Using Evidence-Based Practices in Nursing

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Introduction

Evidence-based nursing is a systematic approach to clinical decision-making that integrates the best available research evidence with professional expertise and the values, preferences, and circumstances of the patient. It is not simply the use of journal articles or the automatic application of research findings. Nurses must ask focused questions, locate relevant evidence, evaluate its quality, apply it in a particular clinical setting, and assess whether the change improves outcomes. Evidence-based practice strengthens nursing because it connects scientific knowledge with bedside judgment while recognizing that the same intervention may not be appropriate for every patient (Melnyk & Fineout-Overholt, 2019).

Why Evidence-Based Practice Matters

Healthcare changes rapidly. New medicines, technologies, infection-control methods, screening strategies, and models of care appear continually. Practices once accepted as routine may later prove ineffective or harmful. Evidence-based nursing creates a disciplined process for questioning tradition and updating care when stronger evidence becomes available (Melnyk & Fineout-Overholt, 2019).

The goal is not innovation for its own sake. A new practice should be adopted because evidence suggests that it improves safety, effectiveness, patient experience, efficiency, or another meaningful outcome.

Evidence, Expertise, and Patient Preferences

Research evidence is one part of evidence-based practice. Clinical expertise is necessary to interpret whether a study applies to a specific patient. A nurse may understand that an intervention is effective on average while recognizing that frailty, pregnancy, kidney disease, language, culture, or personal goals change the decision (Melnyk & Fineout-Overholt, 2019).

Patient preferences are equally important. A technically effective intervention can fail if the person cannot afford it, does not understand it, or considers its burdens unacceptable. Shared decision-making helps translate evidence into care that is both scientifically defensible and personally meaningful.

Step One: Cultivating a Spirit of Inquiry

Evidence-based nursing begins by asking why a practice is performed in a particular way. “We have always done it this way” is not sufficient justification. Nurses should feel able to question routines respectfully, especially when they observe repeated complications, delays, or patient dissatisfaction (Melnyk & Fineout-Overholt, 2019).

A spirit of inquiry requires psychological safety. Staff will not challenge outdated procedures if raising questions is treated as criticism of colleagues or leadership.

Step Two: Formulating a PICOT Question

PICOT is a framework for transforming a clinical uncertainty into a searchable question. The letters commonly represent Population or Patient problem, Intervention, Comparison, Outcome, and Time (Melnyk & Fineout-Overholt, 2019).

For example: In hospitalized older adults at high risk of falls, does a structured multifactor fall-prevention program compared with usual care reduce inpatient falls during hospitalization? A focused question makes literature searching and outcome measurement more efficient.

Step Three: Searching for Evidence

Nurses may search databases such as PubMed, CINAHL, Cochrane resources, and guideline repositories. Search terms should reflect the PICOT concepts and may include subject headings, synonyms, and Boolean operators.

Efficiency matters because clinical staff have limited time. Systematic reviews, evidence-based guidelines, and well-conducted trials may provide stronger starting points than searching hundreds of individual articles without a strategy.

Hierarchy of Evidence

Different questions require different evidence designs. Randomized controlled trials are powerful for evaluating many interventions, while cohort or case-control studies may be necessary for harms or long-term exposures. Qualitative research is valuable for understanding patient experience, barriers, and meaning. Diagnostic and prognostic questions require other designs (Melnyk & Fineout-Overholt, 2019).

A hierarchy should not be used mechanically. A poorly conducted randomized trial may be less useful than a rigorous observational study. The question determines what evidence is appropriate.

Critical Appraisal

Critical appraisal evaluates whether a study is trustworthy, relevant, and clinically important. Nurses should examine design, sample, comparison group, measurement, bias, missing data, statistical analysis, effect size, confidence intervals, and applicability (Melnyk & Fineout-Overholt, 2019).

Statistical significance alone does not establish clinical value. A very small difference can be statistically significant in a large sample while having little effect on patient outcomes.

Systematic Reviews and Meta-Analyses

Systematic reviews use predefined methods to identify and evaluate relevant studies. Meta-analysis may combine numerical results when studies are sufficiently similar. These methods can provide a broad evidence summary but remain dependent on the quality of included research.

Nurses should examine whether the review question matches the clinical problem, whether important studies were missed, and whether variation among studies makes a pooled estimate difficult to interpret.

Clinical Practice Guidelines

Guidelines translate evidence into recommendations for practice. Strong guidelines describe how evidence was searched, graded, and connected with recommendations. They also identify conflicts of interest and update procedures.

A guideline should support, not replace, professional judgment. Local resources, patient characteristics, and new evidence may require adaptation.

Implementing Evidence

Knowing the evidence does not guarantee that practice will change. Implementation requires leadership, education, supplies, workflow redesign, documentation, and agreement about responsibilities. Barriers should be identified before rollout (Melnyk & Fineout-Overholt, 2019).

A small pilot can reveal unintended problems before a change is expanded. Staff feedback is useful because frontline nurses often see workflow consequences that planners miss.

Measuring Outcomes

Evidence-based practice must include evaluation. Outcomes should be selected before implementation and may include infection rates, falls, pressure injuries, pain, readmissions, length of stay, medication errors, patient experience, or staff workload.

Balancing measures are also important. A fall-prevention strategy that reduces falls but dramatically increases restraint use would create another harm. Improvement should be judged as a system.

Example: Preventing Pressure Injuries

A pressure-injury question may involve risk assessment, repositioning, support surfaces, moisture control, nutrition, and skin care. Evidence rarely supports one isolated action as sufficient for every high-risk patient.

Nurses play a central role because they repeatedly assess skin, mobility, continence, nutrition, and tolerance. Evidence-based prevention combines research with frequent bedside reassessment.

Example: Catheter-Associated Urinary Tract Infection

Evidence-based practice has encouraged reduction of unnecessary urinary catheters, aseptic insertion, closed drainage, and daily review of continued need. The strongest prevention is often avoiding or removing the device when no longer indicated.

This example shows how nursing evidence can improve outcomes through routine process design rather than expensive technology.

Example: Fall Prevention

Falls have multiple causes, including weakness, medication, unfamiliar environments, delirium, urgency, and poor vision. A single alarm or sign cannot eliminate risk. Multifactor approaches are more appropriate when they target the patient’s specific risk profile.

Nurses should also consider mobility and dignity. Preventing every fall through excessive restriction can create deconditioning and loss of independence.

Patient Education

Education should be evidence-based and adapted to health literacy, language, culture, cognition, and readiness. Teach-back can help determine whether the patient understood the main information.

Written materials should supplement rather than replace conversation. Education is successful when patients can use the information in real decisions.

Barriers to Evidence-Based Nursing

Common barriers include lack of time, limited database access, insufficient appraisal skill, staff shortages, resistance to change, weak leadership support, and organizational cultures that value tradition over questioning (Melnyk & Fineout-Overholt, 2019).

These barriers should not be interpreted as individual nurse failure. Organizations must provide protected learning time, mentorship, access to librarians or evidence specialists, and authority to improve processes.

Role of Leadership

Nurse leaders influence whether evidence becomes routine practice. They can provide resources, recognize improvement work, connect staff with experts, and ensure that policies are updated when evidence changes.

Leadership should also prevent “evidence-based” language from being used to impose poorly tested cost-cutting measures. Staff should be able to examine the evidence supporting organizational decisions.

Quality Improvement and Research

Evidence-based practice, quality improvement, and research are related but distinct. Research creates generalizable knowledge. Evidence-based practice applies existing knowledge to clinical decisions. Quality improvement studies local processes to improve performance.

A project may use elements of all three, but ethical review and methodological requirements differ. Teams should identify the purpose clearly before collecting data.

Ethics

Evidence-based nursing supports beneficence and nonmaleficence by reducing ineffective or harmful care. It also supports autonomy when patient preferences are integrated into decisions.

Evidence should not be used to deny individualized care merely because a patient differs from the average study participant. Equity requires asking who was included in the evidence and who may have been overlooked.

Evidence and Cultural Competence

Research findings are produced within populations and healthcare systems. A practice validated in one setting may require adaptation in another. Cultural beliefs, family roles, language, transportation, and cost can affect feasibility.

Adaptation should preserve the intervention's essential mechanism while making delivery appropriate to the patient and setting.

Technology and Evidence

Electronic health records can provide alerts, order sets, and decision support based on evidence. These systems can improve reliability but may also produce alert fatigue or outdated recommendations.

Clinical decision support should be reviewed regularly, and nurses need a way to question recommendations that do not fit the patient.

Continuing Professional Development

Evidence-based practice requires lifelong learning because evidence changes. Nurses should maintain skills in searching, appraisal, implementation, and outcome evaluation.

Journal clubs, mentorship, continuing education, and interdisciplinary conferences can help transform evidence review into a shared professional habit.

Conclusion

Evidence-based nursing integrates research evidence, clinical expertise, and patient values to improve care. Its steps include asking focused questions, searching efficiently, appraising evidence,

applying findings, and evaluating outcomes (Melnyk & Fineout-Overholt, 2019).

The approach is more than reading research. It requires organizational support, implementation skill, ethical judgment, and attention to the patient's real circumstances. When nurses are empowered to question routines and measure results, evidence-based practice becomes a practical method for safer, more effective, and more person-centered healthcare.

Reference

Melnyk, Bernadette Mazurek, and Ellen Fineout-Overholt. *Evidence-Based Practice in Nursing & Healthcare: A Guide to Best Practice*. 4th ed., Wolters Kluwer, 2019.