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A Cross Sectional Study of Nurses' and Nurse Educators' Perceptions of Evidence-Based Practice in Kazakhstan

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Abstract

Kazakhstan is one of the countries in which the development of nursing and nursing education is currently progressing quickly. However, there is limited knowledge about the barriers to and facilitators of evidence-based practice in post-Soviet countries. The purpose of this study was to describe and compare the current state of evidence-based practice from the point of view of Kazakh nurses and nurse educators. The aim was to produce research-based information that could be used in the reform and development of nursing in Kazakhstan.

A quantitative, cross-sectional study was conducted to describe the current state of evidence-based practice in Kazakhstan. The Perceptions of Nurses of Evidence-Based Practice questionnaire was employed to collect the data. In total, 113 nurses and nurse educators responded to the questionnaire between 2013 and 2015.

The results show that only 24, 5% of the respondents understood the definition and meaning of the concept of evidence-based practice. Several statistically significant differences were found between the groups in perceptions, attitudes and knowledge regarding evidence-based practice as well as promoters of and barriers to adopting evidence-based practice. The least frequently used print and electronic information sources were journal articles and medical and nursing libraries, respectively. All activities associated with evidence based approach practices were assessed as being important.

Understanding the concept and implementation of evidence-based practice are necessary competencies in nursing education not only for students but also for educators. More focused research is needed related to the implementation of evidence-based approach to nursing education, nursing practice and management in Kazakhstan.

Keywords: Evidence-based practice; Nursing management; Nursing education

Abbreviation

EBP: Evidence-Based Practice

Introduction

Challenges in healthcare in Kazakhstan

Kazakhstan has undertaken major efforts to reform its post-Soviet healthcare system. It became independent with the dissolution of the Union of Soviet Socialist Republics in 1991. After gaining its independence, Kazakhstan began to promote evidence-based medicine and develop new national guidelines [1]. Despite current healthcare reform initiatives, Katsaga et al. [1] argued that key components of Kazakhstan's healthcare system still need improvement. Increasing healthcare utilization and improving health outcomes are among the most challenging aspects of healthcare in the country. In alignment with the changes in healthcare, the role and value of nursing care specialists as well as their organizational authority and responsibility for work results are essentially increasing. At the same time, Kazakhstan is undergoing widespread changes in nursing higher education [2]. Kazakhstan joined the European Higher Education Area in 2011. Although Kazakh universities are trying to harmonize the higher educational system with the Bologna Process, challenges in the integration process remain [3]. However, Kazakhstan strives to be one of the 30 most developed states of the world for 2020 and describes the need for a training system of specialists in nursing care at all levels (from technical education to PhD) in accordance with European directives [4]. Nevertheless, the first steps have been taken towards advancing nursing education into higher education, which would be comparable to European nursing education standards.

Implementation of evidence-based practice

Factors affecting the implementation of Evidence-Based Practice (EBP) have been studied extensively, predominantly in Anglo-American countries, over recent decades. However, limited research has been conducted in post-Soviet countries. Thus, nursing researchers are becoming increasingly aware of barriers to and facilitators of EBP and its level of implementation in diverse healthcare settings. Many researchers have stated that poor English skills, a heavy workload, a lack of internet access and insufficient time among nurses to read research or implement new ideas in the workplace are the main barriers to implementation of EBP [5-7]. On the other hand, Thorsteinsson and Sveinsdottir [8] noted that

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even if nurses have internet access at work and, therefore, access to several academic databases, most of them turn to their colleagues for information needed at work. Similarly, Baird and Miller [9] found that evidence from research and nursing journals continued to be the least accessed source of knowledge on EBP among Canadian nurses and in a Norwegian study by Dalheim et al. [10].

Despite the various types of reported barriers, most nurses studied in different countries expressed a positive attitude toward EBP. For example, in the studies of Majid et al. [11] and Weng et al. [12], a majority of the Singaporean and Taiwanese nurses and healthcare personnel studied had favorable beliefs about and attitudes toward EBP. Given the positive attitudes that some of the healthcare professionals seem to have toward EBP, researchers have pondered what reasons might explain the slow development of the implementation of evidence-based nursing. For example, Wilson et al. [13] argued that one main reason might be nurses' subordinate role in many healthcare organizations. They further stated that if nurses are not empowered and positioned to take action, they cannot use their professional skills and capabilities to the fullest extent in practice. In addition, nurse educators have a pivotal role in supporting students in accessing, understanding, and appraising research and encouraging its utilization in practice. Kalb et al. [14] studied nursing education faculty members in the United States. The authors found that some of them indicated that they were familiar with EBP but were not aware of evidence-based teaching practice or the need to apply evidence in their teaching responsibilities. The authors reached the conclusion that this lack of awareness has significant implications for the preparation of new nurse faculty members and the professional development of current faculty members [14].

Although the factors influencing the implementation of evidence-based nursing in Western countries are well-reported, there are still countries in which EBP is in its infancy. In these countries, barriers to and facilitators of EBP need to be studied and documented for further use. Kazakhstan is one of the countries in which the development of nursing and nursing education is currently underway. Thus, it is justified to study the perceptions and implementation of EBP from Kazakh health professionals' point of view.

Purpose and Aim

The purpose of this study was to describe and compare the current state of EBP from the point of view of Kazakh nurses and nurse educators. The aim was to produce research-based information that could be used in the reform and development of nursing in the Republic of Kazakhstan. Specifically, the objectives were to seek information about nurses' and nurse educators' awareness of, knowledge of, and attitudes toward EBP and to explore the factors that influence the adoption of EBP in Kazakhstan.

Design and Methods

A quantitative, cross-sectional study was employed to describe the current state of EBP in Kazakhstan. Permission to use the Perceptions of Nurses of Evidence-Based Practice questionnaire developed by Majid et al. [11] was obtained from the original authors. The Cronbach alpha of the questionnaire was in their study between 0.681 to 0.9458 [11]. The questionnaire consisted of three sections. The first section included seven questions regarding the respondents' demographic characteristics. The second section contained seven questions that focused on the respondents' perceptions, attitudes and knowledge relating to EBP. Furthermore, the promoters of factors and barriers to adopting EBP were studied. The third section included two questions surrounding the sources of information used by the respondents to support their clinical work and decision making. The respondents were also asked to express their wishes regarding the contents of EBP-related training. Three of the questions concerning the literature searching skills in the original questionnaire were removed, since that was not the purpose of this study. The original questionnaire was translated into Russian using a standardized forward-backward linguistic translation method [15].

Convenience sampling [16] was used and data were collected during five one week in service trainings in Astana, the capital the Republic of Kazakhstan for practicing nurses with a bachelor's degree who graduated from all medical universities (three trainings) and nurse educators from six medical colleges (two trainings) in autumn 2013, spring 2014 and 2015. The number of the bachelor degree nurses from the six medical universities was at the time of data collection less than 150. There are 29 state medical colleges in Kazakhstan, the nurse educators in this study represent six state medical colleges from six geographically different parts of Kazakhstan, and therefore can be considered representing the nurse educators target group extensively. All participants who were present on the last day of training were included in the study.

Ethical Issues and Approval

Permission to conduct the study was granted by a representative of the Ministry of Healthcare and Social Development of the Republic of Kazakhstan. All participants were informed that their participation was voluntary. They indicated their informed consent to participate in the study by completing the questionnaire. Their responses were kept anonymous. The identity of the respondents was not disclosed at any stage when reporting the results [17].

Statistical Analysis

The data were analyzed using SPSS V23.0. The demographic data were dichotomized to allow the comparison between the groups. Division to nurse educator or not was made. In addition, age was divided to 30 and less years, and older than 30 years. The highest educational degree was divided to nursing degree and to medical or other degree and the work experience was divided to 0-9 years and 10 or more years. Descriptive statistics were used to describe the demographic data. The responses, which were given on a five-point Likert scale, were presented as frequencies, percentages, means and standard deviations. One-way ANOVA was performed to determine if there were differences between the groups. Significance was defined as $p<0.05$.

Results

Participants

The questionnaire was completed by 113 participants of the in-service trainings (Table 1). A majority of the respondents were female. More than half of them (60.2%) had attained a nursing degree and 70% of them had fewer than 10 years of work experience in nursing. Most of the nursing educators (n=52) were doctors or had non-

Table 1: Background characteristics of the respondents.

Background variable	frequency	%
Age (n=113)		
0-30 years	58	51,3
> 30 years	55	48,7
Gender (n=113)		
Female	109	95,4
Male	4	4,26
Highest degree attained (n=113)		
Nursing degree	68	60,2
Medical or other degree	45	39,8
Work experience in medicine (n=39)		
0-9 years	18	46,2
≥ 10 years	21	53,8
Work experience in nursing (n=70)		
0-9 years	49	70,0
≥ 10 years	21	30,0
Working as a nursing educator (n=113)		
Yes No	52 61	46,0 54,0
Current workplace (n=113)		
Hospital	41	36,3
Primary healthcare facility or **outpatient clinic**	18	15,9
Medical college or university	52	46,0
Other	2	1,8
Attended any training course on EBP (n=105)		
Yes	41	39,0
No	64	61,0

nursing degree (n=45). Half of the respondents worked in a hospital, primary healthcare facility or outpatient clinic, whereas the other half were employed as nurse educators at a medical university or college.

Understanding the concept of EBP

Most of the respondents did not understand EBP in accordance to the definition and meaning of the concept.EBP was understood as only research findings by 5,7% of respondents, only patient's subjective and objective data by 12,3% of respondents, and as a combination of previous experiences and research findings by 20,8% of respondents. Over one-third (36,8%) of the nurses and nurse educators considered EBP to be a combination of patient's subjective and objective data, information from textbooks, previous experiences of healthcare professionals and research findings. One-quarter (24,5%) of respondents defined EBP as consisting of patient data, previous experiences of healthcare professionals, research findings and patient values/preferences.

Attitudes regarding EBP

When examining respondents' attitudes regarding EBP, over half of them believed that their workload was too high for them to remain up-to-date on all the new evidence. The respondents with a nursing degree reported that their workload was significantly higher than respondents with medical or other training (F=24, 0; df=1; p=.000). Over one-third of respondents disliked that other people would question their clinical practices based on established methods. Two-thirds of respondents agreed that EBP is useful. Three-quarters of them preferred changing to new approaches, rather than using traditional methods. Almost one-third of respondents indicated that most research articles were not relevant to their daily practice (Table 2).

Different to the nurses practicing in hospitals and outpatient clinics, the nurse educators did not believe that their workload was so high that it prevented them from keeping up with all the new evidence (mean 2,84 *vs* 3,63; F=11,86; df=1, p=.001). In addition, nurse educators disliked it less when their clinical practices were questioned (mean 2,70 *vs* 3,13; F=3,99; df=1; p=.048) and preferred using traditional methods to a lesser extent (mean 1,92 *vs* 2,36; F=5,44; df=1; p=.022).

Abilities related to implementing EBP

The respondents reported that conducting online searches was their strongest skill associated with implementing EBP. Based on the responses, they were able to relate the research findings to their clinical practice and point out similarities and differences. In terms of EBP-related knowledge, the weakest perceived skills were using checklists to assess research articles, translating a clinical issue/problem into a well-formulated clinical question as well as evaluating the application of an intervention and identifying areas of improvement (Table 3).

Compared to the respondents with medical and other degree, the respondents with a nursing degree assessed themselves as having significantly lower skills in identifying clinical problems (mean 3,68 *vs* 4,52; F=15,29; df=1; p=.000), and distinguishing between different types of questions (mean 3,98 *vs* 4,44; F=4,02; df=1; p=.048). The nurse degree respondents had lower skills in relating research findings to clinical practice (mean 3,98 *vs* 4,53; F=11,59; df=1; p=.001), and applying an intervention based on evidence (mean 3,80 *vs* mean 4,23; F=5,24; df=1; p=.024) than the respondents with medical or other degree. The nurse educators assessed their skills as higher than practicing nurses' (mean 4,43 *vs* 3,69) in the area of identifying clinical problems (F=11,69; df=1; p=.001).

Factors promoting the adoption of EBP

The most important factor that was likely to help nurses and nurse educators to adopt EBP was the provision of adequate training in EBP (mean 4,57). Other vital factors included the support of nursing management (mean 4,50) and support of colleagues (mean 4,41). In addition, access to a system for conducting comprehensive literature searches (mean 4,43) to implement EBP and mentoring from nurses with adequate experience in implementing EBP (mean 4,38) were considered to be important. The availability of protected time to learn and implement EBP (mean 4,27) was also viewed as essential. There was only one statistically significant difference between the groups in EBP- promoting factors: the nurse educators considered it to be more important that nursing managers who embrace EBP would promote it than the practicing nurses (mean 4,72 *vs* 4,31; F=4,14; df=1; p=.044).

Barriers to the adoption of EBP

When inquiring about respondents' perceptions of barriers to the adoption of EBP, the two most frequently reported barriers were

Table 2: Respondents' attitudes regarding EBP.

Do you agree or disagree with the following statement?	Strongly disagree %	Disagree %	Neither agree or disagree %	Agree %	Strongly agree %
My workload is too high to keep up-to-date with all the new evidence. (n=106)	10,4	21,7	13,2	40,6	14,2
I don't like people questioning my clinical practices, which are based on established methods. (n=101)	8,9	30,7	23,8	31,7	5,0
I believe evidence-based practice has only limited utility. (n=106)	19,8	52,8	14,2	8,5	4,7
I prefer using more traditional methods instead of changing to new approaches. (n=104)	21,2	58,7	8,7	6,7	4,8
Most research articles are not relevant to my daily practice. (n=105)	8,6	30,5	29,5	27,6	3,8

Table 3: Skills in performing different EBP activities (1=poor, 5=excellent).

I am able to:	n	Mean	SD
a. identify clinical issues/problems.	105	4.01	1,152
b. translate a clinical issue/problem into a well-formulated clinical question.	99	3,86	1,079
c. distinguish between different types of questions (e.g., intervention, prognosis, harm, and cost effectiveness).	100	4,16	1,117
d. conduct online searches (using databases and Web search engines).	102	4,51	0,829
When reading research article, I am able to:			
e. relate research finding to my clinical practice and point out similarities and differences	108	4,20	0,862
f. use a check list to assess research articles.	103	3,66	1,184
g. read a research report and have a general notion about its strength and weaknesses	101	4,19	1,027
When applying research recommendations, I am able to:			
h. apply an intervention based on the most applicable evidence.	109	3,97	0,976
i. evaluate the application of an intervention and identify areas of improvement.	105	3,90	1,052

Table 4: Barriers to adopting EBP.

Do you agree or disagree that the following barriers have been preventing you from adopting Evidence Based Practice (EBP)?	Strongly disagree %	Disagree %	Neither agree or disagree %	Agree %	Strongly agree %
a. Inadequate understanding of research terms used in research articles. (n=104)	7,7	37,5	18,3	32,7	3,8
b. Inability to understand statistical terms used in research articles. (n=101)	8,9	43,6	23,8	20,8	3,0
c. Difficulty in judging the quality of research papers and reports. (n=101)	5,9	33,7	21,8	31,7	6,9
d. Inability to properly interpret the results of research studies. (n=100)	4,0	44,0	23,0	25,0	4,0
e. Difficulty in determining the applicability of research findings. (n=99)	7,1	23,2	26,3	34,3	9,1
f. Inability to implement recommendations of research studies into clinical practice. (n=104)	1,9	32,7	18,3	38,5	8,7
g. Difficulty in finding time at work place to search for and read research articles and reports. (n=104)	2,9	28,8	10,6	38,5	19,2
h. Insufficient time at work place to implement changes in their current practice. (n=101)	3,0	21,8	18,8	38,6	17,8
i. Insufficient resources (e.g., equipment, materials) to implement EBP. (n=102)	3,9	29,4	12,7	38,2	15,7

related to a lack of resources and knowledge. The respondents found it hard to find time to search for and read research articles and reports as well as implement changes. Additionally, the available materials and equipment were considered to be inadequate. Over one-third of the respondents reported a lack of knowledge regarding how to judge the quality of research papers and reports. Almost half of them felt incapable of implementing recommendations into practice (Table 4).

There were statistically significant differences found between the groups. Respondents with a nursing degree reported that the inability to understand the statistical terms used in research articles (mean 2,92 *vs* 2,25; F=11,85; df=1; p=.001), to interpret the results of research studies (mean 3,02 *vs* 2,49; F=7,20; df=1; p=.009), and to find time to search and read articles (mean 3,64 *vs* 3,08; F=5,93; df=1; p=.017) were greater barriers to their adopting EBP than respondents with medical and other degree. Respondents with nursing degree find insufficient time at work to implement changes in their current practice (mean 3,66 *vs* 3,15; F=5,29; df=1; p=.024) and insufficient resources (mean 3,51 *vs* 3,03; F=4,22; df=1; p=.043)to implement EBP preventing more often them to adop EBP than with medical or other degree. The nurse educators assessed themselves a shaving lower levels of inadequate understanding of research terms (F=4,87; df=1; p=.030), inability to understand statistical terms (F=9,63; df=1;p=.002), inability to interpret research results (F=5,02; df=1; p=.027), and insufficient resources (F=6,68; df=1; p=.011) than the practicing nurses.

Sources of information on EBP

The respondents were asked to evaluate their use of different sources (print, electronic and human) of information that they

utilized to support their clinical work and decision making on a five-point Likert scale (1=never to 5=always). The most commonly used print sources of information were textbooks (mean 4,42), handouts (mean 4,40), and reference books (mean 4,32). The least commonly used print information source was journal articles (mean 4,06). The most frequently used electronic information sources were Google (mean 4,60), nursing e-books (mean 4,25) and electronic standard operating procedures (mean 4,19). The least frequently used electronic information source was digital medical and nursing libraries (mean 3,31). The most commonly used human information sources were colleagues (mean 4,30) and a nursing supervisor (mean 4,27). In contrast, the least commonly used source was nursing research committees/EBN groups (mean3,62).

Respondents with a nursing degree reported using textbooks (mean 4,19 *vs* 4,78; F=10,73; df=1; p=.001), online tutorials (mean 3,22 *vs* 4,03; F=5,81; df=1; p=.018), professional friends (mean 4,55 *vs* 4,05; F=5,82; df=1; p=.027) and doctors (mean 3,95 *vs* 4,43; F=4,05;df=1; p=.047) as information sources to a lesser extent than respondents with medical or other degree. Nurse educators reported greater use of textbooks (mean 4,63 *vs* 4,24; F=4,70; df=1; p=.032) and online tutorials (mean 3,96 *vs* 3,14; F=6,29; df=1; p=.014) as well as lower use of a nursing supervisor (mean 3,97 *vs* 4,47; F=4,71; df=1; p=.033) as an information source than practicing nurses.

Importance of EBP training

Respondents were asked to describe the importance of training in EBP activities. All activities were assessed as important. The most important topics were understanding research and statistical terms and methods (mean 4,67); implementing recommendations into practice (mean 4,63);and identifying clinical issues where they can implement EBP (mean 4,51).

Strengths and Limitations of the Study

The Perceptions of Nurses of Evidence-Based Practice questionnaire was developed based on research and has been shown to be a valid instrument to detect the implementation of EBP [11]. The Cronbach alphas of in this study varied between .702 to .859 in this study showing the good validity and reliability of the instrument. However, the alpha on the attitudes regarding the EBP was 0.600 either because of the low number of questions (5) or since the two groups nurses and the nurse educators attitudes were so heterogeneous [15,16].

One of the most common biases associated with the use of self-report questionnaires is the tendency of survey respondents to answer questions in a manner that will be viewed favorably by others. Thus, participants tend to misrepresent their opinions in the direction of answers that are consistent with prevailing social norms [16]. Research on Armenian and Russian nurses showed that they lacked the confidence to assess the quality of care so that obvious deficits would have been revealed, as it was more socially desirable to give positive responses [17,18]. The authors were aware of this social desirability response bias, which was related to the cultural background of the respondents. It was taken into consideration in this study in the critique of the high mean values obtained.

Discussion

The study results indicated that most respondents did not fully understand the concept of EBP. Furthermore, over half of them reported that their workload was too high for them to keep up-to-date with all the new evidence. This finding is consistent with those of previous studies in which increased workload was shown to affect nursing staff members' attitudes towards EBP [12,19-20]. In the study by Breimeier et al. [21], respondents brought up their lack of knowledge of how to search for information and read research reports. In contrast, the respondents in this study reported that conducting online searches as well as reading and evaluating research reports were their strongest fields of EBP-related knowledge.

In this study, the information sources used most rarely by the respondents to support their clinical work and decision-making were journal articles and digital medical and nursing libraries, which aligns with Garland Baird and Miller's [9]findings. However, as Yoder et al. [22] noted, the utilization of international databases, such as CINAHL, PubMed, and Cochrane, to support EBP is crucial to its implementation. In previous studies [6,8,11], the members of the multi-professional working community who were consulted most frequently were nursing colleagues and the nearest supervisors. Similar results were found in this study.

The findings of Brown et al. [23] and Sanjari et al. [24] support the findings of this study in relation to factors that promote the adoption of EBP. It has been shown that the focus must be on the learning environment (e.g., learning opportunities and mentoring) and organizational culture. Furthermore, sufficient time, support from nursing management and an example set by professionals who are familiar with EBP are considered to be key factors [6,7,25]. In addition, the respondents found further training, EBP-embracing colleagues and supervisors as well as adequate facilities to be important factors that promote the adoption of EBP.

Previous studies have suggested that barriers to the adoption of EBP include a lack of time [9,25-27] as well as lack of knowledge and skills especially about inadequacies of finding the research, understanding the scientific research and statistical information, as well as utilizing the results to the practice to do the changes [10,20,24]. The findings of Mutisya et al. [28] and Khammarnia et al. [5] also highlighted inadequate material resources as well as a lack of autonomy and support from their supervisors. These findings are supported by the findings in this study.

Significant differences were detected on inability to understand the statistical terms used in research articles and interpret the study results when comparing respondents with nursing degree to medical and other degrees. These findings add support for efforts to increase the level of education for nurses, which may empower them to understand and implement the results of research studies in nursing. Furthermore, the results of this study showed that there were differences between nurses and nurse educators. The nurse educators assessed themselves as having lower levels of inadequate understanding of research and statistical terms, inability to interpret the research results, and insufficient resources than the practicing nurses. However, the professional standards for nurse educator practice highlight the importance of EBP and the ability to implement it worldwide [14]. Therefore, more educational interventions relating to EBP are needed for Kazak nurse educators.

Conclusions

The findings of this study have multiple implications for nursing education, practice and research in Kazakhstan, as it is still in the early phase of adopting EBP in healthcare education and practice. First, the concept of EBP should be emphasized in nursing education, given that the findings show that it is not fully understood. To develop nursing practice, new graduates have a key role in bringing future changes to the post-Soviet medical culture and implementing an EBP approach in nursing. Furthermore, it is necessary to recognize the difference between evidence-based medicine and nursing. In the future, the development of evidence-based nursing guidelines will support this distinction.

Successful implementation of EBP requires access to digital nursing databases, which most often are in English. In addition, nurse educators should use more journals as their source of information, rather than textbooks as found in this study. Multiple sources of information were denied under the Soviet rules [29], which explain why textbooks, journals and newspapers are still commonly used as sources of evidence. Moreover, in the past, Soviet education emphasized memorization and rote learning, instead of encouraging critical thinking, debating or questioning [30,31]. Chang and Levin [29] stressed that health professionals have low self-confidence about using evidence in their work, which is even more evident in post-Soviet countries. Even though Kazakhstan has been independent for 20 years, it is a challenge for nurse educators and leaders to create a positive, acceptable and conversational atmosphere in which to integrate an EBP approach into nursing education and practice.

The main barriers to adopting EBP in this study were a lack of time, knowledge, skills and facilities. As nursing education has traditionally not supported critical thinking and given that it has not been expected in nursing practice, it is difficult to change the culture of the practice. Additionally, the results in this study pointed to the lack of confidence in assessing one's own work and sharing the experiences of working methods with colleagues, which would be crucial when developing EBP. Poghosyan et al.'s [32] study of Armenian nurses showed that head nurses are not able to make changes in nursing work, as physicians are leading and making decisions concerning the work units. It is evident that applying EBP would require strong leadership and organizational support. It would be important to identify the positive facilitators on the staff who could be role models or mentors to encourage other staff members to adopt EBP and develop a positive culture of inquiry [25,33-35].

The respondents in this study also indicated that further training of nurses and nurse educators is needed to promote the adoption of EBP. This finding demonstrates their awareness and interest in developing the current practices. Healthcare and educational organizations need to consider the human and material resources that are necessary to support and facilitate the implementation of EBP. In addition to arranging training to enhance basic knowledge of EBP employer-facilitated nursing journal clubs [36] could accelerate the development of EBP.

More focused research related to the implementation of an evidence-based approach to nursing education, practice and management in Kazakhstan is needed. There have been a limited number of nursing studies done in most of the post-Soviet countries [32]. Increasing awareness through nursing research would support nursing reform in Kazakhstan at all levels and strengthen the status of the nursing profession.

This study provides a first look at Kazakh nurses' and nurse educators' perceptions of EBP. Hence, it is an important step towards understanding the cultural and historical reasons behind the attitudes, knowledge and other factors related to EBP in Kazakhstan. The perceptions and attitudes of nurses and nurse educators toward EBP were mainly favorable. Although some of the respondents were not yet willing to abandon established approaches, the majority of them had a positive opinion of new approaches. However, to bolster the status of EBP in Kazakhstan and other post-Soviet countries, it is essential to seek to increase awareness of its benefits to high-quality healthcare. Therefore, factors promoting the adoption of EBP should be funded. Additionally, the barriers to implementing EBP should be recognized, and their adverse effects should be minimized.

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