49 SHADES OF RESEARCH: ARE YOU READY FOR SINGLE ACCREDITATION?

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49 Shades of Research: Are You Ready for Single Accreditation?

The goals of this workshop are to:

• help participants to understand the continuum of research, from conceptualization to publication.

• provide the basis for the development and implementation of osteopathic clinical and medical educational studies.
Presentations

• Research in a Nutshell: How Do I Get Started? Dr. Brannan

• Putting it into Practice (Dr. Yens)

• Show Me the Money: Funding Your Ideas (Dr. Dumsha)

• From Poster Abstract to Journal Article (Dr. de Jong)
ACGME Transition Brief

• Research Requirements
  – Common Program Requirements
  – Specialty-specific Requirements

• Timeframe: Accreditation by 2020

• Onus is on key clinical faculty providing a research culture
Research Process Basics: Goals

• Provide an overview of the research process
• Discuss idea development
• Discuss literature review
Why Bother?

• Evidence-based medicine
• Improving patient care and safety
• Improving systems and processes
• Improve programming and education
• Contribute to the literature
• We need more mentors
• We need to tell the osteopathic story
Why Bother?

• Single Accreditation puts heavy emphasis on research and scholarly work.
• Single Accreditation focuses on key faculty providing a culture of research
Research Process in a Nutshell

1. Idea Development
2. Formulating the Research Question
3. Conducting a Comprehensive Literature Review
4. Setting the Objectives and Hypothesis
5. Crafting the Methodology
   a. Logistics: Assembling the Team
   b. Sample Size and Calculation
   c. Establishing Data Collection Procedures
6. Proposal Development
7. Funding and Other Resources
8. Obtaining Institutional Review Board (IRB) Approval
9. Collecting Data
10. Statistical Analysis and Data Interpretation
11. Dissemination

Idea Development

• Seek established clinical or research mentors for collaboration.
• Reach out to researchers in other disciplines.
• Obtain ideas from observations.
• Find ideas from the published literature.
• Attend lectures and conferences.
• Start using secondary databases.
Idea Development-Think FINER

- Feasible
- Interesting
- Novel
- Ethical
- Relevant

Idea Development-Think PICOT

- **Population** (patients)
- **Intervention** (for intervention studies only)
- **Comparison group**
- **Outcome of interest**
- **Time**

Idea Development

• Involve a Statistician at this stage!
  • Avoid messy data
  • Collect data that will answer your questions
Idea Development-Types

- Clinical
- Medical Education
- Institutional
Idea Development-Pair and Share

- 5 minutes– complete the form
- 5 minutes-share and critique with a colleague
Literature Search
Today’s Goals

• To review some readily available research resources.

• To demonstrate a routine search of the literature.

• To discuss the process of formulating and framing a question for research.

• To explain citations and reference lists.
Why Do We Search the Literature?

- To gather available research on a topic.
- To help define our research question.
- To support our assumptions and positions.
- To justify the contribution of our research.
- To build a firm foundation for the discussion of results.
- To recognize the relevant work of others.
Research Outcomes

• Research Paper
  • Targeting a specific audience or journal

• Research Poster
  • Targeting a specific poster exhibition or contest

• Research Presentation
  • Targeting a specific audience, meeting, or convention

Each of these research outcomes must be defensible.

We rely on the published literature to support our work.
Research Resources

- University Libraries
- PubMed
- Google Scholar
Medline Search

• Medline – Electronic *Index Medicus*
  • National Library of Medicine
    • *Medline (Index Medicus)* is one of the foremost biomedical information sources; available over the web without charge. An excellent resource for searching the medical and related literature.

• Accessed via PubMed or Entrez PubMed
  • Search for “Pain drugs that are safe for adolescents with headaches”

Searching PubMed

- Key Word Search
- MeSH
Searching PubMed - EXERCISE

• Search for “nosebleed” using regular and MeSH methods.
• -What are the differences in the hits?
• -How would you decide which one to use?
Other Research Resources

• Statistics – *incidence or prevalence data*
  • Centers for Disease Control and Prevention - CDC
  • World Health Organization - WHO

• Stakeholder Groups – *health policy/public policy*
  • Library of Congress - [http://thomas.loc.gov/](http://thomas.loc.gov/)
  • American Association of Retired Persons - AARP

• Professional Organizations – *position statements*
  • American Osteopathic Association
  • American Medical Association
Your Research Question

- Should contribute to the body of scientific literature in the subject area.
- Should answer a new question or address a new facet of an existing discussion.
- Should be well supported by previous research found in the literature.
- Should be achievable, with regard to the resources available to you.
Research Paper

• So . . .
  • The research protocol is 3/5 of your final research paper.
    • Introduction/Background
    • Methodology
    • Results
    • Conclusions
    • References

• And . . .
  • The more complete your protocol, the closer you are to your final product.
• Therefore . . .
  • The more work you can put into your protocol, the better off you will be when you go to add in your Results and Conclusions.
  • Continue to “refine” your protocol language even after it has been approved by the IRB; make sure all of your reference materials support your research well.
Research Paper

• Reference Materials

• The introduction/background of your paper draws from the current literature to:
  • support your assumptions and positions.
  • define your research question.
  • justify the contribution of your research.
  • build a firm foundation for the discussion of your results and conclusions.
Research Paper

• Reference Material “Quality”
  • How confident are you of your sources?
    • Academic Medicine vs. Billy-Bob’s Med Web
      Reputable Sources
    • Current vs. Dated Sources
      Relevant Sources
    • Primary vs. Secondary Sources
      Seminal Sources
Research Paper

• Citations

• You must provide a citation for:
  • Direct quotations/paraphrasing from the literature.
  • Any point of fact not the result of your own research or clinical experience.
  • Any statistic, percentage, or “factoid” used to define the research problem.

_Citing others in the research community creates a real sense of objectivity for your research and delivers you from the realm of opinion._
Research Paper

- Reference Lists
  - Correspond to the citations in your paper:
    - If you did not cite it, it does not belong in your reference list.
    - If it is in your reference list, make certain that you have cited it correctly in the text.

*Some editorial style guides will give you the opportunity to list all of the “relevant” resources that you consulted in your research.*
Research Paper

• Bibliography

  • A bibliography lists sources not cited in the text; those sources which are relevant to the subject and which were used for background reading.

  • A bibliography is arranged alphabetically by author or by title (where no author is given), as in the APA Style.

Some standard editorial styles can be found at – http://www.library.uq.edu.au/useit/
Citations and Reference Lists

• When you cite the literature, you are creating a roadmap for others to follow.
  • Identifying the sources of the information and data that you present.
  • Allowing others to retrace your steps and review the same literature.
  • Providing others a means of double-checking your interpretation of the literature.
• Recognizing the work and ideas of others.
Citations and Reference Lists

• Citations
  • Indicate the location of paraphrased or quoted information.
  • Signified by a mark or parenthetical reference in the text, which is usually keyed to a bibliography or list of references.

• Reference Lists
  • Provide necessary information to retrieve listed resources – author(s), title, publication, publication date, inclusive pages, publisher (books monographs, reports), editors.
Citation and Reference Style

• Dependent on the preference of the target journal, organization, or audience.
• Each style requires different information and potentially a different order for the information.
• Each style usually requires a different citation mark within the text.
• For our purposes:
  • Use the APA style guide
  • For a quick reference guide for the APA style, go to: http://www.library.uq.edu.au/useit/.
Formulating the Research Question

• **Research Question**: Is higher hematocrit (HCT) associated with an increased incidence of new-onset HF in the community?

• **Objective**: To determine if HCT level is associated with incidence of new-onset HF in the community.

• **Hypotheses**:
  
  • **Null (H₀)**: higher HCT is not associated with an increased incidence of new-onset HF in the community OR there is no relationship between hematocrit level and incidence of new-onset HF in the community.

  • **Alternative (H₁)**: There is an association between HCT and incidence of new-onset HF in the community OR there is a relationship between HCT level and incidence of new-onset HF in the community.
Proposal Development

- Increases your chance of obtaining IRB approval.
- Facilitates writing—done with 3/5 of the manuscript.
- Study blueprint—prevents deviation from protocol.
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THANK YOU!!!