

## RESEARCH ARTICLE

# Development and Pilot Testing of an Introductory Evidence-Based Practice (EBP) Training Program for Registered Nurses

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## Abstract

**Objectives:** This study aimed to develop and to pilot-test a tailored introductory Evidence-Based Practice (EBP) training program for registered nurses. Despite the recognized importance of EBP in nursing, many practicing nurses lacked formal training and confidence in its application. This study addressed the gap in accessible and entry-level EBP education designed specifically for EBP competency among nurses.

**Methods:** A quasi-experimental one-group pretest-post test design was employed in this study. A convenient sample of 23 registered nurses from a tertiary educational institution in Angeles City, Pampanga, Philippines had participated in the pilot testing. The introductory EBP Training Program was developed based on core EBP competencies and structured into a modular format. The program was delivered in a computer laboratory setting and conducted for eight to ten hours. The training included lectures, guided case-based discussions, and hands-on exercises covering each step of the EBP process.

Data were collected using the Academic Center for Evidence-Based Practice Readiness Inventory (ACE-ERI) before and after the intervention. Statistical analysis was performed using paired sample t-tests to assess differences in pre- and post-intervention scores. All analyses were conducted using SPSS version 26. Ethical approval was obtained from the Holy Angel University Institutional Review Board (HAU-IRB).

**Results:** The EBP training program resulted in a statistically significant improvement in both knowledge and confidence in using evidence-based practice. Participants' knowledge scores increased from a pre-test mean of 7.04 (SD = 1.72) to a post-test mean of 8.30 (SD = 1.87), while confidence scores rose from 64.61 (SD = 17.32) to 88.43 (SD = 16.80). Wilcoxon signed-rank tests confirmed the significance of these improvements in both EBP knowledge ( $Z = -4.16, p < .001$ ) and confidence ( $Z = -3.56, p < .001$ ).

**Conclusion:** The study demonstrated that the evidence-based practice (EBP) training program led to a significant improvement in nurses' knowledge and skills, as evidenced by the marked difference in pre- and post-test scores. EBP training programs can effectively enhance healthcare professionals' capacity to integrate evidence into clinical practice. Based on these findings, healthcare organizations should consider incorporating EBP training into regular professional development programs for nurses. EBP training programs should focus on fostering practical application skills and include more case-based learning to further reinforce the integration of EBP in clinical decision-making. Lastly, future researches may explore focusing on long-term outcomes of EBP training, including its impact on patient care and organizational practices, to assess the sustainability of the knowledge gained through such interventions. Overall, by enhancing EBP training and supporting its widespread adoption, healthcare systems can further improve the quality of patient care and promote a culture of continuous learning and evidence-based decision-making.

**Keywords:** *Evidence-Based Practice, Training, Nurses, Knowledge, Confidence*

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## Introduction

Evidence-Based Practice (EBP) in nursing gives nurses a rigorous research foundation on which to make well-informed judgments. It enables nurses to assess research data on the most recent health protocol modifications to provide better patient care (Jylha et al., 2017). Strengthening the profession through the use of research findings could make a significant difference in the health and safety of patients (Palaganas, 2017). EBP has ushered in a fundamental paradigm shift in healthcare education and practice by bridging the research-to-practice gap (Stevens, 2013). However, despite the expected advantages, nurses have reportedly little, if any, exposure to nursing research evidence (Fillipucci-Arnold, 2018). The lack of expertise and training in EBP obstructs the development of future knowledge, posing a significant obstacle in bridging the research-practice difference.

Adequate EBP training has previously been identified as a key component in reducing hurdles and opposition to EBP adoption, as well as, successfully integrating evidence practice in the clinical setting (i.e., Catu, 2021; Hecht et al., 2016; Keller, 2018; Lambert, & Harmon, 2018). As the value of EBP education becomes more widely acknowledged, efforts are being undertaken to improve the quality of EBP education and training. Nurses may readily learn how to incorporate EBP in practice if they have access to a variety of training opportunities that use more than one methodology (Dang, & Dearholt, 2018; Hecht et al., 2016; Reid et al., 2017). Lectures, according to Cura (2017), can be used to teach the fundamentals of research. Meanwhile, when it comes to clinical research training, 'learning by doing' works well in conjunction with mentorship and other colleagues' training (National Institutes of Health, 2016).

According to Dawes et al. (2005), an EBP training program should focus on five steps: (1) translating uncertainty into an answerable question, (2) systematic retrieval of the best evidence available, (3) critical appraisal of clinical relevance and applicability of evidence, (4) application of results in practice, and (5) evaluation of performance. To be effective, the program must be created at a level acceptable for nurses in order to maximize learning efficacy (Dang, & Dearholt, 2018). There were three main training levels (basic, intermediate, and advanced) in Cura's (2016) fellowship program, and it was recommended that teaching methodologies be aligned with the training levels, tasks, and preferred learning activities. As an initial EBP training program for nurses, this study was based on the beginner level of Cura's (2017) fellowship program. Participants are trained to comprehend the fundamental concepts of clinical research and to become familiar with the organizational context at this level.

We aimed to test a tailored introductory EBP training program for nurses, as follow-up interventional research to Catu's (2021) descriptive correlational study, which looked at nurses' awareness, perceived knowledge, attitude toward, and barriers to evidence-based practice. The study began by evaluating nurses' existing knowledge and skill in integrating evidence-based practice. The findings laid the groundwork for the creation of a custom-fit training program. It was hypothesized that the suggested EBP training program design will enable nurses to gain a better understanding of EBP and improve their EBP competency.

This study contributed to the growing demand for capacity-building initiatives that promote evidence-based practice (EBP) among nurses. As healthcare continues to evolve, the ability of nurses to make clinical decisions grounded in the best available evidence is essential for improving patient outcomes, enhancing care quality, and ensuring safety. Despite the well-documented benefits of EBP, a gap persists between knowledge and implementation, often due to insufficient training and support. By developing and pilot-testing an introductory EBP training program tailored to Filipino nurses in both clinical and academic settings, this study addressed a critical educational and professional need. The study's findings have the potential to inform curriculum development in nursing education, guide institutional training policies, and empower nurses to become proactive participants in evidence-informed care. Ultimately, this research strengthened the bridge between theory and practice, equipping nurses with the competencies required for lifelong learning and improved healthcare delivery.

## Methods

We used a quantitative, quasi-experimental research design, specifically utilizing a one-group pre-test post-test approach. This design was chosen to measure changes in evidence-based practice (EBP) knowledge and confidence among registered nurses following their participation in the training program. By comparing participants' scores before and after the intervention, we aimed to determine the effectiveness of the developed training module in improving EBP competencies.

*Sampling.* A total of 23 registered nurses participated in the study. The sample size was determined based on feasibility and alignment with the exploratory nature of a pilot study. Convenience sampling was employed due to the accessibility of participants and the constraints of conducting a pilot trial. Inclusion criteria were as follows: (1) currently licensed as a

registered nurse in the Philippines; (2) actively employed either in a clinical setting (hospital-based) or academic institution (nursing education); and (3) willingness to participate in the entire duration of the training and data collection process. Nurses were excluded if they had previously completed formal training in evidence-based practice, were currently enrolled in an advanced EBP course, or were unavailable during the scheduled training sessions. Participants were recruited through institutional announcements, emails, and personal referrals distributed in both clinical and academic nursing networks within Angeles City, Pampanga. Interested individuals were screened for eligibility through a brief questionnaire, after which informed consent was obtained.

**Setting.** The research was carried out at a tertiary educational institution in Angeles City, Pampanga, Philippines. The participants were invited to attend to the EBP Training Program, which was delivered in a computer laboratory environment.

**Educational Intervention.** An entry level EBP Training Program was developed based on the findings of Catu's (2021) previous study and other key literature, including Cura (2017), Dawes et al. (2005), Fei et al. (2018), and Sackett et al. (2000). The study of Catu (2021) identified challenges faced by nurses in terms of EBP competence and implementation. The developed training module was designed to provide nurses with an interactive forum for face-to-face EBP training (pre-pandemic). A university professor in Nursing Research with the following qualifications was invited to serve as the module trainer: expertise in EBP, master's degree holder with outstanding research and EBP background. The entry-level EBP course was made available to willing nurses who participated in this pilot study.

The EBP Training Program included a module of eight to ten hours focusing on delivering each step of the EBP process. Several teaching-learning activities, such as lectures, group discussions, brainstorming, and mentoring, were carried out. Following Sackett et al. (2000), the first step was to introduce EBP, which was followed by clinical questions, evidence search, critical appraisal of evidence, implementation, and evaluation. From clinical questions to critical appraisal of evidence, the emphasis was on applying knowledge and skills to a clinical scenario, whereas the implementation and evaluation of the EBP project corresponded to practical application and evaluation based on participants' feedback.

**Research Instrument.** In this study, the Academic Center for Evidence-Based Practice- Readiness Inventory (ACE-ERI) was used. Permission to use it was obtained from its author, Stevens (2009). It is a 6-point 20-item Likert Scale questionnaire that includes a self-efficacy and knowledge test-section with 15

questions about major aspects of EBP and key nurse characteristics predictive of competency. The Likert Scale ranged from 1 to 6, with 1 indicating very little confidence and 6 indicating a great deal of confidence in using EBP. The ACE-ERI instrument is scored as a summated scale. Based on previous research, the tool has high reliability validity, and reliability coefficient exceeded .90. The independent t test revealed a higher self confidence in primary research competencies ( $p < 0.01$ ) and is widely used in clinical and educational settings to assess nurses' readiness for using EBP and to measure the impact of professional development programs (Stevens et al., 2012). The expert panel rated the Content Validity Index (CVI) for the self-efficacy section of the scale as 0.90, with a Cronbach's alpha coefficient of 0.98, indicating good internal consistency reliability (Saunders et al., 2016).

**Data Collection.** To assess the training effectiveness, a formative evaluation of the participants' understanding of the course content was performed after each section of the module was completed. Prior to moving on to the module's subsequent sessions, the EBP expert (who also served as the module trainer) ensured that the participants understood the content and were able to perform the required activity. The participants were then asked to rate their knowledge of EBP and confidence in performing EBP competencies using the ACE-ERI questionnaire. It was administered both before and after the training module to measure changes in participants' knowledge of EBP and their confidence in performing EBP competencies. This captured the knowledge acquisition and self-reported increase in readiness for EBP.

**Data Analysis.** IBM SPSS software version 26 was used to analyze quantitative data. Descriptive statistics were used to describe the sample's characteristics in terms of demographic profile, EBP knowledge and competence. The Wilcoxon signed rank-sum test was used to compute the difference in knowledge and competence of the participants between pre- and post-training scores. Covariates (such as age, sex, area of practice, years of clinical experience, educational level, and hospital affiliation) were included in the study to better understand the fundamentals of the training program. Quade's non-parametric analysis of covariance was used to examine the effects of covariates.

**Ethical Considerations.** A study explanation and rationale were included with each survey tool. The directions for filling out the questionnaire were discussed, as well as, how their identities and anonymity would be protected. For demographic profiling and data analysis of participants, only their age and sex were required as personal information. The survey questionnaires were accompanied by a consent form that the participants were

required to sign. In this research study, there was no coercion or manipulation. The decision-making autonomy of each participant was respected. In addition, with protocol number 2019-051-LECATU-EBPINNSG, the research proposal was submitted to HAU-IRB for ethical clearance.

## Results

In Table 1, the majority of the 23 participants were 30 years old or younger (69%) and were generally female (87%), clinicians/practitioners (78%) and assigned to special area units (75%) with more than 2 years of nursing experience (78 percent). Almost all of them (96%) are currently enrolled in graduate school and majority of them (70%) work in private hospitals and have reported (91%) receiving little or no training in evidence-based practice.

The participants' reported knowledge of EBP pre- and post-training has been shown to have increased after the training,

particularly on the following items: “strongest basis for clinical decision-making in EBP”, “how systematic reviews are made”, “indication of a stronger level of evidence”, “locating the most rigorous systematic reviews”, “personalized evidence-based intervention”, “EBP is the integration of best research evidence with clinical expertise and patient values”, “order of the five stages of knowledge transformation based on the Stevens Star Model”, and on “expectations on the introduction of clinical practice guidelines (CPG)” (Table 2). On the other hand, it is worth noting that, even after the training, only 3 nurses (13%) properly answered the question about the “most useful knowledge in the clinician's practice setting.” Unsatisfactorily, there also showed a decrease percentage of correctly identified answers on the following items after the training: on “least clinically useful resource of EBP on the internet,” “critical appraisal skill,” “barriers posed by large volumes of research,” “locating CPGs on handwashing,” “translating evidence to CPG,” and “evaluation impact of evidence-based quality improvement.”

**Table 1. Demographic Profile of Respondents (n=23)**

Age (years)	n (%)	Area of Practice	n (%)
21-25	7 (30%)	Ward	3 (13%)
26-30	9 (39%)	ER	3 (13%)
31-35	4 (18%)	OR	4 (18%)
36-40	1 (4%)	DR	1 (4%)
41-Above	2 (9%)	NICU	1 (4%)
Sex		ICU	3 (13%)
Female	20 (87%)	Hemodialysis	3 (13%)
Male	3 (13%)	Highest Degree Earned	
Primary Role in Healthcare		Baccalaureate	22 (96%)
Clinician/Practitioner	18 (78%)	Masters	1 (4%)
Clinical Administrator	2 (9%)	Hospital Affiliation	
Educator	3 (13%)	Private	16 (70%)
Years of Nursing Experience		Government	7 (30%)
<1-2years	5 (22%)	Previous training course on EBP	
>2-4years	11 (47%)	Attended	2 (9%)
>4-6years	5 (22%)	None	21 (91%)
>6-8years	2 (9%)		

Table 2. Evidence-Based Practice (EBP) Readiness Inventory (n = 23)

EBP Knowledge		Pre Test		Post Test	
		Frequency	%	Frequency	%
1. In EBP, which of the following is considered the strongest basis for clinical decision-making?	Correct	16	69.6	17	73.9
	Incorrect	7	30.4	6	26.1
2. Systematic reviews are the result of:	Correct	13	56.5	22	95.7
	Incorrect	10	43.5	1	4.3
3. The stronger level of evidence indicates:	Correct	14	60.9	19	82.6
	Incorrect	9	39.1	4	17.4
4. The least clinically useful EBP resource on the internet is:	Correct	12	52.2	11	47.8
	Incorrect	11	47.8	12	52.2
5. The most rigorous systematic review on congestive heart failure would be found in:	Correct	7	30.4	11	47.8
	Incorrect	16	69.6	12	52.2
6. The EBP skill of critical appraisal involves:	Correct	13	56.5	10	43.5
	Incorrect	10	43.5	13	56.5
7. Which form of knowledge is most useful in the clinician's practice setting?	Correct	3	13.0	3	13.0
	Incorrect	20	87.0	20	87.0
8. Which source of knowledge individualizes care during an evidence-based intervention?	Correct	9	39.1	14	60.9
	Incorrect	14	60.9	9	39.1
9. Evidence-based practice (EBP) is defined as: Integrating...	Correct	16	69.6	19	82.6
	Incorrect	7	30.4	4	17.4
10. In addition to overcoming barriers posed by large volumes of research, EBP also overcomes the 2 <sup>nd</sup> barrier of:	Correct	12	52.2	5	21.7
	Incorrect	11	47.8	18	78.3
11. According to the Stevens Star Model, what is the order of the five stages of knowledge transformation?	Correct	4	17.4	16	69.6
	Incorrect	19	82.6	7	30.4
12. The most efficient database for locating clinical practice guidelines (CPGs) on handwashing is:	Correct	4	17.4	1	4.3
	Incorrect	19	82.6	22	95.7
13. Translating evidence summaries into clinical practice guidelines (CPGs) may require:	Correct	4	17.4	3	13.0
	Incorrect	19	82.6	20	87.0
14. Evaluation of impact of evidence-based quality improvement	Correct	23	100.0	22	95.7
	Incorrect	0	0.0	1	4.3
15. When an evidence-based clinical practice guideline (CPG) is introduced to the nursing unit, the following can be expected:	Correct	12	52.2	18	78.3
	Incorrect	11	47.8	5	21.7

Table 3 shows their level of trust or confidence in using EBP. Although participants had the lowest confidence before training in the areas of “identifying sample statistics commonly reported in evidence summaries” and “identifying major facets to be made explicit in CPGs with assistance and existing criteria checklists,”

with a mean score of 3.00 for each, it was discovered that the scores increased after training (M= 4.39, 4.26, respectively).

Overall, the participants' EBP knowledge improved from a pre-test mean score of 7.04 (SD=1.72) to a post-test mean score of

**Table 3.** Evidence-Based Practice (EBP) Readiness Inventory (n = 23)

Confidence in Employing EBP Activities	Pre Test		Post Test	
	Mean	Standard Deviation	Mean	Standard Deviation
1. Define EBP in terms of evidence, expertise, and patient values.	3.17	.83	4.57	1.04
2. Critically appraise original research reports for practice implications in the context of EBP with assistance and existing standards.	3.13	1.06	4.30	.93
3. Use pre-constructed expert search strategies (hedges) to locate primary research in major bibliographic databases.	3.13	1.01	4.49	.99
4. Recognize ratings of strength of evidence when reading literature, including web resources.	3.17	1.07	4.35	.83
5. Classify clinical knowledge as primary research evidence, evidence summary, or evidence-based guideline.	3.13	.92	4.39	.84
6. Locate systematic reviews and evidence summaries on clinical topics from specific evidence summary databases (e.g., Cochrane Database of Systematic Reviews).	3.22	1.17	4.43	.95
7. Identify key criteria in well-developed evidence summary reports using existing critical appraisal checklists.	3.04	1.19	4.30	.76
8. List the advantages of systematic reviews as a strong evidential foundation for clinical decision making.	3.26	1.13	4.35	.78
9. Identify examples of statistics commonly reported in evidence summaries.	3.00	.90	4.39	.84
10. Identify the major facets to be critically appraised in clinical practice guidelines (CPGs) with assistance and existing criteria checklists.	3.00	1.21	4.26	.96
11. Access clinical practice guidelines on various clinical topics using specified databases.	3.30	1.15	4.35	1.11
12. Participate on team to develop agency-specific evidence-based clinical practice guidelines.	3.04	1.02	4.39	1.08
13. Compare own practice with the agency's recommended evidence-based clinical practice guidelines.	3.17	.89	4.52	.99
14. Describe ethical principles related to variation in practice and EBP.	3.22	.90	4.43	.84
15. Participate in the organizational culture of evidence-based quality improvement in care.	3.26	1.25	4.43	.99
16. Deliver care using evidence-based clinical practice guidelines.	3.52	.90	4.39	1.03
17. Utilize agency-adopted clinical practice guidelines while individualizing care to client preferences and needs.	3.48	.95	4.48	.90
18. Assist in integrating practice change based on evidence-based clinical practice guidelines.	3.35	.98	4.52	.95
19. Choose evidence-based approaches over routine as base for own clinical decision-making.	3.52	.99	4.57	.79
20. Participate in evidence-based quality improvement processes to evaluate outcomes of practice changes.	3.26	1.25	4.52	.95

8.30 (SD=1.87) (Table 4). Their confidence in using EBP is reflected in pre-test mean scores of 64.61 (SD = 17.32) to post-test mean scores of 88.43 (SD = 16.80).

The Wilcoxon signed-rank test revealed that after the training program, EBP knowledge ( $Z = -4.16b, p < .000$ ) and confidence in using EBP ( $Z = -3.56b, p < .000$ ) greatly improved statistically.

Table 5 demonstrates that based on the analysis of covariance, the age  $F(1,21) = .39, p = .54$ ; area of practice  $F(1,21) = .00, p = 1.00$ ; years of practice  $F(1,21) = .02, p = .90$ ; and type of organization  $F(1,21) = .00, p = 1.00$  had no statistically significant effect on participants' acquisition of EBP knowledge. In the same table, it was shown that the following had no statistically significant effect with the participants' confidence in employing

**Table 4.** EBP Knowledge and Confidence in employing EBP Summated Scores ( $n = 23$ )

Variable (range)	Pre-Test		Post-Test	
	Mean	Standard Deviation	Mean	Standard Deviation
EBP Knowledge (0-15)	7.04	1.72	8.30	1.87
Confidence in employing EBP (20-120)	64.61	17.32	88.43	16.80

**Table 5.** Quade's Method of Analysis of Covariance

EBP Knowledge affected by:		Sum of Squares	df	Mean Square	F	Sig.
<b>Age:</b> Less than 30 30 and above	Between Groups	16.50	1	16.50	.39	.54
	Within Groups	881.80	21	42.07		
	Total	897.58	22			
<b>Area of Practice:</b> Clinician Non-Clinician	Between Groups	.00	1	.00	.00	1.00
	Within Groups	479.42	21	22.83		
	Total	479.42	22			
<b>Years of Practice:</b> 0-5 years 6 years and above	Between Groups	.06	1	.06	.02	.90
	Within Groups	74.56	21	3.55		
	Total	74.61	22			
<b>Type of Organization:</b> Private Government	Between Groups	.00	1	.00	.00	1.00
	Within Groups	360.04	21			
	Total	360.04	22			
Confidence in employing EBP affected by:		Sum of Squares	df	Mean Square	F	Sig.
<b>Age:</b> Less than 30 30 and above	Between Groups	3.37	1	3.37	.07	.79
	Within Groups	993.69	21	47.32		
	Total	997.06	22			
<b>Area of Practice:</b> Clinician Non Clinician	Between Groups	.01	1	.01	.00	.99
	Within Groups	904.06	21	43.05		
	Total	904.07	22			
<b>Years of Practice:</b> 0-5 years 6 years and above	Between Groups	116.10	1	116.10	2.76	.11
	Within Groups	882.80	21	42.04		
	Total	998.91	22			
<b>Type of Organization:</b> Private Government	Between Groups	.00	1	.00	.00	1.00
	Within Groups	933.96	21			
	Total	933.96	22			

EBP: age  $F(1,21) = .07, p = .79$ ; area of practice  $F(1,21) = .00, p = .99$ ; years of practice  $F(1,21) = 2.76, p = .11$ ; and type of organization  $F(1,21) = .00, p = 1.00$ .

## Discussion

The primary aim of this study was to evaluate the effectiveness of a tailored Evidence-Based Practice (EBP) training program designed to enhance nurses' knowledge and confidence in implementing EBP. The findings indicate that the program was successful in significantly improving both the knowledge and confidence of the participants regarding EBP practices.

The key finding from this study is the significant improvement in nurses' EBP knowledge and self-reported confidence in applying EBP after participating in the training. Prior to the training, participants exhibited low knowledge of EBP, with an average score of 7.04 out of 15 on the EBP knowledge test, which equates to below the passing threshold of 50%. Following the intervention, participants showed a notable increase in their understanding of the core concepts of EBP, including the ability to identify research-generated evidence as a critical foundation for clinical decision-making. This improvement in EBP knowledge aligns with previous studies that emphasize the importance of structured educational interventions in enhancing EBP competencies (Straus et al., 2018).

The improvement in knowledge and confidence observed in this study is consistent with findings from similar interventions. For instance, Fei et al. (2018) reported that tailored EBP training programs could lead to significant increases in nurses' EBP competence, which is in agreement with the present study's results. Additionally, the study corroborates the work of Poitras et al. (2018), who found that integrating patient-centered care into EBP training can enhance both nurses' confidence in implementing EBP and their understanding of its practical applications. This highlights the importance of not only improving technical knowledge but also fostering an understanding of the human factors such as patient preferences that are integral to successful EBP implementation.

However, unlike some studies that found significant demographic factors influencing EBP competency (Oliver et al., 2018), this study did not observe any statistically significant differences in EBP outcomes based on participant characteristics such as age, gender, or years of experience. This suggested that the effectiveness of the EBP training program may be universal across different demographic groups, that is aligned with the findings of Straus et al. (2018), who emphasized that EBP competency can be developed across a range of nursing populations through well-designed educational programs.

The findings have several important implications for both practice and future research. Firstly, the study underscored the value of structured EBP training programs in improving nurses' knowledge and confidence in using evidence to inform clinical practice. Such findings are aligned with the broader literature advocating for the inclusion of EBP competencies in both pre-service and in-service education programs (Fei et al., 2018). The tailored design of this training program utilizing various interactive teaching methods such as group discussions, mentoring, and workshops, demonstrated the importance of active learning strategies in fostering long-term EBP competence.

In practice, these findings imply that health organizations should invest in continuous, structured EBP education for nurses, particularly for those in the early stages of implementing EBP. As highlighted by Poitras et al. (2018), this investment could lead to better patient outcomes, increased treatment adherence, and improved nurse engagement. The findings also imply that healthcare institutions should consider incorporating patient-centered care into EBP training to ensure that evidence is not only scientifically sound but also contextually relevant to the patients' needs.

## Conclusion

This study's results is the realization that while knowledge and confidence in EBP can be effectively enhanced through educational interventions, EBP integration into routine clinical practice required ongoing support. The results suggested that one-time training sessions may not be sufficient to achieve full implementation of EBP in clinical settings. This outcome is consistent with the assumption that critical appraisal skills, often learned through prolonged exposure to research, cannot be fully developed in brief training sessions alone. Therefore, organizations should consider implementing follow-up sessions and mentoring opportunities to help nurses solidify their skills and apply them in real-world settings.

Another important implication is the need for a systematic approach to integrating EBP into daily practice. While this study demonstrated significant improvements in knowledge and confidence, it also highlighted the challenges of translating this knowledge into routine practice. Future interventions could focus on extending the training program to address other domains of the EBP process, such as the evaluation of evidence and its integration into clinical guidelines. Furthermore, given the constraints imposed by the COVID-19 pandemic, future research could explore the effectiveness of virtual or hybrid training models to reach a wider audience of healthcare professionals. Finally, future research should investigate the specific domains

of EBP beyond knowledge and skills, such as attitudes and behaviors, to provide a more comprehensive understanding of how EBP training influences nursing practice. Further exploration into the integration of EBP competencies into organizational structures and the role of leadership in fostering a culture of evidence-based practice, would also contribute to the development of more robust implementation strategies.

### Limitations of the study

The use of convenience sampling and the small sample size (n=23) limit the generalizability of the findings. Future research should aim to replicate this study with a larger, more diverse sample to confirm the results and explore the impact of the program on clinical practice and patient outcomes. Moreover, the short duration of the training (one 8-hour session) may not be sufficient for participants to fully master the skills required for independent EBP implementation. Future studies should consider extending the duration of the program or offering ongoing follow-up support to address these concerns.

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*Nursing is a profession dedicated to upholding everyone's right to enjoy the highest attainable standard of health, through a shared commitment to providing collaborative, culturally safe, people-centred care and services. Nursing acts and advocates for people's equitable access to health and health care, and safe, sustainable environments.*

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