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Correlation between Organizational Learning and Accreditation of Educational Care Centers: A Case Study in Ardabil

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ABSTRACT

Background: Considering the importance of organizational learning and its impact on health accreditation, the present study investigates the level of learning and its relationship with accreditation and its promotion strategies in medical sciences universities as the core of the health sector.

Methods: In this descriptive-analytic study, data was gathered from 176 nurses working in four teaching hospitals in Ardabil. The standard organizational learning questionnaire and the accreditation rating checklist (second generation) were used as well. Data were analyzed by ANOVA, $SPSS_{22}$, follow-up tests and correlation coefficient.

Results: The results showed that there was no significant difference in the total score of accreditation between teaching hospitals (P-value = 0.320, F = 1.178), but there was a significant difference in organizational learning (P-value < 0.001, F = 146.9) due to the very low rating of one of the centers. The results also showed a positive, significant and strong relationship between the organizational learning score and the total score of accreditation in 4 teaching hospitals in Ardabil (r = 0.319, P-value < 0.001).

Conclusion: Based on the results there is a positive and significant relationship between the organizational learning and the accreditation scores. By increasing personnel organizational learning, the accreditation score has also significantly increased. Therefore, with proper policy on organizational learning, educational centers can have a higher level of accreditation in order to provide decent services.

Keywords: Accreditation, Educational Health Centers, Organizational Learning

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Introduction

Today, organizations are seeking benefits from the rapid growth of knowledge and technology. Learning in the organizations to adapt its capabilities to human resources and to meet the needs of the organization has become an important issue (1). Organizational learning is one of the crucial factors in the growth and innovation of organizations (2, 3); indeed, the organization level of effectiveness and growth is dramatically dependent on its capacity (3).

On the other hand, managers' attention to growth and innovation is one of the facilitators of learning in organizations (4,5). Organizational growth and learning capability have managers to increasingly focus on enhancing organizational learning capabilities (2,3).

Organizational learning capability includes four components including management commitment for organizational learning, a systemic view of the organization goals, integration and transfer of knowledge and an open and experimental environment (6). Management commitment to learning means understanding the importance of learning and creating a culture that considers acquisition, creation and transfer of knowledge as a core value in an organization. A systemic vision means that different individuals, sectors, and areas of the organization have a clear view of the organization goals. Knowledge transfer is mainly caused through conversation and interaction between people. Dialogue, negotiation, and meetings are ideal ways for sharing ideas and transferring knowledge (6,7). Open environment makes it possible to experiment new ideas inside or outside the organization, this experimentation is essential for creative learning (4).

Hospitals in addition to their primary goal of promoting and providing health care are also learning organizations (8). They steadily interact with their environment to create new knowledge, and put it into integrated networks so that others can use it (9). Hospitals are one of the most interacting working environments that involve interactions between nurses, patients, family members, doctors and other staff. All of these interactions can make a learning organization. Nurses are one of the important sources of organizational knowledge and main elements of knowledge transfer in hospitals. They can play a major role in the process of organizational learning (10,11).

Accreditation, as a quality assessment model, evaluates the commitment of the organizations to meet the required standards, and it ensures the organization that preset goals have been achieved (12). Edward Sallys (13) believes that the educational centers should focus on four requirements: professionalism, ethics, competitiveness and accountability.

Accreditation approaches are related to the mission of the organization, the goals and needs of human resource development (12,14). The current and future workforce training needs come from a common understanding of what the organization needs. This approach is conducted by assessing the quality of knowledge, skills and competencies of the workforce. The organization must ensure that the training programs increase the knowledge and skills of the staff. Therefore, Accreditation process should be designed to evaluate properly the competencies that are targeted by the training (15,16).

The major goals of accreditation include the followings (16):

- Improving the quality of health services by identifying desirable and achievable goals within the standards
- Improving integrity in health services management
- Establishment of a health care provider's database for optimal achievement of structural, process and outcome standards, as well as the establishment of rules and regulations
- Reducing risks and injuries to patients and personnel
- Training and counseling health service providers, managers and health professionals in quality improvement strategies
- Strengthening public trust in the quality of health services

- Reducing health care costs by improving efficiency and effectiveness

Understanding accreditation approaches will help to understand the nature and method of its application (13,17).

Various studies have shown that the lack of an effective assessment and accreditation system for hospitals, in addition to increase health care costs (14,18), can endanger public health (19). Accreditation is one of the standards evaluation systems that plays a fundamental role in improving the quality of health services based on the ability of personnel (13,17). Pomey et al. (20), in their study showed that inadequate education in human resources is one of the challenges of the implementation of the accreditation process in hospitals. Rose et al. (21), in his study showed that organizational learning improves the job performance, accountability of health care staff and performance indicators of the hospitals.

In a study, the results showed that organizational learning improves the performance of employees and increase staff satisfaction (22). In a study, KB Ng (23) stated that accreditation could have positive effects on achieving hospital goals and improving the quality of services by establishing a suitable information system, clarifying the information, and changing the general knowledge and attitude of the staff.

Considering the role of organizational learning and its impact on accreditation, the researchers chose this issue to use this concept in health, particularly the medical sciences universities as the core of the health sector. This study investigates organizational learning and its relation to accreditation and the ways to improve it.

Materials and Methods

This is a descriptive cross-sectional study done in 2015. The statistical population was all nurses working in Ardabil hospitals (4 centers) (910 people). The classified random sampling method was used. Sample size was 176 according to the Cochrane and Morgan tables. In order to reduce the effect of sampling loss, 200 people completed the data collection form. First total numbers of nurses working in centers (910 people) were identified. Then according to the proportion of nurses working in each center, the final sample number was determined. Center 1 with 23 samples of Nurses, Center 2 with 42 samples from a total of 127 nurses, Center 3 with 56 samples from a total of total 264 nurses, and the Center 4 with 79 from a total of 407 nurses were enrolled in the study. Then, a random sampling method was used to choose samples among nurses. Inclusion criteria for nurses were the followings: working as a nurse in hospital wards, work experience over than 2 years, non-attendance courses related to organizational learning in the last year and satisfaction to attend the study. The data collection tool was standard organizational learning questionnaire as well as accreditation rating checklist. The standard organizational learning questionnaire contains 33 questions. This questionnaire was prepared by Sadegh Sharifirad in 2014 (24). The questionnaire assesses the following items: questions 1 to 7, the appropriate leadership dimension, the questions 8 to14, the Deepened space Dimension, the questions 15 to 18, the localization dimension, the questions 19 to 24, balance between work and family dimension, questions 25 to 29-time management dimension, and finally questions 30 to 33, experimenting dimension. The minimum and maximum score were respectively 33 and 165. The score between 33 and 66 indicates low organizational learning, score between 66 and 99 indicates average organizational learning and score over 99 indicates high organizational learning. To determine the content and formal validity of the questioner experts' corrective comments were used. The reliability of a tool is its degree of stability in measuring, which means that the measurements under the same conditions give the same results. Sixty-six completed questionnaires were analyzed by $SPSS_{22}$; the Cronbach's alpha was 0.9 which indicates the reliability of the questionnaire.

The research team provided nurses with organizational learning questionnaires. They also provided the samples with necessary information, including the purpose of the study and relevant ethical issues, such as the confidentiality of the

information. Accreditation scores were extracted from the departments of quality improvement. The correlation and mean differences were used for data analysis.

Data were analyzed by $SPSS_{22}$ software using ANOVA, follow-up tests, and correlation coefficient.

The ethics code of this study from the Ethics Committee and the Research Council of Ardabil Medical Sciences University was (IR.ARUMS.REC.1394.212).

Results

Table 1 shows the difference between the studied centers (4 educational health centers in Ardabil) in terms of accreditation and organizational learning score. Table 1.A shows that accreditation scores of the centers were not significantly different (P-value = 0.320, F = 1.178), but according to Table 1.B there was a significant difference in terms of total score of organizational learning (P-value < 0.001, F = 9.146). The follow up test (Appendix 1) was used to compare hospitals with each other in order to identify the organizational learning score difference. According to the results, the significant difference between the two hospitals caused a significant difference between the centers in terms of organizational learning.

Although, Boali hospital score was lower than Imam Khomeini Hospital, there was no significant difference in organizational learning score between two hospitals (P-value = 0.069, Dif = - 23.815).

The results showed that correlation between accreditation scores and organizational learning score is significant except in Allavi Hospital which the correlation is not significant. According to R^2, in Fatemi Hospital more than 21%, and in Bouali Hospital more than 13% of the variance of accreditation scores is explained by personnel organizational learning. This rate is less than 0.0001% for Imam Khomeini Hospital.

Table 3 indicates the relationship between accreditation and organizational learning in educational hospitals in Ardabil. The results show that there is a significant relationship between all dimensions of organizational learning and the accreditation score.

The results also showed a positive, significant and strong correlation between organizational learning score and total accreditation score (r = 0.319, P-value < 0.001). Accordingly, by increasing the organizational learning, the accreditation score of the organization significantly increases. Furthermore, the coefficient of determination $r^2 = (0.101)^2$ showed that more than 10% of the variance of the accreditation score was explained by the total score of the organizational learning and the remaining 90% were related to other factors.

Table 1. A: Differences between hospitals in terms of overall accreditation scores

Source of change	Sum of squares	Degrees of freedom	Mean squares	F	P*
Inter group variance	3089.385	3	1029.965	1.178	0.320
Intra group variance	129410.421	148	874.395		
Total	132500.316	151			

*Significant at the 0.05 level

Table 1. B: Differences between hospitals in terms of organizational learning rating

Source of change	Sum of squares	Degrees of freedom	Mean squares	F	P
Inter group variance	40805.921	3	13601.974	9.146	*0.001<
Intra group variance	129410.421	148	874.395		
Total	132500.316	151			

*Significant at the 0.05 level

Table 2. Relationship between the total score of accreditation of each hospital with their organizational learning score
Correlation between accreditation and organization learning

Accreditation	Organizational learning	
Accreditation score of Imam Khomeini Medical Center	Pearson correlation coefficient	0.411*
	Probability value	0.010
	Coefficient of determination	0.0001
Accreditation score of Fatemi Medical Center	Pearson correlation coefficient	0.465*
	Probability value	0.003
	Coefficient of determination	0.216
Accreditation score of Allavi Medical Center	Pearson correlation coefficient	0.202
	Probability value	0.224
	Coefficient of determination	-
Accreditation score of Boali Medical Center	Pearson correlation coefficient	0.369**
	Probability value	0.023
	Coefficient of determination	0.136

* Significant at the 0.05 level
** Significant at the 0.01 level

Table 3. Correlation between total accreditation scores and nurse's organizational learning

	organizational learning dimensions						
	leadership	**localization**	**Deepened space**	**Balance between work and family**	**Time management**	**Experimenting**	**Total organizational learning**
Accreditation of health services	0.354	0.311	0.271	0.334	0.301	0.260	0.319
	0.000	0.000	0.002	0.000	0.000	0.023	0.000

Discussion

The purpose of this study was to investigate the effect of organizational learning on the accreditation score of teaching health centers in Ardabil. Therefore 200 nurses working in different teaching hospitals of Ardabil took part in the study.

Today, there is a lot of pressure on health systems to improve their performance. Technology advances, customer expectations, increased demand, lack of resources, increased competition, as well as concerns about safety, deficiencies, and medical errors, have led to the accurate and explicit evaluation of the healthcare organizations (25-27).

Although most of healthcare organizations use accreditation standards, especially in developed countries, few studies have been carried out on the effects of its implementation on the provision of health services (28). In studies such as Chatterjee (17) and Jaredley et al. (29), accreditation improved the quality of service and performance of the organization.

Based on the results of this study, the hospitals were not significantly different from each other in terms of overall accreditation scores based on the accreditation checklist of the Ministry of Health and Medical Education. Global experience has shown that the use of standards will improve quality; however, due to the use of the same pattern by all hospitals, there is no significant difference in the impact of accreditation on the hospitals performance (17) which confirms the findings of this study.

Accordingly, it can be stated that the educational hospitals of Ardabil with different specialized services in sub-scales of accreditation were at the same level.

The present study showed that Ardabil teaching hospitals had a significant difference in terms of organizational learning. Accordingly, Fatemi Hospital (Ardabil Burning Center), had the highest average for organizational learning and Bouali Hospital (pediatric center), had the lowest average score (Appendix 1).

The results show that there is a meaningful relationship between accreditation score and organizational learning in Imam Khomeini, Fatemi, and Bouali Hospitals. Therefore, by increasing organizational learning in the mentioned hospitals, the accreditation score has also significantly increased. Furthermore, there is a significant relationship between all dimensions of organizational learning and the accreditation score.

The relationship between organizational learning and accreditation in teaching hospitals, the main hypothesis of the study, was confirmed. This means that more than 10% of the variance of the accreditation score is determined by the level of organizational learning of the personnel.

A study conducted in Egypt with the aim of determining the effect of the accreditation in non-governmental health organizations on organizational learning and staff performance showed that in centers with high organizational learning levels, accreditation scores were significantly higher than other centers (30).

On the other hand, in some studies there was no significant relationship between accreditation and performance improvement and organizational learning level or its undesirable effects were investigated (31, 32). Brubakk (33), in an article on organizational learning and the impact of accreditation on healthcare services, found that organizational learning can provide health care with the highest standards. The article also concluded that organizational learning can facilitate the learning of the risk management strategy and measure the functions. Accreditation based on organizational learning can create key stakeholders and establish a management system to determine the strengths and weakness of the organization.

Tabrizi et al. (16), in a study entitled "The Advantages and Disadvantages of Health Care Accreditation Models and its Effective Factors" found that accreditation of health care systems has increasingly led to ensuring that health standards are observed specially in financial issues in private and governmental sectors. Various factors such as organizational structure, personnel learning, and some demographic variables of personnel have affected the improvement .

Nomura et al. (34), in a study entitled "The Effect of Educational Interventions on Hospital Accreditation" showed that any educational interventions would significantly increase the accreditation scores. The findings show positive relationship between these two variables, which is consistent with the findings of the present study. Several studies, like the present study, have suggested organizational learning as an effective factor in job satisfaction, quantitative and qualitative improvement, and patients' satisfaction. AbuAlRub (35) in a study on Jordanian senior nurses showed that education-based interventions, improved job satisfaction and thus provide optimal nursing services to patients.

Mosadeghrad (36) and Saadati (37) in their studies about hospitals accreditation and related challenges have noted improving the quality of services and increasing the competitiveness of hospitals as major accreditation benefits. Therefore, considering the above findings and the results of this study, it can be concluded that improvement of the quality of hospital services can be the main advantage of accreditation. Various factors such as organizational learning among nursing staff can accelerate accreditation.

There were two limitations in this study. Firstly, this was a cross-sectional study, so the findings are valuable at that period of time and the results may be reported differently at other times. Secondly, the participants completed

the questionnaire by self-assessment, which may be accompanied by self-assessment errors. However, the mentioned limitations can be found in all similar studies.

Conclusion

Based on the findings of this study, organizational learning is one of the main determinative factors of accreditation score in governmental teaching health centers. Considering the importance of accreditation score as the main factor of budget allocation, health policy makers should pay attention to organizational learning to improve the quality of services and increase patients' satisfaction.

According to the findings of this study, it is recommended to study other cognitive and behavioral factors affecting the accreditation of educational centers.

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Conflicts of interest

The authors of the study, as the staff and faculty members of Ardabil University of Medical Sciences, did not have any conflict of interest with the findings and results of this study.

Authors' contributions

Zandian H, Farzaneh I and Chamanian Y designed research; Zahirian Moghadam T and Zandian H analyzed data; and Farzaneh I had primary responsibility for final content. All authors read and approved the final manuscript**.**

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Appendix 1

Multiple Comparisons
Dependent Variable: Organizational Learning
Scheffe

(I) Hospital	(J) Hospital	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Imam Khomeini	Alavi	- 10.92105	8.84710	.677	-35.9400	14.0979
	Fatemi	- 20.00000	8.84710	.169	-45.0190	5.0190
	Boali	23.81579	8.84710	.069	-1.2032	48.8348
Alavi	Imam Khomeini	10.92105	8.84710	.677	-14.0979	35.9400
	Fatemi	- 9.07895	8.84710	.788	-34.0979	15.9400
	Boali	34.73684*	8.84710	.002*	9.7179	59.7558
Fatemi	Imam Khomeini	20.00000	8.84710	.169	- 5.0190	45.0190
	Alavi	9.07895	8.84710	.788	- 15.9400	34.0979
	Boali	43.81579*	8.84710	.000*	18.7968	68.8348
Boali	Imam Khomeini	-23.81579	8.84710	.069	- 48.8348	1.2032
	Alavi	- 34.73684*	8.84710	.002*	- 59.7558	- 9.7179
	Fatemi	- 43.81579*	8.84710	.000*	-68.8348	- 18.7968

*Significant at the 0.05 level