

Perspective of Clinical Nurses on Facilitating Factors and Obstacles of Conducting Research and Implementation of Its Results

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Received: 19 Oct 2015

Revised: 10 Mar 2016

Accepted: 18 May 2016

Background: Participation of nurses in research studies is a requirement of achieving evidence-based nursing, but studies in this regard are limited. This study aimed to determine the viewpoints of nurses regarding the facilitating factors and obstacles of participating in research and utilization of its results in clinical practice.

Methods: This descriptive study was done in 2013 at teaching hospitals affiliated to Kerman University of Medical Sciences. Study subjects included 210 clinical nurses with at least a bachelor's degree who were selected by stratified random sampling method. Data collection tools included a researcher-made 3-section questionnaire. The first section consisted demographic information and the second and third sections contained 21 questions each that evaluated the motivational factors and obstacles of research, respectively. Data were analyzed using descriptive statistics (mean and standard deviation).

Results: Of all the participants, 87.6% were female with average age of 38.08 ± 4.93 years. Regarding the research facilitating factors, the highest score was given to the intrinsic interest for knowledge acquisition and increased practical work ability. In this section, the lowest scores were given to interaction with other colleagues and the existence of competitive conditions. In terms of the research obstacles, the highest scores were reported for problems at work including staff shortages and high workloads, while the lowest scores were reported for low self-confidence and lack of interest and unwillingness to do research.

Conclusion: The results of this study can provide information for nursing policymakers to establish measures that constructively motivate nurses to do research and utilize its results by the managers.

Keywords: Implementation of Research Findings, Facilitators and Obstacles, Nurse, Evidence-Based Care

Introduction

Knowledge and awareness are some of the main criteria of professionalism in a major, which distinguish it from other majors (1). Although there are many sources for acquiring knowledge, research is the most objective and reliable source of knowledge acquisition (2). Research is considered as one of the main and fundamental basics of human society development, in a way that no reasonable scientific movement seem possible unless being supported by research. In fact, research is the main driving force in the development of a society and is often regarded as one of the most important criteria of growth (3). Today's world is the world of knowledge and information advancements, and nursing requires research similar to any other major (4).

Nurses are the largest group of professional health forces, and care is the core of nurses' clinical performance. The expansion of nursing knowledge is essential for continued advancement of patient care (4,5). Nurses are responsible for the care they provide for patients and they should be active and conversant in providing the best and highest quality of care (5). Correct use of evidence-based research findings leads to improved quality and validity of care, and makes nurses responsible for their performance (6).

Nurses need to act based on the findings of research to use them in making informed decisions, clinical care and interaction with patients (4). Due to difficulties involved in conducting research, nurses are sometimes dissuaded to prepare, develop and perform quality studies (7). Therefore, identifying the facilitating factors and obstacles in this regard is very important. Based on the findings of Chang et al. (2010), three main obstacles of doing research by nurses are lack of ability and independence in the clinical setting adjustment using research findings, low number of peer nurses actively involved in researching and poor knowledge in interpretation and understanding of statistical analysis (8).

Kuuppelomaki et al. (2005) study on the attitude of nurses toward performing research and implementation of its results showed that a high percentage of nurses believe that

research is not considered an important part of their job. It was also reported that age, attending courses of study, further study of research journals and the ward in which nurses are working can affect the nurses' attitude toward research and implementation of its results in clinical practice (9). Based on the study of Mehrdad et al. (2006), inadequate time to study the recent research findings and the lack of nurses' independence for changing the clinical practice according to the new findings, are the two main deterrent factors of using the results of new studies by nurses (7). Latif et al. (2012) indicated the lack of enough time for the implementation of new research findings, lack of timely and quick publication of research papers and lack of cooperation between physicians and nurses for utilization of research findings in nursing practice, as the main obstacles of undertaking research by the nurses (10).

Although it is crucial to know the hurdles nurses face in conducting research and using its results in practice to achieve evidence-based nursing, it is also important to identify cases that increase the motivation of nurses in doing research and utilizing its findings. However, little research has been done in this regard in Iran and studies were often based on the obstacles of utilizing research findings by the nurses. Thus, identification of facilitating factors and obstacles affecting the utilization of studies can fill the current scientific gap (11).

The forces employed in the field of research are among the most important sources of a country's development, and research evaluation would not be possible without a detailed assessment of these factors (12). Therefore, this study aimed to determine the facilitating factors and obstacles of conducting research and utilization of its results by nurses.

Methods

This descriptive-analytical study was conducted in 2013 by obtaining permission from the ethics committee of Kerman University of Medical Sciences and Health Services in three teaching hospitals affiliated with the University. This study included 210 clinical nurses with at least a bachelor's degree who were selected by stratified

random sampling. Sample size was considered as 210 individuals using the sample size formula with 95% confidence interval and mean and standard deviation from the previous related study. Of these 210 subjects, 80 were selected from Shahid Bahonar Hospital, 80 from Afzalipour Hospital and 50 were selected from Shafa Hospital (13).

Relative stratified random sampling was done by considering the total number of nurses working in each center, and proportionally randomly selection of nurses from each center. Inclusion criteria included having at least a bachelor's degree in nursing, a minimum of 2 years clinical experience and willingness to participate in the study.

Data were collected using a three-section questionnaire. The first section included demographic information, the second section included 21 questions that assessed the factors facilitating the participation in research and the third section consisted 21 questions that assessed the obstacles of participating in research studies. The 5-point Likert scale (very low, low, average, high, very high) was used to measure each item, with a score of 1 to 5 in which higher scores indicate greater impact.

The content validity index was used to determine the validity of the questionnaire. In this regard, the questionnaire was evaluated by 12 faculty members of Kerman University of Medical Sciences in terms of clarity, simplicity and relevance. After applying the suggestions of the faculty members, the number of items in sections two and three were reduced to 21 for each section. The content validity for the second and third section were found as 0.87 and 0.91, respectively. Test-retest reliability method was used to assess the reliability, so that in a preliminary study, the questionnaires were

given to 15 randomly selected nurses among the study population for completion.

The correlation coefficient between the first time and second time scores with interval of 10 days were obtained and determined as 0.89 and 0.88 for the second and third times, respectively. It should be noted that these 15 nurses were excluded from the main study. After determination of the validity and reliability of the tools, the list of nurses' names and the ward in which nurses are currently working was received from the relevant nursing units for data collection. Then, the researcher attended the research venue, gave a brief description of the study objectives and asked nurses to carefully complete and then return the questionnaires. Before the questionnaires were given for completion, the nurses were assured that participation in the study is voluntary, results will not have any negative consequences for them and research findings will be used only according to the research objectives.

Data were analyzed using descriptive statistics (mean and standard deviation) by SPSS-16 statistical software. Exclusion of nurses with degrees below bachelor's level from the study is a limitation of the current study. It is also recommended to consider items such as the number of research projects, number of papers presented at congresses and number of published articles in journals in future studies.

Results

Of the 210 nurses participated in the study, 184 subjects (87.6%) were female and the rest were male. Age of the nurses in the study ranged from 26 to 47 years with mean of 38.08 ± 4.39 years. Demographic characteristics of the subjects in the study are presented in Table 1.

Table 1: Demographic characteristics of the nurses participating in this study

Demographic information		Number (%)
Gender	Male	28(12.4)
	Female	184(87.6)
Marital status	Single	75(35.7)
	Married	134(63.8)
Employment status	Official	97(46.2)
	Conventional	97(46.2)
	Contractual	11(5.2)
	Project Based	5(2.4)
Organizational position	Supervisor	28(14)
	Head nurse	41(20)
	Nurse	141(66)
Work shift	Morning	53(25.2)
	Evening	20(9.5)
	Night	9(4.3)
	Rotational	127(60.5)
Work experience	Less than 5 years	34(16.2)
	6 to 10 years	66(31.4)
	11 to 15 years	35(16.7)
	16 to 20 years	27(12.9)
	More than 21 years	
Educational level	Bachelor degree	182(87)
	Master degree	28(13)

Table 2: Ranking of the facilitating or motivating items of the questionnaire, based on the average score of each item

Item number in the questionnaire	Item of Facilitating factors	Mean ±SD
10	Intrinsic interest for knowledge acquisition	4.27±0.73
8	increased practical work ability	4.27±0.89
11	sense of competency and sufficiency in performing tasks after conducting research	4.22±0.73
5	Increased professional and specialized knowledge	4.16±0.71
21	Acquisition of some new techniques and research methods	4.12±0.78
12	The possibility of the emergence of better job opportunities after participating in research projects	4.11±1.07
18	Updating specialized knowledge	4.10±0.79
1	Earning points	4.06±0.82
3	Review previous information	4.05±0.83
6	Solution seeking in solving professional problems	4.03±0.92
9	Increasing self-efficacy	4.01±0.88
16	Willingness to change and fix flaws	3.95±0.91
20	Quick publication of research results	3.90±0.87
14	Having sense of curiosity	3.89±0.66
15	The willingness to participate in research	3.87±0.99
2	Job promotion opportunities	3.85±0.93
17	Using the facilities and opportunities available in research support centers (Research Center, nursing system, etc.)	3.79±1.15
19	Easy research processes	3.75±0.98
4	Exchange of information and experiences with other colleagues	3.73±0.74
7	Interaction with other colleagues	3.68±0.78
13	The existence of competitive conditions	3.61±0.99

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The most important facilitating factors from the nurses' point of view were intrinsic interest for knowledge acquisition (4.27 ± 0.73), increased practical work ability (4.27 ± 0.89) and sense of competency and sufficiency in performing tasks after conducting research (4.22 ± 0.73), respectively. In this section, reported factors with the lowest effects were the existence of competitive conditions (3.61 ± 0.99), interaction with other colleagues (3.68 ± 0.78) and the exchange of information and experiences with other colleagues (3.73 ± 0.74), respectively (Table 2).

Regarding the assessment of obstacles for research participation and utilization of its results, the most affecting factors in the view of nurses included workplace problems such as labor shortages (4.49 ± 0.69), high clinical workload (4.45 ± 0.71) and disallowance to use nursing research results in clinical practice by physicians (4.02 ± 1.06), respectively. In this section, the factors with lowest effects identified by the nurses were low self-confidence (2.21 ± 0.92), the lack of interest and unwillingness to do research (2.24 ± 1.06) and unfamiliarity with research methods (2.91 ± 0.99), respectively (Table 3).

Table 3: Ranking the obstacles or deterrent factors in the questionnaire, based on the average score of each item

Item number in the questionnaire	Obstacles or deterrent factors items	Mean \pm SD
18	Staff shortages (colleagues)	4.49 \pm 0.69
17	high clinical workload	4.45 \pm 0.71
20	Non-implementation of research findings by physicians	4.02 \pm 1.06
1	Shortage of time	4.01 \pm 0.95
19	Non-implementation of research findings by nursing managers	3.99 \pm 0.99
21	The unavailability of advisers for conducting research	3.85 \pm 0.92
6	Improper support for the research expenses	3.77 \pm 1.14
9	Lack of encouragement from the authorities	3.58 \pm 1.31
13	Family problems such as parenting	3.55 \pm 1.41
11	Lack of impact of projects accomplishments on wages and benefits	3.53 \pm 1.05
8	Lack of equity in accepting research by the Research Centers	3.50 \pm 1.27
14	Family problems such as housekeeping	3.47 \pm 1.38
5	Lack of Research Methodology classes	3.42 \pm 1.21
7	Lack of timely payment of project costs	3.35 \pm 1.22
12	Insufficient English language knowledge	3.23 \pm 0.92
10	Lack of impact of projects accomplishments on job promotions	3.17 \pm 1.21
15	Family problems such as second job	2.99 \pm 1.42
16	Other family problems	2.97 \pm 1.51
4	unfamiliarity with research methods	2.91 \pm 0.99
3	Lack of interest and unwillingness to do research	2.24 \pm 1.06
2	Low self-confidence	2.21 \pm 0.92

Discussion

The results of this study showed that the intrinsic interest for knowledge acquisition, increased practical work ability and increased competency and sufficiency in performing tasks are the most common facilitating factors for research and implementation of its findings in clinical practice. Previous studies in this regard are very limited with divergent results. In Shayestehfard et al. study (2010) on assessing the facilitators of research findings' implementation by nurses working

in Abadan and Khoramshahr, common facilitators were retraining courses to train new research findings, training nurses to enhance their knowledge about fundamental research methodology, equipping the hospitals' library with prestigious journals and easier access to Internet resources, respectively (14). These results are inconsistent with the findings of the present study. Valizadeh et al. study (2002) on 304 nurses working in teaching hospitals of Tabriz reported that creating enough study time for

nurses, training nurses to perform quality research and instruction of authorities to use the results of such studies in clinical practice may facilitate the use of research results by the nurses (11). Another study reported supporting colleagues in the workplace, giving adequate time and facilities to clinical nurses to participate in workshops on research methodology, existence of a scientific committee to review research results and their preparation for use in the clinical setting as the main facilitating factors for using research findings in clinical practice (9). These results were also inconsistent with the findings of the present study in this regard. The main reason for the disparities in the findings of similar studies with the present study could be the use of different tools by these studies. For example, Mehrdad et al. (2006) used an open question by asking nurses to list the affecting facilitating factors in order of priority, to evaluate the facilitators of using research findings. In addition to facilitators, using research findings was assessed in the present study similar to the previous studies, which could be another reason for the disagreement of results between the present study and other studies.

Another main objective of this study was to determine the obstacles of conducting research and utilizing its results by nurses in clinical practice. The most important obstacles from the nurses' point of view were staff shortages, high clinical workload and disallowance to use nursing research results in clinical practice by physicians. In this regard, Chang et al. (2010) findings are consistent with the present study findings. The two main deterrent factors in the mentioned study were lack of ability and lack of independence in changing clinical settings using the research findings and low number of colleague nurses involved in the field of research (8). Valizadeh et al. also reported similar results in this regard. They reported lack of time and lack of cooperation from physicians in implementation of research findings as two of the main obstacles faced by nurses (11). Oh (2008) showed that although nurses had a keen interest in clinical research, lack of support from their hospital officials and lack of standard guidelines for conducting

research, prevented their participation in nursing studies (15). The findings of studies in developed countries show that nurses face many problems in conducting nursing studies and utilization of its results. In this regard, Shifaza et al. (2014) study in Australia reported lack of a unified database, lack of sufficient time for utilizing recent scientific findings in the nursing profession and lack of cooperation between the health sector managers and nurses for implementation of research finding as the main obstacles for using research findings in clinical practice (16).

Many training programs on the promotion of nurses' knowledge in research and using the results of studies such as research methodology workshops, are designed, developed and performed by University faculty members. Therefore, the content of the programs should be based on the needs of nurses and their view on the facilitators and deterrents, because studies have shown that the research barriers are different from the viewpoint of faculty members compared to clinical nurses. For instance, faculty members of Medical Universities reported poor interaction between researchers, lack of time due to teaching responsibilities, lack of purpose and specific plan in the research system, having executive responsibility, strictness in approval of research projects, restrictive administrative regulations and long process of research projects approval as the main research obstacles, which are completely different from the obstacles reported by the nurses (12,13).

Conclusion

Healthcare systems in developed countries often regard evidence-based care as the gold standard of providing quality care in the best and most accurate way for patients. Conducting quality research in the field of nursing like any other fields is the prerequisite of achieving this objective. In order to perform quality research in the field of nursing by clinical nurses, determining the facilitating factors and eliminating the obstacles of research and the implementation of its results are necessary. Facilitating factors and obstacles that were reported by the nurses in the present study and previous studies can

be easily provided and resolved by the nursing managers and policymakers in universities, nursing organization and hospitals, which can ultimately contribute as important and major steps to achieve evidence-based nursing.

Acknowledgements

The authors would like to thank all the nurses who participated in this study, the

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