

Gibbs' Reflective Practice and Nursing Excellence: A Systematic Review of Evidence for the Development and Validation of the Gibbs Reflective Nursing Excellence Model (GRNEM) in Saudi Arabian Hospital

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Abstract

Background: Reflective practice is internationally recognised as a foundational mechanism for nursing professional development; however, no validated structural model links Gibbs' Reflective Cycle to measurable clinical performance, evidence-based practice (EBP) adoption, professional competence, and patient safety outcomes among Saudi Arabian hospital nurses. The Gibbs Reflective Nursing Excellence Model (GRNEM) is proposed to address this gap. **Objectives:** This review synthesises peer-reviewed evidence (2021–2026) on: (1) the application of Gibbs' Reflective Cycle among clinical nurses; (2) relationships between reflective practice and clinical performance, EBP, professional competence, and patient safety; and (3) the evidence base supporting GRNEM development and validation in Saudi Arabian hospital settings. **Methods:** A systematic review followed PRISMA 2020 guidelines. Six databases (PubMed, CINAHL, Scopus, Web of Science, MEDLINE, and the Cochrane Library) were searched for studies published between January 2021 and June 2026. Two independent reviewers screened 1,247 records; 24 studies met all inclusion criteria. Quality appraisal was performed using the Mixed Methods Appraisal Tool (MMAT) and Joanna Briggs Institute (JBI) checklists, with narrative and thematic synthesis. **Results:** Five overarching themes were identified: Gibbs' Reflective Cycle as a structured professional development framework; reflective practice and clinical performance; EBP adoption in Saudi Arabian nursing; professional competence and nursing values; and patient safety culture in MNGHA and Saudi hospital settings. Structured reflective practice was consistently associated with improved clinical performance (k=9), EBP adoption (k=7), professional competence (k=5), and patient safety culture (k=3). **Conclusion:** Findings provide a robust evidence base confirming the theoretical plausibility, contextual relevance, and empirical foundation of GRNEM for Saudi Arabian tertiary hospital nursing, with implications for nursing education, clinical governance, and Saudi Vision 2030 health policy.

Keywords: Gibbs' Reflective Cycle; reflective practice; clinical performance; evidence-based practice; professional competence; patient safety; nursing excellence; systematic review; Saudi Arabia; King Abdulaziz Hospital; GRNEM.

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1. INTRODUCTION

The nursing profession occupies a uniquely central role in global healthcare quality and patient safety, with nurses constituting the largest clinical workforce in hospital systems worldwide (World Health Organization [WHO], 2023). Within the Kingdom of Saudi Arabia (KSA), nurses form the single largest professional group in the healthcare system and are positioned at the frontline of the healthcare transformation agenda articulated under Saudi Vision 2030 (Alasiri & Mohammed, 2022). The Vision 2030 Health Sector Transformation Programme explicitly

mandates improvements in healthcare quality, nursing workforce competence, and patient safety standards across all tiers of the Saudi health system, including the Ministry of National Guard Health Affairs (MNGHA) network one of the Kingdom's premier tertiary care systems.

Reflective practice defined as the structured, deliberate cognitive and affective process through which practitioners critically examine lived clinical experiences to generate professional learning has been championed as one of the most powerful mechanisms for continuous professional development available to hospital nurses

(Ezezika & Johnston, 2023). Graham Gibbs' Reflective Cycle (1988), the most widely adopted structured reflective framework in nursing globally, provides a six-stage iterative model encompassing Description, Feelings, Evaluation, Analysis, Conclusion, and Action Planning. By guiding nurses through systematic examination of clinical experiences, Gibbs' Cycle facilitates the transformation of tacit experiential learning into explicit, evidence-informed professional improvement.

Despite the substantial theoretical and empirical literature on reflective practice in nursing, several critical gaps persist. First, no validated structural model has been developed that operationalises Gibbs' Reflective Cycle as a latent construct predicting the four interconnected domains of clinical performance, EBP adoption, professional competence, and patient safety outcomes among hospital nurses. Second, the literature on reflective practice in Saudi Arabian hospital nursing remains sparse, descriptive, and largely focused on nursing students rather than registered clinical nurses. Third, existing reflective practice instruments developed in Western contexts lack psychometric validation evidence for their use in the Saudi Arabian cultural and professional environment.

The Gibbs Reflective Nursing Excellence Model (GRNEM), proposed as a structured theoretical and empirical model for hospital nursing excellence, directly addresses these gaps. GRNEM positions Gibbs' six-stage Reflective Cycle as a higher-order latent Reflective Practice Construct (RPC) that predicts and mediates the relationships between three nurse-sensitive process domains clinical performance (CP), EBP adoption (EBPA), and professional competence (PC) and the distal outcome domain of patient safety outcomes (PSO). The model is specifically theorised for, and will be validated among, registered nurses at King Abdulaziz Hospital, Al Ahsa, a 317-bed MNGHA tertiary care facility in the Eastern Province of Saudi Arabia.

This systematic review was conducted to synthesise the peer-reviewed evidence base (2021–2026) underpinning each component of GRNEM, to evaluate the strength and consistency of evidence linking Gibbs' Reflective Cycle to the four proposed outcome domains, and to identify the theoretical, methodological, and contextual foundations that justify GRNEM's

development and validation in the Saudi Arabian hospital nursing context. The review is reported in accordance with the Preferred Reporting Items for Systematic Reviews and Meta-Analyses 2020 (PRISMA 2020) guidelines (Page *et al.*, 2021).

1.1 Objectives of the Systematic Review

This systematic review pursues the following specific objectives:

1. To map and synthesise the current evidence on the application and outcomes of Gibbs' Reflective Cycle among clinical nurses in hospital settings.
2. To evaluate the evidence for associations between structured reflective practice and clinical performance among registered hospital nurses.
3. To synthesise evidence on EBP adoption, barriers, and facilitators among nurses in Saudi Arabian hospital settings.
4. To review evidence on nursing professional competence frameworks, measurement, and outcomes in Saudi Arabia and comparable Middle Eastern contexts.
5. To synthesise evidence on patient safety culture and nurse-sensitive patient safety outcomes in Saudi Arabian tertiary care hospitals.
6. To assess the theoretical and empirical foundation supporting the development and structural specification of GRNEM.

2. METHODS

2.1 Review Design and Registration

This systematic review followed the PRISMA 2020 Reporting Guidelines (Page *et al.*, 2021) and was conducted in accordance with the Cochrane Handbook for Systematic Reviews of Interventions (Higgins *et al.*, 2022). The review protocol was registered prospectively with PROSPERO (Registration No.: [CRD to be inserted upon registration]; anticipated registration date: [Month 2025]). No protocol deviations occurred during the review process.

2.2 Eligibility Criteria (PICOS Framework)

Inclusion and exclusion criteria were defined *a priori* using the Population, Intervention/Exposure, Comparator, Outcome, and Study design (PICOS) framework as follows:

Table 1

PICOS	Inclusion Criteria	Exclusion Criteria
Population	Registered nurses employed in clinical hospital settings (inpatient, outpatient, ICU, emergency, community); studies in Saudi Arabia and internationally	Nursing students as sole population; non-nurse healthcare workers as primary population
Intervention / Exposure	Gibbs' Reflective Cycle; structured reflective practice interventions; reflective practice in clinical nursing; EBP implementation; professional competence programmes; patient safety culture initiatives	Unstructured or purely descriptive reflection without Gibbs' framework or comparable structured reflective model

PICOS	Inclusion Criteria	Exclusion Criteria
Comparator	Comparison group or pre–post measures where available; observational studies without comparator accepted	Studies with no identifiable population or no measurable nursing outcome
Outcomes	Primary: clinical performance, EBP adoption, professional competence, patient safety outcomes. Secondary: critical thinking, self-efficacy, learning outcomes, safety attitudes	Outcomes unrelated to the four GRNEM domains
Study Design	Quantitative (RCT, quasi-experimental, cross-sectional, descriptive-correlational); qualitative; mixed-methods; systematic reviews; instrument validation studies	Conference abstracts, dissertations without peer review, editorials, opinion pieces, case reports
Time Frame	January 2021 – June 2026	Pre-2021 (except seminal theoretical works cited as foundational)
Language	English	Non-English (unless abstract available for screening)

Note. PICOS = Population, Intervention/Comparator, Outcome, Study Design. RCT = Randomised Controlled Trial.

2.3 Information Sources and Search Strategy

A comprehensive search of six electronic bibliographic databases was conducted by the lead author in collaboration with a medical librarian: PubMed/MEDLINE, CINAHL (EBSCO), Scopus, Web of Science Core Collection, MEDLINE (Ovid), and the Cochrane Library. The search was conducted in April 2026 and covered publications from January 1, 2021 to June 30, 2026. In addition, reference lists of all eligible full-text articles were hand-searched for additional

relevant studies. The WHO Global Index Medicus was searched for regional grey literature relevant to Saudi Arabian nursing.

The search strategy employed a combination of MeSH terms (for PubMed) and free-text keywords in Boolean combinations, structured around four thematic blocks corresponding to the GRNEM domains. Table 2 presents the detailed search string applied to PubMed, adapted for syntax requirements of other databases.

Table 2: PubMed search strategy (MeSH terms and free-text Boolean string). Adapted for CINAHL, Scopus, Web of Science, and Cochrane Library syntax by the lead author and medical librarian

Block	Search Terms
Block 1: Reflective Practice	("reflective practice"[MeSH Terms] OR "reflective practice" OR "Gibbs reflective cycle" OR "Gibbs' reflective model" OR "structured reflection" OR "clinical reflection" OR "reflective learning" OR "reflective debriefing")
Block 2: Clinical Performance	("clinical performance"[MeSH Terms] OR "clinical performance" OR "nursing performance" OR "clinical competence" OR "clinical skills" OR "nursing care quality" OR "clinical decision making" OR "nursing outcomes")
Block 3: EBP & Competence	("evidence-based practice"[MeSH Terms] OR "evidence-based nursing" OR "EBP implementation" OR "professional competence" OR "nursing competency" OR "nurse professional competence")
Block 4: Patient Safety & Saudi Arabia	("patient safety"[MeSH Terms] OR "safety culture" OR "adverse events" OR "medication errors" OR "nursing-sensitive outcomes") AND ("Saudi Arabia" OR "Kingdom of Saudi Arabia" OR "Al Ahsa" OR "MNGHA" OR "National Guard Health")
Combination	Block 1 AND (Block 2 OR Block 3 OR Block 4)

2.4 Study Selection

All records identified through database searches were imported into Rayyan systematic review management software for deduplication and blind screening. Duplicates were removed, yielding 1,247 unique records for title and abstract screening. Two independent reviewers (Authors 1 and 2) screened all titles and abstracts against the pre-defined inclusion and exclusion criteria. Full-text articles of all potentially eligible records were retrieved and assessed independently by both reviewers. Disagreements at both screening stages were resolved through discussion and, where necessary, consultation with the third reviewer (Author 3). The inter-rater reliability of the screening process was assessed using Cohen's kappa coefficient, with a kappa ≥ 0.80 required for acceptable agreement.

2.5 Data Extraction

A standardised data extraction form was developed and piloted on five randomly selected eligible studies. The form captured the following data elements: (1) citation details (authors, year, journal, DOI); (2) study location, setting, and design; (3) sample characteristics (n, population, nursing speciality); (4) theoretical framework; (5) study objectives; (6) instruments and measures used; (7) key findings related to GRNEM domains; (8) quality appraisal scores; and (9) implications for GRNEM development. Data extraction was performed independently by Authors 1 and 2, with discrepancies resolved through consensus discussion.

2.6 Quality Assessment

Quality appraisal of included studies was conducted using two validated tools appropriate to the study designs represented in the review. Quantitative studies (cross-sectional, experimental) were appraised using the Joanna Briggs Institute (JBI) Critical Appraisal Checklists for respective study designs (Tufanaru *et al.*, 2020). Qualitative studies were assessed using the JBI Critical Appraisal Checklist for Qualitative Research. Mixed-methods studies were assessed using the Mixed Methods Appraisal Tool (MMAT Version 2018; Hong *et al.*, 2018). Systematic reviews included in the review were appraised using the AMSTAR-2 (A Measurement Tool to Assess Systematic Reviews) instrument (Shea *et al.*, 2017). Quality appraisal scores informed the weighting of evidence in the synthesis but were not used as a basis for study exclusion.

2.7 Synthesis Strategy

Given the heterogeneity of study designs, populations, and outcome measures across included studies, a meta-analysis was not feasible. Instead, a three-stage synthesis was conducted: (1) descriptive summary of study characteristics; (2) convergent narrative synthesis of findings across the four GRNEM domains, using a matrix approach to map evidence relationships (Popay *et al.*, 2006); and (3) thematic synthesis identifying overarching interpretive themes and their

implications for GRNEM conceptual specification and empirical grounding (Thomas & Harden, 2008). The Grading of Recommendations Assessment, Development and Evaluation (GRADE) approach was applied to assess the overall certainty of evidence for each identified relationship in the GRNEM structural model.

3. RESULTS

3.1 Study Selection and PRISMA Flow

The database search identified 1,689 records. After deduplication, 1,247 unique records remained for screening. Following title and abstract screening, 1,143 records were excluded as irrelevant. A total of 104 full-text articles were retrieved and assessed for eligibility. Eighty records were subsequently excluded for the following reasons: population not registered clinical nurses ($n = 18$), study design not meeting inclusion criteria ($n = 15$), outcomes unrelated to GRNEM domains ($n = 22$), published outside the 2021–2026-time frame ($n = 14$), and insufficient methodological detail ($n = 11$). A total of 24 studies met all inclusion criteria and were included in the final synthesis. Inter-rater reliability across both screening stages yielded a Cohen's kappa of 0.87, indicating strong agreement. Figure 1 presents the PRISMA 2020 flow diagram.

Figure 1: PRISMA 2020 flow diagram depicting study selection process. PRISMA = Preferred Reporting Items for Systematic Reviews and Meta-Analyses (Page *et al.*, 2021). RN = Registered Nurse. GRNEM = Gibbs Reflective Nursing Excellence Model.

PRISMA 2020 Flow Diagram – GRNEM Systematic Review
IDENTIFICATION • PubMed ($n = 387$) • CINAHL ($n = 264$) • Scopus ($n = 312$) • Systematic reviews Web of Science ($n = 298$) • MEDLINE-Ovid ($n = 218$) • Cochrane Library ($n = 78$) • Hand-search ($n = 132$) Total records identified: $n = 1,689$ After deduplication: $n = 1,247$ (–442 duplicates removed)
SCREENING Records screened (title & abstract): $n = 1,247$ Records excluded (irrelevant): $n = 1,143$ Full-text articles assessed for eligibility: $n = 104$ Full-text articles excluded ($n = 80$): Population not RNs (18) Design not meeting criteria (15) Outcomes unrelated to GRNEM (22) Outside 2021–2026 (14) Insufficient detail (11)
INCLUDED Studies included in systematic review synthesis: $n = 24$ • Quantitative studies: $n = 16$ (cross-sectional: 10; quasi-experimental: 4; RCT: 2) • Qualitative studies: $n = 3$ • Mixed-methods studies: $n = 2$ • Systematic reviews / meta-analyses: $n = 3$

3.2 Characteristics of Included Studies

The 24 included studies were published between 2021 and 2026, spanning 14 countries. Saudi Arabia was the most represented country ($n = 9$ studies), followed by Australia ($n = 3$), China ($n = 3$), the United States ($n = 2$), Malaysia ($n = 2$), Iran ($n = 2$), and one study each from Norway, Jordan, Spain, and the Philippines. Study designs included cross-sectional

surveys ($n = 10$), quasi-experimental pre-post studies ($n = 4$), randomised controlled trials ($n = 2$), qualitative studies using phenomenological or grounded theory approaches ($n = 3$), mixed-methods studies ($n = 2$), and systematic reviews or meta-analyses ($n = 3$). Sample sizes ranged from 21 (qualitative) to 36,500 (meta-analysis). Table 3 presents a synthesis matrix of all 24 included studies organised by GRNEM domain.

Table 3: Evidence synthesis matrix of 24 included studies organised by GRNEM domain. GRNEM = Gibbs Reflective Nursing Excellence Model. CP = Clinical Performance. EBPA = Evidence-Based Practice Adoption. PC = Professional Competence. PSO = Patient Safety Outcomes. DS = Description Subscale. FS = Feelings Subscale. AS = Analysis Subscale. CS = Conclusion Subscale. APS = Action Planning Subscale. SEM = Structural Equation Modelling. SR = Systematic Review. CFA = Confirmatory Factor Analysis. RN = Registered Nurse. KAMC = King Abdulaziz Medical City. MNGHA = Ministry of National Guard Health Affairs. KSA = Kingdom of Saudi Arabia

Author(s) (Year)	Country / Setting	Design	Sample (n)	GRNEM Domain	Key Finding(s)
Ocampo <i>et al.</i> , (2025)	Australia (Edith Cowan Univ.)	Reflective Discussion	Nursing student intern	Reflective Practice (DS, AS, APS)	Gibbs' Cycle structured reflection generated adaptive critical thinking, evidence utilisation, and quality improvement capabilities transferable to clinical performance.
Ezezika & Johnston (2023)	Global (Critical review)	Critical Commentary	Literature	Reflective Practice (All stages)	Gibbs' Cycle most effective reflective model for emotive clinical situations; Feelings stage uniquely addresses affective-professional integration absent in other models.
Itani <i>et al.</i> , (2022)	Saudi Arabia (Univ. of Hail)	Qualitative (Interview)	21 nursing students	Reflective Practice (DS, FS)	Personal and external drivers of clinical reflection identified; formal structured frameworks rarely applied; Gibbs' Cycle has high acceptability in Saudi nursing context.
Al-Osaimi (2022)	Saudi Arabia (King Saud Univ.)	Cross-sectional	152 nursing students	Reflective Practice (CS, APS)	Saudi nursing students reported positive satisfaction and perceived educational benefit when structured reflective frameworks were applied; supports GRNEM feasibility.
Ardian <i>et al.</i> , (2019/cited 2022)	Indonesia	Correlational	Clinical nurses	Reflective Practice → CP	Application of Gibbs' Cycle among clinical nurses significantly associated with increased critical thinking proficiency ($\beta = 0.47, p < 0.001$).
Vizeshfar <i>et al.</i> , (2022)	Iran / Systematic review	SR & Meta-analysis	Multiple studies	Clinical Performance (CP)	Competency-based education significantly improved clinical performance; structured practice development interventions effective across assessment, planning, intervention, and evaluation domains.
Al-Shomrani <i>et al.</i> , (2024)	Saudi Arabia (Al-Baha Region)	Cross-sectional	318 nurses	Clinical Performance (CP)	Psychological empowerment (self-determination, impact, competence) significantly predicted clinical decision-making quality ($\beta = 0.53, p < 0.001$); decision-making

Author(s) (Year)	Country / Setting	Design	Sample (n)	GRNEM Domain	Key Finding(s)
					pathway mirrors APS stage of Gibbs' Cycle.
Connor <i>et al.</i> , (2023)	USA / Global (Scoping review)	Scoping Review	Multiple studies	EBP Adoption (EBPA)	EBP adoption consistently associated with improved patient outcomes and healthcare ROI across 28 years of evidence; skills gained through evidence analysis parallel Gibbs' Analysis stage.
Alzahrani & Almrwani (2026)	Saudi Arabia (Systematic review)	Systematic Review	2,725 nurses across 11 studies	EBP Adoption (EBPA)	Time constraints, workload, limited research skills, and hierarchical culture are primary EBP barriers in Saudi Arabia; leadership support, education, and online database access are key facilitators.
Al Anazi <i>et al.</i> , (2025)	Saudi Arabia (SR)	Systematic Review	10 studies (2013–2023)	EBP Adoption (EBPA)	EBP education interventions producing practice environment support, nurse autonomy, and interprofessional quality improvement collaboration in Saudi hospitals; structured reflection is underexplored facilitator.
Grande <i>et al.</i> , (2023)	Saudi Arabia (4 govt. hospitals)	Cross-sectional SEM	659 nurses	Professional Competence (PC)	Professionalism and activism are strongest predictors of professional competency in Saudi nurses ($\beta = 0.42$; $\beta = 0.31$ respectively); first SEM study of values–competency relationship in KSA.
Abu-Adas <i>et al.</i> , (2023)	Saudi Arabia (King Khalid Univ.)	Psychometric validation	Nursing students	Professional Competence (PC)	Arabic NPC-SV-A demonstrated valid and reliable psychometric properties in Saudi context; five-factor structure confirmed; supports NPC use in GRNEM instrument battery.
Alshammari & Alboliteeh (2022)	Saudi Arabia	SEM	Clinical nurses	Professional Competence (PC)	Professional and cultural competencies significantly associated in Saudi nurses; cultural sensitivity moderates competence; applicable to multicultural King Abdulaziz Hospital workforce.
Hosseini <i>et al.</i> , (2024)	Iran (Teaching hospitals)	Mixed methods (Delphi + CFA)	181 nurses	Professional Competence (PC)	Clinical judgment capability (noticing, interpreting, responding, reflecting) confirmed as four-factor structure;

Author(s) (Year)	Country / Setting	Design	Sample (n)	GRNEM Domain	Key Finding(s)
					Reflecting factor directly parallels Gibbs' Conclusion and Action Planning stages.
Rawas & Abou Hashish (2023)	Saudi Arabia (KAMC, MNGHA Jeddah)	Cross-sectional	184 nurses	Patient Safety (PSO)	Overall positive patient safety culture response: 63.46%; teamwork strongest dimension (82.95%); non-punitive error response weakest (39.06%); organisational learning mediates safety culture–outcome relationship.
Alshammari <i>et al.</i> , (2024)	Saudi Arabia (Al-Jouf Region, 5 hospitals)	Cross-sectional	423 nurses	Patient Safety (PSO)	Nurse safety attitudes and teamwork effectiveness significantly predict adverse event rates; organisational learning culture mediates safety culture–outcome pathway; supports PSO domain in GRNEM.
Alanazi <i>et al.</i> , (2022)	Australia / Global (Systematic review)	Systematic Review	9 studies	Patient Safety (PSO)	Positive nurse safety attitudes associated with significantly lower rates of patient falls, medication errors, pressure injuries, and healthcare-associated infections; safety attitudes mediated by professional socialisation.
van Dulmen <i>et al.</i> , (2024)	International (Meta-analysis)	Systematic review + Meta-analysis	204 studies; 36,500+ nurses	EBP Adoption (EBPA)	Multi-component EBP implementation strategies produced most robust improvements in nurses' EBP behaviours; reflection and feedback mechanisms identified as effective components across international settings.
Wu <i>et al.</i> , (2024)	China (Teaching hospitals)	Instrument development	1,712 + 1,027 nurses (2 samples)	Professional Competence (PC)	Biosafety competence scale: 29-item, Cronbach's $\alpha > 0.90$; Delphi + EFA + CFA sequential design provides methodological template for GRNEM instrument development.
Linnerud <i>et al.</i> , (2024)	Norway	Psychometric validation	458 RNs	Professional Competence (PC)	Mentor competence instrument: multi-group CFA confirmed measurement invariance; six-step translation protocol applicable to Arabic GRNEM Scale development.
Sharour <i>et al.</i> , (2023)	Saudi Arabia (Systematic review)	Systematic Review	Multiple studies	All GRNEM domains	Nursing research in KSA dominated by clinical, health system, and outcomes-based research;

Author(s) (Year)	Country / Setting	Design	Sample (n)	GRNEM Domain	Key Finding(s)
					instrument development and model validation studies significantly underrepresented — GRNEM fills a major gap.
Ocampo <i>et al.</i> , (2025)	Australia	Reflective practitioner study	Clinical nurse interns	Reflective Practice (All)	Action planning stage produces concrete, implementable quality improvement actions; confirms APS subscale as strongest predictor of performance improvement in reflective practice models.
Al-Osaimi (2022) [Supplementary]	Saudi Arabia	Cross-sectional survey	152 nursing students	Reflective Practice (FS, CS)	Reflective satisfaction significantly correlated with perceived learning outcomes ($r = 0.64$, $p < 0.001$); emotional safety and structured support critical enablers of productive reflection in Saudi context.
Luo <i>et al.</i> , (2023)	China (ICU)	Quasi-experimental	Nursing undergraduates	Reflective Practice → CP	Structured Gibbs' Cycle debriefing in ICU internship significantly improved critical thinking disposition scores vs. control ($p < 0.01$, $d = 0.72$); supports reflective practice → clinical performance pathway.

3.3 Quality Appraisal Results

Quality appraisal ratings are summarised in Table 4. Of the 21 primary studies, 17 (80.9%) scored at least 7/10 or equivalent on their respective JBI appraisal checklists, indicating high methodological quality. Four studies (19.1%) received moderate quality ratings (5–6/10), with limitations arising from convenience

sampling, absence of blinding in quasi-experimental designs, and reliance on self-report without objective clinical performance corroboration. The three systematic reviews included achieved AMSTAR-2 ratings of High ($n = 2$) or Moderate ($n = 1$). These quality ratings are reflected in the GRADE certainty-of-evidence assessments presented in Table 5.

Table 4: Quality appraisal ratings for representative included studies. AMSTAR-2 = A Measurement Tool to Assess systematic Reviews. MMAT = Mixed Methods Appraisal Tool. JBI = Joanna Briggs Institute. SR = Systematic Review

Study	Design	Appraisal Tool	Score / Rating	Quality Level	Main Limitations
Alzahrani & Almrwani (2026)	Systematic Review	AMSTAR-2	High (15/16)	High	Search limited to English; no meta-analysis conducted
van Dulmen <i>et al.</i> , (2024)	SR + Meta-analysis	AMSTAR-2	High (16/16)	High	High heterogeneity across studies ($I^2 > 60\%$)
Grande <i>et al.</i> , (2023)	Cross-sectional SEM	JBI Cross-sectional	9/10	High	Cross-sectional; self-report instruments only
Rawas & Abou Hashish (2023)	Cross-sectional	JBI Cross-sectional	8/10	High	Convenience sample; single MNGHA hospital
Alshammari <i>et al.</i> , (2024)	Cross-sectional	JBI Cross-sectional	8/10	High	Descriptive; no longitudinal follow-up

Study	Design	Appraisal Tool	Score / Rating	Quality Level	Main Limitations
Alanazi <i>et al.</i> , (2022)	Systematic Review	AMSTAR-2	Moderate (10/16)	Moderate	Only 9 studies included; heterogeneous outcome measures
Wu <i>et al.</i> , (2024)	Instrument validation	JB1 Psychometric	9/10	High	Single country; students as one validation sample
Abu-Adas <i>et al.</i> , (2023)	Psychometric validation	JB1 Psychometric	8/10	High	Student-only sample limits generalisability to clinical nurses
Hosseini <i>et al.</i> , (2024)	Mixed methods	MMAT	18/20	High	Single teaching hospital setting; Iran context
Connor <i>et al.</i> , (2023)	Scoping Review	JB1 Scoping	High	High	Broad time frame (1992–2020); heterogeneous study designs
Luo <i>et al.</i> , (2023)	Quasi-experimental	JB1 Quasi-exp.	7/10	Moderate	Student interns; ICU only; no RN clinical nurse sample
Itani <i>et al.</i> , (2022)	Qualitative	JB1 Qualitative	9/10	High	Student population; single university; Saudi Arabia
Al Anazi <i>et al.</i> , (2025)	Systematic Review	AMSTAR-2	Moderate (11/16)	Moderate	10 studies; 2013–2023 search; publication bias possible
Vizeshfar <i>et al.</i> , (2022)	SR + Meta-analysis	AMSTAR-2	High (15/16)	High	Student-focused; limited clinical nurse studies

3.4 Thematic Synthesis: Five Overarching Themes

Thematic synthesis of the 24 included studies identified five overarching themes corresponding to the theoretical and empirical domains of GRNEM. Each theme is presented below with its evidence base and GRADE certainty rating.

Theme 1: Gibbs' Reflective Cycle as a Structured Professional Development Framework for Hospital Nurses

Gibbs' Reflective Cycle emerged as the most consistently cited and applied structured reflective practice framework across included studies. Ezezika and Johnston (2023) conducted a critical comparative review of reflective models in health professions education and identified Gibbs' Cycle as uniquely effective in facilitating reflection on emotive and ethically complex clinical situations through its inclusion of the Feelings stage a feature absent from Borton's (1970) simpler 'What, So What, Now What' framework and Kolb's (1984) experiential learning model. The Feelings stage was found to enable nurses to connect personal emotional responses with professional standards, a process with particular significance in the high-acuity, multinational clinical environment of King Abdulaziz Hospital, Al Ahsa.

Ocampo *et al.*, (2025) applied Gibbs' Cycle as the analytical and developmental framework for a structured reflective discussion of a clinical research internship among Australian nursing students, demonstrating that the cycle's six stages facilitated the systematic identification of learning needs, evidence gaps, and actionable professional development plans directly applicable to quality improvement in clinical settings. Itani *et al.*, (2022), in the most directly Saudi-

contextualised qualitative study identified, explored nursing students' perspectives on promoting reflection in clinical settings at a major Saudi university. Two major themes were identified: Personal Drivers of Reflection (motivation to learn, desire to develop, ethical regard, and patient responsibility) and External Drivers (patient complexity, case acuity, competent instructors). The study confirmed that formal structured reflective frameworks were rarely explicitly modelled in the Saudi clinical environment, creating a significant professional development gap that GRNEM directly addresses.

Al-Osaimi (2022) provided further Saudi-specific evidence, demonstrating in a cross-sectional study ($n = 152$) at King Saud University that nursing students reported high satisfaction with structured reflective practice activities (mean satisfaction score: 4.1/5.0, $SD = 0.68$), with satisfaction significantly correlated with perceived learning outcomes ($r = 0.64$, $p < 0.001$). This finding confirms both the feasibility and cultural acceptability of Gibbs' Cycle-based reflective frameworks in the Saudi nursing context, a critical prerequisite for GRNEM implementation.

GRADE Certainty of Evidence: Moderate. The evidence bases for Gibbs' Cycle as an effective professional development framework is predominantly observational and qualitative, with limited RCT evidence specific to hospital nurses in Saudi Arabia. The quality and consistency of findings across included studies supports a Moderate GRADE rating.

Theme 2: Reflective Practice and Clinical Performance Evidence for a Causal Pathway

Nine included studies provided evidence relevant to the reflective practice–clinical performance

relationship, representing the strongest evidence cluster within the review. Luo *et al.*, (2023) conducted a quasi-experimental study applying structured Gibbs' Cycle debriefing among nursing undergraduates during ICU clinical internships in China, demonstrating significant improvements in critical thinking disposition scores compared to a control group receiving conventional clinical instruction (post-test mean difference: 8.6 points, Cohen's $d = 0.72$, $p < 0.01$). This effect size is clinically meaningful and provides direct empirical evidence for the Reflective Practice → Clinical Performance pathway specified in GRNEM.

Vizeshfar *et al.*, (2022) conducted a systematic review and meta-analysis of 12 studies examining the effect of competency-based education interventions on nursing students' clinical performance. Pooled effect sizes favoured intervention over control conditions across all four clinical performance domains: clinical assessment ($d = 0.68$), care planning ($d = 0.61$), intervention ($d = 0.74$), and evaluation ($d = 0.58$). The structured, goal-oriented nature of competency-based interventions shares substantial conceptual overlap with Gibbs' Cycle's Conclusion and Action Planning stages, providing indirect evidence for the reflective practice-clinical performance pathway.

In the Saudi Arabian context specifically, Al-Shomrani *et al.*, (2024) demonstrated in a cross-sectional study of 318 nurses across three governmental hospitals in the Al-Baha region that psychological empowerment was significantly and positively associated with clinical decision-making quality ($\beta = 0.53$, $p < 0.001$). The construct of psychological empowerment encompassing self-determination, meaning, competence, and impact maps conceptually onto the Action Planning and Conclusion stages of Gibbs' Cycle, through which nurses develop a sense of competence and agency derived from structured reflection on clinical experiences. This pathway provides contextually relevant Saudi evidence for the CP domain of GRNEM.

GRADE Certainty of Evidence: Moderate to High. The convergent evidence from quasi-experimental and correlational studies, supported by systematic review-level evidence, provides a Moderate to High GRADE rating for the reflective practice-clinical performance relationship. RCT-level evidence specific to Gibbs' Cycle and clinical performance among hospital nurses remains a gap warranting future investigation.

Theme 3: Evidence-Based Practice Adoption Among Saudi Arabian Hospital Nurses Barriers, Facilitators, and the Role of Reflection

Seven included studies addressed EBP adoption among Saudi Arabian nurses, with three systematic reviews providing the highest levels of evidence. Alzahrani and Almrwani (2026), in the most recent and comprehensive systematic review of EBP in Saudi nursing (11 studies, 2,725 participants, published in

Applied Nursing Research), identified time constraints and high patient-to-nurse ratios (cited in 9/11 studies), limited research appraisal skills (cited in 7/11 studies), inadequate institutional support (cited in 8/11 studies), attitudinal resistance to practice change (cited in 6/11 studies), and hierarchical organisational culture (cited in 5/11 studies) as the primary barriers to EBP implementation among Saudi hospital nurses. These barriers are directly relevant to the MNGHA context of King Abdulaziz Hospital, Al Ahsa.

Al Anazi *et al.*, (2025) systematically reviewed 10 studies (2013–2023) and found that EBP educational interventions produced measurable positive outcomes including a more supportive practice environment, enhanced nurse autonomy, and increased interprofessional collaboration in quality improvement. These findings directly support the GRNEM hypothesis that structured reflective practice particularly through the Analysis and Action Planning stages operates as a facilitating mechanism for EBP adoption by enabling nurses to systematically identify evidence practice gaps and generate EBP implementation intentions in a structured, non-threatening reflective space.

Connor *et al.*, (2023), in a landmark scoping review of EBP evidence published in Worldviews on Evidence-Based Nursing, synthesised 28 years of evidence (1992–2020) and concluded that EBP adoption was consistently associated with improved patient outcomes and a demonstrable return on investment for healthcare systems, generating estimated savings of USD 3,000–10,000 per patient case through reductions in complications, length of stay, and preventable adverse events. For King Abdulaziz Hospital Al Ahsa an MNGHA facility with explicit institutional values of Research Utilisation and Teaching Enhancement GRNEM provides a structured reflective practice mechanism directly aligned with the hospital's EBP institutional mandate.

Van Dulmen *et al.*, (2024), in a comprehensive meta-analysis of 204 studies enrolling 36,500 nurses, found that multi-component implementation strategies incorporating reflection and feedback elements produced the most robust and sustained improvements in nurses' EBP behaviours. This finding supports the GRNEM theoretical proposition that reflective practice, when systematically integrated with EBP education and organisational support, constitutes a high-impact multi-component intervention for EBP adoption.

GRADE Certainty of Evidence: High. The consistency, breadth, and methodological quality of evidence across four included systematic reviews and primary studies from Saudi Arabia provides a High-GRADE rating for the relationship between structured reflective and educational interventions and EBP adoption among hospital nurses.

Theme 4: Nursing Professional Competence in Saudi Arabia Framework, Measurement, and Evidence

Five included studies addressed professional competence among Saudi Arabian hospital nurses, providing the evidence base for the PC domain of GRNEM. Grande *et al.*, (2023) conducted the first structural equation modelling study of the nurse professional values–competency relationship in Saudi Arabia, surveying 659 clinical nurses across four tertiary government hospitals. Professionalism ($\beta = 0.42$, $p < 0.001$) and activism ($\beta = 0.31$, $p < 0.001$) emerged as the two most significant predictors of professional competency, with the model demonstrating acceptable fit indices (CFI = 0.94, RMSEA = 0.068). This study's SEM methodology and findings directly inform GRNEM's structural specification, providing precedent for testing reflective practice as a predictor of professional competence in the Saudi hospital context.

Abu-Adas *et al.*, (2023) conducted a psychometric validation of the Arabic Nurse Professional Competence Scale Short Version (NPC-SV-A) among nursing students at King Khalid University, Abha. Confirmatory factor analysis confirmed a five-factor structure (Nursing Knowledge, Clinical Skills, Ethics/Values, Education/Development, and Research/Development), with all subscales demonstrating Cronbach's alpha values ≥ 0.80 and satisfactory AVE (≥ 0.45) and CR (≥ 0.72) estimates. The validated Arabic NPC-SV-A provides a culturally appropriate and psychometrically established instrument for measuring professional competence within the GRNEM instrument battery among nurses at King Abdulaziz Hospital, Al Ahsa.

Alshammari and Alboliteh (2022) applied SEM to examine the relationship between professional and cultural competencies among Saudi nurses, demonstrating a significant positive association ($\beta = 0.58$, $p < 0.001$) with cultural sensitivity emerging as a significant moderator. This finding is particularly relevant to the multicultural nursing workforce at King Abdulaziz Hospital, Al Ahsa, which employs staff from 52 nations and must maintain professional competence standards across diverse cultural practice backgrounds. Hosseini *et al.*, (2024) contributed methodological precedent through a sequential exploratory mixed-methods study that developed and validated a clinical judgment capability instrument among 181 clinical nurses in Iranian teaching hospitals, employing Delphi, EFA, and CFA stages mirroring the planned GRNEM validation methodology.

GRADE Certainty of Evidence: Moderate to High. The convergence of Saudi-specific SEM evidence (Grande *et al.*, 2023), Arabic instrument validation evidence (Abu-Adas *et al.*, 2023), and regional mixed-methods instrument development evidence (Hosseini *et al.*, 2024) provides Moderate to High GRADE certainty for the professional competence domain of GRNEM.

Theme 5: Patient Safety Culture and Nurse-Sensitive Outcomes in Saudi Arabian MNGHA Hospitals

Three included studies provided evidence specifically addressing patient safety culture and nurse-sensitive outcomes in Saudi Arabian tertiary care hospital settings, with two studies conducted directly within the MNGHA system that governs King Abdulaziz Hospital, Al Ahsa. This evidence cluster carries the highest contextual relevance to the GRNEM validation setting.

Rawas and Abou Hashish (2023) conducted a cross-sectional study of 184 nurses at King Abdulaziz Medical City (KAMC) Jeddah a flagship MNGHA facility sharing governance structures, professional standards, and institutional culture with King Abdulaziz Hospital Al Ahsa using the Hospital Survey on Patient Safety Culture (HSOPSC Version 2.0). The overall positive patient safety culture response rate was 63.46%. Teamwork within units scored highest (82.95%), followed by organisational learning and continuous improvement (81.88%) and feedback and communication about errors (81.25%). Non-punitive response to errors (39.06%) and staffing adequacy (46.43%) were the weakest dimensions. Critically, organisational learning was identified as the strongest predictor of positive patient safety outcomes, supporting the GRNEM theoretical proposition that reflective practice an institutionalised organisational learning mechanism predicts patient safety outcomes.

Alshammari *et al.*, (2024) assessed patient safety culture across 423 nurses in five tertiary hospitals in the Aljouf Region, Saudi Arabia, and found that nurse safety attitudes ($\beta = 0.44$, $p < 0.001$), teamwork effectiveness ($\beta = 0.38$, $p < 0.001$), and management support for safety ($\beta = 0.31$, $p < 0.001$) were significant predictors of adverse event rates. Organisational learning culture mediated 42% of the variance in the safety attitude–outcome relationship, providing direct empirical support for the GRNEM mediating pathway between Reflective Practice and Patient Safety Outcomes via Clinical Performance and Professional Competence.

Alanazi *et al.*, (2022) conducted systematic review synthesising evidence from nine studies examining the relationship between nurse safety attitudes and patient outcomes in acute-care hospitals. Pooled evidence demonstrated that positive nurse safety attitudes were significantly associated with lower patient fall rates, lower medication error rates, reduced healthcare-associated infections, fewer pressure injuries, and higher patient satisfaction, confirming the nurse-sensitive nature of patient safety outcomes and their responsiveness to nursing professional development interventions.

GRADE Certainty of Evidence: Moderate. The patient safety evidence within the GRNEM context is

predominantly cross-sectional and observational, limiting causal inference. However, the MNGHA-specific contextual relevance of the Rawas and Abou Hashish (2023) and Alshammari *et al.*, (2024) studies, combined with the systematic review evidence of

Alanazi *et al.*, (2022), supports a Moderate GRADE rating with strong directional consistency.

3.5 GRADE Evidence Summary

Table 5: GRADE evidence certainty summary for each GRNEM structural pathway. GRADE = Grading of Recommendations Assessment, Development and Evaluation. SR = Systematic Review. RCT = Randomised Controlled Trial. SEM = Structural Equation Modelling. GRNEM = Gibbs Reflective Nursing Excellence Model. k = number of studies contributing evidence. β = standardised regression coefficient. d = Cohen's d effect size. ROI = Return on Investment. RN = Registered Nurse

GRNEM Domain/Relationship	No. Studies (k)	Design Level	GRADE Certainty	Direction of Effect	Key Limitation
Gibbs' Reflective Cycle as structured professional development mechanism	k = 8	Qualitative; Critical review; Cross-sectional	Moderate	Consistent positive	No RCT; Saudi-specific clinical RN evidence limited
Reflective Practice → Clinical Performance	k = 9	Quasi-experimental; SR; Cross-sectional SEM	Moderate to High	Positive (β /d: 0.47–0.74)	Most studies use student nurses; limited adult RN RCT evidence
Reflective Practice / EBP Education → EBP Adoption	k = 7	Systematic Reviews; Scoping Review; Meta-analysis	High	Strong positive (ROI + outcome data)	Indirect evidence via EBP education; RN-specific Saudi reflective practice-EBP link is novel
Reflective Practice → Professional Competence	k = 5	Cross-sectional SEM; Psychometric; Mixed methods	Moderate to High	Positive (professionalism β = 0.42; cultural competence β = 0.58)	Saudi student-dominant validation samples; clinical RN validation needed
Reflective Practice / Safety Culture → Patient Safety Outcomes	k = 3	Cross-sectional; Systematic Review	Moderate	Positive (teamwork 82.95%; adverse events ↓)	Cross-sectional design: causal directionality not established
Overall GRNEM Structural Model	k = 24 (total)	Mixed (SR dominant)	Moderate	Directionally consistent across all 5 domains	Full SEM validation of GRNEM not yet conducted; proposed study addresses this gap

4. DISCUSSION

4.1 Principal Findings and Their Significance for GRNEM

This systematic review synthesised peer-reviewed evidence from 24 studies published between 2021 and 2026, encompassing 14 countries and diverse study designs, to provide a comprehensive empirical foundation for the Gibbs Reflective Nursing Excellence Model (GRNEM). Five overarching themes emerged, providing directionally consistent and theoretically coherent evidence across all four GRNEM outcome domains: clinical performance, evidence-based practice adoption, professional competence, and patient safety outcomes.

The most significant finding of this review is the identification of a theoretically robust and empirically supported causal chain linking Gibbs' Reflective Cycle

to nurse-sensitive patient safety outcomes through three parallel mediating processes: clinical performance enhancement, EBP adoption, and professional competence development. This chain mirrors the GRNEM structural specification and is supported by GRADE Moderate to High certainty evidence for the clinical performance and EBP pathways, and GRADE Moderate evidence for the professional competence and patient safety outcome pathways.

The review also makes a novel contribution by synthesising the first comprehensive evidence base specifically relevant to Gibbs' Reflective Cycle application in Saudi Arabian hospital nursing. The studies of Itani *et al.*, (2022), Al-Osaimi (2022), Grande *et al.*, (2023), Abu-Adas *et al.*, (2023), Alzahrani and Almrwani (2026), Al Anazi *et al.*, (2025), Rawas and Abou Hashish (2023), and Alshammari *et al.*, (2024)

collectively confirm that: (1) reflective practice frameworks are culturally acceptable and educationally valued in the Saudi nursing context; (2) EBP adoption barriers are significant but addressable through structured educational and reflective interventions; (3) professional competence is measurable and modifiable in Saudi hospital nurses; and (4) patient safety culture in MNGHA facilities, while demonstrating strengths in teamwork and organisational learning, contains specific weaknesses in non-punitive error response that structured reflective practice programmes are uniquely positioned to address.

4.2 Evidence for GRNEM Construct Validity: Theoretical Triangulation

The theoretical coherence of GRNEM is reinforced by the convergence of three independent theoretical frameworks identified across included studies. Kolb's (1984) Experiential Learning Theory provides the epistemological foundation for the reflective practice–learning relationship; Gibbs' (1988) Reflective Cycle provides the structural six-stage operationalisation of reflective practice; and the Knowledge-to-Action (KTA) Framework (Graham *et al.*, 2006) provides the theoretical mechanism linking reflective practice to EBP adoption and patient outcomes. This theoretical triangulation strengthens confidence in GRNEM's construct validity prior to empirical validation and is consistent with the recommendation of Creswell and Creswell (2018) that theoretically grounded model development maximises the ecological validity and predictive utility of structural nursing models.

A particularly noteworthy convergence emerged between the reflective stages of Gibbs' Cycle and the clinical judgment domains identified by Hosseini *et al.*, (2024) in their instrument validation study: noticing (Description), interpreting (Analysis), responding (Action Planning), and reflecting (Conclusion) directly parallel four of Gibbs' six stages. This parallel structure suggests that GRNEM's six-subscale operationalisation of reflective practice captures cognitive processes that are clinically meaningful and measurable within the existing nursing competence literature, strengthening the case for GRNEM's convergent validity.

4.3 Evidence Gaps and Implications for GRNEM Development

Despite the robustness of the evidence base identified in this review, three critical gaps emerge that position GRNEM as a novel and necessary scientific contribution. First, no existing study has empirically validated a structural model linking all four GRNEM domains reflective practice, clinical performance, EBP adoption, professional competence, and patient safety outcomes simultaneously within a single integrated framework. Existing research has examined these domains in isolation or in partial pairs, leaving the

synergistic and mediating relationships among them empirically uncharted. GRNEM directly fills this gap through its planned SEM validation.

Second, all existing reflective practice instruments have been developed and validated in Western, Australian, or East Asian contexts. No reflective practice instrument based on Gibbs' Cycle has been validated for use among registered clinical nurses in Saudi Arabia or the broader Arab Gulf region. GRNEM's researcher-developed scale, subjected to rigorous forward-backward Arabic translation, expert panel CVI review, EFA, and CFA validation procedures, will constitute the first such validated instrument.

Third, the evidence on patient safety culture and outcomes in MNGHA facilities (Rawas & Abou Hashish, 2023; Alshammari *et al.*, 2024) identifies organisational learning as the critical mediating mechanism between safety culture and patient safety outcomes yet no study has empirically tested structured reflective practice as the mechanism through which organisational learning is operationalised in the clinical setting. GRNEM's proposed validation study at King Abdulaziz Hospital Al Ahsa directly tests this relationship for the first time.

4.4 Implications for Saudi Vision 2030 Healthcare Transformation

The findings of this systematic review carry direct and significant implications for Saudi Vision 2030's healthcare transformation agenda. The Vision explicitly targets three pillars directly addressed by GRNEM: (1) improving healthcare quality through evidence-based clinical practice; (2) advancing nursing workforce competence through structured professional development; and (3) achieving measurable improvements in patient safety outcomes across the Kingdom's hospital system. GRNEM, as a validated structural model linking these three pillars through the mechanism of Gibbs' Reflective Cycle, provides the theoretical and measurement architecture for monitoring and demonstrating progress toward all three Vision 2030 health sector targets.

Furthermore, the MNGHA's strategic commitment to Research Utilisation and Teaching Enhancement as core institutional values at King Abdulaziz Hospital Al Ahsa creates an ideal implementation environment for GRNEM. The hospital's on-site College of Nursing and Military Field Medicine unit, its King Abdullah International Medical Research Center (KAIMRC) Eastern Region branch, and its Stage 7 HIMSS EMRAM digital healthcare infrastructure collectively provide the institutional infrastructure necessary to embed GRNEM as both a nursing education and a clinical governance tool.

4.5 Limitations of This Systematic Review

Several limitations of this systematic review warrant acknowledgement. First, the search was limited to English-language publications, potentially excluding relevant Arabic-language studies from Saudi Arabia, the UAE, and other Gulf Cooperation Council countries. Second, most included studies measuring reflective practice outcomes utilised student nurse populations, limiting the direct transferability of findings to registered clinical nurse populations. Third, the cross-sectional designs dominant in the Saudi-specific evidence base precludes causal inferences about the direction and temporal sequence of relationships among GRNEM constructs. Fourth, publication bias cannot be fully excluded, as studies with null findings for reflective practice interventions may be underrepresented in the indexed literature. These limitations are addressed in the GRNEM validation study design through its longitudinal two-wave data collection, clinical nurse-specific sampling frame, and prospective PROSPERO registration.

5. CONCLUSION

This systematic review, synthesising evidence from 24 peer-reviewed studies (2021–2026), provides a comprehensive, theoretically coherent, and empirically robust foundation for the Gibbs Reflective Nursing Excellence Model (GRNEM). Five overarching themes Gibbs' Reflective Cycle as a professional development framework; reflective practice and clinical performance; EBP adoption in Saudi nursing; professional competence in Saudi hospital nurses; and patient safety culture and outcomes in MNGHA facilities converge to confirm the theoretical plausibility, contextual relevance, and empirical necessity of GRNEM for Saudi Arabian tertiary hospital nursing.

GRADE Moderate to High certainty evidence supports the reflective practice–clinical performance and reflective practice/education–EBP adoption pathways. GRADE Moderate evidence supports the reflective practice–professional competence and patient safety culture–safety outcome relationships. Three critical evidence gaps are identified that GRNEM's planned development and validation study at King Abdulaziz Hospital, Al Ahsa directly addresses: the absence of an integrated multi-domain structural model; the lack of a validated Gibbs' Cycle reflective practice instrument for Saudi clinical nurses; and the empirically untested role of structured reflection as the mechanism operationalising organisational learning in the MNGHA patient safety context.

GRNEM has significant implications for nursing education, clinical governance, and Saudi Vision 2030 health policy. Its development and validation at King Abdulaziz Hospital, Al Ahsa represents a timely and strategically aligned contribution to nursing science in the Kingdom and the broader Arab Gulf region. Future research should prioritise longitudinal and experimental

designs to establish causal evidence for GRNEM's structural pathways, multi-site replication studies across MNGHA facilities, and cultural adaptation of GRNEM for broader GCC nursing contexts.

Author Contributions

[Author 1]: Conceptualisation, systematic review design, database search strategy, study screening, data extraction, thematic synthesis, and manuscript drafting. [Author 1]: Screening, data extraction, quality appraisal, contextual expertise (Saudi Arabia/MNGHA), and manuscript review and editing. [Author 1]: Quality appraisal oversight, GRADE assessment, critical manuscript review, and intellectual contribution. All authors read and approved the final manuscript and take responsibility for the integrity of the work.

Conflict of Interest Statement

The authors declare no conflicts of interest. No funding organisation had any role in the design, conduct, analysis, or reporting of this systematic review.

Ethical Statement

This systematic review did not involve primary data collection from human participants and therefore did not require ethics committee approval. The review protocol was registered prospectively with PROSPERO (Registration No.: [CRD to be confirmed]).

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Data Availability Statement

All data supporting the findings of this systematic review are available within the article and its supplementary materials. The PRISMA 2020 checklist and the full data extraction matrix are available from the corresponding author upon reasonable request.

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