Mastering the Skills of Appraising Research Evidence

What Do We Know about Transitioning Our Endocrinology Patients from Pediatric to Adult Care?

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Conflict of Interest Disclosure

- Conflict(s) of Interest
  - XX None

A conflict of interest exists when an individual is in a position to profit directly or indirectly through application of authority, influence, or knowledge in relation to the affairs of PENS. A conflict of interest also exists if a relative benefits or when the organization is adversely affected in any way.

John Hopkins Nursing Evidence-Based Practice Model

Internal Factors
- Culture
- Environment
- Equipment/supplies
- Staffing/standards

External Factors
- Accreditation
- Legislation
- Quality Measures
- Regulation
- Standards

Core = Evidence
- Research
- Non-research:
  - QI & financial data
  - Clinical expertise
  - Patient preference

PRACTICE

EDUCATION

RESEARCH

(Newhouse, 2007)
Johns Hopkins EBP Process

- Practice question (P)
- Evidence (E)
- Translation (T)

Triggers to Practice Questions

- Recognize a clinical problem
- Risk management or QI data
- Hospital quality data < National benchmarks
- New research information
- Changes in standards or guidelines of care

EBP Project Results

- Decisions about practice
- Intent is to improve:
  - Patient health outcomes
  - Organization systems
  - Staff education
Clinical Scenario
Currently in our clinic, we have no formal way to transition adolescents to adult care. When an adolescent seems “ready,” we give them copies of recent medical records, a list of adult providers, and suggest that they make an adult clinic appointment.

We learned at a recent conference that several medical/nursing organizations call for a more organized approach to transition. The clinic director asked you to form an EBP group to determine best practice around transition.

Develop PICOT question
- Clearly state the problem / issue
- Make question as specific as possible

P = patient, population or problem
I = intervention
C = comparison group or intervention
O = outcome / results of intervention
T = timing of outcome or study period
Search for Evidence
Guided by PICOT Question
- Systematic reviews (meta-analysis)
- Research studies
- Practice guidelines
- QI data
- Position statements
- Opinions/Lit reviews
- Patient surveys/HCAHPS data

What kind of research study?
- Experiment
- Qualitative
- Correlational
- Control
- Randomized
- Quasi-experimental

Levels of Evidence
- Level V: Expert Opinion
  - Opinion of individual expert based on non-research evidence. (Includes case reports, expert opinions, consensus panel (systematic review, clinical practice guidelines)
- Level IV: Opinion of nationally recognized experts based on research evidence or expert consensus panel (systematic review, clinical practice guidelines)
- Level III: Qualitative study, or meta-synthesis.
  - Opinions of individual expert based on non-research evidence. (Includes case reports, expert opinions, consensus panel (systematic review, clinical practice guidelines)
- Level II: Quasi-experimental study
  - Opinions of individual expert based on non-research evidence. (Includes case reports, expert opinions, consensus panel (systematic review, clinical practice guidelines)
- Level I: Randomized experiment
  - Opinions of individual expert based on non-research evidence. (Includes case reports, expert opinions, consensus panel (systematic review, clinical practice guidelines)

Levels of Evidence Results
- Level V: Expert Opinion
  - Expert Opinion expertise appears to be credible.
- Level IV: Opinion of nationally recognized experts based on research evidence or expert consensus panel (systematic review, clinical practice guidelines)
  - Expert Opinion expertise is clearly evident.
- Level III: Qualitative study, or meta-synthesis.
  - Expert Opinion expertise is clearly evident.
- Level II: Quasi-experimental study
  - Expert Opinion expertise is clearly evident.
- Level I: Randomized experiment
  - Expert Opinion expertise is clearly evident.

Newhouse R, Dearholt S, Poe S, Pugh LC, White K. The Johns Hopkins Nursing Evidence-based Practice Rating Scale. 2005. Baltimore, MD, and financial data; clinical expertise, or personal experience) studies; literature review; organizational experience e.g., quality improvement

Reasonably consistent results, sufficient sample size, some control, with fairly definitive conclusions; consistent recommendations based on fairly comprehensive literature review that includes some reference to scientific evidence

Good Research reasonably consistent results, sufficient sample size, some control, with fairly definitive conclusions; consistent recommendations based on fairly comprehensive literature review that includes some reference to scientific evidence

Reasonably consistent results, sufficient sample size, some control, with fairly definitive conclusions; consistent recommendations based on fairly comprehensive literature review that includes some reference to scientific evidence

Poorly defined methods; insufficient sample size; inconsistent results; undefined, poorly defined studies; evaluation of strengths and limitations of included studies; fairly definitive conclusions.
Appraising RCTs

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Target Sample

Random Assignment

Intervention → Outcomes

Control → Outcomes

Assess sample size
Power analysis
Randomization
Blinding criteria

Equivalence
Group, p > .05
Decrease bias

Consistency, Intervention
Control external V
Decrease bias

Reliability
Validity
Chi-square, t-test
p < .05
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