INTRODUCTION TO BIOSTATISTICS

with emphasis on interpretation

Basic course

November 2021

General overview

1. Broad introduction to concepts of biostatistics, data analysis and methodology used in biomedical sciences, public health and clinical epidemiology.

2. Basic course with more emphasis on interpretation of the analysis and data.

Principal aims

- Broad introduction
- To provide tools for appropriate interpretation of data analysis
- To develop skills during data description, presentation and summary

Syllabus (5 weeks)

1. “Science before statistics”
2. The research question and study designs
3. General aims of data analysis
4. Types of data
5. Graphs and data description
6. Statistical inference, estimation and hypothesis test
7. Analysis of continuous outcomes
8. Analysis of categorical outcomes
9. Analysis of time-to-event data
10. Stratified analysis and multivariable models

References

- Martin Bland. An Introduction to Medical Statistics (Oxford Medical Publications) 2000.
- Douglas G. Altman. Practical Statistics for Medical Research (Chapman & Hall/CRC Texts in Statistical Science) 1990.
- Betty Kirkwood, Jonathan Sterne. **Essentials of Medical Statistics** 2nd edition. Wiley-Blackwell 2001.
- TL Lash, TJ VanderWeele, S Haneuse, KJ Rothman. **Modern Epidemiology**, 4th edition. Wolters Kluwer, 2021

Materials and contents

- https://github.com/jacalvache/intro_biostatistics

Who I am ?

2003	Clinical Epidemiology Unit, Universidad del Cauca
2008	Iberoamerican Cochrane Centre, Barcelona
2011	MSc Clinical Epidemiology, Department of Biostatistics Erasmus MC, The Netherlands
2019	PhD Anesthesiology Department, Erasmus MC, Rotterdam, The Netherlands
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