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The evaluation of Level of Knowledge, Attitude and practice of Evidence-Based Practice and its Barriers among Nurses working in selected Iranian Hospitals

Zahra Naderkhah¹, Rohollah Kalhor², Mohammad Azmal³, Mahnaz Badpa⁴, Amin Adel^{5*}, Ahmad Barati Marnani⁶¹ Health Services Management, School of Paramedical Sciences, Tehran University of Medical Sciences, Tehran, Iran² Health Services Management, Social Determinants of Health Research Center, Qazvin University of Medical Sciences, Qazvin, Iran³ Chancellor of Treatment Affairs, Bushehr University of Medical Sciences, Bushehr, Iran⁴ Department of Health Management and Economics, School of Public Health, Tehran University of Medical Sciences, Tehran, Iran⁵ Health Services Management, School of Public Health, Mashhad University of Medical Sciences, Mashhad, Iran⁶ Department of Health Services Management, School of Health Management and Information Sciences, Iran University of Medical Sciences, Tehran, Iran*Correspondence should be addressed to Amin Adel, Health Services Management, School of Public Health, Mashhad University of Medical Sciences, Mashhad, Iran; P.code:91778 99191; Tel: +985138781086; Fax: +985138798385; Email: a-adel@student.tums.ac.ir.

ABSTRACT

It is necessary to achieve clinical effectiveness through evidence-based practice in modern healthcare organization all over the world. Evidence-based practice is critical to improve the quality of health care. The purpose of this study was to identify the knowledge, attitude and evidence-based performance and barriers of its usage among nurses. This is an applied, descriptive and cross-sectional survey that was carried out in selected hospitals under supervision of Iran University of Medical Sciences in 2015. Statistical society consisted of 250 nurses working in different departments of hospitals who were selected randomly. Data was collected through the following standard questionnaires: Evidence-Based Practice Questionnaire (EBPQ) and assessing the barriers of research usage. Finally, data analysis was done using SPSS and Pearson Test. In this study, the levels of knowledge, attitude and evidence-based practice of nurses were measured as 60.42%, 85.66% and 57.66% respectively. In addition, there was significant relation between knowledge, attitude and practice. The main barriers to use of research in performance were non-participation of physicians, lack of permission by manager, time deficiency and inadequacy of the new publication rate. Earning research and IT skills improves knowledge of nurses. Through increasing awareness of nurses about positive effects of evidence-based practice in patients care, nurses will pay more attention to evidences. Enhancing the knowledge has improved attitude and this improvement has led to increase level of performance.

Key words: Knowledge, Attitude, Evidence-Based Practice, Barriers, Nurses.

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1. INTRODUCTION

In health affairs, evidence has been introduced as the knowledge that is available for decision makers and makes scientific evaluation of practice feasible. The evidence-based practice has been appeared as an indicator for healthcare quality which is critical to improve it (1, 2). Evidence-based practice is a clinical decision making process which is done through the integration of best research evidence with patients values and clinical specialists views (3). Achievement of clinical efficiency by evidence-based practice is necessary in health care organizations all over the world and its implantation

includes steps such as ask questions in specific clinical situations, gain best related evidence, critical evaluation of evidence and use of evidence as well as patient preference in clinical decision makings (4, 5). This process has been advised and supported by many of monitoring and accrediting groups and has been became part of health care organizations culture. In recent years, following three main groups recommend it as the main components of health care providers: Institute of Medicine (IOM), Joined Committee (JC) and American Nurses Credentialing Center (ANCC) as well as Magnet prize (6). As a project objective, 90% of clinical decisions should be supported by accurate, on time and up-to-date clinical information and

also best available evidence until 2020 (7). Nurses in health care organizations should employ evidence-based practice in order to assess their skills, develop and implement policies and procedures, implement effective clinical interventions and provide care plans to increase positive outcomes related to patients (2-8). Implementation of evidence-based Knowledge has been identified as the nursing challenge in health care organizations. Using of this knowledge in health organizations needs to a complex collection includes: skills to formulate questions which are created during the work and doing research about them is feasible, information review, critically information evaluation and using of results in patient care process (4). International Council of Nurses has made nurses committed to active participation in nursing researches and use of them to develop evidence-based practice (9). It has been said that the evidence-based practice includes such as improving quality of care and its consequences, positive results of clinical performance and patient care outcomes, standardizing care activities and increasing nurse satisfaction (10). However, its implementation has been challenging (11). Unfortunately, only small percent of

nurses work in this framework (12). There are several reasons for not routine usage of evidence by nurses in their performance such as lack of awareness of research, lack of skills to assess quality of research, lack of knowledge to access to related information (13). It is assumed that perception of barriers of research using and making efforts to reduce these barriers will lead to further use of evidence-based practice among nurses (14). Although several studies have been done on barriers of research, there are less number of conducted surveys about the relation between barriers and implementation of evidence-based practice in nursing actions (2). In this study, barriers of using the research in routine practice of nurses are recognized. So, utilizing evidence-based practice is critical to improve quality of health care and will lead to quality improvement of health services.

2. MATERIALS AND METHODS

This is an applied, descriptive and cross-sectional survey that was carried out in selected hospitals under supervision of Iran University of Medical Sciences in 2015 (Table 1).

Table 1. Demographic information about hospitals

Hospital name	Number of bed	Hospital type	Sample size
Firouzgar	423	General	132
Shahid Motahhary	113	Burn	36
Shahid Hasheminejad	151	ENT	48
Hazrat-e-Fatemeh	109	General	34

At the first, variables such as age, gender, educational background, job experience, job category and the name of department were extracted. Then, two valid and reliable questionnaires were employed to determine the level of nurses' education, attitude and using of evidence-based practice and its barriers as well. The first one was Evidence-Based Practice Questionnaire (EBPQ) that has been developed by Upton and measures perception of nurses about evidence-based practice (4). It consists of three subscales: knowledge, attitude and usage and has 24 items. First 6 items measure the level of performance of nurses in a 7-point Likert scale from 1 (=never) to 7 (=always). Next 4 Items evaluate attitude in a bilateral 7-point continuum from 1 (=negative attitude) to 7 (=positive attitude). Finally, the last 14 items measure the level of education/skills of nurses about evidence-based practice in a 7-point Likert scale from 1 (=weak) to 7 (=strong). The second questionnaire identified barriers of research utilization by nurses that has been developed by Funk et al (15) in 1991 and used by Hutchinson and Johnston in 2004 and Fink et al in 2005. It consists of 29 items in a 5-point Likert from 1(=none) to 4(=a lot) as well as an option for 'no idea'. In addition, it includes five following subscales: features of recipient (nurse), features of the organization (hospital or department), features of innovation (evidence or research), features of communications (transferring canals for evidence) as well as an extra item to measure knowledge, values and skills of nurses. Features of organization measure the perception of nurses about restrictions and barriers of medical organization (hospital).

Features of innovation evaluate perception of nurses regarding to quality of research. Features of communication ask about perception of nurses in respect with access to the research. Validity of questionnaire was obtained through using experts and specialist opinions. For the internal reliability, Cronbach's Alpha coefficient was calculated 0.76 and 0.8 for EBP the barrier questionnaire, respectively. The research community consisted of nurses working in Hospitals under supervision of Iran University of Medical Sciences which were selected randomly. Cochran formula was used to determine sample size. Regarding to possibility of 95% for data accuracy, sample size was determined 250 ($z=1.96$, $d=0.05$). Also, method of selection was classified random sampling.

Data analysis was done through SPSS software. Moreover, descriptive tables and charts and also statistical indicators such as frequency, frequency percentage, relative frequency, cumulative frequency and mean were used. Pearson's correlation coefficient was employed to assess relationship between each subscale of evidence-based practice and barriers of research usage. In this study, the average scores between 0% to 40% was considered as 'weak', 40% to 70% was 'moderate' and 70% to 100% was 'good'.

3. RESULTS AND DISCUSSION

Totally, number of participants in the survey was 250 that 20.1% of them were males and 79.9% were females. All of them were between 24 to 60 years old with the average of

32 and a standard deviation of 6.37 years. The average of work experience years of participants was 7.25. Also, 19.66% of participants were employed formally, 29.77% were in informal employment, 37.64% have contract for a specified period, 10.11% were doing their manpower staffing plan and 2.8% of them were others. Furthermore,

6.62% were head nurse, 2.20% were supervisor, 67.95% were nurse, 3.31% were Nurse aids and 19.88% were auxiliary health assistant.

In this study, the level of attitude, knowledge and EBP were achieved 60.42%, 66.85% and 66.57% respectively (Figure 1).

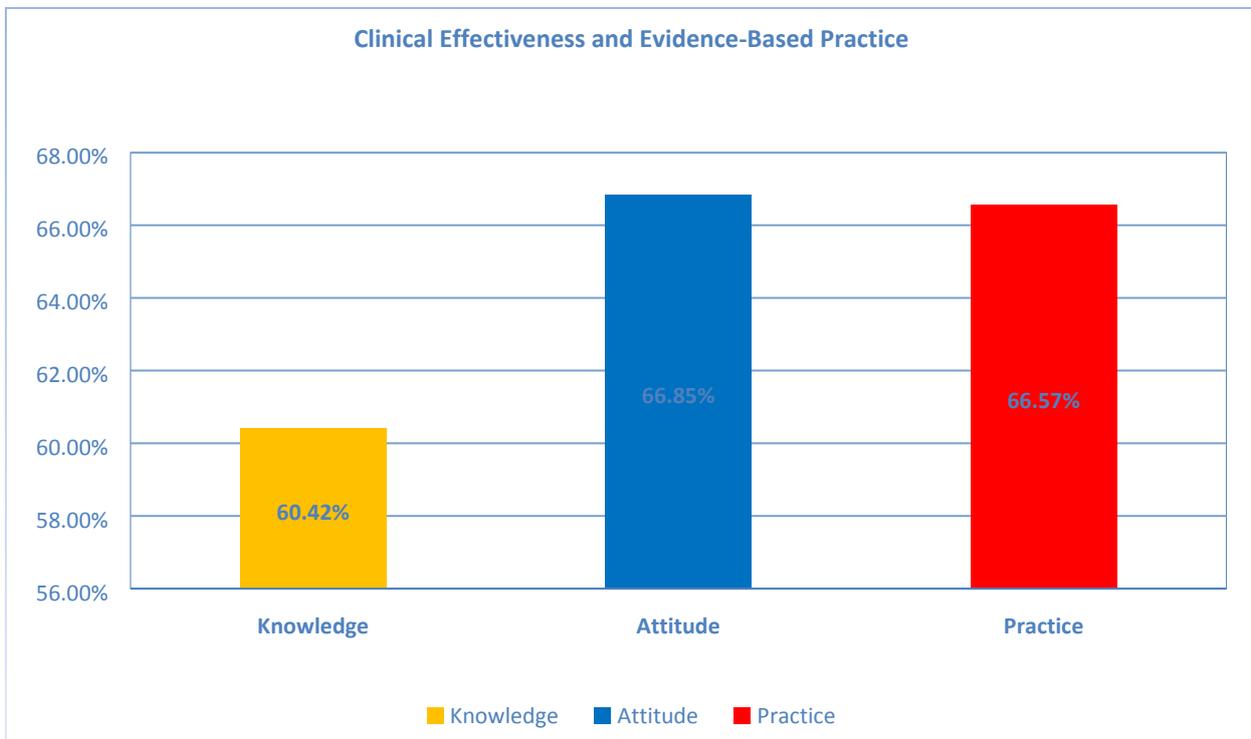


Figure 1. Level of Knowledge, Attitude and Evidence-based Practice of nurses

According to results, level of knowledge of nurses was 60.42%. The highest scores were about transfer new experience about patient care to colleagues (70.28%), ability to review their own performance (68.71%) and ability to use of information in special situation (64.57%). The lowest one was about research skills (52.42%). Also, the level of attitude was 66.85% that the highest scores were about fundamentality of EBP for professional operation (67.57%) and willingness to meet any question during performance (65%) and the lowest was about paying attention to evidence (62.57%). Finally, the level of practice of nurses related to patient care was 66.57%. The highest scores were about nurses' evaluation of their performance on patients and share information (72.14% and 72% respectively) and the lowest ones were about critical evaluation of scientific literatures (59.14%) and tracking, extracting and implementing the evidence related

to questions (63.71%). Based on results, there is a positive and significant relationship between knowledge and attitude of nurses (0.359 ,p-value=0). Also there is a positive and significant relationship between knowledge and practice (0.486, p-value=0). The relationship between attitude and practice is positive and significant too (0.289, p-value=.001). There is not significant relationship between evidence-based practice and barriers and facilitators of using research (P-Value≥0.005). Many of barriers to utilization of research was identified such as non-participation of physicians to implement the research, lack of permission to implementation by manager, time deficiency to study, inadequate publication rate, lack of sufficient time to implement new ideas and find doing research as useless activity (64%, 63.8%, 63.6%, 62.4%, 62.4% and 62% respectively) (Table 2).

Table 2. Barriers of using the research in performance of nurses in hospitals

Barriers	Frequency percentage
Unavailability of reports / papers ready ones	52.6%
Lack of clear guidelines for doing research	53.4%
Non-understandable statistical analysis	59.2%
No connection between researches and nurses operations	53.4%
Unawareness of nurses about research	52.8%
Inadequate facilities to conduct research	57.8%
Lack of enough time to read research by nurse	63.6%
The research has not been repeated and there is possibility to do again.	58.6%
Nurse feels the benefits of research in her/his performance is negligible.	60.2%
Nurse is not sure about research results.	57.8%
Research methodology is not appropriate.	58.4%
The relevant research literature has not been gathered together.	58.4%
Nurse feels no enough authority to change patient care procedures.	59.4%
Nurse feels the results are not extensible to the organization.	58.6%
Lack of knowledge of other colleagues to discuss research	59.4%
Imagine the low benefits for nurse	62.2%
Low rate of publication/research reports	62.4%
Non-participation of physicians to implementation the research	64%
Lack of permission to implementation by manage	63.8%
Finding research as worthless action by nurse	55.4%
Lack of clear need to research in performance	58.2%
Lack of confirming the results obtained from research	61.4%
Inconsistent results from reports of research literate	62%
Lack of clear and readable research reports	56.2%
Lack of support of research implementation by staff	60.8%
Unwillingness of nurses to change new ideas	53.2%
There is too much data from research to make change.	52.8%
Felling inability to evaluate quality of research	57.2%
Lack of enough time to implement new ideas	62.4%

The purpose of this study was to determine level of knowledge, attitude and EBP among nurses and identify barriers and the relationship between each other. In this survey, the level of knowledge of nurses was evaluated as moderate. The results of Dehghani's research in Intensive Care Units (ICU) showed that nurses were in low and moderate knowledge (16). McCluskey's study in Australia showed that 39% of nurses reported their low knowledge about evidence-based practice, 42% were moderate and 18% had high awareness (17). Results of AghaHosseini's study showed knowledge of nurses as low and moderate and support the results of this study (18). Also, in Bahtsevani's study more than half of participants evaluated their knowledge and found it in low level (19). The Taleb's study also showed that awareness of evidence-based care is not desirable among treatment groups and it doesn't support results of this study (20). In this study, positive findings were about nurses knowledge, transfer new experience about patient care to colleagues, ability to review their own performance and using information. Skills of research and IT were found as improvable items. Since the evidence-based nursing care requires strengthen of skills of using databases and evidences as well as sharing evidences among medical staff to close their therapeutic purposes with each other (21), so, earning mentioned skills leads to improve the knowledge of nurses. Results also showed attitude of nurses in moderate level. In Dehghani's study majority of nurses had positive attitude and a few number had negative one (16). It is inconsistent with the present results. Bennet in Australia found 95.7% of participants in study with positive attitude (22). The most important item about attitude of nurses was fundamentality of evidence-based practice for professional

operation. In Bennet's Study 95% of participants agreed with it (22). Also, willingness to meet any question about performance have made attitude as positive. In addition, paying attention to evidence was of improvable items. In Kermanshahi's study lack of awareness of nursing managers about the importance of evidence-based care has been mentioned (21). Poor performance and lack of knowledge of nursing managers has led to reduce incentive among nurse to use evidence-based care and do only medical instructions and nothing more (23-25). It seems that through rising awareness about the positive role of evidence-based practice in patients care, nurses pay more attention to evidence and finally, it will lead to improve their attitude. In this study, the result of evidence-based practice was evaluated as moderate. In Haj Bagheri's study, only 46% of nurses used research evidence (26). Also, in Valizadeh's study, use of evidence-based practice among nurses was low that it doesn't support findings (27). Findings of Majid's study about the using of evidence-based practice were similar to this study (28). Furthermore, in Dehghani's study more than half of nurses had moderate performance (16). Most important positive items in evidence-based practice were about nurses' evaluation of their own performance on patients as well as sharing data. Critical evaluation of scientific literatures and implementation of evidence relevant to the questions were of improvable items. In Taleb's study, lack of skills to implement evidence-based care was one of the main identified barriers (20). According to the results, there is direct and significant relationship between knowledge and attitude of nurses and also between their attitude and practice. This means that increasing level of knowledge of nurses has led to improve their attitude and also this

improvement has led to strengthen their performance. In Dehghani's study, the results of the correlation test between knowledge and attitude and also between performance and attitude was not significant (16). So it is not consistent with this study. Furthermore, according to the results, there is direct and significant relationship between awareness of nurses about evidence-based practice and their performance. Dehghani's study supports it (16). It means that improvement of attitude has led to improve practice among nurses. Raising awareness of evidence-based practice and understanding positive outputs of utilizing useful clinical results and research evidence in patients care leads to gradual change in behavior and performance related to nursing and evidence-based care. Also in Shafiei's study, the overall mean score for the EBP among nurses was at moderate level, and strongest relationship for the dimensions of EBP was between practice and knowledge/skills. Also there was a significant relationship between attitude and practice as well (29). In fact, success in implementation of EBP depends on nurse's practice, attitudes and knowledge/skills in healthcare. The main determined barriers of evidence-based practice includes non-participation of physicians to implement the research, lack of permission to implementation by manager, time deficiency to study, inadequate publication rate, lack of sufficient time to implement new ideas and find doing research as a useless activity. Valizadeh determined lack of cooperation and participation of physicians to employ nursing research results and lack of enough time for nurses to study the results of research as barriers (27). So, it supports the results. In Kermanshahi's study, only a few numbers of participants knew the lack of permission by manager as the barrier (21). So, this is not consistent with these results. In a study done at Children's Medical Center in Iran, nurses believed that having not enough time to read research was as one of the main barriers to implementing evidence-based care. The results of most studies identified insufficient time to implement new ideas as the most important barriers of evidence-based practice (30-33).

4. CONCLUSION

In fact, success in implementation of EBP depends on nurse's practice, attitudes and knowledge/skills in healthcare. It seems that more participation of physicians in researches as well as changing approaches of managerial team of studied hospitals about evidence-based practice can have a huge impact on improving knowledge, attitude and performance of nurses in using evidence in clinical decision making. It finally will lead to provide safe services with high quality. Also, provide opportunities and enough time to implement new ideas can also help speed up the process.

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This work was carried out in collaboration among all authors.

CONFLICT OF INTEREST

The authors declared no potential conflicts of interests with respect to the authorship and/or publication of this paper.

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