Evidence-Based Practice: From the Classroom to the Clinical Setting, a Mentoring Approach

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Inquiry

From a Delphi study of 121 nurses, Tanner and Lindeman (1987) concluded that “.. nurse educators are concerned both with the ways in which they may incorporate research findings into their teaching and with approaches to engender a spirit of inquiry in their students” (p. 58)
Inquiry

Melnyk, Fineout-Overholt, Stillwell, and Williamson (2009) state “when a spirit of inquiry—an ongoing curiosity about the best evidence to guide clinical decision-making—and a culture that supports it are lacking, clinicians are unlikely to embrace evidence-based practice” (p.49).
Inquiry

- Broadly, inquiry is “…the dynamic process of being open to wonder and puzzlements and coming to know and understand the world” and is “…a process where students are involved in their learning, formulating questions, investigate widely and then build new understandings, meanings and knowledge” (Clifford, Friesen & Lock, 2004).
The Inquiry Approach

- How to formulate questions (note: In EBP, nurses have used the ASU PICO approach)
- How to collect information from a wide variety of resources (note: this has been referred to as information literacy)
- How to use the information in a meaningful way (note: these are synthesis, presentation and evaluation or leveling skills)

Owens, Hester & William, 2002, p.618
Inquiry Based Learning in Nursing

- Horne et al. summed the findings with students self reporting an increase in ability to work in a team, in communication, in presentation skills and independent learning skills.

- “…every academic discipline is grounded in discrete inquiry-based applications that are distinctive to that discipline.” (AACN, 2008, p.7)

- In a qualitative study by Callister et al. (2005), when IBL was used, students identified benefits of increased interest in EBP, enhanced CT skills, motivation to continue professional growth, becoming better consumers of research, greater understanding of the “real world” of clinical practice, and stimulus for graduate education.
Link between Evidence-based Practice (EBP) and inquiry learning, critical thinking

- **What is EBP?**
  - the integration of best research evidence with clinical expertise and patient values to facilitate clinical decision making (Sackett, Straus, Richardson, Rosenberg, & Hayes, 2000).

**Relationship**

- EBP is an approach that enables clinicians to provide the highest quality of care to meet the multifaceted needs of patients through the use of best evidence just as inquiry-based learning is an approach or philosophy which teaches the knowledge, skills and attitudes for use of inquiry (collection/evaluation/use of best evidence) to explore the contextually rich environment and answer practice questions.
Steps in the Advancing Research and Clinical Practice through Close Collaboration (ARCC) model

1. Ask the clinical question
2. Search for the best evidence
3. Critically appraise the evidence
4. Address the sufficiency of the evidence – to implement or not implement
5. Evaluate the outcome of evidence implementation
Initial Project Background

- Began as a research utilization project and evolved into an EBP project using an inquiry approach and the ARCC model.
- Individuals/groups at the agencies identify practice interventions/issues they would like summarized in an Evidence-based presentation. Student groups write a PICO question, clarify it if needed and present finding in the form of a recommendation.
- Interest in this project led to the proposed EBP mentor project.
The Next Project: EBP Mentor

- An EBP mentor provides one-on-one mentoring of the care providers in clinical situations, providing them with on-site assistance in problem-solving about a clinical issue (Melnyk & Fineout-Overholt, 2005)
EBP Mentor Project

- Objectives
  - Enact the EBP mentor role (facilitate the integration of evidence into policy/procedures and at bedside)
  - Provide educational opportunities for healthcare providers regarding EBP
  - Use the findings of a survey on barriers to EBP to help plan the mentorship experience
Barriers to EBP

- From the literature
  - A survey done by the American Academy of Nursing reported that the majority of registered nurses do not feel competent in EBP (Pravikoff, Tanner & Pierce, 2005).
  - In a review of over 5,658 articles on EBP, 3 categories of barriers were identified (Cabana, et al., 1999)
    - Knowledge and lack of awareness
    - Attitudes
    - Behaviors
Most Frequently Cited Barriers

- Survey of 104 practicing nurses at the participating agency using the 35 item Barriers and Facilitators to using research in practice questionnaire (Funck, Champagne, Tornquist & Wiese, 1987)
  - “The amount of research information is overwhelming”
  - “The relevant literature is not compiled in one place”
  - “There is insufficient time on the job to implement new ideas”
  - “The nurse does not have time to read research”
  - “The nurse does not feel she/he has enough authority to change patient care procedures”
Methodology

- **Strategies of EBP mentor**
  - Encourage inquiry
  - Conduct EBP reviews
  - Educate on EBP
  - Implement Unit-based interventions
  - Utilize EBP in committee work
Overall Experience with EBP Mentor

- **From Staff Nurses**
  - “I have a lot of questions but don’t have a clue where to get the answers, this helped identify how to word the question and the resources that were available.”
  - “I always wanted to know if we were doing wound care the right way – now I know.”
  - “This presentation helped me not only understand more about research but also that it is something that those of us at the bedside need to know about.”

- **From Administrators**
  - “We have changed several policies based on the findings from the projects – it has helped us keep our care current.”
  - “The attitude of the nurses towards research has changed – I actually hear them talking about it.”
Outcomes - Encouraging Inquiry

- Over 30 topics submitted during educational presentations and unit-based submission process
- Continued topic submission via web to Research Council
Outcomes — Examples of EBP Reviews

- What is the effect of ambulation (exercise) in hospitalized patients with heart failure?
- What is the most common New York Heart Association Class of patients hospitalized for heart failure?
- For hospitalized patients, do bath basins increase the risk for infection?
- For adult patients with central lines, does flushing with saline versus heparin result in fewer complications?
- Does specialty nurse certification in critical care affect outcomes?
- What is the evidence for the use of core group staffing in critical care units to improve quality of care and nurse retention?
- What are the best methods of determining staffing patterns for critical care?
- What is the best available evidence regarding screening, isolation, and management of MRSA in colonized or infected patients?
- What are the best practices related to VRE screening in the hospital?
Outcomes – EBP Reviews

- What is the best method of pressure ulcer risk assessment in patients undergoing surgery?
- What is the best method of cleansing postoperative sternal wounds (baby shampoo)?
- Is the Braden scale the most reliable and valid method of assessing for risk of pressure ulcers when compared to other risk assessment scales?
- For the Braden scale what is the optimal number to use to determine that a patient is at risk for pressure ulcers?
- What is the optimal frequency for assessment with the Braden Scale for hospitalized patients?
- Does the use of Rapid Response Teams (RRTs) decrease mortality and code rates?
- What interventions have been utilized to increase the effectiveness of rapid response teams?
Outcomes – EBP Reviews

- Is photography a valid and reliable way to assess for wounds?
- Is ice (other interventions) effective to decrease complications after removal of arterial sheath?
- In adult hospitalized patients is low albumin a predictor of the pressure sore incidence?
- For adults with acute and chronic wounds what criteria should be utilized for the use of wound cultures?
Example of Recommendation

- Question: “For hospitalized patients, do bath basins increase the risk for infection?”

- The following keywords were used: infection, bath basins, baths, nosocomial, and disposable. Databases searched included CINAHL, Medline, Google Scholar, Cochrane, and JoAnna Briggs. Six relevant articles were retrieved, five were research and one was a description of the types of disposable baths available.

- Based on the limited but consistent evidence, there is Strength B evidence that bath basins harbor potentially harmful bacteria. Although not tested by research, activities that may decrease the growth of bacteria include regularly clean bath basins, store them upside down, and avoid storing other patient belongings or supplies in the bath basins. In addition, the use of disposable baths, especially in the critically ill patient may be a viable alternative to the traditional bath. Although there needs to be further research on the benefits of disposable baths, there is limited evidence that they may decrease time and cost, and increase quality of the baths.
<table>
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<tr>
<th>Source</th>
<th>Sample</th>
<th>Design</th>
<th>Outcome Measures</th>
<th>Findings</th>
<th>Level of Evidence</th>
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<tr>
<td>Hancock, Bowman, &amp; Prater (2000)</td>
<td>200 patients and 200 nurses</td>
<td>Descriptive</td>
<td>Patient and nurse satisfaction, cost</td>
<td>When compared to traditional bed baths, soft towel baths (a combo of traditional &amp; disposable towels &amp; premade solution) resulted in greater nurse and patient satisfaction. Also, soft towel bathing has the potential for significant cost savings.</td>
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<td>Johnson, Lineweaver &amp; Maze. (2009)</td>
<td>3 acute care hospitals, 92 bath basins</td>
<td>Prospective descriptive</td>
<td>Growth of bacteria</td>
<td>Some form of bacteria grew in 98% of the samples. The organisms with the highest growth were enterococci (54%), gram-negative organisms (32%), staph aureus (23%), VRE (13%), MRSA (8%), Pseudomonas aeruginosa (5%), Candida albicans (3%), and Escherichia coli (2%).</td>
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<td>Larson, et al. (2004).</td>
<td>45 patients in ICUs</td>
<td>Quasi-experimental</td>
<td>Quality scores, microbial counts, products used, time, cost, nurses’ rating</td>
<td>Neither total quality scores nor microbial counts differed significantly between the 2 bath types. Significantly fewer products and less time were used, cost was lower, and nurses’ ratings were significantly better with the disposable bath.</td>
<td>IIB</td>
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<td>O’Flynn. (2007, October).</td>
<td>20 bath basins</td>
<td>Descriptive</td>
<td>Bacterial growth</td>
<td>50% of the bath basins grew bacteria. As a result of this, the hospital moved to waterless bath kits. After moving to kits, there was a $1.09 savings per bath due to the elimination of the cost of linens, soaps, and detergents.</td>
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Outcomes - Education

- A basic educational module on EBP was approved for one hour of CNE

  - Presented this to 9 different groups ranging in size from 5 to 70 participants (continuing education credit was given out to a total of 150 nurses). The evaluations from these presentations were very positive.

  - The presentation is now available on the hospital intranet for the employees to view and receive CNEs.
Outcomes – Changes in Practice

- Examples of policy/procedure changes
  - Wound cultures
  - Braden scale frequency and scoring
  - Bath basins
  - Depression screening
  - Central line care
  - Implementation of depression screening in nursing assessment
Outcomes - Sustainability

- Student projects
- Continued committee work
- Research council
- Sustaining the spirit of inquiry
Next Step

- Continuation of student projects
- Topics from nurses
- Continued education
References


- Pravikoff, D.S., Tanner, A.B. & Pierce, S.T. (2005). Readiness of U.S. nurses for evidence-based practice: Many don’t understand or value research and have had little or no training to help them find evidence on which to base their practice. *American Journal of Nursing, 105*(9), 40-52.

