

Knowledge, Attitude, and Behavior Intention on Evidence-Based Practice among Nurses and Midwives of Pediatric and Neonatal units

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Cite this article: Senmar M., Razaghpoor A., Safarali F., Ramezani F., Fallah N., Hosseini S. and Rafiei H. Knowledge, attitude and behavior intention on Evidence-Based Practice among nurses and Midwives of Pediatric and Neonatal wards. Int J Epidemiol Health Sci 2021; 2: e09. Doi: [10/51757/IJEHS.2.4.2021.239706](https://doi.org/10.51757/IJEHS.2.4.2021.239706).

Abstract

Background: The evidence-based practice (EBP) should be considered by all of midwifery and nursing groups; however, it is more important to midwives and nurses working with neonates and infants. Because of the limited number of accessible studies in this area, the objective of this study was to assess the knowledge, attitude, and intention of midwives and nurses of pediatrics and neonatal units regarding EBP.

Methods: This study conducted in 2019 in Iran. A descriptive analytical study was carried out with 125 midwives and nurses working in pediatrics and neonatal units. The knowledge, attitude, and intention were assessed through a 34-item Rubin and Parrish questionnaire. Of these 34 items, 10, 14, and 10 items could assess the knowledge, attitude, and intention of the participants, respectively.

Results: The overall average knowledge score was 36.7 with a standard deviation of 5.6. The overall average of attitude score was 45.4 with a standard deviation of 4.7. The overall average of intention score was 38.1 with a standard deviation of 5.4. Two factors of “participating in EBP workshops” and “participating in research projects and having published articles” were the two factors that resulted in a rise in the level of knowledge, positive attitude, and an increase in the level of intention regarding EBP ($p < 0.05$). Moreover, higher education has significantly increased the intention to use EBP ($p < 0.05$).

Conclusion: Participants in this study had a moderate level of knowledge, moderate intention, and a relatively positive attitude toward EBP. It is recommended that this situation be improved by providing training courses and workshops on EBP and involving clinical nurses and midwives in research projects.

Keywords: Evidence-Based Practice, Midwife, Nurse, Pediatric Care, Neonatal Care, Knowledge, Attitude, Intention

Introduction

Given the fact that a significant portion of the healthcare team is comprised of nurses and midwives,

the quality of services provided by them can significantly affect the quality of services provided by the entire healthcare system (1). Thereby, the expectations for midwives and nurses in applying the

best evidence in patient care has been increased in recent years (2, 3, 4). The purpose of EBP is to evaluate the evidence to answer the clinical questions (5). To achieve this, individuals should use the best research findings, personal clinical experiences and knowledge, and patient values (5). The existing sources could link the introduction and implementation of EBP in nursing to the Nightingale era (6). The application of EBP by healthcare team can be addressed as a bridge between theory and practice which is associated with a reduction in the gap between these two concepts (6). Although EBP should be considered by all the groups of midwives and nurses, its importance for midwives and nurses of neonates and infants is much higher (7). The application of EBP by caregivers of neonates and pediatric patients plays an important role in the reduction of the mortality rates as well as the promotion of their health (7, 8, 9). In recent years, many efforts have been done to improve the neonatal and pediatrics care in Iran. For instance, currently, Iranian nurses can continue their education in both fields of pediatrics and neonatal nursing up to the postgraduate level; for midwifery students, it is also possible to continue their education in different fields of midwifery and counseling in midwifery.

Midwives and nurses are indeed responsible for a large part of services provided to neonatal and pediatrics patients. However, limited studies have been conducted on EBP among these midwives and nurses. In a study in Vietnam, researchers studied the caregivers' knowledge about EBP and found that healthcare staff including physicians, nurses, and midwives, did not have sufficient information about EBP (7). In another research conducted in Iran in 2014, the knowledge, attitude, and practice scores of Iranian nurses and midwives were studied regarding EBP (10). Participants of study worked in various hospital departments including cardiac care, intensive care, oncology, surgery, internal, emergency, and dialysis units. This study suggested that Iranian nurses, despite their relatively positive attitude, had insufficient knowledge about EBP; and participants who were working in maternity unit had lower knowledge and practice but higher mean score of attitudes compared to other departments (10).

Due to limited studies about the knowledge, attitude, and intention on EBP among midwives and nurses working with neonate and pediatrics, the present study was conducted to investigate the knowledge, attitude, and intention on EBP among midwives and nurses caring of infants and neonates.

Methods

The present descriptive study was conducted from July to September 2019 in two teaching hospitals in Qazvin, Iran. All nurses and midwives, having at least a bachelor's degree, working in these two hospitals were requested to participate. The absent nurses and midwives at the time of study and those who did not agree to participate were excluded.

Using the list of nurses and midwives in all units, obtained from the hospital management, the questionnaires were distributed with no interference on the care of their patients. The study objectives were first explained to the participants by the main researcher, and they were asked to answer the questions in one hour.

The tools used in this study included a checklist for demographic variables and, Rubin and Parrish questionnaire. The checklist for demographic variables included age, gender, education, years of work experience, computer skill proficiency, English language proficiency, history of participating in EBP workshops, history of participating in research projects and having published articles. Knowledge, attitude, and intention on EBP were assessed using a 34-item Rubin and Parrish questionnaire (11). Of these 34 items, 10, 14, and 10 items assessed participants' knowledge, attitude, and intention, respectively. Answering the items was based on a 5-point Likert scale. The score for each question ranged from 1 to 5. The overall score for each part was calculated, and the overall range of scores for knowledge, attitude, and intention subscales were 10-50, 14-70 and 10-50, respectively. Higher scores represent higher level of knowledge, more positive attitude, and more intention to implement EBP (12). Ashktorab and colleagues translated and adapted this questionnaire to use among Iranian nurses and nursing students and reported Cronbach's alpha for knowledge, attitude, and practice equal to 0.82, 0.80 and 0.75, respectively (12).

Ethical Considerations

The ethical code was obtained from the Ethics Committee of Qazvin University of Medical Sciences, Qazvin, Iran (Code: IR.QUMS.REC.1397.090). Also, to respect the rights of the patients who were in the care of the participants in this study, the distribution of the questionnaires was done at a time with no interfere on the provision of care. Prior to data collection, participants were provided with necessary explanations and they were assured that the information would be kept confidential at all stages of the research. If a nurse or a midwife withdrew to

participate in the study or does not to agree to participate, he/she was told that his/her withdrawal or not-participation would be accepted and assured that for he/she there would be no consequences.

Data Analysis

Data analysis was performed by SPSS 16 (Chicago, SPSS Inc., USA). Independent t-test to compare the means between two groups, ANOVA test to compare the means among three groups, and Pearson correlation test for examining relationships between variables were used. A p-value less than 0.05 was considered as statistically significant for all tests.

Results

The mean age of participants was 31.6 year and 85 (68%) participants were female. About 44% of participants reported very little acquaintance with EBP and its methods. The summary of demographic variables of participants are shown in more details in Table 1.

Knowledge on evidence-based practice (EBP)

The mean overall score of knowledge was 36.7 ± 5.6 . About 44% of participants did not know how to critique research findings for application in their clinical care, 41% were unable to distinguish between weak and strong research, and 54.8% stated that they were not familiar with the terms that are related to EBP. The mean overall score of knowledge in those who had participated in EBP workshops was significantly higher than those who had not (41.1 vs. 35.1) ($p < 0.001$). The mean overall score of knowledge in those who had published articles in journals was 41.8 and in those who had not was 35.7 with statistically significant difference ($p < 0.001$). Further details on the relationship between demographic variables and the level of knowledge of midwives and nurses regarding EBP are presented in table 2.

Attitude on evidence-based practice (EBP)

The mean overall score of attitude was 45.4 ± 4.7 . While 84% of the participants believed that nurses and midwives who apply EBP while taking care of their patients, would pay more attention to their patients' health, about 85% of participants demonstrated that without high quality research findings, high quality care cannot be provided. The mean overall score of attitudes in those who had published articles in journals was 51.7 and in those who had not was 47.7 with statistically significant difference ($p = 0.018$). Further details on the relationship between

demographic variables and attitudes of participants regarding EBP are presented in table 2.

Intention on evidence-based practice (EBP)

The mean overall score of intention on EBP was 38.1 ± 5.4 . The mean overall scores of intention in the participants with a master's degree and those with a bachelor's degree were 37.3 and 42.3 , respectively, with statistically significant difference ($p < 0.001$). The mean overall score of intention in those who had participated in EBP workshops was significantly higher than those who had not (41.7 vs. 36.6) ($p < 0.001$). The mean overall score of intention in those who had published articles in journals was 37.2 and in those who had not was 42.8 with statistically significant difference ($p < 0.001$). Further details on the relationship between demographic variables and intention of participants regarding EBP are shown in table 2.

Discussion

This study found that the knowledge regarding EBP, was in a moderate level of knowledge. For attitude, participants showed a relatively positive attitude towards EBP. And in for intention, participants reported relatively modest intention. Two factors of "participating in EBP workshops" and "participating in research projects and having published articles" were the two effective factors that resulted in an increase in the level of knowledge, positive attitudes, and an increase in the level of intention on EBP. Furthermore, higher education had significantly increased the intention on EBP.

The participants of the present study reported a moderate level of knowledge. Few studies have addressed nurses and midwives' knowledge on EBP in the past. While in a study in the United States in 2018, nurses' knowledge on EBP was examined and reported similar moderate knowledge on EBP (13), another study in the Netherlands in 2013, found that nurses have low level of knowledge on EBP (14). The difference between the findings might be due to the difference in the data collection tool. It should be also noted that the Netherlands researchers' study was conducted in 2013 and in that time, there was less attention to the issue of EBP in child and infant care. In another study, Oyesanya and Snedden reported that nurses who take care of children with brain injury had little knowledge about EBP might be because of different participants, only pediatric nurses' who were responsible to take care of children with brain injury and not in all units (present study) (15).

Table 1: The demographic characteristics of participants

Demographics characteristics		Number	Percent
Gender	Female	85	68%
	Male	40	32%
Major	Nurse	85	68%
	Midwife	40	32%
Degree	Bachelor	105	84%
	Master	20	16%
English fluency level	Low	27	21.6%
	Moderate	81	64.8%
	High	17	13.6%
Ability to work with computer	Low	28	21.6%
	Moderate	75	68%
	High	13	10.4%
Participated in evidence-based practice workshop	Yes	35	28%
	No	90	72%
participating in research projects	Yes	67	53.2%
	No	57	46.8%
Having published articles	Yes	22	17.6%
	No	103	82.4%

Table 2: Demographic variables relationship with knowledge, attitude and intention of nurses and midwives regarding evidence-based practice

Demographics characteristics		Knowledge	<i>P value</i>	Attitude	<i>P value</i>	Intention	<i>P value</i>
Gender	Male	37.5	<i>0.318</i>	48.5	0.968	36.8	<i>0.58</i>
	Female	36.3		48.4		38.7	
Major	Nurse	37.1	<i>0.453</i>	48.4	0.932	37.6	<i>0.125</i>
	Midwife	36.1		48.5		39.2	
Degree	Bachelor	36.3	<i>0.103</i>	48.1	0.130	37.3	< <i>0.001</i>
	Master	38.6		50.5		42.3	
English fluency	Low	36.6	<i>0.812</i>	47.3	0.622	37.9	<i>0.270</i>
	Moderate	36.6		48.6		38.6	
	High	37.6		49.1		36.1	
Computer ability	Low	37.2	<i>0.698</i>	47.3	0.502	36.7	<i>0.098</i>
	Moderate	36.4		48.5		38.8	
	High	37.6		50.0		36.3	
Participated in evidence-based practice workshop	Yes	41.0	< <i>0.001</i>	52.3	< <i>0.001</i>	41.7	< <i>0.001</i>
	No	35.0		46.8		36.6	
participating in research projects	Yes	37.8	<i>0.028</i>	49.1	0.213	39.3	<i>0.010</i>
	No	35.5		47.6		36.8	
Having published articles	Yes	36.6	<i>0.209</i>	48.3	0.099	37.8	<i>0.007</i>
	No	39.6		53.0		44.0	

The positive attitude towards EBP can make it easier to apply EBP in the clinical setting (16). In the present study, almost half of participants did not know how to critique research findings for application in their clinical care. 41% were unable to distinguish between weak and strong research studies, and more than half of participants stated that they were not familiar with the terms related to EBP. During Bachelor education of nursing and midwifery, Iranian students spend a very limited time in research units, criticizing the findings of the studies as well as reviewing the studies in terms of quality. Due to this fact, it seems that it is necessary for nursing and midwifery policymakers and planners to include such matters in the curriculum of these students.

Participants of this study showed a relatively positive attitude on EBP which is in line with the results of most previous studies. For instance, in a study in Iran in 2018, researchers examined the attitude of 76 midwives working in the hospitals and found a relatively positive attitude on EBP (17). In another study, researchers in South Africa examined nurses' attitude on EBP in the prevention of mother-to-child transmission of HIV program, in the pediatric, gynecological, and obstetric units, and found similar positive attitude on EBP (18). These positive signals for can be considered by policymakers and planners to plan for a necessary framework to train nurses and midwives working with children and infants to practice in clinical settings based on the best evidence. Concerning the intention on EBP, the results of the present study showed a relatively moderate intention. Based on our search, no study was found to examine the neonatal and pediatric midwife and nurse's intention on EBP. However, studies in this regard among the other groups showed relatively similar results. For example, in one study conducted by Ashktorab and colleagues reported that nursing students have high level of intention for using EBP in clinical area (12).

The results of the present study revealed that participating in EBP workshops as well as involving in research projects and having published articles were two effective factors that can result in an increase in knowledge level, positive attitude, and intention on EBP. Furthermore, participants with a master's degree reported higher intention on EBP compared to those with a bachelor's degree. Previous studies also showed similar results. Concerning more intention on EBP among nurses and midwives with higher educational level, previous studies reported similar results. For instance, in a study in 2019, Rafiei and colleagues reported that knowledge on ventilator-associated pneumonia prevention was significantly higher among nurses who had participated in the related workshops

(19). Similarly, Sciarra conducted a study on the impact of participating in EBP workshops on nursing performance with significantly improved nurses' performance in utilizing the best evidence in care (20). Another study in Oman, reported that nurses' participation in related workshops could make their attitude towards EBP more positive (16). In a study in Canada, researchers also found that participation in the research workshops and submission of the proposals significantly enhanced their knowledge on EBP (21). The results of a study in China in 2016 showed that nurses who participated in research studies as colleagues had more positive attitude and higher knowledge on EBP (22). In a study in 2012, researchers reported that there was a significant relationship between the level of nurses' education and competence in providing EBP, so that as education increased, competence in EBP also increased (23).

Conclusion

Despite the relatively positive attitude of midwives and nurses participated in the present study, their intention and knowledge regarding EBP was moderate which can negatively impact the quality of care provided by them. Given the sensitive care of pediatric and neonatal patients, it is necessary for caregivers of these patients to use the best evidence in their care. Holding workshops for midwives and nurses is addressed as a temporary and necessary step. To improve the conditions in general, it is essential to modify the educational curriculum of nursing and midwifery. Additionally, the supervision of managers and provision of conditions for implementing EBP by midwives and nurses is necessary. It is suggested that further studies are needed to examine the barriers of implementing EBP by nurses and midwives working with children and infants. In addition, conducting studies with a qualitative approach can also be helpful.

Acknowledgement

The present study is part of a large study conducted in Qazvin University of Medical Sciences, Qazvin, Iran. The researchers acknowledge the research deputy of the University, the authorities of the hospitals, and nurses and midwives working in these units for their cooperation.

Conflict of interest

None.

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