Effect of Human Resources Management on the Quality of Services Based on Hospital Accreditation

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A R T I C L E I N F O	A B S T R A C T

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Background: The quality of services is the most important determinants of successful hospital in competitive world. The aim of this study was to investigate the effect of human resource management based on hospital accreditation standards on the quality of hospital services using SERVQUAL model.

Methods: The method of this research In terms of purpose, was functional and applied, In terms of data collection, was descriptive, statistical community includes 310 Famili hospital clinical personnel in Rasht at fall of 2016, This sample was selected randomly, based Morgan table evaluated 175 persons. For data collection standard questionnaires Based on Iran's Ministry of Health and SERVQUAL used, for Information analysis, structural equation modeling with partial least square method was used with the Smart PLS2 software.

Results: Test hypotheses suggest that empowering human resources management based on the accreditation standards for hospitals affects the quality of hospital services significantly. The most important factors in the management and empowerment of human resources include: education and empowerment of employees (0.950), policies and methods (0.949), safety and occupational health and environmental health guideline book (0.938).

Conclusion: In order to improve the quality of hospital services as accreditation view, it is important notice to the management and empowerment of human resources items and it is suggested that hospital managers consider it to be the priority of their programs

Key Words: Accreditation, Human Resource Management, Service Quality, SERVQUAL, Famili Hospital of Rasht

Citation

Introduction

What is accreditation? It is performed by evaluating the quality of the organization's processes and its performance in accordance with written and approved standards by experienced and expert people. In this research Accreditation generally refers to a systematic assessment of the health care facilities with specific standards. Standards that emphasizes on continuous improvement of quality and improve patient and employee safety (1). Accreditation does not merely address standardization but also has analytical, counseling, and recovery dimensions (2). First accreditation system in Iran was introduced between 1962 and 1967. It started as a set of checklists and was developed on the basis of a USA accreditation system which was considered by Iranian authorities to be a successful pattern. In 1994, the joint commission of international present international accreditation health standards. A large group of researchers believe that the quality of service has a profound effect on satisfaction, and thus on customer loyalty to the organization. Quality of service is one of the effective factors for achieving the strategic interests of the organization, such as maintaining customer rates or increasing the effectiveness and gaining operating profit. Service quality has become one of the most important issues in academic research in recent years. Today, man has a special vision in modern management, and researchers acknowledge that the most important asset of the organization is human resources (3). Human resources are scarce, valuable, non-existent, irresistible and very important because health systems are also designed and implemented by humans, the importance of human planning and operations in these organizations is vital (4). In healthcare facilities, health professionals are the most important source of production. If firms have an efficient management of their human resources, the result is an improvement in the quality of services the firm will move towards greater competitiveness. Human resource management in the health sector of many developing countries is very weak and tiny and lack of motivation is one of the most important health problems in most of these

countries (5). The development of human resources in the health sector is more challenging. The success rate of national health systems significantly depends on their workforce. This issue has focused on policy makers in recent years (6). The success of any organization lies in the presence of an efficient and effective evaluation system. Accreditation is a criterion for the achievement of health organizations to previously defined standards through the evaluation of external and independent comparisons (7). A global approach to quality health care has led to efforts to better manage resources and services considering its increasing costs, the marketing competitive advantages and patient safety. One of the main tools for quality health care and its improvement is accreditation (8). Accreditation is the most accepted evaluation system that will improve the performance of the health system (9) and have positive effects in achieving the goals of the hospital and improving the quality of services (10). Across the world, people, patients, government, and third-party payers are demanding a more rigorous assessment of health care services to Continuous improvement of quality.Different countries have adopted different approaches to maintaining and improving quality and standards that including licensing, certification and accreditation. Accreditation is considered to be the most powerful method known in this field due to the maximum and most challenging standards (11). Accreditation is one of the most important areas in the evaluation of health services and ensures the achievement of health service provider organizations to an acceptable level of performance indicators. The purpose of this system is to create a framework for continuous improvement of quality in health services in order to achieve the goals of the health system (12). Accreditation is a process of quality control and assurance in higher education that is in order to achieve acceptable minimum standards. An institution's accreditation system at the medical sciences universities of the Islamic Republic of Iran has been designed according to the necessity and with the diagnosis of the Ministry of health,

treatment and medical education with the aim of continuously maintaining and improving the quality of education, research and service delivery (13). Today, the subject of accreditation has been developed with the aim of creating and promoting a safety culture and quality of patient care. In recent years, some measures have been taken to establish the standard of accreditation in our country, which in 2011 replaced the hospital's standards of assessment (14). Accreditation can increase the public trust, quality of services, satisfaction of staff and patients, safety of services and income of hospitals and also reduce hospital costs and improve hospital processes. Accreditation can be more effective and efficient compared to the normal evaluation system (15). According to the issue, this study was conducted with the aim of investigating the process of accreditation implementation in human resources management and its impact on the quality of services of Famili hospital from the viewpoint of the medical staff of this hospital in the Rasht city. The main objective of this research is to identify the effect of human resources management dimensions on the basis of hospital accreditation standards on the quality of hospital services based on the SERVQUAL model using structural equation modeling.

Quality is considered as the most important determinant of the success rate in providing hospital services and despite the fact that accreditations the longest-established and most widely known method of evaluation of healthcare services in the world and given the scarcity of research related to accreditation programs in developing countries (2) also In the same situation, in our country, Iran, little research has been conducted on hospital accreditation and the quality of its services. The important point is that such studies have not been conducted in hospitals in Rasht province. Famili hospital is the first non-governmental hospital in Rasht. This research seeks to answer the question of how can the quality of hospital services be increased through the process of accreditation of HRM?

Independent variables of this research model are the dimensions of human resources management based on hospital accreditation standards in Iran, including management and organization, management and empowerment of human resources, quality improvement and data collection. The dependent variable of the research model is the quality of service based on the SERVQUAL model. The theoretical framework for research is presented in figure 1.
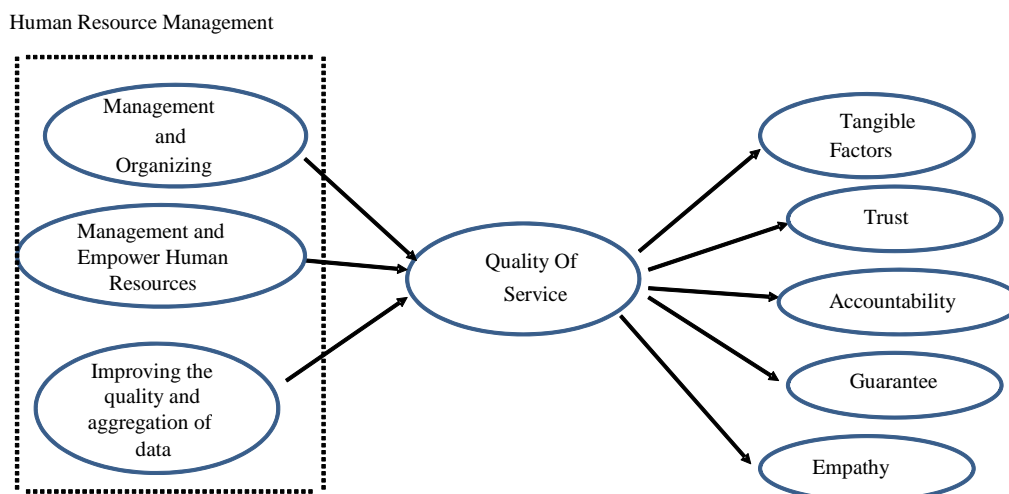
Figure 1. Theoretical framework for dimensions of service quality based on SERVQUAL model and Human resource management based on hospital accreditation standards in Iran.

In order to answer the research question, the following research hypotheses are stated:

Hypothesis 1: Managing and organizing has a significant effect on the quality of services.

Hypothesis 2: Management and empowerment of human resources has a significant effect on the quality of services.

Hypothesis 3: Improving the quality and aggregation of data has a significant effect on the quality of services.

Variables in the model are defined as following:

Quality of service which means general evaluation of customers from company services (16). Quality of service is the overarching characteristics of a service that affects its ability and talent to serve the implied or stated needs. This is a customer-oriented definition of quality (17). Quality dimensions include tangible (physical) factors, trust (reliability), accountability (Responsibility), Assurance (Warranty), Empathy based on the SERVQUAL quality service model (6,16,18). From the perspective of many researchers, such as Parasouraman et al. (6,19), the SERVQUAL framework is considered as the most useful tool for assessing the quality of services.

Tangible factors: This index includes all equipment, facilities, public space of the organization, appearance of employees, and, finally, communication channels then, tangible (physical) factors can be measured with items like the decorated appearance of staff, clean environment of the hospital, new and up-to-date hospital equipment, fitness of physical environment and signs and guidelines

Trust (Reliability): This indicator shows the ability to present the promised service to customers in an accurate, reliable and consistent manner. For example, customers who come to an emergency department at a hospital, expecting rapid admission, special attention and care from the medical staff and etc. Reliability is a measure of the ability of the emergency department to meet these expectations. Another meaning of reliability is the fulfilling the initial obligations. That is, if the service organization promises to provide customer service, they should do it. Then, reliability can accurately measured with such things as provision of services in accordance with obligations, employee interest in solving problems, performing the first time correct services, carrying out various services at announced times, maintaining records of patients.

Accountability (Responsibility): This indicator reflects the willingness to help the customer and provide timely service. This item emphasizes on the quality of service on customer retention, Criticisms and Customers comments. Given the presentation service sensitivity and direct presence of the customer in this process, it is clear that the shorter period of time led to greater customers satisfaction .For example, in the emergency department of the hospital, according to the patient's specific condition, extending the waiting time for the medical examination, creates grievances in Patient and follows. This time represents the responsibility of the personnel of the organization .Accountability can be measured with terms like announcement of the time for various services to the patient, providing fast and uninterrupted service, The willingness of staff to help patients and availability of staff when needed.

Guarantee (Warranty): This indicator reflects the ability and competence of personnel to convey the sense of trust and confidence in customer service. In service industries they have higher importance, such as health services, legal services, banking services, etc. This item is very important after quality (20). The dimensions of the guarantee can be measured in terms such as creating a sense of trust and confidence in the patient, feeling secure and relaxed when communicating with staff, polite and friendly treatment of the patient, the response to patient questions (4).

Empathy (special attention to the customer): This indicator means that the deal with each customer is proportional to the mood and, in general, their personality characteristics, so that customers accept that they are important for service organization and organization understands them.(20).Empathy dimension can be measured with terms such as individual attention to each patient, the accuracy of 24-hour hospital services, attention to patient beliefs and emotions, heart's interest towards the patient, and attention to and understanding of the specific needs of each patient (4).

Human Resource Management: Human resources management is the identification, selection, use, training and development of human resources in order to achieve the organization's goals. In this definition, the meaning of human resources is all those who work at different levels of the organization, Meaning of organization is created, specific set for reach particular goals..Human resource management focuses on policies, actions and systems that affect employees' behavior, attitudes, and performance. According to Armstrong, HRM is a strategic approach to attracting, developing, managing, motivating And achieving the commitment of organization key resources, that is, those who work for it (21).The dimensions of human resources management in this research are based on accreditation standards in the hospital, including management and organizing, management and empowerment of human resources, quality improvement and data collection.

Management and organizing: This dimension has 2 indicators: Strategic plan and unit manager.

Management and Empowerment Human Resources: This dimension has 11 indicators. Staff records indicators, identification card, staff list, job duties description ,first recruitment course, personnel competency and ability test, staff training and empowerment, booklet on occupational and environmental health, policy and methods, human resources needs assessment, staff assessment.

Improving the quality and aggregation of data: This dimension has 2 indicators, quality improvement indicators, data collection and analysis. An overview of the summary of research related to the variables of research is mentioned:

Yousefi et al. (13), developed an accreditation system in a research entitled design for accreditation system at Iran medical sciences. They stated for paying attention and compliance with national accreditation standards, universities of medical sciences will play an important role in promoting the health system of the country. Also, the establishment of an accreditation system at national level based on the results of this project can lead to greater acceptance of universities in the international community.

Mahmoudian et al. (8), listed the challenges and strengths of the implementation of the accreditation process from the viewpoint of health information management staffs, and argue that: effective management and guidance, awareness of the goals of the accreditation implementation, dynamism and efficiency, motivating employees by rewarding and participation are strengths of accreditation system. In return Increasing the workload of employees and division of duties, lack of training in quality improvement methods, inadequate information to staff about progress, lack of budget allocation, lack of motivation in the staff And the lack of teamwork tasks were identified as critical challenges.

Training, developing group work culture and effective management lead to a more complete implementation of the accreditation process and, while having a positive impact on employee performance, it helps to solve the challenges of accreditation in the health information management sector (8). Among abroad, studies have shown the benefits of accreditation in providing health services. Found that accreditation is a process that helps improve the performance and development of positive outcomes of patient health (22, 23, 24, 25, 26) .In studies of Nicklin et al. (27), in Montreal, El-Jardali et al. (28), in Lebanon, Leatherman et al. (29), Chen et al. (30), it has been shown that accreditation improves the quality and performance of the organization's services.

Al-Khinizan and Shaw (31), in Saudi hospitals, identified that accreditation improved the quality of services and performance of the organization. The research conducted in Egypt by AL T and Colleagues (32) aimed at determining the effect of accreditation of health units of non-governmental organizations also indicated that patients' satisfaction was significantly higher in health units that were accredited than in centers ,They did not have an accreditation certificate. In contrast, there are some studies that have failed to show a meaningful relationship between accreditation and

service delivery. For example, Sack et al. (33), did not show any significant difference in the degree of satisfaction of patients referring to cardiology units between accredited and non-accredited hospitals. Also, Barker (34) did not find any significant correlation between medical errors and hospital accreditation. Even in the study of Pumi et al. (35), it was believed that accreditation, due to lack of attention to daily activities, leads to fatigue and the elimination of work activities (36). In the study of Reznich and Mavis (37), have revealed there was no significant relationship between accreditation, improvement of center performance and provision of services. The findings of the review study of Greenfield and Braithwaite (24) also show different results of studies in some cases; however there were similar positive outcomes in the two areas of promotion of professional change and employee development. But, there were contradictory results in the areas of professional attitude towards accreditation, organizational impact, financial impact, quality criteria, and appraisal of the program.

Materials and Methods

The method of this research is applied in terms of purpose and in collecting data, was descriptive survey and data collection tool was a standard questionnaires Based on Iran's Ministry of Health and SERVQUAL, The information analysis method was the structural equation modeling based on partial least squares method. The statistical population included 310 Famili hospital staff According to the Morgan table, 175 people were selected randomly in Rasht fall of 2016 .The instruments used were two kinds of standardized questionnaires. The first part of the general questions include demographic questions including gender, age, level of education, employment status, work experience, shift, employment status. In the second part, the main questions include 77 questions for measuring variables of research. The first questionnaire related to human resource management variable based on accreditation standards of hospital in Iran includes three dimensions of management and organization have

2 indicators (5 questions), management and empowerment of human resources have 11indicators (39 questions), improvement of quality and data collection have 2 indicators (11 questions) (38). The quality of service questionnaire based on the SERVQUAL model has five dimensions of tangible, physical (4 questions), reliability (5 questions), accountability (4 questions), assurance (guarantee) (4 questions), empathy (special attention to customer) (5questions) (1).

This research was conducted using the path analysis using Smart PLS2 software. Structural equation modeling is a comprehensive approach for testing assumptions about the relationships between observed and hidden variables. The Smart PLS2 software focuses on maximizing variances and has superior advantages over similar software, especially when models are complicated. Also, it is not sensitive to data normality and the sample size. This software performs statistical analysis in two steps. In the first step, based on the measurement model, Convergent validity and correlation coefficient of composite reliability tested and the mean of the variance of the evaluation and the relationship between the structures and its dimensions were measured. The second step is to evaluate the structural model in which the indicators at this stage represent the quality of model fit and the hypotheses are examined.

Reliability and validity in Smart PLS2 software are measured by three indicators. Cronbach's Alpha higher than 0.7, composite reliability higher than 0.7, coefficients of factor loads higher than 0.4 were appropriate. Convergent Validity (AVE) is an indicator that shows the correlation of a structure with its own indicators, the greater correlation provide better proportion. Values above 0.5 are suitable for this index. To measure divergent validity, the Fornell matrix is used in software output. The GOF criterion is related to the general section of the structural equations model and represents the general proportion of the model, which has three values of 0.01 and 0.25 and 0.36 are considered as weak, moderate and strong values. In testing the hypotheses, according to the

data analysis algorithm in the partial least squares method, after examining the fitting of the measurement models and the structural model and the general model, it turns to examine the research hypotheses which consists of two parts: Review of z significant coefficients and the values of t-values, if the coefficients of the path are higher than 1.96, at the confidence level of 0.95, can accept the assumptions and model and then review the standardized coefficients according to the paths, as shown in Fig 2 (39).

In addition, the declaration of Helsinki was considered for ethical issues

Results

All variables have an acceptable Cronbach's Alpha of over than 0.9. Therefore, the research questionnaire has the necessary reliability. Also, the communality and the explained average of variance Extracted (AVE) were also very good. Table 1 summarizes the indicators of the variables of the questionnaire.

Table 1. Indicators of the variables of the questionnaire

Number	Variable	Communality	Cronbach's Alpha	R-Square	Composite Reliability	Average Variance Extracted (AVE)
1	Education and empowerment	0.821343	0.963706	0.902897	0.969853	0.821343
2	Assessment	0.918925	0.911869	0.717785	0.957749	0.918925
3	Test and empowerment	0.913761	0.968505	0.850433	0.976946	0.913761
4	Strategic Plan	0.849502	0.910669	0.911584	0.944168	0.849502
5	Improved quality and collection	0.773179	0.970422	-	0.973968	0.773179
6	Improve quality	0.918877	0.970177	0.883862	0.978382	0.918877
7	Brief introduction period	0.908187	0.949493	0.770758	0.967395	0.908187
8	the trust	0.918158	0.955393	0.918918	0.971143	0.918158
9	Sympathy	0.866682	0.961087	0.959899	0.970098	0.866682
10	Data aggregation and analysis	0.793458	0.956382	0.947574	0.964100	0.793458
11	identification card	0.969908	0.969017	0.218732	0.984724	0.969908
12	Safety and Health Booklet	0.908982	0.949841	0.880621	0.967695	0.908982
13	Quality	0.735734	0.979439	0.843165	0.983041	0.735734
14	Patterns and methods	0.880527	0.972549	0.901087	0.977853	0.880527
15	Staff list	0.890164	0.877041	0.620025	0.941888	0.890164
16	Tangible factors	0.789729	0.910094	0.847907	0.937420	0.789729
17	Responsible unit	0.901077	0.890439	0.813551	0.947963	0.901077
18	Manage and organize	0.757143	0.919439	-	0.939638	0.757143
19	Management of Human Resources Empowerment	0.681199	0.987777	-	0.988547	0.681199
20	Human Resources Needs Assessment	0.880854	0.954913	0.730169	0.967282	0.880854
21	personal file	0.933743	0.929145	0.660382	0.965736	0.933743
22	responsiveness	0.863906	0.947353	0.922689	0.962095	0.863906
23	Duties	0.826462	0.929789	0.763366	0.950091	0.826462
24	Guarantee	0.926814	0.973620	0.952529	0.980638	0.926814

To achieve this, the first factor analysis was conducted for each of the variables of the questionnaire. Finally, the related model for survey hypotheses has been implemented. After

testing the measurement models, a structural model represents the relationship between the variables of the research is that presented in following:
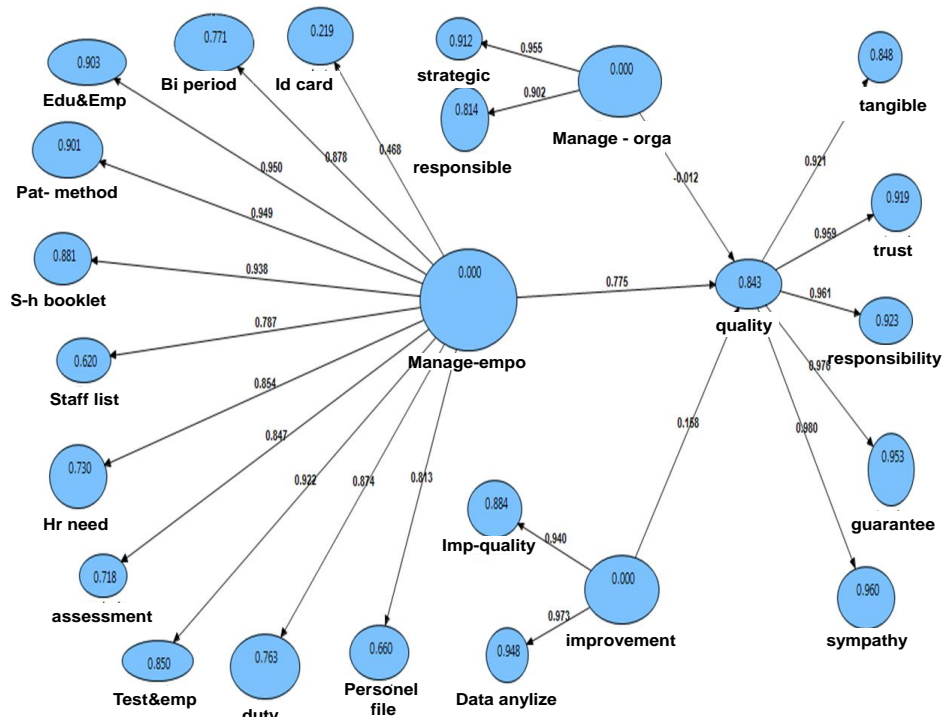
Figure 2. Structural model with standard coefficient

Also GOF factor shows a strong congruence of   The model at the whole level which is:

$$GOF = \sqrt{Communalities \times R^2} = \sqrt{0.87 \times 0.77} = 0.81$$

Discussion

The purpose of this study was to investigate the effect of human resource management on the quality of hospital services Based on the accreditation standards of the hospital in Iran and the SERVQUAL model. The study was conducted in 2016 at the Famili Hospital in Rasht. Considering the output of the software and the significant levels for the confirmatory factor analysis, the all factors of model gain proper score and their relationship with latent variable has been confirmed (the significance level of all variables is zero and less than (0.05).This research shows that the management and empowerment of human resources, based on the accreditation standards of the hospital, positively and significantly influences the quality of service of Rasht Famili Hospital. It can be found that effect of human resources management dimensions on the quality of services, at 95% confidence level, the second hypothesis is confirmed and the first and third hypotheses are

rejected. The standard coefficient of 0.75 represents the high impact of human resources management and empowerment on the quality of services. The factors related to the quality of services show that every five factors, tangible (physical), trust (reliability), accountability (liability), guarantee (Warranty), empathy had important role in determining the quality of service of the Famili hospital in Rasht city. Confirmation of the factors related to the management and empowerment of human resources shows that all 11 factors contribute to its definition. According to the standard coefficients of education and empowerment of employees as the most important factor (0.950) and then the policy and methods (0.949), booklet of occupational health and environmental Health (0.938), Staff empowerment test (0.922), First employment training (0.887), job description (0.874), human resources needs assessment (0.884), Staff assessment (0.847), personnel records (0.813), staff list (0.778) and

finally identification card (0.486) were identified. These findings enhance our understanding of accreditation. Also, the service quality determination coefficient (R^2) was 0.843, which shows that 84.3% of the quality of service changes are explained by employee management and empowerment.

According to the model and research findings, hypotheses 1 and 3 were rejected and the second hypothesis was confirmed. The standard coefficient of 0.775 indicates that human resource management and empowerment have a great impact on the quality of services.

Some of the researches mentioned before, have examined the dimensions of the SERVQUAL model for measuring the quality of services in the statistical society. For example, from domestic research Moradi et al. (7), among the foreign studies, Alkhenizan and Shaw (31), Nikhlin et al. (27), El-Jardali et al. (28), Leatherman et al. (29), Chen et al. (30), and It was found that Accreditation improves the quality of the organization's services (31). But present findings seem to not complete consistent with those of other studies suggest that accreditation is direct impact on HRM. In contrast to expectations, this study did not show that: Managing and organizing and Improving the quality and aggregation of data have not significant effects on the quality of services.

Conclusion

It seems that the history of the Famili hospital as the first private hospital in Gilan province and its reputation in discipline has led to the institutionalization of organizational dysplasia in its personnel, so that the first and third hypotheses may have been rejected for this reason. Albeit the second possible explanation for the finding s relates to because in Iran accreditation has effective results in hospital rankings and they receive promotional privileges and can raise tariffs based on points. It is very important for every private hospital to earn more money. That's why financial motivation is very important Because of the financial motive these cases have already been resolved in the Famili hospital. The public hospitals, on the other hand, are not as dependent financially on the results of the accreditation, since they do have significant income from the public finances. That is, the application of external standards such as accreditation does not have an effect on the improvement of indicators, because they are in good condition mean while, the study of the dimensions of human resources management based on the accreditation model of hospitals in Iran impact on the quality of hospital services .for the first time in this paper has been studied and this study will serve as the base of future studies.

Conflict of interests

Authors have no conflict of interests to declare.

Author's contributions

Hozni A designed research, Hozni A and Vahdati H conducted research, Tohidi Moghaddam M analyzed data; and Hozni A wrote the paper. All authors read and approved the final manuscript.

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