

Nursing Research: Building Evidence from Nursing Questions

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Learner Objectives

- Discuss the difference between Nursing Research and Evidence-based Nursing Practice
- Describe sources of researchable nursing questions
- Identify attributes of researchers and research team members

Definition: Nursing Research

- Nursing research is systematic inquiry designed to develop trustworthy evidence about issues of importance to the nursing profession, including nursing practice, education, administration, and informatics.
- Clinical nursing research is designed to guide nursing practice and to improve the health and quality of life of nurses' clients.

Polit, D.F., & Beck, C.T. (2012). *Nursing Research: Generating and Assessing Evidence for Nursing Practice*. Philadelphia: Wolters Kluwer/Lippincott Williams & Wilkins, pg. 3.

Nursing Research Components

- Research Problem & Question
- Literature Review & Gap Analysis
- Revise Research Question
- Research Design
- Research Methods
- Statistical Analysis Methods
- Interpretation of Findings
- Discussion
- Implications
- Dissemination



Conducting Nursing Research

- Methodical Investigation – extended time
 - Slow
 - Thorough
 - Controlled
- Generalizable Findings
 - Across settings - Not institution specific
 - Specific to similar study population
- Dissemination
 - IRB approval
 - Presentation & Publication

Knowledge Transformation

- Knowledge generated through primary research is not in the correct form to be used in clinical decision making.
- Knowledge must be transformed or repackaged before it is useful in practice (Stevens, 2006).
- It takes about 17 years for new knowledge to be incorporated into practice, and even then application is highly uneven (Balas & Boren, 2000).
- It takes an average of nine years for interventions that are recommended as EBP in systematic reviews, guidelines, or textbooks to be fully implemented (Yuan et al., 2010).

Definition: Evidence-based Practice

- A paradigm and life-long problem solving approach to clinical decision-making that involves the conscientious use of the best available evidence (including a systematic search for and critical appraisal of the most relevant evidence to answer a clinical question) with one's own clinical expertise and patient values and preferences to improve outcomes for individuals, groups, communities and systems.

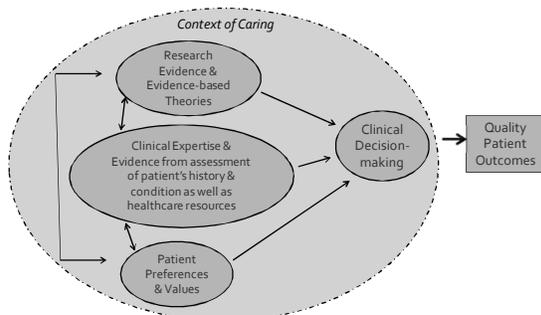
Fineout-Overholt, E. 2011

Evidence Based Practice (EBP)

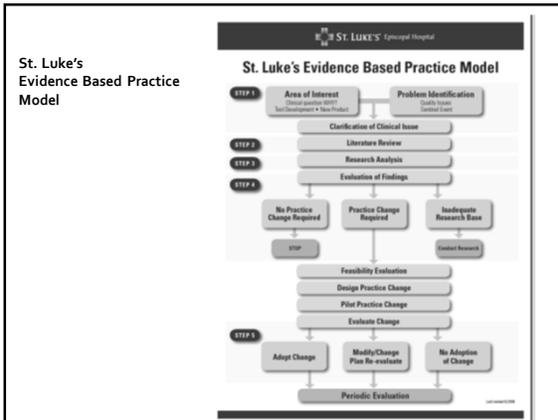
- Research evidence
- Clinical expertise
- Patient preferences & values



The Conceptual Model for Healthcare –The Merging of Science and Art: EBP within a Context of Caring Results in the Highest Quality of Patient Care



Fineout-Overholt, E., Melnyk, B., & Schultz, A. (2009). Transforming Health Care from the Inside Out: Advancing Evidence-Based Practice in the 21st Century. *Journal of Professional Nursing*, 24(6), 335-344.



Five Key Steps of EBP

- Step 1: Ask the "burning question"
- PICOT Question
 - Patient Population
 - Intervention or area of interest
 - Comparison intervention or comparison group
 - Outcome
 - Time

Melnyk & Fineout – Overholt, 2005

Five Key Steps of EBP

- Step 2: Collect the most relevant & best available evidence to answer the clinical question
 - Systematic reviews
 - Meta-analyses
 - Clinical practice guidelines
 - Research articles

Level I	Evidence from a systematic review or meta-analysis of all relevant randomized controlled trials (RCTs), or evidence-based clinical practice guidelines based on systematic reviews of RCTs
Level II	Evidence obtained from at least one well-designed RCT
Level III	Evidence obtained from well-designed controlled trials without randomization
Level IV	Evidence from well-designed case-control and cohort studies
Level V	Evidence from systematic reviews of descriptive and qualitative studies
Level VI	Evidence from a single descriptive or qualitative study
Level VII	Evidence from the opinion of authorities and/or reports of expert committees

Melnik & Fineout-Overholt, 2005, p.10

Five Key Steps of EBP

- Step 3: Critically appraise the evidence
 - Validity
 - Relevance
 - Applicability

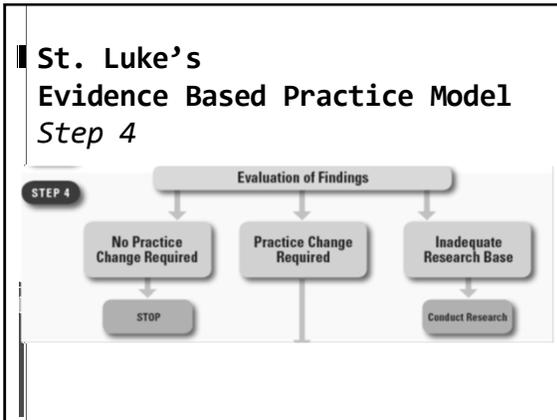


Melnik & Fineout – Overholt, 2005

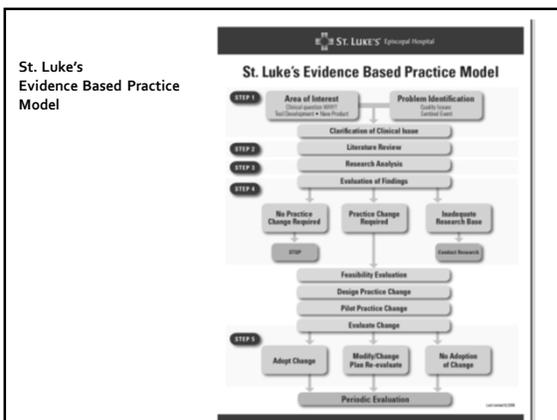
Five Key Steps of EBP

- Step 4: Integrate the evidence to implement a clinical decision
 - Synthesize literature
 - Incorporate clinical expertise
 - Assess patient's condition, preferences & values
 - Determine if findings concur with SLEH standard practice





- ### Five Key Steps of EBP
- Step 5: Evaluate the change resulting from implementing the evidence in practice
 - Plan
 - Pilot Test
 - Implement/Not Implement
 - Evaluate/re-evaluate
- 



Begin at the Beginning

1. Select a broad topic or phenomenon of interest.
 - Cardiovascular surgery patient outcomes
 - Health literacy and elderly patients
 - Early mobility and hospitalized patients
2. Select a problem to research within the topic of interest.
 - Number of sternal wound infections
 - Comprehension and compliance with discharge instructions
 - Incidence of hospital-acquired functional decline

Begin at the Beginning

3. Develop a problem statement to articulate the problem and justify need for study.
 - There is an increased incidence of sternal wound infections among cardiovascular surgery patients discharged from St. Elmo's Hospital.
 - Non-compliance with discharge instructions is a growing problem with elderly patients with chronic disease. Need to find out if they understand the instructions and if they purposely chose not to follow them.

Something to Remember...



What do you want to know?

Crafting Research Questions

- What specific questions do you want to answer as you investigate and try to find the solution to the problem?
- Research questions guide the types of data that you need to collect in the study.
- Research questions determine the type of study that you need to conduct.

Don't Forget PICOT When Formulating Your Question!

- PICOT Question
 - Patient Population
 - Intervention or area of interest
 - Comparison intervention or comparison group
 - Outcome
 - Time

What Do We Know Thus Far?

1. Select a broad topic or phenomenon of interest.
 - Cardiovascular surgery patient outcomes
2. Select a problem to research within the topic of interest.
 - Number of sternal wound infections
3. Develop a problem statement to articulate the problem and justify need for study.
 - There is an increased incidence of sternal wound infections among cardiovascular surgery patients discharged from St. Elmo's Hospital.

Formulating a PICO Question

PICOT

P = Cardiovascular surgery patients at St. Elmo's Hospital

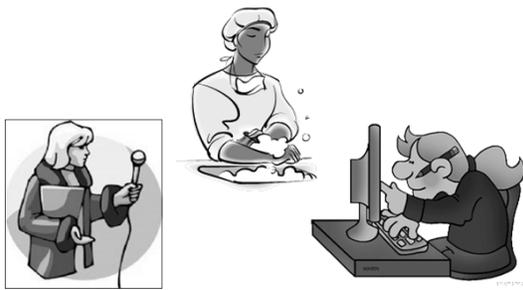
I = Dressing change process at St. Elmo's Hospital

C = Dressing change process at 2 other hospitals

O = Postoperative sternal wound infections

T = Within 7 days of surgery

Different Attributes for Different Roles



Attributes of Researchers & Team Members

- Spirit of Inquiry
 - Interest in learning new things
 - Full of questions
- Persistence
 - Not easily dissuaded
 - Keeps on trying
- Adventurous
 - Likes to try new things
 - Willing to make a mistake

Research Team Requirements

- Required training & education
- Confidentiality
- Commitment
- Respect for research participants
- Collaborative spirit
- Team player



Researcher Skills

- Strong, scientific study
- Required training/education
- IRB approval
- Thorough Research Protocol
- Select a Research Team
- Selection Criteria
- Roles, Requirements, & Responsibilities
- Research team meetings



In conclusion...



Research is stimulating,
serious, yet lots of fun!
Jump on! Don't be
afraid to give it a try!

References

- Kumar, R., (2011). *Research Methodology: A Step-by-Step Guide for Beginners*. (3rd ed.). Los Angeles, CA: SAGE.
- Polit, D. F., & Beck, C. T., (2012). *Nursing Research: Generating and Assessing Evidence for Nursing Practice*. (9th ed.). Philadelphia: Wolters Kluwer.
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