



Study the relation between factors effecting on creating conflict of interests and quality of care: The case of Ayat-Allah-Taleghani hospital, Arak, Iran

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General Note

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ABSTRACT

Background: Conflict of interests (COI) refers to conditions that professional judgment about patient, which is a professional and main interest, is influenced by subsidiary and personal interests. The aim of current study is to assess the relation between factors effecting on creating COI and quality of care in Ayat-Allah-Taleghani hospital. **Methods:** The opinions of 119 hospital employees were assessed about performance improvement, quality of care and 5 components of COI using valid and reliable questionnaires. The data were analyzed through Structural Equation Modeling (SEM) using SPSS23 and LISREL8.80. **Results:** COI components including different and inconsistent goals ($t=-2.39$), tasks interference ($t=-2.49$), inconsistency in the assessment process and system of rewards and penalties ($t=-2.64$), mutual tasks and their interdependence ($t=-2.49$) and the effect of difference in dignity and financial level ($t=-2.03$) had significant negative impact on patients' care ($p<0.05$). There was no significant relationship between gender, marital status and age group of employees with the study variables ($p>0.05$). **Conclusions:** Hospital managers should plan about decreasing vulnerable points regarding COI. The important measures in this regards include strengthening the sense of responsibility, revise work processes, definition the role and authorities of beneficiaries, formulation, implementation and monitoring ethical guidelines and coordination between personal and organizational goals.

Keywords: Conflicts of interests, Quality improvement, Hospital

1. BACKGROUND

Usually there is conflict in places where people work with each other or have interaction and this is considered usual (Rovithis et al., 2017). However, in cases such as ambiguous description of the roles, this conflict may get out of the favorite state and create problems for organization (Al - Hamdan et al., 2016; Haraway & Haraway, 2005; Parnian, 2018). These problems may be in the form of increasing errors, low employees and customers consent, and unfavorable performance level (Pitsillidou et al., 2018; Mehrbafar et al., 2017).

In this regard, Conflict of Interests (COI) is a situation with objective demonstration. For the first time, COI was defined by Dennis Thompson in 1993 in New England Journal of Medicine as: The collection of situations in which professional judgement about patient welfare or research credit can be effected by revenues, gifts, company stock ownership and so on (Thompson, 1993). In other words, COI is a situation that a person, in one hand, become trustworthy by others regarding his/her authority and in the other hand, himself/herself have personal or group interests separately and in confrontation and conflict with the considered authority, so that the person unwantedly place in a situation that create conflicts between personal and formal (Milanifar et al., 2011). COI occur in 2 forms of conflicts in financial and non-financial interests. In spite of the same importance of conflict in non-financial interests (e.g. establishing a friendly relationship or professional promotion) and financial interests, but it has not received enough attention in the biomedical ethics. Cases of conflict in financial interests include fee splitting, referral patient to himself/herself, accepting gifts, receiving a fee for introducing a patient to research projects, lecturing and compiling a scientific article about a product of a production unit using the same unit budget and so on (Bou-Karroum et al., 2018; Khalajzadeh & Vatankhah, 2014).

American Medical Students Association (AMSA) has declared 14 measures as COI policies in hospitals and medical schools in 2007 (AMSA, 2015), so that Australia (Mason & Tattersall, 2011) and Canada (Shnier et al., 2013) have used these rules similarly to confine conflict of interest. Some of these measures included gifts, consulting communication, investment communication in the industries, honorary gifts by pharmaceutical industries, unknown author (giving money to other person to write article), disclosure, being sales representative of companies and investment in pharmaceutical industries (Khalajzadeh & Vatankhah, 2014; Scheffer et al., 2017).

Sahraeian and Kahnali (2017) have categorized the effective factors on conflict incidence in three domains and 20 subdomains including 1. Personal factors: values and beliefs, different personal morality, differences in personality, education and style of people, not met expectations, difference in demographic characteristics, competition rewards, perception limitations and difference in recognition. 2. Communication factors: discrimination in relationships, one way relationships and without feedback, communication obstacles, flaws in the information system, official communication. 3. Structure factors: incompatible goals, limited and common resources, ambiguous rules, uncoordinated assessment and reward system, occupational stress, inconsistency in power distribution, ambiguity in the role, authorities and duties of employees, structure and culture governing the organization.

One of the main issues and goals in medical profession is considering and meeting patients' expectations, satisfactions and demands (Farzaneh Kholghabad et al., 2019; Tiran Jamil Piro et al. 2018), but some legal and logical interests of the related

professions are in conflict with the main goals. So, this has created some ambiguities and concerns regarding conflicts in interests. In addition, the issue of physicians and medical employees' loyalty to the patients has been affected and weakened by COI issue.

Introducing 14 criteria and policies of conflict of interest in hospitals by AMSA (2015), models introduced to manage conflict of interest (Sahraeian & Ahmadi Kahnali, 2017; Capron & Donaldson, 1991) and so on can be considered as methodological limitations in choosing COI indices which is based on the application of behavioral and organizational sciences in hospitals.

COI issue has not been studied widely in medical profession and biomedical ethics as much as judging profession, but considering conflict of interest seems necessary in order to explain, providing examples and solutions in the medical profession. There are very few studies in the field of COI in healthcare system especially hospitals, so that the available published studies are regarding COI disclosure in medical journals (Heidari et al., 2012), COI in dental journals (Hashemipour et al., 2018), legal issues in the field of medicine (Milanifar et al., 2011; Parsa et al., 2014). So there are no studies in Iran regarding the effect of COI on the quality of care, also, by attention that there is high emphasis on correction the structural factors to achieve providing high quality services, this study has been designed to assess the effect of COI causing factors on performance and quality of the services provided by Ayat-Allah-Taleghani hospital, Arak, Iran.

2. METHODS

Study population and samples

In this analytical study, the study population included all managers, nurses and employees working in Ayat-Allah-Taleghani hospital, which were 300 persons in 2016. Simple random sampling used to select between the populations. On the basis of Cochran formula for a limited population, with 0.05 error level and accuracy estimate of 0.07 and also considering 0.05 for success ratio, the sample size estimated to 119 persons. Proportional with size, these samples were selected from different hospital work groups or departments with ethical code: IR.ARAKMU.REC.1397.070.

Assessment tool

The data were collected using two questionnaires including a standard questionnaire to assess patient quality of care (Moghimi & Ramezan, 2013) and a researcher-made questionnaire regarding COI components which was extracted from Kristensen et al. (2005), Siegrist (1996), Theorell et al. (1988), Van der Heijden et al. (1999). The considered variables included independent variables of factors effecting on inter-departmental COI namely different and inconsistent goals, tasks interference, inconsistency in the assessment process and system of rewards and penalties, tasks interdependence, and effect of difference in dignity and financial level, also dependent variables included performance improvement and quality of care. The questionnaire was designed on the basis of 5-item Likert spectrum.

To validate, the questionnaire was presented to the experts to assess comprehensiveness, appropriateness, strength and logistic relation between the questions. To assess reliability, Cronbach Alpha method was used, so that this is the best method to reliable sequential scales. In this regard, 30 questionnaires were distributed among the participants and then were analyzed using SPSS. As results presented in table 1 indicates, the reliability rate of COI questions has estimated 75.1%, so the questions can measure the study hypotheses, appropriately (Table 1).

Table 1 Measuring reliability of questionnaire designed to assess the effect of conflict of interest on performance improvement and quality of care

Variable name	N questions	α	Final α
Different and inconsistent goals	7	0.780	0.820
tasks interference	3	0.754	
Inconsistency in the assessment process and system of rewards and penalties	8	0.774	
Mutual tasks and their interdependence	2	0.892	
Effect of difference in dignity and financial level	5	0.724	
Performance improvement and quality of care	13	0.852	
Total	38	0.751	

Analysis

One of the ways to analyze N independent variables on K dependent variables or multivariate analyses is Structural Equation Model (SEM). So, through SEM and using SPSS23 (t test) and LISREL8.80, the data were analyzed. Fitness indices were used to evaluate the appropriateness of models proposed by LISREL software (Gholami et al., 2013).

3. RESULTS

In this study 119 employees from different medical department were participated. The most number of the participants (36.1%) were from 20-30 years old age group. 96.6% of the participants were female. Regarding education level, 77.3% of them had bachelor degree. The most number of the participants (61.2%) had work history lower than 10 years (Table 2).

Table 2 Demographic information of medical and para-medical employees working in Ayat-Allah-Taleghani hospital, Arak

Variable		Frequency (n)	Percent (%)	Variable		Frequency (n)	Percent (%)
Age	<30	43	36.1	Work history	<10	61	61.2
	30-40	35	29.4		10-15	25	21
	40-50	37	31.1		15-20	14	11.8
	>50	4	3.4		>20	19	16
Education degree	Diploma and upper	11	9.2	Gender	Male	4	3.4
	Bachelor	92	77.3		Female	115	96.6
	Master and upper	16	13.4	Total	119	100	

The results of Analysis of Variance (ANOVA) regarding the relationship between different age levels and COI components indicated that there is a significant relationship only between the component of effect of difference in dignity and financial level and age (P-value<0.05), so that this type of conflicts increases by increasing age (Table 3).

The results indicated that there are no significant relationships between education level and work history variables with the COI components (P-value>0.05). Regarding the relation between different components of COI and type of job, the results indicated that there is a significant relationship between type of job and mutual tasks and their interdependence (P-value<0.05), so that the obstetrics and nursing job groups stated different opinions (Table 3).

Table 3 Analysis of variance the relation between demographic variables and conflict of interests' components- part 1

Variable		Mean	F test	P-value
Age	Different and inconsistent goals	2.72	0.774	0.511
	Tasks interference	2.75	0.378	0.769
	Inconsistency in the assessment process and the system of rewards and penalties	3.16	1.58	0.197
	Mutual tasks and their interdependence	2.28	1.065	0.367
	Effect of difference in dignity and financial level	2.88	3.72	0.013
	Performance improvement and quality of care	3.14	0.281	0.839
Education level	Different and inconsistent goals	2.88	0.694	0.557
	Tasks interference	2.83	1.20	0.312
	Inconsistency in the assessment process and the system of rewards and penalties	3.39	1.67	0.177
	Mutual tasks and their interdependence	2.43	1.62	0.190
	Effect of difference in dignity and financial level	1.07	0.577	0.631
	Performance improvement and quality of care	3.16	0.719	0.543
Work history	Different and inconsistent goals	2.83	1.05	0.381
	Tasks interference	2.80	0.389	0.816
	Inconsistency in the assessment process and the system of rewards and penalties	3.23	0.934	0.447

	Mutual tasks and their interdependence	2.32	1.23	0.302
	Effect of difference in dignity and financial level	1.87	2.07	0.089
	Performance improvement and quality of care	3.12	0.737	0.569
Type of job	Different and inconsistent goals	2.84	2.42	0.053
	Tasks interference	2.85	0.266	0.899
	Inconsistency in the assessment process and the system of rewards and penalties	3.26	0.320	0.864
	Mutual tasks and their interdependence	2.39	2.80	0.029
	Effect of difference in dignity and financial level	1.95	0.541	0.706
	Performance improvement and quality of care	3.18	0.708	0.588

As table 4 indicates, the comparison of single and married participants in terms of COI variables was statistically different only regarding the effect of difference in dignity and financial level (0.018). Finally, there was no significant difference between men and women opinions regarding COI variables (Table 4).

Table 4 Analysis of variance the relation between demographic variables and conflict of interests' components- part 2

Variable		Mean	F test	P-value
Marital status	Different and inconsistent goals	2.86	0.497	0.620
	Tasks interference	2.89	0.497	0.446
	Inconsistency in the assessment process and the system of rewards and penalties	3.23	0.764	0.675
	Mutual tasks and their interdependence	2.35	-0.420	0.743
	Effect of difference in dignity and financial level	2.04	-0.328	0.018
	Performance improvement and quality of care	3.19	2.40	0.057
Gender	Different and inconsistent goals	2.81	1.92	0.874
	Tasks interference	2.80	-0.159	0.814
	Inconsistency in the assessment process and the system of rewards and penalties	3.05	-0.235	0.116
	Mutual tasks and their interdependence	2.19	-1.58	0.420
	Effect of difference in dignity and financial level	1.67	-0.809	0.204
	Performance improvement and quality of care	3.10	-1.27	0.842

Structural Equation Model was used to assess the effect of COI components on performance improvement and patients' quality of care. As figures 1 and 2 indicate COI variables have been considered as independent variables and quality of care and performance improvement as dependent variable. One main and five sub hypothesis have been considered in the presented model. The variables of different and inconsistent goals, tasks interference, inconsistency in the assessment process and the system of rewards and penalties, tasks interdependence and effect of difference in dignity and financial level have been introduced with abbreviate signs in the output graphs of LISREL software (Figure 1 and Figure 2).

As table 5 indicates, t statistics of each 5 variables of COI is significant at 0.05%, in other words, these variables predict performance improvement and quality of care, significantly (Table 5, Figure 1).

The path presented between COI variables (as independent variables) in one hand and performance improvement and quality of care (as dependent variable) in the other hand is the Gamma type, negative and significant. So, it can be resulted that COI variables have negative significant effect on performance improvement and quality of care (Figure 2).

The results indicated that the COI components including different and inconsistent goals ($t=-2.39$), tasks interference ($t=-2.49$), inconsistency in the assessment process and system of rewards and penalties ($t=-2.64$), tasks interdependence ($t=-2.49$) and effect of difference in dignity and financial level ($t=-2.03$) have significant negative impact on patients' care ($p<0.05$ and $-1.96, 1.96$). In other words, by increasing the factors effective on COI among the study participants, performance improvement and quality of care decreases. Also, there was no significant relationship between the study variables and gender, marital status, and age of the participants with the study variables ($p>0.05$).

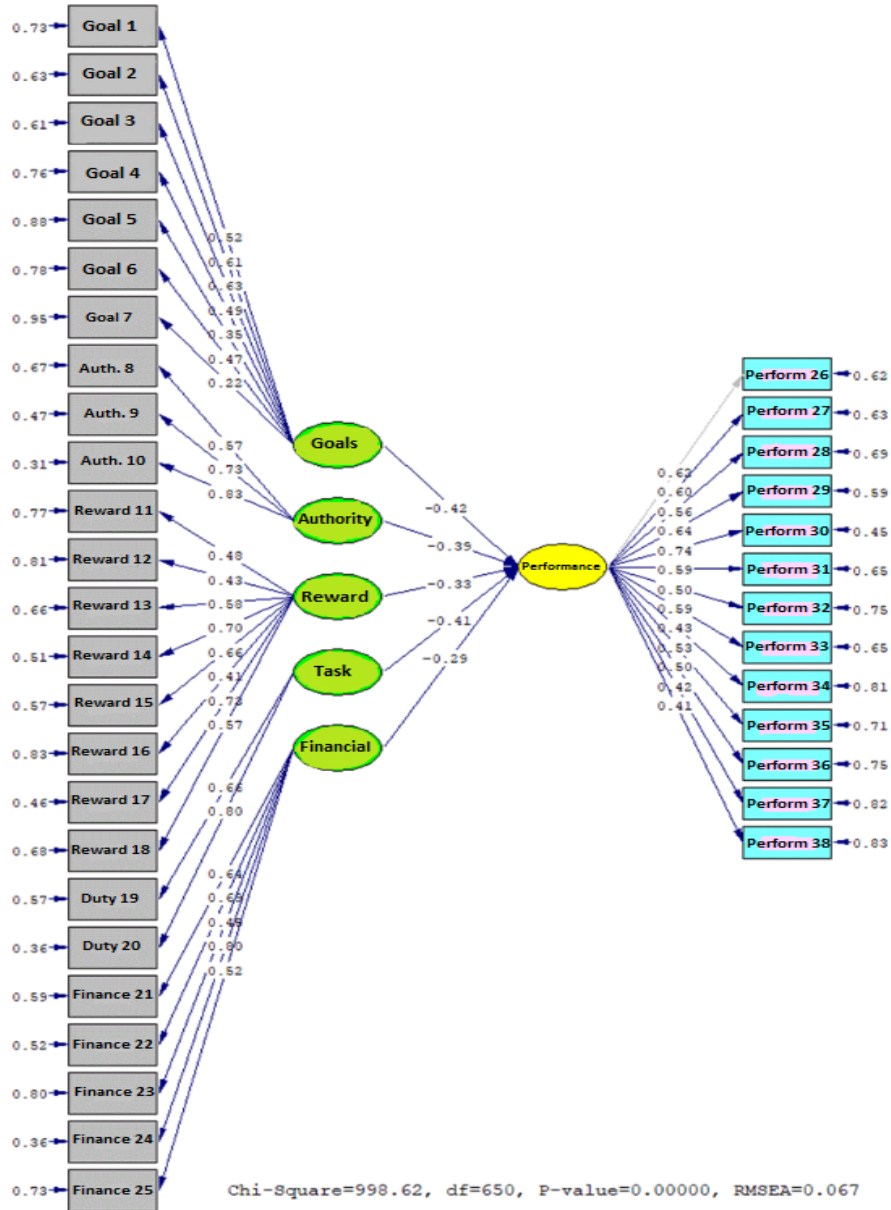


Figure 1 t statistics for model coefficient

Table 5 The prediction of performance improvement and quality of care by COI variables among medical employees of Ayat-Allah-Taleghani hospital

Path type	Variables	t statistics	Standard coefficient	Result
Gamma	Different and inconsistent goals	-2.39	-0.42	Significant (p<0.05)
	Tasks interference	-2.49	-0.39	
	inconsistency in the assessment process and the system of rewards and penalties	-2.64	-0.33	
	Tasks interdependence	-2.49	-0.41	
	Effect of difference in dignity and financial level	-2.03	-0.29	

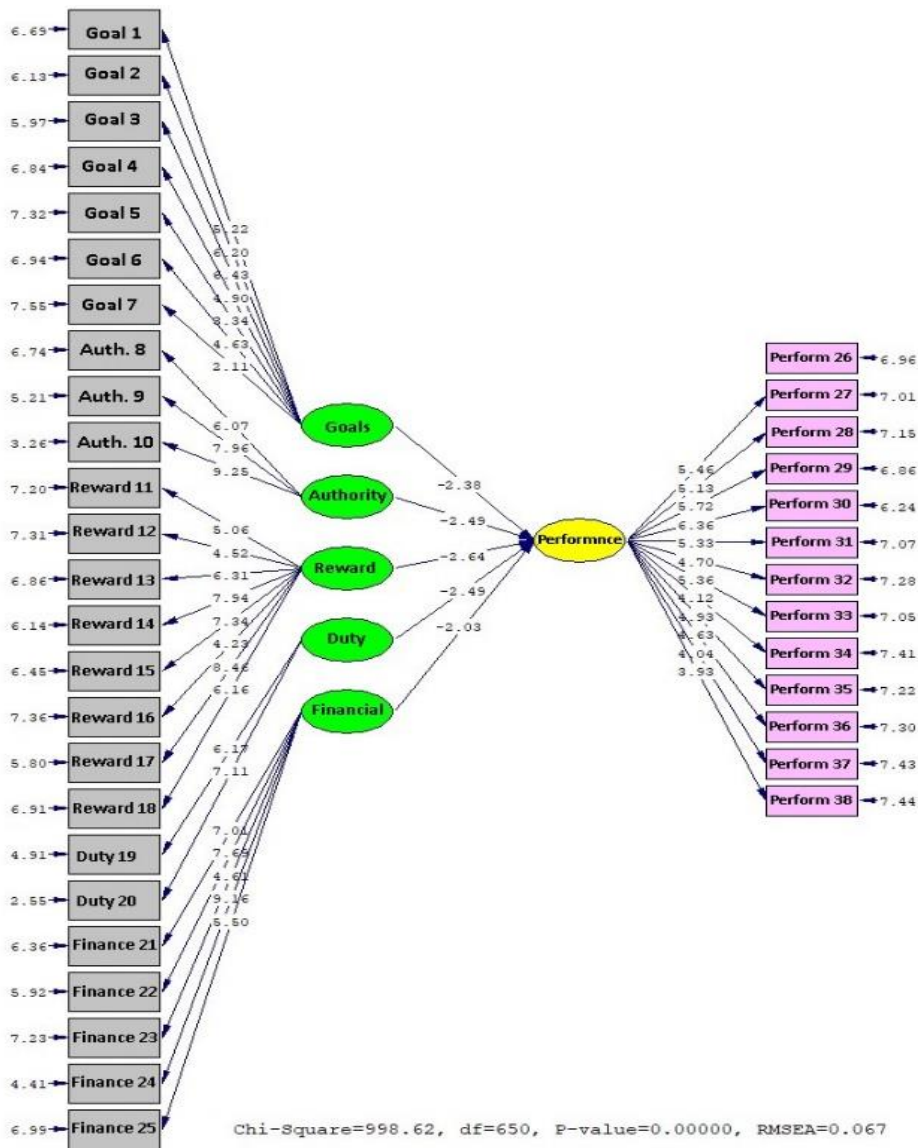


Figure 2 Standard coefficient of structural model

4. DISCUSSION

Studies indicate that conflict is an inseparable component of organizations such as hospital (Nayeri & Negarandeh, 2009), the thing that current study emphasis it. However, the difference between hospital with other organizations is that because of high interactions between human sources employed in a department and between different departments and also between employees, patients and their families in a hospital (Farzadnia et al., 2017; Barbosa, 2018), the probability of creating conflict in hospital is more than others. The promising issue is that the majorities of conflicts hospitals are functional and lead to increase in performance and improvement in service quality. Nevertheless, mismanagement of functional conflict may transform it to emotional conflict and disturbance in hospital function (Tomy, 2000). This negative COI, in addition challenging interpersonal relationships, but also because the conflicts' persons are not capable to work with each other, has negative effects on patient care (Walrath et al., 2013).

The results indicated that inconsistency in the assessment process and system of rewards and penalties, tasks interference, tasks interdependence, different and inconsistent goals, and effect of difference in dignity and financial level are the main causes of conflicts in the studied hospital, respectively. The causes of COI in this study are in line with other studies (Nayeri & Negarandeh, 2009; Akpabio et al., 2015). In order to prevent the mentioned COI problems, organization should encourage the employees to report COI cases.

Jerng et al. have reported many number of interpersonal COI cases between the employees of a university affiliated medical center. They have pointed out that the governance culture and social background are effective on the reporting of COI (Jerng et al.,

2017). In order to strengthen interpersonal communication, it is necessary to employees discuss with each other freely (Tjosvold et al., 2005). This decreases the communication problems caused by tasks interference and different and inconsistent goals.

Akpabio et al. have indicated that one of the main causes of COI in the work place is high working and low rewards (Akpabio et al., 2015). The competition against absorbing limited financial resources and inappropriate distribution of it are important in the creation of this phenomenon. The current study, also, indicated that inappropriate employees' assessment and lack of giving appropriate rewards lead to conflicts and decrease patients' quality of care.

The study indicated that tasks interference and interdependence leads to COI and lastly decreases in quality of care. In an environment such as hospital in which the number of duties is high and there are high number of patients and extensive organization hierarchy, when the works were not separated properly, the rate of stress, fatigue, conflict and turnover increase (Xu & Davidhizar, 2004; Swansburg & Swansburg, 2002, Hosseini and Jalali, 2018). To confront this type of conflicts, it is necessary to describe jobs on detail and specify the employees' authorities exactly.

Regarding the study limitations, because this is a cross sectional study, so the components of COI have not been assessed. Therefore, it is not possible to validate the results completely. Another limitation is that the effects of COI on the organization goals have not been assessed, so that it is necessary to future studies focus on this topic. The last limitation is that the study results could not be generalized to province or country hospitals thoroughly, so broader studies are necessary in this regard.

5. CONCLUSION

Conflicts in hospitals and other organizations in which people interact with each other is a natural and inevitable issue. It is even recommended that organizations should preserve a medium level of conflicts for better organization development. However, hospital conflicts, if not controlled, have significant costs for individuals and hospitals, and worst of all, have negative effect on quality of care and patients' outcomes.

Fortunately, there is proved techniques for employees and managers to better manage and deal with COI in hospitals. In one hand, hospitals should have systems installed to report negative and non-functional COI related to task content, task process, and interpersonal relationship. In the other hand, this reporting system should encourage the personnel to communicate, manage and resolve interpersonal conflicts.

Because of the importance of providing high quality health care services to the patients, negative hospital COI should not affect this trend. Hospital and health system authorities should decrease this type of COI through proactive conflict management.

Competing interests

Authors have declared that no competing interests exist.

REFERENCE

1. Akpabio II, John ME, Akpan MI, Akpabio FF, Uyanah DA. Work-related conflict and nurses' role performance in a tertiary hospital in South-south Nigeria. *J Nurs Educ Pract*. 2015;6:106.
2. Al-Hamdan Z, Nussera H, Masa'deh R. Conflict management style of Jordanian nurse managers and its relationship to staff nurses' intent to stay. *J Nurs Manag*. 2016;24:137-45.
3. AMSA: American Medical Student Association (2015) AMSA JustMedicine Scorecard 2015. AMSA.
4. Barbosa, F. Emergency Health Care System and its Role in National Disasters. *Journal of Humanities Insights*, 2018; 02(01), 14-20.
5. Bou-Karroum L, Hakoum MB, Hammoud MZ, Khamis AM, Al-Gibbawi M, Badour S, Hasbani DJ, Lopes LC, El-Rayess HM, El-Jardali F, Guyatt G. Reporting of financial and non-financial conflicts of interest in systematic reviews on health policy and systems research: a cross sectional survey. *Int J Health Policy Manag*. 2018.
6. Capron AM, Donaldson MS, editors. Patient outcomes research teams (PORTS): Managing conflict of interest. National Academies Press; 1991.
7. Farzadnia, E., Hosseini, Z., Riahi, A. Study of Hospital Quality Management and Improvement Rates in the Hospitals. *Journal of Humanities Insights*, 2017; 01(01), 7-11.
8. Farzaneh Kholghabad, H., Alisoltani, N., Nazari-Shirkouhi, S., Azadeh, M., & Moosakhani, S. A Unique Mathematical Framework for Optimizing Patient Satisfaction in Emergency Departments. *Iranian Journal of Management Studies*, 2019; 12(2), 81-105.
9. Gholami, M. H., Asli, M. N., Nazari-Shirkouhi, S., & Noruzy, A. Investigating the influence of knowledge management practices on organizational performance: an empirical study. *Acta Polytechnica Hungarica*, 2013; 10(2), 205-216.
10. Haraway DL, Haraway WM. Analysis of the effect of conflict-management and resolution training on employee stress at a healthcare organization. *Hosp Top*. 2005;83:11-7.

11. Hashemipour MA, Pourmonajemzadeh S, Zoghitavana S, Navabi N. Relationship Between Declarations of Conflict of Interests and Reporting Positive Outcomes in Iranian Dental Journals. *Sci Eng Ethics*. 2018;1-1.
12. Heidari A, Adeli SH, Mehravaran S, Asghari F. Addressing ethical considerations and authors' conflict of interest disclosure in medical journals in Iran. *J Bioeth Inq*. 2012; 9:457-62.
13. Hosseini, A., & Jalali, M. The Possible Biological Effects of Long-term Stress on Depression. *Medbiotech Journal*, 2018; 2(04), 252-255.
14. Jerng JS, Huang SF, Liang HW, Chen LC, Lin CK, Huang HF, Hsieh MY, Sun JS. Workplace interpersonal conflicts among the healthcare workers: Retrospective exploration from the institutional incident reporting system of a university-affiliated medical center. *PloS one*. 2017;12:e0171696.
15. Khalajzadeh M.R, and Vatankeh K. Conflict of Interest in Medical Laboratory. *Lab Diag*, 2014; 6: 14-19.
16. Kristensen TS, Hannerz H, Høgh A, Borg V. The Copenhagen Psychosocial Questionnaire-a tool for the assessment and improvement of the psychosocial work environment. *Scand J Work Environ Health*. 2005;438-49.
17. Mason PR, Tattersall MH. Conflicts of interest: a review of institutional policy in Australian medical schools. *Med J Aust*. 2011;194:121.
18. Mehrabifar, A., Mansouri, A., Gholami, K., Ghaeli, P., Javadi, M. Investigation of Medication Errors in a Teaching Psychiatric Hospital using Chart Reviews. *Medbiotech Journal*, 2017; 01(02), 60-64.
19. Milanifar A, Akhondi MM, Paykarzadeh P, Larijani B. Assessing conflict of interest in Iran's health legal system. *J Med Ethics Hist Med*. 2011;5:1-6.
20. Moghimi S.M., Ramezan M. Management Research: 841 Management Questionnaire with topical categories. 6. *Termeh Pub*. 2013 [In persian].
21. Nayeri ND, Negarandeh R. Conflict among Iranian hospital nurses: a qualitative study. *Hum Resour Health*. 2009;7:1.
22. Parnian, L. Examining the Relation between Life Style and General Mental Health. *Journal of Humanities Insights*, 2018; 2(2), 177-183.
23. Parsa M, Aramesh K, Larijani B. A comparison between conflict of interest in Western and Islamic literatures in the realm of medicine. *J Med Ethics Hist Med*. 2014;7.
24. Pitsillidou M, Farmakas A, Noula M, Roupia Z. Conflict management among health professionals in hospitals of Cyprus. *J Nurs Manag*. 2018;26:953-60.
25. Rovithis M, Linardakis M, Rikos N, Merkouris A, Patiraki E, Philalithis A. Role conflict and ambiguity among physicians and nurses in the public health care sector in Crete. *Arch Iatr Hetaireon*. 2017;34.
26. Sahraeian M, and Ahmadi Kahnali R. Identifying and Prioritizing the Causes of Conflict and its Management Strategies Using Fuzzy Multi-Criteria Decision Making Techniques in Electricity Distribution Company of Hormozgan Province. *Int. J. Value Chain Manag*. 2017; 1: 14-38.
27. Scheffer P, Guy-Coichard C, Outh-Gauer D, Calet-Froissart Z, Boursier M, Mintzes B, Borde JS. Conflict of interest policies at French medical schools: starting from the bottom. *PloS one*. 2017;12:e0168258.
28. Shnier A, Lexchin J, Mintzes B, Jutel A, Holloway K. Too few, too weak: conflict of interest policies at Canadian medical schools. *PloS one*. 2013;8:e68633.
29. Siegrist J. Adverse health effects of high-effort/low-reward conditions. *J Occup Health Psychol*. 1996;1:27.
30. Swansburg RC, Swansburg RJ. Introduction to management and leadership for nurse managers. Jones & Bartlett Learning; 2002.
31. Theorell T, Perski A, Åkerstedt T, Sigala F, Ahlberg-Hultén G, Svensson J, Eneroth P. Changes in job strain in relation to changes in physiological state: a longitudinal study. *Scand J Work Environ Health*. 1988;189-96.
32. Thompson DF. Understanding financial conflicts of interest. *N Engl J Med*. 1993;329:573.
33. Tiran Jamil Piro, Kolsoom Safari, Hamdia Mirkhan Ahmad. Women's Expectations regarding midwifery care during labor in Hawler Maternity Hospital. *Med Sci*. 2018, 22(91), 312-318
34. Tjosvold D, Poon M, Yu ZY. Team effectiveness in China: Cooperative conflict for relationship building. *Hum Relat*. 2005;58:341-67.
35. Tomy AM. Guide to Nursing Management and Leadership St. Louis: Mosby Company. 2000.
36. van der Heijden B. The measurement and development of professional expertise throughout the career. 1999.
37. Walrath JM, Dang D, Nyberg D. An organizational assessment of disruptive clinician behavior: findings and implications. *J Nurs Care*. 2013;28:110-21.
38. Xu Y, Davidhizar R. Conflict management styles of Asian and Asian American nurses: implications for the nurse manager. *Health Care Manag*. 2004;23:46-53.