The Role of Digital Literacy and Informatics Competency in The Implementation of Evidence-Based Nursing: A Systematic Review

Abstract

Aims: This study aimed to investigate the relationship between digital literacy and informatics competency with the implementation of evidence-based nursing.

Information & Methods: The present study was conducted as a systematic review following the PRISMA guideline. The research question was formulated based on the PICO framework; the population comprised nurses, the exposure was digital literacy and informatics competencies, and the outcome was the implementation of evidence-based practice (EBP) and its related components. A systematic search was performed in PubMed, Scopus, Web of Science, CINAHL, Cochrane, Ovid Nursing Database, as well as grey literature sources. Studies published between 2010 and 2025 in Persian or English that examined the relationship between digital literacy/informatics competency and EBP were included. After screening and assessing the studies according to the inclusion and exclusion criteria, 13 eligible studies (including cross-sectional, descriptive-correlational, mixed-method, and systematic review studies) from 9 countries were finally included in the final synthesis. Data were collected using a data extraction form and analysed using narrative synthesis.

Findings: The findings showed that nurses' attitudes toward EBP were positive, but its actual implementation was low to moderate (knowledge-practice gap). Digital literacy and informatics competency were the strongest predictors of EBP implementation (correlation range: 0.38–0.68, explaining 20–53% of the variance). The main barriers identified included lack of authority, time and resource constraints, and poor digital infrastructure.

Conclusion: The conclusion is that nurses with higher digital literacy use evidence to a greater extent in clinical practice.

Keywords:

Evidence-based nursing [https://www.ncbi.nlm.nih.gov/mesh/68055318];

Digital literacy [Not in MeSH];

Nursing Informatics [https://www.ncbi.nlm.nih.gov/mesh/68048108];

Digital literacy [Not in MeSH]

Introduction

Digital transformation in health systems over recent decades has led to fundamental changes in the way healthcare services are delivered. This transformation is rapidly advancing under the influence of technologies such as Electronic Health Records (EHRs), Clinical Decision Support Systems (CDSS), Artificial Intelligence (AI), Big Data Analytics, mobile health (mHealth), and telemedicine. These technologies have driven health systems away from traditional experience-based models toward data-driven, predictive, and personalized models. Meanwhile, the role of healthcare workers, especially nurses as the largest group of care providers, has become increasingly prominent. Nurses are not only at the frontline of care delivery but also play a crucial role in collecting, analysing, and using health data for clinical decision-making [1].

According to a World Health Organization report, digital transformation in health is impossible without developing digital skills and competencies in the health workforce, and one of the most important challenges for health systems in the 21st century is the digital skills gap [2]. In this regard, numerous studies have shown that the successful implementation of digital health technologies depends on the digital readiness of staff, particularly nurses [3].

In this context, the concept of Digital Health Literacy has emerged as one of the key skills of the current century. Digital literacy goes beyond basic abilities to use technology; it includes a set of cognitive, technical, and analytical skills that enable a person to search for, evaluate, interpret, and apply digital information in professional decision-making [4- 5]. In the health domain, this concept refers to the ability to access credible scientific resources, use medical databases, critically analyse evidence, and apply it in clinical practice [6]. In fact, digital literacy is considered one of the essential foundations for achieving an evidence-based and technology-driven health system.

In the nursing profession, digital literacy is recognised as an important component of professional competency in the 21st century. Nurses need skills that enable them to use digital data for accurate and safe decision-making in complex clinical environments. Recent studies have shown that digital

literacy in nurses is associated with the ability to search for scientific information, use health information systems, and apply technology in direct patient care [7].
However, evidence indicates that the level of digital literacy among nurses varies across different countries. Some nurses possess advanced skills in using health technologies, while a significant group still face challenges in using scientific databases and digital tools. This skill disparity can have important consequences for care quality, patient safety, and health system efficiency [8].
Alongside these developments, Evidence-Based Nursing Practice (EBNP) is recognised as one of the cornerstones of high-quality and safe care. This approach involves integrating the best available scientific evidence, the nurse's clinical expertise, and patient preferences into the clinical decision-making process [9]. The implementation of evidence-based nursing has been widely associated with improved patient outcomes, reduced clinical errors, enhanced care quality, and increased health system efficiency [10].
Despite the high importance of evidence-based nursing, studies indicate a significant gap between the production of scientific knowledge and its application in clinical settings. This gap, known as the "knowledge-practice gap", is one of the fundamental challenges of health systems. Many nurses, despite having a positive attitude toward EBP, face barriers in practice such as lack of time, high workload, limited access to scientific resources, poor information search skills, and difficulty in critically appraising evidence [11].

In this context, digital literacy has been proposed as one of the key facilitators of evidence-based nursing implementation. Nurses with higher digital skills have a greater ability to use scientific databases such as PubMed, CINAHL, and the Cochrane Library, and can evaluate scientific evidence more accurately and apply it in clinical decision-making [12]. In fact, digital literacy acts as a bridge between access to information and its application in clinical practice.
Empirical evidence also supports a positive relationship between digital literacy and the implementation of evidence-based nursing. Studies have shown that educational interventions in digital literacy and health informatics can significantly improve nurses' ability to use scientific evidence and apply it in clinical care [13]. Furthermore, findings indicate that digital competencies are associated with increased professional self-confidence, enhanced critical thinking, and improved clinical decision-making quality in nurses [14]. Despite the growing number of studies on digital literacy, informatics competencies, and evidence-based nursing, the existing results remain scattered and in some cases contradictory. Some studies report a direct and strong relationship between digital literacy and EBP implementation, while others highlight the role of mediating factors such as organisational support, learning culture, educational level, professional experience, and critical thinking skills [3]. This heterogeneity underscores the need for a systematic synthesis of the available evidence in this field.
A systematic review, as one of the most reliable methods for synthesising scientific knowledge, enables the identification, critical appraisal, and structured combination of findings from various studies. The use of the PRISMA guideline also increases reporting quality, methodological transparency, and reproducibility of results [15]. Therefore, given the growing importance of digital transformation in the health system, the key role of nurses in implementing evidence-based care, and the dispersion of existing evidence, the present study was conducted with the aim of investigating the relationship between digital literacy and informatics competency in the implementation of evidence-based nursing through a systematic review of studies, using the PRISMA framework, in order to provide a comprehensive picture of the current state of knowledge and research gaps in this area.

Methodology

The present study was conducted as a systematic review following the PRISMA 2020 statement. The research question was formulated based on the PICO framework; the population included nurses working in hospitals and healthcare centers, the exposure was digital literacy in its various dimensions (including eHealth literacy, informatics skills, computer literacy, and digital competency), and the outcome was the implementation of evidence-based nursing (EBP) and its related components (attitudes, knowledge, empowerment, and clinical decision-making). The types of studies included were cross-sectional, descriptive-correlational, longitudinal, systematic reviews, and mixed-method studies.

A systematic search was conducted in the following databases: PubMed, Scopus, Web of Science, CINAHL, Cochrane, and Ovid Nursing Database. In addition, Google Scholar and ProQuest were used to cover grey literature. Keywords were developed in three main areas, including digital literacy (Digital Literacy, eHealth Literacy, Computer Literacy, Informatics Competency, Nursing Informatics), evidence-based nursing (Evidence-Based Practice, EBP Implementation, Research Utilization, Evidence-Based Nursing), and clinical nurses (Clinical Nurses, Staff Nurses, Hospital Nurses, Bedside Nurses), and were combined using the Boolean operators AND and OR. A time restriction was applied from January 2010 to December 2025, and only studies published in English were included in the review.

Here is the English translation of the text you provided:

After screening and assessing the studies based on the inclusion and exclusion criteria, ultimately 14 eligible studies (including cross-sectional, descriptive-correlational, mixed-method, and systematic review studies) from 9 countries were included in the final synthesis. Data were collected using a data extraction form and analysed using narrative synthesis. Inclusion criteria comprised quantitative studies (cross-sectional, descriptive-correlational, longitudinal, or interventional) as well as systematic reviews that examined the relationship between digital literacy (or informatics competency) and EBP (or related outcomes) using valid statistical methods (correlation, regression, structural equation modelling) or narrative synthesis. The target population had to be clinical nurses working in hospital or healthcare settings. In primary studies, instruments for measuring digital literacy or informatics competency had to have reported validity and reliability. Exclusion criteria included purely qualitative studies, case reports, letters to the editor, as well as studies that examined only general information literacy without focusing on digital or informatics components.

The screening process was carried out according to the PRISMA flow diagram. Out of an initial 665 records, 485 records remained after removing duplicates. During the title and abstract screening stage, 395 records were excluded due to lack of relevance to the research question or mismatch with the target population, and 5 studies could not be assessed due to unavailability of full texts; thus, 85 studies remained for full-text assessment. In the eligibility assessment stage, a further 71 studies were excluded for the following reasons: failure to examine the relationship between digital literacy and EBP (28 studies), lack of valid instruments (15 studies), non-clinical population (12 studies), and inappropriate design (10 studies). Finally, 14 studies met the inclusion criteria and were entered into the final synthesis (Figure 1).

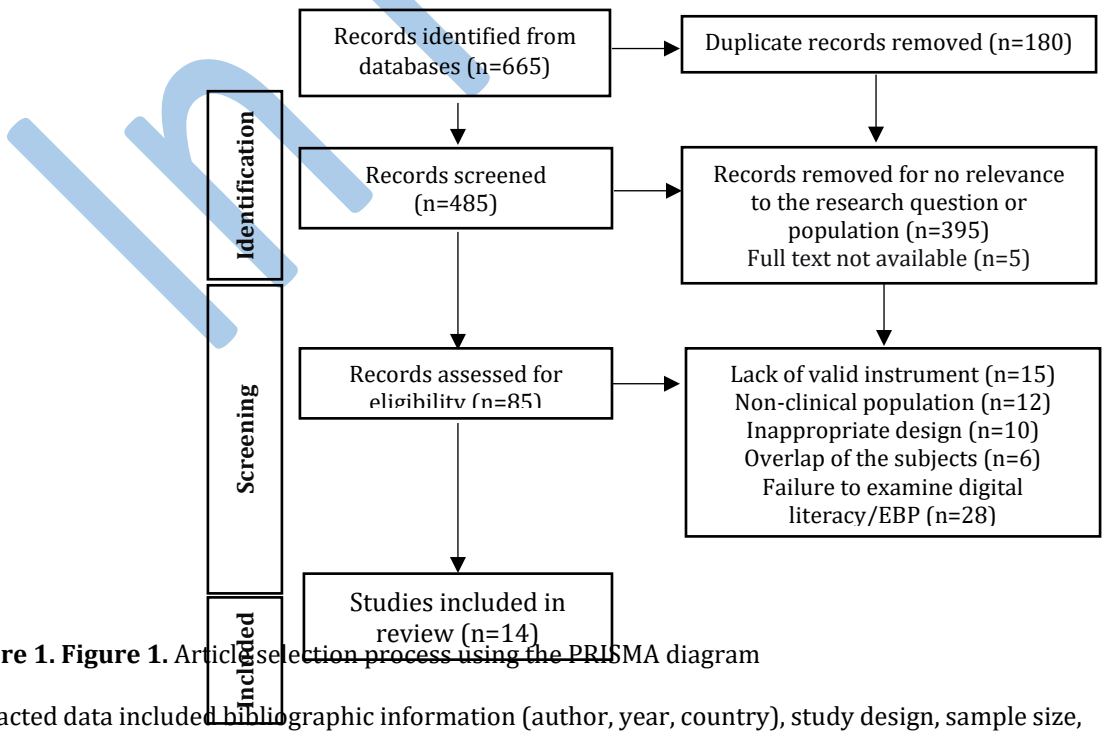

Figure 1. Figure 1. Article selection process using the PRISMA diagram

Extracted data included bibliographic information (author, year, country), study design, sample size, population characteristics, instruments for measuring digital literacy or informatics competency, instruments for measuring EBP or related outcomes, statistical results (correlation coefficients,

regression coefficients, variance explained, significance levels), and for systematic reviews, the number of included studies and the synthesis approach.

Due to the expected heterogeneity in study designs, measurement instruments, outcomes, and geographical contexts, the main synthesis approach was narrative synthesis. Studies were grouped based on the type of digital variable, the type of EBP outcome, study design, and geographical context. In cases where several studies used similar instruments and reported comparable statistical indicators (such as correlation coefficients), a limited quantitative synthesis (quasi-meta-analysis) with a random-effects model was performed; however, due to high heterogeneity, the main emphasis remained on narrative synthesis. All steps were documented according to the PRISMA 2020 checklist, and a flow diagram showing the number of studies at each stage was drawn.

Findings

The characteristics and findings of 13 studies (including systematic reviews and primary quantitative studies) included in the present systematic review were summarized (Table 1). The studies were published between 2011 and 2025 from various countries (Iran, Norway, South Korea, Cyprus, Nigeria, Saudi Arabia, Sweden, India, and multinational) with diverse designs (systematic review, cross-sectional, correlational, descriptive, and mixed-method). The sample size in the primary studies ranged from 185 to 521 nurses.

Table 1. Descriptive Characteristics of the Included Studies (n=13)

row	Author	Country	Study Type	Sample	Tools/Data	Key Findings
1	D'Agostino et al. 2026 [16]	Multinational	Systematic review	27 assessment tools	PRISMA, COSMIN, GRADE	27 tools identified; 6 tools recommendable, 20 tools need further validation; 1 tool not recommendable
2	Pitsillidou et al. 2021[17]	Cyprus	Cross-sectional	302 nurses	Barriers Scale	Lack of authority (83.8%) and non-applicability of results (81.5%) were the most important barriers
3	Stokke et al. 2014 [18]	Norway	Cross-sectional	185 nurses	EBP Belief & Implementation Scales	Positive attitude but low implementation; positive correlation (r=0.59)
4	Salari et al. 2025 [19]	Iran	Cross-sectional correlational	300 nurses	Informatics, EBP, decision-making questionnaires	Positive correlation; informatics predicted decision-making (26%) and EBP attitude (20%)
5	Urhiewhu et al. 2025 [20]	Nigeria	Descriptive cross-sectional	350 nurses	Structured questionnaire	Low use (1.63); poor digital literacy (1.96); moderate correlation (r=0.498)
6	Sandström et al. 2011 [21]	Sweden	Systematic review	7 studies	Narrative analysis	Leadership, organisation, and culture are three key factors in EBP implementation
7	Yoo et al. 2019 [13]	South Korea	Cross-sectional	521 nurses	EBP questionnaire	Knowledge and organisational readiness predicted EBP implementation (22.2%)

8	Li et al. 2019 [22]	Multinational	Systematic review	20 studies	Data extraction	Positive attitude but poor knowledge and implementation; barriers: lack of time and resources
9	Alqahtani et al. 2020 [23]	Saudi Arabia	Cross-sectional correlational	227 nurses	EBP Questionnaire	High attitude; knowledge and attitude predicted implementation
10	Abdekhoda & Khezri, 2021[24]	Iran	Analytical cross-sectional	205 nurses	Informatics questionnaire	Positive relationship between informatics and EBP implementation (up to 33% variance)
11	Park & Choi, 2024 [7]	South Korea	Cross-sectional	196 nurses	Standard questionnaire	53.1% of variance in EBP empowerment explained
12	Mudallal et al. 2025 [25]	Unspecified	Cross-sectional correlational	272 nurses	Online questionnaire	53% of variance in EBP attitude explained by 6 factors
13	Awasthi, 2025 [26]	India	Mixed-method	55 review	Digital health tools	Digital tools enhance EBP implementation

The cross-sectional studies (9 studies, more than two-thirds) constituted the predominant design, with only three systematic reviews and one mixed-method study included in the review. Regarding geographical distribution, the share of developed and developing countries was almost equal (5 studies each), and two studies were multinational. The target population in the vast majority of primary studies (n=10) was hospital-based nurses. Common data collection tools included standard EBP implementation questionnaires and digital literacy or informatics questionnaires. In terms of content, most studies focused on EBP implementation (n=11) and nurses' attitudes toward it (n=6). Digital literacy and informatics competency were examined as main variables in 5 studies (Table 2).

Table 2. Summary of Methodological and Content Characteristics of the Included Studies (n=13)

Indicator	Category	n	%
Development level of study country	Developed countries (Norway, Sweden, South Korea, Cyprus)	5	38.5
	Developing countries (Iran, Nigeria, Saudi Arabia, India)	5	38.5
	Multinational	2	15.4
	Unspecified (Mudallal et al.)	1	7.7
Study design	Cross-sectional (descriptive, analytical, correlational)	9	69.2
	Systematic review	3	23.1
	Mixed-method	1	7.7
Study population	Nurses	10	76.9
	Research studies and measurement tools (systematic reviews of instruments)	3	23.1
Sample size	Less than 200	4	30.8
	200–300	4	30.8
	More than 300	3	23.1
	Review and instrument studies	2	15.4
Data collection tools	Standard EBP questionnaires	7	53.8
	Informatics and digital literacy questionnaires	4	30.8
	Barriers Scale	2	15.4
	Systematic review methods (PRISMA, COSMIN, GRADE, data extraction)	3	23.1
	Narrative analysis	1	7.7
	Digital health tools	1	7.7
Main variables examined	Evidence-based nursing practice (EBP) implementation	11	84.6
	Attitude and belief toward EBP	6	46.2

	Digital literacy / nursing informatics competency	5	38.5
	EBP knowledge	4	30.8
	Barriers to EBP implementation	4	30.8
	Organisational leadership	2	15.4
	Organisational readiness	1	7.7
	Clinical decision-making	1	7.7
	Digital competency	1	7.7
Most important findings of the studies	Positive relationship between digital literacy/informatics and EBP implementation	5	38.5
	Positive attitude of nurses toward EBP	6	46.2
	Gap between positive attitude and actual EBP implementation	3	23.1
	Knowledge and organisational readiness as predictors of EBP implementation	2	15.4
	Leadership and organisational culture as key factors in EBP implementation	2	15.4
	Lack of decision-making authority as the main barrier to EBP	2	15.4
	Lack of time and resources as barriers to EBP implementation	1	7.7
	Enhancing role of digital technologies (AI, EHR, mHealth) in EBP	1	7.7
	Need for further validation of digital competency assessment tools	1	7.7

Studies included in the systematic review were categorized into four main domains, including individual factors, technological factors, organizational factors, and barriers to evidence-based nursing practice implementation. In the individual domain, variables such as knowledge, attitudes, beliefs toward EBP, and clinical decision-making were examined. The findings of Yoo et al. and Alqahtani et al. indicated that knowledge and organizational readiness were predictors of EBP implementation. In addition, Stokke et al. reported positive attitudes toward EBP, although the level of its implementation was low. The study by Salari et al. also reported a relationship between informatics competency, clinical decision-making, and attitudes toward EBP.

In the technological domain, the studies focused on digital literacy, informatics competencies, digital health technologies, and tools for assessing digital competence [19, 24, 20, 7, 16, 26]. In the organizational domain, organizational readiness, leadership, and organizational culture were among the key variables examined [13, 21, 25]. In the section on barriers to EBP implementation, studies by Pitsillidou et al. [17] and Li et al. [22] identified the main barriers. In addition, some studies, including those by Stokke et al. [18] and Li et al., [22] reported a discrepancy between positive attitudes toward EBP and lower levels of actual implementation.

Table 3. Thematic Synthesis of Factors Influencing Evidence-Based Practice (EBP) Implementation Among Nurses

Theme	Subthemes/Variables	Supporting Studies	Main Findings
Individual factors	Knowledge of EBP	Yoo et al.; Alqahtani et al.; Li et al.	Knowledge was a significant predictor of EBP implementation; however, insufficient knowledge remained a barrier in many settings.
	Attitudes and beliefs toward EBP	Stokke et al.; Alqahtani et al.; Li et al.; Yoo et al.	Nurses generally demonstrated positive attitudes toward EBP, although positive attitudes did not always translate into practice.
	Clinical decision-making	Salari et al.	Informatics competency positively influenced clinical decision-making and supported EBP-related attitudes.
Technological factors	Digital literacy	Urhiewhu et al.; Park & Choi	Higher digital literacy was associated with greater use of

			electronic resources and stronger EBP competency.
	Informatics competency	Salari et al.; Abdekhoda & Khezri; Park & Choi	Informatics skills significantly predicted EBP implementation, EBP empowerment, and evidence-informed decision-making.
	Digital competence assessment	D'Agostino et al.	Existing digital competence assessment tools varied considerably in quality; only a limited number were recommended for use.
	Digital health technologies (EHR, AI, mHealth)	Awasthi	Digital technologies facilitated access to evidence and strengthened EBP implementation.
Organisational factors	Organisational readiness	Yoo et al.	Organisational readiness was a significant predictor of EBP implementation.
	Leadership support	Sandström et al.; Mudallal et al.	Leadership played a central role in promoting EBP culture and strengthening implementation.
	Organisational culture	Sandström et al.; Yoo et al.	Supportive organisational culture enhanced nurses' ability to integrate evidence into practice.
Barriers to EBP implementation	Lack of authority and autonomy	Pitsillidou et al.	Lack of authority to change practice was identified as the most important barrier to EBP implementation.
	Lack of time and resources	Li et al.; Pitsillidou et al.	Limited time, inadequate resources, and restricted access to evidence constrained EBP implementation.
	Knowledge–practice gap	Stokke et al.; Li et al.; Alqahtani et al.	Despite positive attitudes toward EBP, actual implementation remained limited, indicating a persistent gap between knowledge and practice.
Overall synthesis	Interaction of individual, technological, and organisational factors	All included studies	Successful EBP implementation depends on the combined effects of nurses' competencies, digital literacy, organisational readiness, leadership support, and access to technological resources.

Discussion

In this set of included studies, a relatively consistent but not identical pattern regarding the relationship between digital literacy, informatics competency, and evidence-based nursing (EBP) implementation can be observed. At a macro level, although study designs, countries, and measurement instruments varied, a convergence of results can be identified around a central point: "the existence of a gap between positive attitudes toward EBP and its actual implementation in the clinical setting." This gap was directly reported in 3 out of 13 studies (23.1%) and indicates that the issue of EBP in nursing goes beyond a mere attitudinal problem and has structural, cognitive, and technological dimensions as well.

In the study by Stokke et al. [18] in Norway, a dual pattern was observed: nurses had positive attitudes toward EBP, but its implementation remained at a low level. The significant correlation between EBP beliefs and its implementation (r=0.59) showed that although a relationship exists, its strength is moderate. In this study, the "knowledge" dimension had the strongest association with implementation (r=0.38), indicating the more prominent role of cognitive constructs compared to

attitude alone. This pattern was repeated in Yoo et al. [13], where knowledge and organisational readiness explained only 22.2% of the variance in EBP implementation, meaning that a large portion of clinical behaviour remains influenced by factors outside the individual level.

In contrast, when technological and digital variables are introduced into analytical models, the explanatory power increases considerably. In 5 studies (38.5% of all studies), a positive relationship between digital literacy or informatics competency and EBP implementation or related components was reported. For example, in Park & Choi [7] in South Korea, the combination of digital literacy, informatics competency, and critical thinking explained 53.1% of the variance in EBP empowerment; this rate is clearly higher than models based solely on attitude or knowledge. This finding indicates that EBP implementation depends not only on theoretical knowledge but also on the ability to process information digitally, access online resources, and analyse clinical data.

In studies from developing countries, the same pattern is observed, albeit with different intensity. In Iran, Salari et al. [19] showed that informatics competence was significantly related not only to attitudes toward EBP but also to clinical decision-making, predicting 20% and 26% of the variance in these variables, respectively. This finding is very important because it introduces clinical decision-making as an intermediary link between digital literacy and EBP implementation. In other words, digital literacy is not merely an instrumental skill but a cognitive enabler for transforming evidence into clinical decisions.

Along the same lines, the study by Abdekhoda & Khezri [24] also demonstrated that informatics skills were the strongest predictor of EBP implementation (β=0.63) and, together with other components of information literacy, explained up to 33% of the variance in EBP implementation. This finding, together with the results of Urhiewhu et al. [20] in Nigeria, reveals an important difference between developed and developing countries. In Nigeria, the level of digital literacy was low (mean 1.96) and use of electronic resources was limited (1.63), yet a moderate significant relationship between digital literacy and use of resources (r=0.498) still existed. This indicates that even under conditions of infrastructural weakness, digital literacy remains a limiting but determining factor.

From an organisational perspective, nearly all studies point to a common conclusion: without structural support, even the highest level of digital literacy cannot lead to EBP implementation. In the study by Pitsillidou et al. [17], the most important barrier was "lack of authority to change care processes", reported by 83.8% of participants. This figure is highly significant because it shows that the issue of EBP implementation does not stop at the individual level but is constrained at the level of organisational decision-making power. Alongside this, "non-applicability of research findings in the clinical setting" (81.5%) also indicates the gap between knowledge production and its application. In the studies by Yoo et al. [13] and Sandström et al. [21], the role of leadership, organisational culture, and structural readiness was repeatedly confirmed as determining factors, such that these factors indirectly strengthen or weaken the pathway through which digital literacy affects EBP implementation.

From a measurement perspective, the study by D'Agostino et al. [16] showed that the assessment of digital literacy has not yet reached full maturity. Out of 27 identified instruments, only 6 fell into category A (recommendable), while the remaining instruments either needed revision (20 instruments) or were not recommendable (1 instrument). This heterogeneity of instruments raises an important methodological point: much of the variation in results across different studies may be due to a lack of standardisation in measuring digital competence, rather than actual differences in skill levels.

When these findings are analysed integratively, a multi-level conceptual model can be extracted. At the first level, digital literacy and informatics competency act as direct predictors of EBP implementation, with their effect size ranging between 18% and 53% of the variance in the dependent variable across different studies. At the second level, these variables exert their indirect effects by increasing knowledge, improving attitudes, and strengthening clinical decision-making. At the third level, organisational factors such as leadership, organisational culture, structural readiness, and professional authority play a moderating role, determining whether these individual capacities are translated into clinical behaviour.

Another important point is that the difference between developed and developing countries lies not in the intensity of the problem but in the nature of the barriers. In developed countries such as Norway and South Korea, the issue is more about the "quality of integration of technology and knowledge," whereas in developing countries such as Nigeria and Iran, in addition to this issue, "technological infrastructure and access to resources" also constitute a fundamental limitation.

Nevertheless, in both groups of countries, digital literacy is emerging as a common and determining variable.

In summary, the synthesis of these studies indicates that EBP implementation in nursing is transitioning from a traditional model based on knowledge and attitudes toward a technological-cognitive model in which digital literacy, informatics competency, and access to technology play a central role. In this new model, the nurse is not merely a recipient of knowledge but an active processor of digital information capable of transforming data into clinical decisions. However, the full realisation of this transformation depends on the simultaneous improvement of three levels: individual, technological, and organisational; otherwise, the knowledge-practice gap will persist, and even with increased access to technology, no significant improvement in EBP implementation will be achieved.

Conclusion

The findings of this set of studies indicate that the implementation of evidence-based nursing is influenced by a multi-layer model comprising individual, technological, and organisational factors. At the individual level, although nurses' attitudes toward EBP are positive, practical knowledge and applied skills remain insufficient. At the technological level, digital literacy and informatics competency play a determining role in accessing and using scientific evidence and are directly associated with the quality of clinical decision-making. At the organisational level, factors such as leadership, organisational culture, managerial support, and the degree of professional autonomy of nurses have a decisive role in translating knowledge into practice. The convergence of findings suggests that the main problem in EBP implementation is not merely a lack of knowledge, but rather a "misalignment between knowledge, technology, and organisational structure." In other words, EBP is effectively implemented when three key components – individual competency, digital infrastructure, and organisational support – are simultaneously strengthened. This pattern has been repeated across different countries and indicates a global issue in nursing systems that requires multi-level, policy-oriented interventions.