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Pharmacy 476: How to Write an Introduction

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Objectives

- Discuss the components of a research proposal
  - role of the introduction section
- Discuss the format of the PharmD Investigation proposal
- Review citation of the literature
The Research Proposal

- The conduct of research is proceeded by a research proposal (plan)
  - it helps the investigator think about what is going to be done
  - it is an overall plan, scheme, structure and strategy to obtain answers to a research question or problem
  - it also ensures reviewers of the validity of the approach (that it is objective and accurate) you will use

A research proposal should tell the reviewer(s):

- what you are proposing to do
- how you plan to do it
- why you’re going to do it the way you propose
The Research Proposal

• The proposal should be written so that:
  – you, the author (investigator), can use it as a guide to conduct your work
  – a reviewer will be convinced that your approach (methods) are valid, appropriate and feasible
  – a reviewer will be convinced of the importance and significance of the work (this research needs to be done!!)
The Research Proposal

- The proposal needs to follow specific guidelines
  - granting agency (e.g., NIH)
  - P476- see rubrics
  - PharmD investigations

- The proposal needs to be referenced with a bibliography at the end
The Research Proposal

• Introduction
  – is also referred to as the “background”
  – includes the “significance” and “relevance”

• Typically, the first section of the proposal
  – “make your case” section
  – the “attention getter” section
  – provides support for the rationale and importance of the project
  – needs to be concise and to the point
  – literature review is a central component
PharmD Investigation Proposal

• Begin to familiarize yourself with the PharmD Investigation website
  – updates and changes; due dates
  – format of the proposal
  – find a project!

• Presently, the main body of the proposal includes sections entitled:
  – Introduction
  – Background

http://sitemaker.umich.edu/pharmdinvestigations/home
Pharm. D. Investigations Project is a 3 credit required course that is elected in the winter term (1.5 credits) of the third year and in the fall term (1.5 credits) of the fourth year. During the winter term of the second year, students must identify a faculty advisor and project prior to course registration. The procedure for obtaining the permission to register is provided by the Academic Services Office before registration. College of Pharmacy investigation project courses include:

- Medicinal Chemistry 569
- Pharmaceutical Sciences 569
- Pharmacy 569

Students working with investigations project advisors outside the College (after receiving permission from the Chairman of the Investigations Committee) will register for the Investigations Project Course, Pharmacy 569.
PharmD Investigation Proposal

• Introduction
  – general description of topic
  – clear statement of problem
  – discussion of rationale for the project

• Background
  – concise review of published studies pertinent to the project (literature review)
  – describe what gap in knowledge the proposed work will fill

http://sitemaker.umich.edu/pharmdinvestigations/home
P476 Proposal

• Introduction/Background (combined) = Introduction
Introduction

• Start with a very broad perspective of the topic and gradually narrow it down to the specific element of the topic that you are going to study (your research problem).
Think about these aspects of your research problem as you write your introduction:

1. the main topic (e.g., statins for IBD)
2. historical perspective (what’s been done)
3. major theories or paradigms (what’s accepted, if applicable)
4. main issues, problems, what hasn’t been addressed (gaps in our knowledge)
5. rationale for your work; how will your study fill the gap and advance the field (why is it important)
6. support for your hypothesis
Referencing

• You are required to develop a bibliography for your final proposal
  – RefWorks
    • http://guides.lib.umich.edu/gradrefworks
  – other referencing software
  – by hand
Referencing

- What to cite
  - to support the rationale for your proposed study
    - should mostly consist of the primary literature
    - websites
    - secondary and tertiary references
  - to address conflicting studies or work done to date
  - to illustrate gaps in our knowledge
  - comprehensive and concise
Bibliography
(literature cited)

• Keep track of the references you use
  – you can create a “library” in RefWorks

• In your proposal, number sequentially in the order of citation using Arabic numbers in parentheses or superscript
  – these numbers are the numbers associated with each respective reference
HLHS is a rare congenital heart disease (CHD) that has non-cardiac consequences (1).

**Plastic bronchitis is a rare but life-threatening complication of the Fontan procedure.** Plastic bronchitis (PB) is a rare disorder characterized by the formation of large rigid casts in the lungs that result in the obstruction of the central and lower airways (2, 6, 7). Although PB can occur in patients with cystic fibrosis or asthma, it is most often associated with the Fontan procedure, which is the third and final surgical palliation of single left ventricle physiology in children (figure 1). Most of these patients have HLHS (6, 8, 9). HLHS accounts for 7-9% of all congenital heart disease (CHD) diagnosed in the first year of life (1). Its prevalence is estimated to be 2.4 per 10,000 live births and it occurs more often in males than in females.

**Literature cited:**


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