Searching for Clinical Guidelines, Algorithms, and Mixed Methods Studies: What’s Wrong with PICO?

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Disclosures

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Objectives

• Assess the pros and cons of using the PICO format in conducting a search for evidence-based practices.

• Identify alternative search strategies in the retrieval of evidence, clinical guidelines, and clinically relevant evidence-based algorithms.

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PICO(T) format

4 dimensions

P = Population of interest
I = Intervention
C = Comparison
O = Outcome
T = Time (optional)

Specificity of keywords forms the basis for the literature search.
PICO Advantages and Challenges

Promoted as the best method to formulate a clinical question for specific patient problems and populations.
- Known interventions
- Clear outcomes

What about 3 or 4 comparisons?
Reduce stress and BP: mediation, yoga, prayer, exercise
- Able to do this in most databases

Less useful for clinical guidelines, algorithms, mixed methods studies or qualitative research

Adapt these clinical questions into PICO questions?
Evidence-Based Clinical Guidelines

More prolific in the literature

Generally comprised of a variety of evidence-based resources

- Meta-analyses
- RCTs
- Experimental and quasi experimental studies

Published by notable organizations such as American Heart Association, Society for Gastroenterologists

Example: A.S.P.E.N. Enteral Nutrition Practice Recommendations: acceptable residual volumes for ICU patients receiving enteral feedings
PICO lends itself to one or two aspects of the guidelines but not in total.

C = Comparison
   Use guidelines or not
   Difficult to search in CINAHL or PubMed
Evidence-Based Bundles and Algorithms

Need to know that a bundle exists e.g. ventilator associated pneumonia (VAP) - background information

I = use of VAP bundle - gold standard
C = not use the VAP bundle

Search term “bundle” → no results
Search term “algorithm” → no results PubMed, some results CINAHL
Qualitative and Mixed Methods Research

PICO lends itself well to quantitative data
PIO may or may not lend itself to qualitative data
  
P  = population
  
I  = interpretation or issue of interest
  
O  = outcome

SPIDER method: Sample - Phenomenon of Interest - Design - Evaluation - Research Type

Quality Improvement Studies

Process improvement questions.
Quality assurance or quality improvement questions.
Healthcare delivery science questions.

All are based on some level of evidence.

Quality of Care or Donabedian model
- Structure - Process - Outcomes
Plan - Do - Study/Check - Act
Alternative to PICO(T)

PICOT(T)

- Population
- Intervention
- Comparison or comparisons
- Outcome
- Type of study design
- Time may or may not be included
Type of Study Design

Evidence-based guidelines
Evidence-based algorithm
Quality improvement - evidence informed
Systematic reviews, RCTs etc.
CINAHL and PubMed

Allow for some of these variations in their search options

PubMed - clinical queries and special interest
CINAHL - EBP
Treatment algorithm for the management of type II diabetes

Web browser search: 
ADA guidelines type II diabetes

American Diabetes Association Clinical Practice Recommendations – 2015

Is google better in finding some types of evidence?
What is or should be the expectation of students?

Variations in levels of nursing students
Train students to be mini librarians?
Some literature related to EBP processes
Leveling in proficiency of search strategies

Undergraduate
- Basic to advanced
- How advanced?
- AD/RN to BSN
- Traditional BSN
- Accelerated BSN

Graduate - MS and DNP
- Advanced search

Learning the EBP process
More advanced search methods

Novice nurse with AD, diploma vs BSN?
Expert nurse with AD, diploma or years from education?
More advanced search

P = Population
I = Intervention
C = Comparisons (and, or, not) - Boolean operators
O = Outcomes
T = Time (optional)

T = Type of study design
- Systematic reviews, RCTs
- Guidelines and algorithms
What’s in the future?

New or different search strategies are needed. Most robust databases to support queries, user-friendly. Librarian consultation.

- Should all searches be done by librarians or in consultation with one?
  - Can produce more complex search strategies.
  - Can produce more precise searches.
  - Can select best databases to answer the clinical question.
- Hospital or academic setting - librarians available
- Clinic or primary care office?

EBP consultant
Ultimate goal: guidelines and algorithms should be embedded into the clinical support system, computerized provide order entry system, the electronic health/medical record and nursing practice in all settings and at every level.
Select References


