The Process of Research

Research Involves a Process

- Formulate broad research question
- Literature review
- Refine the research question
- Place question in the context of literature or theory
- Decide on study design and methods
- Operationalize variables
- Observe
- Analyze
- Interpret
- Generalize back to broad questions
1. The purpose of the literature review is to gain an understanding of the existing research on a research topic and existing gaps in the body of knowledge on that topic.

2. The written literature search is a synthesis of these studies, with particular emphasis on:
   a. High quality studies (high impact journals)
   b. Systematic reviews/meta-analyses
   c. Clinical trials/longitudinal observational studies
Literature Search - Databases

Hierarchy of Evidence

- Systematic Reviews
- Critically-Appraised Topics
  [Evidence Syntheses]
- Critically-Appraised Individual Articles
  [Article Synopses]
- Randomized Controlled Trials (RCTs)
- Cohort Studies
- Case-Controlled Studies
  Case Series / Reports
- Background Information / Expert Opinion

TRIP Database searches these simultaneously

FILTERED INFORMATION

UNFILTERED INFORMATION

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1. Research literature databases are the best places to start your search
   a. Medline/PubMed
   b. Google Docs
   c. EMBASE
   d. Cochrane Library

http://researchguides.uic.edu/publichealth

2. Our medical center has subscriptions to many of the journals that you will be accessing, but if you cannot get the full text of an article, let us know
Literature Search - PubMed Database Example
Literature Search - Translating Research into Practice (TRIP) Example

Trip is a smart, fast tool for you to find high-quality clinical research evidence.

Searched over 125,000,000 times
Over 70% of clinical questions answered
Millions of articles indexed & uniquely ranked
Over 15 years of learning & fine tuning

http://www.tripdatabase.com/
FIGURE 1

Stages in the search process

Identify a topic of interest and spend time identifying keywords

Using keywords conduct a search (electronic and/or manual) of relevant literature

Review all references sourced and retrieve a copy of relevant references

Read all relevant material sourced and identify new references through citations

Organise all material in preparation for analysis and integration in the review

Literature Review - Search Terms

1. Make sure you use precise search terms. You can also narrow your search based on the time frame, or the type of study.

2. You can use combinations of terms to narrow your search.

3. The Carpenter Library staff can help if you need assistance.
Literature Review - Helpful Tips

1. Talk with your thesis advisor during the process of identifying key papers

2. Visit the websites of key journal that are prominent in your field

3. Make sure you look over the citation list of papers that you review to find additional papers that may have been missed during the database search

4. Keeping a table or a database (e.g., RefMan) can help you organize your work
Common Column Headings for Evidence Tables

Publication Information (first author, journal, year, volume, page numbers)

Objectives

Design

Setting

Participants, and group(s)

Outcomes

Key Exposures

Primary Findings

Strengths

Limitations

Relevance to your proposed work
IMRAD Format

- Introduction (rationale for research)
- Methods and Materials (how research was conducted, analysis plans)
- Results (what was found)
- Discussion (interpretations, linking to previous results)

IMRAD is appropriate for reporting results of many types of manuscripts.

Perhaps not as applicable to field reports, case studies.
Example:
Skelton, Irby, Giovanni: Family-Based Interventions to Treat Pediatric Obesity
Worksheet to track searches
Courtesy of Courtney Giannini

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1. Develop an outline of the topics you want to cover in your review

2. Compile the articles within each section of the review (there will be some overlap)

3. Collate information as much as possible (e.g., state a particular point, the cite all of the articles that affirm that point)

4. Make sure you cite any relevant statements in your review
1. For your thesis, the literature review will be a significant component of the first chapter.
   a. Introduction/Problem statement
   b. Literature Review
   c. Aims/Research questions

2. You will also do a literature review in Chapter 2 that will be much shorter and will be included in the Introduction and Discussion sections of your paper.

3. You may also consider using this opportunity to publish your literature review if one doesn’t exist on the topic.
1. Provide an outline of your literature review

2. Provide a list of some key papers that you have identified for each section of your literature review

3. Provide a draft of the written literature review for our June 20th meeting

4. Turn in your Approval for Thesis Committee Form