0.89. The questionnaire for the patients' sense of security consisted of 78 questions in the areas of nursing (questions 1 to 11), medical factors (questions 12 to 18), the rights of patients (questions 19 to 21), advanced facilities (questions 22 and 23), physical factors of the hospital (questions 24 to 33), the welfare of patients (questions 34 and 35), the welfare of patients' companions (questions 36 and 37), green space factor (questions 38 and 39), sanitation and hygiene factors (questions 40 to 42), the hospitalization standard (questions 43 to 45), provided services (questions 46 and 57), psychological factors (questions 58 to 65), economic factors (questions 66

to 69), law enforcement factors (questions 70 to 73), and medicine factors (questions 74 to 78).

The study population included the patients who were hospitalized in internal, surgery, women, and children wards in Imam Hospital in Sari, Shafa Hospital in Sari, and Vali-Asr Hospital in Ghaemshahr for at least 24 hours in the year 2014. Sample groups of the study were selected using stratified random sampling technique in which each hospital ward was considered as a stratum, and the sample size in each stratum was proportional to the size of the very stratum. Meanwhile, the sample size of the study was calculated using Cochran Formula (with a Type I error of 0.01, estimation error of %5, and a p-value equal to 0.5), and was determined to be 622 people.

Statistical analysis

In this study, primarily the factors of descriptive statistics such as mean, median, mode, standard deviation and frequency tables were used to provide a description of the data. Then, in inferential statistics section, the normality of the collected data was examined through the Kolmogorov-Smirnov test. Then, to observe the difference and gap in the sense of security and its different dimensions in the hospitals, the Kruskal-Wallis test was used. Afterwards, the relationship between the patient's sense of security and the gap in the provided services were analyzed by the Spearman correlation coefficient test.

RESULTS

The gender distribution of the respondents in this study showed that 161 men (26.8%) and 439 women (73.2%) participated in the current study. Also, 10.7 percent of the respondents (64 persons) were single, and 89.3 percent (536 persons) were married. The descriptive table of the age of respondents in this study showed a mean of 39.94 years, a median of 38 years, a mode of 37 years, and a standard deviation of 10.99, with an age-range of 5–70 years. In terms of the literacy of participants, it was observed that 36 people (6%) were illiterate, 79 persons (13.2%) had incomplete secondary education, 161 persons (26.8%) general education certificate, 34 persons (5.7%) associate degrees, 242 persons (40.3%) bachelor degrees, and 48 subjects (8%) master and higher degrees. The descriptive statistics of the patients' distribution in different wards showed that

180 persons (almost 30%), 150 persons (25%), 168 persons (28%), and 102 persons (17%) were hospitalized in internal, general surgery, women, and children wards, respectively. Finally, the descriptive statistics of the hospitals showed that 290 persons (48.3%) were hospitalized in Imam Khomeini Hospital of Sari, 140 persons (23.3%) were in Shafa Hospital of Sari, and 170 patients (approximately

28.4%) were in Vali-Asr Hospital of Ghaemshahr. After collecting the data on the variables of the study, and after conducting Kolmogorov-Smirnov test, it was revealed that all variables in both perceptions and expectations domain do not have normality. Then, a descriptive analysis of the research variables was performed (Table 1).

Table 1. Descriptive Statistics of research variables

Variables	Number	Mean	Median	Mode	Standard Deviation (SD)	Minimum	Maximum
Tangible gap	600	-0.68	-0.66	-0.5	0.52	-1.83	0.67
Reliability gap	600	-0.30	-0.40	-0.40	0.52	-1.80	1
Accountability gap	600	-0.71	-0.50	-0.50	0.57	-2	1
Assurance gap	600	-0.78	-0.75	-0.75	0.52	-2.25	0.50
Empathy gap	600	-0.63	-0.66	-0.67	0.54	-2.33	1
The overall gap	600	-.61	-0.59	-0.55	0.46	-1.64	0.55
Sense of security	600	3.59	3.58	3.36	0.67	1.19	5

Table 2. Difference in the sense of security, gap and its dimensions using the Kruskal-Wallis test.

Variable	Hospital	Number	Mean	Standard Deviation	Kruskal-Wallis value	Sig.
Sense of security	Imam Khomeini	290	3.42	0.66	55.10	0.0009
	Vali-Asr	140	3.88	0.76		
	Shafa	170	3.58	0.37		
Gap	Imam Khomeini	290	-0.53	0.40	124.81	0.0009
	Vali-Asr	140	-0.39	0.44		
	Shafa	170	-0.92	0.39		
The gap in tangibles	Imam Khomeini	290	-0.63	0.49	78.02	0.0009
	Vali-Asr	140	-0.46	0.48		
	Shafa	170	-0.95	0.49		
The gap in reliability	Imam Khomeini	290	-0.21	0.48	89.68	0.0009
	Vali-Asr	140	0.09	0.48		
	Shafa	170	-0.61	0.47		
Gap in accountability	Imam Khomeini	290	-0.60	0.48	144.66	0.0009
	Vali-Asr	140	-0.43	0.55		
	Shafa	170	-1.13	0.49		
Gap in Assurance	Imam Khomeini	290	-0.76	0.48	33.86	0.0009
	Vali-Asr	140	-0.63	0.52		
	Shafa	170	-0.95	0.52		
Gap in empathy	Imam Khomeini	290	-0.49	0.45	188.44	0.0009
	Vali-Asr	140	-0.35	0.44		
	Shafa	170	-1.09	0.46		

Table 2 illustrates the difference between the sense of security, gap in the provided services, and the size of gap between the three hospitals of Imam Khomeini, Shafa, and Vali-Asr using the Kruskal-Wallis test. As can be seen in Table 2, regarding the sense of security of patients in Vali-Asr Hospital and according to the Kruskal-Wallis statistics, the

observed difference was less than 0.05. The service gap was observed in Shafa Hospital with a mean of -0.92 and Standard Deviation of 0.39, in Vali-Asr Hospital with a mean of -0.39 and Standard Deviation of 0.44, and in Imam Khomeini Hospital with a mean of -0.53 and Standard Deviation of 0.40. The Kruskal-Wallis test showed a p value less

than 0.05, so the observed difference was significant. The largest gap between the three hospitals in terms of the different aspects of tangibles, reliability, accountability, assurance, and empathy belonged to Shafa Hospital of Sari, and the smallest gap regarding the aforementioned aspects was related to Vali-Asr Hospital of Ghaemshahr. Hence, according to Friedman test and the significance value of less than 0.05, the observed difference between the three hospitals was significant. At the same time, to examine the relationship between the gap and the sense of

security, the Spearman correlation coefficient was used. The significant correlation coefficient is an index in the range of -1 to +1, and the closer it is to -1, the stronger the relationship between the two variables, but in the opposite direction, and the closer it is to +1, the stronger the relationship and in forward direction, and finally if the significant correlation coefficient is closer to zero, there is no linear relationship. It should be noted that for obtaining the correlation coefficient, the number of variables needs to be equal, i.e. for any number of X, there needs to be an equal amount of Y.

Table 3. Results of Spearman correlation coefficient regarding the relationship between the service gap together with its dimensions and the patients' sense of security

Variable	Sense of security		Result
	Spearman Correlation Coefficient	Significance value	
Tangible gap	**-.207	0.0009	Significant
Reliability gap	**-.244	0.0009	Significant
Accountability gap	**-.242	0.0009	Significant
Assurance gap	-0.023	0.578	Not Significant
Empathy gap	-0.284	0.0009	Significant
The overall gap	**-.389	0.0009	Significant

**Statistically significant at 1% error and*statistically significant at 5% error.

As illustrated in Table 3, the correlation coefficient between the patients' sense of security and the overall gap is -0.389 which is significant in the error level of 0.01. In addition, the correlation coefficient between the patients' sense of security and gap in tangible is the negative value of -0.207 which is significant in the error level of 0.01. It is also observed that the correlation coefficient between the patients' sense of security and the reliability gap is -0.244 which is significant in the error level of 0.01. The correlation coefficient between the patients' sense of security and the gap in accountability equals -0.242, which is significant in 0.01 error level. On the other hand, the correlation coefficient between the patients' sense of security and the gap in assurance is -0.023, which is not significant, and finally, the correlation coefficient between the patients' sense of security and empathy gap equals -0.284 which is significant in the error level of 0.01.

DISCUSSION

Based on the findings, the mean values for the sense

of security in the three different hospitals of Vali-Asr, Shafa, and Imam Khomeini were reported to be 3.58, 3.88, and 3.42, respectively. The results showed that the largest gap among the three hospitals in terms of tangibles, reliability, accountability, assurance, and empathy belonged to Shafa Hospital of Sari, and the smallest gap in terms of the aforementioned features was related to Vali-Asr Hospital in Ghaemshahr. The results of Spearman correlation coefficient regarding the relationship between the service gap together with its dimensions and the patients' sense of security showed that a significant relationship existed in all aspects. The correlation coefficient between the patients' sense of security and the overall gap was observed to be -0.389, which was significant in an error level of 0.01. But the correlation between the patients' sense of security and the assurance gap was -0.023, which was not significant.

In this study, tangible gap has a mean value of -0.68, reliability gap has a mean value of -0.30, accountability gap has a mean value of -0.71, assurance gap has a mean value of -0.78, empathy

gap has a mean value of -0.63, and the overall gap has a mean value of -0.61 and sense of security has a mean value of 3.59. Hence, the largest gap is observed to be in assurance aspect, and the smallest gap is found to be in reliability aspect. The observed negative gap implies that the clients' expectations in one aspect were beyond their understanding of the current situation, and the patients were not fully satisfied with the hospital services, and a lot need to be done so as to see hospitals in ideal conditions.

In line with this study, the study of Butt referred to the existing negative gaps in all aspects, especially in the assurance dimension in Malaysian hospitals¹⁵. One other study by Hasani indicated that a significant relationship existed between the expectations and understandings of the patients in all aspects of quality with a p value of less than 0.05. At the same time, the largest gaps were observed in reliability with a value of 2.36, and assurance with a value of 2.24. However, the smallest gap existed in accountability dimension with a value of 1.98. The negative gaps (expectations higher than perceptions) in all quality dimensions showed that the quality improvement is required in all aspects of quality¹⁶. Similarly, the results of a study by Tabibi et al. showed that a significant difference existed between the perceptions and expectations of patients in terms of the five dimensions of service quality in the surveyed hospitals. The patients who referred to the clinics ranked the assurance with 4.41 points as the most important and the accountability with 2.21 points as the least important dimension of the provided service qualities¹⁷. But in the study of Gorji regarding all aspects of the quality of provided services in hospitals, there was observed a negative gap. However, unlike the present study, the largest gap (-2.55) was in the tangible dimension and the smallest (-0.697) in the assurance aspect. Also, none of background variables, including gender, marital status, insurance, reference number, age and level of education had any significant relationship with the service quality gap ($p > 0.05$). In none of the aspects, the expectations of the patients were met¹⁸. The findings of a study by Beigi, also, showed a significant difference between the perception and expectation of patients regarding the five different dimensions of service quality in the studied hospitals. The patients admitted to the hospital ranked the tangibility with 3.47 points as the most important and the assurance with 2.60 points as the least important aspects¹⁹. The study of Lee showed that the patients have mainly referred to the

dependability and reliability of data as the most important aspect²⁰. Regaira Martínez in one other study examined the difference between the perceptions and expectations of the patients for the overall SERVQUAL and for every dimension of service quality, and found that the patients in an intensive care unit in Spain had positive view towards them. The tangible dimension ranked the highest gap and empathy ranked the lowest gap from among the service qualities²¹. The study of Mohammadinia, conducted in the hospitals of Social Security Organization, also showed that the relative satisfaction in all aspects of service quality was desirable, and the most perceived service quality was regarding the reliability feature. In this study, the lowest quality was reported to belong to the accountability dimension of the service providers²². Ajam et al. in a study attempted to determine the quality gap in healthcare from the perspective of the patients referring to Shahid Elmi Field Hospital in Zabol, findings showed that the patients had positive views towards the quality of provided services to the clients. The highest mean negative gap was related to the accountability aspect (-0.02) and the highest mean positive gap was related to tangibility aspect (0.035). So, a significant relationship was observed between the variable of hospital reference and empathy aspect ($p=0.05$). In general, the examined field hospital appeared to be beyond the expectations of the patients²³. The findings of a study by Ezzatabadi showed that there were gaps between the expected quality and perceived quality of the provided services by the patients. It was shown that the expectations of the patients were beyond their understanding of the current situation, and none of their expectations in any of the aspects of the service were met. However, in both tangibility and accountability dimensions, the patients' expectations of service quality were more than the other aspects, and these two aspects had the greatest impact on service quality gaps. Paying attention to the health status of the patient room, overcoming the problems of patients during hospitalization, being committed to provide quality services, and providing a clean and beautiful physical environment have been the most important challenging factors, and the application of proper equipment, prioritizing the tasks in busy and traffic hours of the hospital wards, and having a decent appearance while providing the services are the most critical factors in the hospital that have led to a gap²⁴.

According to the results of a study by Janabadi, there were differences between the mean scores of perceptions and expectations in all aspects of quality. This meant that the health centers have failed to respond to the patients' expectations in terms of any of the five components of service quality, and the perceived quality has always been lower than the expected quality. The differences between the perceptions and expectations of the patients were regarding the different qualities of healthcare services, as tangibles (-0.69), reliability (-0.685), accountability (-0.795), assurance (-0.755), empathy (-0.84), and overall quality (-0.775)²⁵. It was observed from the results of Abedi study, in perception part; there was a significant difference in all groups except for responding and behavior, while, in expectation level, no significance in the age of the dimensions except for access. Also, the satisfaction status of patients in Imam Hospital clinic in Sari was good²⁶. The personnel who are providing services to patients should pay attention to this issue that they are expected to have kindness, empathy and compassion, confidence, respect, interest, and also the sense of responsibility towards the patients in addition to medication. According to research, the sense of security in patients and their companions is directly related to public health, quality of life, the quality of care process, and it is negatively associated with stress. People who have less fear and stress feel more secure^{27,28}. This sense of security has recently been highly regarded in cancer patients, and has caused a reduction in the pain and a rise in the quality of care of patients. Hence, the patients have claimed that while nurses are around, they feel safer and secure²⁹. The need to appraise the quality of healthcare can be examined from various angles. In healthcare sector, the issue of quality is considered very important, because the critical task and mission is to protect the public health and care for the community life. Service quality problems arise especially in organizations that do not focus on identifying and meeting the needs and demands of our customers. The service organization should place itself in the customers' position and develop their own policies on the basis of their viewpoints. The lack of a direct relationship with the customers could cause the hospital services not to meet the expectations of the patients, and as a result controversy be created among the customers regarding the service quality and the factors of sense of security³⁰. The main objective of the reform efforts in the public service

is to provide the customer-oriented services for the sake of the provision of quality services that meet customers' needs on a continuous basis. The required level of customer participation in the service is very different and can vary from the least form of it, which is only expressing the needs, to the point where the client is actually considered as a temporary member of the organization³¹. Hence, the quality of service is simply a judgment that clients make after receiving services according to their perception of the process of receiving a service. They compare their expectations with the services they perceive and receive³².

The results of the research suggest that noticing the expectations of patients can enable managers and professionals to evaluate their performance accurately, and better plan their future actions. In fact, trying to reduce the gap between expectations and perceptions of patients could result in their higher level of satisfaction and ultimately loyalty and readmissions to the organization. Also, using SERVQUAL model as a quality control instrument, and also the parameters of sense of security, managers will be able to assess the quality of services from customers' point of view as the most important customer organization of visual activity. Through exact planning and modification of the chaos, ultimately improving the quality of possible services. In this study, the expectations of clients in these aspects were beyond their understanding from the current situation. It meant that the existence of a gap between the perceptions and expectations of clients regarding each aspect of health service quality is indicative of a less amount of attention being paid to the quality of service leading to a decrease in the sense of security of patients. This issue requires that the programs focus more on the aspects with the most amount of gaps, because the poor quality of service in one dimension, has a synergistic effect. This meant that the poor quality of services could cause a decline in the quality of other aspects of the service that the clients receive³³. One of the most effective strategies to improve the quality of service is to set the main bottlenecks and identify their features in an appropriate scientific manner. Given the significant relationship between the gaps in services and the patients' sense of security, healthcare centers should be provided with opportunities to improve their service quality. It is hoped that the analyses of gaps and the findings of research result in presenting targeted strategies to

reduce the quality gaps in the provided services, and enhance the sense of security among patients.

Acknowledgements

The authors gratefully acknowledge the study team, including all of the peoples who help us in this work. The study was supported by a grant from the Health Sciences Research Center, Mazandaran University of Medical Sciences.

REFERENCES

- Samorin Z, Hassan T, Gilani N, Hemmati M, Masoudi Gazi M. An explanatory study of the relationship between social capital and feeling of social security (the case of governments' staff in the Golestan province). *Security and Social Order Strategic Studies Journal*. 2014;7:117-36.
- Jouybari L, Oskouie F, Ahmadi F. Comfort of hospitalized patients: a missed concept. *Iran Journal of Nursing*. 2006;19:89-101..
- McKenzie H, Boughton M, Hayes L, Forsyth S, Davies M, Underwood E et al. A sense of security for cancer patients at home: the role of community nurses. *Health Soc Care Community*. 2007;15:352-9.
- Krevers B, Milberg A. The instrument Sense of Security in Care–Patients'Evaluation: its development and presentation. *Psychooncology*. 2014;23:914–20.
- Milberg A, Wahlberg R, Jakobsson M, Olsson EC, Olsson M, Friedrichsen M. What is a “secure base” when death is approaching? A study applying attachment theory to adult patients' and family members' experiences of palliative home care. *Psychooncology*. 2012;21:886-95..
- Krevers B, Milberg A. The Sense of Security in Cared Relatives' Evaluation Instrument: its development and presentation. *J Pain Symptom Manage*. 2014;49:586-94.
- Funk LM, Allan DE, Stajduhar KI. Palliative family caregivers' accounts of health care experiences: the importance of “security”. *Palliat Support Care*. 2009;7:435-47.
- Parasuraman A, Zeithaml VA. Refinement and assessment of the SERVQUAL scales. *Journal of Retailing*. 1999;67:420-50.
- Bahadori M, Mousavi SM, Sadeghifar J, Haghi M. Reliability and performance of SEVQUAL survey in evaluating quality of medical education services. *Int J Hosp Res*. 2013;2(1).
- Abedi G, Ebadattalab I, Rostami F. Analyzing quality gap of nursing services in the selective academic hospitals. *Int J Collab Res Intern Med Public Health*. 2012;4:1809-15.
- Sahney S, Banwet D, Karunes S. An integrated framework for quality in education: application of quality function deployment, interpretive structural modelling and path analysis. *Total Quality Management & Business Excellence*. 2006;17:265-85.
- Mostafa MM. An empirical study of patients' expectations and satisfactions in Egyptian hospitals. *Int J Health Care Qual Assur*. 2005;18:516-32.
- Caha H. Service quality in private hospitals in Turkey. *Journal of Economic and Social Research*. 2007;9:55-9.
- Wong A, Shoal A. Service quality and customer loyalty perspectives on two levels of retail relationships. *Journal of Service Marketing*. 2003;17:495-513.
- Butt MM, De Run C. Private health care quality: applying a SERVQUAL model. *Int J Health Care Qual Assur*. 2008;23:658-73.
- Hasani H, Mohebifar R, Barikani A. Measuring hospital Service Quality Gap from the viewpoint of inpatients in educational hospitals of Qazvin University of Medical Sciences (2012-13). *Hospital Journal*. 2015;14:97-104.
- Tabibi S, Gohari M, Shahri S, Aghababa S. Assessment of health care services in outpatient clinics based on SERVQUAL model in hospitals of Tehran. *Journal of Payavard Salamat*. 2012;5:49-56.
- AbolghasemGorji H, Tabatabaei S, Akbari A, Sarkhosh S, Khorasan S. Using the Service Quality Gap's Model (SERVQUAL) in Imam Khomeini Teaching Hospital: 2012 . *Journal of Health Administration*. 2013;16:7-18.
- Havasbeigi F, Ahmadi A, Yasbolaghisharahi B, Mohamadi E. A survey of the quality of the provided services by public hospitals of Ilam and Kermanshah city to the out-patients on the basis of SERVQUAL model. *Journal of Ilam University of Medical Sciences*. 2013;21:207-14.
- 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.
- 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..
- Mohammad Nia M, Delgoshaci B, TofighiSh, Riahi L, Omrani A. Evaluation of nursing services quality using SERVQUAL model in Tehran social security hospitals. *Quarterly Journal of Hospital*. 2010;12:68-73
- Ajam M, Sadeghifar J, Anjomshoa M, Mahmoudi S, Honarvar H, Mousavi S. Assessing quality of healthcare service by the SERVQUAL model: a case study of a field hospital. *Journal of Military Medicine*. 2014;15:273-9.
- Ranjbar Ezzatabadi M, Bahrami MA, Zare Ahmadabadi H, Nasiri S, Arab M, Hadizadeh F,

- Hataminasab SH et al. The gap between perceptions and expectations of service recipients by using the SERVQUAL approach in Afshar Yazd Hospital. *Journal of Public Health School, Yazd*. 2010;9:75-86.
25. Jenaabadi H, Abili K, Nastiezaie N, Yaghubi N. 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.
 26. Abedi G, Rostami F, Ziaee M, Siamian H, Nadi A. Patient's perception and expectations of the quality of outpatient services of Imam Khomeini Hospital in Sari City. *Mater Sociomed*. 2015;7:272-5.
 27. Balducci C, Mních E, McKee KJ, Lamura G, Beckmann A, Krevers B et al. Negative impact and positive value in care giving: validation of the COPE Index in a six-country sample of carers. *Gerontologist*. 2008;48:276-86.
 28. Stajduhar KI, Martin WL, Barwich D, Fyles G. Factors influencing family caregivers' ability to cope with providing end-of-life cancer care at home. *Cancer Nurs*. 2008;31:77-85.
 29. Akiyama M, Takebayashi T, Morita T, Miyashita M, Hirai K, Matoba M et al. Knowledge, beliefs, and concerns about opioids, palliative care, and home care of advanced cancer patients: a nationwide survey in Japan. *Support Care Cancer*. 2012;20:923-31.
 30. Gholami A, Nori A, Khojastehpour M, Askari M, Sajjadi H. Quality gap in primary health care in Neyshabour Health Care Centers. *Daneshvarpezesheki*. 2011;18:1-11.
 31. Abolfazl Khosravi A, Anvari A. A comparative study of factors affecting customer satisfaction in private and public sector hospitals in Tehran. *European Online Journal of Natural and Social Sciences*. 2013;2:1088-93.
 32. LogmaniyanMKh, Tabibi SJ, Karimi A, Delgoshayi B. Design quality assurance model for hospital services in Iran. *Journal of Medical Council of Islamic Republic of Iran*. 2008;36:209-308.
 33. Ruset RT; Lemon KN, Zeithaml V. Return on marketing: using customer equity to focus marketing strategy. *J Mark*. 2004;68:109-27.
 34. Tarrahi MJ, Hamouzadeh P, Bijanvand M, Lashgarara B. The quality of health care services provided in health care centers of Khorramabad using SERVQUAL model in 2010. *Yafteh Journal*. 2012;14:13-21.
 35. Igarashi A, Miyashita M, Morita T, Akizuki N, Akiyama M, Shirahige Y et al. A scale for measuring feelings of support and security regarding cancer care in a region of Japan: a potential new endpoint of cancer care. *J Pain Symptom Manage*. 2012;43:218-25.
 36. Milberg A, Nilson E, Wahlberg R. Patients' sense of security during palliative care—what are the influencing factors? *J Pain Symptom Manage*. 2014;48:45-55.