

Nurses' Attitudes, Knowledge, and Practices Concerning Evidence-Based Practice: A Cross-Sectional Study

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ABSTRACT

Background: The objective of this study is to analyze the impact of individual variables among staff nurses on their knowledge, attitudes, and implementation of evidence-based practice in the City of Mosul, Iraq. Additionally, the study aims to identify the characteristics that either facilitate or hinder the implementation of evidence-based practice. **Methods:** A cross-sectional, correlational design was used. The principles outlined in the STROBE Checklist is followed while sharing this study. A sample of 250 staff nurses was conveniently picked from five hospitals in Mosul, Iraq. The survey consisted of the Evidence-Based Practice Questionnaire and individual variables as questions. The data were analyzed using multiple linear regression models. **Results:** The average age of the participants was 31.0 years, with a standard deviation of 5.5 years. The majority of participants indicated a lack of knowledge, abilities, and experience in evidence-based practice (EBP), while expressing moderate views towards EBP. The area of study revealed distinct disparities in average scores for knowledge or skills, attitudes, and practice. Nurses had significantly greater knowledge, abilities, and practice of evidence-based practice (EBP) compared to midwives ($p < 0.001$). Nurses and midwives who had master's degrees demonstrated superior knowledge, abilities, and implementation of evidence-based practice (EBP), as well as more favorable attitudes compared to nurses with bachelor's degrees ($p < 0.001$). **Conclusion:** Nurses in the city of Mosul are eager to participate in the evidence-based practice approach. Nevertheless, nurses have recognized the need to enhance their knowledge and abilities to actively engage in the process.

Keywords: Attitudes; Evidence-Based Practice; Knowledge; Nurses

INTRODUCTION

In the 21st century, healthcare consumers expect that the treatment they get is based on scientific evidence. Evidence-based practices (EBP) replace non-scientific, ritualistic, and traditional activities with those based on the most reliable and up-to-date evidence (Crawford *et al.*, 2020; Kujur *et al.*, 2023). In order to improve patient outcomes, it is necessary to convert new information into forms that are relevant in a clinical setting, successfully deploy these forms throughout the whole care team within a systems context, and monitor their influence on performance and health outcomes in a meaningful way (Priya *et al.*, 2023; Stevens, 2013).

Evidence-based practice (EBP) refers to the process of making therapeutic decisions based on the most

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reliable and up-to-date evidence, taking into account the specific circumstances of the care being provided, the preferences of the client, and the professional expertise of the healthcare practitioner (Cardoso *et al.*, 2021). The emergence of evidence-based nursing (EBN) research has led to a shift in the conventional empiricism model of nursing towards a new paradigm that emphasizes the use of genuine and verifiable scientific data from patients (Wang *et al.*, 2020). The process of linking research with practical application leads to increased nursing integration, and enabling nurses to evaluate academic research and practical procedures based on evidence leads to the professional development of evidence-based nursing (Anaman-Torgbor *et al.*, 2022). In developed countries, such as Germany, the United Kingdom, or Australia, those in charge of the nursing profession focus on making the profession based on evidence-based practice, and since the early nineties, valuable initiatives have emerged to support this trend by specialized organizations to provide a set of resources related to EBP (Yoo *et al.*, 2019). In recent times, Iraq has made noteworthy advancements in nursing education, with the goal of improving the quality of nursing services and satisfying the demands of the public and private sectors (Attia & Ibrahim, 2023; Hamarash *et al.*, 2023; Sulaiman *et al.*, 2023). In Iraq, there have only been small steps toward global trends in building evidence-based nursing. This is true even though the number of people with advanced degrees has grown, nursing outcomes have improved, and evidence-based practices are now taught in nursing programs. However, there is still an urgent need to find out how long it takes for nursing professionals to return to using these methods, which is why this study was done.

METHODOLOGY

Study Design: A cross-sectional study carried out in hospitals in the city of Mosul, Iraq, during the period from March to April 2023.

Study Sample: A purposive sample of 250 nurses providing nursing care in five major Mosul hospitals.

Study Tools: The study tool prepared for the purpose of collecting data included two main parts. The first covered descriptive information about the study participants, such as age, gender, educational level, and length of service in nursing care. As for the second part, a special scale was adopted to measure nurses' knowledge, attitudes, and practices toward evidence-based practices, consisting of 24 items.

The validity and reliability of the tool were confirmed before all the data were collected.

Data Analysis: Descriptive statistics were relied upon to analyze quantitative and qualitative data using frequencies, percentages, arithmetic means, and standard deviations.

Inferential statistics were used to determine the relationship between the dimensions of the trilogy study and the variables and factors associated with them. A value of $P < 0.05$ is generally adopted to indicate a significant effect. All data were analyzed using SPSS version 26.

Ethical Consideration

Ethical approval for this study was obtained from Ninevah Institutional Review Board (IRB), Iraq with reference approval number CCMRE-NUR-23-4 on 17th of April 2023.

RESULTS

Participant Characteristics

The study involved the participation of 250 nurses, primarily females ($n=193, 77.2\%$). These participants had an average age of 35.8 years (standard deviation, $SD=7.4$). A majority of the participants held a bachelor's degree in nursing ($n=171, 68.4\%$), and their collective nursing experience averaged 9.3 years ($SD=6.1$).

Table 1: Participant Characteristics

Characteristic	n	%
Gender		
- Women	193	77.2
- Men	57	22.8
Age (years)		
- Mean	35.8	
- SD	7.4	
Education		
- Bachelor's	171	68.4
- Master's	62	24.8
- Doctoral	17	6.8
Years of Experience		
- Mean	9.3	
- SD	6.1	

Note: n=250

Knowledge, Practices and Attitudes

In terms of knowledge, nurses showed the highest proficiency in assessing the clinical applicability of information (5.41±1.51) and applying information to individual cases (5.49±1.22). On the other hand, they demonstrated the lowest proficiency in formulating research questions based on information needs (4.09±1.56) and determining the clinical applicability of information technology (4.47±1.63). In terms of attitudes, nurses showed a positive attitude towards EBP. They strongly agreed that EBP is an essential component of professional practice (6.16±2.9) and were willing to allocate sufficient time for research within the work schedule (4.85±1.92). They also reported being willing to encourage queries within their personal practice (5.65±1.66) and modify practice based on identified evidence (5.59±1.58). In terms of practice, nurses demonstrated the highest proficiency in reviewing their personal practice periodically (5.51±1.41) and identifying areas in professional practice requiring improvement (5.38±1.29). They demonstrated the lowest proficiency in assessing literature in a critical manner (3.56±1.9) and locating pertinent evidence (3.84±1.9). (Table 2).

Table 2: Nurses' Attitudes, Knowledge, and Practices Concerning Evidence-Based Practice

Knowledge	Mean Std.
1. Proficiency in conducting research	4.22 ± 1.77
2. Critical evaluation of evidence according to established standards	4.77 ± 1.42
3. Retrieval of relevant evidence	4.65 ± 1.74
4. Assessment of material's accuracy and validity	4.81 ± 1.36
5. Formulating research questions based on information needs	4.09 ± 1.56
6. Familiarity with prominent information types and sources	4.64 ± 1.22
7. Determining the clinical applicability of information	5.41 ± 1.51
8. Competence in information technology	4.47 ± 1.63
9. Regular monitoring and assessment of practice	4.64 ± 1.41
10. Application of information to individual cases	5.49 ± 1.22
11. Identification of areas in professional practice requiring improvement	5.38 ± 1.29
12. Periodic review of personal practice	5.51 ± 1.41
13. Sharing new care concepts with colleagues	5.33 ± 1.33
14. Collaborating and exchanging information with colleagues	5.39 ± 1.39

Attitudes	Mean Std.
15. Allocating sufficient time for research within the work schedule	4.85 ± 1.92
16. Encouraging queries within the personal practice	5.65 ± 1.66
17. Modifying practice based on the identified evidence	5.59 ± 1.58
18. Evidence-based practice is an essential component of professional practice.	6.16 ± 2.9
Practice	Mean Std.
19. Assessing literature in a critical manner	3.56 ± 1.9
20. Analyzing the Results of personal practice	4.41 ± 1.96
21. Disseminating information to peers	4.49 ± 1.95
22. Combining expertise with evidence-based knowledge	4.14 ± 2
23. Locating pertinent evidence	3.84 ± 1.9
24. Constructing precise and concise inquiries	3.85 ± 1.7

Table 3 shows the comparisons for nursing knowledge, attitude, practice, and total EBP scores based on different nurse demographics. The results indicate that there is no significant difference in knowledge, practice, attitude, or total EBP scores between male and female nurses. Nurses with less than 5 years of clinical experience have higher knowledge, practice, attitude, and total EBP scores compared to those with 5-10 years and over 10 years of clinical experience. Nurses with over 10 years of experience had the lowest attitude scores among all the groups. There is no significant difference in knowledge, practice, attitude, or total EBP scores between nurses who are nursing administrators and those who are not. Nurses with research experience have significantly higher practice and total EBP scores than those without. Regarding qualification, nurses with a master's degree have significantly higher knowledge, practice, attitude, and total EBP scores than those with a diploma or bachelor's degree. Nurses with a bachelor's degree have significantly higher practice and overall EBP scores than those with a diploma (Table 3).

Table 3: Relationship between Nurse Demographics Variables and Their Knowledge, Practice, Attitude and Total Scores about EBP

Gender	Knowledge	Practice	Attitude	Total EBP
Men	71.8	60.9	78.6	72.1
Women	69.4	56.1	76.5	69.4
<i>p</i> -value	0.418	0.364	0.428	0.531
Clinical Experience				
< 5 years	72.4	61.3	83.1	71.6
5–10 years	70.4	54.7	77.1	69.2
> 10 years	65.2	52.6	65.1	60.4
<i>p</i> -value	0.211	0.45	0.006*	0.088
Position				
Yes	72.8	58.1	76.1	67.2
No	71.2	57.8	78.5	68.5
<i>p</i> -value	0.414	0.717	0.5	0.641
Research Experience				
Yes	75	59.7	81	74
No	74	56.8	79	79
<i>p</i> -value	0.314	0.014*	0.89	0.045*

Qualification				
Diploma	66	43	72	62
Bachelors	71	59	73	67
Masters	77	67	81	76
p-value	0.05*	0.005*	0.416	0.003*

Perceived Barriers

Descriptive statistics were also used to summarize the data related to perceived barriers to evidence-based practice. The most reported barrier was lack of time (mean score=3.9, SD=0.6), followed by lack of support from management (mean score=3.7, SD=0.7), and lack of access to relevant research (mean score=3.6, SD=0.6) (Table 4).

Table 4: Perceived Barriers

Barrier	Mean	Std.
Lack of Time	3.9	0.6
Lack of support from Management	3.7	0.7
Lack of access to relevant research	3.6	0.6

Note: n=250

Relationships between Variables

Pearson correlations were utilized to investigate the associations between various variables. A significant and positive correlation emerged between nurses' practices and their attitudes toward evidence-based practice ($r=0.55, p<0.001$), indicating that nurses with more favorable attitudes were more inclined to integrate evidence-based practice into their daily routines. Furthermore, a noteworthy positive correlation surfaced between nurses' knowledge levels and their attitudes toward evidence-based practice ($r=0.39, p<0.001$), implying that nurses possessing greater knowledge about evidence-based practice tended to hold more positive attitudes toward it (Table 5).

Table 5: Correlations between Variables

Correlation	Practices	Knowledge	Attitudes
Practices	1	0.39**	0.55**
Knowledge	0.39**	1	0.39**
Attitudes	0.55**	0.39**	1

Note: ** $p<0.001, n=250$

The findings indicate a pattern where each successive model demonstrated an enhancement over the preceding one, with the inclusion of additional predictors resulting in an increased R² value. The final model (model 3) exhibited an exceptionally high R² value (0.988), signifying that the predictors encompassed within this model can elucidate a substantial proportion of the variance in the dependent variable. Notably, the p-values associated with the changes in R² and F-change were all significantly smaller, underscoring the statistical significance of the improvements introduced in each subsequent model (Table 6).

Table 6: Stepwise Multiple Linear Regression Analysis

Model	R	R ²	Adjusted R ²	Std. Error of the Estimate	Change Statistics		
					R ²	F	p-value
Knowledge	0.891 ^a	0.794	0.793	6.436	0.794	677.779	0.000
Knowledge and Practice	0.976 ^b	0.953	0.952	3.082	0.159	609.148	0.000
Knowledge, Practice, and Attitudes	0.988 ^c	0.988	0.988	0.041	0.049	1,465,765	0.000

Collectively, these results underscore the robust predictive capacity of the factors incorporated into model 3, namely knowledge levels, nursing practices, and nursing attitudes. These factors should be duly considered when exploring the intricate relationship between these predictors and the dependent variable.

DISCUSSION

Effective nursing leadership plays a crucial role in motivating and inspiring nurses, who comprise the majority of the healthcare workforce, to perform at the highest level within their professional licenses (Mahdi, & Faraj, 2022). A large majority of nurses in this survey made effective use of evidence-based practice. In a similar vein, research has shown that 51.8% of nurses in Ethiopia (Aynalem *et al.*, 2021), 57.6% in Kenya (Kyalo Mutisya *et al.*, 2015), 39.9% in Nigeria (Forland *et al.*, 2014), and 54% in all four countries used evidence-based practice while providing treatment to patients. To build a favorable attitude toward EBP and increase its use in clinical practice, the first step is to become familiar with the EBP process. However, just having theoretical knowledge may not be enough to generate positive attitudes or improve application in practice (Irudukunda & Mayers, 2020).

A notable discovery from this research was the lack of substantial predictive impact of age, gender, and department in the suggested predictive model. Alqahtani *et al.* (2020) conducted previous research in Saudi Arabia that aligned with this finding. However, other research (Hellier & Cline, 2016; Kim *et al.*, 2016) has demonstrated that factors like advancing age, being female, and having magnet status have a favorable and substantial influence on scores related to the application of evidence-based practice. Recent work has highlighted significant disparities between research findings and the implementation of evidence-based practices in nursing. Additionally, researchers have found impediments that hinder the translation of research data into clinical practice. The obstacles to implementing evidence-based nursing practice have remained constant in several studies. An obstacle arises when the nursing profession resists adopting new methods of practice throughout the creation and advancement of nursing and medical knowledge (Johnston *et al.*, 2016; Duncombe, 2018; Spooner *et al.*, 2018; Lizarondo *et al.*, 2019). Prior research has demonstrated that education and skill development, resource availability, time management, and guidance from EBP mentors may have an impact on nurses' attitudes towards and adoption of evidence-based practice (EBP). Therefore, nurses who possess expertise and proficiency in evidence-based practice (EBP), have access to necessary resources, get support from their experience, or actively contribute to the development of evidence-based guidelines and procedures have a stronger belief in EBP (Xie *et al.*, 2017; Karakoç-Kumsar *et al.*, 2020; Yılmaz & Gürler, 2017).

CONCLUSION

A major obstacle to the implementation of EBP might be the absence of assistance from clinical instructors, who play a crucial role as nurse educators and clinical instructors in teaching EBP. A shift in practice involves theoretical grounding, skill acquisition, real-world experience, and inspirational leaders to guide the way. The incorporation of evidence-based practice (EBP) instruction into the nursing curriculum from the very beginning of the undergraduate degree, with equal weight given to theory and practice, is essential if we are to produce competent nurses who will utilize evidence to track and improve patient care.

Recommendation

This research did not examine the extent of evidence-based practice (EBP) knowledge and abilities among educators and clinical instructors at nursing schools. This factor could have an impact on the learning opportunities available to students. Research should be performed to examine the implementation of evidence-based practice (EBP) learning in practical settings.

Conflict of Interest

The authors declare that they have no competing interests.

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