

ΕΝΔΕΙΚΤΙΚΟ ΠΡΟΓΡΑΜΜΑ ΣΠΟΥΔΩΝ

Παρατίθεται η περιγραφή των στόχων του προγράμματος, η δομή και οι διδακτικές μέθοδοι, καθώς και ενδεικτικό πρόγραμμα μαθημάτων. Το πρόγραμμα μαθημάτων δύναται να τροποποιείται και να προσαρμόζεται ανάλογα με τις εξελίξεις της επιστήμης και τις διδακτικές ανάγκες, μετά από έγκριση της Συντονιστικής Επιτροπής.

CLINICAL EPIDEMIOLOGY: FROM THEORY TO APPLICATION

Course Objectives

The purpose of this class is to discuss the principles and methods of epidemiology for quantitative clinical research, i.e. clinical epidemiology; to demonstrate their applicability in research in clinical medicine; and to demonstrate their relations with public health research.

Course Structure

The course includes both didactic lectures and small group exercises, seminars and workshops. The workshops will provide the opportunity to discuss, in greater depth, the principles covered in the lectures. Daily quizzes will be used to further elaborate on important issues.

SESSION 1	QUANTITATIVE CLINICAL RESEARCH
Lecture	Course overview and introduction. Clinical epidemiology and clinical research of etiology, prognosis, intervention, diagnosis. Risk estimation in clinical research
Exercise	Overview study design in clinical epidemiology.
Lecture	Clinical follow-up.
SESSION 2	PROGNOSIS
Lecture	Retrospective cohort study and alternative study designs.
Exercise	Design experimental study 1. 1. NSAIDs and Alzheimer's disease 2. Vitamin D and cardiovascular disease 3. Vaccination for the prevention of HIV infection 4. Aspirin and cancer metastasis
Lecture	Analysis methods. Life table, Kaplan-Meier, Log-rank method, Cox' proportional hazard model.
SESSION 3	INTERVENTION: EFFICACY 1
Lecture	Efficacy research, design of clinical trial Experimental efficacy research. Randomized controlled trial. Parallel group design. Equipoise.
Exercise	Overview validity in clinical epidemiology.
Lecture	Non-parallel group randomized designs. Non-inferiority trials.
Exercise	Pragmatic trials. Adaptive trials. Design experimental study 2.

SESSION 4

Workshop: Design in clinical research

Group 1: Munafo MR, Davey Smith G. Repeating experiments is not enough. *Nature* 2018;553:399-401.

Group 2: Mauri L, D'Agostino RB. Challenges in the design and interpretation of noninferiority trials. *N Engl J Med* 2017;377:1357-1367.

SESSION 5

INTERVENTION: EFFICACY 2

Lecture

Analysis of clinical trials.

Exercise

Design experimental study 3.

SESSION 6

Workshop: Analysis in clinical research

Group 3: Greenland S, Senn SJ, Rothman KJ, Carlin JB, Poole C, Goodman SN, Altman DG. Statistical tests, P values, confidence intervals, and power: a guide to misinterpretation. *Eur J Epidemiol* 2016;31:337-350.

Group 4: Hernan M, Robins JM. Per-protocol analyses of pragmatic trials. *N Eng J Med* 2017;377:1391-98.

SESSION 7

INTERVENTION: SAFETY

Lecture

Safety research.

Exercise

Design experimental study 4.

SESSION 8

Workshop: Analysis in clinical research

Final discussion on selected articles.

SESSION 9

OVERVIEW

PRESENTATIONS

Discussion

Presentation of Study Design Experimental Study