COURSE SYLLABUS

Medical Statistics

2021-1-K0101D002-K0101D003M

Aims

Descriptive and inferential statistics in applications in obstetrics and nursing science

Contents

Statistical units, sample, population, variables and data, construction of tables and graphs. Descriptive statistics: indices of location and dispersion. Probability: union and intersection, discrete and continuous random variables, the Binomial and the Normal distribution. The process of inference: point estimation and sampling distributions; interval estimation and confidence intervals; the test of hypothesis.

Detailed program

Introduction to Statistics: types of variables; construction of tables and graphs (for one or more variables). Descriptive Statistics: indices of location (mean, median, mode, percentiles); indices of dispersion (deviance, variance, standard deviation, coefficient of variation); random and systematic errors as related to any measurement process: indices of precision and accuracy; correlation and simple linear regression. Probability: definitions of probability; conditional probability and independence; probability of the union and intersection of events; examples of applications in the clinical context (sensitivity, specificity and predictive values of a diagnostic test); the Binomial distribution; the Normal distribution. Inference: sample and population; sample estimates and population parameters; sampling distributions of estimators (distribution of the sample mean); confidence interval.

Prerequisites

None

Teaching form

Audio-video lessons, On-line classes (webex)

Due to the COVID-19 emergency lessons will be provided with a mixed approach: partially in presence, on-line synchronous and asynchronous.

Textbook and teaching resource

STATISTICA MEDICA E STATISTICA PER LA RICERCA SPERIMENTALE E TECNOLOGICA - Fowler J., Jarvis P., Chevannes M. (2006) Statistica per le professioni sanitarie, EdiSES; Pagano M., Gauvreau M. (2003) Biostatistica, Idelson-Gnocchi; Bossi A., Cortinovis I. (1996) Statistica medica. Esercitazioni, Città Studi Edizione.

Semester

First semester

Assessment method

written exam

Due to the COVID-19 emergency examinations will be in presence or on-line.

Office hours

On demand