

How Much is Managers' Awareness of Evidence Based Decision Making?

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ABSTRACT

Evidence based management improves organizational decisions as a bridge from theory to practice. Using best available literature and measures to obtain health organizational decisions are of vital important, This study aimed at determining the level of manager's awareness of evidence based decision making in Tehran public hospitals. The cross-sectional study was conducted in 2013, in which purposive sampling of public educational hospital managers of Tehran medical university was done. The data collection tool was a structured questionnaire in 8 sections with ascertained validity and determined reliability of cronbach alpha %78. All data were computed and analyzed by SPSS version 18 Software. T test, Chi-square and ANOVA values were calculated to analyze the data. The 70th participants consisted of all the senior and junior managers of public-training hospitals in Tehran University of Medical Sciences, including hospital manager, finance director, director of administration, hospital matron. The managers' awareness of evidence-based management in the hospitals was reported to be equal and was not significantly different. Furthermore, there was no significant correlation between managers' education level and their awareness of evidence-based management and among managers' awareness, marital status, and age. The limited awareness of hospital managers regarding the concept and content of evidence-based management is a major challenge for sophisticated and efficient management in health organizations.

Key words: Decision-making, evidence-based management, critical thinking, awareness

INTRODUCTION

Evidence-based management means translating principles based on best evidence into organizational practices. Through evidence-based management, practicing managers develop into experts who make organizational decisions informed by social science and organizational research—part of the zeitgeist moving professional decisions away from personal preference and unsystematic experience toward those based on the best available scientific evidence¹. The Evidence-based management has an important

role on the organization performance. It makes the performance organization more accurate and more organize with best result². These issues imply a discussion on the skill of critical reflection which is based on the entrance of any information to our mind according to clear criteria and constituents. In this regard, the evaluation level of the available information is determined³. The importance of this is showing the factors which can help the organization achieve its goals. In this respect, evidence-based is considered as wise use of data to make informed decisions^{4, 5}. The available evidence shows that Iranian hospitals provide

different quality of services in similar circumstances⁶. Moreover, health care organizations are forced to improve their performance in order to keep their stakeholders satisfied and to organize their integrated care⁷.

Statement of Problem

The results of research and medical science with reference to the fact that the decisions on medical care should be based on the latest and the most effective evidence have been significantly attracted the attentions of doctors, nurses, administrators, policy makers, and health researchers around the world since a decade ago. When the managers don't pay attention to the Evidence Based Decision Making, they will face with a big calling and many problems such as disorganization and work without result^{8, 9}. Nonetheless, recent research shows that only 15 percent of doctors' decisions are based on evidence; therefore, so the question is that on what basis doctors make their decisions. Instead of relying on evidence, doctors depend on the knowledge learned from their school time, the traditional practices of non-documented clinical evidence, the accumulated experiences with regard to different kinds of patterns, as well as the cultural beliefs that have existed for a long time but have never been proven⁸. Also, managers have the same behavior for the treatment of their organizational diseases; however, they possess less understanding than doctors in terms of the existing reliable methods and have less willingness to learn such methods¹⁰. Moreover, these data play an important role in controlling the function of management because managers have confidence in the information to make decisions. Hence, such significance brings about power in that whatever changes the availability of vital information paves the way for change in power relations in an organization¹¹. In other words, as energy was regarded as the guiding force of industrial societies, the necessary information is now considered as the driving force of the information society¹². Unfortunately, there is relatively a big gap between the results and the applicability of studies because either many unavailable well-grounded studies have embarked on the relation between information and decision-making or the decision-makers are uninformed of the existence of such studies^{13, 14}.

Apart from all these problems, evidence-based decision-making has attracted the attention of many scholars in the health care system since in the last two decades in that a widespread search has been carried out to find the mechanisms needed for applying systematic evidence policy-making^{10, 15-17}.

Objective of research

General objective

The general objective of the present study was to determine managers' awareness with reference to evidence-based decision making of public-training hospitals in Tehran University of Medical Sciences.

Specific objective

The specific objective of the present study was to determine managers' awareness with reference to evidence-based decision making of public-training hospitals in Tehran University of Medical Sciences. To accomplish this objective, surveys were conducted to acquire information about awareness regarding evidence-based management, job experience, marital status, age and the field of manager's study.

MATERIALS AND METHODS

Research design and setting

The cross-sectional study was conducted in 2013, in which purposive sampling of public educational hospital managers of Tehran medical university was done. Since we chose the hospitals which are located in Tehran, Iran and since they are governmental and possess skilled clinical staff in all expertise, and a large number of patients are attracted to these centers from all over Iran because of their famous.

Sampling

The participants taking part in this study consisted of all the senior and junior managers of public-training hospitals in Tehran University of Medical Sciences, including hospital manager, finance director, director of administration, hospital matron, as well as the ward authorities of laboratory, radiology, pharmacy, food, utilities, and medical records. All and all, there were 70 participants from seven public-training hospitals in Tehran University

of Medical Sciences in 2013. Due to the lack of previous studies and limitations pertaining to selecting the participants in this field of study, the sampling of the participants was carried out through census. According to this sampling, both senior and junior managers who were 70 participants in 2013 and in charge with being hospital manager, finance director, director of administration, hospital matron, as well as the ward authorities of laboratory, radiology, pharmacy, food, utilities, and medical records with BSc, MSc or Ph.D degree in seven of public-training hospitals in Tehran University of Medical Sciences consisting of Amir A'alam hospital, Imam Khomeini Hospital, Rasoul Akram Hospital, Vali Asr Hospital (Aja Allah Farajaho Sharif), Firoozgar Hospital, Sina Hospital, and Shariati Hospital all and all formed the sample of this study.

Measurement tools

The data collection instrument comprised of a questionnaire based on the information gathered from the studies carried out in other countries, the review of the literature by the researcher and the supervisors, and the views of experts in this field. Furthermore, its validity and reliability were reported to be at an optimum level. The reliability of the questionnaire was designed and tested with Cronbach's alpha and is obtained 0/78 at this study.

The questionnaire contained seven pages with eight items for collecting demographic information, 17 multiple-choice items, and one open-ended item. The items were designed to assess knowledge and attitudes. Also, at the beginning of each questionnaire, a brief introduction about what and the why of evidence-based decision-making was written for the participant to answer the attitude-related items without even background knowledge about the subject under study. Furthermore, in the introduction part, the researcher assured that the information remains confidential. The main variable was managers' awareness of evidence-based management through questions 1, 5, 8, 10, 11, and 18 of the questionnaire; hence, for each appropriate answer to the items, one score is given. In addition, the score of managers' awareness was a number between 0 and 6 which is divided into three

measured and the correct answer to each question one point considered, so the score of knowledge management a number between 0 to 6 will be the period divided into three intervals, and the interval of 0-2 is low awareness, 3-4 is moderate awareness, and 5-6 is good awareness (Table1). Therefore from this question and the grade that each manager give from answering to this question, the level of their awareness of evidence-based management can be determine.

The validity of the evidence-based management was calculated by the experts and the supervisors in the field after doing several reforms. Also, the reliability estimate (Cronbach alpha) of the questionnaire was computed to be 0.78.

Data collection

Hence, after confirming the validity and reliability of the questionnaire was distributed among the participants. The questionnaires were distributed among 10 senior managers in seven public-training hospitals in Tehran University of Medical Sciences. Furthermore, a one-week interval was devoted for answering each questionnaire. After this period, the researcher returned to the hospital and received the completed questionnaires. Moreover, 3 to 4 days were devoted to complete the other questionnaires; hence, the researcher returned to the hospital and collected the remaining completed questionnaires. In this regard, among the 70 distributed questionnaires, 57 questionnaires were collected during two and half months.

Statistical analyses

Firstly, the obtained data were entered into SPSS software and the variables were discussed through descriptive methods and central measurements such as mean and standard deviation. Then, their analyses were done using t-test, ANOVA, and chi-square test of independence.

RESULTS

Demographic results

The questionnaire was distributed among 70 hospital managers from who 57 participants answered it from seven different hospitals. The

demographic information of both the participants and the hospitals under study were described in tables 2.

The results that show the level of evidence based decision making among managers:

According to the obtained data, the mean level of awareness was reported to be moderate (50% or more than). In other words, 31 percent of managers' awareness level was limited, 61 percent of their awareness level was moderate, and only 8 percent of their awareness level was at an optimum level. This variable was measured through questions 1, 5, 8, 10, 11, and 18. In this respect, one score is given to each appropriate response.

Therefore, the managers' awareness level was a number among 0 to 6 which was divided into three intervals. The interval of 0-2 was low awareness, 3-4 was moderate awareness, and 5-6 was good awareness. The results showed that not even one of the managers obtained a score among 0 to 6 (Table 3).

According to t-test, p-value was calculated at 0.616 which was above the significant level of 0.05 and the computed t was set at 0.504 which was smaller than the Table's t (1.684). Hence, with the confidence level of 95 percent, the main hypothesis (That there is little evidence-based knowledge management) of the study was not completely confirmed since the managers'

Table 1: How to Calculate the Score of Awareness

Answering Items (a, b, c, d) for Question 1	One score
Answering Item (c) for Question 5	One score
Answering Item (d) for Question 8	One score
Answering Item (b, c, d, or open-ended question) for Question 10	One score
Answering Item (d) for Question 11	One score
Answering Open-Ended Question 18	One score

Table 2: Demographic Information

Study Characteristics	Classification	Frequency	Percentage
Gender	Male	26	47.3
	Female	31	52.7
Age	30>=	14	25.9
	31-45	26	42.6
	45<=	17	31.5
Education	öDiploma	2	3.6
	Bachelor of Science	29	52.7
	Master of Science	15	27.3
	Doctor	11	16.4
Experience	<=5	27	48.1
	5.1-15	19	33.3
	>=15.1	11	18.5
Hospital	Imam Khomeini	8	14
	Amir A'alam	9	15.8
	Hazrat-e-Rasoul-e-Akram	6	10.5
	Sina	9	15.8
	Shariati	8	14
	Firoozgar	8	14
	Vali Asr (Aj)	9	15.8

awareness of evidence-based management was meager. In other words, the senior managers' awareness level with reference to evidence-based management was moderate (Table 4).

Based on the analysis of variance (ANOVA), because p-value was 0.977 and was bigger than 0.05, with the confidence interval of 95 percent, the managers' awareness of evidence-based management in the hospitals was reported to be equal and were not significantly different. The

means indicated that the managers of all the hospitals under study possessed moderate awareness approximately. With respect to the results of this study, there was no significant correlation between awareness and managers' job status. Also, job experience did not have a significant correlation with awareness and managers' job status. It means that Managers who are in different level of management such as Top managers, Middle managers and Practical managers have the same awareness about the Evidence-based

Table 3: Distribution of participants in the study, according to the Best hospital

Score Range	Frequency	Percentage	Mean of Scores	Standard Deviation
0-2 (low awareness)	15	30.5%	3.0816	1.13352
3-4 is (moderate awareness)	30	61.3%		
5-6 (good awareness)	4	8.2%		
Total	49	100%		

Table 4: Distribution of Frequency, Mean, and Dispersion of Awareness with Reference to Evidence-Based Management in Different Hospitals

Hospital	Frequency	Percentage	Mean and Standard Deviation
Imam Khomeini	7	14.3	Mean: 3.0816
Amir A'alam	9	18.4	Std: 1.13352
Hazrat-e-Rasoul-e-Akram	4	8.2	
Sina	9	18.4	
Shariati	7	14.3	
Firoozgar	5	10.1	
Vali Asr (Aj)	8	16.3	
Total	49	100	

Table 5: The Correlation of Awareness with the Existing Variables

Statistical Indices	Degree of Freedom	Sig	Chi-square Coefficient
Awareness Level Organizational Job Status	36	0.497	39.47
Awareness Level Management Field or Other Fields	4	0.05	9.57
Awareness Level Passing Training Courses	32	0.001	49.69
Awareness Level Age Group	8	0.125	10.86
Awareness Level Marital Status	4	0.537	2.26

management. And there is no difference between managers who have many years as experience with new administrator's awareness.

Furthermore, there was no significant correlation between managers' education level and their awareness of evidence-based management. In other words, they were independent from each other. Moreover, there was no significant correlation among managers' awareness, marital status, and age. In addition, the awareness of managers from different fields of study was equal in terms of evidence-based management; therefore, it was not significantly different. Nonetheless, there was a significant correlation between awareness and managers' educational field (i.e., whether management or other fields), since Chi-square coefficient was positive, there exists a direct relationship implying that the managers whose educational field was management were more informed than the other managers from other fields of study. Besides, there was a significant correlation between participating in training courses by managers and awareness (Tabale5).

DISCUSSION

The present study was cross-sectional which aimed to investigate the level of both senior and junior managers' awareness level with reference to evidence-based decision-making of public-training hospitals in Tehran University of Medical Sciences. The results showed that the level of managers' awareness is moderate; hence, the hypothesis of the present study, based on little awareness of senior and junior managers regarding evidence-based management in the hospitals under study was not fully confirmed. Nevertheless, it can be said that the mean score of awareness (3.0816) being between the moderate interval of 3-5 is still not adequate to implement evidence-based functions of management. Not only the levels of awareness regarding the seven hospitals were not much different from each other, but also such levels did not have a significant correlation with age, gender, marital status, management, job experience in the current working conditions, total job experience, educational field, and related field of education with organizational position. There, it can be concluded that seniors'

and juniors' levels of awareness with reference to evidence-based management in all the hospitals under study were not significantly different.

Moreover, only six of the participants responded to the open-ended question of the questionnaire (i.e., naming a number of evidence-based resources), and due to the unacceptable nature of many of these responses, once again the lack of managers' awareness regarding evidence-based management is demonstrated. It is worth mentioning that none of the six respondents were not aware of the registration system of hospital management and CHMR center. Furthermore, 34 percent of managers asserted that they were not familiar with evidence-based management; hence, it was similar with other result in other studies^{18, 19}.

Nearly 50 percent of managers believe that the main obstacle with respect to the implementation of evidence-based management is due to the lack of managers' awareness regarding management. In addition, 53.7 percent of managers held that any resistance to implementing evidence-based strategies is due to managers' lack of awareness. Although none of the managers completely rejected the significance of evidence-based management in hospitals, more than 96 percent of them voted in favor of implementing the strategies related to it. However, 37.7 percent of managers believed that it is impossible to implement evidence-based management in the hospitals of Iran. Perhaps, this problem is due to the traditional view of the hospital administration or the lack of infrastructure in the country. Therefore, it can be concluded that the main challenge facing the implementation of evidence-based management is regarded as managers' lack of awareness. Also, the p-value is calculated at 0; hence, there is a significant correlation between lack of awareness and their score of evidence-based management. In other words, the managers who had accepted their lack of awareness (i.e., 28.6 of the total respondents) scored below those who were familiar with evidence-based management. The managers who have awareness in the filed of evidence bade management got best grade.

In addition, the results of the current study show that managers are involved with answering

to 5 to 10 management-related questions daily. In this regard, 19.6 percent of them attempted to find answers to management questions through referring to their personal experiences. Besides, in order to find well-grounded evidence, 29.6 percent of managers consulted with organizational experts and experienced individuals. As a result, it can be concluded that some of the questions can be answered through managers' own experience and the experience of experts or colleagues. Hence, exploiting from the recording system of hospital managers' experiences is reported to be significant. Meanwhile, 81.8 percent of managers did not have any information on such a system of recording. Therefore, managers should increasingly take into consideration the significance of such system in their hospitals.

The question is that whether these experiences carry along new ideas and necessary information. The hospital managers in this study answered negatively to this question. Only 13 percent of them regarded the information obtained from experts as new. Most of the managers (i.e., 74.4 percent) held that new ideas and information transmit to managers through studying magazines, articles, resources, and related websites. Such findings manifest the wide gap between research and practice.

Kitson *et al.*'s study on 'Paving the Way for Implementing Evidence-Based Practice: Conceptual Framework' investigated the cumulative effect of three variables: level and nature of evidence, environment or atmosphere where the study is carried out, and the methods through which the process is facilitated. They concluded that the level and accuracy of evidence is regarded as the most important factor in implementing evidence-based practice; the manager's awareness is too important in this filed²⁰. This part is as same as our result.

Dopson and Fitzgerald's research on 'The Role of Moderate Managers in Implementing Evidence-Based Health Care' concluded that most of the existing scientific studies in the field need to be adapted to internal environment of health care. Also they found that managers should be flexible in front of changes and should increase their

knowledge and awareness about evidence based management if they want to be successful in this filed²¹. Their result is as same as the conclusion in this study.

One of the other factors in implementing evidence-based management is the managers' readiness to accept change. In other words, the managers should equip themselves with sufficient level of flexibility to adapt effective evidence in their own organizations since the circumstances of each organization is different from one another. Unfortunately, the results of the present study demonstrate that 26.3 percent of managers look for mechanisms which perfectly synchronize with their organizations; 15.8 percent of them discredit the new mechanisms which have been applicable abroad but have not yet implemented in Iran; and 14.8 percent of managers believe that their counterparts resist implementing evidence-based mechanisms. These results are in line with Pfeffer's study on the resistance of managers to accept evidence-based mechanisms. Therefore, it can be concluded that consistent with the fundamental measures of awareness with regard to the evidence-based management directors, other factors such as attitudinal and managerial change should be taken into consideration for management resistance to be reduced to its minimum level.

CONCLUSIONS

According to the results of this research, lack of knowledge in the field of evidence-based decision making among managers, is the biggest challenge facing hospital administrators. Considering the importance of evidence-based decision making in the organization the following requirements is important: Use of graduate people who are studied hospital management, Teaching managers and increase their knowledge in this field, Further discuss the benefits of evidence-based practice in meetings and conferences, The uses of technologies that will help managers make optimal decisions, Benefiting from the experiences of other countries in the implementation of evidence-based management. In this respect and in line with these changes, the main priorities of management and managers are change toward the implementation of available strategies and remove the obstacles in

the way. To this end, for implementing the available strategies in evidence-based management, removing obstacles is much easier than facing the problems and imposed losses evolving from not using effective or the so-called incredible evidence.

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