Republic of Iraq
Ministry of Higher Education and Scientific Research
University of Basrah
Al-Zahraa College of Medicine

- Al-Zahraa College of Medicine
- Semester 6

Module Summary
Clinical Pharmacology

Updated: Sep. 2023

1 Educational Aims of the Unit

The unit aims to enable students to make progress towards meeting some of the learning outcomes described in Tomorrow's Doctors (2009) relevant to 'The Doctor as a Scholar and Scientist' and 'The Doctor as a Practitioner'. The specific aim is to enable students to develop knowledge of pharmacodynamics and pharmacokinetics that will allow them to develop an understanding of pharmacological options of therapy. The predominantly scientific knowledge gained in this module will be combined with safe prescribing training in CSFC and medical blocks in Phase II to be able to manage pharmacotherapy of patients at an appropriate level.

2 Learning Outcomes from Tomorrow's Doctors (2009)

Outcomes 1: The Doctor as a Scholar and Scientist.

1. The graduate will be able to apply to medical practice biomedical scientific principles.

    - Demonstrate knowledge of drug actions: therapeutics and pharmacokinetics; drug side effects and interactions, including for multiple treatments, long-term conditions and non-prescribed medication; and also including effects on the population, such as the spread of antibiotic resistance.

Outcomes 2: The Doctor as a Practitioner

2. Prescribe drugs safely, effectively and economically.

    a) Establish an accurate drug history, covering both prescribed and other medication.

    b) Plan appropriate drug therapy for common indications, including pain and distress.

    c) Provide a safe and legal prescription.

    d) Calculate appropriate drug doses and record the outcome accurately.

    e) Provide patients with appropriate information about their medicines.

    f) Access reliable information about medicines

    g) Detect and report adverse drug reactions.

    h) Demonstrate awareness that many patients may use complementary and alternative therapies, and awareness of the existence and range of these therapies, why patients use them, and how this might affect other types of treatment that patients are receiving.

3 Teaching and Learning Strategies

Principles will be introduced in formal lectures, and learning will be reinforced in practical classes and facilitator led small-group work immediately afterwards. Student will work in the same teams throughout Phase I to encourage team-working.

Some concepts will be discussed in more detail in tutorials, and Moodle- based tests and coursework will allow for formative assessment. Students will be provided with workbooks describing structured tasks to direct independent learning throughout the unit, and ongoing use of an e-portfolio will nurture and encourage reflective practice. The scientific foundation in this unit will be built on in CSFC and Phase II to develop a clinical approach to prescribing.

4 Unit Outline/Syllabus

Session 1: Safe Prescribing, the "Student Formulary" and Pharmacovigilance

Lecture: Safe Prescribing & Medication Errors

Introduction to e-BNF and Role of Pharmacists in Reducing Prescription Error

Pharmacovigilance

Session 2: Pharmacokinetics, Pharmacodynamics and Pharmacogenetics

Lecture: Pharmacokinetics, Pharmacodynamics, Drug Interactions & Toxicology

Lecture: Pharmacogenetics

Session 3: Endocrine Clinical Pharmacology

Lecture: Sex Hormones and Hormone Replacement Therapy

Lecture: Corticosteroids

Session 4: Diabetes Clinical Pharmacology and Lipid Metabolism

Lecture: Insulin and Oral Hypoglycaemics

Lecture: Lipid Metabolism

Session 5: Drugs treating Infection

Lectures: Antimicrobial agents

Lecture: Antiviral agents

Session 6: Respiratory Clinical Pharmacology and Drugs with Selective Toxicity

Lecture: Pharmacology of Bronchial Control

Session 7: Clinical Pharmacology of Pain Management

Lecture: Non-steroidal anti-inflammatory Drugs (NSAIDs)

Lecture: Narcotic Analgesics

Session 8: Drugs treating Cardiac Arrhythmias and Drugs treating the Kidney

Lecture: Drugs affecting the Heart & Heart Rhythm

Lecture: Diuretics and drugs in kidney failure

Session 9: Drugs treating heart failure and blood pressure

Lecture: Drugs used in Heart Failure

Lecture: Antihypertensive Therapy

Session 10: Drugs affecting Haemostasis

Lecture: Anti-platelet/Anti-coagulant Therapy

Lecture: Cancer Chemotherapy

Session 11: Neuro-pharmacology

Lecture: Drugs used in movement disorders

Lecture: Anti-epileptic Drugs

Session 12: Psycho pharmacology

Lecture: Drugs used in Psychiatric Disease 1

Lecture: Drugs used in Psychiatric Disease 2

5 Secondary Learning Outcomes

In addition to meeting the outcomes described in Tomorrow's Doctors, at the completion of the unit students will be able to:

- Further develop self directed learning skills as applied to Clinical Pharmacology and appreciate that their responsibility to initiate independent and continuous learning.
- Understand the central importance of pharmacokinetics and pharmacodynamics as applied to therapeutics.
- Have insight into how these processes are affected by drug absorption and elimination in healthy people and the way in which they may be modified by specific diseases.
- Understand the pharmacology of therapeutic targets of drug action in the major body systems.
- Be aware of adverse effects and interactions of therapeutic agents prescribed in common clinical situations.
- Identify which drug classes are prescribed commonly and begin to develop a strong appreciation of the risks and benefits of prescribing as a precursor to their continued learning during the clinical attachments.

6 Key Texts and/or Other Learning Materials

- *Pharmacology* by Rang and Dale, 7th edition pub Elsevier
- *Medical Pharmacology at a Glance* by MJ Neal, 7th edition pub Wiley-Blackwell

Document Version Information

Document Title: Unit Summary: Clinical Pharmacology.

Source of the curriculum: College of Medicine, University of Kufa according to the integrated curriculum of Leicester University – Medical college.

Origination: Al-Zahraa College of Medicine

Date: 13/09/2023

Replacing Document: non until review

Approved:

Date: