



AN INVESTIGATION INTO EVIDENCE-BASED PRACTICE AMONG NURSES ATTENDING TEHRAN UNIVERSITY OF MEDICAL SCIENCES

Mehdi Hosseinzadeh¹, Mohammad Sahebalzamani^{2*}, Nassibeh Alinejad³

1. *M.Sc of Nursing Education. Mazandaran Heart Center, Mazandaran University of Medical Sciences, Sari, Iran.*
2. *Associate Professor, PhD of Educational Management, Social Determinants of Health Research Center, Tehran Medical Sciences Branch Islamic Azad University, Tehran, Iran.*
3. *M.Sc of Health Services Management, Sari Branch, Islamic Azad University, Sari, Iran.*

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ABSTRACT

Introduction and purpose: Nowadays, evidence-based practice is known as a new and reliable method in medical science and taken into consideration need to enhance the quality of clinical care, this study was carried out in order to determine the level of awareness, attitude, ability, and facilities of implementing evidence-based practice among nurses. Methods: In this study, 170 nurses working in the hospitals affiliated with Tehran University of Medical Sciences in 2015-16 were selected by a stratified random sampling method. Data collection instrument was a researcher-designed questionnaire that included 5 sections. Its validity was checked through content validity, and test-retest methods were employed to measure its reliability which was 0.84. The collected data were analyzed using SPSS 10.0. Findings: The results of this study showed that the nurses' awareness about evidence-based practice was average. Their attitude toward evidence-based practice was positive. Their ability in evidence-based practice was unfavorable. And they sometimes had access to the facilities of implementing evidence-based practice. Conclusion and discussion: The nurses need structured and systematic training about implementing evidence-based practice. In order to obtain evidence-based practice, it is necessary to absorb the support of hospitals' senior managers, to create organizational culture to support this approach, and to prepare necessary facilities in order to put this approach into practice.

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Introduction

Nowadays due to great emphasis on management of resources, cost control, efficiency of patient care, and promotion of quality and accountability it is necessary to provide patients with good care [1]. Within this, frameworks, indices, and strategies are needed to guarantee the patient's diagnosis and care [2]. At present, evidence-based care has been accepted as a new and reliable approach [3]. In recent years, clinical experience and research evidence have been combined in order to enhance the quality of patient clinical care as much as possible [4]. Since the primary aim in nursing research is to prepare a comprehensive databank for evidence-based practice, this type of practice is considered as a factor for enhancing the quality of nursing care [5]. In fact, evidence-based practice is problem-solving-based approach in delivering health care. This approach combines the best results of research and patient care information with clinical expertise and also the patient's desires and values [6]. It also leads to effective decision making, preventing delivery of routine and repetitive care, facilitating the delivery of different types of care [7] and empowering healthcare personnel to maintain and enhance the patients' and their families' health [8]. Although it was started in Canada (1980) for medical education, evidence-based practice has now developed in all fields of health. Nursing profession is not an exception and has changed toward documented practice such that using evidence in this profession has been focused on it since the 1990s [9]. As an inseparable

Corresponding Author: Mohammad Sahebalzamani, Tehran Medical branch, Islamic Azad University, Khaghani St, Shariati Ave, Tehran, Iran. Email: m_szamani@yahoo.com

part of the health system, nurses play an important role in enhancing care knowledge and behaviors in patients through the existing experimental evidence [10]. Since like practitioners in other medical professions, nurses are faced with this fact that the half-life of their scientific information is short and the materials they learn during and even after their studies rapidly become outdated [11]. Utilizing research results in delivering care is necessary and new approach in Iran's nursing profession [12]. New approach in nursing and its main core, i.e. care, has led to a change in patterns that reject traditions, nonsystematic clinical experiences, and everyday outdated nursing care which are only based on previous decisions and experiences [13]. The new model emphasizes on the utilization of the best and highest existing quality of evidence or obtained from research results which highlight cost efficiency of care, patient-oriented care, and improvement of clinical practice [14]. Despite the numerous advantages of evidence-based care, progress toward employing it is slow [15]. Different studies reported that it is necessary to promote evidence-based care among nursing and health personnel [16]. Awareness, attitude, skills related to implementing this method, and teaching the nurses are important factors employed in research for providing health care [17]. On the one hand, although evidence-based practice is the basis for advanced nursing care, evidence-based approach is not used to deliver clinical care due to lack of necessary skills in all circumstances [18]. Since nurses are the most important care providers in medical teams, this study was carried out in order to determine the level of awareness, attitude, ability, and facilities of implementing evidence-based practice among nurses, so that their strengths and weakness in this field could be identified, their information needs could be met, and development of evidence-based practice could be planned.

Methods

This is a descriptive cross-sectional study that was carried out in different classes of nurses including clinical nurses and nursing management classes in hospitals affiliated with Tehran University of Medical Sciences in 2013-14. Stratified random sampling was employed to select the participants. In so doing, by referring to all of the hospitals affiliated with Tehran University of Medical Sciences, the researcher obtained a list of all nurses, and the participants in each ward were randomly selected. According to the sample size formula, 170 nurses were selected. Inclusion criteria were holding bachelor's or master's degree in nursing and a minimum work experience of 2 years in the form of formal, contractual, or project employment.

Data collection instrument was a researcher-designed questionnaire that included 5 sections. After reviewing various studies, the researcher used the questionnaires developed by Jett et al (2003) [14], Upton and Upton (2006) [19], and Witter Blaser (2009) [20] in order to design the questionnaire. Some sections of the questionnaire were previously prepared and used in the study carried out by Var'i et al (2011) [21] which were used in our study after they were slightly changed and their validity and reliability were checked. The questionnaire had 5 sections. The first section consisted of 14 questions; 7 related to the participants' demographic characteristics (e.g. age, gender, educational level, work experience, working hours and shifts, type of employment, and occupational title) and 7 related to educations relevant to evidence-based practice and the information sources used by the nurses.

The second section consisted of 16 questions related to the nurses' awareness about the principles of evidence-based practice with a spectrum of answers ranging from "correct", "incorrect", to "I don't know" with scores of 2, 1, and 0, respectively. The range of the scores was between 0 and 32, divided into three groups of weak (0-10), average (11-21), and good (22-32). In this section, the level of the nurses' awareness about the principles of evidence-based practice, including familiarity with PICO structure, evaluating articles, and levels of evidence obtained from studies, was examined through posing questions.

The third section contained 19 questions related to the nurses' attitude toward evidence-based practice with a Likert scale from "completely agree" to "completely disagree" from 5 to 1, respectively. The scores ranged between 19 and 95, classified into three groups: negative attitude (19-42), neutral attitude (43-66), and positive attitude (67-95).

The fourth section of the questionnaire included questions related to the nurses' ability to carry out evidence-based practice. This section contained 10 questions with a 3-response range of "I completely can", "I can to some extent", and "I can't at all" with scores of 3, 2, and 1, respectively. The score range of this part was 10-30, divided into three groups of unfavorable (10-17), almost favorable (18-25), and favorable (26-30). In this section, the nurses' ability to implement evidence-based practice was examined by posing questions on finding research articles, clinical issues, usefulness of the obtained evidence, and evaluation and analysis of articles.

The fifth section of the questionnaire was related to facilities to obtain the implementation of the principles related to evidence-based practice. It included 13 questions, with a response spectrum of "always", "sometimes", and "never" with scores of 3, 2, and 1, respectively. The score range was 13-39; low facilities (13-21), average facilities (22-30), high facilities (31-39). In this section, some questions were posed in order to examine the nurses' access to the Internet at home and in workplace, access to scientific books and journals, the related organization's support, and having enough time to use the facilities.

After the final development of the questionnaire, its validity and reliability were examined. In so doing, the questionnaire was delivered to 10 professors of different universities of medical science in Tehran and their comments were applied in the questionnaire. To determine the reliability of the questionnaire, test-retest method was employed. Its Cronbach Alpha was

0.84. To collect the required data, the researcher referred to the wards of the hospitals in different shifts. The participants were presented with a short explanation about the study, and then the questionnaires were given to them. They were required to return the completed questionnaires on time and in an assigned place. In order to analyze the collected data, descriptive statistics including absolute and relative frequency tables and mean and inferential statistics including Chi-square test were employed through SPSS 19.0.

Findings

A total number of 170 nurses completed the questionnaire. Out of those 170 nurses, 84.1% were women. Most of the nurses (40%) were between 20 and 29 years, 91.2% had a bachelor's degree and the rest had a master's degree. Most of them (33.5%) had a work experience less than 5 years. Regarding their working shifts, 44.7% worked evening and night shifts. In terms of the type of their employment, 48.2% were official employees. Most of the nurses (80.6%) stated that they had not participated in evidence-based practice workshops (See Table 1). In regard with the most important information source used by the nurses, the results of the study showed that the first priority belonged to reference books (38.8%), respectively followed by professors and colleagues (36.5%), Internet databases (17.6%), and reputable scientific articles and journals (16.5%).

The results of our study showed that the nurses' level of awareness with a mean of 18.51 was average. The nurses' attitude toward evidence-based practice with a mean score of 88.25 was positive. Their ability to implement evidence-based practice was 17.92, which showed that their ability was unfavorable. The score of the facilities to implement evidence-based practice was 27.1, which was average. According to the results of the study, the nurses' awareness with a mean of 45.9% was at a low level, and 42.4% of them had a negative attitude toward evidence-based practice. The results also showed that the level of evidence-based practice was at a low level among 37.1% of the nurses. According to 49.4% of the nurses, the facilities to implement evidence-based practice was at a low level (See Table 1).

Table 1. Mean and frequency and percentage distributions of evidence-based practice components

Variable	Mean	SD	Result	Above Mean		Below Mean	
				N	%	N	%
Nurses' Awareness	18.51	7.43	Average	92	54.1	78	45.9
Nurses' Attitude	88.25	5.78	Positive	98	57.6	72	42.4
Nurses' Ability	17.92	4.06	Unfavorable	107	62.9	63	37.1
Facilities	27.1	5.39	Average	84	49.4	86	56.6

Discussion and conclusion

This study was carried out in order to determine the level of awareness about, attitude toward, and ability and facility to implement evidence-based practice among nurses. The results of the study showed that the nurses' level of awareness about evidence-based practice was average. They had a positive attitude toward evidence-based practice. Their ability to implement evidence-based practice was unfavorable. And they sometimes (on average) had access to facilities for implementing evidence-based practice. According to the results, the biggest problem that the nurses faced on awareness about and ability in evidence-based practice was lack of familiarity with PICO structure, designing clinical questions, and finding relevant articles and critically analyzing them. With regard to the most important information source used by the nurses in order of priority, the results of the study showed that reference books had priority, followed by professors and colleagues, Internet databases, and reputable scientific articles and journals. In this regard, the results of the study carried out by Shaheen Majid et al (2011) in Singapore showed that using electronic resources like Internet databases and electronic libraries was ranked the lowest level [22]. Many other studies also referred to and proved the nurses' dire need to obtain necessary information about search skills and the necessity to empower them to make use of specialized articles in order to improve the results of clinical care. These studies emphasized that converting nurses into active information users and enhancing their information literacy is an important and necessary tasks which need to be planned precisely [23]. In this regard, McCluskey (2003) conducted a study aimed at investigating into Australian nurses' knowledge about and skill in evidence-based practice. The results of that study showed that more than half of the nurses considered their ability in this regard low [24]. Moreover, the results of the study carried out by Taleb et al. with the aim of determining the level of medical groups' awareness about evidence-based practice and the relevant barriers indicated that their awareness was not favorable, which adds to the managers' negligence in this problem [25].

In addition, the results of some studies indicate that evidence-based practice is considered as a new approach by many nurses such that some of them do not understand this type of practice, and it is a new to them, and they state that they have never

received any training in this regard [26]. Therefore, according to the results of this study and other similar ones, it seems that negligence in training the principles of evidence-based practice leads to a decrease in the nurses' access to the findings of relevant studies which results in their poor preparation to use research results in clinics [27]. Thus, Kunz et al (2010) suggested that short-term training periods and educational workshops should be held in order to measure the effects of evidence-based practice on the learners [28]. The results of our study showed that although most of the nurses (57.6%) had a positive attitude toward evidence-based practice, their ability in this regard was unfavorable. The results of other studies however, indicated that attitude toward evidence-based practice can predict the nurses' ability to use the results of studies [29]. However, positive attitude toward using the results of studies is necessary but not enough to carry out daily nursing activities [30]. In confirming this finding, Rettsa writes, "While nurses have preserved their strong belief in the value of evidence obtained from research studies, they do not use it in their practice" [31]. In many texts, this point has been referred to that necessary conditions and facilities should be provided in order to meet the need to use research and how to use the best evidence with the aim of clinical outcomes [32]. It seems that organizational supports and managerial commitments are not taken into account in preparing nurses to carry out research activities. The nurses' limited access to communication facilities and research resources and also lack of easy access to research information are among common problems faced by nurses. Direct access to texts without spending too much time enhances the possibility of more study, and lack of access to research information is one of the reasons for failure to use research studies [27].

On the other hand, it is expected that all of those who are involved in conducting evidence-based care are aware of how to use this approach and know how to communicate with the service receivers. In so doing, the preferable solution is that along with collecting enough data, this approach is trained to individuals [33]. The results of the study conducted by Du Toit et al. (2011) showed that appropriate trainings create this circumstance that semi-skilled personnel play their role as skilled workforce [34]. Teaching the concept of evidence-based practice and the importance of utilizing it in clinical activities is one of the strategies that causes the medical personnel to develop appropriate mechanisms based on the results of the latest research findings and to introduce the phases of evidence-based practice, which leads to obtaining the best results in clinical field [12]. Since utilizing research results is a complicated process, and leadership and management are the most important factor in utilizing them [35], successful implementation of evidence-based practice depends on uniform cooperation and work among high-rank leaders and managers, plan-making leaders, health personnel, and other relevant professions [33]. On the other hand, lack of support by organizations is one of the inefficiency of implementing evidence-based practice [36]. Finally, creating organizational atmosphere in which using research results is valued and participants are supported is seen as an essential activity.

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