Ways to Search a Database

**KEYWORD / FREE TEXT SEARCHING**

- Most common way to search
- Searches the selected words anywhere in the text of the record/citation
- Searches most fields

**SUBJECT HEADING SEARCHING**

- Subject headings are words that are used by the database to describe the content of an article or other information.
- Also known as descriptors, headings, or index terms, and they are usually available within each database under links such as "thesaurus," "headings," or "subjects."
- They are the ‘controlled vocabulary’ used to establish order and provide access points for articles & other information.
  - e.g. sensory regulatory disorder, sensory regulatory dysfunction, sensory processing disorder, sensory integrative disorder, sensory integration disorder/dysfunction SH=sensory integrative dysfunction
Evidence Based Medicine/Practice

• As opposed to...
  
  • Eminence-based medicine
  
  • Vehemence-based medicine
  
  • Eloquence-based medicine

Based on the article, and with apologies to, Davis Isaacs & Dominic Fitzgerald, *Seven Alternatives to Evidence Based Medicine*, BMJ, 319, 1999
Definitions – EBM and EBP

**EVIDENCE BASED MEDICINE**

- Abbreviated EBM

- “the conscientious, explicit and judicious use of current best evidence in making decisions about the individual patient. It means integrating individual clinical expertise with the best available external clinical evidence from systematic research” (Sackett D, BMJ, 1996)

**EVIDENCE BASED PRACTICE**

- Abbreviated EBP

- “the formulation of treatment decisions by using the best available research and integrating this evidence with the practitioner’s skill and experience” (Stedman’s Dictionary for the Health Professions and Nursing, 2012)
Steps in the Evidence-Based Practice Process

- A clinical problem arises
- Develop the clinical question
- Select appropriate resources**
- Evaluate the evidence**
- Integrate and apply the evidence
- Evaluate your performance with the patient

**Where the library and research skills come into the picture
Steps in Evidence-Based Care

- Form the question
- Seek the evidence
- Assess the evidence
- What resources do you need?
- Make the decision and carry it out
- Who will make the implementation work?
- Assess the process and repeat the cycle if needed

Paul Glasziou, 2006?
Paula Boddington, 2012?
Types of Research Information

Primary Sources - Primary research articles report **new** findings & conclusions

Secondary Sources

Tertiary Sources
Definitions

- **Randomized Control Trial (RCT)** – study in which a group of clients are randomly allocated into either
  - an experimental group
  - a control group
- **Practice Guideline** – a description of a process of patient care management that facilitates the improvement or maintenance of health status
  - Purpose is to:
    - Identify preferred treatment
    - Describe treatment alternatives
  - Published by subspecialty or disease-specific experts from authoritative national & international societies & organizations
  - Not always based on experimental studies
Definition Narrative Review Article

- Not considered evidence
- Also called a review
- In the health and medical literature, this type of article refers to an article which comprehensively scrutinizes a topic over a period of time
- Provides a broad overview of a topic
- The studies included are selected through an implicit process
- May include practical, real-life clinical experiences
- Frequently contains a long list of references in the bibliography
Definition
Systematic Review

- Summarize large bodies of evidence
- Help to explain differences among studies on the same question
- Apply scientific strategies that limit bias to the selection, critical appraisal and synthesis of all pertinent studies that address a specific clinical question (Cook, Mulrow, Haynes, 1997)

In a systematic review:
- Studies are selected through an explicit process
- Methods of the studies are appraised
- Results are summarized
- Key finding presented
- Limitations of the current knowledge-base on a specific topic are acknowledged
Differences Between Narrative and Systematic Reviews

NARRATIVE REVIEW

- **Clinical Question** - seldom reported, or addresses several general questions
- **Search for Primary Articles** – seldom reported; if reported, not comprehensive
- **Selection of Primary Articles** – seldom reported; if reported, often biased sample of studies
- **Evaluation of Quality of Primary Articles** – seldom reported; if reported, not usually systematic
- **Summary of Results of Primary Studies** - usually qualitative nonsystematic summary

SYSTEMATIC REVIEW

- **Clinical Question** - focused question specifying population, intervention, and outcome
- **Search for Primary Articles** – comprehensive search of several evidence sources
- **Selection of Primary Articles** – explicit inclusion and exclusion criteria for primary studies
- **Evaluation of Quality of Primary Articles** – methodologic quality of primary articles is addressed
- **Summary of Results of Primary Studies** - synthesis is systematic (if quantitative, often referred to as meta analysis)

Definitions
Meta-Analysis & Meta-Synthesis

- **Meta-Analysis** - a type of systematic review that uses statistical methods to combine and summarize the results of several primary studies (Cook, Mulrow, Haynes, 1997)

- **Meta-Synthesis** – assembles qualitative data to form a new interpretation of the research topic
Integrative Review

- Summarizes past experimental & non-experimental research in order to provide a comprehensive understanding of a problem or phenomenon.

- Allows for varied perspectives to be represented.

- The body of literature includes all studies that address related or identical hypotheses.

- Present the state of science, contribute to theory development, & apply to practice and policy.

- May be tagged as systematic reviews (CINAHL) or Reviews (PubMed).

-from Nursing Resources – University of Wisconsin Madison-Ebling Health Sciences Library
http://researchguides.ebling.library.wisc.edu/content.php?pid=325126&sid=4956842
Medical Research Library of Brooklyn
Pyramid of EBP Resources

- SR/MA: Systematic Review/Meta-Analysis
- RCT: Randomized Controlled Trial
- Cohort
- Case Control
- Cross Sectional
- Case Reports and Series
- Ideas, Opinions, Editorials
- Animal Research
- Invitro "test tube" research
Levels of Research Evidence

- **Systematic reviews (e.g., Cochrane reviews)**
  - Meta-analysis of all relevant randomized clinical trials (RCTs)
  - Evidence-based clinical practice guidelines based on systematic reviews of RCTs
  - Three or more RCTs of good quality that have similar results

**Level I**

- **Level II**
  - One or two well-designed RCTs

- **Level III**
  - One or more well-designed controlled trials without randomization

- **Level IV**
  - One or more well-designed case control or cohort studies

- **Level V**
  - Systematic reviews of descriptive and qualitative studies (meta-synthesis)

- **Level VI**
  - Single descriptive or qualitative study

- **Level VII**
  - Opinions of authorities and/or reports of expert committees

*Additions by E.R. Bucciarelli, 2015

Physician Assistant Resources - General

- Gale Virtual Reference Library – encyclopedias of medical, nursing, cancer, genetic disorders, alternative medicine, and allied health

- Health Source: Consumer Edition

- eBook Collections – AccessMedicine, STAT!Ref, R2

- Web of Science & Google Scholar - general & cited reference searching

- WorldCat via FirstSearch - books
Locating EBP Information

- PAS 670 class research guide – *Evidence Based Practice* tab
  - Clinical Guidelines and Recommendations
  - National Guideline Clearinghouse
- CINAHL and PubMed/Medline databases
- U.S.– Clinicaltrials.gov
- Cochrane Library database
- U.S. - Preventive Services Task Force - https://www.uspreventiveservicestaskforce.org/
- Trip database - https://www.tripdatabase.com/
Physician Assistant Health & EBM/EMP Databases

- Cochrane Library
- Cumulative Index to Nursing and Allied Health Literature (CINAHL)
- Dissertations & Theses Full Text
- Health Source: Nursing/Academic
- Mental Measurements Yearbook
- Nursing & Allied Health Database
- PubMed/Medline
- PsycINFO
- Social Services Abstracts
- Congress.gov (law & legislation)
- Web of Science & Google Scholar
- Westlaw Campus Research (law, legislation, & news)
Retrieving EBP Information from CINAHL

- Check the box in front of Evidence-Based Practice on the Limit your results: section

- In the Publication Type menu, limit to:
  - Clinical Trial
  - Meta Analysis
  - Meta Synthesis
  - Practice Guideline
  - Randomized Controlled Trial
  - Research
  - Systematic Review

- Clinical Queries - a pre-set search that limits to specific clinical research areas

- And into your search:
  - qualitative studies – MW Word in Subject Heading
  - quantitative studies - MW Word in Subject Heading

- Check the box for Research Article

- See short video series at: https://guides.emich.edu/c.php?g=645370&p=4932952
Retrieving EBP Information from PubMed

- Run your search
- Off the left-hand frame, see *Article Types*
  - Click on *customize*...
  - Under that menu, select
    - *Clinical Trial*
    - *Meta Analysis*
    - *Practice Guideline*
    - *Randomized Controlled Trial*
    - *Review*
    - *Systematic Review*

- See short video series at: [https://guides.emich.edu/c.php?g=645370&p=4932952](https://guides.emich.edu/c.php?g=645370&p=4932952)

Critically Appraising Evidence

- Dartmouth College - Critical Appraisal Worksheets
  https://www.dartmouth.edu/~library/biomed/guides/research/ebm-resources-materials.html

- Joanna Briggs Institute - Critical Appraisal Tools
  http://joannabriggs.org/research/critical-appraisal-tools.html

- Critical Appraisal Skills Programme (CASP) Checklists
  https://casp-uk.net/casp-tools-checklists/
Point-of-Care (POC) Tools

➢ “A reference resource designed to deliver filtered, rapidly accessible, periodically updated, comprehensive and evidence-based information to clinicians” (Gebb, Doody’s Core Titles, 2018)

➢ Subscription-based - student rates available

➢ For use at bedside or in clinic room

➢ Examples - Clinical Key; DynaMed Plus; Epocrates Plus; Essential Evidence Plus; Up-to-Date

➢ May be provided by health care organization

➢ May be embedded in electronic medical record software

➢ Free POC tools – Medscape; Cochrane Clinical Answers (EBucciarelli 1/2019)
Research Sites You Can Use after You Graduate

- **Databases**
  - Michigan Electronic Library (mel) – mel.org

- **Statistics**
  - [https://guides.emich.edu/c.php?g=188073&p=1242805](https://guides.emich.edu/c.php?g=188073&p=1242805)

- **Google Scholar**

- **PubMed**