PICOT/EBP QUESTION

Use a spirit of inquiry to determine a question that needs to be answered. Formulating a question is the first step in the EBP process. The PICOT/EBP question defines the purpose statement or question and serves as a guide when searching the literature for supporting evidence.

P	I	C	O	T (optional)
Population, patient, or problem	Intervention/practice change	Comparison intervention/practice change	Outcome	Time frame
Who are the patients? Who is the population? What is the problem?	What intervention or change in practice is being investigated or evaluated?	What is being compare to the intervention/practice change? What is the alternative intervention/practice change?	What is the outcome to be achieved? What is being measured?	What is the timeframe of the project?
• **Clinicians, nurses, providers** • **Age, gender, ethnicity** • **Specific disorders, conditions** • **Variation in practice**	• **Medication** • **Treatment** • **Education** • **Best practices, strategies**	• **Another intervention** • **No intervention or therapy** • **Current practice**	• **Expected outcomes** • **Risk of disease** • **Accuracy of diagnosis** • **Retention, burnout** • **Knowledge acquisition** • **Sustaining**	• **Month** • **Year** • **Week** • **During hospital stay**

Tips for writing your PICOT/EBP Question

- To facilitate a more efficient search, create a concise and focused PICOT/EBP question.
- PICOT/EBP questions often address who, what, when, where, why, and how regarding the problem or issue.
- Questions should not be too broad, too vague, or too specific.

Types of PICOT Questions

Diagnosis: Examining the best methods related to a patient diagnosis
Example: In peripartum patients (P) how do best practices (I) compared to current practice (C) affect equitable identification of maternal substance use (O)?

Prognosis: Examining the most likely progression for a patient
Example: For postpartum patients experiencing a hemorrhage (P) does quantifying blood loss (I) compared to estimating blood loss (C) influence or predict earlier interventions? (O)

Therapy: Examining the best intervention to address a concern or problem
Example: In pregnant patients with obesity (P) how does a higher dose of misoprostol (I) compared to a lower dose of misoprostol (C) affect the rate of cervical ripening? (O)

Etiology/harm: Examining risk factors related to a patient diagnosis
Example: Are infants (P) of Type 1 diabetic mothers (I) compared type 2 diabetic mothers (C) at higher risk of developing hypoglycemia (O) in the first 24 hours of life? (T)?

Prevention

Example: For obstetric clinicians (P) does quantifying blood loss (I) compared to estimating blood loss (C) impact earlier identification of PPH (O) after birth and for the first 2 hours? (T)?

How to use the PICOT Question to search the literature

Utilize the PICOT question to determine keywords to use for the literature search. *Do not attempt to search a database by using the entire PICOT question. Always determine keywords.*

Key Words

- Examples
  - Population: adults, children, smokers, patients with diabetes
  - Interventions: medications, exercise, therapy, behavior change
  - Comparison: standard practice, placebo, no treatment, another medication
  - Outcome: pain reduction, mortality rate, quality of life, early identification, satisfaction

Boolean Operators

- Words and symbols used in database searches or search engines to refine and broaden search results. The main operators are AND, OR, and NOT, which connect keywords and modify the way search terms are combined.
  - "OR" : Connects two or more similar concepts (synonyms)/Increases or broadens results: Tells the database that ANY of the search terms can be present in the resulting records.
    - Example: exercise OR physical activity
  - "AND" : Direct relationship/Narrows results: Tells the database that ALL search terms must be present in the resulting records.
    - Example: adult AND exercise
  - "NOT" : Excludes concepts/words from a search: Narrows a search by telling the database to ignore concepts that may be included or implied in a search.
    - Example, "(adults AND exercise) NOT walking"
- You may need to manipulate your search by using different terms.
- Start with the two most important concepts from your question, then add others as needed.

Alternative Terms or Concepts

- Synonyms: Use different words or phrases that mean the same thing.
  - Examples, instead of just using exercise, add physical activity of walking
- Databases may use different terminology or descriptors and cater to different audiences.
- Remember: Terms used are based on background, perspective, education, and/or profession.
- Plural versus singular terms: typically searching for one will include the other; however, it depends on the search engine and its features (try using both).

Use Limits/Filter of the Database

- Used to narrow down the search by applying conditions
  - Limits: often pre-determined by the database
    - Examples
      - Language
      - Time period (5 yrs., 10 yrs., etc.)
    - Publication type (Randomized Controlled Trials, Systematic Reviews, Meta-Analysis, etc.)
  - Filters: allows the search to be further refined after the initial query has been completed
    - Examples
      - Subject
      - Journal
      - Author

Finding Too Many Articles? Ways to Decrease/Focus the Results	Not Finding Enough Articles? Ways to Expand/ Increase the Results
• Limit search to the English language, human subjects, review articles, time period searched (last 5 years), etc. • Add an additional term or concept.	• Add additional synonyms. • Consider searching further back in time to look at citations of relevant articles found.

Databases

Always search in at least two different databases.

- Review Databases
  - Databases that contain free summaries of systematic reviews and meta-analyses. Subscriptions are required to access the corresponding full-text article. Check with the organization to determine if they have a subscription to the journal where the article is published. Some full-text articles may also be freely available through the open access publishing sources.
    - Cochrane Library (CDSR) https://www.cochranelibrary.com/
    - NIHR Journals Library – Health Technology Assessment https://www.journalslibrary.nihr.ac.uk/HTA/#/
    - DoPHER (Database of Promoting Health Effectiveness Reviews) https://eppi.ioe.ac.uk/webdatabases4/Intro.aspx?ID=9
    - Epistemonikos https://www.epistemonikos.org/
    - Health Evidence https://www.healthevidence.org/

- Bibliographic Databases
  - Databases that contain articles related to medicine, public health, and the social sciences. The types of articles in this database can range from a review, primary research study, background article, opinion piece, editorial, comment, etc. Most of these databases require a subscription. Check with the organization to see if they have access.
    - PubMed (free) https://pubmed.ncbi.nlm.nih.gov
    - MEDLINE (Ovid platform) – biomedicine, clinical medicine, healthcare, public health, nursing. MEDLINE is typically included in literature searches. PubMed and MEDLINE are basically the same database. Accessing MEDLINE via Ovid requires a subscription, but the interface offers greater search functionality than PubMed.
    - Embase (Ovid or Elsevier platform) – useful for biomedicine, clinical medicine (especially pharmacology), but also contains research information on public health, healthcare policy and management, etc.
    - PsycINFO (Ovid Platform) – psychology/psychiatry database
    - Web of Science (Science Citation Index/Social Science Citation Index) – broad multidisciplinary database
    - SCOPUS (Elsevier) – broad multidisciplinary database
    - Cumulative Index of Nursing and Allied Health (CINAHL) (EBSCOhost)
    - Sociological Abstracts (ProQuest)
    - International Bibliography of Social Sciences (IBSS) (ProQuest)
    - Social Care Online (Social Care Institute for Excellence (SCIE)) (free) – UK's largest database of information and research on social care and social work
    - Educational Resources Information Center (ERIC) (ProQuest)

References

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Melnyk, B. M. (2023). *Evidence-based practice in nursing & healthcare*. (5th edition). Wolters Kluwer.