UNIVERSITÀ
DEGLI STUDI DI MILANO-BICOCCA

COURSE SYLLABUS

Pharmacology

2122-3-H4601D014-H4601D037M

Aims

At the end of the course the student should know:

General mechanisms of drug actions on organs and systems as well as at cellular, biochemical, and molecular levels - Routes of drug administration and drug fate in the organism, including drug transport, biotransformation, metabolic activation, distribution, elimination - General mechanisms of toxic effects and methods of prevention - Possible causes of drug undesired effects and drug-drug interactions - Pharmacological properties of the different groups of drugs commonly employed in dentistry, particularly their mechanisms of action and fate in the organism, and criteria for differentiation of molecules within same group, as a function of potential toxicity and physio-pathological characteristics of patients.

Contents

The teaching module provides the essential knowledge necessary to prescribe and administer the drugs currently used in dentistry, knowing in-depth the drug composition, primary and secondary effects, and therapeutical indications.

Detailed program

Preclinical and clinical phases of drug development, pharmacovigilance - General and molecular pharmacology (molecular drug targets, receptors and transduction mechanisms, receptor tolerance, dose-response curves, efficacy and potency, therapeutic index) - Pharmacokinetics (administration methods, adsorption, distribution, metabolism, elimination, therapeutic interval, pharmaco-metabolic tolerance) - Pharmacogenetics - Specific drugs for dentistry (local and general anesthetics, anxiolytics, non-steroidal and steroidal anti-inflammatory drugs, opioid

analgesics, antihistamines, drugs affecting blood coagulation and hemostasis, drugs affecting calcium homeostasis).

Prerequisites

Knowledge of all preparatory disciplines.

Teaching form

The teaching will be performed in attendance, except for ministerial changes due to the COVID pandemic situation. Formal lectures and discussions of clinical cases will be utilized. All lectures will be video recorded and uploaded on the e-learning platform.

Textbook and teaching resource

F.J. Dowd, B.S. Johnson e A.J. Mariotti “Pharmacology and Therapeutics for Dentistry”, VII edizione, Elsevier, 2017.

Goodman & Gilman “Le Basi Farmacologiche della Terapia”, XIII Edizione, Zanichelli, 2019.

Goodman & Gilman “Le basi farmacologiche della terapia – Il manuale”, II Edizione, 2015.

Semester

First semester.

Assessment method

The final evaluation will consist in an oral exam aimed to assess whether the students have acquired the exact terminology of the subject, the application of the critical reasoning developed in class, and knowledge of the notions studied on the most important classes of drugs currently available in the field of dental pharmacology. It will be performed in attendance except for ministerial changes due to the COVID pandemic situation.

Office hours

On appointment.