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Pharmacy 476

Limitations, Conclusion, Future Directions and How to Write a Structured Abstract

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Objectives

- Present a strategy for addressing limitations of your research plan
- Explain how to write a concise meaningful conclusion for your research proposal
- Discuss the importance of outlining future directions for planned research
- Present the rationale for structured abstracts
- Discuss the elements of a structured abstract

Study Limitations

- Research is not perfect
 - you have excluded certain types of patients
 - designed a sound study
 - unexpected problems may occur
 - what are the most likely ones
- Acknowledge limitations of your study

Problems

- Acknowledge anticipated problems or difficulties and how you will manage them
 - the most likely obstacle we may encounter is...
 - if this occurs, we will...
 - but don't make a laundry list of everything that can go wrong

Conclusion

- The conclusion is a clear and concise statement that describes the expected outcomes or results of the study
 - Do not re-write your introduction
 - Describe (concisely) what you expect to show and why it's important
 - Acknowledge the most likely limitations of your study

Future Direction

- You've spent a lot of time designing a study, implementing and executing it and collecting your data
- Where are you going to go next?
- How will you use the information you've gathered?

Assignment

- **Assignment #4: Conclusion, limitations, and future directions**
 - the conclusion is a clear and concise statement that describes the expected outcomes or results of the study
 - it should also refresh the reviewer's memory as to why the study is important and should be done
 - in addition, the most likely limitations of the study are acknowledged
 - the future directions describe the logical next steps based on the expected results of the proposed work
 - this section cannot exceed 250 words!

Assignment #4

- Also includes a structured abstract...
- This is in addition to the 250 words that will comprise your conclusion section
- In the final proposal, it should be the first page after your title page (see final proposal rubric)

Structured Abstracts

- Structured abstracts have become the predominant mode of abstract found in major clinical journals
- In their most basic form, structured abstracts organize their summaries of publications with the following headings:
 - OBJECTIVE
 - METHODS
 - RESULTS
 - CONCLUSIONS

Structured Abstracts

- Advantages of structured abstracts:
 - improves ease of searching quickly extracting needed information
 - can help from the very outset of contemplating the research, progressing through the research process itself, and culminating in its final reporting to peers

Examples

- META-ANALYSIS

- Bradley DR et al. Real-time, evidence-based medicine instruction: a randomized controlled trial in a neonatal intensive care unit. *Journal of the Medical Library Association*. 2002 Apr; 90(2):194-201. Available from: <http://www.ncbi.nlm.nih.gov:80/pmc/articles/PMC100764/>

Examples

- COHORT STUDY

- Lemer C, Bates DW, Yoon C, Keohane C, Fitzmaurice G, Kaushal R. The Role of Advice in Medication Administration Errors in the Pediatric Ambulatory Setting. J Patient Saf. 2009 Sep;5(3):168-175. http://www.ncbi.nlm.nih.gov/pubmed/19927050?itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_RVDocSum&ordinalpos=5

Examples

- QUALITATIVE RESEARCH STUDIES
 - Maliski SL, Heilemann MV, McCorkle R. From "death sentence" to "good cancer": couples' transformation of a prostate cancer diagnosis. *Nursing Research*. 2002 Nov-Dec;51(6):391-7.
 - Fuat A, Hungin AP, Murphy JJ. Barriers to accurate diagnosis and effective management of heart failure in primary care: qualitative study. *BMJ*. 2003 Jan 25;326(7382):196.
 - Gallagher TH, Waterman AD, Ebers AG, Fraser VJ, Levinson W. Patients' and physicians' attitudes regarding the disclosure of medical errors. *JAMA*. 2003 Feb 26;289(8):1001-7.

Examples

- PROJECT DESCRIPTION

- Gregg AL et al. Designing a curriculum on Internet health resources for deaf high school students. Journal of the Medical Library Association. 2002 Oct; 90(4):431-6. Available from: <http://www.ncbi.nlm.nih.gov:80/pmc/articles/PMC128959/>

- NARRATIVE REVIEW

- Eldredge J. Cohort studies in health sciences librarianship. Journal of the Medical Library Association. 2002 Oct;90(4):380-92. Available from: <http://www.ncbi.nlm.nih.gov:80/pmc/articles/PMC128954/>

Structured Abstract

- Your structured abstract should include the following elements:
 - Objective
 - Design
 - Setting
 - Subjects
 - Intervention(s)
 - Measurements and Main Expected Results
 - Conclusions

Example

- **Objective:** To establish the efficacy of B-GOS and *B. infantis* combination therapy as a viable treatment regimen to reduce IBS symptoms as defined by the Rome III criteria by comparing it to monotherapy using either B-GOS or *B. infantis* alone.

Example

- **Design:** A double-blind, parallel randomized controlled trial.
- **Setting:** A multi-center trial based at the University of Michigan Hospital with arms in the Detroit area hospitals to establish a large enough patient base.

Example

- **Subjects:** Patients who meet the diagnostic requirements for IBS based on the Rome III criteria, aged 18-75 without any other gastrointestinal disorder, mental instability or other clinically significant disease, abdominal injury or pregnancy and not currently taking any medications to treat IBS symptoms.

Example

- **Interventions:** Enrolled patients will consume a daily malted beverage containing either: 1×10^{10} live *B. infantis* bacterial cells and 7.0 grams of B-GOS, just 1×10^{10} live bacterial cells, or just 7.0 grams of B-GOS.

Example

- **Measurements and Expected Results:** The beverages will be ingested daily for 6 months and patients will fill out daily diary cards. Patients will also be assessed weekly for the three hallmark symptoms of IBS using two scales, an ordinal Likert scale and a visual analog scale. An established Quality of Life (QOL) survey will be used weekly to further assess the positive or negative effects of the three therapeutic regimens. Patients in the *B. infantis* and B-GOS combination therapy group should have significantly lower scaled scores for all three IBS symptom clusters and significantly higher scores on the QOL survey.

Example

- **Conclusions:** This study should establish the superiority of combination therapy versus monotherapy and that combination therapy is effective at relieving all three symptom clusters associated with IBS. This is important because there are currently no therapeutic options that effectively relieve all IBS symptoms.
- Total words: 288! (max is 400)

Key Words

(for your final proposal)

- Words that can be used to link your work to specific areas of research or a topic
- Should not be words that are included in your title
- Some journals or research organizations have you choose from a list
 - MeSH terms: <http://www.nlm.nih.gov/mesh/meshhome.html>
- Identify and list 3-5 keys words for your proposal

Key Words

- Proposal title:
 - Chamomile in the Treatment of Gastroesophageal Reflux Disease: A Complementary Therapy
- Key words:
 - G~~X~~RD, cham~~X~~mile, complementa~~X~~therapy, randomized trial

Key Words

- Proposal title
 - Safety and efficacy of prolonged temozolomide maintenance therapy in newly diagnosed glioblastoma multiforme patients: a randomized controlled trial
- Key words
 - quality of life, antineoplastic therapy, clinical trial

Final Proposal

- The final proposal is NOT a compilation of the assignments
 - need to incorporate edits
 - need sufficient detail
 - it needs to flow logically
- A rubric for the final proposal is posted on CTools



Additional Source Information

for more information see: <http://open.umich.edu/wiki/CitationPolicy>

Slide 11: http://research.mlanet.org/structured_abstract.html

Side 28: University of Michigan, <http://www.umich.edu/>