

# **Assessment of Nurses' Knowledge of Evidence-Based Nursing Practice**

Aknur Kozhamberdiyeva

Master's thesis

December 2020

Social services, Health and Sports

Degree Programme in Advanced Nursing Practice

Author(s) Kozhamberdiyeva, Aknur	Type of publication Master's thesis	Date December 2020
	Number of pages	Language of publication: English Permission for web publication: x
Title of publication <b>Assessment of Nurses' Knowledge of Evidence-Based Nursing Practice</b>		
Degree programme Degree Programme in Advanced Nursing Practice		
Supervisor(s) Ospanova, Dinara Heikkila, Johanna		
Assigned by Medical organizations of the Karasay district of the Almaty region		
<p><b>Background.</b> There have been many studies on the knowledge of nurses in matters of evidence-based nursing practice. However, this has not yet been studied in Kazakhstan.</p> <p><b>Objective:</b> To assess the knowledge of nurses in evidence-based nursing practice and the possibility of applying this knowledge in practice.</p> <p><b>Methods:</b> This is a quantitative study conducted by the questionnaire method of questioning nurses in two medical organizations (Central District Hospital and Central District Polyclinic) of the Karasay district of the Almaty region.</p> <p><b>Results:</b> The average value of answers to questions about the knowledge of evidence-based nursing practice among nurses ranged on a five-point scale from 2.40 to 3.55, which indicates a low knowledge of evidence-based nursing practice among nurses. The low values for the application of the knowledge of evidence-based nursing practice by nurses from 1.68 to 3.47 (mean value 2.27) (SD = 0.83) confirms the absence of the use of evidence-based nursing practice in the nurse's workplace.</p> <p><b>Conclusion:</b> Applying the principles of evidence-based nursing practice is an effective tool for improving the quality of medical services, improving the nursing process, and the satisfaction of the population with the services received. The study showed a low level of knowledge about evidence-based nursing practice among nurses. Low values of the application of knowledge of evidence-based nursing practice in the practice of a nurse confirm the lack of use of evidence-based nursing practice in the nurse's workplace. The development of training programs for nurses and their implementation should be based on current trends in health care and on the activities of each nurse individually.</p>		
Keywords/tags ( <a href="#">subjects</a> ) Nursing, Evidence-Based Nursing Practice, Nurses, knowledge/approaches, organization, application		
Miscellaneous ( <a href="#">Confidential information</a> )		

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## 1 Background

Evidence-based medicine is “the conscientious, clear and careful use of the best current evidence in making decisions about the care of individual patients,” (Seyed-Foad, Hamid, & Emad 2015) and evidence-based practice evolves from evidence-based medicine (Scott & McSherry 2009). As nurses play a key role in the delivery of health care, innovative methods must be used to ensure the best and most effective treatment for their patients (Majid, Foo, Luyt, Zhang, Theng, Chang, & Mokhtar 2011).

The goal of evidence-based nursing is to provide quality nursing care through evidence-based research and clinical problem solving, exceeding quality standards and driving innovation in nursing (Salem, Alamrani, & Albloushi 2009) to achieve cost-effective care (Nandaprakash, Lingaraju, & Shakuntala 2019, according Kathuria 2017). In India, nursing training introduced the subject of “evidence-based nursing,” which involved collecting, analyzing, and integrating data with robust research foundations into practice. It is in this country that workers must understand and appreciate the research idea in order to provide nursing care for men in practice. (Kathuria 2017.)

Therefore, nurses should be well versed in evidence-based nursing practice and make clinical decisions based on sound judgment. This will contribute to enhancing the degree and clinical experience in the nursing specialty.

## 2 Nursing Knowledge of Evidence-based Nursing Practice

### 2.1 Information on Evidence-based Nursing Practice

Evidence-based nursing care is based on combining the best scientific evidence with clinical experience and patient values and can be a vital part of quality improvement in nursing practice. The development of on-the-job training for nurses contributes to their professional development. Qualitative research in Iran shows that working conditions are not ready for evidence-based practice (Adib-Hajbaghry 2006). The transition to evidence-based practice is a process of change, and one of the ways to

introduce it into clinical practice is through education (Waters, Crisp, Rychetnik, & Barratt 2009). Accordingly, based on scientific experience, education and clinical care strategies for nurses can prepare to integrate with evidence interpretation and clinical care (Ahmadi-Abhari, Soltani, & Hosseinpanah 2008). Qualitative research shows that, although nursing education is provided to Iranian universities, government and medical administrators screen Iranian nurses for poor medical care (Cheraghi, Salasli, & Ahmadi 2007). Nurses apply their theoretical knowledge in an academic setting for clinical practice. In other words, the routine paradigm is the dominant image of Iranian nursing in practice and in undergraduate education. Context is often cited as an important factor in shaping a research application. (Straus, Ball, Balcombe, Sheldon, & McAlister 2005.) Several studies have assessed whether science-to-practice training courses can improve skills, but there is still little research that teaches science-to-practice skills and provides evidence-based resources for changing nursing behaviour or clinical outcomes. (Shojaiefard, Khorgami, & Larijani 2008).

In recent decades, special attention has been paid to nursing education. The goal of the medical institutes and the joint commission is to improve the quality and safety of health care. (To Err is Human 2000.) Both core competencies include evidence-based practice and quality improvement, which are critical to building a safe health system and promoting high-quality patient care; they play an important role in protecting patients' lives and improving quality and health, and developing skills and knowledge to improve quality. (Health Professions Education 2003).

## 2.2 Practical Findings Based on Real Life Data for Nurses

According to Scott and McSherry (2009), evidence-based nursing is very strong on the clinical governance agenda. This is important because quality improvement emphasizes key components, in particular the development of an evidence-based culture, providing strategic direction for the development, application, and assessment of practical skills. In addition, Jones and Santagida (2005), according to Scott and McSherry (2009), make it clear that national health policy should be based on evidence and practice. Despite the comparative advantages and disadvantages of using evidence, nurses continue to fight for it. The purpose of this study is to present

a test of contemporary perceptions in the evidence-based medicine literature, which will be presented by clarifying evidence-based terminology and analyzing the evidence-based experience. Analyzing the concepts of evidence and constitutions, the implications for nursing practice are considered. (Scott & McSherry 2009.)

Clarke (1999) and Gillenwater and Gray (2003), according to Scott and McSherry (2009), portray Cochrane as an individualist and renowned epidemiologist. Many believe that in modern medical practice, Cochrane is ineffective or harmful in poor conditions. In 1970, Archie Cochrane pioneered the idea that healthcare providers should be judged on evidence-based evidence (Alvarez-Dardet & Ruiz 1993 according to Scott and McSherry 2009; Levin 2001 according to Scott and McSherry).

Sackett and colleagues (1996) indicate that the link is examined to determine evidence-based nursing efficacy prior to use in patient care when considering any evidence or even the best evidence.

Pope (2003) develops the ideas of Rosenberg and Donald (1995), which represent a coherent process that clearly applies research findings to medical practice. Examining the application of evidence-based concepts to various medical specialties is exemplified by Perkins and colleagues (2001). Elkan and colleagues (2001), Carr and Schott (2002) and Kitson (1997) often view evidence-based practice as a direct transfer of evidence-based medicine theories to other forms of medical practice. (Scott & McSherry 2009.)

Despite the rhetoric of enthusiasm for evidence-based patient care, Gagan and Hewitt-Taylor (2004), according to Scott & McSherry (2009), noted that understanding and presenting evidence remains challenging in practice.

### 2.3 Nurse's Knowledge of Evidence-based Nursing

The use of research in nursing practice (Bonner & Sando 2008 according to Mollon, Gallo, Fields, & Wagener 2012) suggests that research is not seen as an integral part of health care but has some aspects that make it difficult (Brown, Wickline, Ecoff, & Glaser 2009 according to Mollon et al. 2012). It is not easy to explain that the use of research is the norm and requires nurses to know more than just research methodology. This also requires the ability to link knowledge of research processes

and their results with decision-making in practice as well as the willingness and ability to change existing practice if necessary (Larrabee, Sions, Fanning, & Withrow 2007). There are many ways to develop a culture of research use, including knowledge of the research process in nurses, confidence in evaluating research results, and the ability to participate in research and practice (Bonner & Sando 2008). However, in a previous study, the authors found that nurses were unsure about these skills (Hewitt-Taylor, Heaslip, & Rowe 2012).

According to Nandaprakash and colleagues (2019, in Kathuria 2017), the self-study module improved the knowledge of nurses in the experimental group. Similar results have shown that online modules for evidence-based medicine are as effective as exercises in learning, learning, and evaluating problems (Hadley, Kulier, Zamora, Coppus, Weinbrenner, Meyerrose, Decsi, Horvath, Nagy, & Emparanza 2010). Online learning strategies are as effective in teaching evidence-based medicine as traditional teaching methods. However, healthcare providers lack database search skills and use of updated information resources (Shayan, Kiwanuka, & Nakaye 2019; Shafiei, Baratimarnani, Goharinezhad, Kalhor, & Azmal 2014).

Evidence-based practice is a way to optimize patient care and eliminate the mismatch between what we know and what we do when caring for patients. This is due to the demand for safety and improved quality of care. The development of knowledge and skills in evidence-based practice should be linked to the level of evidence-based practice and evidence-based nursing practice, including skills in finding reliable information, assessing sources, clinical thinking, problem solving, and adapting to new changes. Therefore, the nursing practice curriculum in a country should include the knowledge and skills to integrate evidence-based practice. This competence should ultimately lead to a change in nursing attitudes and behaviour towards motivated care. However, a nursing teacher should remember that curriculum alone is not enough to have a significant impact on psychomotor competence in evidence-based nursing practice. (Aranas 2019.)

Making changes in practice is a complex process. This requires a support process, such as providing online access to resources through an intermediary, to help practitioners optimize their approach to change. Changes that require the introduction of new legislation, guidance, or policy require a team approach to its



implementation. This is especially difficult if the changes are related to the opinion of service users or the opinion of experienced experts and managers. (Teodorowski, Cable, Kilburn, & Kennedy 2019.)

Evidence-based nursing care improves patient care much more than traditional care. Nurses only use the best evidence to make effective and reliable decisions when they are actively involved in clinical decision making. Nurses lack the skills to search literature and understand evidence-based practice, which limits the use of evidence in clinical practice, although nurses support the idea of evidence-based practice. To maintain evidence-based nursing practice in healthcare settings that promote evidence-based nursing practice, evidence-based nursing training should be conducted regularly. (Majid et al. 2011.)

## 2.4 Barriers to Evidence-Based Nursing Practice

Research focus should not replace other important forms of nursing education, such as patient perspectives and experiences, and professional experience in promoting evidence-based practice. (Hewitt-Taylor, Heaslip, & Rowe 2012).

The following databases were used for complex systematic searches: Scopus, EMBASE, PubMed, and Web of Science. Articles, blank texts, and topics were an effective type of search. On May 12, 2018, EMBASE and Web of Science were searched with terms including “barriers,” “evidence-based practices,” “nurses,” and “low and middle income parties.” The publications were limited by language and year of publication, covering English language research in 2000–2018. The emergence of the topic of institutional barriers was associated with the organization of barriers and the place of work of nurses. This topic falls into four categories: access to resources, access to information in the workplace, understaffing, and lack of support. The emergence of the resource category is due to the lack of resources and materials for evidence-based experience in the sub-category and the lack of research needs (Farokhzadian et al. 2015). The category of information inclusion in the workplace codifies the following barriers: the need for access to information in evidence-based practice and access to online information (Khammarnia et al. 2015), and barrier sources of access to evidence.

A review of literature sources allowed us to show the interest of researchers in evidence-based nursing practice and assessment of the application of this knowledge in practice.

### **3 Purpose, Objectives, and Research Questions**

#### **Purpose:**

To assess the knowledge of nurses in evidence-based nursing practice and the possibility of applying this knowledge in practice

#### **Objectives:**

1. To assess nurses' knowledge of evidence-based nursing practice
2. To explore the experience of nurses in applying evidence-based nursing practice to work

#### **Research questions:**

1. How do nurses feel about knowledge about evidence-based nursing practice, about the use of research in nursing practice?
2. How possible is the application of knowledge on evidence-based nursing practice in the practice of a nurse?

## **4 Methodology**

### **4.1 Quantitative Research**

The study used a quantitative crossover study. The survey allowed describing the current situation with evidence-based nursing practice in Kazakhstan. The questionnaire consisted of three parts. The first part included the demographic data of the study participants. Exact age was asked so that the respondent did not think about the gradation. Education characteristic was divided into nursing (college), academic bachelor, applied bachelor, and master's degree. The qualification was divided into a certificate (0–3 years), a second category (3–5 years), a first category (5–10 years), and a higher category (10 years or more). Also, the questionnaire made

it possible to determine the position held: either just a nurse, or a nurse manager, that is, the main or senior.

Having studied the research materials on the published articles, questions were developed that would allow to determine the level of knowledge of nurses about evidence-based nursing practice and their application in their practice. The EBPQ questionnaire tool developed by Upton and Upton (2006) was also reviewed to assess EBP knowledge, attitudes, and practices among nurses/nurses. The developed questionnaire was translated into Russian and English using a standardized method of direct linguistic translation. All responses to the questionnaire, which were given on a 5-point Likert scale, were presented in the form of frequencies, percentages, mean values, and standard deviations. Mean, standard deviations, and crosstabs were used to describe the variables. Data analysis was performed using SPSS 25 and was conducted using descriptive and analytical statistics.

## 4.2 Data Collection Method

A questionnaire method was chosen to collect standardized information. This method is convenient for determining opinions and knowledge of a large cohort of representatives.

The proposed questionnaire "Survey on the evidence-based nursing practice of nurses" allowed to include a larger number of nurses. The questionnaire used consisted of four questions that can be divided into two areas of research: this is the definition of knowledge about nursing practice and the possibility of applying or using existing knowledge in the respondent's practice.

## 4.3 Data Collection and Analysis

The questionnaire prepared for the research work consisted of, in addition to the passport part, two sections and 38 main questions.

Section 1. Reviewer's information: gender, age, profession, qualification category, work experience

Section 2. Knowledge of evidence-based nursing practice

### Section 3. Application of evidence-based nursing practice in practice

#### 4.4 Ethical Approval

The research permit was issued by the Local Ethics Commission of JSC Kazakh Medical University of Continuing Education in December 2019. This commission was presented with material on the stages of research and a tool for sociological research in the form of questionnaires.

Prior to the survey, all participants were informed that their participation was voluntary. They provided their informed consent to participate in the study by filling out a questionnaire and their responses were anonymous. The identity of the respondents was not disclosed at any stage in the presentation of the results. Before the survey, the study participants (nurses) received oral information about the purpose, objectives, and methods of the study. The study participants accepted their voluntary informed consent to be interviewed in writing. Failure to adhere to the principle of voluntary participation in this study was unacceptable. In the course of the survey, the anonymity of the surveyed participants was guaranteed.

#### 4.5 Validity and Reliability

Cronbach's alpha value was 0.964 and the subscale values ranged from 0.79 to 0.94. This confirms the reliability of this questionnaire, based on the Cronbach  $\alpha = 0.87$  questionnaire that has been used extensively in previous studies to assess knowledge and parameters of EBP in healthcare settings. In the original Upton and Upton study, the reliability score was similar.

## 5 Results

### 5.1 Social Characteristics of Nurses

The questionnaire was completed by 320 participants (see Table 1), who worked in an area close to the city of the Almaty region of Kazakhstan. It was revealed that practical nurses at the age of 20–29 years made up 58.8% ( $n = 188$ ), over 30 years old

41.2% (n = 132). At the time of the survey, the youngest nurse was 20 years old, the oldest 65 years old, and the average age was 32.59.

Table 1. Main characteristics of respondents (n = 320)

	Background variable	frequency	%
Average age (n = 320) 32.59	20–29 years	188	58.8
	30–39 years	51	15.9
	40–49 years	51	15,9
	50 years and older	30	9.4
Sex (n = 320)	female	252	79
	male	68	21
Degree (n = 320)	College	286	89.4
	Applied Bachelor	24	7.5
	Academic bachelor	9	2.8
	Magistracy	1	0.3
Current qualification category (n = 320)	Specialist certificate (work experience 0–3 years)	152	47.5
	Second category (3–5 years of experience)	32	10
	First category (5–10 years of experience)	64	20
	Highest category (>10 years of experience)	72	22.5
Continuing education in EBP (n = 320)	yes	64	20
	No I do not want	160	50
	No, but I would like	96	30

Figure 1 shows the distribution by gender. A fairly high number of men work in medical institutions in this area (21,3%).

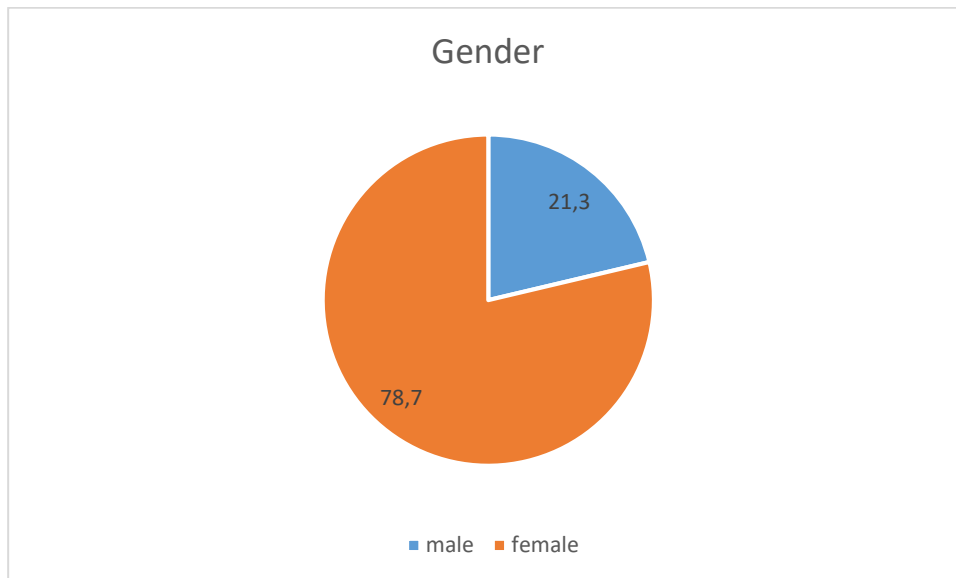


Figure 1. Gender composition of respondents (expressed as a percentage)

The nurses working in the district had an average age of 33, which indicates a young age of this contingent. Almost 60% of respondents were aged 20–30. Equal number of nurses were aged 30–39 and 40–49. In addition, nearly 10% of nurses were 50 years and older (see Figure 2).

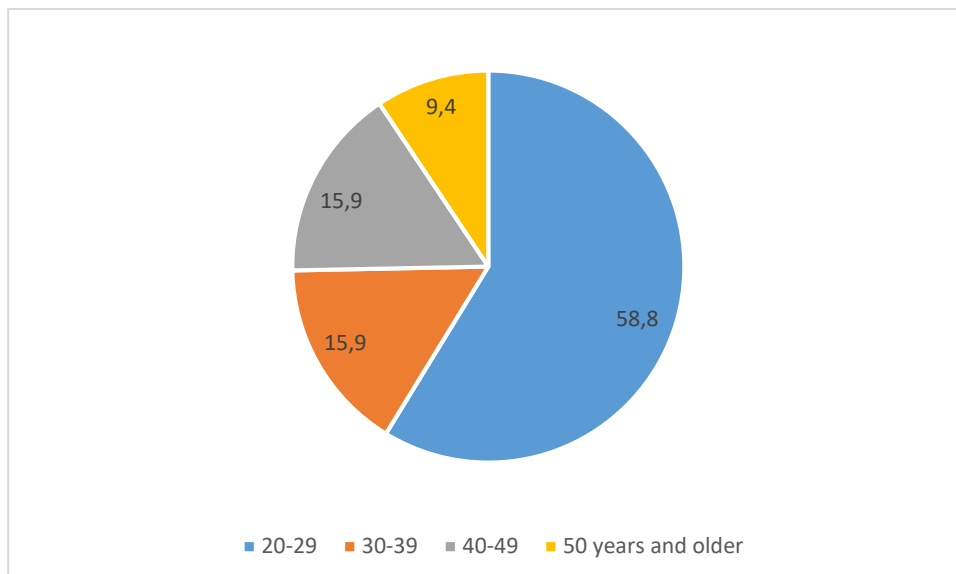


Figure 2. Percentage of respondents by age

Work experience is, of course, linked to age. So, 59.1% of nurses had one to five years of experience, which speaks of the young contingent of nurses. Of the respondents, 28.3% consisted of nurses with 6–10 years' experience, and 12.6% had experience of 10 years or more (see Figure 3).

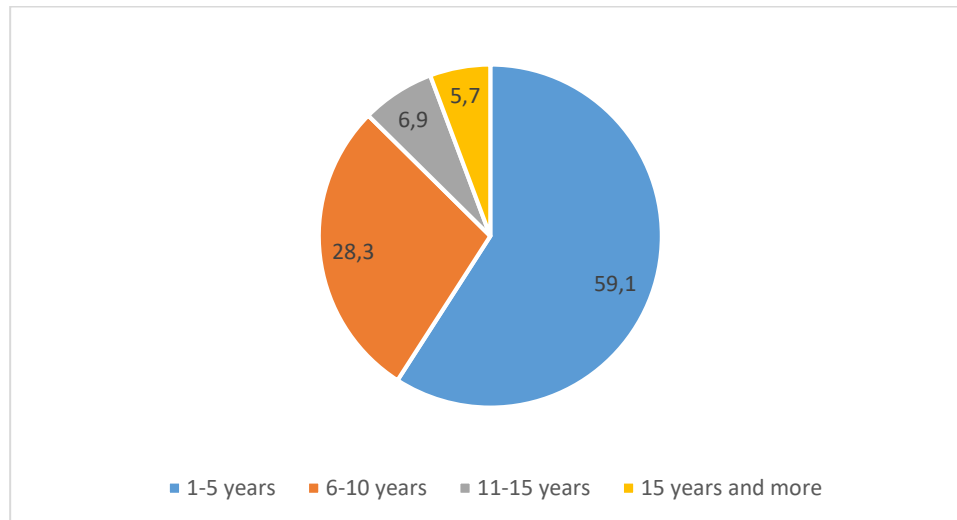


Figure 3. Work experience in percentages

Considering the contingent at the place of work, 48% of nurses worked in a polyclinic and 36% in a hospital (see Figure 4). Of the nurses, 23 (7.2%) were senior nurses and two were chief nurses. There were 14 college teachers and two university teachers in the district center, which was 5% of the total sample.

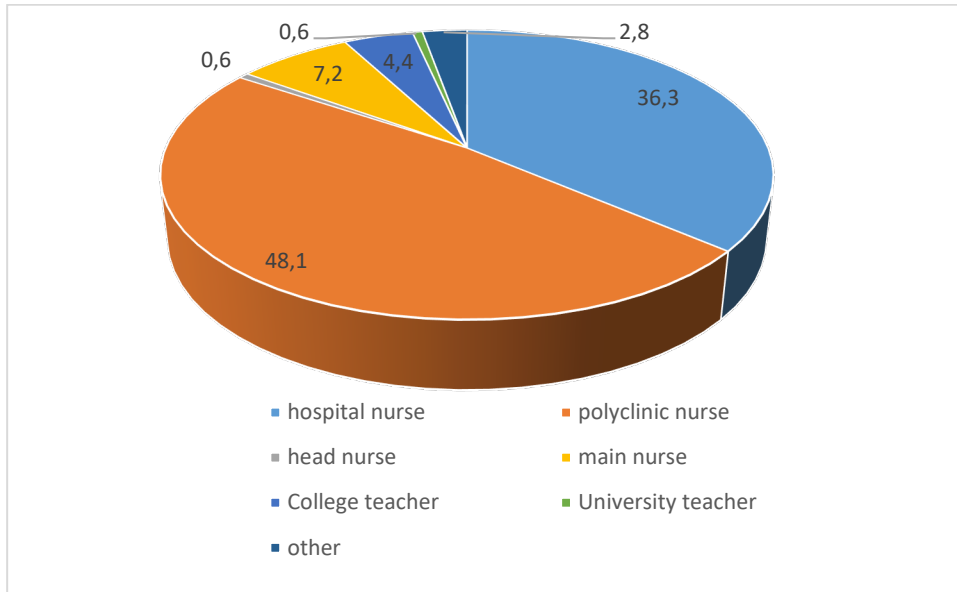


Figure 4. Current place of work/position of nurses who participated in the survey in percentages

The level of education also suggests that nurses mainly had a secondary specialized education (medical college) (89.4%) whereas 7.5% of respondents had an applied bachelor's degree, 2.8% a higher education in the specialty "Nursing", and one a person had completed a master's degree (Figure 5).

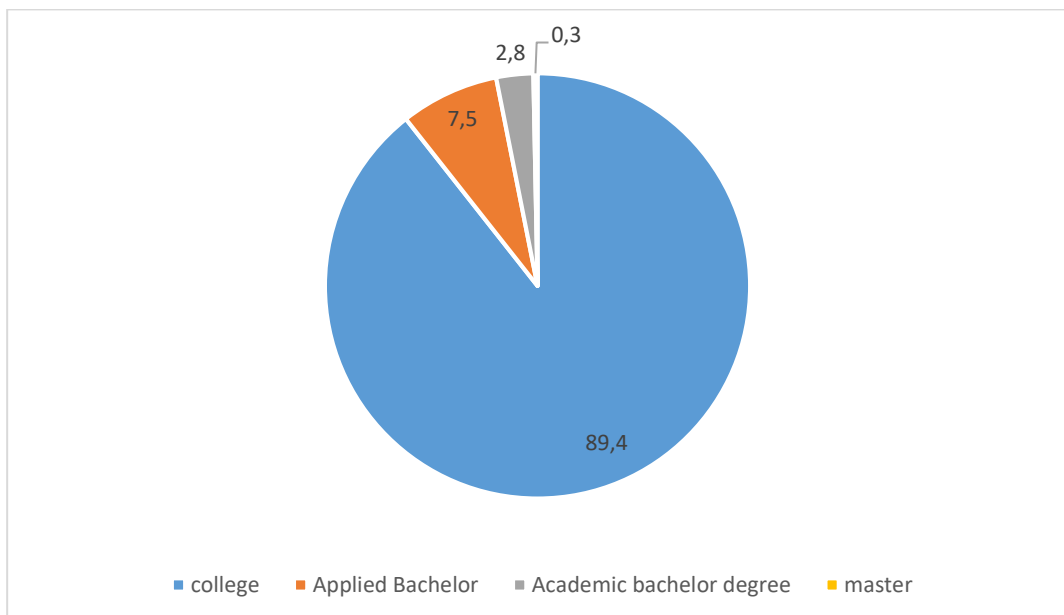


Figure 5. Educational level of survey participants (nurses)



The categorization of the contingent is quite low. Almost half (48%) had only a certificate and 23% a higher nursing category (see Figure 6).

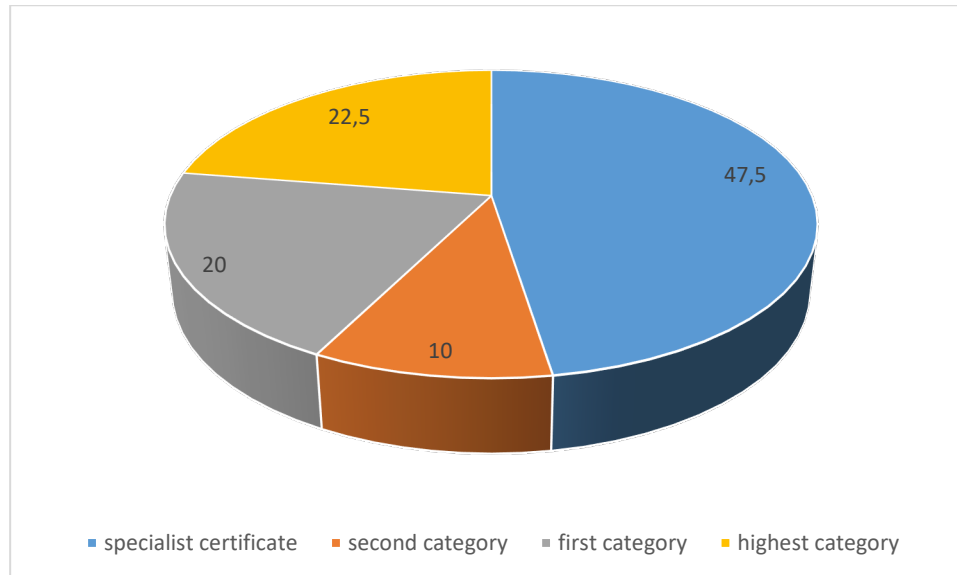


Figure 6. Characteristics of the contingent by category

To the question "Do you have training in the field of evidence-based nursing practice?", 80% of nurses answered no, of which 62.5% said they wanted to learn about evidence-based nursing practice, and 37.5% did not want to learn (see Figure 7). In addition, only 20 percent of the total sample received training in evidence-based nursing practice.

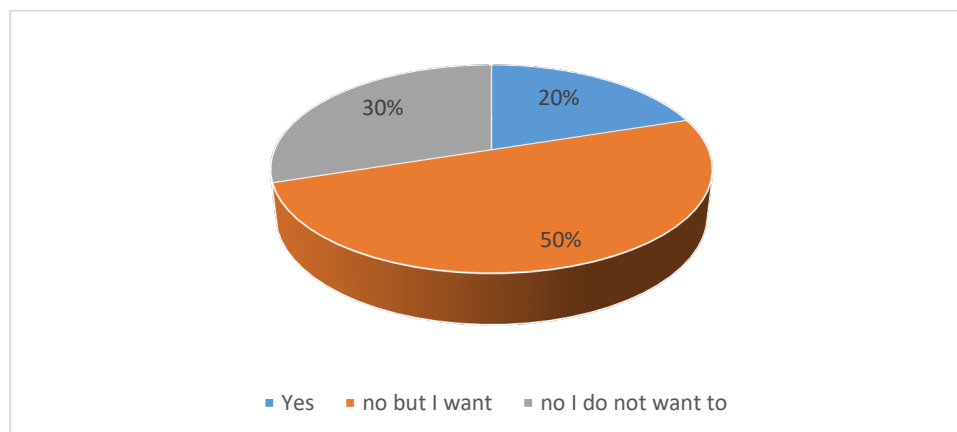


Figure 7. Have you taken a course in Evidence-Based Nursing?

Thus, the characteristics of the contingent of surveyed nurses on evidence-based nursing practice shows that the study covered all layers of nurses working at the level of the central district hospital and polyclinics.

## 5.2 Nursing Knowledge in Evidence-Based Practice

The study analyzed the knowledge of nurses on evidence-based nursing practice and obtained the following results (see Table 2). Using the scale absolutely disagree = 1 to strongly agree = 5, it was possible to determine the average scores of general knowledge in matters of evidence-based nursing practice ranged from two to five points.

Table 2. Nursing knowledge of the impact of research on practice (n = 320)

#	absolutely disagree / disagree	disagree / disagree to some extent	I'm neutral	Agree / agree to some extent	absolutely agree / agree	mean	SD
	1	2	3	4	5		
Practice should be based on research	75	91	55	24	75	2.75	1.48
Using research improves the quality of nursing care	79	95	58	56	32	2.58	1.30
Nurses should base their decisions on the latest research	54	100	64	38	64	2.85	1.39
I think using research is an important part of developing my own practice	78	83	72	32	55	2.7	1.40
The use of research is an important part of the development of healthcare professionals	95	103	61	21	40	2.40	1.32
My workload is too much for me to keep up with all the new evidence	53	73	75	59	60	3.00	1.38
I am resentful to question my clinical practice	36	79	107	41	57	2.98	1.26

Evidence-based practice is a waste of time	24	45	73	85	93	3.55	1.27
I adhere to tried and true methods, I don't change to something new	36	77	85	79	43	3.05	1.18
New evidence is so important that I spend time on my work schedule	61	100	68	60	31	2.65	1.26
I welcome questions about my practice	63	107	87	41	22	2.55	1.16
Evidence-based practice is fundamental to professional practice	74	114	58	45	29	2.55	1.24
My practice changed due to the evidence I found	66	86	84	55	29	2.70	1.25

Looking at each issue separately, it can be observed that about 50% of respondents were of the opinion that evidence-based nursing practice is necessary in full or in one form or another. The other half of the respondents believed that they disagree or are neutral (Figure 8–20).

The average value of responses in questions of knowledge of evidence-based nursing practice among nurses ranged on a five-point scale from 2.40 to 3.55.

Scores from one to three were pooled and presented as expressions. The subscale for "Using research is an important part of health worker development" had the lowest mean of 20.4. According to these results, there was a low knowledge of evidence-based nursing practice among nurses, regardless of the presence of specialization programs.

To the question "Should experience be based on research?" the following responses were received (see Figure 8): Only 52% of respondents believed that work experience should be based on research. In this question, almost a quarter did not know what to answer, that is, they did not have knowledge of evidence-based nursing practice.

More than half of all respondents were in favor of improving the quality of nursing care through the use of research (see Figure 9). In this question, 17.4% of respondents were neutral, and a fairly large percentage of nurses did not know (9.9%).

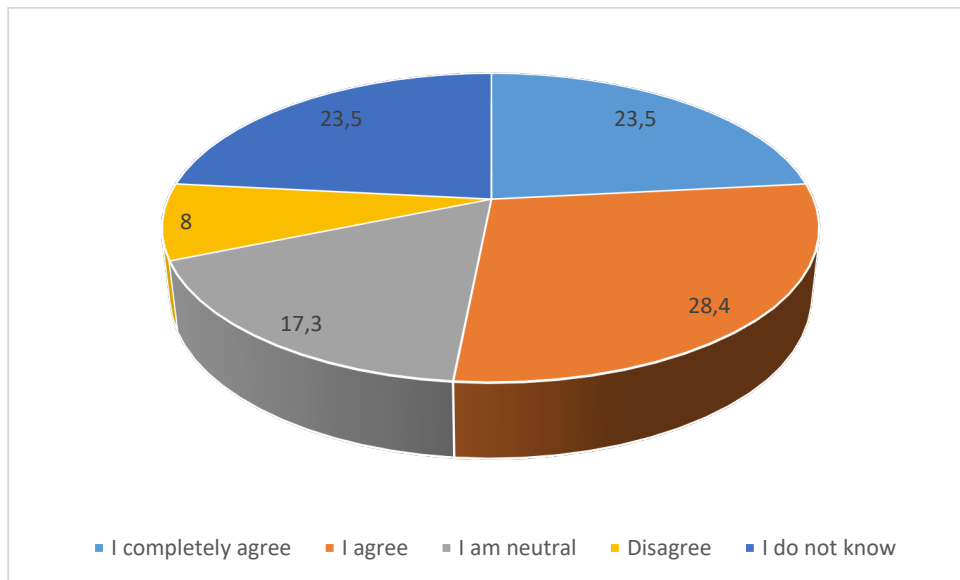


Figure 8. Should experience be based on research?

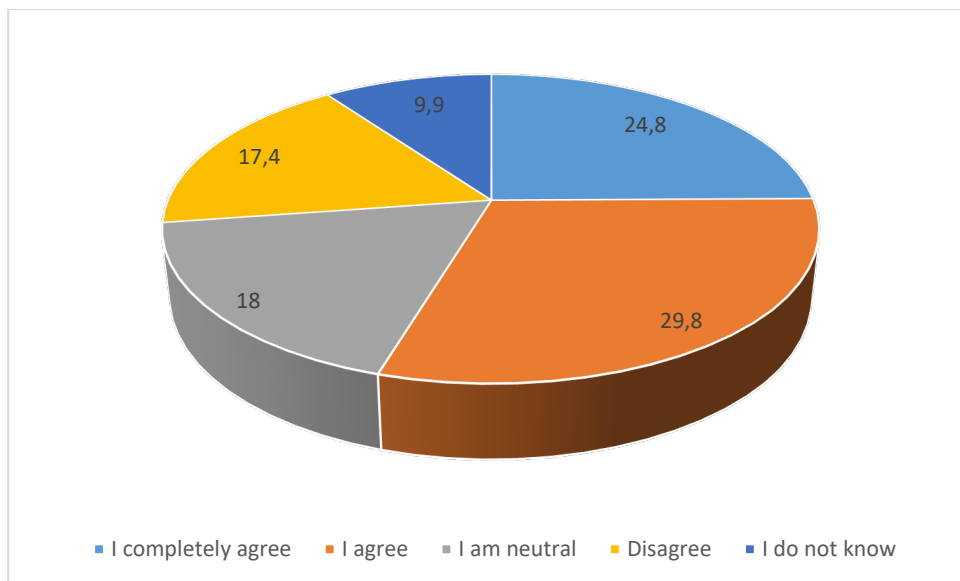


Figure 9. Does using research improve the quality of nursing care?

Roughly one-fifth of all respondents expressed their ignorance of whether a nurse needs to rely on recent research (see Figure 10). Also, one in five expressed doubts, taking a neutral position. Only 48% agreed with this position.

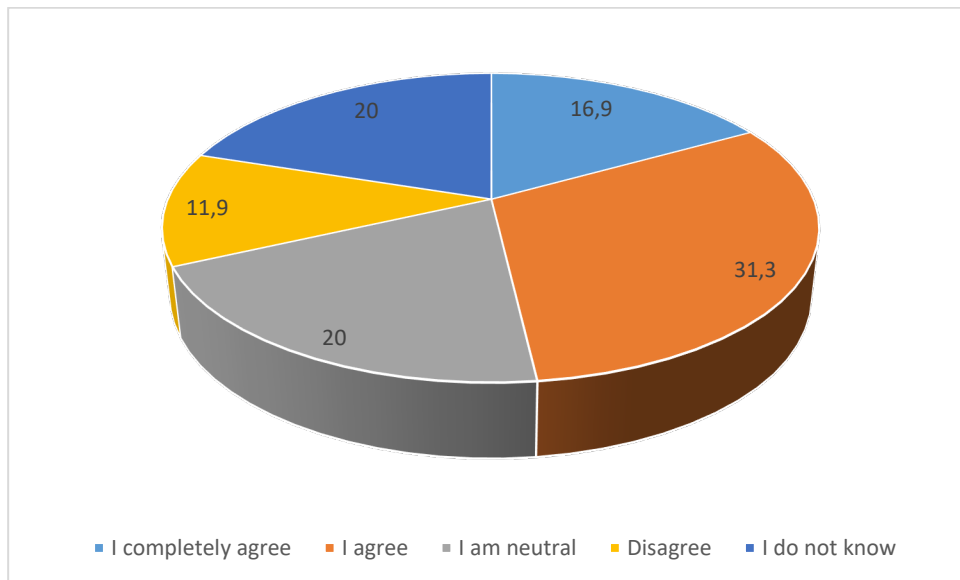


Figure 10. Should nurses base their decisions on recent research?

Half of all those surveyed perceived the use of research as an important part of their practice (see Figure 11). This question also confirms the previous questions as "I do not know" and "I am neutral" was chosen by 40% of respondents.

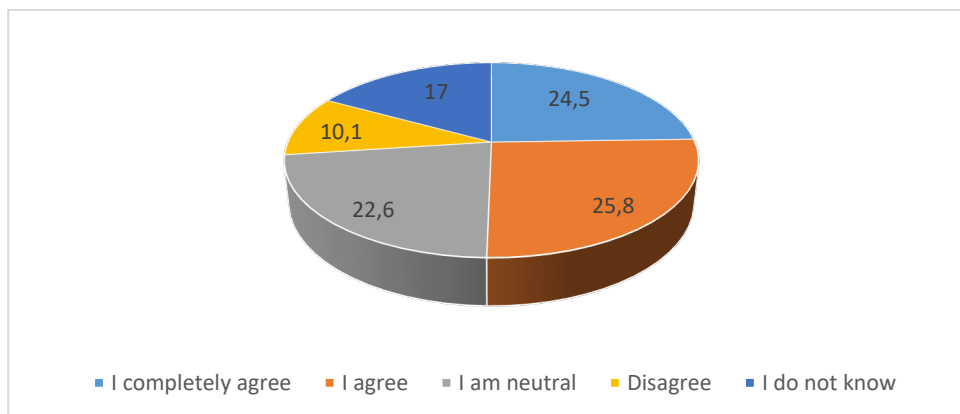


Figure 11. I think using research is an important part of my practice

More than 60% of surveyed nurses agreed that the use of research is an important part of increasing the knowledge of health workers (see Figure 12). However, once again, one in five chose a neutral position.

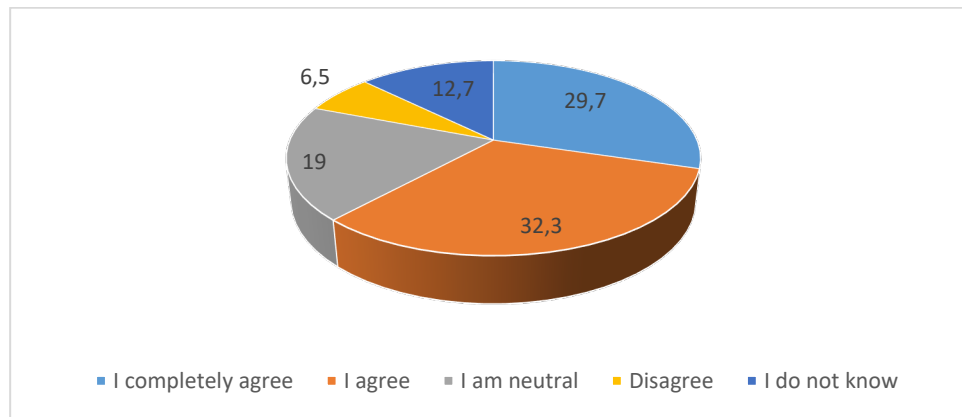


Figure 12. Using research is an important part of improving the knowledge of healthcare professionals

To the question of whether a high work load interferes with working with experimental data, almost 40% answered “I completely agree”, and more than 40% did not know what to say (see Figure 13).

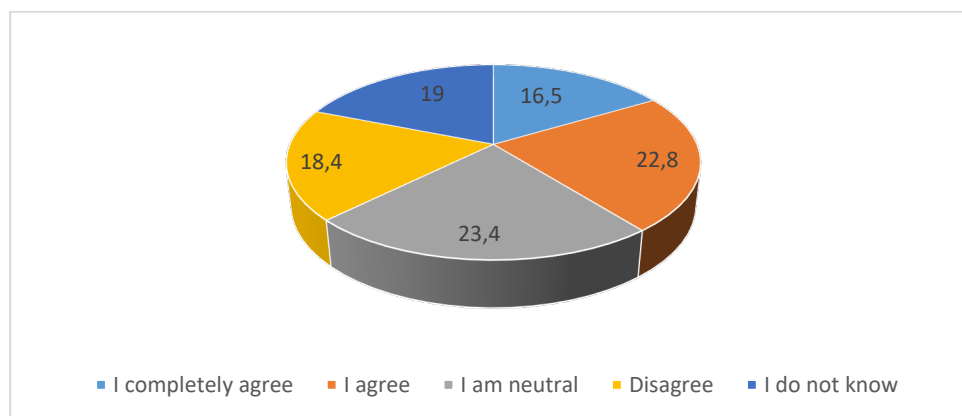


Figure 13. Very high workload prevents me from working with all new sources/experimental data

Answers to the question “I do not support the skepticism of my clinical experience” were divided as follows: 36.1% agree with this opinion whereas 51.2% did not know how to answer or took a neutral position, and 12.7% disagreed with the opinion (see Figure 14).

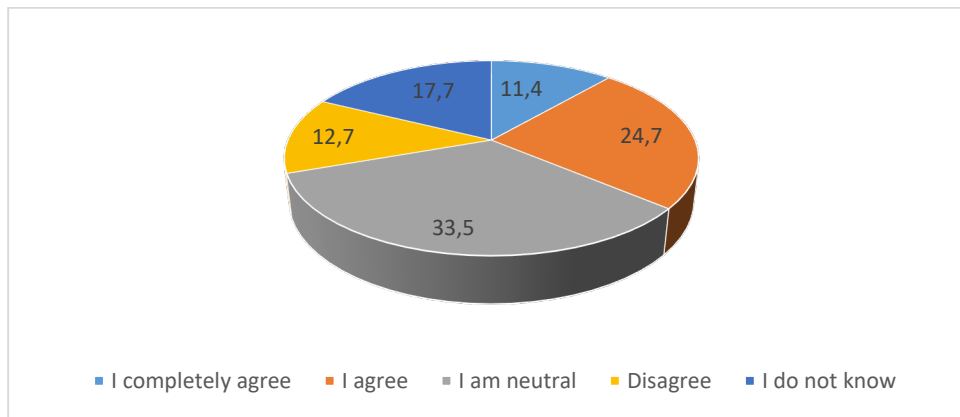


Figure 14. I do not support the scepticism of my clinical experience

When asked whether experience based on facts is a waste of time, 26.6% of respondents answered that they disagree, only 21.5% agreed, and more than half of the respondents were neutral or did not know how to answer. (See Figure 15.)

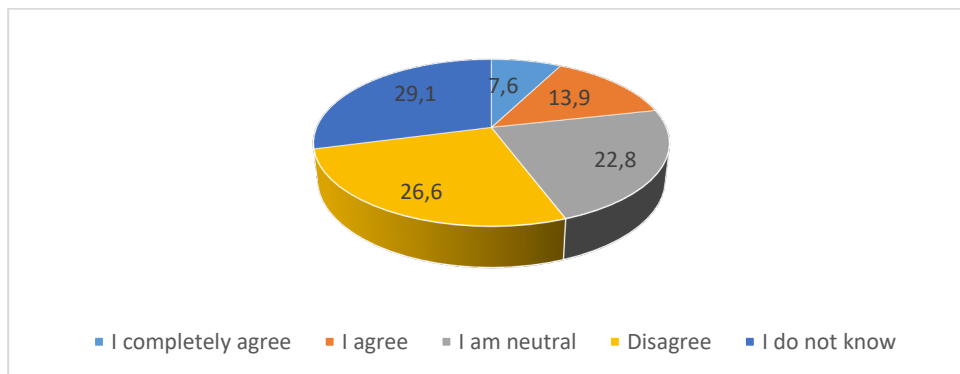


Figure 15. Evidence-based experience is a waste of free time

Almost a quarter of all respondents (24.7%) did not use reliable and proven methods whereas 35.5% did use them (see Figure 16).

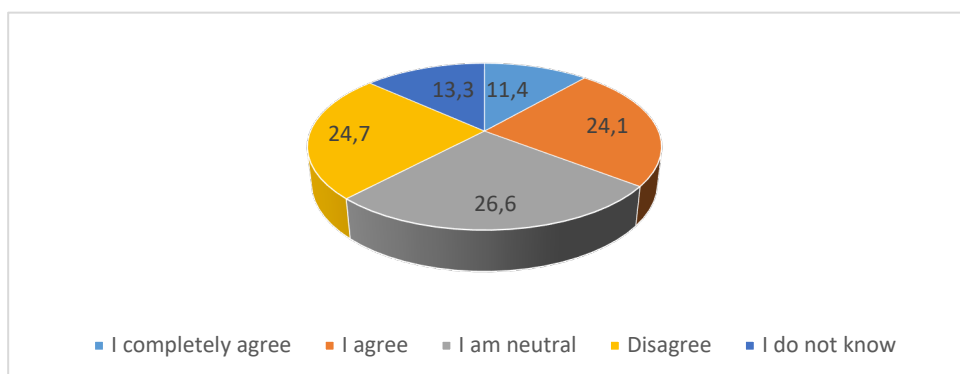


Figure 16. I follow reliable and proven methods, do not use new experiments

Half of the respondents agree that new data is important (see Figure 17).

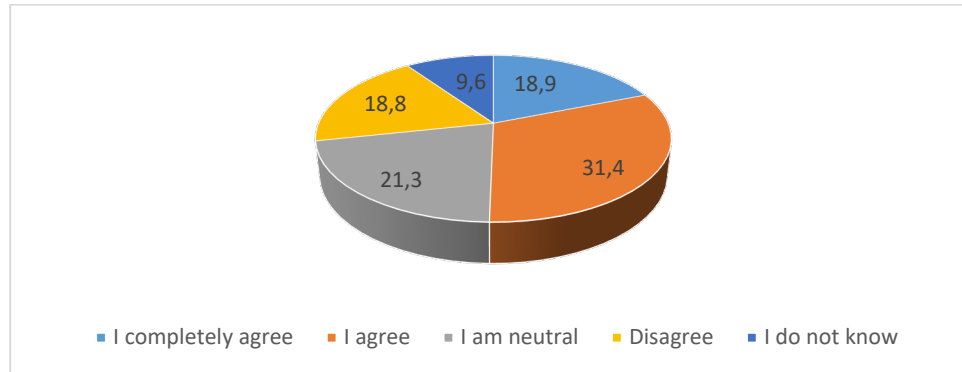


Figure 17. New data is so important that I waste time on my work schedule

The following answers were received to the question "Waiting for questions from my experience" (see Figure 18).

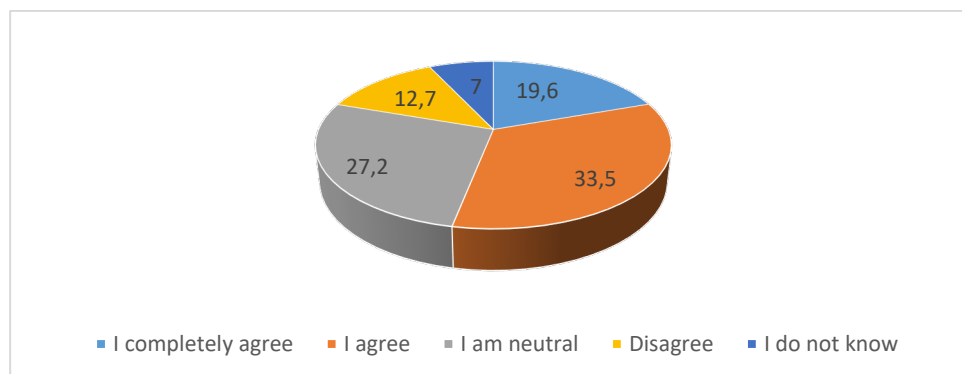


Figure 18. I am waiting for questions from my experience

More than half of the (58.7%) agreed that evidence-based practice is important to professional practice (see Figure 19).



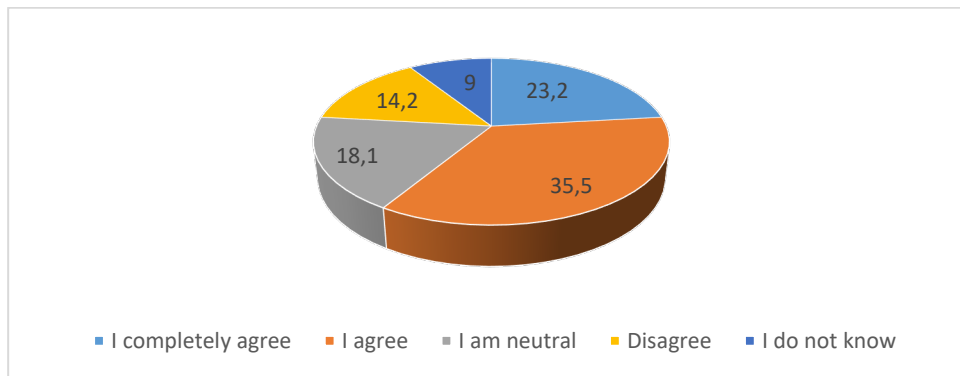


Figure 19. Evidence-based practice is essential in professional dance practice

Of those surveyed, 57% agreed that their experiences changed based on the evidence they found (see Figure 20).

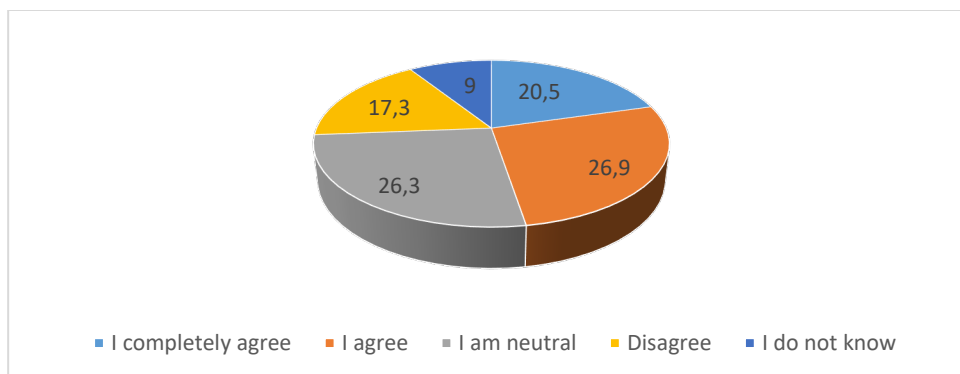


Figure 20. My experience changed based on the evidence I found

Thus, it can be concluded that one hundred knowledge and skills in the field of evidence-based nursing practice among nurses speak of its low level. Even with specialization in this issue and higher basic education, the level of knowledge remains low.

### 5.3 The Possibility of Using Evidence-based Nursing Practice in the Work of a Nurse

In the study, the attitude of nurses towards the use of proven nursing practices in the workplace was analyzed (see Table 3). Twenty-six research questions looked at

nurses' attitudes towards the use of evidence-based practice in daily work. Points from 1 (very bad) to 5 (excellent) showed what skills a nurse had in relation to evidence-based nursing practice as well as the possibility of its application in practice.

Table 3. Nursing knowledge of the impact of research on practice (n = 320)

#	mean	SD
I automatically use research in my daily work	1.85	0.63
It is easy to change practice to reflect research results	1.85	0.63
Converting your information needs into a research question	2.00	0.75
Understanding the basic types of information and sources	2.53	1.08
Ability to identify gaps in your professional practice	2.23	0.96
Knowing how to get evidence	1.85	0.63
Ability to critically analyze evidence against an established standard	1.78	0.64
Ability to determine how useful (clinically applicable) material is	2.53	1.08
Ability to apply information to individual cases	3.06	1.05
What are the views of nursing staff on research	3.06	1.05
Sharing ideas and information with colleagues	3.33	1.22
How well do nurses feel their workplaces support the use of research	1.82	0.62
The use of research is useful to inform why decisions are made in practice	1.85	0.73
To provide quality medical care, it is necessary to take into account the opinions of patients, as well as scientific research	3.47	1.19
Employees should encourage their colleagues to use research in their practice	1.79	0.65
Employees should base their decisions on the latest research	2.93	1.09
Knowledge from experience alone is not enough to ensure high quality care	3.23	1.14
I have IT equipment in my workplace that allows me to search for information to inform my practice	3.22	1.31
My workplace regularly receives professional publications	1.74	0.60
My workplace encourages employees to pursue research and development projects	1.87	0.65
My workplace supports research in practice	1.83	0.65
My workplace provides time for employees to learn about research	1.88	0.65
I would put more scientific knowledge into practice if I had more time	1.84	0.66
My workplace encourages employees to use research in their practice	1.99	0.69
My workplace uses the latest research to develop practice	1.86	0.68
We regularly discuss research in my workplace	1.68	0.67

This section also shows the rather low values of the applicability of the knowledge of practical nursing practice in the practice of a nurse. Relationship subscale was calculated with a mean of 2.27 (SD = 0.83). The lowest and most negative element was the attitude "We regularly discuss workplace research" for which the average score was 1.68 out of 5. The highest score was for the attitude "Patient opinions and research needs to be taken into account in order to provide quality care" (average score 3.47). The question "At my workplace there is IT equipment that allows me to search for information to inform my practice" was answered in the affirmative by more than 50%, the average answer was 3.22. However, to the question "My workplace encourages employees to engage in research and development projects" and "My workplace encourages employees to engage in research and development projects", the respondents answered more negatively; the average value was 1.87 and 1.74. This suggests a lack of use of evidence-based nursing practice in the nurse's workplace.

## **6 Discussion**

The study was conducted only with nurses from one district nearby to the city of Almaty; therefore, results may not be representative of other areas. Getting closer to a city with enough medical schools could allow nurses to better understand the value of evidence-based nursing practice. This study showed a low level of knowledge/skills in conducting and applying evidence-based nursing practice in their daily work, but it should be noted that this problem is relevant for other countries as well (Zhou et al. 2016).

According to the survey, more than 50% of respondents were between the ages of 20 and 49, 76% of respondents being women. The maximum nursing experience was 44 years. Educational level showed that the vast majority of nurses had secondary medical education (89%). With sufficient experience and professional training, nurses still do not have the knowledge and skills to apply evidence-based nursing practice or do not fully understand the meaning of these words.

When asked if they were trained in evidence-based nursing practice, 60% answered "no, but I would like to study". This is a testament to the fact that today nurses want

to improve their professional knowledge and experience. Some nurses (23.2%) understand the importance of evidence-based nursing practice, but believe that the high workload hinders the application of evidence-based nursing practice in their practice, the search for new details, research work, while nurses complain about the high workload. search for evidence - free time loss (29.7%).

The results of the study show the need to study the knowledge of nurses in the context of determining their functional duties and knowledge, where and how approaches of evidence-based nursing practice can be used. The study of evidence-based nursing practice for nurses should be closer to their place of work, at specific workplaces, which will allow in the future the introduction of evidence-based nursing practices and research competencies in the activities of a nurse.

## **7 Conclusion**

Applying the principles of evidence-based nursing practice is an effective tool for improving the quality of medical services, improving the nursing process, and population satisfaction with the services received. This study found that a lack of knowledge about evidence-based practice among nurses dictates the need to reform the nursing education system and nursing health services.

The average response rate in knowledge of evidence-based nursing practice among nurses ranges on a low scale from 2.40 to 3.55, which indicates low knowledge of evidence-based nursing practice among nurses, regardless of the presence of specialization programs.

The low values of the application of knowledge of evidence-based nursing practice in the practice of a nurse from 1.68 to 3.47 (mean value 2.27) (SD = 0.83) confirms the absence of the use of evidence-based nursing practice in the nurse's workplace. The development of training programs for nurses and their implementation should be based on modern trends in healthcare and on the activities of each nurse individually, that is, close to the workplace and understanding the use of knowledge of evidence-based nursing practice in their practice.

Medical organizations should ensure that nurses have access to scientific and practical literature on nursing, and know how to use it, motivated to this information search by the need to solve practical issues. It is recommended that the results of this study be used to compare approaches and knowledge in evidence-based nursing practice and serve as an indicator of progress in expanding the capacity of nursing services. It is advisable to carry out the same assessment for other regions of Kazakhstan for a comparative analysis to create a unified educational content.

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## Appendices

### Appendix 1. Questionnaire

Dear Nurse! The aim of the study is to study the knowledge and attitudes of nurses based on evidence-based nursing practice to obtain valuable information on the development of quality in nursing practice. I would like to ask for your consent to conduct a survey of nurses using the electronic version of our questionnaire. Participation in the research is completely voluntary and anonymous. The questionnaire is presented in electronic format, filling out the questionnaire requires your consent to the research. Following the link, you can answer at a convenient time for you. Answers to questions will take no more than 30 minutes. The researcher undertakes to comply with the current guidelines for the retention of research material and data protection laws. Based on the results of the research, a master's thesis will be prepared. The research material will be appropriately stored by the supervisor at the place of work.

Best regards, master student

Scientific - supervisor: Doctor of Medical Sciences, Associate Professor Динара Оспанова mail:

#### I. Characteristics of the respondent

1. Your gender \*

female

male

2. Your age \*

years \_\_\_\_\_

3. Your work experience \*

1-5

6-10

11-15

over 15 years old

**4. Your position \***

hospital nurse

nurse at the clinic

chief nurse

senior nurse

Teacher at the College

Teacher at the University

other \_\_\_\_\_

**5. Your education \***

college (secondary medical education)

applied bachelor's degree in "Nursing"

Academic Bachelor's Degree in Nursing

magistracy

other \_\_\_\_\_

**6. What is your qualification category \***

specialist certificate

first category

second category

highest category

**7. Do you have training in evidence-based nursing practice? \***

Yes

No, but I would like to study

No, and I do not want to study

**II. Knowledge of evidence-based nursing practice and use in practical work**

Please indicate (via  $\checkmark$  or  $X$ ) where on the scale you would mark for each of the following pairs of statements: \*

Opinions on the impact of research on practice

№		absolutely disagree / disagree	disagree / disagree to some extent	I'm neutral	Agree / agree to some extent	absolutely agree / agree
1	Practice should be based on research					
2	Using research improves the quality of nursing care					
3	Nurses should base their decisions on the latest research					
4	I think using research is an important part of developing my own practice.					
5	The use of research is an important part of the development of healthcare professionals					
6	My workload is too much for me to keep up with all the new evidence					
7	I am resentful to question my clinical practice					
8	Evidence-based practice is a waste of time					
9	I adhere to tried and true methods, I don't change to something new					
10	New evidence is so important that I spend time on my work schedule.					
11	I welcome questions about my practice					
12	Evidence-based practice is fundamental to professional practice					
13	My practice changed due to the evidence I found					

III. On a scale of 1 to 5, how would you rate your skills in this area of evidence-based nursing practice \*

	1	2	3	4	5
I automatically use research in my daily work					
It is easy to change practice to reflect research results					
Converting your information needs into a research question					

Understanding the basic types of information and sources					
Ability to identify gaps in your professional practice					
Knowing how to get evidence					
Ability to critically analyze evidence for compliance with an established standard					
The ability to determine how useful (clinically applicable) material					
Ability to apply information to individual cases					
What are the views of nursing staff on research					
Sharing ideas and information with colleagues					
How well do nurses feel their workplaces support the use of research					
The use of research is useful to inform why decisions are made in practice					
To provide quality medical care, it is necessary to take into account the opinions of patients, as well as scientific research					
Employees should encourage their colleagues to use research in their practice					
Employees should base their decisions on the latest research					
Knowledge from experience alone is not enough to ensure high quality care					
I have IT equipment in my workplace that allows me to search for information to inform my practice.					
My workplace regularly receives professional publications					
My workplace encourages employees to pursue research and development projects					
My workplace supports research in practice					
My workplace provides time for employees to learn about research					
I would put more scientific knowledge into practice if I had more time					
My workplace encourages employees to use research in their practice.					
My workplace uses the latest research to develop practice.					