

BARRIERS TO THE IMPLEMENTATION OF EVIDENCE-BASED PRACTICE AMONG NURSES: A NARRATIVE REVIEW WITH IMPLEMENTATION-FRAMEWORK INTERPRETATION

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ABSTRACT

Background: Evidence-based practice (EBP) is regarded as central to safe, high-quality nursing care, yet it is still not the standard of care delivered by clinicians worldwide, particularly in resource-constrained settings. Existing syntheses are mostly restricted by country, specialty or income setting. **Aim:** To map reported barriers to EBP implementation among nurses, together with the facilitators reported alongside them, and to interpret them through the Consolidated Framework for Implementation Research (CFIR) and the Iowa Model of Evidence-Based Practice.

Methods: Narrative review structured by a Population–Concept–Context framework. Fifteen sources (six systematic or integrative reviews, one qualitative study and eight cross-sectional surveys) were identified by web-based searching of open bibliographic, publisher and repository sources and verified against journal or repository records (full text for one source). Findings were organised into eight barrier domains and interpreted post hoc using CFIR and the Iowa Model. No systematic multi-database search, duplicate screening or formal quality appraisal was undertaken, so the map is illustrative rather than exhaustive.

Results: Lack of time and insufficient organizational or managerial support recurred across sources. Inadequate access to research (reported by 77% and 97.8% of nurses in two surveys), low confidence in appraising research, and concern about the reliability of research were prominent in Saudi and Pakistani surveys. Resource and facility constraints were reported in Pakistan and in reviews of low- and middle-income countries. Knowledge, attitudes and skills were linked to implementation, with attitudes partly mediating the effect of knowledge; leadership encouragement and Magnet recognition were associated with more favourable outcomes. Barriers clustered in the CFIR individuals and inner-setting domains and at the evidence-appraisal and integration steps of the Iowa Model. Pakistani evidence comprised three single-city, self-report cross-sectional surveys.

Conclusion: Barriers appear to operate at the interface of individual capability and organizational support rather than in isolation. Interventions should therefore combine skills development with protected time, access to evidence and visible leadership sponsorship. Qualitative, multi-site and intervention-based evidence from South Asia is a priority gap, and a systematic scoping review is needed to test these preliminary conclusions.

Keywords: evidence-based practice; nurses; barriers; facilitators; implementation science; narrative review; Pakistan

1. INTRODUCTION

Evidence-based practice (EBP) is widely regarded as the gold standard for delivering high-quality, safe and affordable care (Mohamed et al., 2024). For nurses, it means integrating the best available research evidence with clinical expertise and patient preferences when making decisions, instead of relying on tradition, colleagues' advice or habit. Despite broad endorsement, EBP is still not the standard of care delivered by practicing clinicians across the globe (Melnyk et al., 2014). Melnyk and colleagues responded by proposing 13 EBP competencies for practicing registered nurses and 11 additional competencies for advanced practice nurses, intended for use in institutional expectations, job descriptions and performance appraisal (Melnyk et al., 2014).

Research on why the gap persists has a long history. The BARRIERS scale, developed by Funk et al. (1991), organised perceived obstacles to research utilization into characteristics of the nurse, the setting, the research and its presentation, and has since been used in surveys across many countries, including Pakistan (Kousar et al., 2017) and Saudi Arabia (J. M. Alqahtani et al., 2022). Syntheses published since then show that the problem is international but varies by context.

Low- and middle-income countries. A systematic review of 16 articles (8,409 participants) grouped barriers into institutional factors (scant resources, limited access to information, inadequate staffing, lack of institutional support), interdisciplinary factors (poor communication between academic and clinical settings, inconsistency between education and practice, weak teamwork, the public's image of nursing) and nurse-related factors (perceived limits on scope of practice, time and EBP knowledge) (Shayan et al., 2019). A scoping review of nurses in LMICs found that most studies described attitudes toward EBP as positive, whereas knowledge and skills were often rated moderate to insufficient and about 84% of studies described implementation as moderate, low or suboptimal (Adombire et al., 2024). A cross-country survey of 677 nurses in Afghanistan, Ghana, Iran and Uganda found moderate practice, attitude and knowledge/skills (Negarandeh et al., 2022). In Ethiopia, a meta-analysis estimated pooled EBP

uptake among nurses at 53% and identified knowledge, communication skills, access to updated guidelines, positive attitude and head-nurse position as predictors (Wudu et al., 2024). *Europe, Latin America and multi-country syntheses.* An integrative review published in Slovenia, covering 37 articles from 2008–2017, identified seven categories ranging from attitudes and research and information-technology skills to organizational barriers (Bole & Skela-Savič, 2018). An integrative review published in Brazil, covering nine primary studies, found favourable attitudes but weak knowledge for evaluating evidence, work overload and resistance to changing practice (Camargo et al., 2018). A more recent systematic review of 15 studies from twelve countries reported four themes: lack of time and resources, insufficient managerial and leadership support, limited authority to change practice, and inadequate awareness, knowledge and skills (Rishfa & Mala, 2025).

Middle East and palliative care. Reviews restricted to one country or specialty identify time constraints and insufficient organizational backing in Saudi Arabia (Al Anazi et al., 2025) and low EBP uptake and weak readiness for organizational change in palliative care (Dakka, 2022). Primary studies show that factors interact: in Saudi nurses, attitudes partly mediated the relationship between EBP knowledge and implementation (N. Alqahtani et al., 2020), organizational features such as Magnet recognition and unit type were associated with attitudes and implementation (N. Alqahtani et al., 2022), and surveys have reported that large majorities found research hard to access and hard to appraise (Alshammari et al., 2021).

South Asia. In Pakistan, the evidence we located consists of single-city or single-hospital cross-sectional surveys of research utilization and EBP barriers (Kousar et al., 2017; Aslam et al., 2023; Siddiqui et al., 2026).

Existing reviews therefore each cover a slice of this field: a single country (Al Anazi et al., 2025), a single specialty (Dakka, 2022), a single economic grouping (Shayan et al., 2019; Adombire et al., 2024) or a defined time window (Bole & Skela-Savič, 2018). Of these, the review by Adombire et al. (2024) is the closest to the present work: it is a scoping review of nurses' EBP knowledge, skills, attitudes, beliefs and

implementation in LMICs. The present review differs in that it centres on barriers and the facilitators reported alongside them, draws on sources from any income setting, interprets findings through implementation-science frameworks, and gives specific attention to Pakistan. Among the sources we identified, none mapped all barrier domains together with facilitators and contextual variation across income settings, and none focused on Pakistan.

2. Aim and review questions

Aim: To map the evidence on barriers to implementing EBP among nurses across individual, professional, educational, organizational, managerial, technological, financial and health-system domains, and to interpret that evidence using CFIR and the Iowa Model.

Review questions

- What barriers to EBP implementation among nurses have been reported, and how can they be categorized?
- Which facilitators are reported alongside these barriers?
- How do barriers differ by country income level, care setting and nurse role?
- What methodological and evidence gaps exist, including in Pakistan and other resource-constrained settings?

3. Methods

3.1 Review design and reporting

This is a narrative review: a structured but non-systematic synthesis of a purposively identified body of literature. It is not a systematic review or a scoping review conducted to JBI (Peters et al., 2020, 2024) or PRISMA-ScR (Tricco et al., 2018) standards, because a systematic multi-database search with duplicate screening was not performed. A narrative design was chosen because the question is broad, the available evidence is methodologically heterogeneous (surveys, qualitative studies and reviews), and the aim is to map concepts and gaps and to interpret them through implementation frameworks, rather than to estimate effects. The review is reported with reference to the six items of the Scale for the Assessment of Narrative Review Articles (SANRA; Baethge et al., 2019): justification of importance, statement of aims, description of the literature search, referencing, presentation of the level of evidence, and presentation of relevant data.

3.2 Eligibility criteria

A Population–Concept–Context (PCC) framework was used to decide which sources to include (Table 1).

Table 1. Population–Concept–Context framework and eligibility criteria

Element	Inclusion	Exclusion
Population	Registered or licensed nurses, nurse managers and advanced practice nurses	Studies exclusively of nursing students, physicians or other professions (mixed samples were considered where nurse data were separable)
Concept	Barriers (and facilitators) to implementing EBP, research utilization or evidence-informed practice	Studies of EBP education outcomes only, with no barrier or facilitator data
Context	Any care setting, any country	None
Sources	Primary quantitative, qualitative and mixed-methods studies; systematic, integrative and other reviews	Editorials, protocols and conference abstracts without data (one pre-2015 conference account was retained as context only)
Dates / language	Published 2015 onward; English (foundational earlier works are cited in the Introduction)	Other languages (noted as a limitation)

3.3 Source identification

Sources were identified in 2026 by web-based searching of open bibliographic, publisher and repository sources, including Google Scholar, PubMed and PubMed Central record pages, the Directory of Open Access Journals, publisher journal pages and national repositories. Search terms combined evidence-based practice, evidence-based nursing, research utilization, nurses, barriers, facilitators and implementation, with additional targeted searches for Pakistan, Saudi Arabia and low- and middle-income countries. Searching was iterative and ended at the authors' discretion; the subscription databases CINAHL, Embase, Scopus and Web of Science were not searched, and no search was run to saturation. Completeness is therefore not claimed.

3.4 Source verification and data extraction

Each source was checked against its journal, publisher or repository record to confirm authors, year, journal, volume, pages and DOI. Study country, setting, design, sample, instruments, barrier and facilitator findings were extracted from the record or abstract. The full text was read for one study (Abdullah et al., 2024). Selection and extraction were not performed in duplicate.

3.5 Synthesis

Findings were summarized descriptively and sorted deductively into the eight domains named in the aim. As an interpretive step carried out after extraction, barriers and facilitators were then mapped to the domains of the updated

CFIR (innovation, outer setting, inner setting, individuals, implementation process; Damschroder et al., 2022) and, where relevant, to steps of the Iowa Model (Iowa Model Collaborative, 2017). This mapping is the authors' interpretation and was not used to extract data. Frequencies describe how many sources reported each domain; no effect estimates were pooled.

3.6 Quality appraisal and ethics

Formal critical appraisal is optional in scoping and narrative reviews (Peters et al., 2020; Tricco et al., 2018) and was not performed; design limitations are noted in Section 4.2 and in the Discussion. Ethical approval was not required because only published literature was used.

4. Results

4.1 Sources included

Fifteen sources were included in the evidence map: six systematic or integrative reviews (palliative care, low- and middle-income countries, Saudi Arabia, Europe-published, Brazil-published and a 12-country synthesis), one qualitative study, and eight cross-sectional surveys from Saudi Arabia, Pakistan and Iraq. Because sources were purposively identified and not screened from a systematic search, no flow diagram is presented. Three further sources (Adombire et al., 2024; Negarandeh et al., 2022; Wudu et al., 2024) are cited in the Introduction as context but are not part of the barrier map, because they report knowledge, attitudes and uptake rather than barriers.

4.2 Characteristics of included sources

Table 2. Characteristics of included sources

#	Source	Country / setting	Design	Key details
1	Dakka (2022)	Palliative care (international)	Systematic review	7 articles; PubMed, MEDLINE, CINAHL, Google Scholar; English, last 10 years
2	Shayan et al. (2019)	Low- and middle-income countries	Systematic review (PRISMA)	16 articles, 8,409 participants; 2000–2018; PubMed, Scopus, Embase, Web of Science
3	Al Anazi et al. (2025)	Saudi Arabia	Systematic review	10 studies, 2013–2023; Scopus, Medline, Google Scholar; critical appraisal applied

#	Source	Country / setting	Design	Key details
4	Rishfa & Mala (2025)	12 countries (Maldives-based authors)	Systematic review (PRISMA)	15 studies, n = 4,641; 2018–2024; JBI appraisal
5	Bole & Skela-Savič (2018)	Published in Slovenia; international literature	Integrative review	37 articles, 2008–2017; CINAHL, ProQuest, SpringerLink, Wiley, PubMed; 73 codes in 7 categories
6	Camargo et al. (2018)	Published in Brazil; hospital nurses	Integrative review	9 primary studies from PubMed, CINAHL, LILACS; searched to July 2016
7	N. Alqahtani et al. (2020)	Riyadh, Saudi Arabia (4 hospitals)	Cross-sectional, correlational	n = 227 staff nurses; EBP Questionnaire
8	N. Alqahtani et al. (2022)	Saudi Arabia	Cross-sectional	Organizational factors, leadership support, Magnet status
9	J. M. Alqahtani et al. (2022)	Riyadh primary healthcare, Saudi Arabia	Cross-sectional	n = 284 nurses; BARRIERS scale
10	Alshammari et al. (2021)	Hail region, Saudi Arabia	Quantitative correlational	n = 228 staff nurses; EBPQ and BARRIERS scale; data June–July 2020
11	Mohamed et al. (2024)	Bisha, Saudi Arabia	Qualitative descriptive	64 nurses, 8 focus groups; inductive content analysis
12	Abdullah et al. (2024)	Mosul, Iraq (5 hospitals)	Cross-sectional	n = 250; 24-item KAP scale; full text read
13	Kousar et al. (2017)	Lahore, Pakistan (2 public hospitals)	Descriptive cross-sectional	n = 245 registered nurses; Funk et al. BARRIERS questionnaire
14	Aslam et al. (2023)	Lahore, Pakistan (2 tertiary hospitals)	Descriptive cross-sectional	n = 116 staff nurses with > 3 years' experience
15	Siddiqui et al. (2026)	Rahim Yar Khan, Pakistan (single 1,000-bed hospital)	Cross-sectional survey	n = 300 registered nurses; convenience sampling; adapted EBP competency tool; data Nov 2024–May 2025

Details were verified at record or abstract level, except Abdullah et al. (2024), which was read in full.

The included set is dominated by cross-sectional self-report surveys from the Middle East and South Asia, plus six reviews. Evidence from Latin America, sub-Saharan Africa and high-income settings was sampled only through reviews, so geographic balance cannot be assessed.

4.3 Barriers by domain

Individual and professional. Nurse-related barriers in LMICs included perceived limits on scope of practice, time and EBP knowledge (Shayan et al., 2019). In Saudi Arabia, knowledge and attitudes were positively associated with implementation, and attitudes partly mediated the effect of knowledge (N. Alqahtani et al., 2020). A review of 15 studies identified limited authority to change practice as a distinct theme (Rishfa & Mala, 2025).

Knowledge, education and research literacy. In the Hail region, 90.4% of nurses reported that they were not capable of evaluating the quality of research (Alshammari et al., 2021). In Rahim Yar Khan, 44% reported a lack of confidence in research evaluation (Siddiqui et al., 2026). In Mosul, the lowest-rated practice items were assessing literature critically and locating pertinent evidence (Abdullah et al., 2024). Unexpectedly, EBP training was associated with greater difficulty participating in implementation among Saudi nurses (N. Alqahtani et al., 2020), which may reflect training that raises awareness without building applied skill; this interpretation is untested. In Mosul, nurses with master's degrees scored higher than those with bachelor's degrees on knowledge, practice and total EBP scores (Abdullah et al., 2024); the authors' abstract also reports higher attitude scores, but their own results table does not show a significant attitude difference.

Workload, staffing and time. Time constraints were reported as a major barrier in the Saudi systematic review (Al Anazi et al., 2025), in palliative care (Dakka, 2022), in a multi-country review (Rishfa & Mala, 2025) and, as work overload, in an integrative review published in Brazil (Camargo et al., 2018). Among surveyed nurses, "no time to read research" was endorsed by 94.3% in Hail (Alshammari et al., 2021), limited time by 66.7% in Rahim Yar Khan (Siddiqui et al., 2026), and lack of time was the most reported barrier in Mosul (mean 3.9, SD 0.6; Abdullah et al., 2024).

Organizational culture and institutional support. Palliative care reviews identified lack of readiness for organizational change (Dakka, 2022), and the LMIC review found institutional and interdisciplinary barriers alongside nurse-related ones (Shayan et al., 2019). The Saudi review highlighted insufficient organizational backing (Al Anazi et al., 2025), and a qualitative study in Bisha concluded that nurses experienced limited support for implementing EBP (Mohamed et al., 2024). Notably, the Rahim Yar Khan survey found that 86.7% of nurses perceived organizational support, yet practical obstacles persisted (Siddiqui et al.,

2026), suggesting that perceived support alone does not remove time, access and skill barriers.

Leadership and management. Magnet recognition was associated with nurses' attitudes, unit type (emergency) and knowledge were associated with implementation, and 51.1% of nurses perceived leadership encouragement to attend EBP training (N. Alqahtani et al., 2022). Lack of support from management was the second most reported barrier in Mosul (mean 3.7, SD 0.7; Abdullah et al., 2024), and insufficient managerial and leadership support was one of four themes in a 15-study review (Rishfa & Mala, 2025).

Access to research and digital resources. "Research is not readily available" was endorsed by 97.8% of nurses in Hail (Alshammari et al., 2021); inadequate access to published research by 77% in Rahim Yar Khan (Siddiqui et al., 2026); and lack of access to relevant research was the third most reported barrier in Mosul (Abdullah et al., 2024). The LMIC review listed limited access to information as an institutional barrier (Shayan et al., 2019). In addition, 95.7% of Rahim Yar Khan nurses voiced concern about the reliability of research and 68.4% of Hail nurses were uncertain whether to believe research results (Siddiqui et al., 2026; Alshammari et al., 2021). Evidence on digital infrastructure specifically (subscriptions, connectivity, electronic records) was absent from the included sources.

Financial, material and technological constraints. Resource constraints were named in palliative care (Dakka, 2022) and as "scant resources" in LMICs (Shayan et al., 2019). In Lahore, the largest barrier was a lack of health care facilities to empower nurses with an EBP environment (72.4%), and the authors attributed inadequate resources and equipment to the country's financial situation (Aslam et al., 2023). These are survey-level statements; no included study examined funding, subscriptions or digital infrastructure directly.

Sociocultural and health-system factors. The LMIC review reported interdisciplinary barriers including a gap between academic and clinical environments, inconsistency between education

and practice, weak teamwork and the public's negative image of nursing (Shayan et al., 2019). A Karachi-based conference account reported that EBP was largely unrecognized across Pakistani health settings (Ali & Parvani, 2012);

because it pre-dates 2015, is interview-based and is not peer-reviewed in the form retrieved, it is cited only as context and is not counted in the evidence map. Health-system and sociocultural evidence for Pakistan remains thin.

Table 3. Major barriers and supporting evidence

Domain	Evidence	Sources	Evidence base (authors' judgment)
Individual / professional	Scope-of-practice limits; knowledge; attitudes mediate knowledge → implementation; limited authority to change practice	Shayan et al. (2019); N. Alqahtani et al. (2020); Rishfa & Mala (2025)	Moderate (reviews + survey)
Education / research literacy	Low confidence appraising research (44%; 90.4%); weakest practice items are critical appraisal and locating evidence; training paradox; higher degree → higher scores	Alshammari et al. (2021); Siddiqui et al. (2026); Abdullah et al. (2024); N. Alqahtani et al. (2020)	Moderate (several surveys; self-report)
Workload / time	Time constraints recurrent (66.7%–94.3% in surveys; top barrier in Mosul)	Al Anazi et al. (2025); Dakka (2022); Alshammari et al. (2021); Siddiqui et al. (2026); Abdullah et al. (2024); Camargo et al. (2018)	Moderate–high (reviews + surveys)
Organizational culture	Change readiness; institutional and interdisciplinary barriers; limited support	Dakka (2022); Shayan et al. (2019); Mohamed et al. (2024)	Moderate
Leadership / management	Magnet status; leader encouragement; lack of management support	N. Alqahtani et al. (2022); Abdullah et al. (2024); Rishfa & Mala (2025)	Low–moderate
Access to research / digital	Research not readily available (97.8%); inadequate access (77%); reliability concerns (95.7%; 68.4%)	Alshammari et al. (2021); Siddiqui et al. (2026); Abdullah et al. (2024); Shayan et al. (2019)	Moderate for access; very low for digital infrastructure
Financial / material	Scant resources; lack of facilities (72.4%); country financial situation	Shayan et al. (2019); Aslam et al. (2023); Dakka (2022)	Low
Sociocultural / system	Academic–clinical gap; education–practice inconsistency; public image; Pakistan context only	Shayan et al. (2019)	Very low

4.4 Facilitators

Table 4. Facilitators and practical implications

Facilitator (as reported)	Source	Practical implication (authors' interpretation)
Continuing education and mentoring	N. Alqahtani et al. (2020)	Pair training with mentored, applied projects

Facilitator (as reported)	Source	Practical implication (authors' interpretation)
Leadership encouragement; Magnet-type environments	N. Alqahtani et al. (2022)	Protect time and visibly sponsor EBP activity
Educational initiatives raising EBP awareness; reported gains in supportive environment, nurse autonomy and interprofessional collaboration	Al Anazi et al. (2025)	Embed EBP in in-service programmes
Educational interventions for primary healthcare nurses	J. M. Alqahtani et al. (2022)	Target training to identified barriers
Postgraduate education	Abdullah et al. (2024)	Support access to graduate study
Institutional will plus interdisciplinary and individual commitment	Shayan et al. (2019)	Develop multi-level EBP strategies
Leadership commitment, organizational readiness, protected time, mentorship	Rishfa & Mala (2025)	Embed EBP in policy and curricula
Positive attitudes, willingness to implement; perceived organizational support	Siddiqui et al. (2026); N. Alqahtani et al. (2020)	Build on existing motivation

4.5 Evidence gaps

The included set shows (a) reliance on cross-sectional self-report; (b) few qualitative or intervention studies; (c) little direct evidence on financial, technological and sociocultural drivers; (d) single-site Pakistani studies; and (e) no studies linking barrier reduction to patient outcomes.

5. Discussion

Across the included sources, time pressure and weak organizational support recur, which aligns with the systematic reviews of Saudi nurses, palliative care nurses and a 12-country sample (Al Anazi et al., 2025; Dakka, 2022; Rishfa & Mala, 2025). The more informative pattern is interaction. N. Alqahtani et al. (2020) found that attitudes partly mediate the knowledge-implementation link, while N. Alqahtani et al. (2022) showed organizational variables shaping attitudes and implementation. Together these suggest that individual capability is necessary but not sufficient, and that interventions aimed only at nurses' knowledge will have limited reach. The unexpected training finding reinforces this point: awareness-level training may not translate into practice without time, mentoring and unit-

level expectations. That interpretation is hypothesis-generating and should be tested.

5.1 Interpretation through implementation-science frameworks

Barrier lists are descriptive; implementation frameworks help explain where in the pathway from evidence to practice the obstacles sit and which levers might work. Two frameworks are used here as interpretive lenses. They were not used to extract data from the included sources, so the mapping in Table 5 is the authors' interpretation, not a finding.

CFIR. The Consolidated Framework for Implementation Research organizes the contextual determinants of implementation into domains (Damschroder et al., 2009); the updated version names five: innovation, outer setting, inner setting, individuals and implementation process, with greater attention to the recipients of the innovation and to equity (Damschroder et al., 2022). Most barriers in the included set fall in two domains. *Individuals*: low confidence in appraising research and weak critical-appraisal and evidence-location skills (Alshammari et al., 2021; Siddiqui et al., 2026; Abdullah et al., 2024), alongside generally

positive attitudes. *Inner setting*: time, staffing, management support, access to information and available facilities. A distinctive feature of the Pakistani and Saudi surveys is the *innovation* domain: large proportions of nurses doubted the reliability of research (95.7%; 68.4%), which suggests that the perceived credibility and usability of the evidence itself, not only nurses' skills, shapes uptake. *Outer setting* (national funding, regulation, professional policy) appears only indirectly, through the attribution by Aslam et al. (2023) of resource shortages to the country's financial situation; this is a gap rather than a finding. *Implementation process* determinants (training, mentoring, champions, committees, evaluation) appear mainly as recommendations. One result deserves attention: in Rahim Yar Khan, perceived organizational support was high (86.7%) and an EBP committee was reported to exist, yet time, access and confidence barriers remained (Siddiqui et al., 2026). In CFIR terms, the presence of supportive structures in the inner setting does not guarantee that the resources and access they require are actually available.

Iowa Model. The Iowa Model of Evidence-Based Practice is a decision pathway that guides EBP from both clinician and systems perspectives, running from a trigger and a clinical question through forming a team, assembling, appraising and synthesizing evidence, deciding whether the evidence is sufficient, designing and piloting a change, and integrating, sustaining and disseminating it (Iowa Model Collaborative, 2017). Read against that pathway, the individual-level barriers cluster at the *assemble, appraise and synthesize evidence* step (access, appraisal skills, time to read), whereas the organizational barriers cluster at *form a team, design and pilot* and *integrate and sustain* (authority to change practice, protected time, leadership sponsorship, facilities). This helps explain the training paradox: training that builds awareness can move nurses to the first steps of the pathway without equipping them or their units to complete the later ones. It also suggests that interventions should be matched to the step where a unit is stuck, rather than applying generic education to all nurses.

Table 5. Mapping of barrier evidence to CFIR (2022) domains and Iowa Model steps (authors' interpretation)

CFIR domain	Barrier evidence in the included sources	Iowa Model step most affected
Individuals	Low confidence appraising research (44%; 90.4%); weakest practice items: critical appraisal, locating evidence; knowledge → attitude → implementation pathway	Assemble, appraise and synthesize evidence
Innovation (the evidence)	Concern about research reliability (95.7%); uncertainty whether to believe results (68.4%)	Appraise evidence; decide whether evidence is sufficient
Inner setting	Time (66.7%–94.3%); research not readily available (97.8%; 77%); lack of facilities (72.4%); management support; Magnet status and leadership encouragement	Form team; design and pilot; integrate and sustain
Outer setting	Country financial situation (Aslam et al., 2023); scant resources in LMICs; very little direct evidence	Integrate and sustain (system level)
Implementation process	Training paradox; educational initiatives; mentoring; committees; evaluation largely unstudied	Design and pilot; integrate and sustain; disseminate

5.2 Pakistan and transferability

For Pakistan, the included evidence comprises three single-city surveys. They describe low

research utilization in public hospitals (Kousar et al., 2017), a lack of facilities and resources in two Lahore tertiary hospitals (Aslam et al.,

2023), and positive attitudes with persistent practical obstacles, including time, access and appraisal confidence, in Rahim Yar Khan (Siddiqui et al., 2026). No multi-site, qualitative or interventional Pakistani study was identified, which limits conclusions about health-system and sociocultural drivers. Findings from Saudi Arabia may not transfer, because that system has a different workforce composition and Magnet-oriented investment, and the Mosul data are of uncertain reliability (see Section 5.4).

5.3 Implications

Education: move from awareness to skills (appraisal, database searching) with mentored practice. *Leadership and management:* protect time, appoint unit EBP champions, and measure implementation. *Policy:* improve resource access (journal subscriptions, librarian support, pre-appraised evidence summaries that address reliability concerns) and create nursing-research roles, particularly in public hospitals. These recommendations are the authors' interpretations of limited evidence.

5.4 Strengths and limitations

Strengths are the explicit PCC framework, verification of every source against its journal or repository record, the use of implementation frameworks as interpretive lenses, and transparent reporting of how sources were found. The principal limitation is that this is a narrative review: no systematic multi-database search was run and no duplicate screening or extraction was done, so the evidence map is non-exhaustive and subject to retrieval and selection bias. Sources were verified at record or abstract level, with full text read for one study. English-only scope and the absence of formal quality appraisal further limit certainty. Several surveys used different instruments (BARRIERS scale, EBPQ, locally adapted tools), so percentages are not directly comparable. Two included sources warrant particular caution. Abdullah et al. (2024) contains internal inconsistencies: its abstract and results report different mean ages and sampling methods, its abstract describes better attitudes among master's-prepared nurses although its results table shows no significant difference, and its regression reports an R^2 of 0.988. The reference list of Rishfa and Mala (2025) contained entries we could not match to

published records, so that review's findings are reported only as stated in its abstract and results and should be interpreted cautiously. Finally, retrieval, record verification and drafting were assisted by a generative AI tool (see Declarations), and all citations were checked against source records.

5.5 Future research

Priorities are multi-site and qualitative studies in Pakistan and South Asia; intervention trials of multi-level EBP strategies framed by an implementation framework; studies of financial and digital barriers; and outcome-linked evaluations. A prospectively registered scoping review with a systematic search of CINAHL, Embase, Scopus, Web of Science and regional databases, dual screening and charting, and coding to CFIR (Arksey & O'Malley, 2005; Peters et al., 2020; Tricco et al., 2018) would test and extend the conclusions drawn here.

6. Conclusion

The sources reviewed indicate that nurses' EBP implementation is constrained by time, access to and confidence in research, organizational support, and the interaction of knowledge, attitudes and leadership. Viewed through CFIR and the Iowa Model, barriers cluster in the individuals and inner-setting domains and at the evidence-appraisal and integration steps, with scarce evidence on outer-setting and implementation-process determinants. Evidence on financial, technological and sociocultural barriers, and on interventions, is sparse, particularly in Pakistan. Effective strategies are likely to combine skills development with protected time, reliable access to evidence and visible leadership sponsorship. Because this review was not systematic, these conclusions should be treated as a framework for hypotheses and for a future systematic scoping review.

Declarations

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Data availability: All data analysed are from published sources listed in the References; source-level extraction is presented in Tables 2–5.

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