**Evidence-Based Practice Competencies Among Chinese Undergraduate Internship Nursing Students in Shandong Province of China :A Cross-Sectional Design Study**

**Abstract:**

**Background:** Evidence-based practice is a scientifically advanced nursing philosophy. At present, the main factors hindering the development of evidence-based nursing are lacking of theoretical knowledge and skills of evidence-based nursing among nursing staff . Nursing students are the main force of nursing career and participants in evidence-based practice in the future, and their evidence-based practice (EBP ) competencies affects the development of evidence-based practice in China to a certain extent. Therefore, cultivating the evidence-based practice evaluation competencies of intern nursing students can not only improve the quality of nursing services in their future clinical practice, but also can promote the scientific development of nursing discipline in China.

**Aims:** The aim of the present study is to examine the level of evidence-based practice evaluation competency and analysis of influencing factors among Chinese internship nursing students in Shandong province of China.

**Research Design:** A quantitative study based on cross-sectional design was conducted from January to July 2025. Total 130 undergraduate internship nursing students were selected using the Random sampling method. Evidence -based Practice Evaluation Competencies Questionnaires （EBP-COQ）was used to select the level of evidence -based practice competencies among intern nursing students.

**Results:** Total EBP-COQ score for 130 undergraduate intern nursing students is 82.89±14.75; of which the EBP attitude score was 41.83±6.58, the EBP skill score was 20.53±4.70, and the EBP knowledge score was 20.53±4.71;There were significant differences(*p<0.05*) in age ,internship hospital grade,internship duration,educated in evidence-based practice (EBP).taken a literature search course and taken Nursing research course.

**Conclusion:** The competency of Chinese undergraduate nursing interns in evidence-based practice stands at a moderate level, reflecting both promise and opportunity. While their attitudes toward evidence-based competencies are largely positive, there remains a substantial need for enhancement in their skills and knowledge. To truly elevate the standard of evidence-based nursing practice, we must embrace ambitious educational reforms that empower these future professionals to excel and make a lasting impact in healthcare.

Key words: Evidence-Based Practice competencies; Chinese nursing undergraduate internship

1. **INTRODUCTION**

Over the past few decades, the nursing profession has undergone remarkable transformation on a global scale. As the healthcare industry continues to embrace advanced technology and sophistication, the demand from clients for exceptional quality care rises in tandem. In this dynamic landscape, the nursing profession must not only adapt but also thrive in response to these evolving needs (Konlan et al., 2024).

Nursing is distinguished from other healthcare professions by its unique philosophy, specialized training, and holistic approach to service delivery, as well as its extensive scope of practice (Godsey et al., 2020).

At the heart of modern nursing lies evidence-based practice (EBP), a systematic approach to problem-solving that draws upon robust evidence and translates new knowledge into clinical, administrative, and educational realms (Brunt et al., 2023). EBP has solidified its status as a cornerstone of nursing, empowering practitioners to make informed clinical decisions grounded in high-quality scientific research (Costa et al., 2024). Furthermore, evidence-based practice is essential for enhancing outcomes, benefiting not only patients but also healthcare organizations and individual practitioners alike (Di et al., 2024).

Evidence-Based Practice (EBP) is gaining momentum across various professions, but its remarkable growth in nursing stands out (Jordan et al., 2016). Recognized as a fundamental competency by the Quality and Safety Education for Nurses (QSEN) project (QSEN, 2020), this global initiative is dedicated to empowering future nurses with the essential knowledge, skills, and attitudes needed to continuously elevate the quality and safety of the healthcare system.

For years, the global scientific community has celebrated the critical role of evidence-based practice in advancing nursing science. The implementation of EBP in clinical settings is linked to not only higher care quality but also significantly better patient outcomes. Despite these proven benefits, nurses frequently encounter a range of barriers that hinder the effective adoption of EBP (Brunt et al., 2023).

The literature underscores that inadequate evidence-based practice (EBP) among nurses is intricately tied to a multitude of factors. These include a deficit in nursing skills and knowledge, restricted access to crucial information, pressing time constraints during work hours, a dearth of training and resources, overwhelming workloads, and an absence of encouraging peer support (Wudu et al., 2024).

Students hold a strategic position to influence the implementation of evidence-based practice (EBP) in the healthcare sector (Lam et al., 2019). Research has emphasized that EBP is not only a crucial competency for healthcare graduates but should also be cultivated prior to graduation. This can be achieved by enhancing undergraduate healthcare students’ knowledge, skills, and attitudes toward EBP. While training and education in EBP are vital for developing initial skills and confidence, formal university education can only serve as a foundation. Beyond acquiring skills, the application of EBP requires practitioners to commit to lifelong learning and prioritize meaningful continuous professional development. Unfortunately, many allied health graduates often experience a decline in confidence regarding their EBP skills within five years of graduation (Klaic et al., 2019).

The cornerstone of effective evidence-based practice (EBP) lies in the competence of undergraduate nursing students. Preparing these future nurses to seamlessly integrate EBP into their clinical practice is not just important; it is essential for delivering exceptional patient care (Miliara et al., 2024).

Currently, research on EBP competencies in China predominantly highlights the experiences of registered nurses, leaving a gap in understanding the experiences of nursing students. There is a noticeable scarcity of studies quantifying the specific competencies of these students, and existing research has often focused on pre- and post-internship evaluations.

This study aims to bridge that gap by thoroughly assessing the evidence-based practice competencies among Chinese undergraduate nursing interns in Shandong Province, utilizing the Evidence-Based Practice Competence Questionnaire (EBP-COQ). Actively exploring the factors that influence these competencies is vital. By fostering self-directed learning and encouraging nursing interns to seek out evidence-based knowledge, we can significantly enhance their EBP skills. This holistic approach promises to elevate the standards of care these future nurses will provide, ultimately transforming patient outcomes.

* 1. **Objective**

The primary aimed of this research is to examine the level of evidene-based practice evaluation competency and analyze the influencing factors among Chinese internship nursing students in Shandong province of China.

The result of this study can support to recommend policy directives on school, hospital, and other health care facilities. This study could recommend suggestions to schools,hospitals and other health care centers ,specially as follows: 1. Nursing Administration 2. Nursing Education 3. Nursing Research.

1. **METHODS**
   1. **Research Design and Respondents**

A compelling quantitative cross-sectional study was conducted between January and July 2025, engaging a diverse group of 130 undergraduate nursing internship students from Shandong province. These students were carefully selected through a random sampling method, ensuring a robust representation of the vibrant nursing community.

* 1. **Tool of the Study**

Two standard questionnaires were used to gather research data. The first section focused on the demographic profile of the participants, while the second section contained the standard Chinese version of the Evidence-Based Practice Competence Questionnaire (EBP-COQ), created by Ruzafa-Martinez et al. and translated by Xiaomei Z in 2014.

The EBP-COQ includes a total of 24 items divided into three dimensions: (1) Attitude Toward Evidence-Based Practice (12 items); (2) Skills in Evidence-Based Practice (6 items); and (3) Knowledge in Evidence-Based Practice (6 items). Among these, eight items are scored in reverse, while the remaining items are scored in a forward manner.

The EBP-COQ employs a 5-point Likert scale for scoring, with a range from 1 to 5 points. The total score ranges from 25 to 125 points, and the average score is categorized into three levels: low (1.00 to 2.33 points), medium (2.34 to 3.66 points), and high (3.67 to 5.00 points). The 16 positively scored items use the following scale: 1 = Strongly Disagree, 2 = Disagree, 3 = Unsure, 4 = Agree, 5 = Strongly Agree. This design helps minimize the influence of stereotypical thinking among the research subjects. The eight reverse-scoring items use the scale: 1 = Strongly Agree, 2 = Agree, 3 = Unsure, 4 = Disagree, and 5 = Strongly Disagree.

**2.3 Data Gathering Procedure**

The gathered data were systematically organized and summarized in tables to enhance clarity and simplify the presentation of the collected information. Frequencies and percentages were utilized to describe the demographic profile of the intern nursing students. The mean and standard deviation were employed to assess the level of evidence-based practice competency among the undergraduate intern nursing students.

* 1. **Statistical Analysis**

To enhance the statistical analysis, the researcher skillfully utilized One-Way ANOVA and independent samples t-tests to uncover differences in evidence-based practice competency across various demographic profiles. Furthermore, Pearson’s correlation coefficient was adeptly employed to explore the intriguing relationships between the subscales of the Evidence-Based Practice Competency Questionnaire (EBP-COQ). To ensure robust reliability, validity, and responsiveness, the Cronbach's α coefficient was meticulously applied to each dimension, providing a powerful measure of the evidence-based practice competence among intern nursing students.

1. **RESULTS AND DISCUSSION**

Table 1 presents the frequency distribution of participants' information. A total of 130 questionnaires were distributed among undergraduate nursing intern students, and all 130 completed questionnaires were returned, resulting in a response rate of 100%. In this study, 82 participants (63.08%) were female, while 48 participants (36.92%) were male. Most of the interns (60.77%) were placed in upper first-class hospitals, 18.46% in middle first-class hospitals, and a smaller proportion (20.77%) in secondary hospitals.

The distribution of clinical nursing internships revealed that 86 nursing students (66.15%) had internship durations ranging from 4 to 7 months. In contrast, 19 students (14.62%) had internships lasting less than 3 months, while 25 students (19.23%) participated in internships longer than 8 months.

Regarding English proficiency, the majority of nursing students, 83 (63.85%), achieved a CET-4 level. Additionally, 21 students (16.15%) attained a CET-6 level, and 26 students (20%) did not have any English proficiency grade.

As for education in evidence-based practice (EBP), 69.23% of nursing students reported having received training, while 30.77% had not. Furthermore, 106 students (81.54%) indicated that they had completed a literature search course, whereas 24 students (18.46%) had not. Finally, 114 students (87.69%) stated that they had taken a course on "Nursing Research," while 16 students (12.31%) did not enroll in this course. Specific results are presented in Table 1.

Table1 Demographic Profile of the undergraduate intern nursing students（n=130）

|  |  |  |  |
| --- | --- | --- | --- |
| **Variables** | **Category** | **Frequency** | **Percentage** **(%)** |
| Age | 18~20 | 9 | 6.92 |
|  | 20-23 | 73 | 56.15 |
|  | 23~26 | 48 | 36.92 |
| Gender | M | 48 | 36.92 |
|  | F | 82 | 63.08 |
| Internship Hospital Grade | [Upper First class Hospital](https://zhida.zhihu.com/search?content_id=231937899&content_type=Article&match_order=1&q=tertiary+hospital&zd_token=eyJhbGciOiJIUzI1NiIsInR5cCI6IkpXVCJ9.eyJpc3MiOiJ6aGlkYV9zZXJ2ZXIiLCJleHAiOjE3NTE5NTA4MzgsInEiOiJ0ZXJ0aWFyeSBob3NwaXRhbCIsInpoaWRhX3NvdXJjZSI6ImVudGl0eSIsImNvbnRlbnRfaWQiOjIzMTkzNzg5OSwiY29udGVudF90eXBlIjoiQXJ0aWNsZSIsIm1hdGNoX29yZGVyIjoxLCJ6ZF90b2tlbiI6bnVsbH0.2P6183KDm8TlA502y9lBOsPKq-8MAdJsGvWhor0VGbA&zhida_source=entity) | 79 | 60.77 |
|  | Middle First Class Hospital | 24 | 18.46 |
|  | Upper Second Class Hospital | 25 | 19.23 |
|  | Middle Second Class Hospital | 2 | 1.54 |
| Internship Duration | 1~3Months | 19 | 14.62 |
|  | 4~7Months | 86 | 66.15 |
|  | 8~10Months | 25 | 19.23 |
| English Level | No Rank | 26 | 20.00 |
|  | CET-4 | 83 | 63.85 |
|  | CET-6 | 21 | 16.15 |
| Educated in evidence-based practice (EBP). | Yes | 90 | 69.23 |
|  | No | 40 | 30.77 |
| Take a Literature Search Course | Yes | 106 | 81.54 |
|  | No | 24 | 18.46 |
| Take《Nursing research》Course | Yes | 114 | 87.69 |
|  | No | 16 | 12.31 |

Table2 Level of EBP-COQ among undergraduate interns nursing students（n=130）

|  |  |  |  |
| --- | --- | --- | --- |
|  | Score Range | Total Scores  （） | Average Score（） |
| EBP-COQ(n=24) | 25~125 | 82.89±14.75 | 3.45±0.61 |
| Attitude toward EBP(n=12) | 12~60 | 41.83±6.58 | 3.49±0.55 |
| Skills in EBP(n=6) | 6~30 | 20.53±4.70 | 3.42±0.78 |
| Knowledge in EBP(n=6) | 6~30 | 20.53±4.71 | 3.42±0.78 |

Table 2 confidently illustrates the Evidence-Based Practice Competency Questionnaire (EBP-COQ) scores of undergraduate intern nursing students. The statistical analysis shows that the total EBP-COQ score for these students stands at 82.89±14.75. This comprises an impressive EBP attitude score of 41.83±6.58, alongside EBP skill and knowledge scores of 20.53±4.70 and 20.53±4.71, respectively. The average score for the EBP attitude dimension is 3.49±0.55, while both the EBP skill and knowledge dimensions reflect solid average scores of 3.42±0.78. Overall, the evidence-based practice competency of intern nursing students is firmly positioned at a medium level, with EBP attitude, skills, and knowledge scores also aligning with this assessment. Importantly, the EBP attitude is notably more positive, while the levels of EBP skills and knowledge indicate room for growth.

This aligns with the findings of Jing X et al., which reported an average value of 49.04 ± 6.35 for attitude, 21.69 ± 2.86 for skills, and 20.71 ± 4.00 for knowledge. This suggests that having a positive attitude towards Evidence-Based Practice (EBP) is essential for its implementation. Similar results were found in other studies cited in the bibliography. For instance, a study conducted among nursing students at a Spanish university reported an average attitude score of 3.33, while the scores for skills and knowledge were 2.75 and 2.83, respectively, which are slightly lower than the findings of the current study (Ruzafa-Martínez et al., 2016).

Additionally, research from Greece, specifically at the Hellenic Mediterranean University (HMU), showed an attitude average of 3.02 ± 0.26, with skills at 3.01 ± 0.49 and knowledge at 3.03 ± 0.49 (Miliara et al., 2024). Overall, across these three dimensions, nursing students demonstrated the weakest abilities in terms of EBP skills.

Table 3.Correlation between EBP-COQ subscales （n=130）

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  | Attitude toward EBP | Skills in EBP | Knowledge in EBP |
| Attitude toward EBP | Pearson Correlation | 1 | 0.716 | 0.691 |
|  | Sig. (2-tailed) |  | <0.01 | <0.01 |
|  | N | 130 | 130 | 130 |
| Skills in EBP | Pearson Correlation | 0.716 | 1 | 0.717 |
|  | Sig. (2-tailed)） | <0.01 |  | <0.01 |
|  | N | 130 | 130 | 130 |
| knowledge in EBP | Pearson Correlation | 0.691 | 0.717 | 1 |
|  | Sig. (2-tailed) | <0.01 | <0.01 |  |
|  | N | 130 | 130 | 130 |

Table 3 presents the results of the Pearson correlation analysis between attitudes toward evidence-based practice (EBP), skills, and knowledge in EBP-COQ. The analysis revealed a highly significant positive correlation among these three factors (p < 0.01). Specifically, the correlation coefficient for the relationship between attitudes and skills in evidence-based practice was 0.769, while the coefficient for the relationship between attitudes and knowledge was 0.731. The correlation coefficient between skills and knowledge was the highest, at 0.833. This indicates a strong correlation among all three factors, with each passing the significance test at the 1% level.

The strongest correlation was found between skills and knowledge, suggesting that advancements in practical abilities are closely related to the extent of knowledge mastery. Although the correlations between attitudes and skills, as well as between attitudes and knowledge, were slightly lower, they were still robust. This indicates that a positive attitude toward evidence-based practice may encourage the development of skills and knowledge. As noted by Xiaojuan et al. (2023), a positive attitude toward EBP is essential for its implementation.

Furthermore, intern nursing students, who are new nurses about to graduate, often have limited clinical experience to draw upon. As a result, they tend to exhibit a more positive attitude and guide their clinical work through evidence-based practice.

In this study, the significance level of all correlation coefficients (p = 0.000) falls well below the 1% threshold, underscoring a remarkable level of statistical reliability and robustly supporting the inference of correlations between variables. As detailed in Table 3, research involving clinical nurses identified key factors that contribute to the successful implementation of Evidence-Based Practice (EBP): a strong foundation of knowledge, effective communication skills, access to updated guidelines, a positive attitude towards EBP, and the influential role of head nurses (Wudu et al., 2024).

Moreover, national surveys investigating the delivery of EBP education revealed that a lack of knowledgeable academic and clinical staff poses a significant barrier to effective and efficient student learning. Some studies have demonstrated a notable improvement in the dimension of informative communication following educational interventions, which positively influenced both attitudes towards EBP and the acquisition of EBP knowledge (Ruzafa-Martínez et al., 2024). This finding extends to undergraduate nursing interns during their clinical rotations, highlighting the urgent need to bolster their evidence-based nursing knowledge and attitudes through comprehensive education.

Ultimately, this underscores the imperative of training and education in EBP for the cultivation of essential skills and confidence. Nursing programs must wholeheartedly commit to fostering undergraduate healthcare students' knowledge, skills, and attitudes towards EBP, ensuring they graduate as competent and confident practitioners ready to make a meaningful impact in their field.

Table 4.Relationship between EBP-COQ regarding undergraduate nursing intern student’s demographic profile information（n=130）

|  |  | Mean | Standard Deviation | F/T | p-Value |
| --- | --- | --- | --- | --- | --- |
| Age |  |  |  | 3.66 | 0.028 |
|  | 18~20 | 70.33 | 5.29 |  |  |
|  | 20~23 | 84.00 | 13.88 |  |  |
|  | 23~26 | 83.56 | 16.26 |  |  |
| Gender |  |  |  | 1.212 | 0.228 |
|  | M | 84.94 | 14.75 |  |  |
|  | F | 81.70 | 14.70 |  |  |
| Internship Hospital Grade |  |  |  | 21.86 | <0.001 |
|  | [Upper First class Hospital](https://zhida.zhihu.com/search?content_id=231937899&content_type=Article&match_order=1&q=tertiary+hospital&zd_token=eyJhbGciOiJIUzI1NiIsInR5cCI6IkpXVCJ9.eyJpc3MiOiJ6aGlkYV9zZXJ2ZXIiLCJleHAiOjE3NTE5NTA4MzgsInEiOiJ0ZXJ0aWFyeSBob3NwaXRhbCIsInpoaWRhX3NvdXJjZSI6ImVudGl0eSIsImNvbnRlbnRfaWQiOjIzMTkzNzg5OSwiY29udGVudF90eXBlIjoiQXJ0aWNsZSIsIm1hdGNoX29yZGVyIjoxLCJ6ZF90b2tlbiI6bnVsbH0.2P6183KDm8TlA502y9lBOsPKq-8MAdJsGvWhor0VGbA&zhida_source=entity) | 89.78 | 14.57 |  |  |
|  | Middle First Class Hospital | 73 | 5.76 |  |  |
|  | Upper Second Class Hospital | 71.36 | 6.89 |  |  |
|  | Middle Second Class Hospital | 73.5 | 0.71 |  |  |
| Internship Duration |  |  |  | 10.87 | <0.001 |
|  | 1~3Months | 71.53 | 6.47 |  |  |
|  | 4~7Months | 83.05 | 14.27 |  |  |
|  | 8~10Months | 91 | 15.67 |  |  |
| English Level |  |  |  | 2.65 | 0.074 |
|  | No Rank | 82.08 | 14.59 |  |  |
|  | CET-4 | 81.46 | 14.09 |  |  |
|  | CET-6 | 89.57 | 16.33 |  |  |
| Educated in evidence-based practice (EBP). |  |  |  | 4.547 | <0.001 |
|  | Yes | 86.54 | 15.32 |  |  |
|  | No | 74.67 | 9.15 |  |  |
| Take a Literature Search Course |  |  |  | 3.247 | 0.001 |
|  | Yes | 84.82 | 14.87 |  |  |
|  | No | 74.38 | 10.84 |  |  |
| Take《Nursing research》Course |  |  |  | 3.435 | 0.001 |
|  | Yes | 84.49 | 14.87 |  |  |
|  | No | 82.89 | 14.75 |  |  |

*\*Note: P < 0.05 is statistically significant*.

Table 4 shows the relationship between EBP-COQ regarding undergraduate nursing intern student’s demographic profile information.

The evidence-based practice (EBP) competency of undergraduate nursing interns is influenced by several factors. According to the results, significant differences (p<0.05) were observed in relation to age, the grade of the internship hospital, the duration of the internship, whether the students had received education in evidence-based practice, and whether they had taken a literature search course or a Nursing Research course.

Time is often cited as a significant barrier to implementing EBP. Health professionals face numerous demands on their time during both practice and training. Some researchers also emphasize the importance of transferring skills learned in school to the clinical setting. A shorter internship period for nursing interns results in limited exposure to clinical practice. Consequently, their understanding of evidence-based nursing practice remains superficial, and the knowledge they acquire cannot be systematically integrated. This lack of depth in EBP capacity stems from inadequate clinical exposure. Conversely, longer clinical internships allow nursing students to become more proficient in their skills.

Hospital attributes hold a vital significance in shaping nursing students' competencies in evidence-based practice. Within the realm of primary healthcare, uncertainties abound, making it challenging for evidence-based practice to effectively inform clinical decision-making. Family physicians, for instance, acknowledge the crucial role that research evidence plays in their practice. Nonetheless, high-quality evidence generated from contexts outside of primary care may not seamlessly translate into practice, thus limiting its impact. On the flip side, poorly designed research emerging from the primary care environment can prove equally unhelpful (Pather & Mash, 2019).

In China, several tertiary hospitals are at the forefront of advancing evidence-based nursing practice. A notable example is the "Evidence-based Nursing Practice" project at Panyu Central Hospital, affiliated with Guangzhou Medical University, which has garnered successful approval and attention. Moreover, many scholars emphasize the important distinctions between patients in primary care settings and those in secondary and tertiary care, as the bulk of existing evidence typically originates from the latter. This underscores the necessity for focused research that resonates with the unique challenges faced in primary care.

Some researchers suggest that offering language courses is essential for the development and success of evidence-based practice (EBP). A review of the scientific literature on EBP indicated that reference books and the internet are the most frequently utilized sources (Oliveri, Gluud & Jørgensen, 2002). While articles and journals also serve as primary sources of information, many undergraduate intern students possess only a CET-4 level of English, which contributes to a lack of reading proficiency. It is crucial to address these potential barriers to effective evidence-based practice.

It is acknowledged that clinicians require training in evidence-based medicine (EBM); however, there is significant variation in the content and methods of EBM curricula across medical schools in the UK, a situation mirrored in China. The study highlights considerable differences in both methods and content. Although most institutions cover core EBM topics, few provide opportunities for students to practice these skills or evaluate their proficiency. EBM instruction is often hindered by limited curriculum time, a shortage of trained instructors, and insufficient teaching materials (Meats et al., 2009). This challenge is also evident in the field of evidence-based nursing education. The effective development and implementation of educational programs to advance EBP remains a pressing challenge (Lehane et al., 2019).

Undergraduate nursing students who have received systematic education in EBP tend to have a deeper understanding of its importance and display a more positive attitude toward its benefits for improving care quality and patient outcomes. Conversely, nursing students without this education often lack relevant knowledge and tend to hold a relatively negative perspective.

A significant goal of nursing education is the transfer of theoretical knowledge to clinical practice (Bowers & McCarthy, 1993). However, limited clinical resources affect students' opportunities to gain hands-on experience with patients. Therefore, nursing educators should provide students with alternative clinical experiences (Shin, Park, & Kim, 2015). To ensure the quality of nursing education in clinical practice, educators have incorporated various educational strategies, and different clinical simulation methods have been developed (Jeffries et al., 2009).

Regardless of the teaching setting, educators need to extract evidence-based components from the curriculum content, including how these components are integrated into assessments and examinations. The integration of evidence-based practice (EBP) into clinical curricula is considered essential for successful learning and practice outcomes (Lehane et al., 2019). Notably, teaching strategies and associated methods grounded in a clinically relevant perspective, along with student exposure to EBP in a dynamic and engaging manner, were emphasized. The use of patient examples and clinical scenarios was frequently highlighted as one of the most effective instructional practices (Burke et al., 2019).

In their exploration of literature search and nursing research courses, Cruz et al. discovered that traditional nursing research programs, which often rely on research textbooks, have contributed to unclear understanding of evidence-based practice (EBP) concepts, processes, and outcomes. Most studies indicate that the knowledge acquired during education and independent learning tends to be limited. Consequently, students often finish their courses with minimal motivation to engage with, evaluate, utilize, and implement research evidence (Tlili et al., 2022). Furthermore, learning about EBP and the methodologies employed—such as formulating clinical questions that necessitate the search for research findings and their interpretation—enhances critical thinking and judgment skills. These skills are essential for developing effective communication abilities, as noted in various educational interventions (Choi & Um, 2022).

Reading proficiency is a fundamental aspect of human educational development, and strong literature reading skills are crucial for fostering clinical evidence-based and scientific research thinking. The development of scientific inquiry and evidence-based reasoning relies on a thorough understanding of existing knowledge alongside a keen interest in unexplored areas. Achieving these objectives necessitates consistent engagement with credible medical journals. A lack of literature reading significantly undermines the quality of scientific research conducted by nurses in our country (Meiling et al., 2020).

1. **CONCLUSION**

The competency of Chinese undergraduate nursing interns in evidence-based practice stands at a moderate level, reflecting both promise and opportunity. While their attitudes toward evidence-based competencies are largely positive, there remains a substantial need for enhancement in their skills and knowledge. To truly elevate the standard of evidence-based nursing practice, we must embrace ambitious educational reforms that empower these future professionals to excel and make a lasting impact in healthcare.

1. **RECOMMENDATION**

**5.1 Education:**

1. To truly empower nursing students in their professional journey, educators must cultivate a robust understanding of evidence-based practice. This can be achieved by establishing engaging courses that focus on evidence-based methods and advanced literature searches. Organizing dynamic group discussions centered around real clinical cases will inspire students to dive deep into complex scenarios and masterfully develop comprehensive nursing plans.

2. Additionally, educators should actively encourage nursing students to engage in supportive roles within scientific research projects at hospitals. This hands-on experience will not only teach them how to craft evidence-based research plans but also allow them to expertly collect and analyze data. By doing so, students will cultivate critical thinking and practical skills essential for their future careers.

3. It is vital to nurture the leadership and innovative spirit of nursing students as they embrace evidence-based practice. By providing enriching opportunities for academic exchange and immersive training courses, students can connect with cutting-edge concepts and technologies in evidence-based nursing. Furthermore, empowering intern nursing students to lead their own evidence-based research projects will significantly enhance their capabilities and confidence as future healthcare leaders.

**5.2 Clinical:**

1. Tertiary hospitals, distinguished by their wealth of resources and high academic standards, should take the initiative to create a dynamic and comprehensive distance teaching platform. This innovative resource should not only showcase expert lecture videos, classic case libraries, and groundbreaking research reports but also highlight advanced nursing technology demonstrations and evidence-based practice simulation scenarios. By customizing training courses to meet the diverse needs of intern nursing students across various hospital levels, these institutions can foster a rich learning environment. It is crucial to select instructors who possess extensive experience in evidence-based teaching and a robust blend of educational and clinical expertise, enabling them to effectively address the unique challenges faced by different hospitals.

2. Middle first-class and upper second-class hospitals should join forces to leverage their existing resources, procure state-of-the-art evidence-based practice databases, and collaboratively build an expansive regional learning resource library. In the daily fabric of internship teaching, nursing students should be inspired to delve deeply into nursing challenges associated with common diseases. Additionally, they should be motivated to engage in quality improvement projects within the hospital, utilizing evidence-based strategies to transform and enhance the nursing process.

1. Although middle second-class hospitals may have more limited resources, they can empower nursing students to focus on foundational nursing tasks while implementing evidence-based practices in their operations. These hospitals can also obtain a wealth of clinical practice cases that broaden the students’ perspectives and ignite their passion for nursing. By establishing comprehensive learning records to document the growth of students’ evidence-based practice skills during their internships, these institutions can provide invaluable insights and support for their future development.

**CONSENT AND ETHICAL APPROVAL**

The present study was approved and examined by Weifang University of Science and Technology Ethics Committee .Before the official start of the research, the investigator had full and in-depth communication and explanation with each nursing intern, and patiently answered every question raised by the nursing intern, so that they could fully understand the process and purpose of the investigation. Strict confidentiality measures were taken to ensure the privacy and data security of nursing interns.

**REFERENCES**

Bowers B, McCarthy D. Developing analytic thinking skills in early undergraduate education. J Nurs Educ. 1993 Mar;32(3):107–114. doi: 10.3928/0148-4834-19930301-05. [[DOI](https://doi.org/10.3928/0148-4834-19930301-05)] [[PubMed](https://pubmed.ncbi.nlm.nih.gov/8388926/)] [[Google Scholar](https://scholar.google.com/scholar_lookup?journal=J%20Nurs%20Educ&title=Developing%20analytic%20thinking%20skills%20in%20early%20undergraduate%20education&author=B%20Bowers&author=D%20McCarthy&volume=32&issue=3&publication_year=1993&pages=107-114&pmid=8388926&doi=10.3928/0148-4834-19930301-05&)]

Burke F, Hayes M, Lynch H, Sahm L, Heffernan E, O'Keeffe E, Blake C, Horgan F, Hegarty J. Evidence-based practice education for healthcare professions: an expert view. BMJ Evid Based Med. 2019 Jun;24(3):103-108. doi: 10.1136/bmjebm-2018-111019. Epub 2018 Nov 15. PMID: 30442711; PMCID: PMC6582731.

Brunt BA, Morris MM. Nursing Professional Development Evidence-Based Practice. 2023 Mar 4. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2025 Jan–. PMID: 36943994.

Choi Y.J., Um Y.J. The effects of a home-visit nursing simulation for older people with dementia on nursing students’ communication skills, self-efficacy, and critical thinking propensity: Quantitative research. Nurse Educ. Today. 2022;119:105564. doi: 10.1016/j.nedt.2022.105564.

Costa ICP, Costa AS, Mendes KDS, Limongi R. Potential of Artificial Intelligence in Evidence-Based Practice in Nursing. Rev Bras Enferm. 2024 Sep 9;77(5):e770501. doi: 10.1590/0034-7167.2024770501. PMID: 39258650; PMCID: PMC11383434.

Cruz JP, Colet PC, Alquwez N, Alqubeilat H, Bashtawi MA, Ahmed EA, et al. Evidence-based practice beliefs and implementation among the nursing bridge program students of a Saudi University. Int J Health Sci. 2016;10:405–414.

Di Michele L, Bell A, Thomson K, Reed W. Evidence-based practice in radiography: A strategy for shifting our culture. J Med Radiat Sci. 2024 Sep;71(3):323-325. doi: 10.1002/jmrs.801. Epub 2024 Jun 4. PMID: 38837300; PMCID: PMC11569401.

Godsey JA, Houghton DM, Hayes T. Registered nurse perceptions of factors contributing to the inconsistent brand image of the nursing profession. Nursing outlook. 2020;68(6):808–821. doi: 10.1016/j.outlook.2020.06.005

Jeffries PR, Bambini D, Hensel D, Moorman M, Washburn J. Constructing maternal-child learning experiences using clinical simulations. J Obstet Gynecol Neonatal Nurs. 2009 Sep;38(5):613–623. doi: 10.1111/j.1552-6909.2009.01060.x.S0884-2175(15)30222-7 [[DOI](https://doi.org/10.1111/j.1552-6909.2009.01060.x)] [[PubMed](https://pubmed.ncbi.nlm.nih.gov/19883484/)] [[Google Scholar](https://scholar.google.com/scholar_lookup?journal=J%20Obstet%20Gynecol%20Neonatal%20Nurs&title=Constructing%20maternal-child%20learning%20experiences%20using%20clinical%20simulations&author=PR%20Jeffries&author=D%20Bambini&author=D%20Hensel&author=M%20Moorman&author=J%20Washburn&volume=38&issue=5&publication_year=2009&pages=613-623&pmid=19883484&doi=10.1111/j.1552-6909.2009.01060.x&)]

Jing X.,Xiuna S.,Dianju Q.,Rongrong W.Investigation and analysis of the current situation of evidence-based practice ability of nursing students after internship.Health vocational education.2023;41:115-117. DOI：10.20037/j.issn.1671-1246.2023.15.38

Jordan P., Bowers C., Morton D. (2016). Barriers to implementing evidence-based practice in a private intensive care unit in the Eastern Cape. South. Afr. J. Crit. Care 32 (2), 50–54. 10.7196/sajcc.2016.v32i2.253

Klaic M, McDermott F, Haines T. How soon do allied health professionals lose confidence to perform EBP activities? A cross‐sectional study. J Eval Clin Pract 2019; 25: 603–612. DOI: [10.1111/jep.13001](https://doi.org/10.1111/jep.13001)

Konlan KD, Adedia D, Nyande FK, Amenuke M, Tackie V, Anaman-Torgbor JA. Knowledge generation towards evidence-based practice and nursing competency. PLoS One. 2024 Dec 12;19(12):e0311285. doi: 10.1371/journal.pone.0311285. PMID: 39666693; PMCID: PMC11637308.

Lam CK, Schubert C. Evidence-based practice competence in nursing students: an exploratory study with important implications for educators. Worldviews Evid-Based Nurs. 2019;16:161–168. doi: 10.1111/wvn.12357.

Lehane E, Leahy-Warren P, O'Riordan C, Savage E, Drennan J, O'Tuathaigh C, O'Connor M, Corrigan M, Burke F, Hayes M, Lynch H, Sahm L, Heffernan E, O'Keeffe E, Blake C, Horgan F, Hegarty J. Evidence-based practice education for healthcare professions: an expert view. BMJ Evid Based Med. 2019 Jun;24(3):103-108. doi: 10.1136/bmjebm-2018-111019. Epub 2018 Nov 15. PMID: 30442711; PMCID: PMC6582731.

Meats E, Heneghan C, Crilly M, Glasziou P. Evidence-based medicine teaching in UK medical schools. Med Teach. 2009 Apr;31(4):332-7. doi: 10.1080/01421590802572791. PMID: 19404893.

Meiling L,Yan L,Caixin Y,Kaixin Y,Influencing factors and practice current situation of 196 newly graduated under graduate nurses’ knowledge attitude and practice in evidence based practice .2020.35:409-413.DOI: 10.16821/j.cnki.hsjx.2020.05.006

Miliara E, Kalokairinou A, Schetaki S, Patelarou E, Patelarou A. Evaluation of Evidence-Based Practice Competency among Greek Undergraduate Nursing Students. Healthcare (Basel). 2024 Sep 10;12(18):1811. doi: 10.3390/healthcare12181811. PMID: 39337152; PMCID: PMC11431760.

Oliveri RS, Gluud C, Wille- Jørgensen PA. Hospital doctors' self-rated skills in and use of evidence-based medicine - a questionnaire survey. J Eval Clin Pract. 2004;10(2):219–26. doi: 10.1111/j.1365-2753.2003.00477.x.

Pather MK, Mash R. Family physicians’ experience and Understanding of evidence-based practice and guideline implementation in primary care practice, cape town, South Africa. Afr J Prim Health Care Family Med. 2019;11:e1–10. 10.4102/phcfm.v11i1.1592

Quality and Safety Education for Nurses . (2020). Graduate QSEN competencies. Retrieved from [https://qsen.org/competencies/graduate‐ksas/](https://qsen.org/competencies/graduate-ksas/)

Ruzafa-Martínez M., López-Iborra L., Armero Barranco D., Ramos-Morcillo A.J. Effectiveness of an evidence-based practice (EBP) course on the EBP competence of undergraduate nursing students: A quasi-experimental study. Nurse Educ. Today. 2016;38:82–87. doi: 10.1016/j.nedt.2015.12.012.

Ruzafa-Martínez M, Pérez-Muñoz V, Conesa-Ferrer MB, Ramos-Morcillo AJ, Molina-Rodríguez A. Effectiveness of Training in Evidence-Based Practice on the Development of Communicative Skills in Nursing Students: A Quasi-Experimental Design. Healthcare (Basel). 2024 Sep 21;12(18):1895. doi: 10.3390/healthcare12181895. PMID: 39337236; PMCID: PMC11431862.

Shin S, Park J, Kim J. Effectiveness of patient simulation in nursing education: meta-analysis. Nurse Educ Today. 2015 Jan;35(1):176–182. doi: 10.1016/j.nedt.2014.09.009.S0260-6917(14)00307-4

Tlili MA, Aouicha W, Tarchoune S, Sahli J, Ben Dhiab M, Chelbi S, Mtiraoui A, Ajmi T, Ben Rejeb M, Mallouli M. Predictors of evidence-based practice competency among Tunisian nursing students. BMC Med Educ. 2022 Jun 2;22(1):421. doi: 10.1186/s12909-022-03487-4. PMID: 35655300; PMCID: PMC9161527.

Wudu MA, Tarekegn SM, Wondifraw EB, Birhanu TA, Hailu MK, Bekalu YE, Yosef ST, Belete MA. Uptake of evidence-based practice and its predictors among nurses in Ethiopia: a systematic review and meta-analysis. Front Pharmacol. 2024 Jul 18;15:1421690. doi: 10.3389/fphar.2024.1421690. PMID: 39092215; PMCID: PMC11291372.

Xiaojuan Z.,Weng M.,Chaojin D.,Tingting S.The status quo of evidence-based nursing practice competence of undergraduate nursing students in Gansu Province and influencing factor analysis..China Modern Medicine.2023;30:109-112.DOI: 10.3969/j.issn.1674-4721.2023.15.028