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## THE ROLE OF QUALITY OF SERVICE IN SATISFACTION OF PATIENTS WITH SERVQUAL APPROACH

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### ABSTRACT

*Investigating the factors affecting patient satisfaction is one of the most important indicators of the components of health promotion institution. Considering the importance of this issue, this study aimed to prioritize the factors affecting the hospitalized patients' satisfaction. The present research is an applied research based on the objective, and in terms of data collection, it is a descriptive survey. With regard to the unlimited statistical population, a sample of 196 patients hospitalized in private hospitals in Khorramabad in spring 2017 was selected by using simple random sampling. The data gathering tool in this study was a standard SERVQUAL questionnaire, its validity through content validity by research experts and also, its reliability was verified by Cronbach's alpha and it has been approved at 0.96. To test the hypotheses, ordinal regression was used and to measure the variables, Friedman test was used with SPSS 24 software. The obtained results confirm that the tangible, reliability, responsiveness and empathy variables have a positive and significant effect on patients' satisfaction, but the impact of service assurance variable on patients' satisfaction was not confirmed.*

**Keywords:** SERVQUAL Model, Patient's Satisfaction, Tangible, Reliability

### INTRODUCTION

In a competitive market today, maintaining a current customer rather than attracting a new customer is vital for all businesses, addressing customer demands not only it solves current problems, but also it is an appropriate way for creating customer satisfaction and loyalty. Customers' experience of services is usually different, so today a great deal of research on the quality of services is done to increase customer satisfaction from the services provided by organizations, and organizations are investing on activities that lead to customer satisfaction; however, due to the limited resources and facilities of organizations, as well as the need to provide customer satisfaction, organizations should identify the factors affecting customer satisfaction, and, by knowing the most important factors, take the necessary measures to improve customer satisfaction. In addition, customer satisfaction should be considered. However, considering the limited resources and facilities of organizations, as well as the need for customer satisfaction, organizations should identify the factors affecting customer satisfaction (Azizi et al., 2015). On the other hand, it is believed that the key to maintaining a sustainable competitive advantage is the high quality of services provided by organizations. This high quality, in turn,

will increase customer satisfaction from the organization (Sobhani Fard and Cheraghali, 2014). Nowadays, different concepts of marketing are in non-profit organizations that hospitals are among these organizations. Patient satisfaction is a concept that is nowadays important in health care and is one of the most important goals of health systems. The most important results regarding the quality is the satisfaction of patients in line the way of providing services. Patient satisfaction is a cognitive response influenced by a variety of factors. Identifying effective factors on satisfaction is an indirect way to achieve the patient's true satisfaction. In this regard, the patient's satisfaction assessment with determining effective factors on satisfaction and meeting the expectations and needs of patients and removing the causes of dissatisfaction can increase the level of delivery of services and, consequently, satisfaction of patients, and subsequently their physical and mental improvements will be improved and faster, so that the purpose of the health system, which is improving the quality of care principle be achieved (Karami et al., 2007). Since assessing patients' satisfaction leads to inadequate cases and finding necessary measures and taking necessary measures to resolve existing problems and continuously improve the level of care (Karimollahi and Mazaheri, 2000) and assessing the views and opinions of patients due to the competition between hospitals in trust, collaboration and participation, lower costs, and eventually increased revenue and productivity have flourished in recent years (Akbari et al., 2006), so, given the importance of the issue, this research is about answering two questions:

1. What are the most important factors affecting the customer's (patient's) satisfaction with the services of the centers?
2. What are the prioritizing factors affecting customer satisfaction from the services of the treatment centers of the organizations under study?

## RESEARCH LITERATURE

### *The quality of service*

**The concept of quality.** The term "quality" of the Arabic root of "Kayfa" means, how, attribute, state (Amid, 1997). Today, unlike the past, costumer in his/her definition of quality seeks for added value and a special utility. Deming believes that quality is same as with customer satisfaction, Crosby says that quality is matching with customer needs (Davoodian, 2010). Oackland believes that quality is the fulfillment of the needs and desires of customers, and therefore these are the customers who can identify it. He also emphasizes the relationships between customers and service providers and states that the quality system should be based on prevention rather than curing (Jenaabadi et al., 2011).

**The concept of service.** A service is a product that is presented to address a set of human needs and demands, and is different from conventional physical products, and is "doing things that give a set of benefits to customers." The concept of serving customers includes all the things that the company does to satisfy customers and help them get the most value from the services they have purchased. This comprehensive definition covers everything. Everything that can be supplied in addition to the central services and lead to its demarcation from the service of competitors is considered to be customer service (Venouss and Safaiyan, 2004). Roosta et al. (2007) describe the main feature of services known as I4 as follows:

1. Intangible: Those services are intangible that you cannot see, touch, or feel before buying.
2. Incontinuity: The quality of services is dependent on the people who provide it.



3. Inseparable: In most cases, consumers neither can nor want to separate the service from its provider and the terms and conditions of receiving the service.
4. Inventory: Storing services is different from products. In services, the cost of a service is equal to the cost of the person providing the service, plus the device required to provide the service. If the physician is ready to see patients, but nobody has taken her time, the fixed cost of a physician's fixed salary will have a high cost of maintenance (Roosta et al., 2007).

Customers' evaluation indicators such as accuracy, speed, security, adherence, keeping the friendship, usefulness and ... are subjective and only by measuring them one can assess customer satisfaction. Services may be an exciting idea, some kind of information, a change in the appearance or health of the client, a pleasant psychological state, doing things at the right time and place, or feeling secure (Nouri, 2002). Kotler defines service as an intangible, inseparable, changeable, and immortal activity or benefit because it cannot be seen, touched, heard or smelled before purchase. In the case of inseparability, it can be claimed that services, unlike goods, are firstly sold, and then they are produced and consumed at the same time as production (Davoodian, 2010).

**The concept of quality of service.** Quality of service is a kind of judgment that customers make on their perceptions after receiving a service that by this judgment they compare their expectations with perceived received services (Jenaabadi et al., 2011). Also, quality of service as an effective and comprehensive strategy is in the management agenda. However, in the health sector, attention has been paid to the importance of the type of services and saving people's lives, the promotion of quality and its guarantee for the health system and the people have got attention; therefore, the high demand for quality management activities in the service and production sectors has been expanding (Tabibi et al., 2011).

The service industry has a product that is called service that has its own characteristics, so the marketing process, its production, and supply are different from the marketing, production, and supply of physical products. Quality of service has become a key tool for marketing to achieve competitive differentiation and promote customer loyalty. In different industries and sectors, companies seek to distinguish themselves and maintain customers through superior services. The quality of service received by customers comes from comparing customer expectations with what the service provider actually provides. For this reason, successful managers have focused their service strategies on continuous customer feedback in order to identify their needs and their satisfaction, and ultimately to measure customer satisfaction (Naebzadeh, 2010). The concepts of service quality and service satisfaction, have been considered in papers, and marketing activities over the past decades. Marketing researchers have greatly prized the benefits of satisfaction and quality and referred to them as indicators of the competitive advantage of the organization (Nematian, 2003). Zeithaml et al. (1985) defined the quality of received service as "a global judgment or attitude related to the superiority of a given service," and noted that judging the quality of service reflects a different pathway between customer's observations and expectations (Berry et al., 1990). The quality of service has been considered as an important issue in recent years by both employers and researchers (Parasuraman et al, 1985). An important reason for the interest of business owners in providing service quality is due to the belief that they have a lucrative and profitable effect on their company. However, employed people tend to benefit from the quality of service and customer satisfaction in line with changing potential



(Oliver, 1980). Most of the experts agree that customer satisfaction is short term, while service quality is a perceived form of output or performance evaluation (Bateson & Hoffman, 1999).

#### ***Customer Satisfaction Measurement Models***

Customer satisfaction is a key factor in the formation of future customer's willingness to purchase. Also, satisfied customers will happily speak to others about their good experience. This is especially important in eastern cultures. Although satisfaction is defined by the difference between expectations and performance, there are differences between quality and satisfaction. Parasuraman and his colleagues say that satisfaction is a decision after the experience, while quality is not, and on the other hand, in literature, the satisfaction of expectations are of "will" type issues, while in the literature on the quality of services, expectations are "to be" (Parasuraman et al, 1991). Satisfaction is defined as a delightful realization. That is, the consumer feels that consumption, demand, need, and purpose are met, and this realization is delightful (Oliver, 1999). Various models have been proposed to measure customer satisfaction. Since SERVQUAL model is considered in this study, this model is discussed further.

**1. SERVQUAL (Service quality) Model:** the SERVQUAL service quality model is one of the developed models for measuring services in the public sector. This model tries to measure the quality of services where the quality of service serves as a necessity for understanding the customer, his expectations, and the quality of provided service. This model helps customers to compare services provided by different organizations (Sabahi et al., 2010). SERVQUAL is based on service quality and a multifactor scale that is used to measure customer perceptions of service quality of retail or service organization. In the early 1980s, for the first time, Parasuraman, Berry, and Zeithaml studied the quality indicators of services, that by using those components they could evaluate the quality of services in terms of the customer. At first 22 components were defined as dimensions of service quality, then Parasuraman identified major 10 determiners about the quality of perceived services as follows: credibility, responsiveness, competence, access, politeness, communication, trust, security, customer perception and recognition, physical and tangible evidence. Eventually, in the later studies of Parasuraman and colleagues in the 1990s, their number was reduced to 5 components. Following the release of the research results of these individuals, other groups also focused on quality of service, and this was considered as one of the new research areas. Of the measured tools in relation to the quality of services, the most common is SERVQUAL scale. This is an instrumental tool developed by the marketing team of Parasuraman, Berry, and Zeithaml after extensive research in 1985, 1988, 1990, 1991, 1993 and 1994 (Zeithaml et al., 1990).

This model tries to measure the quality of services in environments that feel the quality of service as a necessity for customer perception. The Parasuraman model has features that can be applied to a wide range of service environments. The five dimensions of the SERVQUAL model are:

- ✓ **Tangible.** The appearance of facilities, equipment, personnel and communication tools (Parasuraman et al, 1985). Existence and display of physical facilities, staffing equipment and communication media (Wong and Sohal, 2003). Includes facilities and equipment for work and communication products. All these visual dimensions provide the customer with an evaluation of its quality, such as amenities in the physical environment of the organization (Martinez & Martinez, 2010).
- ✓ **Reliability.** Staff awareness and literacy and their ability to build confidence and trust in customers (Parasuraman et al, 1985). The ability to carry out the promised service is



somewhat reassuring (Wong and Sohal, 2003). It means the ability to perform services in a reliable and trustworthy manner, so that customer expectations are provided. Another meaning of reliability is paying attention to the commitments. That is, if a service organization delivers promises in the area of service delivery, a way of service delivery, and service cost should consider its commitments (Martinez & Martinez, 2010).

- ✓ **Responsiveness.** The desire to help customers and provide services and taking responsibility for them (Parasuraman et al, 1985). The desire to help customers and provide instant service (Wong & Sohal, 2003). Responsiveness means the willingness to work with and help the customer. This dimension of quality service emphasizes the sensitivity and awareness in line with customer requests, questions and complaints (Martinez & Martinez, 2010).
- ✓ **Assurance.** The ability to perform promised services in a reliable and accurate manner (Parasuraman et al, 1985). Knowledge and humility of employees and their ability to transfer trust and confidence (Wong and Sohal, 2003). Assurance represents the competence and ability of employees to inspire a sense of trust and confidence to the client relative to the organization. This dimension of service quality is important especially in a service that is riskier. For example, in a health care service, this component is important due to the sensitivity of the lives of the people (Martinez and Martinez, 2010).
- ✓ **Empathy.** Compassion and individual attention of the organization to its customers (Parasuraman et al, 1985). Paying attention to each customer (Wong & Sohal, 2003). It means that, with respect to people's morale, they are treated especially, so that customers are convinced that their organization understands and are important to the organization (Martinez & Martinez, 2010).



**2. Fournel Model:** The National Customer Satisfaction Index began with the Fournel Model. A survey of research activities in Sweden led the customer satisfaction model to be recognized as the best way to provide a nationally recognized standard. Sweden's index was designed by Professor Fournel in 1989 based on a model built using customer surveys (Hafezi et al., 2016). The Fournel model has been developed to address the inherent constraints of the "mismatch expectations" and "product performance" models. One of the inherent limitations of the paradigm of "expectations-mismatch" is that the absolute level of quality is not part of it because the "difference or mismatch" takes into account perceived expectations and performance. In other words, a certain discrepancy may arise due to low expectations and low quality or high expectations and high quality, because the difference in both cases can be equal. Therefore, a certain amount of mismatch does not represent the absolute level of expectations and perceived quality. The problem of the "perceived performance" paradigm is that it does not include mismatches. The Fournel model integrates inconsistency and performance models and incorporates the direct effects of expectations and qualities as well as noncompliance (Heyrati, 2007). An important feature of this model is its comprehensiveness, the ability to use it to assess quality on a large scale, and the ability to link quality index with customer behavior. This model is a conceptual model based on homogeneous calculations of customer expectations and judgment based on the intuitive or emotional system of consumers and customers. There are many factors affecting customer satisfaction, which is considered as a causal relationship in this model (Davoodian, 2010.)

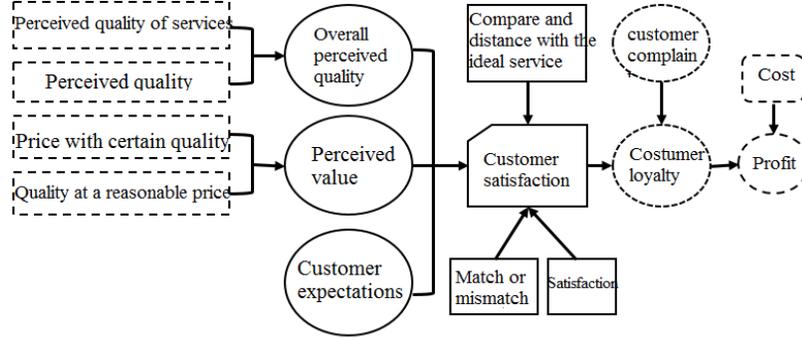


Figure 1: Fournel Model (Heyrati, 2007)

**3. Tree Model:** By using this model, according to the indicators obtained for the particular characteristics of the customers, organizations can easily identify and fix the criteria that they need to improve the quality of both the service and the product. This model is not widely considered by organizations due to the need for a long time to meet the customers' needs and naturally smaller computations. In the case of an organization looking to find an objection, the tree model is an acceptable model (Davoodian, 2010).

**4. Kano model:** In this model, the service or product features are divided into three Basic, Performance and Excitement categories according to how they are able to satisfy customers' needs (Kano et al., 1984) and all three types of needs are indicated in a two-dimensional diagram. The two heads of vertical diagram illustrate the satisfaction and dissatisfaction of the customers. The cross-section of vertical and horizontal axis indicates that the customer is in a state of imbalance in terms of satisfaction and dissatisfaction. The Right side of the horizontal axis indicates that the quality requirement is expected to be fully presented, and the left horizontal axis is the point of presentation of a product that does not have the expected qualitative characteristics and the qualitative requirement is not included in any product or service (Rezaei et al., 2005). Basic Quality are minimum, and their absence creates severe dissatisfaction, but their existence is obvious and does not lead to satisfactory (Heyrati, 2007). In Performance Quality, failure to meet them leads to customer dissatisfaction, and on the contrary, fulfilling them completely and appropriately will lead to customer satisfaction. In the Excitement Quality, providing these features will satisfy the customer and if they are not provided, customers will not feel dissatisfied (Taheri Kia et al., 2011).



Figure 2: The Kano Model (Taheri Kia et al., 2011)

**5. Model of Skamper:** The most important issue in the Kano model was to create creativity and innovation in customer service delivery. Dr. Osborne has conducted extensive research to explore the foundations of initiatives, inventions and discoveries, and concluded that all innovations are based on the seven bases described in the following table, which are shaped based on questions, ideas, and motives and the key to their success is based on six questions of 5W-1H (Maleki and Darabi, 2008).

**Table 1: Innovation in the Skamper Model (Source: Maleki and Darabi, 2008).**

Substitution	Q: What can be substituted with product x?
Integrating	Q: What can be integrated with product x?
Welfare and compatibility	Q: What causes the convenience and ease of use of the product x?
Magnification	Q: How product x get a great deal of attention by magnification?
Other uses	Q: What other uses can be made of product x?
Removing	Q: What can be removed from the product x?
Reversing	Q: If we reverse the product x, what else can be done by using it?

## BACKGROUND RESEARCH

Customer satisfaction is considered as an important criterion for measuring the quality of all organizations, and this trend is increasing day by day. The importance of the client and his satisfaction is related to global competition and increasing competition can be seen in manufacturing and service areas, including hospitals around the world. So far, there has been a lot of research on patients' satisfaction in treatment centers both inside and outside the country. Table 2 illustrates the characteristics of some of these studies.



**Table 2: Similar research in patient satisfaction**

Researcher (researchers)	Title	Factors Affecting Patient Satisfaction
Karimollahi and Mazaheri (2000)	A Survey on the Factors Affecting Satisfaction of Patients Referring to Emergency Departments of Ardabil University of Medical Sciences in 2000	Physical environment, equipment, manpower, and management
Faridpour et al. (2015)	Investigating the effect of service dimensions in of university hospitals, social and private services in Urmia on patient satisfaction	Empathy, assurance, tangible, responsiveness and reliability
Akbari et al. (2006)	Factors Affecting Satisfaction of Hospitalized Patients in Tehran University of Medical Sciences Hospitals	Marriage, education, type of hospital, hospitalization, and payment
Karami et al. (2007)	Investigating patient's viewpoint on the factors affecting the satisfaction of the referrals to emergency departments of Imam Khomeini and Sina centers of Tabriz	Equipment, manpower, physical environment and management factors
Kazemi and Fennoudi (2009)	The Analysis of Factors Affecting Patients' Satisfaction with the Quality of Hospital Services (Case Study: Mashhad Public Hospital 2009)	Service quality, waiting for time, service cost and special privileges
Kalrouzi et al. (2010)	Investigating the Factors Affecting Patients 'Satisfaction with the Performance of the Health Team on the Implementation of the Articles of the Patients' Rights Charter in Aja Hospitals in Tehran, 2009-2009	Age, education, hospitalization time, personal satisfaction, departmental type and function of doctors and nurses

Sina et al. (2014)	Measurement of the factors affecting the satisfaction of hospitalized patients with the quality of services provided based on the SERVQUAL model	Empathy, tangible, responsiveness, assurance and reliability
Dadmand (2015)	Multiple dimensional effects of hospital service quality on patient satisfaction: SERVQUAL model test	Goodwill, Physical Features, Trust and Loyalty
Tabibi et al. (2011)	Quality of services provided in outpatient clinics based on SERVQUAL pattern in Tehran hospitals	Assurance, tangible, empathy, reliability and responsiveness of employees
Zaim et al. (2010)	Quality of services and factors determining customer satisfaction in hospitals: Turkish experience	Tangibility, reliability, goodwill, and empathy
Fatehi Rad et al. (2010)	Quality of service and patient satisfaction in health tourism	Reliability, responsiveness, assurance, and empathy
Kamra et al. (2015)	Factors Affecting Patient Satisfaction: An Exploratory Study for Quality Management in Health Care	Price and Convenience, Realization of Clinical Need, Nurses and Caregivers, General Practitioners' Practices, Registration and Administrative Procedures, Facilities and Facilities, Professional Practice of Physicians and Facilities in the Acceptance and OPD Area
Venkatesh and Ross (2015)	An Empirical Study on the Factors Affecting Quality of Health Care and its Impact on Patient Satisfaction	Physical environment, staff performance, food, admissions, cleaning and diagnostic services

### *Hypotheses and conceptual model of research*

Considering the above principles, the following hypotheses were designed:

**Main hypothesis:** Service quality dimensions have a significant effect on satisfaction.

**Sub-hypothesis 1:** Tangible variable has a significant effect on patients' satisfaction.

**Sub-hypothesis 2:** Reliability has a significant effect on patient satisfaction.

**Sub-hypothesis 3:** Responsiveness has a significant effect hospitalized patient's satisfaction.

**Sub-hypothesis 4:** Assurance has a significant effect on the satisfaction of hospitalized patients.

**Sub-hypothesis 5:** Empathy has a significant effect on hospitalized patients' satisfaction.

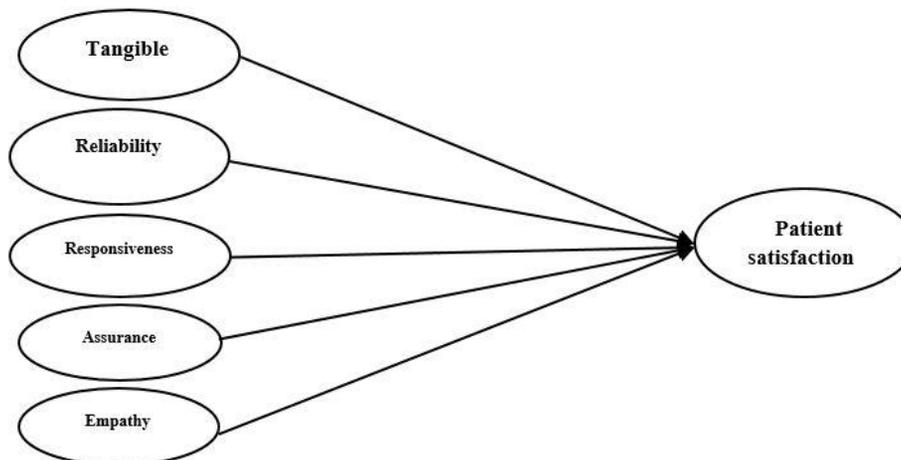


Figure 3: Conceptual model of research (Fatehi Rad et al., 2010)

## RESEARCH METHODOLOGY

The current study based on the aim of the study, is an applied one, in terms of data collection, is a descriptive survey. The statistical population of the present study included patients admitted to private hospitals in Khorramabad. The sample size is calculated according to the Cochran formula as 196 people. In this research, a questionnaire was used to measure the dimensions of the SERVQUAL model (Gholami Farshaki et al., 2015; Ajam et al., 2013; Rajabi Pourmeibodi et al., 2009) and to measure customer satisfaction; Farhadi's questionnaire (2016) was used. The validity of the questionnaire was confirmed by the experts in this area. The reliability of the questionnaire was calculated using SPSS software and its Cronbach's alpha was 0.968 and because it is more than 0.7, the reliability of the research tool is confirmed. Table 3 shows the reliability of the components of the research questionnaire. To test the hypotheses, ordinal regression has been used and Friedman test has been used to rank variables.

**Table 3: Reliability of the questionnaire variables**

Variable	Tangible	Reliability	Responsiveness	Assurance	Empathy	Satisfaction
Cronbach's alpha	0.903	0.725	0.855	0.908	0.826	0.911

## RESULTS

**Table 4: Demographic characteristics**

Variable	Age (years)					Education			Gender		Insurance status		Visit times			Monthly income (million Tomans)			Job		
	≤20	21-30	31-40	41-50	50≥	Diploma	Graduate and Bachelor	Master's degree ≥	Male	Female	Insured	No insurance	once	twice	More than three times	Less than 1	1 to 2	More than 2	Unemployed and retired	Government job	Self-employed
Frequency	9	31	49	36	71	118	58	20	84	112	190	6	104	41	51	119	51	26	127	42	27

In this research, we have a basic hypothesis and a few sub-hypotheses which we will discuss separately. As we said, the main hypothesis expresses the significant effect of service quality dimensions on satisfaction, and we used an ordinal regression model to test the results as presented in the following table.



**Table 5: Test results of the main hypothesis**

Index	Model fit index		Goodness-of-Fit		Cox and Snell	Nagelkerke	McFadden
	Intercept Only	Final	Pearson	Deviance			
Likelihood-2Log	340.075	28.344					
Chi-Square		311.730	156.781	140.198			
Pseudo R-Square					0.796	0.967	0.917
Df		5	467	467			
Sig		0.000	1.000	1.000			

According to the above table, in the model fit index, two models are proposed; the intercept only model and the final model. The claim of intercept only model with regard to the lack of significant effect of dimensions of the SERVQUAL is rejected on the patient's satisfaction. But in our final model, Chi-Square is meaningful, which means that SERVQUAL dimensions have a significant effect on customer satisfaction.

The next indicator, Goodness-of-Fit, means that the data collected is consistent with our model. In order to answer this question, we pay attention to a Sig. level, and as much as this one tends to be meaningful, we see in the table that the level of significance is equal to one, which means that both the data and the proportional model and independent variables can well predict the dependent variable variables. In this model, the Chi-square is an indicator that, with respect to the meaningful level, we find that it is meaningful or not, as we see in the table it is meaningful for both Pearson and Deviance models.

In this test technique, three types of determination coefficients are used to estimate the coefficient of determination, the most important of which is the Nagelkerke coefficient and its value is 0.967. In the test of the main hypothesis of the research, the Cox and Snel coefficient 0.796, Nagelkerke 0.967 and McFadden 0.917 were estimated. As can be seen, all three coefficients determine the meaningful prediction of changes in the dependent variable (patient satisfaction) by independent variables (tangible, reliability, responsiveness, assurance, empathy).

**Table 6: Test results of sub hypotheses**

		Estimate	Std. Error	Wald	Df	Sig
Threshold	[Satisfaction 2 = 1,000]	4.522	1.218	13.766	1	0.000
	[Satisfaction 2 = 2,000]	6.313	10.038	36.985	1	0.000
	[Satisfaction 2 = 3,000]	8.532	1.109	59.175	1	0.000
	[Satisfaction 2 = 4,000]	11.566	1.275	82.314	1	0.000
Location	Tangible	1.015	0.235	18.656	1	0.000
	Reliability	-0.717	0.263	7.408	1	0.006
	Responsiveness	1.049	0.304	11.935	1	0.001
	Assurance	0.279	0.312	0.800	1	0.371
	Empathy	1.290	0.419	9.487	1	0.002

After confirming the main hypothesis, we examine the sub-hypotheses that their results are presented in Table 6 in the location section separately. All indicators are expressed in the table for hypotheses and for testing hypotheses, we need to examine the significance level and the Wald coefficient. The first hypothesis of the study that claims the effect of tangible variable on patient satisfaction is confirmed by a significant level of 0.000 (less than 0.05) and the Wald coefficient is 18.656 (greater than 1.96). Therefore, hospitals tangible features are effective in patient satisfaction. The second hypothesis of the research, that mentions the effect of reliability

on patients' satisfaction, is confirmed by a significant level of 0.006 (Less than 0.05) and the Wald coefficient of 7.408 (more than 1.96). The third hypothesis of the research that is related to the response effect on patients' satisfaction is confirmed by a significant level of 0.001 (Less than 0.05) and the Wald coefficient of 11.935 (more than 1.96). The fourth hypothesis is based on the effect of the assurance on patient satisfaction with a significant level of 0.371 (Greater than 0.05) and a Wald coefficient of 0.800 (less than 1.96). The fifth hypothesis of the research, which claims empathy effect on patients' satisfaction, is confirmed by a significant level of 0.002 (less than 0.05) and the Wald factor of 9.487 (more than 1.96). As previously mentioned, Friedman test was used to prioritize the factors affecting patient satisfaction, the results of which are shown in Table 7.

As shown in Table 7, the factors affecting the satisfaction of hospitalized patients in this study are assurance, reliability, tangible, responsiveness and empathy, but in the hypothesis it was mentioned that assurance has no significant effect on patient satisfaction, which shows that in terms of patients, assurance is the most important factor, but less attention is paid to the hospitals in question; therefore, patients' privacy must be respected by the physician and nurse, patients should be treated more respectfully, nurses have must more skills in their work, and before doing anything for the patient they should provide adequate information about it, and finally, doctors should provide information about the disease and the course of treatment for the patient.

**Table 7: Friedman Test**

Variables	Assurance	Reliability	Tangible	Responsiveness	Empathy
Average of ranks	3.31	3.06	2.98	2.83	2.82
Rank	1	2	3	4	5



## CONCLUSION

Customer satisfaction always depends on the quality of the service. If the quality of the service is provided on the basis of customer satisfaction, it will automatically generate profits. Providing needs and satisfying patients' expectations are one of the most important tasks of health care institutions. Therefore, in the competition market, institutions will be more successful that try to provide services to their clients. Nowadays, patients' awareness about self-care and follow up of treatment issues has increased, so when their expectations are not met, they will react (Dirkavand Moghadam et al., 2013). Hospitals should try to recognize the needs and aspirations of their clients. Sometimes these organizations themselves recognize what is important to customers. A misdiagnosis causes dissatisfaction of the patients and may be considered at the service level appropriate or below (out of tolerance) when receiving the service. The purpose of this study was to investigate the factors affecting patient satisfaction using the SERVQUAL model. In order to study the factors affecting patient satisfaction, a model adapted from the Davoodian (2010) research was used as a theoretical basis and conceptual model of the research. One main hypothesis based on the significance of quality of service dimensions on patient satisfaction and five sub hypotheses on the effect of tangible, reliability, responsiveness, assurance and empathy on customer satisfaction with ordinal regression was tested and the results of the hypotheses along with the following suggestions are presented.

The results of the data analysis indicated that the four hypotheses of this research were confirmed from five hypotheses. Therefore, the first hypothesis of the effect of tangible variable

on the satisfaction of patients was confirmed. This result were consistent with researches such as Tabibi et al. (2011), Zaim et al. (2010), Faridpur et al. (2015), Dadmand (2015), Sina et al. (2014), but was not in line with the study of Fatehi Rad et al. (2010). According to the analysis of patients' response to the questionnaire, it can be stated that tangible variable has the third rank in patient satisfaction. Also, in order to increase the satisfaction of patients from the services of medical centers, it is suggested to improve the status quo, the following factors should be on the agenda: cleaning the ward, WCs and the whole hospital, replacing the clothes, blankets, the heating and cooling status of the patient's room. The hospitals should try to distribute the best quality dishes with regard to the patients' diet, also must provide amenities for the patient's entourage, as a number of patients referred to the hospitals from nearby cities.

The second hypothesis confirmed the significant effect of reliability on patient satisfaction. This result is consistent with the results of studies such as Fatehi Rad et al. (2010), Tabibi et al. (2011), Zaim et al. (2010), Faridpour et al. (2015) and Sina et al. 2014). Reliability means creating trust and confidence in the clients, which is suggested to encourage patients to be more patient satisfied, and physicians by establishing better relationships with patients encouraging them to treatment. The next step is to take time at the time of discharge, which should be done in a timely manner according to the patient's condition so that he or she does not face the problem. The waiting time for the filing process is up to the transition to a faster section.

The third hypothesis mentions the significant effect of responsiveness on the satisfaction of patients according to the results of the study of Fatehi Rad et al. (2010), Tabibi et al. (2011), Faridpour et al. (2015) and Sina et al. (2014), but in Zaim et al. 2010) this hypothesis could not be verified. Timely attendance of the doctor at the time of visit or surgery, regular nurse control of the patient, providing information and providing the necessary guidance to the security staff at the time of entering will help to have patient satisfaction.

The fourth hypothesis did not have significant relation with assurance and patient satisfaction, according to the results of Zaim et al. (2010). However, in studies of Fatehi Rad et al. (2010), Tabibi et al. (2011), Faridpour et al. (2015) and Sina et al. (2014) assurance of patient satisfaction has a significant effect. Quality assurance includes all the rules and activities that are essential for maintaining, sustaining and improving quality. It is suggested that clinics, with the training of staff, including nurses, help their professional skills be improved, and nurses provide patients with an adequate explanation before doing anything for patients. Patient's privacy should be met by doctor and nurse. Establishing proper evaluation systems, especially in relation to respect for clients, can be helpful in improving the quality of services. Since patients are suffering from stress and distress due to illness, they can be assured by providing accurate and timely information on the illness and the course of treatment in slang.

According to the results of the study Fatehi rad et al. (2010), Tabibi et al. (2011), Zaim et al. (2010), Faridpour et al. (2015) and Sina et al. (2014), the fifth hypothesis indicates the significant effect of empathy on patients' satisfaction. It is suggested that the authorities of the desired hospitals should point out the appropriate treatment of the patient and his companion to the service staff. To keep silence and relaxation in the area, it is best for people with similar illnesses to be hospitalized in one part and the appointment time does not cause disturbances to the patient. In order to prevent a patient having a problem after discharge, it is necessary for the physician to provide appropriate and precise advice. At the time of discharge, clearing authorities must have a proper behavior. Providing a comprehensive spiritual support (patient



empathy, hope, encouragement for the patient to progress) with medication can be effective in improving the patient's well-being, and given each person's specific characteristics of each person, these characteristics should be considered.

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