

Investigating the Effect of Knowledge Management Dimensions on the Level of Performance of Nurses Working in Ayatollah Rouhani Hospital in Babol

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Received: January 30, 2018; Accepted: February 10, 2018; Published: March 1, 2018. Citation: Fatemeh Rezaei, Mohsen Hosseinzadeh Savadi, Maedeh Faraji Douki. Investigating the Effect of Knowledge Management Dimensions on the Level of Performance of Nurses Working in Ayatollah Rouhani Hospital in Babol. *World Family Medicine*. 2018; 16(3):236-241.

DOI: [10.5742/MEWFM.2018.93331](https://doi.org/10.5742/MEWFM.2018.93331)

Abstract

Objective: The aim of this study was to determine the effect of knowledge management dimensions on the level of performance of nurses working in Ayatollah Rouhani Hospital in Babol.

Methodology: After reviewing the subject literature, the proposed model was presented in four effective factors of knowledge management on the level of performance. Then, a questionnaire consisting of 25 questions was designed based on these factors, and after gaining assurance of its validity and reliability based on expert judgment and calculating the Cronbach alpha coefficient, 350 questionnaires were distributed among 350 nurses of Ayatollah Rouhani Hospital in Babol in 2017, which were selected by random sampling method. In order to test the fitting of the research model and study the relationship between its variables, structural equation modeling was used using Lisrel software.

Findings: The scores obtained from nurses' productivity in the four dimensions of knowledge management (knowledge creation, knowledge sharing, knowledge application, and knowledge storage of services), independent t-test and independent variance analysis showed that there was no

significant difference in any of the different levels of demographic variables including gender, marital status, education, work experience, employment status and organizational status ($p > 0.05$). In contrast, the result of a single-sample t-test showed that the mean of the four dimensions was greater than 3 ($p < 0.05$), and the result of the level of performance of the four dimensions of the mentioned dimensions had a reasonable likelihood.

Conclusion: The results of this study showed that most of the nurses of this center believe that the quad size of knowledge management on the level of performance among hospital nurses, in addition to improving the quality of nurses' services, also reduces the cost of the hospital.

Key words: Knowledge Management, Performance, Nurses.

Introduction

It is argued from this view that knowledge is an intangible asset that is more important than traditional wealth in a new economy. The intangible assets of organizations include: information, knowledge, experience and skills of the organization's staff, which, of course, is not easy to measure, because there are no specific evaluation techniques and criteria. Drucker believes that in today's world economy, knowledge as the result of learning is not the same source and is not the same in other sources of production, such as labor, capital and land, but rather a much more important source for the present [1]. Organizations need to use adaptable and intelligent strategies to succeed and compete in an increasingly sophisticated environment, including knowledge management practices and processes. Therefore, knowledge management is required as one of the ways to achieve desirable performance in organizations and, in particular, in libraries for the success and competitiveness of today's environment [2]. Yang and Lynch argue that many new business management practices have emerged for the first time in the transitional sector and then in the nonprofit sector [3]. The implementation of knowledge management is important not only for large corporations and organizations, but also for non-profit organizations such as universities and health centers. The health sector, is an organization that requires skilled and knowledgeable nurses, and because of the association with community health, it is necessary to use efficient methods in providing services to improve quality, low health costs and timely addressing the needs of clients, which is only possible in the light of the use of modern information management techniques and the allocation of suitable time to knowledge management [4]. Knowledge management is developing its theoretical background as a new discipline. Organizations need efficient knowledge management to improve organizational performance and to compete successfully in global markets, although the need for knowledge management is generally accepted as an applied practice, but it is still a non-objective concept, and most writings seek to explore this issue [5]. Health organizations are more or less faced with similar issues to other organizations.. Moving human resources and leaving them out of the system will eventually lead to the outflow of intellectual capital. There are also differences between health organizations and other organizations. One of these differences is having goals as do other organizations, namely, promoting patient protection and reducing medical errors, and another difference is the growing use of advanced health services that makes it necessary to employ trained and expert staff. On the other hand, the necessity of doing things group-wide and around the patient's axis is to increase the knowledge sharing and organization and management in these organizations [6]. Another important application of knowledge management in health organizations is clinical coding [7].

Methodology

After reviewing the subject literature, the proposed model was presented in four effective factors of knowledge management on the level of performance. Then, a questionnaire consisting of 25 questions was designed based on these factors, and after gaining assurance of its validity and reliability based on expert judgment and calculating the Cronbach alpha coefficient, 350 questionnaires were distributed among 350 nurses of Ayatollah Rouhani Hospital in Babol in 2017, which were selected by random sampling method. In order to test the fit of the research model and study the relationship between its variables, structural equation modeling was used using Lisrel software.

Findings

In Table 1, some of the demographic and occupational characteristics of the sample are shown. Most of the subjects were women with a record of less than 10 years of work experience and undergraduate education. Also, the mean age of participants in this study was 31.11 ± 4.47 .

The scores obtained from nurses' productivity in the four dimensions of knowledge management (knowledge creation, knowledge sharing, knowledge application, and knowledge storage of services), independent t-test and independent variance analysis showed that there was no significant difference in any of the different levels of demographic variables including gender, marital status, education, work experience, employment status and organizational status ($p > 0.05$). In contrast, the result of a single-sample t-test showed that the mean of the four dimensions was greater than 3 ($p < 0.05$), and the result of the level of performance of the four dimensions of the mentioned dimensions had a reasonable likelihood (Table 2).

In the study of goodness of fit, the fitting of the conceptual model was presented and the causal relationships between the variables were derived from the structural equations and specifically by the path analysis method (Figure 2 - page 232).

According to the information obtained from the structural equation model, the results showed that the conceptual model of the research was fit. There is also a significant difference between the variables of knowledge creation, knowledge sharing and the knowledge application with productivity.

Given the output of the Lisrel software, the χ^2 value is 1.75 and less than 3, which is a good value. The low level of this indicator indicates a small difference between the conceptual model of the research and the observed data; also, the RMSEA value is 0.04 and less than 0.08. In addition to χ^2 , the more RMSEA index is less, the model has a better fit and the indexes (NFI-NFI-IFI-CFI) are greater than 0.9, and the GFI and AGFI indices are greater than 0.8; Therefore, the model has suitable fit and is confirmed.

Figure 1: Conceptual model of research

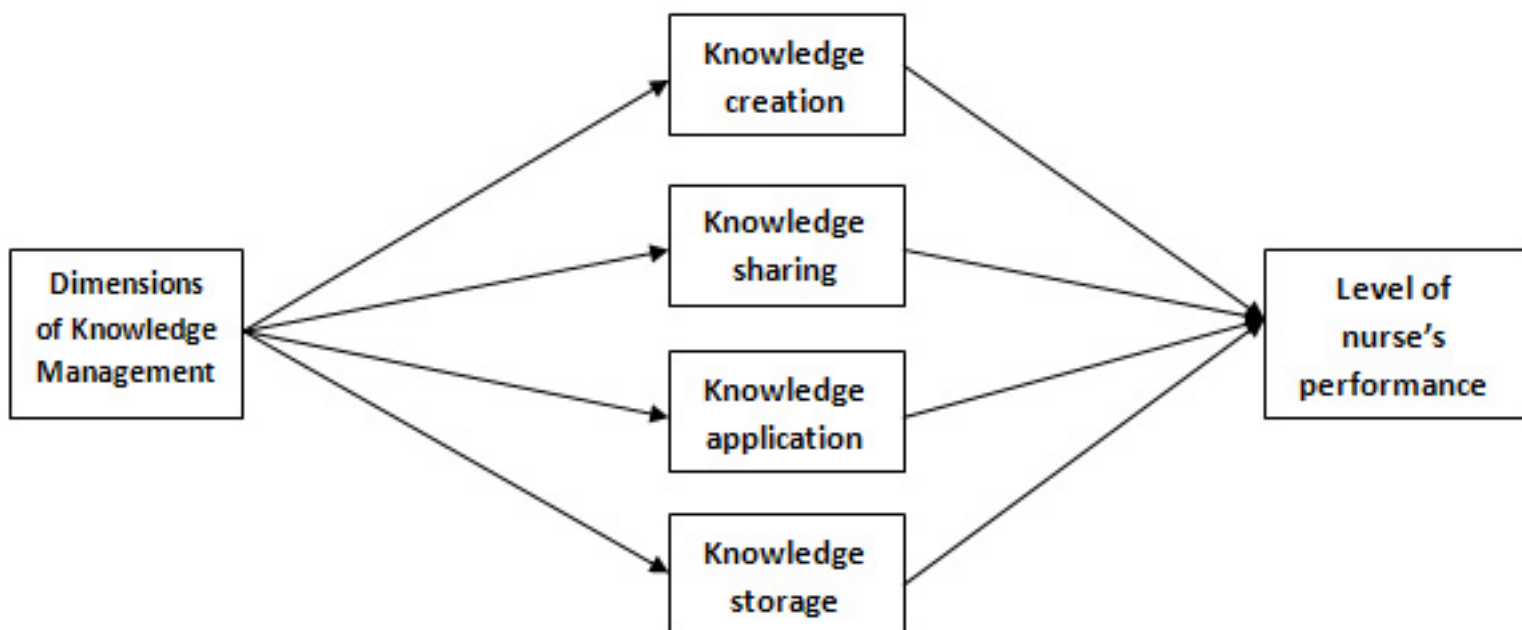


Table 1: Frequency distribution of research sample in terms of demographic information

Demographic factors	Groups	Frequency	Frequency percentage
Gender	Male	11	3.1
	Female	339	96.9
Marital status	Married	305	87.1
	Single	45	12.9
Level of Education	Bachelor	336	96
	Master's degree	14	4
Work experience (years)	under 10 years	270	77.1
	10-15	63	18
	20	17	4.9

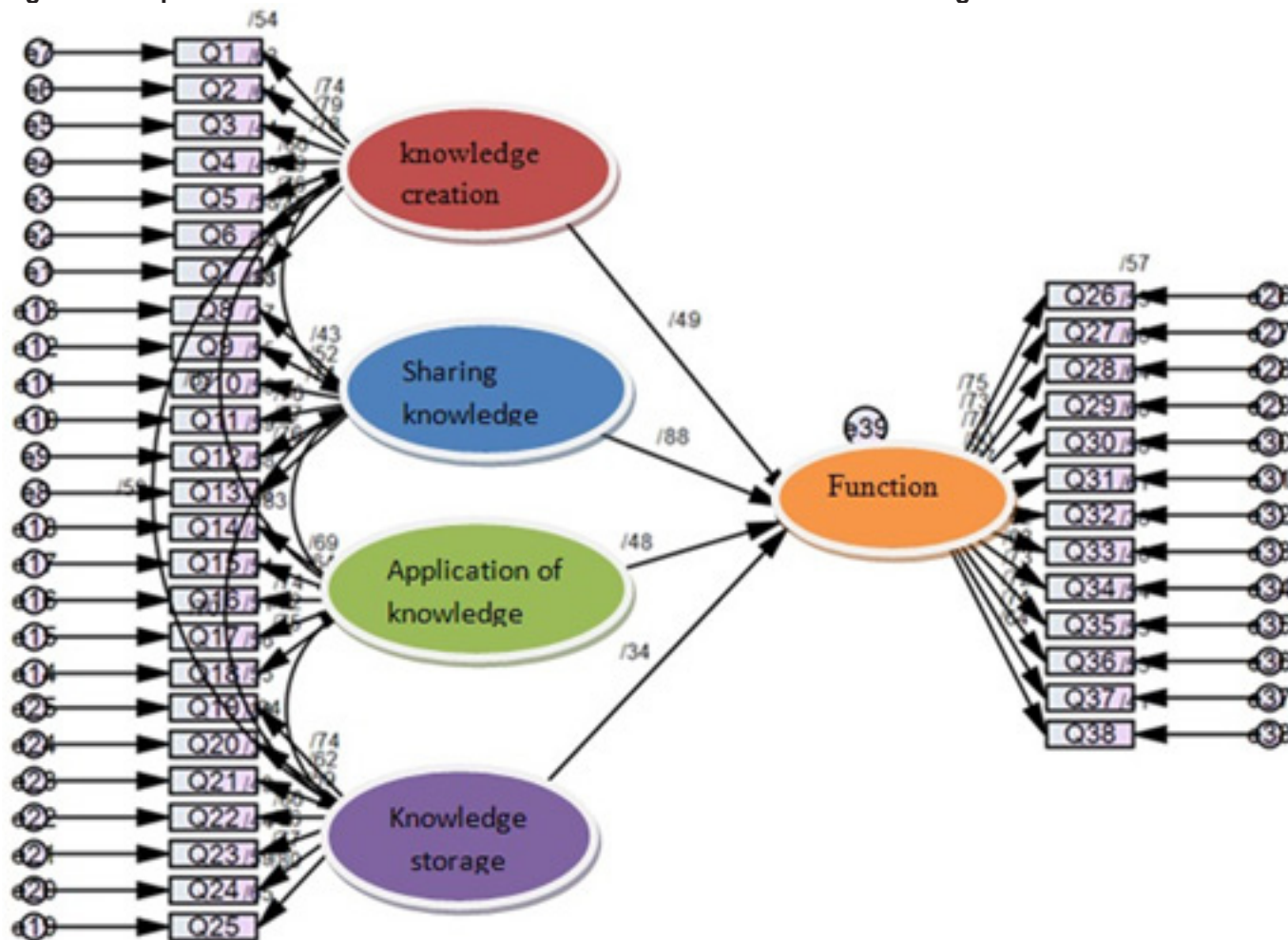
Table 2: Examining the utility of quadruple dimensions (knowledge creation, knowledge sharing, knowledge application and knowledge storage)

Dimensions	Number	Average	t-value	p-value
Knowledge creation	350	0.84±3.96	21.36	P<0.01
Knowledge sharing	350	0.71±4.14	30.13	P<0.01
Knowledge application	350	0.69±3.99	27.05	P<0.01
Knowledge storage	350	0.67±3.90	24.81	P<0.01
Performance	350	0.84±3.71	15.55	P<0.01
Total	350	0.65±3.94	26.59	P<0.01

Table 3: Evaluation of fitness indicators

Indicators	X2/DF	RMSEA	RFI	NFI	CFI	IFI	GFI	AGFI
Amount	1.75	0.04	0.99	0.99	0.99	0.99	0.99	0.96

Figure 2: Output of the causal relation test between the research variables using the standard Lisrel software



Discussion

The findings, according to Figure 2, show the output of the causal relation test between the variables of the research using the standard Lisrel software, which showed that there is a significant relationship between the four components of knowledge management in this research with the level of organizational performance and there was very little difference in the knowledge storage component with the amount of productivity. This suggests that culture (beliefs) is shared by members of the organization. Organizational values, unwritten rules and regulations, and methods of execution are the cultural resources of knowledge. The content of the organization’s culture, as a source of knowledge, can be strengthened by individuals, directions, work methods and computer organizations. Therefore, individual and organizational learning and development must be regarded as a value. All nurses of the organization at all levels and in each situation believe that they should share their knowledge and information for the sake of the organization’s growth and success, and this thinking is encouraged and supported by the organization, allowing nurses to trial and error, experience and learn. In such an organizational culture, thinking is not a waste of time, it is encouraged. The atmosphere of the organization is such that all people are enthusiastically endeavoring to learn and transfer their learning to others.

Communications are not limited to team, part, and even organizational boundaries, and there is a free flow of information, knowledge and ideas. All individuals are evaluated and encouraged based on the contribution they make to the development of knowledge in the organization. The organizational environment has many characteristics that are the source of potential knowledge. Therefore, by communicating with these attributes, an organization can find its own knowledge resources. This can be considered as a source of virtual knowledge that can be accessed or obtained from the environment. Also, research has been done and in our research that is being addressed. Mir Fakhredini and colleagues (2010) evaluated and prioritized knowledge management components related to knowledge innovation and innovation performance using the method. This research has proved a positive and significant relationship between knowledge innovation and knowledge management, and knowledge management and innovation performance. In this research, it was determined that the most and least components of knowledge management are “timely distribution of news” and “sharing of knowledge between nurses” respectively [8]. Mir Ghafouri et al. (2010) investigated the dimensions of knowledge management process in health centers in Yazd city, and concluded that the “knowledge management process” and “knowledge utilization” had the lowest and highest performance respectively [9]. Hosseinzadeh (2010) compared and determined the level of knowledge

management among nurses in the libraries of Isfahan and Tabriz University of medical sciences based on the Hissig model (creation, storage, sharing, and application of knowledge). The results of this study showed that the overall level of knowledge management application based on the Hissig model of the nurses of the libraries of Isfahan University of Medical Sciences with a mean of 2.8 and Tabriz University of medical sciences with a mean of 2.9 is less than average [10]. Shirvani et al. (2009) concluded that in the six components studied (identification, acquisition, development, sharing, distribution, use, and storage of knowledge), the necessary fields for the establishment of knowledge management in Isfahan University of Medical Sciences is less than average [11]. Fagher and colleague (2009) also ranked the colleges of Shahid Chamran University of Ahvaz using the Topsis Technique. In order to rank the colleges, a total of 30 indicators were selected and weighted with AHP technique (analytic hierarchy process). Subsequently, ranking was performed according to indicators. Out of the various colleges, 10 colleges entered the ranking process, which ultimately the Faculty of Psychology and Educational Sciences ranked first and the Faculty of Economics and Social Sciences ranked tenth [12]. In an article entitled "The Process Model for Knowledge Transfer Using the Theories of Knowledge Communication and Knowledge Translation", written by Liyanage et al in 2012, the introduction of an advanced model for the knowledge criticism process according to the advanced theoretical knowledge transfer model was studied in six main stages [13]. In an article titled "Research on Knowledge Transfer in Organizations: Linguistics," written by Kumar and Ganesh in 2013, a presentation on the literary linguistics of knowledge transfer in organizations was presented. In this research, the eight dimensions that had been derived from the literature study (research background) were introduced as the characteristics of transfer and knowledge sharing, and for each dimension they was found between two to six attributes [14]. An article entitled "The deterrent effect on organizational learning in complex organizations," written by McLaughlin et al in 2012, investigated the behavior of employee and provides knowledge and information in a complex production chain by looking at a better understanding of how to identify and manage the barriers that make such a change. In this study, the ways in which employees of a large corporation access and create and share information and knowledge are investigated and they attempted to understand, identify, and manage the barriers to knowledge transfer. This research in a field work has tested the barriers to knowledge transfer in a large company (IBM), and ultimately concluded that the effect of each of these obstacles in the organization is not the same and has different weight [15].

Conclusion

Knowledge management is creation, storage, absorption, sharing and knowledge application to increase the efficiency and effectiveness of an organization's activities. Along with all the factors that influence the organization's quality and quantity of knowledge management, human resources can also have a significant impact. Although

the impact of manpower seems to be on the sharing and absorption of knowledge, and although the impact of manpower on obvious knowledge management, or codified knowledge, is greater, it creates many abilities that help create and apply knowledge, as well as implicit knowledge management. The results of this study showed that most of the nurses of this center believe that the four dimensions of knowledge management on the level of performance among hospital nurses, in addition to increasing the quality of nurses' services, also reduce the costs of the hospital.

Acknowledgment: In this regard, I thank all the hospital intensive personnel for the necessary cooperation in this research.

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