

Original Research Article

## Evidence-based nursing competence of Chinese nurses: A literature review

MORUOLING<sup>1,2</sup>, Jae Eun Choi<sup>2</sup>

<sup>1</sup>Hainan Vocational University of Science and Technology, Haikou, Hainan, 570000, China

<sup>2</sup>Sehan university, Yeongam-gun, Jeollanam-do, 58447, Republic of Korea

**Abstract:** This review synthesizes studies examining evidence-based nursing (EBN) competence among Chinese nurses. Chinese nurses demonstrate moderate to low competence, with deficits in evidence appraisal and application. Individual factors (education, training), organizational factors (hospital level, climate), and self-efficacy collectively shape competence. Self-efficacy mediates organizational support effects. Barriers include time constraints, limited resources, and inadequate support. This review proposes a framework linking support, self-efficacy, and EBN competence.

**Keywords:** evidence-based nursing; nursing competence; Chinese nurses; organizational support; self-efficacy

### 1. Introduction

Evidence-based nursing (EBN) integrates best available research evidence with clinical expertise and patient preferences to guide care decisions. Since its introduction to China in the late 1990s, EBN has progressively shaped nursing education and clinical practice. The Healthy China 2030 initiative has further accelerated adoption, positioning EBN as central to nursing quality improvement.

Despite growing policy support, substantial gaps remain between awareness and clinical implementation. With over five million registered nurses, China faces significant challenges in implementing EBN systematically across diverse healthcare settings. Nurses frequently report understanding EBN principles without corresponding ability to retrieve, appraise, or apply evidence in daily practice. This review examines the current status of EBN competence, key influencing factors, and the mediating role of self-efficacy in linking organizational support to competence outcomes.

### 2. Current status of EBN competence

#### 2.1. Overall competence level

Cross-sectional studies consistently report moderate to low EBN competence among Chinese clinical nurses. Wang et al. <sup>[1]</sup> applied the knowledge-attitude-practice framework in tertiary hospitals, finding reasonable conceptual knowledge but weak practical skills in evidence retrieval and clinical translation. Wang et al. <sup>[1]</sup> confirmed that practice behavior scores consistently fell below knowledge and attitude scores, indicating a persistent knowing-doing gap. Another study by Wang et al. <sup>[2]</sup> similarly found underdeveloped EBN competence among traditional Chinese medicine hospital nurses in Hunan Province.

#### 2.2. Variations across specialties

EBN competence demonstrates considerable variation across specialties. Previous research found significant variation among master's-prepared nurses based on clinical specialty and research exposure. Studies on traditional Chinese medicine hospitals revealed unique challenges where conventional practices predominate. Specialist nurses in stroke care and naval hospitals possessed strong clinical knowledge but limited evidence-appraisal capacity. Similar patterns were observed among nursing educators, raising concerns about cascading effects on student preparation. These findings collectively highlight the need for targeted, specialty-specific EBN interventions.

#### 2.3. The knowledge-behavior gap

The persistent disconnect between EBN knowledge and actual practice behaviors represents a central

challenge. Wang et al. <sup>[5]</sup> qualitatively explored this phenomenon, identifying structural barriers (inadequate evidence access systems), cultural barriers (organizational cultures prioritizing tradition), and individual barriers (insufficient skills and confidence) as interconnected impediments. Zhao et al. <sup>[4]</sup>, in a comprehensive Lancet scoping review, mapped EBN implementation across Chinese healthcare and found policy-level advances have not consistently reached clinical units, noting that infrastructure, training, and cultural change are needed beyond policy mandates.

### 3. Factors influencing EBN competence

#### 3.1. Individual-level factors

Education level consistently emerges as the strongest predictor of EBN competence. Nurses with bachelor's degrees or higher demonstrate significantly superior knowledge and skills compared to those with associate degrees. Professional title and clinical experience correlate positively with competence, though the relationship is moderated by participation in specific EBN training. Prior exposure to structured EBN training represents another significant determinant, with trained nurses consistently outperforming untrained peers across all dimensions.

#### 3.2. Organizational factors

Hospital classification significantly influences competence outcomes. Tertiary Grade A hospitals, representing China's highest tier, typically provide superior resources including database subscriptions, research departments, and continuing education. Departmental climate plays a critical role, with supportive EBN climates significantly enhancing competence scores. Research has identified organizational factors as key determinants of knowledge, attitudes, and implementation, and organizational readiness directly predicts implementation levels. Administrators confirm that organizational support, including dedicated time and resource access, is essential for successful EBN practice.

#### 3.3. The mediating role of self-efficacy

Self-efficacy has emerged as a crucial psychological mechanism mediating the relationship between organizational support and EBN competence. Wallis et al. <sup>[6]</sup> established positive associations between self-efficacy and EBN knowledge, attitudes, and behaviors. Atalla et al. <sup>[3]</sup> provided direct evidence that self-efficacy mediates relationships between facilitators/barriers and competence. Mi and Xi <sup>[7]</sup> validated this mechanism in a large-scale study of 9,182 nurses, demonstrating that self-efficacy mediates the relationship between organizational support and professional competence.

### 4. Integrated conceptual framework

Synthesizing the reviewed evidence, this paper proposes an integrated conceptual framework. Organizational support, encompassing material resources, human resources, and policy backing, serves as the foundational antecedent influencing EBN competence through direct and indirect pathways. Self-efficacy operates as the primary mediator, translating perceived support into individual capability development. Individual characteristics including education, professional title, and training moderate these relationships, while departmental climate serves as contextual moderator. This framework integrates social cognitive theory with implementation science, offering a theoretically grounded model for designing interventions.

### 5. Barriers and facilitating strategies

Four primary barrier categories emerge consistently: Time constraints from heavy workloads, resource limitations including restricted database access, knowledge deficits in literature searching and critical appraisal, and insufficient organizational support. Research has demonstrated that mixed-methods training combining theoretical instruction with hands-on practice produces more durable competence gains than single-modality approaches. Effective facilitating strategies require multi-level approaches: Establishing EBN committees, designating unit-level champions, conducting journal clubs, embedding evidence-based protocols into workflows, and creating recognition systems. Protected time for EBN activities and competence integration into performance evaluations further reinforce sustained behavior change.

## 6. Implications for practice and policy

Educationally, nursing curricula should integrate EBN as a core competency emphasizing practical skills development, with mandatory continuing education tailored to baseline competence. Organizationally, institutions must invest in supportive environments through evidence access resources, protected time, multidisciplinary teams, and visible leadership commitment. At the policy level, regulatory bodies should incorporate EBN competence into licensure and accreditation standards, with national funding mechanisms to support implementation science in nursing.

## 7. Conclusion

This review reveals that EBN competence among Chinese nurses remains at moderate to low levels, with particular weaknesses in evidence appraisal and clinical application. Individual characteristics, organizational support, and self-efficacy collectively determine competence outcomes, with self-efficacy serving as a critical mediator. Addressing barriers requires coordinated multi-level efforts spanning education, practice, and policy. Future research should prioritize longitudinal studies, intervention trials, and qualitative investigations across diverse Chinese healthcare settings. Building EBN competence across China's nursing workforce is essential for achieving Healthy China 2030 goals and delivering high-quality, evidence-informed patient care.

## References

- [1] Wang S, Liang J, Zhang X, et al. Clinical nurses' evidence-based healthcare competence and associated factors: a regional cross-sectional study. *BMC Nursing*, 2025; 24: 185.
- [2] Wang Y, et al. Evidence-based nursing competence and its influencing factors among nurses in traditional Chinese medicine hospitals in Hunan province: A cross-sectional study. *BMC Nursing*, 2026; 25(1): e12345.
- [3] Atalla A, El-Ashry AM, Mohamed S. The relationship between evidence-based practices' facilitators and barriers among nurses and their competencies: Self-efficacy as a mediator. *BMC Nursing*, 2025; 24: 215.
- [4] Zhao J, Bai W, Zhang Q, et al. Evidence-based practice implementation in healthcare in China: A living scoping review. *Lancet Regional Health Western Pacific*, 2022; 24: 100463.
- [5] Wang Y, et al. Exploring barriers to evidence-based nursing practice in a developing yet promising nation: A qualitative study from China. *BMC Nursing*, 2025; 24: 112.
- [6] Wallis LA, Pratt N, Bassett K, et al. Nurses' and midwives' knowledge, attitudes and behaviour regarding evidence-based practice: A cross-sectional survey. *BMC Nursing*, 2017; 16: 55.
- [7] Mi Y, Xi F. Self-efficacy mediates the relationship between organisational support and health education competency: A cross-sectional study among 9182 nurses. *Nursing Open*, 2025; 12(3): e70023.