Comparison of the traits of the organizational culture of health-care system with treatment system within the city of Amol (based on Dennison model)

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Abstract: Background: different structures of health care and treatment have different types of activity and different impact on their performance. **Objectives:** identification and comparison of organizational culture prevailing in city health-care center with public hospitals in the city of Amol. **Methods**: This cross-sectional comparative study was carried out in health care center and public hospitals of the city of Amol in 2012. 300 subjects from the hospitals and 95 persons from health-care center were completed Denison standard questionnaires as self-report. Exclusion criteria were nontechnical support personnel of services, transportation, logistics and physical protection. Data collected were analyzed using Spearman's, Kendal's, Kruskal Wallis's, Mann-Whitney's and chi-square tests ($p<0.05$). **Results:** In health-care center, the highest average was related to Mission culture ($\mu= 2.99$, SD = 0.53) and in hospitals, it was found for Involvement ($\mu= 3.25$, SD = 0.51) and Adaptability was found the lowest average in the both systems. The health-care center tends towards stability- external focus and hospital tends towards internal focus, although the tendency was towards greater stability, but no significant differences were found. **Conclusion:** the treatment system has higher components of organizational culture than health care system. But in the both system it seems that Adaptability culture requires more attention of administrators.
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1. Introduction

Understanding organizational culture is very important for managers in organizations. Organizational culture refers to the underlying values, beliefs and principles that serve as a foundation for an organization's management system, as well as the set of management practices and behaviors that both exemplify and reinforce those basic principles[1]. The organizational culture affects all aspects of the organization. Studies and researches indicate that the culture affects compilation of objectives and strategies, individual behavior and organizational performance.

There are several models for the assessment of organizational culture. Denison model is one of the latest and most comprehensive evaluation models of organizational culture that is based on the influence of organizational culture on its performance and instead of evaluating the personality of individuals, evaluates the team behavior and is usable in all levels of organization[2].

Various researches have addressed to the study of organizational culture based on the Dennison model in different organizations[2,3,4,5,6] and comparison of the desired and existing conditions of organizational culture[7], The role and the positive impact of organizational culture on the factors that improve the organization such as the effectiveness of the balanced scorecard[8], the effectiveness of human resources[9], the efficiency of organization[10,11] and the job satisfaction [12] and commitment[13] has been demonstrated.

Comparison of organizational culture of enterprises in Russia with USA and the their effectiveness using [14] proved that even for cross-cultural comparative studies despite the differences in national cultures, using this model is quite possible. In this study, the comparison between the organizational culture of health-care center and hospitals was conducted due to the following reasons: 1- Both systems are parts of the health system. 2- The primary objective of both systems is health improvement. 3- Both systems are operating with the federal government leadership. 4- The Health Center is in charge of primary health care in preventive level. 5- Hospital is in charge of treatment affairs and acute care of sick people.

By studying organizational culture in health-care and treatment sectors, health-care senior managers will become informed about which systems are better prepared and more progressive for implementation of quality management techniques.

Also with knowledge of their organizational culture, the managers can try to resolve potential defects and prepare organizational environment for performing successful changes. Since none of the conducted researches has addressed to the comparative study of organizational culture of the health-care system with treatment system and on the other hand, different structures of health care and treatment have different types of activity and differences in organizational culture can have an impact on their performance, so this study has been carried out with the aim of comparative analysis of the components of organizational culture in health care center and public hospitals of Amol.

General objective of study:

Identification and comparison of organizational culture prevailing in city health-care center with public hospitals in the city of Amol

Specific objectives

1- Comparison of involvement of health-care center staff in work with hospitals staff in Amol

2- Comparison of consistency of health-care center staff with hospitals personnel in Amol

3- Comparison of adaptability of the health-care center staff with hospitals employees in Amol

4- Comparison of the alignment of individual and organizational mission of the health-care center staff with hospitals staff in Amol

Study Model

The organizational culture model that is used in this paper is based on four cultural traits that have an influence on organizational performance: involvement, consistency, adaptability, and mission. Each of these traits is measured with three component indexes, and each of those indexes is measured with five survey items.

Daniel Denison expressed each of the components as follows:

Figure1: The Denison organizational culture model (2006)

Involvement: The effective organizations empower and engage their people, build their organization around teams, and develop human capability at all levels. Organizational members are committed to their work, and feel a strong sense of ownership. People at all levels feel that they have at least some input into decisions that will affect their work and feel that their work is directly connected to the goals of the organization. In the model, this trait is measured with three indexes:

Empowerment: Individuals have the authority, initiative, and ability to manage their own work. This creates a sense of ownership and responsibility toward the organization.

Team Orientation: Value is placed on working cooperatively toward common goals for which all employees feel mutually accountable. The organization relies on team effort to get work done.

Capability Development: The organization continually invests in the development of employee's skills in order to stay competitive and meet on-going business needs.

Consistent: organizations develop a mindset and create organizational systems that build an internal system of governance based on consensual support. These implicit control systems can be a more effective means of achieving coordination and integration than external-control systems that rely on explicit rules and regulations. In the model, this trait is measured with three indexes:

Core Values: Members of the organization share a set of values which create a sense of identity and a clear set of expectations.

Agreement: Members of the organization are able to reach agreement on critical issues. This includes both the underlying level of agreement and the ability to reconcile differences when they occur.

Coordination and Integration: Different functions and units of the organization are able to work together well to achieve common goals. Organizational boundaries do not interfere with getting work done.

Adaptability: Adaptable organizations translate the demands of the organizational environment into action. They take risks, and learn from their mistakes, and have capability and experience at creating change. In the model, this trait is measured with three indexes: Creating Change: The organization is able to create adaptive ways to meet changing needs. It is able to read the business environment, react quickly to current trends, and anticipate future changes.

Customer Focus: The organization understands and reacts to its customers and anticipates their future needs. It reflects the degree to which the organization is driven by a concern to satisfy their customers.

Organizational Learning: The organization receives, translates, and interprets signals from the environment into opportunities for encouraging innovation, gaining knowledge, and developing capabilities.

Mission: A mission provides purpose and meaning by defining a social role and external goals for the organization. It provides a clear direction and goals that serve to define an appropriate course of action for the organization and its members. A sense of mission allows an organization to shape current behavior by envisioning a desired future state. Being able to internalize and identify with an organization's

mission contributes to both short and long-term commitment to the organization. In the model, this trait is measured by three indexes:

Strategic Direction and Intent: Clear strategic intentions convey the organization's purpose and make it clear how everyone can contribute and "make their mark" on the industry.

Goals and Objectives: A clear set of goals and objectives can be linked to the mission, vision, and strategy, and provides everyone with a clear direction in their works.

Vision: The organization has a shared view of a desired future state. It embodies core values and captures the hearts and minds of the organization's people, while providing guidance and direction[15].

Flexible and Stable
Flexible (Adaptability and Involvement): Organizations that are strong in these traits can change quickly in response to their environment. They tend to be successful at being innovative and satisfying their customers.
Stable (Mission and Consistency): These organizations tend to be focused and have some level of predictability. They know where they are headed and have the tools and systems in place to get there. They create alignment that results in efficient, profitable performance.
External Focus and Internal Focus
External Focus (Adaptability and Mission): These organizations have an eye towards the market and are able to adapt and change in response to what they see.

The result is the ability to grow as they meet the current and future needs of the marketplace.
Internal Focus (Involvement and Consistency): These organizations' focus is on the alignment of internal systems, processes and people of the organization. High scores in Internal Focus typically predict efficient operating performance, higher levels of quality and increased employee satisfaction[16].

Materials and Methods:
This cross-sectional comparative study was carried out in two environments of health care center and public hospitals of the city of Amol in 2012. The study population consisted of employees working in three public hospitals: Imam Reza, Imam Ali, and 17 Shahrivar (1342 subjects) and the city health-care center (125 subjects). Using Morgan table and relativity table and stratified random method, the sample size was selected as 300 subjects from the hospitals and 95 persons from health-care center of the city and a total of 395 questionnaires were distributed and collected after one week which was completed as self-report. Exclusion criteria for this

study were nontechnical support personnel of services, transportation, logistics and physical protection. Data collecting tools "Dennison standard questionnaire" included two sections of general and special questions. General questions were about sex, education level, work experience, type of employment and the type of service. Of a total of 60 exclusive questions, 15 questions were related to the participatory culture component (including empowerment, team building, capabilities development), 15 questions were about the compatibility culture component (including fundamental values, agreement, coordination), 15 questions were related to the adaptability culture component (such as making changes, being customer-oriented, organizational learning) and 15 questions were related to the mission culture component (including strategic direction, goals and objectives, vision) that were developed as a package of five-choices Likert scale (ranging from strongly disagree (score=1) to strongly agree (score=5)).

According to numerous studies, the validity of questionnaire is also confirmed in Iran[9, 18]. The reliability of questionnaire was confirmed with Cronbach's alpha of 81% for the selected sample of health center and for the selected sample of hospitals; it was confirmed with Cronbach's alpha of 84%. Data collected were analyzed using Spearman's and Kendal's tests to determine the correlation between ordinal variables, using Kruskal Wallis's and Mann-Whitney's tests for comparison of averages and using chi-square for qualitative variables in SPSS-18 software at a significance level of $\alpha < 0.05$.

Results:
The gender distribution of the study was composed of 66.8% females and 33.2% males. The maximum service experience of the personnel was 5 to 10 years (26.4%) and the highest type of employment was of official kind (55.7%). And the highest level of education was Bachelor's degree (72.4%) (Table 1).

Table 1: Comparison of the characteristics of subjects in the two service locations of the hospital and health care center

Characteristics of studied employees		hospital		health care center		Total	
		frequency	percent	frequency	percent	frequency	Percent
gender	male	77	25.7	54	58.8	131	33.16
	female	223	74.3	41	43.2	264	66.83
Type of Employment	Official	145	48.3	75	78.9	220	55.69
	Contractual	29	9.7	5	5.3	34	8.60
	Contracts with certain conditions	92	30.7	15	15.8	107	27.08
	By Plan	34	11.3	0	0	34	8.60
Level of Education	Diploma	11	3.7	12	12.6	23	5.82
	Associate degree	36	12.0	17	9.17	53	13.41
	Bachelor degree	237	79.0	49	51.8	286	72.40
	Masters	15	5.0	7	4.7	22	5.56
	Professional Doctorate	1	0.3	10	10.5	11	2.78
Working experience	5<	67	22.3	8	8.5	75	18.98
	5-10	91	30.3	13	13.8	104	26.32
	10-15	68	22.7	22	22.4	90	22.78
	15-20	43	14.3	26	27.7	69	17.46
	>20	31	3.10	25	26.6	56	14.17

At the health-care center headquarters, the highest average was related to mission culture (2.99) and the lowest means were found for adaptability and consistency (2.83). However in hospitals the highest average was involvement culture (3.25) and the lowest average was adaptability (3.08). There was a significant difference between the aspects of

organizational culture of the hospitals and the health-care center headquarters (P <0.05). The mean difference between the two environments of health-care center headquarters and the hospitals showed that the most difference existed in involvement culture aspect (Table 2).

Table 2: Comparison of average of key elements of organizational culture of Headquarters and hospitals in the city of Amol

Aspects	Health care center		Hospitals		Mean difference	P-Value
	Average	Standard deviation	Average	Standard deviation		
Involvement Culture	2.95	0.5	3.25	0.51	0.3	0.000
Consistency Culture	2.83	0.52	3.12	0.54	0.28	0.000
Adaptability Culture	2.83	0.44	3.08	0.42	0.24	0.004
Mission Culture	2.99	0.53	3.22	0.52	0.23	0.010

The results of table 3 showed that between 12 cultural indicators in the health-care center intent and strategic direction and empowerment with a mean of 3.06, Goals and Objectives with a mean of 3.05 and creating changes with a mean of 3 were among the average indicators and other indicators were lower than the average. But in hospitals the capabilities development indicator had the lowest scoring with an average of 2.91 and the average of other indicators had a medium scoring (Table 3).

Table 3: Average of 12 indicators of organizational culture in health-care center headquarters and hospitals

Index		Health care center		Hospitals	
		Average	Standard deviation	Average	Standard deviation
Involvement	Empowerment	3.06	0.57	3.44	0.59
	Team Orientation	2.97	0.62	3.39	0.69
	Capability Development	2.81	0.56	2.91	0.52
Consistency	Core Values	2.72	0.6	3.17	0.78
	Agreement	2.78	0.62	3.03	0.5
	Coordination and Integration	2.98	0.67	3.14	0.57
Adaptability	Creating Change	3	0.59	3.06	0.53
	Customer Focus	2.75	0.57	3.1	0.49
	Organizational Learning	2.74	0.62	3.06	0.59
Mission	Strategic Direction and Intent	3.06	0.72	3.25	0.6
	Goals and Objectives	3.05	0.69	3.3	0.63
	Vision	2.85	0.7	3.14	0.54

According to the findings of the study there was a significant relationship between gender (P= 0.045), type of employment (P=0.014) with involvement culture and between level of education with involvement (P= 0.010), consistency (P= 0.000), adaptability culture (P= 0.002). But there was no significant relationship between the work experience and organizational culture (table 4).

Table 4: The relationship between the aspects of organizational culture and the demographic characteristics of employees of the subjects

Variable		Involvement Culture SD±µ	Consistency Culture SD±µ	Adaptability Culture SD±µ	Mission Culture SD±µ
Gender	male	0.49±2.96	0.50±3.7	049±3.01	0.57±3.04
	female	0.49±3.08	0.53±3.17	0.45±3.06	0.53±3.20
	P-value	0.045	0.091	0.281	0.086
Type of Employment	Official	0.56±3.01	0.51±3.07	0.49±3.01	0.57±3.12
	Contractual	0.41±3.03	0.50±3.26	0.35±3.04.	0.53±3.07
	Contracts with certain conditions	0.40±3.07	0.51±3.18	0.45±3.10	0.52±3.23
	By Plan	0.41±3.09	0.61±3.30	0.45±3.03	0.48±3.11
	P-value	0.014	0.660	0.375	0.135
Education	Diploma	0.37±2.99	0.43±3.21	0.43±3.17	0.53±3.32
	Associate Degree	0.51±2.88	0.40±2.97	0.37±2.93	0.59±2.93
	Undergraduate	0.50±3.06	0.55±3.20	0.49±3.07	0.53±3.18
	Master	.36±2.84	0.29±2.84	0.28±2.82	0.59±3.03
	Phd and Specialized Doctorate	0.35±2.99	0.36±2.86	0.42±2.87	0.49±3.21
	P-value	0.010	0.000	0.002	0.067
	r	-0.025	+ 0.022	- 0.044	+ 0.002
Work experience	years 5-1	0.40±2.99	0.54±3.24	0.45±3.00	0.50±3.13
	5-10	0.40±3.09	0.45±3.10	0.43±3.06	0.53±3.14
	15-10	0.61±3.02	0.58±3.08	0.54±3.04	0.58±3.16
	15-20	0.57±3.00	0.57±3.17	0.44±3.04	0.65±3.13
	20 >	0.46±3.08	0.44±3.11	0.47±3.06	0.47±3.19
	P-value	0.663	0.309	0.876	0.928
	r	- 0.057	+ 0.021	+ 0.014	+0.039
Service location	Health care center	0.5±2.95	0.52±2.83	0.44±2.83	0.53±2.99
	Hospital	0.51±3.25	0.54±3.12	0.42±3.08	0.52±3.22
	P-value	0.000	0.000	0.004	0.010

Discussion:

The results of the study showed that there is a significant difference between the aspects of organizational culture of health-care center headquarters and hospitals. In headquarters of health-care center, the highest average was related to Mission culture (2.99) and the lowest mean was related to adaptability and compatibility (2.83).In an organization that has a high mission culture, organizational goals are clear and evident for all staff and there are short-term and long-term commitments in that organization. The high mission culture of the health-care system may be due to the development and implementation of strategic and operational plans over the years and the convergence in the field of achieving organizational goals. This part of findings is in agreement with the results of [8,17,18,19]. In hospitals, the highest average was found for involvement culture (3.25) and the lowest mean was found for adaptability (3.08). Therefore involvement culture was the dominant culture in hospitals. The organization with the dominant participatory culture is team-oriented. The members of such an organization feel a sense of commitment and ownership in the work and participation in decision making. The high nature of participatory culture in Imam Ali hospital is possibly due to implementation of clinical governance project in the hospital. Studies show that employees' participation is directly linked to the quality improvement schemes and the quality indicators enhancement for the hospital[8,22]. The results of this part are consistent with the results of the study of [3,18,20] and a part of research results of [14] in Russia. And on the other hand in terms of the dominant culture of the organization, it has been inconsistent with the research of [2,21]. Studies of Weiner et all and Soleimani also showed that the engagement and involvement of employees are directly related to success in quality improvement projects and enhancing the quality indicators of the hospital[8,22].

Evaluation of 12 organizational culture indices showed that in the health-care center, intention and strategic direction, empowerment, goals and objectives, making changes were of average value and other indicators were lower than the average which is consistent with the research by Pirayeh et all and Roldan[8,23], but in hospitals with the exception of capabilities development, the other indicators were of moderate value which is consistent with the results of research by Iranzadeh[24].

In the range of flexibility-stability and internal-external focus, the health-care center tended towards stability- external focus and hospital tended towards internal focus and in the range of flexibility- stability, although the tendency was towards greater stability, but no significant differences were found. The common component in the stability characteristics - external focus is mission and as it was suggested, the predominant organizational culture in the health center was mission. Stable organizations have predictability for future and create an agreement that results in effective and appropriate operation. Organizations with an external focus respond to customer needs and their environment. Since the hospital tends to internal focus and the two components of adaptation and participation lead it to participate its employees in the decision-makings of hospital and bring about higher satisfaction and higher quality levels [15].This part of the findings is similar with the results of Nasiribari et all and Iranzadeh[24,25]. But it is inconsistent with the results of Shekari et all and Barati Marenani et all in terms of the range of flexibility – stability.[6,20,24-25]

The findings of the study also showed a significant relationship between gender, type of employment and involvement culture and between level of education and involvement, consistency, adaptability culture. But there was no significant relationship between the work experience and organizational culture. The findings of this section are similar to the part of results of Ahmadi et al. but it is inconsistent with the results of Ozan and Prachak.[26-28]

Conclusion and recommendations

The Study showed that the treatment system has higher components of organizational culture than health care system. Since health care and prevention are given a priority over treatment, it is required to consider the organizational culture aspects in this sector. However, since the health care system is faced with crisis unexpectedly, if it tries to establish a strong and consistent organizational culture in the normal state, it will be able to lead the organization successfully to the development in the critical conditions. Therefore, it seems necessary that health system managers have a good understanding about their organizational culture and provide the context for training and empowerment of employees for organizational culture characteristics. Human resource management of organizations needs to consider the individual characteristics of employees when hiring them to enhance organizational culture.

Competing interests

Authors declared they have no conflicts of interest.

Authors' contributions

FF, SA conceived and designed the study. S.DN and FF analyzed the data. FF,S.DN and HG analyzed,

drafted and critically reviewed the manuscript. All authors have read and approved this manuscript.

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