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Evidence-Based Practice Attitudes of Neonatal Nurses

A Multicenter Study on the Examination of Internal and External Factors

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ABSTRACT

Objective: This study aims to determine the internal and external factors affecting the attitudes of neonatal intensive care nurses toward evidence-based practices (EBP).

Methods: The population of this descriptive, cross-sectional, and relation-seeking multicenter study consisted of nurses working in 5 neonatal intensive care units located in 3 provinces of Türkiye. Data were collected using the Information Form, which included nurses' sociodemographic information and internal-external factors affecting evidence-based care practices, the Evidence-Based Nursing Attitude Questionnaire (EBNAQ). **Results:** It was found that sociodemographic characteristics of nurses impacted the EBNAQ score. Of the internal factors, knowledge of EBP, having a sufficient foreign language level to follow EBP, self-efficacy in the process of seeking, finding, evaluating, and applying evidence, belief in the necessity of using EBP in nursing care, belief that cultural differences affect EBP, and belief that EBP negatively affect individualized care affected the EBNAQ score. In terms of external factors, the competence of the study team in searching evidence, the employment institution supporting the team in the use of EBP, and using clinical guidelines in neonatal care impacted the EBNAQ score. **Conclusion:** It was concluded that neonatal nurses' attitudes toward evidence-based nursing are at a moderate level and are affected by internal and external factors.

Key Words: attitude, evidence, evidence-based practice, newborn, nurse

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The study was conducted in accordance with the principles of the Declaration of Helsinki. Ethical approval was obtained from the University Ethical Board of Clinical Research and written permission was taken from the city governor. The participation in the study had a voluntary basis and oral and written informed consent was obtained after the nurses included in the study were given information about the study, confidentiality, privacy, and their right to drop out of the study.

All the authors contributed to study conception and design, data collection, data analysis and interpretation, drafting of the article, and critical revision of the article.

The authors have made sure that the submission conforms as applicable to the journal's statistical guidelines described here.

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Evidence is information available to decision-makers in the healthcare system, based on scientific evaluation of practices, and evidence-based practice (EBP) is the use of data from scientific research in clinical practice.[1] As evidence-based medicine practices replace traditional medicine practice, decisions should be supported with a systematic approach using qualified and up-to-date research to make the most accurate decisions in the diagnosis and treatment

processes of diseases. With the increase of information produced today, the reliability, accessibility, ease of use, and up-to-dateness of information sources are discussed. Therefore, the concept of quality is becoming increasingly important and bringing evidence-based medicine practices to the fore.[2,3] EBP aims to meticulously use the current and best published evidence on the subject in the decision-making process for the patient's medical care, recovery, and effective planning and execution of the care.[1]

Today, there is an increasing need for all healthcare professionals to base their practice on the best evidence to provide the best care for patients.[4,5] Professional nurses have a responsibility to provide safe and effective care to the community, the healthcare team, and the colleagues they serve. Care should be based on the most accurate scientific knowledge available. The relationship between knowledge and decision-making is the most decisive factor in the professionalization of nursing. EBPs ensure the scientific validity of nursing practices.[6–8] In addition to their caregiver roles, nurses take on the role of researchers in maintaining health and providing services to patients or healthy individuals.[9] Academic-clinical institution partnerships are vital for nurses to gain the knowledge, skills, and attitudes to apply EBPs and thereby improve daily life.[10,11]

In a study with pediatric nurses, nurses' attitudes toward EBPs and perceived barriers to benefiting from research were moderate. However, most of the nurses did not participate in scientific activities, did not seek evidence in the literature, did not contribute to the introduction of an EBP to the field, and did not find themselves sufficient in this regard.[12] The practices frequently used by nurses in pediatric intensive care units affect the length of stay in the intensive care unit and the quality of care. It is thought that the implementation of nursing care practices, especially in pediatric intensive care units, away from the traditional approach and in line with EBPs will positively affect patient outcomes.[13] In addition, clinical practice guidelines, which are systematically organized and scientifically developed summaries of the best available evidence, make it possible to transfer EBPs to the clinical setting. These guidelines increase patient safety and the quality of care provided. Keeping the indicators of mother-infant health, which is one of the basic elements of a society's healthcare services, at the highest level is possible by basing the care on evidence.[14] The use of EBPs in nursing care for premature and newborn babies with immature organs and systems is very important to increase the quality of healthcare and improve the health of the newborn.[2] In addition, many interventions are applied to infants admitted to the neonatal intensive care unit (NICU) for various indications, from admission to discharge. Rapid, competent, and systematic implementation of these initiatives in line with EBPs will reduce the risk of newborn morbidity and mortality.[15] The use of EBPs and guidelines by nurses is influenced by several factors. In the systematic review of Jun et al[16] that examines the barriers and facilitators that affect nurses using clinical practice guidelines, these factors are examined in 2 ways as internal and external. While internal factors include nurses' attitudes, perceptions, and information on clinical practice guidelines, external factors include the format and availability of clinical practice guidelines, resources, leadership, and organizational culture.[16]

Nurses need to use new guidelines and EBPs to provide quality diagnosis, treatment, and care in NICUs. However, only a limited number of studies were found in the literature examining the evidence-based status of neonatal intensive care nurses.[17] Therefore, this study aimed to determine the internal and external factors affecting the attitudes of neonatal nurses toward EBPs in Türkiye. With this study, it will be possible to reveal neonatal nurses' perspectives on EBPs and internal-external factors. Identifying and understanding the internal and external factors influencing EBP attitudes is the first step in developing and implementing strategies to increase the use of EBPs. In this direction, a preliminary situation determination will be made that will shed light on future practices and studies.

METHODS

Study design

The study used a cross-sectional, descriptive, correlational design.

Participants

The population of the study was nurses working in 5 NICUs located in 3 provinces of Türkiye between December 2021 and February 2022. The 5 NICUs were different in level. The nurses participating in the study worked in a level 3 NICU in 3 hospitals, a level 2 NICU in 1 hospital, and a combined level 2 and level 3 NICU in the last hospital. The prestudy sample size was calculated using the G*Power 3.1.9.2 program.[18] The minimum sample size to be included in the study was calculated according to the EBP attitude score average (58.11 ± 16) of the reference study.[12] At least 182 nurses at the high effect size (Cohen's f2 values are categorized as 0.02—low, 0.15—medium, and 0.35—high), 95%

power, and .05 significance level should be included in the study.[19,20] Eligible study participants in these hospitals included neonatal nurses who were registered, provided direct patient care, and had at least 6 months of experience at one of the study sites.

Data collection

The data were collected using the interview method under the supervision of the researchers from neonatal nurses who provided direct patient care in the specified units and who agreed to participate in the study. The study data were collected by visiting nurses outside of treatment and care hours during shifts between December 2021 and February 2022. The nurse's room or a suitable empty room determined by the participant was used for the interview. Information was given about the aims of the study and how to fill out the questionnaires. Since the data were based on self-report, participants were asked to fill out the data collection forms individually. Questions from participants were answered by the researchers. Data collection took approximately 20 minutes.

Data collection tools

Nurse Information Form

The form was prepared by the researchers in line with the literature[1,11,16] and consisted of 2 parts. The first part consists of 10 questions about sociodemographic (age, educational level, marital status, etc) and professional information (working time, institution of employment, neonatal intensive care certification status, etc). The second part consists of 20 questions regarding internal (knowledge of EBP, having a foreign language level proficient enough to follow EBPs, etc) and external factors (NICU level, the status of having sufficient personnel in the unit, etc) affecting nurses' evidence-based care practices.

Evidence-Based Nursing Attitude Questionnaire

The scale was developed by Ruzafa-Martínez et al in 2011.[21] Ayhan et al[22] conducted the Turkish validity and reliability study in 2015. The 5-point Likert-type scale (1 = I strongly disagree, 2 = I disagree, 3 = I somewhat agree, 4 = I agree, and 5 = I completely agree) consists of 3 subdimensions and a total of 15 items. The subdimensions of the scale are beliefs and expectations toward evidence-based nursing (EBN), intention to practice EBN, and feelings toward EBN. The Evidence-Based Nursing Attitude Questionnaire (EBNAQ) was preferred in this study because it is the only measurement tool adapted from a foreign language to Turkish that can only measure nurses' attitudes toward EBP. The Cronbach α reliability coefficient of the original scale was 0.90. The reliability coefficients of the 3 subdimensions were 0.86, 0.69, and 0.71. The lowest possible scale score is 15 and the highest is 75. A high score on the scale indicates that the attitude toward EBN is positive.[22] In this study, the Cronbach α reliability coefficient was 0.737.

Data analysis

The IBM SPSS (Version 22.0, IBM Corporation, Armonk, New York) program was used. The normal distribution of the data was assessed using the Shapiro-Wilk test. Descriptive statistics (frequency, percentage, mean, and standard deviation) and inferential statistics (independent-samples *t* test and multiple linear regression) were used to evaluate the data. The level of significance was considered as $P < .05$.

Ethical considerations

Before starting the study, approval was obtained from the Non-Invasive Clinical Research Ethics Committee (Decision Number: 2021/149) of the local state university. Permission from the centers where the study was conducted was obtained. Nurses who participated in the study were informed about the purpose of the study and their written consent was obtained. Permission for the scale used in the study was obtained from the authors via email. All procedures were performed in accordance with the ethical standards of the Declaration of Helsinki.

RESULTS

Most of the participating nurses (98.4%) were women, 83% were university graduates, 53.3% were married, 63.2% had children, and their mean age was 28 ± 5.10 years. The nurses' mean professional working time was 6.17 ± 4.86 years, their working time in the NICU was 4.52 ± 3.96 years, their weekly working time was 43.55 ± 6.14 hours, and 53.3% worked in a state hospital. It was determined that 56% did not follow national or international associations, 53.3% followed professional articles, 63.2% did not participate in congresses/symposiums/scientific meetings, and 68.1% did not have a newborn intensive care certificate (see Table 1).

Evaluation of the EBP internal-external factors showed that 64.8% of nurses knew about EBPs, 51.1% learned information about EBPs from guides/manuals, 87.9% did not have a sufficient foreign language level to follow EBPs, 75.3% did not find themselves sufficient in terms of searching, finding, evaluating, and applying evidence, 75.8% believed that the use of EBPs in nursing care is necessary, 65.4% believed that cultural differences (language, religion, ethnicity, lifestyle, etc) affect EBPs, 85.2% did not believe that EBPs reduce nurses'

Table 1. **Descriptive characteristics of the nurses (*n* = 182)**

Characteristic	Mean ± SD
Age	28.81 ± 5.10
Working time as a nurse	6.17 ± 4.86
Working time in the neonatal intensive care unit	4.52 ± 3.96
Weekly working hours	43.55 ± 6.14
	***n* (%)**
Education level	
Vocational school of health	14 (7.7)
University	151 (83.0)
Postgraduate	17 (9.3)
Marital status	
Married	97 (53.3)
Single	85 (46.7)
Children	
Yes	67 (36.8)
No	115 (63.2)
Following national or international associations	
Yes	80 (44)
No	112 (56)
Following professional publications	
Yes	97 (53.3)
No	85 (46.7)
Participation in congresses/symposiums/scientific meetings	
Yes	67 (36.8)
No	115 (63.2)
Having a neonatal intensive care certification	
Yes	58 (31.9)
No	124 (68.1)
Institution of employment	
University hospital	85 (46.7)
State hospital	97 (53.3)

Abbreviation: SD, standard deviation.

Table 2. **Evidence-based care practices (EBPs) of nurses' internal-external factors (*n* = 182)**

Internal factor	*n* (%)
Knowing about EBPs	
Yes	118 (64.8)
No	64 (35.2)
Sources of information about EBPs	
Guides/manuals	93 (51.1)
National and international journals	32 (17.6)
Theses	57 (31.3)
Cochrane Library	8 (4.4)
Having a sufficient level of a foreign language to follow EBPs	
Yes	22 (12.1)
No	160 (87.9)
Self-efficacy in the process of seeking, finding, evaluating, and applying evidence	
Yes	45 (24.7)
No	137 (75.3)
Believing in the necessity of using EBPs in nursing care	
Yes	138 (75.8)
No	44 (24.2)
Believing that cultural differences (language, religion, ethnicity, lifestyle, etc) affect EBPs	
Yes	119 (65.4)
No	63 (34.6)
Believing that EBPs reduce nurses' autonomy	
Yes	27 (14.8)
No	155 (85.2)
Believing that EBPs reduce the critical thinking ability of nurses	
Yes	25 (13.7)
No	157 (86.3)
Believing that EBPs negatively affect individualized care	
Yes	44 (24.2)
No	138 (75.8)
External factor	***n* (%)**
Neonatal intensive care level	
Level 2	34 (18.7)
Level 3	114 (62.6)
Mixed (level 1-2-3)	34 (18.7)
Status of having sufficient personnel in the unit	
Yes	63 (34.6)
No	119 (65.4)
Status of having sufficient equipment in the unit	
Yes	63 (34.6)
No	119 (65.4)

(*continues*)

autonomy, 86.3% did not believe that EBPs reduce the critical thinking ability of nurses, and 75.8% did not believe that EBPs negatively affect individualized care. It was found that 62.6% of nurses worked in a level 3 NICU. Of the participating nurses, 65.4% stated that there was not enough personnel in their unit, 65.4% that there was not enough equipment and materials in their unit, 62.6% that it was difficult to access information about EBPs, 65.9% that their working team was inadequate in searching, finding, and evaluating evidence, 58.8% that they had disagreements with their working team on the use of EBPs, 51.1% that the

Table 2. **Evidence-based care practices (EBPs) of nurses' internal-external factors (*n* = 182) (*Continued*)**

Internal factor	*n* (%)
Difficulty in accessing information about EBPs	
Yes	68 (37.4)
No	114 (62.6)
Finding the study team competent in researching, finding, and evaluating evidence	
Sufficient	62 (34.1)
Insufficient	120 (65.9)
Having disagreements with the team in the use of EBPs	
Yes	107 (58.8)
No	75 (41.2)
Employment institution supports the use of EBPs	
Yes	89 (48.9)
No	93 (51.1)
Using clinical guidelines in neonatal care	
Yes	125 (68.7)
No	57 (31.3)

institution they were working for did not support the use of EBPs, and 68.7% that they used clinical guidelines in neonatal care (see Table 2).

The mean scores of the EBNAQ subdimensions were as follows: 27.65 ± 5.51 for beliefs and expectations toward EBN, 15.24 ± 2.68 for intention of conduct toward EBN, and 16.03 ± 3.25 for feelings toward EBN. The nurses' EBNAQ total mean score was 58.91 ± 9.73 and of the sociodemographic characteristics, institution of employment affected, participation in congresses/symposiums/scientific meetings, and following professional associations and publications the EBNAQ total score ($P < .05$).

In terms of internal factors, those with knowledge of EBPs ($P = .011$), who had a sufficient level of a foreign language to follow EBPs ($P = .013$), found themselves competent in the process of searching, finding, evaluating, and applying evidence ($P = .021$), believed in the necessity of using EBP in nursing care ($P = .000$), believed that cultural differences affect EBPs ($P = .011$), and did not believe that EBPs negatively affect individualized care ($P = .001$) had higher EBNAQ total scores. In terms of external factors, they stated the institution they work for supports the use of EBPs ($P = .000$), those who found the study team competent to search, find, and evaluate evidence ($P = .041$), and used clinical guidelines in neonatal care ($P = .000$) had higher EBNAQ total scores (see Table 3).

The findings are presented in Table 3 in terms of how they individually change the EBNAQ total score, institution of employment by 3.8%, participation in congress/symposium/scientific meetings by 5%, the variable of following professional associations and publications explained the change in the EBNAQ total score by 15.9%, knowing about EBPs by 3.5%, having a sufficient level of a foreign language to follow EBPs by 3.4%, self-efficacy in the process of seeking, finding, evaluating, and applying evidence by 2.9%, believing in the necessity of using EBPs in nursing care by 8.9%, believing that cultural differences affect EBPs by 3.5%, believing that EBPs negatively affect individualized care by 6.3%, the institutional support for the use of EBPs by 8.2%, finding the study team competent to seek, find, and evaluate evidence by 2.3%, and using clinical guidelines in neonatal care by 10% ($P < .05$) (see Table 3). In addition, using the multiple linear regression model in which all the factors in Table 3 are independent variables, $R^2 = 0.345$ was obtained. This result means that all the factors in Table 3 together explain 34.5% of the change in the EBNAQ total score.

DISCUSSION

The importance of EBPs in the field of nursing is increasing over time. Although there are many studies regarding this topic in the literature,[1,4,5,23] no study was found regarding a specific care group, such as newborns. In this study, which aimed to determine the internal and external factors affecting the attitudes of neonatal nurses toward EBPs, it was determined that the nurses participating in the study had a moderate EBNAQ score. Cameron-Lawson[17] found that nurses working in the NICU had attitudes that largely supported the use of evidence, which is parallel to our findings.

Many internal and external factors affected the EBNAQ score of the participating nurses. Nurses who worked in public hospitals, followed professional publications, and participated in congresses had higher attitude levels toward EBP. Stavor et al[1] determined in their study regarding EBPs in nurses that nurses' attitudes toward EBPs are positive and that they are aware of the importance of the practices. Doğan et al[24] assessed nurses working in public hospitals and obtained similar results to our study. This shows that it may be due to the provision of institutional support by public hospitals, which is a very important factor in the adoption of EBPs in nursing.[11] Doğan et al[24] reported that attending scientific meetings did not affect the attitudes toward EBPs. Karakaş et al[25] also found that participation in scientific activities and following scientific publications did not affect attitudes toward EBPs. On the other hand, Yılmaz et al[26] found in their study examining nurses'

Table 3. **Comparison of sociodemographic data and EBNAQ influencing factors**

Characteristic	Beliefs and expectations toward EBP Mean ± SD	Intention of conduct toward EBP Mean ± SD	Feelings toward EBP Mean ± SD	EBNAQ Total mean score Mean ± SD
	27.65 ± 5.51	15.24 ± 2.68	16.03 ± 3.25	58.91 ± 9.73
Sociodemographic				
Institution of employment				
University hospital	26.37 ± 6.27	14.95 ± 2.63	15.61 ± 3.60	56.90 ± 10.27
State hospital	28.77 ± 4.48	15.49 ± 2.71	16.41 ± 2.88	60.68 ± 8.90
t; *P*	*−2.929; .004*[a]	−1.363; .174	−1.637; .104	*−2.629; .009*[a]
R^2				*0.038*
Participation in congresses/symposiums/scientific meetings				
Yes	28.95 ± 5.08	16.01 ± 3.05	16.83 ± 3.60	61.76 ± 10.38
No	26.89 ± 5.62	14.79 ± 2.33	15.57 ± 2.95	57.26 ± 8.96
t; *P*	*2.467; .015*[b]	*2.830; .006*[a]	*2.557; .011*[b]	*2.962; .004*[a]
R^2				*0.050*
Following professional associations and publications				
Yes	29.17 ± 4.42	16.41 ± 2.42	16.86 ± 3.00	62.45 ± 8.70
No	26.46 ± 5.98	14.32 ± 2.51	15.39 ± 3.32	56.14 ± 9.63
t; *P*	*3.394; .001*[a]	*5.640; .000*[a]	*3.090; .002*[b]	*4.626; .000*[c]
R^2				*0.159*
Internal factors				
Knowing about EBPs				
Yes	28.53 ± 4.31	15.69 ± 2.63	16.05 ± 3.52	60.25 ± 9.14
No	26.03 ± 6.96	14.40 ± 2.57	16.01 ± 2.73	56.45 ± 10.34
t; *P*	*2.617; .010*[b]	*3.172; .002*[a]	0.075; .940	*2.554; .011*[b]
R^2				*0.035*
Having a sufficient level of a foreign language to follow EBPs				
Yes	29.36 ± 4.57	17.09 ± 2.84	17.27 ± 3.20	63.72 ± 9.73
No	27.41 ± 5.59	14.98 ± 2.56	15.86 ± 3.23	52.25 ± 9.57
t; *P*	1.559; .121	*3.559; .000*[a]	1.908; .058	*2.509; .013*[b]
R^2				*0.034*
Self-efficacy in the process of seeking, finding, evaluating, and applying evidence				
Yes	29.35 ± 4.85	15.62 ± 3.25	16.84 ± 3.49	61.82 ± 10.41
No	27.09 ± 5.60	15.11 ± 2.46	15.77 ± 3.14	57.96 ± 9.34
t; *P*	*2.421; .016*[b]	0.955; .343	1.926; .056	*2.336; .021*[b]
R^2				*0.029*
Believing in the necessity of using EBPs in nursing care				
Yes	28.49 ± 4.53	15.49 ± 2.63	16.58 ± 3.07	60.55 ± 8.89
No	25.02 ± 7.27	14.45 ± 2.68	14.31 ± 3.24	53.79 ± 10.53
t; *P*	*2.986; .004*[a]	2.262; .025[b]	*4.202; .000*[a]	*4.189; .000*[a]
R^2				*0.089*
Believing that cultural differences (language, religion, ethnicity, lifestyle, etc) affect EBPs				
Yes	28.38 ± 4.71	15.47 ± 2.59	16.40 ± 3.21	60.24 ± 9.01
No	26.26 ± 6.58	14.79 ± 2.80	15.34 ± 3.24	56.41 ± 10.58

(*continues*)

Table 3. **Comparison of sociodemographic data and EBNAQ influencing factors (*Continued*)**

Characteristic	Beliefs and expectations toward EBP Mean ± SD	Intention of conduct toward EBP Mean ± SD	Feelings toward EBP Mean ± SD	EBNAQ Total mean score Mean ± SD
t; *P*	*2.264; .026*[b]	1.648; .101	*2.095; .038*[b]	*2.566; .011*[b]
R^2				*0.035*
Believing that EBPs negatively affect individualized care				
Yes	25.31 ± 6.70	14.59 ± 2.30	14.68 ± 2.81	54.59 ± 9.66
No	28.39 ± 4.86	15.44 ± 2.76	16.47 ± 3.28	60.29 ± 9.37
t; *P*	*−2.819; .007*[a]	−1.862; .064	*−3.254; .001*a	*−3.490; .001*a
R^2				*0.063*
External factors				
Employment institution supports the use of EBPs				
Yes	29.16 ± 4.14	15.77 ± 2.38	16.84 ± 3.00	61.75 ± 8.01
No	26.20 ± 6.23	14.73 ± 2.85	15.26 ± 3.32	56.20 ± 10.47
t; *P*	*3.791; .000*a	*2.670; .008*a	*3.347; .001*a	*4.025; .000*a
R^2				*0.082*
Finding the study team competent in researching, finding, and evaluating evidence				
Yes	29.08 ± 5.25	15.62 ± 2.86	16.30 ± 3.34	60.96 ± 10.27
No	26.91 ± 5.51	15.04 ± 2.57	15.90 ± 3.21	57.85 ± 9.30
t; *P*	*2.550; .012*b	1.404; .162	0.797; .427	*2.061; .041*b
R^2				*0.023*
Using clinical guidelines in neonatal care				
Yes	29.04 ± 4.23	15.46 ± 2.52	16.51 ± 3.21	60.99 ± 8.53
No	24.61 ± 6.68	14.75 ± 2.96	15.00 ± 3.130	54.36 ± 10.67
t; *P*	*4.594; .000*a	1.664; .098	*2.964; .003*a	*4.123; .000*a
R^2				*0.100*

Abbreviations: EBNAQ, Evidence-Based Nursing Attitude Questionnaire; EBP, evidence-based practice; R^2, multiple linear regression; SD, standard deviation; *t*, Student's *t* test.

[a] $P < .01$.

[b] $P < .05$.

[c] $P < .001$.

attitudes toward EBPs that there was a significant difference between following professional publications and attitude scores. Aslan and Gürdap[27] found similar results between the willingness to participate in scientific activities, the educational status of EBN practices, and the variables of reflecting evidence-based current care practices to patient care with EBP attitude, which is similar to the results of the current study. Following professional publications and participating in scientific meetings increase the level of knowledge while enabling nurses to follow current practices.[27]

In the current study, *internal-external factors* affecting neonatal nurses' attitudes toward EBPs were also revealed. *Internal factors* affecting nurses' attitudes toward EBPs were knowing about EBPs, a sufficient level of a foreign language to follow EBPs, self-efficacy in the process of seeking, finding, evaluating, and applying evidence, believing in the necessity of using EBPs in nursing care, believing that cultural differences affect EBPs, and believing that EBPs negatively affect individualized care. Aburuz et al[4] found in their study examining nurses' knowledge, attitudes, and practices about EBPs that as the education level of the nurses increases, they have a more positive attitude toward EBPs and their knowledge and skill levels are higher. Melnyk et al[23] reported in their study on EBP competencies of nurses in the United States that the EBP competency of nurses increases with higher education levels. Alqahtani et al[5] determined that nurses' knowledge and attitudes toward EBP positively affect the transfer of EBPs to the clinic. Taş Arslan and Çelen[28] reported in their study with university students that attitudes toward EBP were at a moderate level. Similar to the current study results, there are studies showing

that EBP competence increases as the level of education increases.[3,11,29] It is predicted that a high level of knowledge about EBPs will increase the attitude toward EBPs. It is thought that the inclusion of courses such as research and EBPs in a university education will affect nurses' attitudes toward EBPs. Among the barriers to the implementation of EBPs is the lack of foreign language skills of health workers to follow the evidence.[3,9] Shayan et al[3] determined in their systematic review that nurses not having a sufficient level of a foreign language is among the barriers to the use of EBPs. In the current study, the level of attitude toward EBPs of nurses who were competent in the process of "seeking, finding, evaluating, and applying evidence" was higher. Saunders and Vehviläinen-Julkunen[30] in their study conducted with nurses working in university hospitals found that nurses with high self-efficacy in using EBPs have higher levels of EBP use. Farokhzadian et al[31] reported that low self-efficacy skills of nurses toward EBP negatively affect the use of EBP. In the current study, the level of attitude toward evidence was higher in nurses who believed in the necessity of using EBP in nursing care. Saunders and Vehviläinen-Julkunen[30] reported in their study examining nurses' readiness for EBP that nurses have positive attitudes toward EBP and that they believe in EBP's value in improving the quality of care and patient outcomes. However, it was determined that the knowledge and skills of nurses regarding EBP are insufficient and therefore they cannot transfer EBPs to the clinic.[30] It is foreseen that beliefs and attitudes are not sufficient to put EBPs into practice. The knowledge and skills of nurses about EBPs should be increased and necessary institutional support should be provided.

At the heart of EBP is the concept of *patient/individual values* alongside clinical expertise and the best research evidence available. This concept reveals the importance of considering the needs and preferences of individuals during the realization of EBPs. "Cultural values" required in the delivery of nursing care with a holistic approach are also very effective in integrating EBPs into this process.[1,16] In the literature, it is emphasized that cultural values should be carefully approached in meeting the evidence-based care needs of racial and ethnic minority groups.[7] In the current study, the attitudes of nurses who believed that cultural differences affect EBPs were more positive. In this study, the level of attitude toward evidence was higher in nurses who did not believe that EBPs negatively affected individualized care. Also in previous studies, contrary to the statement that EBPs negatively affect individualized care, it was found that integrating the best evidence into the care process in line with patient preferences, combined with clinical expertise, supports individualized care.[32,33] The result of the current study is important to show that nurses' internal factors affected their EBPs, similar to the literature.

External factors affecting the attitude of nurses toward EBPs were determined as institutional support, the competence of the study team in searching, finding, and evaluating evidence, and use of clinical guidelines in the use of EBPs. Maquibar et al[8] reported in their study investigating the success and difficulties of graduate student nurses in preparing for evidence-based education that the lack of institutional support and the status of nurses compared with other healthcare providers are barriers to the use of EBPs. Lizarondo et al[34] determined in their study regarding the barriers and facilitators to applying EBPs in African healthcare that team and institution management support are facilitating factors in applying EBPs. There are many studies in the literature emphasizing that team and institutional support are an important factor in the use of EBPs in the clinic.[3,10,11,33] It is predicted that there will be an increase in the use of clinical guides by nurses who receive adequate institutional and team support, which will positively affect the attitudes of nurses toward EBPs. One of the important findings of the study is that internal and external factors had an effect on the EBNAQ score and these variables explained 34.5% of the EBNAQ score. Thus, there are many internal and external factors affecting the attitude toward EBPs. On the other hand, there is a large gap about what has an effect on attitude toward EBPs and there is a need for new studies to define this gap.

STRENGTHS AND LIMITATIONS

The strengths of this study were that it was conducted with nurses working in 5 different NICUs, it has a power-based sample size, and the factors affecting neonatal nurses' EBP attitudes were examined in a multidimensional matter. However, this study has some limitations. The first limitation of the study is the use of a nonprobability sampling method, which may affect its generalizability to all nurses working in neonate departments. The second limitation of the study is that the evaluation of nurses' EBP attitudes is based on self-report and is limited to the characteristics measured by the scale used in the study.

CONCLUSION AND RECOMMENDATIONS

It was determined that attitudes of neonatal intensive care nurses toward EBN were moderate and that some *internal* (knowing about EBP, having a sufficient level of a foreign language to follow EBPs, self-efficacy in the

process of seeking, finding, evaluating, and applying evidence, believing in the necessity of using EBP in nursing care, believing that cultural differences affect EBPs, and believing that EBPs negatively affect individualized care) and *external* (finding the study team competent to seek, find, and evaluate evidence, the employment institution supporting the team in the use of EBP, and using clinical guidelines in neonatal care) factors affected it. It is recommended that the attitudes of nurses toward EBPs and the factors affecting them should be determined and developed accordingly to improve the quality of care and increase professionalism by making nurses aware of evidence-based decision-making rather than experience-based decision-making.

RELEVANCE TO CLINICAL PRACTICE

The results of this study can inform the implications for nursing practice in 4 main aspects.

First, it is recommended that nurses develop and use standardized EBP assessments or screening tools for internal and external factors.

Second, starting from nursing education, it is recommended that an EBP curriculum be placed in undergraduate education and integrated into all classes and that institutions providing health services develop practices that support this field for nurses (in-service training, research support, congress participation support, etc).

Third, the internal-external factors affecting the nurses' use of EBPs determined in the study should be extended to further studies in which interventional activities are planned.

Finally, it is suggested that monitoring studies should be carried out for the change in neonatal nurses' EBP attitudes over time and the factors that may contribute to this change.

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