

Evidence Based Practice: Overview of the Process

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Evidence Based Practice (EBP)

- Involves making clinical decisions using the best possible evidence
- Integrates research studies, other references, clinical practice, patient input & existing knowledge
- **Starts with a clinical question**

EBP: WHY?

- ❑ Consumerism
- ❑ Magnet Status
- ❑ Costs Implications
- ❑ Effectiveness of Care
- ❑ Regulatory Requirement
- ❑ Health Policy



Evidence Based Practice

- ❑ Extension of Research Utilization
 - ❑ Using a study or studies in a different setting
 - ❑ Numerous projects in the 1970s and 1980s
- ❑ EBP began in Medicine in 1990s
 - ❑ Cochrane Collaborative in UK at Oxford
 - ❑ McMaster Medical School in Canada

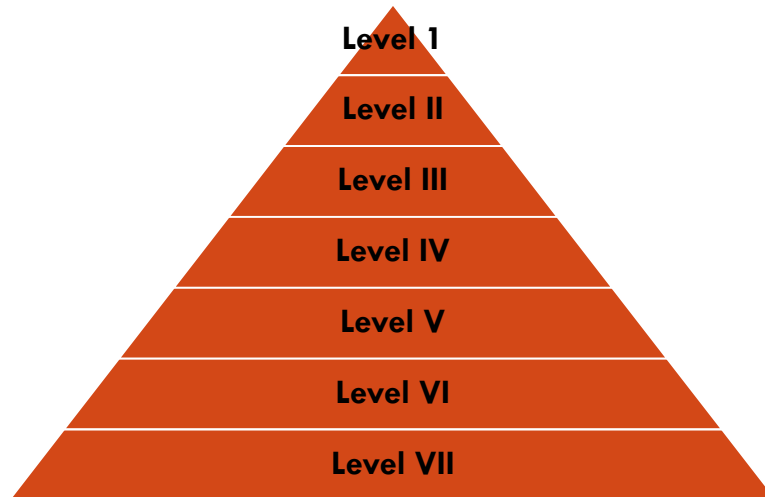
Objectives

1. Rank evidence sources using a research hierarchy for evidence based practice.
2. Discuss the process of completing an evidence based project.
3. Describe potential barriers and problems in integration of the change in practice.

Evidence Hierarchies

- Ranking of studies by strength of evidence
- Bias towards best or most “rigorous” - Randomized Controlled (clinical) Trial (RCT)
- Need to remember that quality can vary in any study

Evidence Hierarchy Pyramid



Evidence Hierarchy Levels

- Level I
 - A. Systematic reviews of RCTs
 - B. Systematic reviews of non-RCTs
- Level II
 - A. Single RCT
 - B. Single non-RCT

*RCT – Randomized Clinical Trial

Evidence Hierarchy Level

- Level III
Systematic review of correlational or observational studies
- Level IV
Single correlational study

Evidence Hierarchy Pyramid

- Level V
Systematic review of descriptive or qualitative or physiological studies
- Level VI
Single descriptive or qualitative or physiological study
- Level VII
Opinions of authorities or expert committees

Nursing – Best Evidence

Research which is

- Methodologically appropriate
- Rigorous
- Clinically relevant

Enhanced by

- Confirmatory replication
- Systematic evaluation

Systematic Reviews

- Methodic, scholarly inquiry
- Study of studies
- Gather, evaluate, & synthesize
- Types
 - Narrative Reviews
 - Meta-analysis
 - Meta-synthesis
 - Critical appraisals

Narrative Review

- Qualitative synthesis of findings
- “Literature review”
- No appraisal of the studies
- Just summaries with connection to clinical practice

Critical Appraisals

- Evaluation of studies on a topic
- Systematic review but no statistical analysis
- Table comparing the studies
 - ▣ Citation
 - ▣ Design
 - ▣ Sample
 - ▣ Key results

Meta-analysis

- Integrates quantitative findings statistically
- Combine findings from several studies on same topic – effect size estimates
- Studies are the data
 - ▣ Each study one piece of information
 - ▣ Reduces the findings

Meta-synthesis

- Integration of qualitative findings
- Interpretive synthesis
- Amplifies information or unifies it
- Leads to theory development

Sources of Systematic Reviews

- Cumulative Index of Nursing and Allied Health (CINAHL)
- Agency for Healthcare research and Quality (AHRQ) in USA (<http://ahrq.gov>)
- Evidence Based Journals
 - *Clinical Evidence*
 - *Evidence-Based Nursing*
 - *Worldviews on Evidence-Based Nursing*

Clinical Practice Guidelines

- National Guideline Clearinghouse in US (<http://www.guidelines.gov>)
- Professional Nursing Organizations
- Nursing Specialty Organizations

Steps in an EBP Project

1. Identifying clinical questions
2. Searching evidence
3. Evaluating evidence
4. Integrating with practice issues
5. Implementing in practice
6. Assessing practice change

Considerations

- Individual Project
 - ▣ Question reasonable for individual practice
 - ▣ Can be done without administrative approval
- Organizational Project
 - ▣ Importance to organization
 - ▣ Team approach
 - ▣ Action requires a formal policy or procedure

Step 1: Identifying Clinical Question

- Needs to be a Foreground question
 - ▣ Best answered by current research
 - Diagnosing, assessing, or treating patients
 - Understanding the meaning, cause or prognosis of a health problem
- Not a Background question
 - ▣ Best answered by textbook
 - What is something?

Step 1: Identifying Clinical Question

- Knowledge focused trigger
 - ▣ Literature review leads to question
 - ▣ Assessment of clinical relevance
 - ▣ Significance in the setting
 - ▣ Problem in setting
- Problem focused trigger
 - ▣ Arise in the course of practice
 - ▣ “Bottoms-up” - practicing staff identify
 - ▣ “Top-down” - administration suggest

Step 1: Identifying Clinical Question

- Clarifying the problem
 - ▣ Anticipate a problem – diagnose it
 - ▣ How to solve problem - intervene
 - ▣ What is the best way to ...

Step 1: Identifying Clinical Question

- Organizational - Consensus of importance
 - ▣ Topic priority at organization
 - ▣ Fits organization's strategic plan
 - ▣ Magnitude of the problem
 - ▣ Number of people invested in problem
 - ▣ Support of nurse leaders and others
 - ▣ Costs
 - ▣ Barriers
 - ▣ Organizational readiness

Step 1: Identifying Clinical Question

- Wording of Questions - PICOT
 - P: Population
 - I: Intervention or issue
 - C: Comparison of interests
 - O: Outcome
 - T: Time

Fineout-Overholt, E. & Johnson, L., (2005a). Asking searchable, answerable clinical questions. *Worldviews on Evidence Based Nursing*, 2(3), 157-160.

Step 1: Identifying Clinical Question

- Wording of the EBP Question
 - Treatment/Intervention
 - Diagnosis/Assessment
 - Prognosis
 - Causation/Etiology /Harm
 - Meaning or Process

Step 1: Identifying Clinical Question

- Wording of the EBP Question
 - ▣ Quantitative – effectiveness of an intervention
 - Population (Who, their characteristics)
 - Intervention (Treatment, risks & benefits)
 - Outcomes (Consequences)
 - ▣ Qualitative – meaning or experience
 - Population (Who, their characteristics)
 - Situation (Conditions, experiences, or circumstances)

Step 2: Finding Evidence

- Pre-processed information
 - ▣ Look for systematic reviews
 - ▣ Clinical practice guidelines
 - ▣ These sources have already synthesized information by experts
- Primary research
 - ▣ Most recent research
 - ▣ Updates pre-processed information

Step 2: Searching for Evidence

- Clinical Practice Guidelines
 - ▣ CINAHL or MEDLINE will not have the actual documents
 - ▣ Use Guideline Databases to locate
 - ▣ Can find none or can find several
 - ▣ Remember that Guidelines change more slowly than research data

Step 2: Searching for Evidence

- Systematic Reviews
 - ▣ CINAHL or MEDLINE
 - ▣ Other Databases –depending on topic
- Primary Research
 - ▣ CINAHL or MEDLINE
 - ▣ Other Databases –depending on topic

Step 3: Evaluating Evidence

- Assessing Practice Guidelines
 - Appraisal of Guidelines Research and Evaluation (AGREE) Instrument
 - Endorsed by WHO
 - Rates quality on 4-point scale (strongly agree, agree, disagree, strongly disagree)
 - 23 Quality Dimensions organized into 6 Domains
 - Team of 2 to 4 use to evaluate
 - Consider how current - May be more recent research
 - <http://www.agreecollaboration.org/intro/>

Step 3: Evaluating Evidence

- | | |
|--|--|
| <ul style="list-style-type: none">□ Systematic Reviews<ul style="list-style-type: none">□ Search Strategy□ Inclusion Criteria□ Quality Appraisal□ Data Extraction□ Effect Size Estimates□ Practice Implications□ Limitations | <ul style="list-style-type: none">□ Primary Research<ul style="list-style-type: none">□ Quality or Rigor of Study Design□ Validity of the Data□ Reliability of Results□ Applicability to Practice□ Limitations |
|--|--|

Step 4: Integrating with Practice Issues – Individual Project

- Other evidence
 - ▣ Your clinical experience
 - ▣ Knowledge of setting
 - ▣ Qualitative research - Insights into patient experiences
- Patient preferences & values
 - ▣ Attitude
 - ▣ Contraindications
 - ▣ Barriers/Impediments
- Resource availability

Step 4: Integration with Practice Issues - Individual Project

- Actions – 3 choices
 1. Continue “Usual care” if:
 - Lack of sound evidence
 - Effect too small
 - Costs too high
 - Safety Issues
 2. New treatment has merit – use it
 3. May need to explore other options or interventions

Step 4: Integration with Practice Issues – Organizational Project

□ Decisions

A. Weak or inconclusive evidence

- Abandon the EBP Project
- Gather non-research evidence
 - Experts opinions
 - Client surveys
- Pursue an original study

B. Solid research base or high quality guidelines

- Assess the implementation potential

Step 4: Integration with Practice Issues – Organizational Project

□ Assessing Implementation Potential

- Transferability
- Feasibility
- Cost-to-benefit-ratio
- Might end with developing plan to improve the potential
 - Seek external funding
 - Changes within organization
- May still end up abandoning the project

Step 4: Integration with Practice Issues – Organizational Project

□ Transferability

- Makes sense in your setting
- Congruence with organization
 - Philosophy
 - Types of clients served
 - Personnel
 - Administrative structure

Step 4: Integration with Practice Issues – Organizational Project

□ Feasibility

- Practical to implement
- Available staff, resources
- Organizational support
- Need for external resources
- Nurses will control or share control
 - Interdisciplinary team

Step 4: Integration with Practice Issues – Organizational Project

- Cost-to-benefit-ratio
 - Implementing vs. not implementing (Staying with the status quo)
 - Various Groups
 - Clients - Safety
 - Staff – Time & energy
 - Organization - Money

Step 5: Implementing in Practice

- Organizational Approval
- Develop a plan
 - Identify measurable outcomes/objectives
 - Determine how many clients to involve
 - When and how often to collect data
 - Use Flow Chart
- Collect baseline data on outcomes and counterfactuals

Step 5: Implementing in Practice

- Develop EBP Guidelines or Protocols
 - ▣ High quality guidelines exists
 - Adopt in entirety
 - Adopt only some recommendations
 - Adapt to organization
 - ▣ Weak or no guidelines
 - Develop own based on research
 - ▣ Changed or developed
 - Need peer review

Step 5: Implementing in Practice

- Training staff to use new guidelines
 - ▣ Convince staff of use
 - ▣ Plan to address resistance
 - ▣ Use coach or facilitator
- Pilot - Try out guideline on some units or with sample clients
 - ▣ Evaluate the Pilot
- Successful – proceed with full agency implementation

Step 5: Implementing in Practice

- Evaluating the pilot project
 - Process
 - How was it received?
 - To what extent were guidelines actually used?
 - What problems were there in implementation?
 - Outcomes
 - Client
 - Costs
 - Communicate findings

Step 5: Implementing in Practice

- Communication Plan
 - Two way process
 - Prior to implementation
 - Reminders – signs or email
 - Opportunity to discuss issues/problems
 - Findings of project evaluation

Step 6: Assessing Practice Change

- Assess Project Outcomes/Objectives
- Informal Quantitative
 - ▣ Before and after outcomes
 - ▣ Staff and client satisfaction survey
- Qualitative information
 - ▣ Perspectives of staff and clients

Step 6: Assessing Practice Change

- Assessing Use of Practice Guidelines
 - ▣ Patient Outcomes
 - ▣ Health-care provider
 - ▣ Health-care agency

Step 6: Assessing Practice Change

- Patient Outcomes
 - ▣ Improved health
 - ▣ Improved access to care
 - ▣ Satisfaction with care

Step 6: Assessing Practice Change

- Health-care provider
 - ▣ Perception of positive and negative aspects of change
 - ▣ Resources for learning new skills
 - ▣ Barriers to use of guidelines

Step 6: Assessing Practice Change

- Health-care agency
 - ▣ Costs of educating providers
 - ▣ Costs of new equipment
 - ▣ Long-term cost savings

Types of Barriers

- Quality and nature of the research
- Nurses' characteristics
- Organizational factors

Barriers – Nature of Research

- ❑ Lack high quality studies
- ❑ Lack replication studies
- ❑ Issues with communication of findings and application by the researchers

Barriers – Nurse Characteristics

- ❑ Do not value or understand research
- ❑ Not valuing or understanding benefits of EBP
- ❑ Resistance to change
- ❑ Lack skills or access research reports
- ❑ Lack of time
- ❑ Inability to integrate into practice

Barriers – Organizational Factors

- “Unit culture”
 - ▣ Attitudes will affect
 - ▣ Must have administrative support
- “Lip serve” change but no real support
 - ▣ Release time
 - ▣ Resources
 - Internet data base access
 - Library data base access

Addressing Barriers

- Support from Agency/Nurse Leaders
 - ▣ Environment that promotes quality care
 - ▣ Advocating for EBP policy development
 - ▣ Accessible to staff
 - ▣ Address concerns of staff nurses
 - ▣ Provision of educational resources for EBP
 - ▣ Provide nurse mentor or consultant

Starting EBP - Strategies for YOU

- Read research - widely and critically
- Attend professional conferences
- Insist on evidence that a procedure is effective
- Start or be involved in a journal club
- Pursue and participate in EBP projects
- Read more about the process

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