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Case Report

Effectiveness of Training the Manner of Implementation Evidence-Based Practice on Nurses' Knowledge

Zahra Safavi Bayat[1], Kazem Najafi[2], Mehdi Safari[1],

Mohammad Javad Akbarain Bafghi[3] and Mahin Khajehpoor [2]

[1]Department of Nursing, School of Nursing and Midwifery,
Shahid Beheshti University of Medical Sciences, Tehran, Iran
[2]Department of Nursing, School of Nursing and Midwifery,
Bam University of Medical Sciences, Bam, Iran
[3]Department of Health Care Management, School of Public Health,
Bam University of Medical Sciences, Bam, Iran
Correspondence: Kazem Najafi, Department of Nursing, School of Nursing and Midwifery, Bam University of Medical Sciences, Bam, Iran, Tel: +98-917-38-05. E-mail: najafikazem67@yahoo.com

ABSTRACT

Background and Objectives: Evidence-based practice has drawn great deal of attention due to the importance of research findings, valuable clinical experiences, and concerns about the patient's preferences. In order maintain and develop clinical standards and put this approach into practice, it is essential for nurses to update their knowledge in this area. The purpose of the present study is, therefore, to determine nurses' knowledge before and after the educational program on how to implement evidence-based nursing practices.

Materials and Methods: In this quasi-experimental study, 40 training nursesin hospitals Imam Hosein and Khatam Alanbia Tehran were selected based on the purposive sampling method. The participants' level of knowledge was assessed before and after the educational program using Robin & Parish's questionnaire. The obtained data were analyzed in SPSS 19 using descriptive and analytical statistics. The paired t-test was used to compare the results.

Results: Knowledge on performing evidence-based practices was at a moderate level in 70% of the study subjects, while it was low level in 30%. Immediately after the intervention, 60% of the subjects showed a good level of knowledge and all signs of poor knowledge disappeared, and two months later, 70%of subject improved to good level of knowledge. ($P \leq 0.05$).

Conclusion: The resultsindicated a positive improvement in the nurses' level of knowledge following the implementation of the evidence-based nursing education. This result is indicative of the need for greater effort in facilitating the implementation of evidence-based nursing education programs.

Keywords: evidence-based education, implementation, knowledge, nurses

1. INTRODUCTION

Today, it is essential for nurses to be familiar with latest findings in their field of activity (Hockenbery, Wilson, &Burrera, 2006). The new paradigm for nursing emphasizes the need for employing systematic observations, experiences, and research findings in making decisions. The implementation of this nursing practice should provide further opportunities for proper debates, interactions, criticism, interpretation, reasoning, analysis, judgment, and decision-making. It also should constitute a planned, systematic, well-assessed approach to change and to increase knowledge, attitude and skills in nurses (Stanley& Dougherty, 2010). Evidence-based practice was first proposed in Canada (1980) for using and valuing research findings of clinical data and beliefs (Sackett, Rosenberg, &Gray, 1996). Evidence-based practice is a clinical decision based on professional features and the quality of

healthcare and it is also a priority in nursing education programs (Greiner &Knebel, 2003). Evidence-based nursing values research findings of clinical data and beliefs and takes account of the patient's preferences (Majid et al., 2013). This approach has caused elevation of community health and approximation of our national standards to the international standards (Green et al., 2014). Furthermore, the application of research is essential to improve evidence-based clinical practice, as nurses have greater patient care responsibilities today (Philbrick, 2013). Evidence-based practice is important because it supports the nurses' method of practice and strengthens such skills as, critical thinking, problem solving, data analysis and life-long learning (Hockenbery, Wilson, &Burrera, 2006). However, teaching evidence-based practice has not yet been institutionalized in Iran and does not have a place among other methods of education. As a consequence, nurses in this country do not possess necessary skills to use evidences; in other words, they have not received adequate training in this area(jalalinia, 2011). The nurses' lack of knowledge on evidence-based practice and the gap between theory and practice has made this concept less used in nursing and turned clinical decisions into challenges. The main reason for the gap between practice and research in nursing is taken to be the nurses' poor training for conducting data research and making critical evaluations (Tabatabi, Abasi, Kasefi, Khavshor, &Hashemi, 2013). Under the current circumstances, nurses rarely apply research evidences to clinical settings; and rather to use their own or their colleagues' experiences and observations (Dalheim, harthug, &Nilsen, 2012). Panagiari (2008) proposed 4 momentous barriers to the implementation of evidence-based nursing, including environmental barriers, personal barriers (shortage of time for trying out new ideas), evidence barriers, and managerial barriers (failure to obtain permits for changing the method of patient care and the shortage of human resources), and then argued that increased knowledge on performing evidence-based practice improves the nurses' performance and enables them to provide higher-quality care(Panagiari, 2008).Recent national guidelines have emphasized evidence-based clinical care. Nurses are therefore required to apply these guidelines to all aspects of patient care (Taylor, 2004). As a result, in order to maintain and develop clinical standards and implement evidence-based practice, nurses need to update and increase their knowledge, for which they will need continual in-service training and updating (Mohammadi, Ebrahimiyan, &Mahmodi, 2009). In line with the goals of the health system and the clinical governance, this important issue should be more emphasized. Since knowledge is the foundation of performing evidence-based practice, and since success of the latter relies on preparing for change in the traditional clinical governance, the present study seeks to take a step toward preparing for change in the current clinical setting and implementing evidence-based nursing.

2. MATERIALS AND METHODS

In this quasi-experimental study, 40 training nurses with bachelor's or master's degrees in nursing were selected through the purposive sampling method. At first, necessary arrangements were made with the Head and Deputy of Research at ShahidBeheshti School of Nursing and Midwifery in order to obtain a recommendation letter. Eligible nurses were identified for participation in the study from a list of names provided by the Nursing Office. Nurses who were invited to participate in the study were clarified on details of the program and only then their letters of consent were obtained. Participants filled out the questionnaire once before the educational intervention, upon which they were invited to attend a workshop. Data collection tool was a questionnaire designed by Robin & Parish (2010) that included a demographic and a knowledge section. The demographic information section included 9 questions on age, gender, marital status, academic qualification, work experience, other employments, service hospital, service department and history of previous evidence-based training. The second part of the questionnaire included 10 questions

concerned with knowledge on evidence-based practice. Responses were assessed based on 5-point Liker scale (totally disagree=1, disagree=2, no comments=3, agree=4, and totally agree=5). The evidence-based practice subscale contained 10 items with scores ranging from 10 to 50 for the whole subscale. To determine content and face validity, the questionnaire was distributed among 10 professors of ShahidBeheshti School of Nursing and Midwifery with expertise in evidence-based practice and also among 5 nurses working in the hospital, who examined and commented on the questionnaire in terms of the simplicity, clarity, and relevance of its content. The Content Validity Index (CVI) was calculated for the entire questionnaire and proved acceptable (S-CVI=0.98). Reliability of the questionnaire was also determined with the intra-group internal consistency of 0.74 and Cronbach's Alpha of 0.82. The workshop was planned to be held in two days. On the first day, the workshop introduced the "evidence-based nursing practice", and a week later, the second workshop discussed the "planning and implementation of evidence-based clinical nursing education". The workshop lecturers were the researcher and the supervising professor, who delivered lectures and held group discussions. The curriculum included an introduction to evidence-based nursing practice (definition, history, and evidence-based philosophy), development and overview of an evidence-based education program, teaching the proposed framework for planning and holding evidence-based clubs and publications, implementation steps for evidence-based nursing, etc. Participants filled out the posttest questionnaires immediately and two months after the workshop. The results were analyzed in SPSS 19 using descriptive and analytical statistics. The paired t-test was used for comparing the results.

3. RESULTS

The majority of the study subjects was in age group30-39, with the mean age of 36. The majority of nurses (80%) were female. In terms of education, 75% had bachelor's degrees in nursing. About half (47.5%) had 3 to 10 years of work experience, and the other half (52.5%) had more than above 10 years of experience. The majority of subjects (60%) were married. The majority was not well familiar with evidence-based nursing and did not know how to perform the stages of evidence-based practice. Before training, 30% of the participants had poor knowledge on performing evidence-based nursing practice while the majority (70%) had moderate knowledge; however, none of the subjects had a good level of knowledge on this practice. Immediately after the education intervention and two months afterward, 60% and 70% of the study subjects had acquired a good knowledge of the topic and poor knowledge of the matter was not observed in any of them.

Table 1. Relative frequency distribution of knowledge before and immediately after their training on the manner implementation of evidence-based nursing practice

Frequency	**Before training**		**Immediately After training**		**Test's result**
Level of Knowledge	Number	Percentage	Number	Percentage	
Poor (10-23)	12	30	0	0	
Moderate (24-37)	28	70	16	40	
Good (38-50)	0	0	24	60	T=-13.66 P≤0.05
Total	40	100	40	100	
Mean	25.03		39.07		
Standard deviation	3.65		4.74		

Table 2. Relative frequency distribution of knowledge before and 2 months after their training on the manner implementation of evidence-based nursing practice

Frequency	Before training		2 months after training		Test's result
Level of Knowledge	Number	Percentage	Number	Percentage	
Poor (10-23)	12	30	0	0	
Moderate (24-37)	28	70	12	30	T=-15.27
Good (38-50)	0	0	28	70	P≤0.05
Total	40	100	40	100	
Mean	25.03		40.32		
Standard deviation	3.65		4.35		

4. DISCUSSION

The effects of training the manner of executing nurses' evidence-based practice on nurses' knowledge in Imam Hosein and Khatam Alanbia hospitals of Tehran in 2014 were examined.The obtained results showed an increase in the nurses' level of knowledge on how to implementevidence-based nursing practice and also revealed a significant difference between their level of knowledge before and after training (P≤0.05).Although many experts believe that knowledge is the basis for the successful implementation of evidence-based nursing and clinical governance, results of the present study indicated that the majority of nurses (60%) had little familiarity with evidence-based nursing and did not know how to perform the stages of evidence-based practice. About half the nurses were unable to search for the most suitable research findings for making clinical decisions; in addition, 50% of the nurses did not know how to use the Internet as a tool for finding research results. About half of them (40%) made no particular comments on this item. According to results, most study subjects (45%) stated they did not know the difference between strong and poor research findings while 30% made no comments and only 25% declared to be able to distinguish between strong and poor research findings. Moreover, 57.5% of the study subjects did not know the terminologies associated with evidence-based practice guidelines before training. However, after training, the statistics showed that nearly all the participants (97.5%) had acquired the necessary knowledge in this area. Almost half (45%) the study subjects were unable to evaluate their own clinical decisions, 30% made no comments and only 25% were able to evaluate their own clinical decisions. The majority of participants (67.5%) had no previous history of evidence-based training during their service. Results of studies have shown that evidence-based practice is a new approach for many nurses, so that some have not even heard about evidence-based practice and found it a totally new terminology while declaring that they have never received any training in this area (Koehn& Lehman, 2008).Some studies have shown that a positive attitude might exist toward evidence-based practice while there is no adequate knowledge available on its implementation, which only suggests the need for further training and awareness in this area (Mittal&Perakath, 2010). Results of a study conducted in Australia by Matt et al. (2005) investigated the nurses' knowledge and understanding on the application of evidence-based practice and showed that 62% of the study subjects had little knowledge on evidence-based practice. They emphasized on importance of teaching nurses the knowledge of evidence-based nursing practice to provide them with the necessary skills and a degree of independence. Results of these studies and similar ones emphasize the importance of interventional policies for the development and implementation of knowledge on evidence-based practice in clinical nurses. Knowledge of evidence-based practice cannot be transferred through academic credits or traditional research

techniques. Nurses should be trained to become evidence-users rather than merely producing evidence. They should be able to search for evidence, criticize, and use it in an evidence-based process (Fineout-Overholt, 2005).Instead of theoretical course, what is required for training and implementing evidence-based practice is an evidence-based training program, so that evidence-based skills can be developed and used in clinical environment over the years (Ciliska, 2006). According to Kalster et al. (2005) the implementation of evidence-based practice generates interest in this area, encourages participation in producing research, and increases critical thinking skills, experience and expertise. It appears that failure to teach the principles of evidence-based practice has led to negligence of this approach and latest findings of research works. Similar to results of the present study, Kanz et al. (2010) also suggested that to measure the effects of evidence-based medicine on students, short-term in-house courses or training workshops should be held. However, results of the study conducted by Jalalinia et al. (2011), which used lectures to teach evidence-based practice, indicated that there were no significant differences between the intervention group and the negative control group in terms of knowledge; which disagrees with results of the present study. It can perhaps be asserted that speech alone is inadequate for increasing the knowledge of implementing evidence-based practice and that every available method, facility and teaching technique should be utilized.

As continuous evidence-based practice training is a basis for acquiring knowledge on evidence-based practice, nursing and healthcare organizations in various countries are constantly making efforts in every possible form toward the development and implementation of evidence-based practice in the workplace. Their efforts include, short-term skill development course credits, defining the clinical question, conducting evidence search and criticizing papers and findings, which are mostly held in the form of club journals integrating evidence gathered in clinical environment (Fernandez, Tran,Ramjan,& Ho, 2012). According to results obtained in this study and other ones, it can be argued that continuous evidence-based practice training is a basis for acquiring knowledge on this approach. Holding training workshops, inter-department club journals, group work and interactive discussions are important steps toward implementation of evidence-based practice. A positive improvement was found in the nurses' knowledge after the implementation of evidence-based nursing training, this indicates the need for greater efforts toward preparing for the implementation of evidence-based nursing education. As for knowledge versus practice, it goes without saying that, "nursing without research is like constructing a building on a shaky ground and research without application is like building a castle in the sky" (Parahoo, 1998).Considering the positive effects of this practice on nursing education, teaching the implementation of evidence-based nursing practice is expected to prepare for the implementation of evidence-based practice in clinical settings.

5. CONCLUSION

The results of the present study, Show that this app is an objective training method, dynamic and useful. And the results of it is include, institutionalized training, increased motivation, increase skills and qualifications.

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