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Investigation of evidence-based practices of nurses in a rural public hospital: a mixed methods study

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Abstract

Background Evidence-based practice was essential for ensuring high-quality patient care, improving safety, and reducing healthcare costs. As the largest group of healthcare providers, nurses played a pivotal role in implementing evidence-based practice. However, they often encountered multiple personal and organizational barriers, particularly in rural settings characterized by limited resources and geographic isolation.

Aim This study aimed to comprehensively examine nurses' attitudes toward evidence-based nursing in a rural public hospital and to assess how these attitudes influenced clinical care practices.

Methods An explanatory sequential mixed-methods design was employed. Quantitative data were collected from 86 nurses using a Nurse Information Form and the Scale of Attitudes Toward Evidence-Based Nursing. Qualitative data were obtained through three mini-focus group interviews with nine nurses purposefully selected based on variations in their evidence-based practice attitudes and professional characteristics. Descriptive statistics, one-way ANOVA, LSD post hoc tests, and thematic analysis were used to analyze the data.

Results The mean attitude score was 58.09 ± 9.17 , with significantly higher scores among nurses with 1–10 years of professional experience. Thematic analysis revealed three overarching themes: facilitators, barriers, and suggestions. Facilitators included peer collaboration, innovation, nursing professionalism, and improved quality of patient care. Barriers comprised patient reactions, professional challenges, organizational limitations, insufficient knowledge, and workplace conflicts. Nurses' recommendations emphasized enhancing patient and nurse education, fostering a culture of discussion, updating clinical guidelines, and strengthening shared decision-making mechanisms.

Conclusion Although nurses demonstrated generally positive attitudes toward evidence-based practice, they encountered substantial challenges in applying it in clinical settings. Establishing structured support systems, leadership training, and policy-level interventions is essential to foster effective and sustainable implementation of evidence-based practice in rural hospitals.



Keywords Evidence-Based Practice, Evidence-Based Attitude, Nursing, Rural

1 Introduction

The World Health Organization (WHO) emphasized that healthcare delivery should rely on the best available evidence, ensuring that healthcare professionals engaged with evidence-based information and adopted appropriate approaches in their clinical practice [1]. Professional regulatory bodies, such as Nursing Councils, mandated nurses to integrate evidence-based practice (EBP) into all aspects of patient care [2]. EBP involved the systematic collection, interpretation, evaluation, and integration of valid and clinically meaningful evidence into the care process [3]. Unlike traditional approaches based on routine or anecdotal experience, EBP empowered nurses to make clinical decisions grounded in scientific data rather than the notion of “this is how we had always done it” [4]. Consequently, EBP was recognized as a cornerstone of modern nursing that enhanced patient safety, strengthened clinical decision-making, and reduced healthcare costs [5, 6].

Nurses constituted the largest professional group within the healthcare system and played a pivotal role in implementing EBP [7]. However, effective implementation required continuous development of nurses’ knowledge, skills, and attitudes to adapt to the dynamic healthcare environment [8]. Despite its recognized importance, EBP implementation faced persistent barriers at both individual and organizational levels. These included limited skills in appraising research evidence, difficulties in accessing reliable information, insufficient time, and inadequate institutional support [9].

Such challenges were even more pronounced in rural healthcare settings, where nurses often confronted restricted access to resources, professional isolation, limited technology, and the increased burden of chronic illnesses [10]. Understanding how rural nurses engaged with EBP, and identifying the factors that either facilitated or hindered this engagement, were therefore essential. Previous studies revealed that although nurses generally demonstrated positive attitudes toward EBP, these attitudes did not always translate into clinical application. For instance, Melnyk et al. reported that while nurse managers valued EBP, its actual implementation remained low [11]. Similarly, Gölge et al. found that nurses in Türkiye were familiar with EBP conceptually but struggled to integrate it effectively into practice [12]. This discrepancy indicated that in rural hospitals, even when nurses held favorable attitudes toward EBP, their ability to implement such practices remained limited.

Research on evidence-based nursing in Türkiye predominantly employed quantitative or qualitative designs [13, 14]. However, there was a scarcity of mixed-methods studies that explored both the attitudinal dimensions and experiential aspects of EBP in rural settings. Addressing this gap was critical for understanding not only nurses’ attitudes but also the contextual factors influencing the translation of these attitudes into practice.

Therefore, the present study aimed to investigate the attitudes of nurses working in a rural state hospital toward evidence-based nursing and to examine how these attitudes were reflected in clinical practice through a mixed-methods design. The quantitative phase identified overall attitude levels, while the qualitative phase provided insights into underlying reasons, barriers, and facilitating factors. By integrating both phases, the study offered a comprehensive understanding of EBP implementation in rural healthcare

and proposed actionable strategies to strengthen EBP culture—focusing not only on barriers but also on success stories and facilitators that promoted sustainable evidence-based nursing practice.

2 Methods

2.1 Study design

This study used the “Explanatory Sequential Design” method, one of the mixed method research designs. In the “Explanatory Sequential Design” approach, the researcher collects and analyzes quantitative data in the first stage and then uses these findings to create the second stage, namely the qualitative data collection process [19]. The study questions are given in Fig. 1.

2.1.1 Quantitative phase

In the quantitative part of the study, a descriptive cross-sectional study design was used, and data were obtained from 86 nurses working in rural hospitals using the evidence-based attitudes scale and nurse introduction form.

2.1.1.1 Participants and setting In the quantitative part of the study, data were collected from 86 nurses working in a rural hospital between December 2023 and March 2024. The study did not select a sample from the population; rather, it attempted to reach all nurses in the population ($N=106$). On the study date, 20 nurses on leave, on medical reports, who had errors in the data collection form, and who did not agree to participate were excluded. However, when those who did not participate in the study were excluded, the sample consisted of 86 nurses. Although the study aimed to reach the entire population, a preliminary power analysis was performed using G*Power to ensure that the sample size obtained provided sufficient statistical power. The sample size was calculated to be 84 nurses with a 95% confidence interval and a 5% error margin. The minimum required sample size was calculated to be 84, and 86 nurses were reached.

2.1.1.2 Data collection tools and process In the quantitative part of the study, the Nurse Information Form and Attitude Scale Towards Evidence-Based Practice were used as data collection tools. These scales were filled in by short interviews with nurses between January and March 2024.

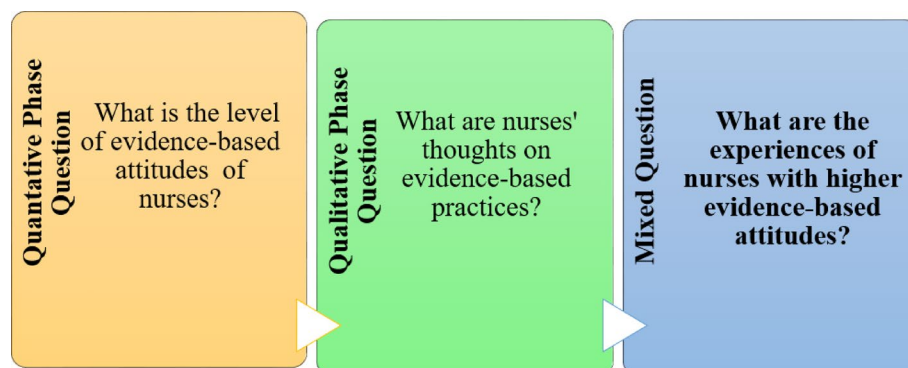


Fig. 1 Research questions

Nurse information form In this form, there are questions related to the individual characteristics of nurses (gender, age, educational status, etc.) and professional characteristics (working time and knowledge about EBP, etc.), which are thought to affect the EBP of nurses.

Attitude toward evidence-based practice scale Evidence-Based Nursing Attitude Questionnaire (EBNAQ) was developed by Ruzafa-Martinez et al. in Spain in 2011 to measure nurses' attitudes towards evidence-based [15], and its validity and reliability study in our country was conducted by Ayhan et al. in 2015 [16]. Attitude Toward Evidence-Based Practice Scale consists of 15 items and three sub-dimensions. The lowest score on the scale is 15, and the highest is 75 points. A high score on the scale indicates that the attitude toward evidence-based nursing is positive. The reliability coefficient of the original scale is $\alpha = 0.85$. The sub-dimension reliability coefficients are $\alpha = 0.86$ for the Belief Subdimension, $\alpha = 0.63$ for the Intention to Practice Subdimension, and $\alpha = 0.70$ for the Emotions Subdimension [16]. In this study, the Cronbach's alpha internal consistency coefficient of the scale was 0.86, and the Cronbach's alpha internal consistency coefficients for the sub-dimensions were between 0.67 and 0.77.

2.1.1.3 Data analysis The quantitative data were analyzed using the "SPSS for Windows 25.0" software package. Since the data were normally distributed, parametric tests and descriptive statistics (frequency, percentage, mean, and standard deviation) were applied. To examine differences in nurses' attitudes toward evidence-based practice (EBP) based on demographic characteristics, Independent Samples t-test and One-Way Analysis of Variance (ANOVA) were conducted. When significant differences were identified in ANOVA results, the Least Significant Difference (LSD) post-hoc test was performed to determine which groups differed. The level of statistical significance was set at $p < 0.05$.

2.1.2 Qualitative phase

The methodological framework of this qualitative research was rigorously structured to explore nurses' complex experiences of evidence-based practice, and focus group interviews were used as the primary data collection method [17]. Qualitative research gained traction in various disciplines in the 1970s and 1980s, including nursing, to identify, describe, and explain concepts and phenomena, thus expanding the nursing knowledge base [18]. The study design was informed by qualitative research principles prioritizing understanding human experience in specific contexts and allowing for in-depth exploration of attitudes and beliefs [19]. A phenomenological approach was used in the qualitative part of the study. This study followed a qualitative design in which mini-focus group interviews were conducted with groups of 3 participants [20].

Focus group interviews were used as the primary qualitative data collection method, which was strategic. This approach was selected to capitalize on the method's inherent ability to foster dynamic interactions among participants, enabling the emergence of diverse perspectives and deeper insights that would likely remain inaccessible through individual interviews or structured surveys [21]. Conducting each focus group with three participants was a carefully considered decision that balanced the practical limitations of managing group dynamics with the need to capture a range of viewpoints. The smaller group format also facilitated a more intimate and open environment,

encouraging participants to reflect on and share their experiences more freely. The focus group process was guided by the principle of data saturation, determined prior to qualitative data collection as the point at which no new themes or insights would emerge.

2.1.2.1 Participants and setting In parallel with the quantitative results, participants for the qualitative phase were determined using a purposeful sampling strategy. Nurses to be included in the qualitative section were determined in accordance with the purposeful sampling method. The quantitative study analysis showed a difference between nurses with 1–10 years of professional work experience and nurses with 11 years or more of professional work experience. Nurses showing differences were included in the study. Accordingly, 13 nurses were identified based on quantitative results. During the mini focus group interviews, four nurses were unable to participate in the focus group interviews. Consequently, three mini focus group discussions were conducted with three nurses ($n = 9$). This approach allowed the qualitative findings to further clarify and contextualize the quantitative results. Researchers with both clinical and qualitative research experience collected the data. Focus group discussions were conducted in Turkish. After the final themes and codes were determined, a back-translation was performed by two independent researchers to ensure equivalence of meaning. The criterion of participants repeating the same information and not providing new information was considered in the data saturation principle [22]. The codes were reviewed after each focus group interview, and no new information emerged after the third group. The data collection process was terminated when no new information emerged [22, 23].

2.1.2.2 Data collection tools and process A mini focus group interview method was used in the qualitative part of the study. Mini focus group interview method was preferred as a qualitative data collection tool. Mini-focus group interviews make obtaining more in-depth information with fewer participants possible compared to the classical focus group structure [24]. Interviews were conducted on the day and time convenient for the participants. Nurses were given code names during the interviews. Before the mini-focus group interview, the participants were informed about the purpose and scope of the mini-focus group interview, and it was explained that the interview data would be kept confidential, the interview would be recorded with a voice recorder, and for what purpose the recording would be made. Participants were also informed to turn off the recorder at any time, leave the interview if they wished, or continue the session in writing. Consent was obtained from the participants who agreed to participate in the study. Each session lasted approximately 40–50 min, and three sessions were conducted.

Focus group interview “Mini Focus Group Interview” was preferred as a qualitative method [25, 26]. In this study, in order to determine the opinions of nurses about the EBP, four open-ended questions about the EBP were determined by the researchers in line with the literature, taking into account the perceptions, knowledge, attitudes, and experiences of the nurses. In qualitative interviews, nurses’ experiences with high attitudes toward evidence-based practices in the clinic were questioned. The appropriateness of the questions was sent to two experts who specialized in qualitative studies via e-mail with a form similar to the Lawshe technique, and their evaluation was asked for. In line with the experts’ recommendations, the researchers re-evaluated and finalized the ques-

tions. Then, a pilot study was conducted with the participation of 3 nurses. The pilot study tested the questions' clarity, comprehensibility, and appropriateness. As a result, the following questions were used.

1. What are your perceptions and views regarding evidence-based practice (EBP)?
2. Can you describe your experiences with evidence-based practice (EBP)?
3. Which of your experiences related to EBP have you been able to implement in the clinical setting?
4. What barriers have you encountered in the implementation of evidence-based practice (EBP)?

2.1.2.3 Data analysis Thematic analysis was used to analyze the qualitative data. The data were analyzed using the six-step thematic analysis process defined by Braun and Clarke (2006) [27]. In the first step, the audio recordings were transcribed verbatim by the researchers. In the second step, the transcripts were analyzed line by line, and meaningful data were labeled as open codes. In the third stage, patterns were sought among the codes to form themes. In the fourth stage, the research team reassessed the scope and consistency of the themes and assigned appropriate names. In the fifth stage, the themes were named. In the sixth stage, the themes were supported by direct quotes and reports from the participants. Two researchers with qualitative research experience independently carried out the coding process. The nurses' focus group interviews were analyzed using the MAXQDA 2022 software package and presented in the findings.

2.1.3 Rigours

Credibility, transferability, dependability, and conformability of the study were ensured [28]. The credibility of the data was verified by having the interviews listened to and compared independently by two researchers. In the dependability process, the two researchers coded independently of each other. For confirmability, code excerpts and thematic maps were stored in files. For transferability, themes and codes were supported by sample participant excerpts.

3 Results

3.1 Results for quantitative data

The mean age of the nurses who participated in the study was 37.96 ± 8.85 years (min-max: 21–55), and 86% were female. 91.9% of the nurses were bachelor's degree graduates, 40% worked in the profession for 2–5 years, 18.6% worked in surgical services, 17.4% in internal medicine services, and 66.3% were in the position of ward nurses. While 32.6% of the nurses follow the results of scientific studies, 75.6% of them consider EBP as a workload.

The mean total score of the Attitudes Toward Evidence-Based Nursing Scale was found to be 58.09 ± 9.17 , with the lowest attitude score in the evidence-based practice intention dimension (14.53 ± 3.17) and the highest attitude score in the beliefs and expectations about evidence-based nursing sub-dimension (26.97 ± 5.50). The distribution of some descriptive characteristics of the nurses and the mean scores of the sub-dimensions of the Attitude Toward Evidence-Based Practice Scale is given in Table 1.

This study found a significant difference between nurses' working years in the profession and the mean total scores of attitudes towards EBP and all sub-dimensions

Table 1 Distribution of some descriptive characteristics of the nurses and the mean scores of the subscales of the attitude toward evidence-based practice scale

KDHYTÖ	Beliefs and expectations towards evidence-based Nursing X±SS	Evidence-based practice intention X±SS	Emotions related to evidence-based nursing X±SS	Total score X±SS
Gender				
Woman	28.16±4.18	14.17±3.18	15.00±3.42	57.63±9.18
Male	29.08±3.50 t=0.721 p0.473	14.91±3.20 t=0.447 p0.656	16.91±2.99 t=-1.827 p0.071	60.91±8.92 t=1.152 p0.253
Education status				
Vocational Health High School	27.66±2.08	15.33±1.52	15.66±1.52	58.66±2.51
Undergraduate Nursing Education	28.24±4.14	14.37±3.22	15.13±3.49	57.75±9.34
Master's Degree or Higher	29.75±4.57 F=0.290 p0.749	17.00±1.82 F=1.411 p0.250	17.5±1.91 F=0.928 p0.399	64.25±7.36 F=0.958 p0.388
Working Hours in the Profession				
1–10 years	30.58±3.28	16.22±2.89	17.12±2.64	63.93±7.84
11–20 years	27.04±4.15	15.18±2.64	15.09±3.13	57.31±8.70
21 and more years	26.96±3.88 F=9.023 p0.000*	12.51±2.64 F=15.487 p0.000*	13.63±3.45 F=10.202 p0.000*	53.12±7.56 F=14.871 p0.000*
Tracking Scientific Publication Results				
Yes	29.75±3.01	15.28±2.96	16.00±2.40	61.03±7.20
No	27.58±4.37 t=2.358 p0.021**	14.17±3.22 t=1.537 p0.128	14.91±3.78 t=1.389 p0.169	56.67±9.72 t=2.108 p0.038**
Seeing Evidence-Based Practices as Workload				
Yes	25.42±4.27	11.80±2.73	13.42±3.55	50.66±9.09
No	29.21±3.60 t=-3.998 p0.000**	15.41±2.79 t=-5.168 p0.000**	15.86±3.17 t=-2.963 p0.004**	60.49±7.87 t=-4.875 p0.000**

*LSD; post hoc; **Independent t test; p<0.05

($p < 0.05$). As a result of the LSD post hoc test, it was found that this significance was caused by nurses working between 1 and 10 years. Accordingly, qualitative interviews were conducted with these nurses.

3.2 Results for qualitative data

As a result of the thematic analysis conducted in this study, three main themes emerged. Facilitators, barriers, and suggestions. Code clouds are given in Fig. 2.

3.2.1 Facilitators

In this theme, the reasons for nurses to implement EBP were discussed. The sub-themes are “peer sharing,” “innovation,” “nurse professionalism,” and “patient care quality.” Nurses have stated that exchanging information with colleagues and maintaining professional communication increases their confidence and motivation in using EBP. Being open to new practices and continuous learning has been seen as a sign of innovation and professionalism. In addition, many participants emphasized that EBP improves the overall quality of patient care and supports evidence-based decision-making in clinical settings.

Patient care quality: The majority of the nurses stated that the EBP increased the quality of patient care. P8 stated the following.

P8: EBP helps to meet the patient's and family's multifaceted needs. It improves the quality of care. For example, the highest efficiency to be given to the patient will be thanks to EBP (FG3; female; 27).

Nurse professionalism: Most nurses said EBP increases the nurses' professionalism, and the views of P1 and P2 are as follows.

P1: EBP is very valuable for the professionalization of our profession (FG1; female; 30).

P2: Skills are embedded in EBP by revealing our professionalism while practicing (FG1; female; 27).

Innovation: Some participants stated that they realized evidence-based practices more if they were innovative.

P1: I explain EBP as follows: There are continuous studies in the health field, and we are constantly learning something new. Applying such innovations we learn to our working life constitutes the basis of EBP (FG1; female; 30).

P9: EBP increases when nurses are open to change. They need to be innovative (FG3; female; 35).

Peer sharing: Another practice that increases EBP is nurses sharing ideas with their peers.

P2: I share EBP with people who are open-minded and curious. We usually share with my friends and discuss among ourselves. In my team, everyone is moving forward with their knowledge because this is how I do it. Therefore, I share with my friends with whom I can make changes (FG1; female; 27).

P1: I actively use the Cochrane database and the English language, so I have no problems understanding it. It just takes me a long time. Although I translated it into



Fig. 2 Code cloud

Turkish for my friends and shared it with everyone, no one was initially interested, so I shared it only with my interested friends (FG1; female; 30).

3.2.2 Barriers

In this theme, the sub-themes of the barriers encountered by nurses while performing EBP are discussed as “Patient reactions,” “Professional problems,” “Organizational situation,” “Lack of Knowledge,” and “Conflicts.” Nurses often cited limited organizational support, inadequate training, and time limitations as institutional barriers. Some nurses stated that the lack of established procedures and heavy workloads hindered their ability to implement research findings. Lack of knowledge, language barriers, and the dominance of traditional interventions also limited the use of EBP. Furthermore, hierarchical team conflicts and patient resilience to new interventions made evidence-based practice even more difficult.

Conflicts: Most nurses stated that they experienced conflicts with nurses working more than 10 years while trying to realize evidence-based nursing practices.

P3: The information I receive at school is much more up-to-date, and the information I receive from the clinic is older, which makes this difference difficult for me. Sometimes, my educators tell me that this information is outdated, which is useful. I know different things about hospital procedures than my teammates (FG1; female; 28).

P5: It is tough to break the resistance of my nurses, who have worked in this institution for many years. As we tried to experience EBP, resistance, and team density prevented us (FG2; male; 29).

Organizational situation: Most nurses stated that they had problems with the hospital while performing EBP. In particular, they stated that there was a lack of standardization in care, lack of adequate procedures, lack of adequate training, workload, and time pressure.

P3: I have been working for 2 years, and when I faced a problem, I could not say whether we should do it. The reason for this is that I am new. When I want to realize EBP, I adapt to the hospital when I encounter obstacles (FG1; female; 28).

P7: There are certain standard practices in clinics. Even if you know them, you cannot use those practices. You cannot go beyond them; you have to adapt to where you go. One person cannot apply it that way, and others do not. As I said, clinics have specific standards, and you have to follow them. That is how you adapt and how it continues (FG3; female; 27).

Lack of Knowledge: Some nurses have language problems when they want to learn about EBP, which leads to a lack of knowledge. In addition, stereotypes that cannot be changed, not keeping up to date, unwillingness to do research, and inadequacy to do research led to a lack of knowledge.

P3: "I do not have much time for research. I am bad at foreign languages. Mostly, when I have an instant problem, if I research immediately, I can do the applications (FG1; female; 28).

P7: I think that the fact that there is a particular age group in the clinics, especially the nurses above a certain age, is against the use of RWI applications, and I think that the reason for this is the lack of knowledge (FG3; female; 27).

Professional problems: Some nurses stated that professional factors hindered realizing EBP.

P4: When someone does it, and someone does not, it causes problems. I give my care today, and the next day on duty, if another friend of mine comes and does not add anything extra to his/her care, and if he/she reduces it, nothing happens. This is important professionally (FG2; male; 32).

P9: Although I have a master's degree in pediatrics, I have never worked in pediatrics. In Türkiye, you are directed to units with a shortage of nurses, and they make you work. You are directed to where there is a shortage of nurses (FG3; female; 35).

Patient reactions: Some nurses stated that patients see ebp as a different application and oppose it.

P8: For example, the dorsogluteal region is always used in IM applications because this application has been rejected by the patient once or twice, and then people apply it directly as the patient wants instead of asking again, and so on. There are requests from patient relatives (FG3; female; 27).

3.2.3 Suggestions

This theme includes the suggestions nurses offer to disseminate EBP in their hospitals. The sub-themes of this theme are "patient-nurse education," "discussion culture," "current guidelines," and "decision-making mechanisms."

Current guidelines: Most nurses stated that current guidelines should be established in cooperation with the hospital and university to increase EBP. Some opinions are as follows.

P6: There should be nationwide guidelines in Turkish, and nurses should be provided with updated information. EBP should be supported by establishing cooperation between hospital administrations and universities (FG2; male; 36).

P4: We prefer Google Academic because it is in Turkish; I think these studies should be translated into Turkish, and guidelines on EBP can be disseminated throughout Türkiye (FG2; female; 32).

Patient-nurse education: All nurses stated that patient and nurse education is critical.

P7: According to the EBP, in-service training should be organized, and nurses should be informed, but there is no such practice anywhere. In-service training is only on subjects the ministry requests, such as occupational health and safety. It is not done in the area we need (FG3; female; 27).

P3: Nurse and patient training should be provided. A document should be given (FG3; female; 28).

The decision-making mechanism: Some nurses stated that decision-making mechanisms are fundamental for nurses to realize EBP. They stated that when the participation of nurses in decision-making mechanisms increases, the rate of realization of EBP will also increase.

P5: About 2 years ago, we compared chlorhexidine and batikon in central venous catheter care on 80 patients. However, nurses who have worked for many years have overreacted to this situation. We tried to increase the number of nurses, but there were obstacles. Without their decision-making mechanisms, they do what needs to be done and pass. Decision-making mechanisms of nurses should be supported (FG2; male; 29).

Discussion culture: Some nurses stated that the culture of discussion is critical and that all nurses working together in the clinic should discuss together. Most of the nurses stated that it is imperative to discuss EBP among themselves.

P6: Injection practices are more novice and inexperienced; nurses with more experience come to the fore here, and the same practices are done because newcomers get information from the old ones. Even though they have more knowledge, they have trouble doing the applications because they are insecure and do what experienced nurses do. The newcomers have more knowledge, and the old ones have more experience, so nurses should do the practice by discussing (FG2; male; 36).

3.3 Integration of quantitative and qualitative results

The integration of quantitative and qualitative findings revealed a strong complementarity between the two stages. The mean total score obtained from the Evidence-Based Nursing Attitude Scale was 58.09 ± 9.17 , indicating that nurses' attitudes toward evidence-based practices were at a moderate level. When the subscales of the scale were examined, the highest scores were found in the "beliefs and expectations about nursing" subscale, while the lowest scores were found in the "intention to practice" subscale. Based on these results, qualitative interviews were conducted with nurses who had high attitude scores. The interviews revealed what these nurses experienced in clinical practice that facilitated or hindered their positive attitudes.

Qualitative findings showed that nurses with high attitudes viewed EBP as an approach that enhances professionalism, improves care quality, and supports innovation. Nevertheless, nurses emphasized that they experienced organizational limitations in care

practices. They mentioned time constraints, heavy workload, barriers to team communication, and lack of management support. This integration revealed that even nurses with high attitudes were affected by organizational conditions when implementing EBP. Thus, it has been understood that a positive attitude alone cannot guarantee the implementation of EBP in the clinic, but that this attitude can be translated into action when there is an appropriate working environment and supportive leadership. In particular, the inconsistency between “belief” and “intention to implement” has revealed a clear implementation gap, intertwined with the codes “organizational situation,” “knowledge gaps,” and “conflicts” that emerged in the qualitative data.

4 Discussion

This study aimed to explain nurses’ attitudes toward evidence-based practice (EBP) and the implications of these attitudes in clinical practice by evaluating both quantitative and qualitative findings. Quantitative findings demonstrated that nurses’ attitudes toward EBP were moderate, with those who had been working for 1–10 years exhibiting higher attitudes. Qualitative findings supported this result; it was determined that nurses with less experience were more open to learning, embraced innovation, and displayed eagerness for professional development—characteristics that supported their positive attitudes toward EBP. This observation could be explained by the fact that newly graduated nurses were more familiar with current evidence through recent academic exposure and had up-to-date analytical thinking skills [29, 30].

Despite these positive attitudes, various obstacles to implementing EBP were observed. Qualitative analyses revealed that these barriers included patient reactions, organizational conditions, lack of information, professional conflicts, and professional limitations. These findings aligned with previously reported barriers in the literature, such as time constraints, high workload, staff shortages, limited knowledge, and lack of organizational support [9–32]. However, what distinguished this study was that these barriers were assessed specifically in the context of rural hospitals. It could be stated that heavy workloads and inadequate managerial support particularly restricted EBP, suggesting that barriers in rural areas were intertwined at both individual and organizational levels.

In the quantitative phase, nurses’ scores on the “intention” subdimension were found to be lower than those in other dimensions. When the qualitative results were examined, one of the key factors hindering the translation of attitudes into practice was organizational barriers. Therefore, this study offered a two-level explanation that highlighted both individual intention and the organizational context, which differentiated it from previous research [33, 34].

Facilitating factors of EBP were identified as sharing ideas with colleagues, adopting innovative approaches, striving to improve patient care quality, and demonstrating professionalism. These facilitators corresponded with inter-nurse collaboration, managerial encouragement, and educational opportunities previously reported in the literature [33, 35]. Marrieheson’s et al. indicated that innovation strengthened nurse–patient relationships and enhanced care quality, which corroborated the innovation theme identified in this study [36].

The findings showed that evidence-based practices played a decisive role in standardizing nursing care, improving patient and nurse satisfaction, and reinforcing clinical decision-making processes [32, 37]. Organizational factors can significantly influence

the implementation of EBP, and conflicts within the healthcare team may further impede its adoption [38]. To ensure the continuity and reliability of care, teams must collaborate, communicate effectively, and integrate care processes [39]. An “innovation mindset” is essential for nurses to adopt new technologies and improve patient outcomes [40]. In this context, for nurses to maintain positive attitudes toward EBP, it is necessary to strengthen practice guidelines, provide in-service training, and increase leadership support within institutions. Internal nursing leaders facilitate the development of an evidence-based care culture by promoting EBP and empowering their teams to apply it in clinical practice.

4.1 Limitations and future directions

One limitation of this study was that it relied on nurses' self-reported data. Therefore, the results were limited to the perceptions and responses of the participants. Given the potential for social desirability bias, this limitation was acknowledged as inherent to this type of research. Future studies were recommended to analyze the mutual perspectives of nurses with both high and low evidence-based attitudes. Moreover, comparative research conducted with nurses who had low, medium, and high attitude levels could provide broader insights into how EBP attitudes were reflected in clinical practice. The study's primary strength and limitation was its focus on a rural hospital context. Future investigations were suggested to include comparisons across rural, central, and university hospitals to gain a more comprehensive understanding of how institutional contexts influenced evidence-based nursing practice.

5 Conclusion

This study showed a difference between the evidence-based attitudes of nurses who had worked for 1–10 years and those who had worked for more than 10 years. When the reasons for this difference were examined, sharing ideas with peers, innovative approaches, improving the quality of patient care, and enhancing the professionalism of nurses with 1–10 years of experience were identified as facilitating factors. Although these nurses demonstrated high attitudes toward evidence-based practices, they reported that they experienced obstacles while practicing EBP. These barriers included patient reactions, professional factors, lack of knowledge, conflicts, and organizational factors.

The recommendations of these nurses, who had implemented some evidence-based practices, focused on enhancing patient and nurse education, developing a culture of discussion, updating clinical guidelines, and strengthening decision-making mechanisms. Hospitals were advised to develop bilingual, up-to-date EBP guidelines in collaboration with academic institutions. Establishing decision-making platforms where nurses could contribute to care protocols was expected to enhance ownership and implementation of EBP. Nursing leadership development programs were recommended to include EBP integration strategies. Institutional policies needed to allocate protected time and resources for EBP training and application.

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Author contributions

NYZ: Conceptualization, methodology, investigation, data collection, data curation, formal analysis, writing – original draft, review and editing. SS: Investigation, data collection, data interpretation, formal analysis, writing, visualization, review. YD: Investigation, interpretation, supervision, formal analysis, writing – review and editing.

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Data availability

The datasets used and/or analyzed in the present study can be obtained from the corresponding author upon reasonable request.

Declarations

Ethics approval and consent to participate

All procedures performed in this study involving human participants were conducted in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki Declaration and its later amendments or comparable ethical standards. Ethical approval was obtained from the Non-Interventional Clinical Research Ethics Committee of Karabük University (Approval No: E-77192459-050.99-299801) prior to data collection. Written informed consent was obtained from all participants prior to data collection.

Consent for publication

Not applicable. The manuscript does not contain any identifiable individual data.

Competing interests

The authors declare no competing interests.

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