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PICO de Gallo: Spicing up evidence-based nursing research

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PICO de Gallo: Spicing Up Evidence-Based Nursing Research

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NUTRITION INFORMATION

University of Wyoming nursing students are required to formulate clinical research questions using the PICO(T) process. The PICO(T) model of posing a question ensures that approaches to the literature review follow evidence-based practice guidelines.

Students will each formulate a PICO(T) question using the following template:

P: Patient, Population, or Problem

I: Intervention

C: Comparison

O: Outcome

(T: Time)

In (P) _____ how does
(I) _____ compared to (C)
affect (O) _____?

For example: "In surgical patients (P), does pneumatic intermittent compression devices (I), compared to compression stockings (C), reduce the incidence of deep vein thrombosis(O)?"

SERVES

Up to 3 classes of 30 online nursing students

COOKING TIME

Four intensive, hands-on weeks

INGREDIENTS AND EQUIPMENT

- Two librarians
- Access to course management system
- Evidence-based practice (EBP) resources and database(s) of systematic reviews
- Dedicated time to review research questions and guide search strategies

PREPARATION

Prior to the semester start, librarians meet with nursing instructors to review the course timeline and assignment expectations. Librarians should review evidence-based research guidelines, practice formulating questions using the PICO(T) format, and review nursing and health databases to determine library holdings and any new resources.

For the purposes of this assignment, librarians and students will utilize the definition of evidence-based practice developed by nursing professors Nola A. Schmidt and Janet M. Brown "EBP is a process involving the examination and application of research findings or other reliable evidence that has been integrated with scientific theories.

For nurses to participate in this process, they must use their critical thinking skills to review research publications and other sources of information. After the information is evaluated, nurses use their clinical decision-making skills to apply evidence to patient care. As in all nursing care, patient preferences and needs are the basis of care decisions and therefore essential to EBP."

COOKING METHOD

Introduce two embedded librarians to the online course management system (CMS) during four separate weeks in the semester to provide an introduction to library resources for evidence-based practice and to provide one-on-one feedback in the construction of PICO(T) questions and related search techniques.

THE EMBEDDED PROJECT

Weeks 1 and 2: The instructor will introduce students to the PICO(T) method of asking research questions. The students will describe a scenario that might result in a nursing decision could result in a change of practice.

Students will post their PICO(T) questions in the course management system discussion

boards, where librarians and the instructor will review the questions and provide feedback on how they can be improved. Every element of the PICO(T) question might need to be revised or re-worded, especially when students are new to the process, so it is good to have the eyes of the instructor and both librarians on this section of the course. Once the PICO(T) questions have been approved by the instructor, students begin the literature search.

Week 3: Librarians provide an introduction to online library resources within the course management system via short videos and online guides. Emphasis should be on specialized resources required for evidence-based nursing research (such as the Cochrane Library or Joanna Briggs Institute), as well as general nursing literature sources (like PubMed and CINAHL). Instructor will provide reminders of how to read scientific articles, with specialized instruction on reading the literature of evidence-based practice.

Week 4: Students will share their search strategies and sources in the discussion boards, where librarians will offer feedback on search strategies and on selecting and using evidence-based sources. In some cases, this will be a review of the content offered in Week 3. In other cases, the PICO(T) questions may require extended re-tooling and revised search strategies.

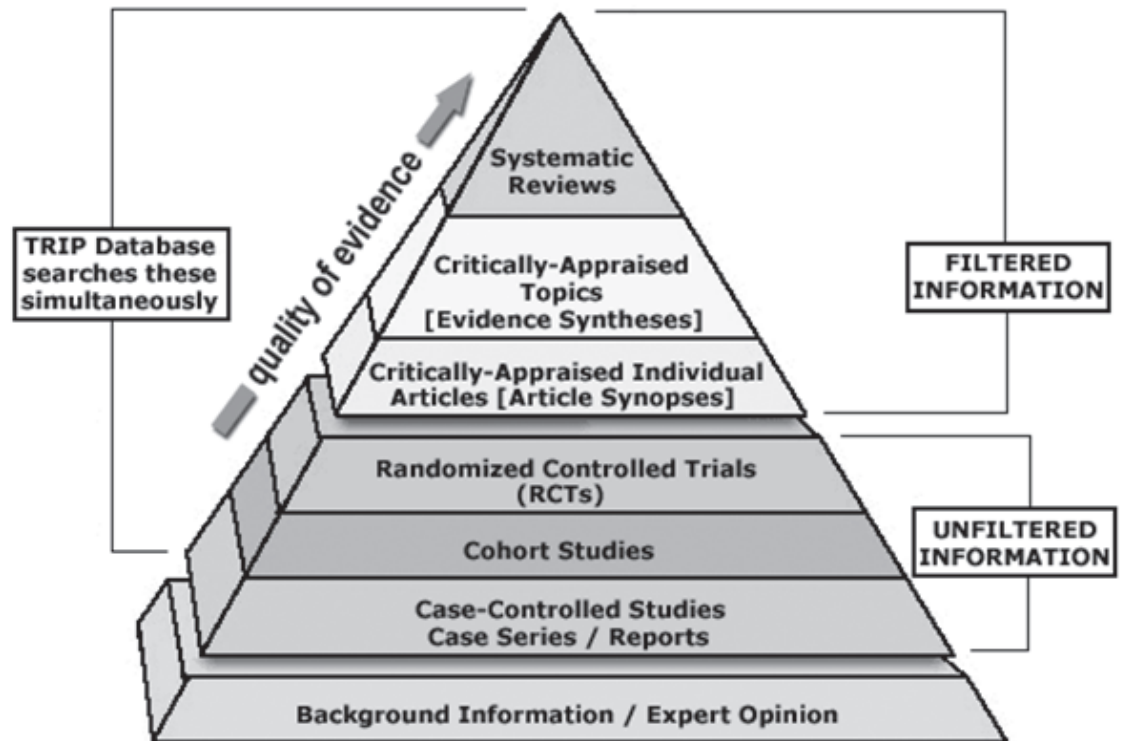
Guided by the “tiers of evidence” model, students are expected to find the best

evidence available and evaluate it. Librarians should be prepared to guide students through searching systematic reviews (such as the Cochrane Library) and finding quantitative studies within PubMed or CINAHL. It has been documented that a low comfort level with advanced search techniques and challenges with critically appraising research are two major barriers to implementing evidence-based practice. Librarians are a crucial resource at this step in the learning process.

ALLERGY WARNINGS

Be prepared for lots of questions from nursing students who are new to evidence-based practice and who may not be expert searchers. The PICO(T) concept is not intuitive for all students, and the first drafts of questions almost always require revisions. Expect that some students may develop beautifully written questions, which are not searchable, due to lack of studies on the chosen intervention. Some students may

FIGURE 1. The Evidence-based Medicine Pyramid, Copyright 2006–2011. Trustees of Dartmouth College and Yale University. Re-printed with permission from Jan Glover, David Izzo, Karen Odatto and Lei Wang.



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have severe reactions to subject headings (MeSH Terms) and filters/limiters, after years of exposure to Google-like searches.

While this recipe can be completed by one librarian instead of two, the solo librarian will need to have both subject expertise and a great deal of time available. We strongly recommend incorporating two librarians if possible. In our case, one librarian possessed significant expertise in searching the nursing literature, while the other brought comfort and experience with online guides, videos, and course management systems. Both librarians attended specialized trainings on evidence-based practice and on PICO(T) questions prior to embedding in the course, including those offered by the Medical Library Association, regional medical library associations, and the College of Nursing.

CHEFS' NOTE

This assignment forms close bonds between nursing instructors, students, and librarians. Expect to hear from the students and teachers for years after this assignment as they continue to refine their search strategies while utilizing evidence-based practice approaches in their clinical practice.

ADDITIONAL RESOURCES

- Garcia, Jenny and Conerton, Kate. *BSN Students' Guide to Evidence-based Practice* <http://libguides.uwyo.edu/EBP-BSN>
- The Joanna Briggs Institute. <http://joannabriggs.org/>
- Schmidt, Nola A. and Brown, Janet M. *Evidence-Based Practice for Nurses: Appraisal and Application of Research*. Sudbury: Jones & Bartlett Learning, 2012.
- *The Cochrane Library*. <http://www.thecochranelibrary.com/>
- Garcia, Jenny. *PICO Questions: a tutorial*. <http://libguides.uwyo.edu/PICOT-tutorial>