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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

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

Examples

Examples


Examples

- **PROJECT DESCRIPTION**

- **NARRATIVE REVIEW**
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: $1 \times 10^{10}$ live *B. infantis* bacterial cells and 7.0 grams of B-GOS, just $1 \times 10^{10}$ 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.
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
- Identify and list 3-5 key words for your proposal
Key Words

• Proposal title:
  – Chamomile in the Treatment of Gastroesophageal Reflux Disease: A Complementary Therapy

• Key words:
  – GERD, chamomile, complementary 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/