

Introduction to Evidence-Based Practice

Introduction to Evidence-Based Practice (EBP)

Designed as a quick-reference guide for students, clinicians, and anyone new to the concept.

1. What Is Evidence-Based Practice?

Element	Definition
Evidence	The best available research, clinical expertise, and patient values.
Based	Systematic integration of evidence into decision-making.
Practice	The routine actions of professionals (diagnosis, treatment, policy, education).
EBP	A disciplined approach that combines research evidence , clinical expertise , and patient preferences to achieve optimal outcomes.

2. Core Principles

1. **Ask a focused clinical question** – usually in PICO format.
 2. **Search for the best evidence** – use databases, systematic reviews, guidelines.
 3. **Critically appraise** the evidence – assess validity, relevance, and impact.
 4. **Apply the evidence** – integrate with clinical judgment and patient context.
 5. **Evaluate the outcome** – monitor results and adjust as needed.
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3. The PICO Framework

Component	What to consider	Example
P – Patient/Problem	Population, age, sex, condition	Adults with chronic low-back pain
I – Intervention	Treatment, diagnostic test, exposure	Pilates-based exercise program
C – Comparison	Alternative or usual care	Standard physiotherapy
O – Outcome	Desired effect(s)	Reduced pain intensity, improved function

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Tip: Write the question as a single, concise sentence: “In adults with chronic low?back pain (P), does a Pilates?based exercise program (I) compared with standard physiotherapy (C) reduce pain intensity and improve function (O)?”

4. Levels of Evidence (Hierarchy)

Level	Study Design	Typical Strength
I	Systematic review/meta?analysis of RCTs	Highest
II	Single high?quality Randomized Controlled Trial (RCT)	Strong
III	Controlled clinical trial without randomization	Moderate
IV	Case?control or cohort studies	Limited
V	Case series, case reports, expert opinion	Weak

The higher the level, the more confidence we have that the findings are reliable.

5. Steps to Conduct an EBP Cycle

1. Formulate the Question

- Use PICO.
- Ensure the question is answerable and clinically relevant.

2. Search the Literature

- Databases: PubMed, CINAHL, Cochrane Library, PsycINFO, Scopus.
- Keywords + MeSH terms.
- Apply filters (date, language, study type).

3. Select Relevant Studies

- Screen titles/abstracts ? full?text review.
- Exclude studies that don't meet inclusion criteria.

4. Critical Appraisal

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- Tools: CASP, PRISMA, GRADE, PEDro scale.
- Check for bias, sample size, methodology, statistical significance, clinical relevance.

5. Synthesize Findings

- Narrative summary or meta-analysis.
- Highlight consistency, magnitude of effect, and applicability.

6. Integrate with Clinical Expertise & Patient Values

- Discuss options with the patient.
- Consider comorbidities, preferences, cultural factors, cost.

7. Implement the Decision