UNIVERSITÀ
DEGLI STUDI DI MILANO-BICOCCA

COURSE SYLLABUS

Pharmacology

2627-4-H4102D029-H4102D108M

Aims

Main aim of the course is to provide students with the pharmacology of major endocrine- and nephro-pathologies. A general description of main hormones and drugs modulating hypothalamic and pituitary activity, thyroid, adrenal glands and gonadal function, affecting bone mineral homeostasis, together with information on drugs acting at the lower urinary tract will be given. Mechanism of action, therapeutic properties, drug interactions, and side effects will also be presented.
In details, the course contributes to the following objectives:

1. Knowledge and understanding:
   Knowledge of the key elements of pharmacology, with attention to sex/gender and population differences.
2. Applied knowledge and understanding:
   Ability to apply acquired knowledge.
3. Independent judgment:
   Demonstrate a critical approach, constructive skepticism, and a creative, research-oriented attitude. Build awareness of the importance and limitations of scientific thinking based on information obtained from various resources.
4. Learning skills:
   Collect, organize, and critically interpret new scientific knowledge and health/biomedical information from various resources and databases.

Contents

Main classes of drugs, mechanisms of action, drug interactions and precautions.

Detailed program

Hypothalamic and pituitary hormones (somatotropin and growth hormone antagonists, gonadotropin, gonadotropin-releasing hormone analogs and antagonists, prolactin, oxytocin and oxytocin antagonists, vasopressin and vasopressin antagonists.

Thyroid and antithyroid drugs (thyroid hormones and antithyroid agents, management of hypothyroidism and hyperthyroidism).

Adrenocorticosteroids and adrenocortical antagonists (hydrocortisone and synthetic corticosteroids, mineralocorticoids, adrenal androgens, antagonists of glucocorticoids and mineralocorticoids).

Gonadal drugs (estrogens, progestins and other ovarian hormones, hormonal contraception, estrogen and progesterone inhibitors and antagonists, androgens and anabolic steroids, androgen suppression and antiandrogens).

Agents that affect bone mineral homeostasis (parathyroid hormone, vitamin D, FGF23, calcitonin, glucocorticoids, estrogens, bisphosphonates, denosumab, calcimimetics, fluoride, therapy of hypercalcemia and hypophosphatemia).

Drugs for diseases of the lower urinary tract.

Prerequisites

Teaching form

5 frontal lessons

Textbook and teaching resource

Bertram G. Katzung “Basic and clinical pharmacology” 14th Edition. LANGE

Goodman & Gilman “The Pharmacological Basis of Therapeutics” 13th Edition, Laurence L. Brunton, Randa Hilal-Dandan, Björn C. Knollmann. McGraw-Hill Education

Rang & Dale “Pharmacology” 14th Edition, Elsevier.

Scientific literature

Semester

Second Semester

Assessment method

As for the vertical track (multiple choice test and oral examination).

Office hours

On appointment (write to: laura.musazzi@unimib.it)

Sustainable Development Goals

GOOD HEALTH AND WELL-BEING | QUALITY EDUCATION | GENDER EQUALITY