Original Article

The mediating effect of emotional intelligence on the performance of Imam Khomeini Hospital Staff in Tehran

Mohammadreza Shahbazimoghaddam [1], Alireza Manzari Tavakoli [1*], Sanjar Salajegheh [1], Hamidreza Molaei [1], Navid Fatehi Rad [1]

[1] Department of Management, Kerman Branch, Islamic Azad University, Kerman, Iran.

Corresponding author and reprints: Alireza Manzari Tavakoli, Associate Professor, Department of Management, Kerman Branch, Islamic Azad University, Kerman, Iran.

Email: a.manzari@iauk.ac.ir

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Abstract

Background: The quality of services is significant factors in evaluating the performance of organizations. The purpose of this research was to examine how emotional intelligence mediated the performance of Tehran's Imam Khomeini Medical personnel.

Methods: A questionnaire was employed in this practical cross-sectional investigation. Its constituent parts were ascertained by a review of relevant literature in the form of the first suggested model and verification by professionals in the fields of management and healthcare. The Ale-Omran Hospital service quality indicators, Salovey & Mayer's emotional intelligence emotions, and questionnaires evaluating customer expectations and perceptions were among the study's instruments. In this regard, 360 questionnaires were sent online using random stratified sampling. Exploratory and confirmatory factor analysis and validity were analyzed.

Results: At 0.6, the coefficient of determination, or R2, suggests that the predictor variables account for 60% of the variation in the dependent variable. When it comes to increasing quality-oriented services, "setting strategic goals" has a greater impact than other predictor factors, according to the F2 value of the effect size of the predictor variables. The association between quality-oriented services and quality-oriented structure is therefore verified, with emotional intelligence acting as a mediating factor.

Conclusion: Hospital organizational structures must take into consideration the elements that are effective in providing high-quality medical services from the perspective of their patients, given the mediating role that emotional intelligence plays in the relationship between quality-oriented services and quality-oriented structures.

Keywords: Emotional Intelligence; **Health Services**; **Organization and Administration.**

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Introduction

The quality of services is one of the most significant factors in evaluating the performance of organizations. This issue is more crucial in healthcare service providers since they deal with the lives and health of clients (1). Hospitals have many opportunities to maximise and enhance efficiency because they are one of the service sectors with the most intricate business processes. Continuous hospital growth is indirectly required by public demand for improved health care. Effective and efficient work practices are necessary to raise the standard of healthcare services provided to clients. It needs to be improved continuously while

encountering the least amount of opposition. Improving the quality of services based on the "Total Quality Management" or (TQM) model and its establishment and continuation can lead to retaining and attracting customers, reducing costs, creating or enhancing a company's brand image, and ultimately increasing profitability. To achieve the goal of improving the quality of medical services in the health system, medical organizations should establish an effective and efficient total quality management system (2). Identifying and strengthening these factors will lead to the success of more and more organizations. Managers in every organization are at the top of the organization to coordinate and increase the efficiency of the organization and achieve its goals (3). Non-physical factors, including organizational atmosphere regarding job satisfaction, interpersonal narrative in the workplace, work capability, and physical work environment, including the completeness of facilities and administrative layout play a role in this regard (4). Emotional intelligence plays a key role in the work environment since identifying emotions leads to gaining awareness of them. It also provides the conditions for a correct understanding of other people's emotions, and understanding emotions lead to gaining insight into people's motivations, making us aware of other people's viewpoints. Finally, the management of emotions allows us to accept our emotions and use the obtained information constructively (5). The research also shows that emotions are quite intense throughout this time, making it impossible for an individual to develop healthily without having emotional regulation. As a result, emotionally intelligent emerging adults typically have pleasant relationships, a strong sense of self, and support systems. They have hope for both the future and for themselves. No study has been done to develop a model for structuring and creating an organizational structure in Iran’s hospitals that emphasizes the dimensions of quality based on the emotional intelligence of staff. Due to the necessity of study and special concern, professional responsibility, the researcher conducted a study to design an organizational structure model to provide coordinated, extensive, diverse, and numerous quality-oriented services based on the emotional intelligence of the Imam Khomeini Hospital staff.

Material and Methods

Study design

The current study used a questionnaire to perform a cross-sectional, applied investigation. It was carried out in order to offer a blueprint for the Imam Khomeini Hospital staff's emotional intelligence-based, quality-oriented organizational structure for the years 2019 to 2021. The initial model of the study was designed after reviewing the studies to determine the desired variables of the study, library information of 2019, and the opinions of experts in this field in the form of holding numerous meetings with advisors and supervisors, and using the advice of two researchers and statistical experts. Then, a questionnaire was designed based on the opinion of elite experts in the field of emotional intelligence, and the answers of elites were collected from July to February 2020 and data from the study were collected from March 2020 to June 2021.

Sampling

The conduct the present study, the staff working in the Imam Khomeini Hospital Complex was used. A stratified random sampling method was used to select the samples based on the type of job and the department in which the staff was working. The required number of samples based on the calculations included 372 people. They were randomly selected based on the samples in each department. Informed consent was obtained from the samples before conducting the study. After selecting the samples, the answers of 372 staff of Imam Khomeini Hospital Complex were

collected online, of which 12 answers were removed after analysis. Finally, the data from 360 respondents were used to perform statistical tests.

Data collection

To design a quality-oriented structure measurement tool, the researcher reviewed the quantitative studies according to the standard measurement tools and several qualitative studies. The studies in which the studied population was medical and health service centers were evaluated. Then, their primary components, factors, dimensions, and concepts were extracted, translated, and collected, if necessary. Then, based on the extracted data, questions were designed in three variables of structure, quality, and emotional intelligence. There was no agreement on the most appropriate measurement method among researchers to measure emotional intelligence. Some researchers consider emotional intelligence as a cognitive ability that should be measured using problem-solving tests. However, other researchers consider emotional intelligence as a personality trait that should be measured using a self-report questionnaire. After reviewing domestic and foreign studies to measure emotional intelligence, the researcher used a study that measures the effect of the emotional intelligence of hospital staff on the quality of job performance and service provision during the COVID-19 crisis. The measurement tool used in this study was adapted from significant studies and the primary theories of emotional intelligence. According to the researcher's opinion, it was one of the most suitable tools given the study aim, the appropriateness of the statistical population, and the time of the study (6).

To conduct this cross-sectional study, two modified versions of the emotional intelligence measurement tool were adapted since its focus was on the characteristic of emotional intelligence (6). This tool evaluates three different dimensions of emotional intelligence, including optimism management, evaluation of emotions, and the use of emotions (7).

The questionnaire was sent online to the faculty member and non-faculty member specialist physicians, the nursing group, and the support personnel of the complex using the WhatsApp application. Given the possibility of receiving non-reliable answers and increasing the validity of the data, the researcher decided to get more answers from each group. After receiving more answers from each group, he deactivated the online questionnaire. Since the researcher was working in the complex, he sent the questionnaire using the mentioned application after providing an initial explanation. He asked the respondents to read the questionnaire carefully and select the appropriate answer. The questionnaire was completed during 2 months due to the peak of the Corona virus and the special conditions of the presence of physicians and personnel, and the conditions of online communication. The inclusion criterion of the study included the informed consent of the coworkers after being aware of the study objectives. The exclusion criterion of the study was the unwillingness to continue participating in the study. The samples were assured to observe the ethical principles regarding the confidentiality of their information.

Data Analyze

Smart-PLS was used for the process of mediating effect analysis in the PLS-SEM.

Results

Based on the demographic information of the respondents Table 1, 63% of the samples were female. The oldest age group was between 45 and 55 years old. Among the 200 members of the nursing group, the most common degree was a bachelor's degree (55.6%). Regarding work experience, the group with 11 to 15 years of experience had the largest frequency, with 85 individuals (23.6%).

Table 1. Demographic characteristics of the samples

Variable	Group	F	%
Gender	Female	230	63.9
	Male	130	36.1
Age	25-35 years	47	13.1
	36-45	140	38.9
	46-55	146	40.6
	56-67	25	6.9
	no answer	2	0.6
Education	a professional Ph.D.	6	1.7
	General Ph.D.	4	1.1
	Sub-specialty	11	3.1
	Associate	7	1.9
	Bachelor	154	42.8
	Master	157	43.6
	Specialty	21	5.8
Employment history	5-1	13	3.6
	6-10	38	10.6
	11-15	85	23.6
	20-16	63	17.5
	21-25	80	22.2
	26-30	69	19.2
	31-35	11	3.1
	no answer	1	0.3
Job	The nursing group includes nurses, midwives, anesthetists, operating room, practical nurses, and their assistants	200	55.6
	Support personnel (technical, procurement, service, security, reception, financial clearance)	125	34.7
	Faculty member physicians (specialists)	30	8.3
	non-faculty member physicians (general)	5	1.4

Coefficient of determination or R2: The coefficient of determination was calculated to evaluate the model's prediction accuracy. The value of R2 is between 0 and 1. Its analysis shows the prediction accuracy is from zero to 100% Figure 1. Thus, values close to 1 indicate higher prediction accuracy. In this study, the value of R2 was 0.6, indicating that 60% of the variance of the dependent variable is explained and predicted by the predictor variables Table 2.

Effect size: In addition to evaluating the R2 values, the F2 value of the effect size of predictor variables is presented in Table 3. As shown in Table 3, the effect of "setting strategic goals" is greater than the effect of other predictor variables in improving quality-oriented services.

Table 2. Accuracy coefficient of predictor variables in improving the dimensions of quality-oriented services

predictor variables	R2
Quality-oriented services	0.6
Ethical obligation	0.75
Professional requirement	0.66
Accountability and monitoring	0.62
Legal requirement	0.55
Quality control and assurance	0.46
flexibility	0.38
Ease of access	0.36
The beauty of space and environment	0.34
Emotional Intelligence	0.17
Self-motivation	0.71
stress management	0.64
Establishing interpersonal communication	0.33

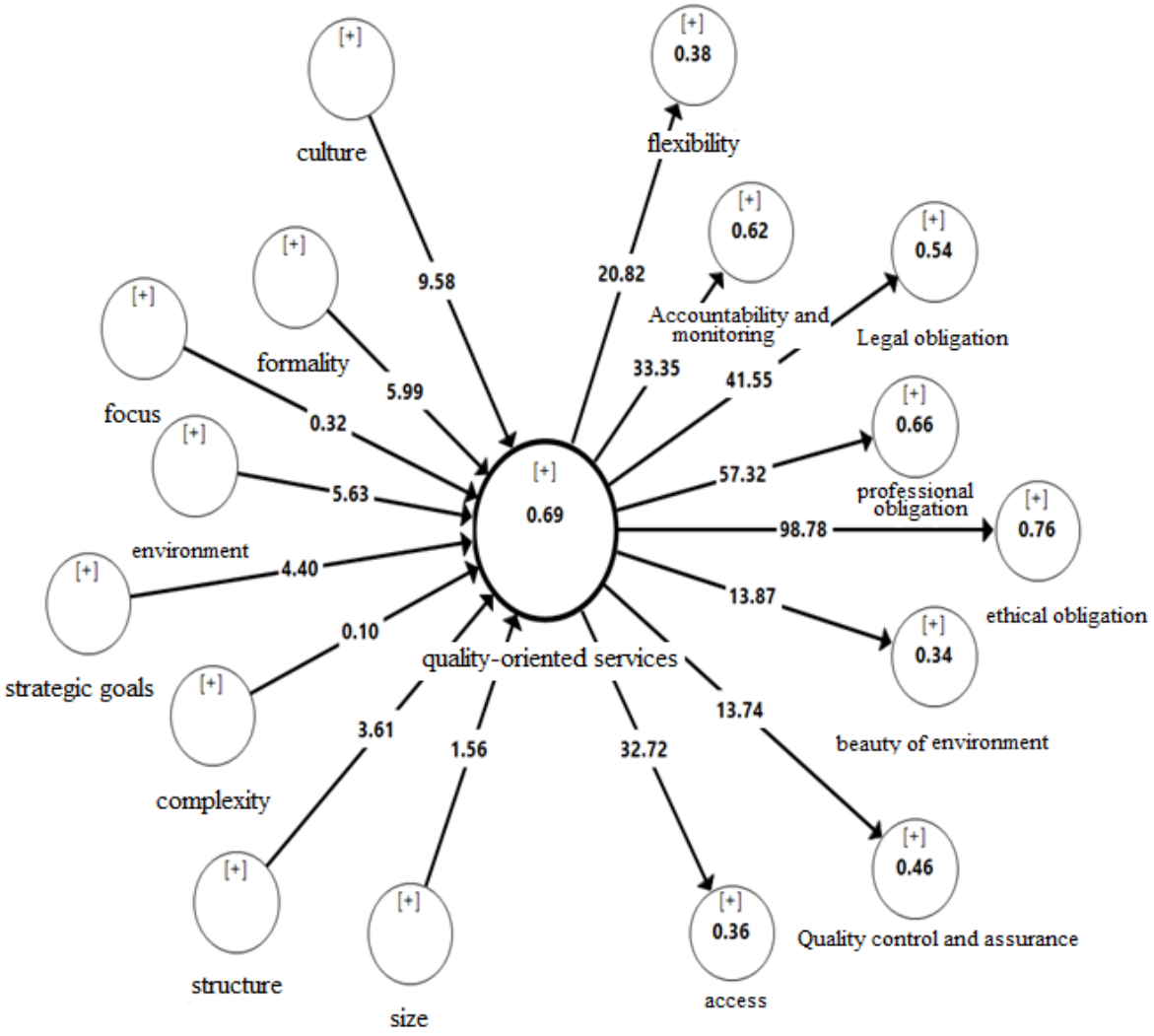

Figure 1. The research model without mediation intervention

Table 3. The level and intensity of the effect of predictor variables in improving the dimensions of quality-oriented services

Variables on dimensions	F2
Quality-oriented structure ➡ setting strategic goals	1.96
Quality-oriented structure ➡ Size	0.21
Quality-oriented structure ➡ Focus	0.30
Quality-oriented structure ➡ formality	1.32
Quality-oriented structure ➡ Structure	1.55
Quality-oriented structure ➡ culture	0.31
Quality-oriented structure ➡ environmental health	0.91
Quality-oriented structure ➡ emotional intelligence	0.21
Quality-oriented structure ➡ complexity	0.42
Quality-oriented structure ➡ quality-oriented services	0.98
Emotional intelligence ➡ quality-oriented services	0.04

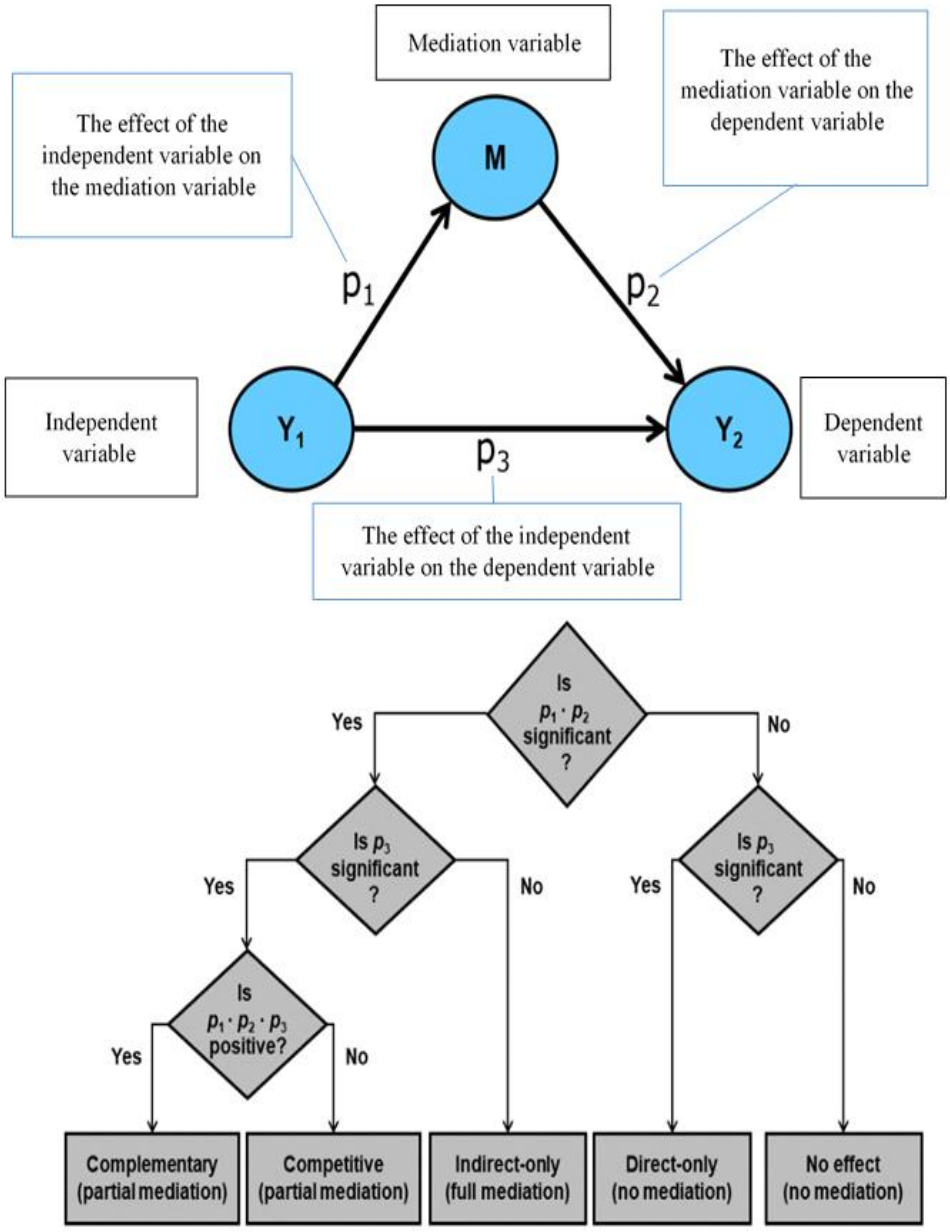

Figure 2. Mediation model decision-making process (8)

Mediating effects: Smart-PLS was used for the process of mediating effect analysis in the PLS-SEM (8). Figure 2 shows an example of a simple mediation model. As a result,

The researcher establishes that the third variable has a mediating influence by looking at the indirect effects of the independent and dependent variables. Quality-oriented services and structures have a link, and the suggested model was used to test the mediating role of emotional intelligence in that relationship. Tabular Data.

As a result, we conclude that the hypothesis regarding the mediating role of emotional intelligence in the relationship between quality-oriented structure and quality-oriented services is confirmed. Specifically, we find that emotional intelligence has a positive and significant impact on both quality-oriented structure and quality-oriented services.

Table 4 shows how emotional intelligence functions as a mediator in the link between quality-oriented services and quality-oriented structures.

The effect of quality-oriented structure on 8 components of quality-oriented services	The effect of the quality-oriented structure on the 8 components of quality-oriented services without mediation (emotional intelligence)			The effect of quality-oriented structure on 8 components of quality-oriented services with mediation (emotional intelligence)		
Quality-oriented structure➡ethical obligation	0.66	15.31	0.00	0.049	3.723	0.014
Quality-oriented structure➡flexibility	0.47	9.39	0.00	0.035	3.785	0.013
Quality-oriented structure➡ professional requirement	0.62	15.10	0.00	0.046	3.753	0.013
Quality-oriented structure ➡ legal requirement	0.56	18.35	0.00	0.042	3.527	0.017
Quality-oriented structure ➡ quality control and assurance	0.51	12.83	0.00	0.038	3.204	0.024
Quality-oriented structure➡ ease of access	0.45	9.90	0.00	0.034	4.468	0.007
Quality-oriented structure➡ the beauty of the space and the health of the environment	0.44	12.49	0.00	0.033	3.767	0.013
Quality-oriented structure ➡ Accountability and monitoring	0.60	19.21	0.00	0.044	3.464	0.018

Discussion

As the results showed, the quality-oriented structure in Imam Khomeini Hospital is directly associated with quality-oriented services. In other words, creating a quality-oriented structure in the hospital is effective in increasing the quality of services. It means that setting strategic goals including specifying the mission and goal of the hospital, the existence of a specific structure in the hospital including determining the job descriptions of people, working relationships of people, command and direction paths in work groups in the hospital, paying attention to the hospital setting including cleanliness and orderliness hospital, observing the hygiene and health by hospital staff, hospital environmental safety, the dominant culture of the hospital including respect and paying attention to the cultural, economic, and social characteristics and differences of patients, team work in the hospital, official rules in the hospital, defining the processes and work paths, specific and documented incentive mechanisms for rewarding and punishing staffs, the number of treatment staff, the number of staffs, the level of equipment, the volume of letters and administrative correspondences, delegation of authority and decision-making in the hospital, the right to sign and delegate signatures to different people with specific and related positions, the existence of diverse and different specializations, the large number of departments and units, and the existence of different parts for different departments in the hospital affect the quality of services and increase the emotional intelligence of staffs. The results of studies by Davrpanah & Hoveyda (6) showed that organizational structure positively affects organizational learning capability. In other words, organic organizational structure increases the spirit of learning and strengthens organizational learning. In this study, the role of organizational structure in organizational learning was not considered. According to this study, employees' emotional intelligence is raised in organisations with a quality-oriented organisational structure.

Consistent with the findings of this study, Taheri et al. (2009) found that an appropriate organisational structure enhances employee motivation and is a key

element of emotional intelligence. Shirzad et al. demonstrated how managers of Tehran's school districts' emotional intelligence is impacted by the kind of organisation they work in. Based on the results of the mentioned study, the hierarchy of organizational authority is associated with the level of emotional intelligence of managers of education districts in Tehran. In other words, autonomous and centralized organizations provide suitable conditions for strengthening the emotional intelligence of their managers (10), which is consistent with the present study results. Côté & Miners, stated that emotional intelligence is a key capability of organizations to create matrix structures. In other words, employees and managers with high emotional intelligence can create higher matrix structures. In other words, the use of innovative solutions, the use of flexible forces, appropriate job rotation, teamwork, and project-based work are done well in these structures (11). It is consistent with the results of this study.

Further research by Rasooli et al., titled "The relationship between emotional intelligence and attitudes of organisational culture among managers of hospitals of Ahvaz Jundishapur University of Medical Sciences: 2019," demonstrated a favourable correlation between organisational culture and emotional intelligence. It means that organizational culture affects emotional intelligence (12). It is consistent with the results of this study. In a study of top managers in Southeast African nations, Furnham & Taylor looked at the connection between professional personality and emotional intelligence. Their findings showed a positive and strong relationship between people's organisational and professional personalities and emotional intelligence traits like self-actualization, empathy, flexibility, boldness, optimism, and problem-solving skills, as well as interpersonal communication and empathy (13). Furthermore, Miao et al. demonstrated that there is a strong and positive correlation between emotional intelligence and service quality in their paper, "Emotional intelligence and service quality: a meta-analysis with initial evidence on cross-cultural factors and future research directions" (7). Further research was done on "The Role of Emotional Intelligence in Hospital Administration: A Case Study from Pakistan" by Khan et al. In keeping with the findings of this study on the positive and considerable influence of emotional intelligence on the dimensions of quality-oriented services, they discovered that interpersonal communication has a strong impact on staff performance in the healthcare business (14).

Recommendations

Based on the results, the following recommendations are presented:

It is recommended to hospital managers pay special attention to developing strategic and operational plans in hospitals. Reviewing the organizational structure of the hospital complex should be done after developing the strategic planning for the next five years. The description of duties and actions based on the goals and primary mission of the hospital should be done in each department of the hospital. The primary and specific goals should be reviewed and developed based on the new five-year planning. The physical space and environment of the hospital should be prioritized. It is recommended to hospital managers review work processes, and eliminate duplication and parallel works, such as redundant storage, redundant signatures, and human resources management in clinical and paraclinical departments based on the clinical duties of each department.

Conclusion

The results suggest that a quality-oriented structure improves the emotional intelligence of Imam Khomeini Hospital staff. It also plays an effective role in providing quality-oriented services. The hospital's head and administrators should

pay close attention to the organisational structure of the facility, which includes job descriptions, establishing authority boundaries, and hospital command directives. These measures improve the emotional intelligence of the staff. Staffs with high emotional intelligence are self-motivated in difficult and stressful conditions of the hospital and manage their own and others' stress well, and establish empathetic and good communication with patients. Thus, the structuring of the hospital should be prioritized by the hospital heads and managers. Managers of healthcare centers should pay special attention to quality improvement since they are directly responsible for the health and life of the patients and improving quality in the healthcare industry will be significantly more cost-effective for them. Hospitals and healthcare centers are very dynamic and complex social organizations and systems that provide health, diagnostic, treatment, care, and rehabilitation services to patients to maintain, prevent, treat, promote, and rehabilitate health. Hospital services should have high quality to cause patient satisfaction. Since patients demand the most valuable capital of life, namely health, from the medical services provided in the hospital, the quality of the services provided in the hospital is more significant and vital.

Authors' contribution

Mohammadreza Shahbazimoghaddam and Alireza Manzari Tavakoli developed the study concept and design. Sanjar Salajegheh and Hamidreza Molaei acquired the data. Mohammadreza Shahbazimoghaddam and Navid Fatehi Rad analyzed and interpreted the data, and wrote the first draft of the manuscript. All authors contributed to the intellectual content, manuscript editing and read and approved the final manuscript.

Informed consent

Questionnaires were filled with the participants' satisfaction and written consent was obtained from the participants in this study.

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Conflict of interest

The authors declare that they have no conflict of interests.

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