MEDB 5510, Clinical Research Methods, Objectives for every module

Module01

Introduction to research

In this module, you will learn how to

- Define “clinical research methodology”
- Select an appropriate research topic
- Distinguish between various research approaches

Module02

Planning and ethical conduct of research

In this module, you will learn how to

- describe the difficulties faces by whistleblowers
- list the historical events that influenced the development of research ethics

Module03

Writing a literature review

In this module, you will learn how to

- define what a literature review is
- contrast it with an annotated bibliography and a systematic overview.
- recognize the different approaches to organizing a literature review.

Module04

Randomized trials

In this module, you will learn how to

- define what a randomized study is and explain its advantages and disadvantages.
- describe how blinding, concealed allocation, and intention to treat analysis can improve the persuasiveness of a randomized trial.

Module05

Quasi-experimental designs

In this module, you will learn how to

- contrast the features of a quality improvement study with a research study
- describe the various quasi-experimental approaches

Module06

Observational studies

In this module, you will learn how to

- distinguish different types of quantitative non-experimental approaches
- discuss strengths and weaknesses of qualitative research

Module07

Review, Learning objectives

In this module, you will learn how to

- understand the format of a thesis
- prepare a bibliography using a consistent standard

Module08

Sampling designs

In this module, you will learn how to

- describe different approaches to probability sampling
- discuss advantages and disadvantages of non-probability samples

Module09

Validity and reliability

In this module, you will learn how to

- understand when test-retest reliability and interrater reliability can be used.
- describe the process by which you can establish face and content validity.

Module10

Data collection

In this module, you will learn how to

- describe the resources needed to conduct focus groups or a series of interviews.
- develop strategies for putting together a questionnaire.
- recognize the special issues associated with secondary data sources.

Module11

Data management

In this module, you will learn how to

- understand the value of a data dictionary.
- identify how best to store dates and missing value codes.
- describe the strengths and weaknesses of storing data in a spreadsheet.

Module12

Hypothesis testing

In this module, you will learn how to

- discuss the goal of data analysis and interpretation in research projects
- discuss statistical power and how to determine it
- describe what is needed in order to determine sample size for a research project

Module13

Module13, Statistical models and writing a methods section

In this module, you will learn how to

- demonstrate knowledge of data analysis basic concepts
- describe analysis methods appropriate for exploratory, descriptive, explanatory, and quasi-experimental designs