



Relationship Between Specialties of Managers and Crisis Management Function in Hospitals in Tehran

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Abstract

Background: Nowadays, doing any activity at any level without having specialized knowledge in that special field is impossible. The practice and implementation of crisis management including reduction, preparedness, response, and reconstruction requires the knowledge compatible with any measure which puts into practice all the existing and accessible information in its best way. Based on these facts, the present research investigates the relationship between specialties of managers and crisis management function in hospitals in Tehran.

Methods: The present study was conducted through survey method of research with a descriptive-analytical and correlational design. The statistical population included personnel working in hospitals in Tehran. For sampling procedure, randomized sampling was used. Based on Cochran formula, the size of samples was determined which included 80 hospital personnel encompassing 20 crisis management specialists.

Results: Considering the results obtained, there was a significant relationship between managers' expertise and crisis management performance ($p < 0.005$, $R = 0.24$). According to the regression analysis, 6% of the changes in crisis management performance were associated with the managers' expertise.

Conclusion: Given the relationship between the managers' expertise and the performance of crisis management in Tehran Hospitals, it seems that with more focus on the expertise of hospital managers and the importance of training and skills of managers in appointing them to managerial positions, crisis management in hospitals has been more successful.

Keywords: Crisis management function, Managers' education, Managers' specialty, Managerial experience

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Received: Nov 13 2021

Accepted: Jan 1 2022

Citation to this article:

Tabrizi Tochae A, Asadollahi-Amin A, NasiriPour AA, Boosiraz A, SeyedAlinaghi SA. Relationship Between Specialties of Managers and Crisis Management Function in Hospitals in Tehran. *J Iran Med Counc.* 2022;5(2):247-53.

Introduction

Natural disasters such as earthquakes, floods, and their aftermaths are inevitable. By using new dimensions in management, the consequences can be reduced, and crises can be controlled and prevented only with proper planning (1). In essence, a crisis is a multifaceted structure related to the various variables that exist at the macro level (2). Crisis usually occurs as a result of unforeseen and incidental events, and due to the threats that the society or an organization encounters in such cases, it necessitates immediate, practical actions as well as measures in proportionate with conditions (3). An important indicator in facing such conditions is crisis management (4). Among the most important requirements for implementing crisis management, type of damage, and the factors causing it (5), the region where the damage has happened, the facilities, and equipment for the opposing crisis (6) as well as the active human force who serves as the main agent for taking the actions and structural coordinations are of vital importance (7).

One principal section in the crisis management is empowering managers and implementing managerial policies in success and achieving the objectives related to each field (8). In the present world of ups and downs, organizations compete with each other to select and recruit the most eligible managers as a competitive advantage (9). In organizations with matrix structures, using an approach based on competency is rather useful, and one of the organizations which has a combination of such features and specifications and is complicated simultaneously is the health and hospital system (10).

Nowadays, the research regarding special organizations shows that having a profound knowledge of a special section is of high value. Griffin required managers to acquire a number of special skills including human skills as well as the skills required in the technical aspect, understanding, diagnosis, communication, decision-making and time management to perform their managerial responsibilities. According to Griffin, diagnostic skills mean those ones that enable a manager to give the most appropriate response in facing a situation (11). In addition to being determined in the tasks, those organizations managed by managers who enjoy knowledge and specialized expertise have better performance as compared to those companies

run by ordinary managers (12).

Nowadays, more organizations prefer to select individuals with the technical background but when companies face challenges in their expectations from a manager, they turn out to be in a need for a combination of more skills (13). In a number of studies, Galli *et al* and Chen *et al* showed that crisis-generating and stressful events prepared the ground for permanent and pressurizing physical and mental harms (14,15).

In a number of researches, Norasi *et al* investigated the design of a crisis management model in an earthquake and fire in Imam Hasan Mojtaba Hospital in Nazarabad in Alborz province. In this study, at first, the crisis management was investigated in a number of hospitals in Iran, and training was provided for two conditions: The maneuver for an earthquake was implemented, and fire was held based on the trainings given. The results showed that planning in hospitals should be in a way that necessary trainings be provided according to the emergency and critical situations, and the organizational chart needs to be designed in advance and immediately after the event, hospitals' crisis committee meeting for different units should be held and for each unit, the person in charge and his substitute should be appointed (16).

Finally, it can be mentioned that we cannot see a hospital to be successful in crisis management except it is managed and led by a capable and efficient manager or a team of managers and leaders. For this purpose, effective management is necessary to overcome the obstacles that the health system encounters. Crisis management in hospitals is of high importance since it deals with human health. Therefore, the aim of the present study was to investigate the relationship between top managers' specialty and the crisis management function in hospitals in Tehran.

Materials and Methods

Study design

The present research was a descriptive survey which followed applied objectives. Considering the specialized nature of the study, the questionnaire technic was utilized for data collection.

Participants

The statistical population included two general

groups: the first group consisted of university professors and experts in different management, health and treatment systems; the second group included individuals employed in hospitals in Tehran. Based on the sampling nature of the method, the study was conducted on the convenient sampling using accessible experts and those willing to participate in the study. For determining the samples' volume, Cochran formula was used based on which 80 hospital personnel and 20 specialists in crisis management were selected. Both questionnaires for crisis management, and managers' empowerment were developed by the researcher.

Measurements

In a study conducted by Azadian in 2014 (17), the validity and reliability of this questionnaire were confirmed, and the reliability assessment showed that the questionnaire had a high degree of internal consistency and good reliability. Cronbach's alpha coefficient was 0.977 and the internal correlation coefficient was 0.97. In confirmatory analysis, KMO = 0.885, BT = 6.21, df = 326 and $p < 0.001$ were obtained. In general, the factor structure obtained from exploratory analysis method was tested and confirmed by confirmatory analysis. In this study, for determining the validity of the questionnaires, the method of content validity was used and also for the reliability of the questionnaires, factor analysis coefficients and Cronbach Alpha were utilized, and the coefficient showed that the instruments of data collection had a high degree of reliability.

Statistical analysis

The conceptual model and psychometric analysis of the questionnaires mentioned in figure 1 and table 1 showed that the structural validity for all the variables was above 0.5, and its reliability was above 0.7, which states an acceptable degree of efficiency for the questionnaires. Also, the KMO test equal to 0.801 made factor analysis and componential analysis possible. For data analysis, descriptive and inferential statistics were used. In the descriptive statistics, the research variables such as mean, standard deviation, skewedness, population variables such as educational degree work experience, as well as level of education were investigated. Then, in the inferential statistics, for investigating and testing the meaningfulness of the research hypotheses, Kolmogorov-Smirnov test and also single-sample t-test were subjected to SPSS software (version 25). Meanwhile, for investigating the relationship between managers' specialty and crisis management function in hospitals in Tehran, correlation coefficient was used.

Ethical consideration

The study was approved by the Ethics Committee of the Islamic Azad University- Science and Research Branch, Tehran, Iran (ethics code: IR.IAU.SRB.REC.1397.032). All participants provided written informed consent to enter the research. They were reassured that participation was voluntary, and that

Table 1. The psychometric features of the questionnaire developed by the researcher

Variables	Average Variance Extracted (AVE)	Cronbach Alpha
Managers' specialty	0.8391	0.785
Culture of flexibility	0.7788	0.790
Culture of learning	0.896	0.843
Clarity	0.7334	0.819
Preparedness	0.8022	0.887
Awareness	0.7866	0.850
Flexibility	0.8021	0.810
Crisis management	0.8291	0.811
Management commitment	0.5909	0.773

anonymity and confidentiality would be guaranteed.

Results

The mean value of the specialty variable for managers for the personnel group was 3.57 and for the specialists group, it was 3.24. Also, the mean value for the crisis management performance in the personnel group was 4.63, and in specialists group, it was 3.84. Therefore, the mean value for the personnel group was more than that of specialists group. To investigate the research variables, as it is shown in table 2, the mean value for managers' specialty and crisis management function was more than 3,000 and the significant level was determined at lower than 0.05. Thus, the mean was over the average.

Table 3 demonstrates the fact that in level 95%, there was a meaningful relationship between managers' specialty and crisis management function, the

correlation coefficients is 0.24, and the correlation between independent and dependent variables was 0.24. The amount of Durbin-Watson statistic was 1.97 which states the lack of correlation between errors and the possibility of linear regression. The variance test for the other variable was showed the possibility of linear regression between the defaults of the relations (the results can be observed in table 4 which made doing the linear regression possible). Based on the regression analysis, the coefficient 6% was achieved which indicated that 6% of the changes in the managerial function in crises was related to the managers' specialty since it does not consider such degree of freedom. Thus, the adjusted coefficient of determination was used for this purpose which was 5.3% in this test. The relationship between these two variables was direct and significant. Therefore, with an increase in the managers' specialty, the variable of

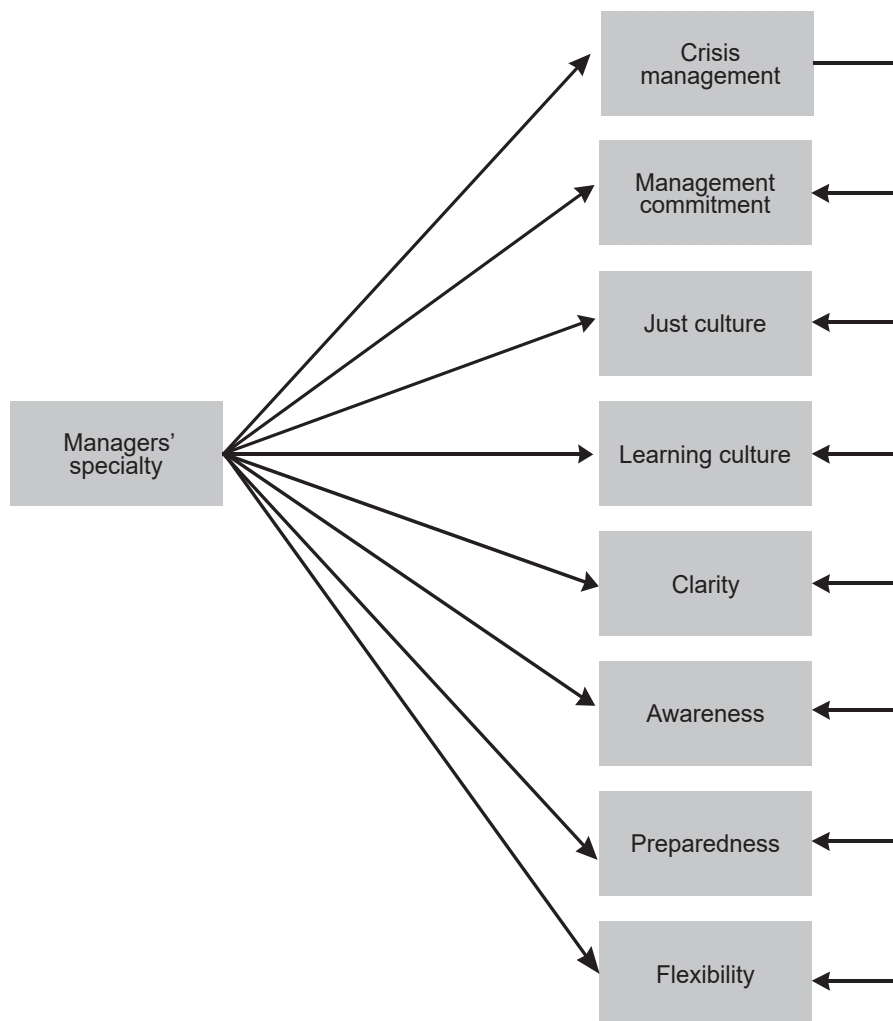


Figure 1. The conceptual model of the research.

Table 2. The results of single-sample t-test for investigating the present situation of the research variables

Variables	Theoretical mean = 0.3				
	Observed mean	Standard deviation	T statistics	Degree of freedom	p-value
Managers' specialty	3.5658	0.470	52.631	99	0.001
Crisis management function	3.8431	0.608	62.070	99	0.001

Table 3. The final results of the main hypothesis and the sub-hypotheses

Row	Hypothesis	Determinant coefficient	Correlation coefficient	Standardized Coefficients Beta	Result	Relationship
Hypothesis 1	There is a meaningful relationship between managers' specialty and crisis management performance.	0.058	0.240	0.240	Direct relationship	Confirmed
Sub-hypothesis 1-1	There is a meaningful relationship between managers' specialty and their commitment to management.	0.001	0.038	0.038	Direct relationship	Confirmed
Sub-hypothesis 2-1	There is a meaningful relationship between managers' specialty and their culture.	0.001	0.038	0.038	Direct relationship	Confirmed
Sub-hypothesis 3-1	There is a meaningful relationship between managers' specialty and their culture of learning.	0.016	0.128	0.128	Direct relationship	Confirmed
Sub-hypothesis 4-1	There is a meaningful relationship between managers' specialty and clarity.	0.037	0.191	0.009	Direct relationship	Confirmed
Sub-hypothesis 5-1	There is a meaningful relationship between managers' specialty and preparedness.	0.037	0.191	0.13	Direct relationship	Confirmed
Sub-hypothesis 6-1	There is a meaningful relationship between managers' specialty and awareness.	0.058	0.240	0.240	Direct relationship	Confirmed
Sub-hypothesis 7-1	There is a meaningful relationship between managers' specialty and flexibility.	0.001	0.038	0.038	Direct relationship	Confirmed

Table 4. F test (Analysis of Variance) for meaningfulness of regression in the study on the relationship between managers' specialty with crisis management function in hospitals in Tehran

Model	The sum of squares	Degrees of freedom	The mean sum of the squares	F statistics	p-value
Regression	14.989	1			
The left amount	245.563	98	14.989	11.474	0.001
Total	260.553	99	1.306		

crisis management function increased in efficiency.

Discussion

We found that the specialty of the managers is the key and influential factor in crisis management. Crisis management is a specialized pattern for empowering management and the procedure related to that needs a comprehensive management and control and strategic investigation in all fields and branches (5). Based on this, the aim of the study was to investigate the relationship between managers' specialty and the crisis management function in hospitals in Tehran. Due to the comparison between the obtained results from two groups of personnel and specialists, it was found that there was a direct relationship between managers' specialty and their crisis management function. Moreover, the correlation coefficient between managers' specialty and crisis management in specialists was more compared to the correlation coefficient of the personnel. The findings of this research match the findings reported by Ebrahimi and Teimoori Asl in their research entitled 'knowledge-based management in controlling financial crises in big organizations', and also the research conducted by Finizadeh *et al* titled 'the merger of the strategic management process with crisis management in security organizations' since according to these researchers, education and specialty of the managers play a key role in removing crises in the organizations (18,19). Also, these findings match those obtained by Ebrahimi and Teimoori Asl and Jahanian and Amini

Zare (18,20). In their research, Amini and Jahanian addressed crisis management and stated that the managers' professional experience is one of the main components in the crisis management cycle, as crisis is recursive due to its innate nature, and the possession of experience -considering the previous crises- plays a significant role in improving the situation for the upcoming crises (20).

In addition, Ebrahimi and Teimoori Asl maintain that the more experience the managers have, the higher chance they will have for removing crises at higher levels. Therefore, in line with the results achieved from the previous studies for using more efficient crisis management in all fields, especially in hospitals, the present research states the necessity for a comprehensive viewpoint in specialized knowledge for unifying and coordinating resources as well as human work force and the present indicators so that by means of precise adoption and implementation of such policies, the ground for success and crisis removal based on specialized crisis management is made possible (18).

Acknowledgements

The present research is a part of a Masters' thesis in management with orientation in health care services in Islamic Azad University, science and research branch. Here, we express our sincere thanks to all specialists and individuals active in the country's health care system who aided us in fulfilling the present research.

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