Course Specifications

General Information

Course name	Pharmacology (3)
Course number	PHPT5315
Faculty	
Department	
Course type	Major Needs
Course level	5
Credit hours (theoretical)	3
Credit hours (practical)	0
Course Prerequisites	

Course Objectives

1 - The objectives of this course are intended to:

2 - 1. Provide the basic knowledge about commonly used drugs to treat disorders of the CNS and the endocrine system, and their implication in therapy of these disorders and health promotion.

3 - 2. Enable the students to understand the safe use of drugs as regards adverse effects, contraindications, and drug interactions.

Intended Learning Outcomes

Knowledge and Understanding

* 1. Describe the pharmacokinetics, pharmacodynamics, and pharmacotherapeutic properties of different classes of drugs affecting the CNS and the endocrine system.
* 2. Describe the adverse and toxic effects, and their management of commonly used drugs to treat disorders of the CNS and the endocrine system.
* 3. Define the limitations to the use of drugs such as contraindications and drug interactions.
* 4. Explain clinically relevant age, sex and genetic related variations that affect response to drugs.
* 5. Describe the pathophysiology of disorders affecting the CNS and the endocrine system, and explain the rational basis for the use of drugs.
* 6. Recognize the rational and general guidelines of the use of drugs in the proper dose in special population such as pediatrics, geriatrics, pregnancy and lactation and in cases of liver and renal impairment.

Intellectual Skills

* 1. Analyze the mode and mechanism of action of drugs affecting the CNS and the endocrine system on various biological tissues and systems.
* 2. Calculate accurately drugs dosage, and other pharmacokinetic parameters in different patient population.
* 3. Combine clinical and investigational data with evidence based knowledge for clinical problem solving.
* 4. Describe a pharmacological plan for management of common diseases and emergencies affecting the CNS and the endocrine system.

Professional Skills

* 1. Work out proper drugs and drugs dosage on patients criteria and health condition.
* 2. Describe appropriate and safe prescriptions for selected common and important diseases affecting the CNS and the endocrine system.
* 3. Design a rational therapeutic strategies for acute and chronic diseases that take into account the various variables that influence these strategies.
* 4. Respect the patient right to know and share in decision making as regards the choice of drugs.
* 5. Understand and respect the different cultural beliefs and values that affect the use of certain drug groups.
* 6. Respect ethics related to drug prescription and use particularly to drugs liable to produce abuse.

General Skill

* 1. Find, understand, analyze, evaluate, and synthesize information about the different drugs or classes of drugs used in the treatment of diseases affecting the CNS and endocrine system.
* 2. Make informed, rational, and responsible treatment decisions about different drugs affecting the CNS and the endocrine system related to the diseases affecting both systems.
* 3. Communicate and discuss effectively with other members of the profession, doctors, patients, general populations, etc., about diseases of the CNS and the endocrine system, as well as of drugs or classes of drugs used in the treatment of these diseases.

Course Contents

1 - A. Drugs affecting the central nervous system:
2 - 1.Neurodegenerative degenerative diseases: Neurotransmission in the CNS, Drugs used in Parkinson disease, Drugs used in Alzheimer disease
3 - 2.Anxiolytic and hypnotic drugs: Benzodiazepines, barbiturates, and other sedative-hypnotic drugs.
4 - 3. CNS stimulants: Psychomotor stimulants (methylxanthines
5 - 4. Anesthetics: Overview of general anesthetics, local anesthetics
6 - 5. Antidepressants: Drugs used in the treatment of major depression, including Selective Serotonin Reuptake Inhibitors, Serotonin/Norepinephrine reuptake inhibitors, tricyclic antidepressants, Monoamine oxidase inhibitors, treatment of mania and bipolar disease.
7 - 6. Antipsychotic drugs, second-generation antipsychotic drugs: Drugs used in the treatment of schizophrenia, including first-generation antipsychotic drugs.
8 - 7. Opioids: Strong agonists, moderate/low agonists, mixed agonists-antagonists and partial agonists, antagonists.
9 - B. Drugs affecting the endocrine system: Pituitary and thyroid, estrogens and androgens, and adrenal hormones.

Teaching and Learning Methods

1 - 1.Lectures, using Power point presentation software, when needed.
2 - 2.Class discussion and review of the important features of each topic through short informal writing assignments.
3 - 3.Case presentation of clinical experience.
4 - 3.Class discussion regarding recent information about diseases affecting the CNS and the endocrine system , as well as drugs used in the treatment of these diseases, in the news and web pages.
5 - 6.Submitting and discussing a report about a disease or a drug of interest that affecting the CNS and the endocrine system from an appropriate journal or text (alone or in group).

Students Assessment

Assessment Method	TIME	MARKS
1-First mid-term exam	6th-7th week	40
2-Second mid-term exam	Not applied	--------------------
3-Attendance and discussion	during the term	5
4-homework and project report	during the term and end of the term	5
6-Final exam	end of the term	50

Books and References

Course note	Lecture notes in Pharmacology 3 prepared by the lecturer.
Essential books	Richard A. Harvey. (2012) Lippicotts Illustrated Reviews. Pharmacology, 5th edition, Wolters Kluwer Business, Lippincott Williams and Wilkins.
Recommended books	Harold Kallant, Denis Grant, Jane Mitchell. (2007). Principles of Medical Pharmacology, 7th edition, Elsevier Canada.
	Bertram G. Katzung. (2007). Basic and clinical Pharmacology, 10th edition, McGraw-Hill.
Other References (Periodical, web sites, ... etc.)	Selected articles from official Pharmacology journals, when available. Official websites of WHO, FDA, www.drugs.com., www.bnf.com., etc.

Knowledge and Skills Matrix

Main Course Contents	Study Week	Knowledge and Understanding	Intellectual Skills	Professional Skills	General Skill
A. Drugs affecting the central nervous system:					
1.Neurodegenerative degenerative diseases: Neurotransmission in the CNS, Drugs used in Parkinson disease, Drugs used in Alzheimer disease.					
2.Anxiolytic and hypnotic drugs: Benzodiazepines, barbiturates, and other sedative-hypnotic drugs.					
CNS stimulants: Psychomotor stimulants (methylxanthines					
4. Anesthetics: Overview of general anesthetics, local anesthetics					
5. Antidepressants: SSRIs, S/N reuptake inhibitors, TCAs, MAOIs, treatment of mania and bipolar disease					
6. Antipsychotic drugs, second-generation antipsychotic drugs: Drugs used in the treatment of schizophrenia, including first-generation antipsychotic drugs					
7. Opioids: Strong agonists, moderate/low agonists, mixed agonists-antagonists and partial agonists, antagonists.					
B. Drugs affecting the endocrine system: Pituitary and thyroid, estrogens and androgens, and adrenal hormones.					
	(1st -2nd week).				
	(3rd-4th weeks)				
	(6th week)				
	(7th- week)				
	(8th -9th week).				
	(10th -11th week).				
	(11th week).				

	(12th-14th week).				
		1.Describe the pharmacokinetics, pharmacodynamics, and pharmacotherapeutic properties of different classes of drugs affecting the CNS and the endocrine system.			
		2.Describe the adverse and toxic effects, and their management of commonly used drugs to treat disorders of the CNS and the endocrine system.			
		3.Define the limitations to the use of drugs such as contraindications and drug interactions.			
		4.Explain clinically relevant age, sex and genetic related variations that affect response to drugs.			
		5. Describe the pathophysiology of disorders affecting the CNS and the endocrine system, and explain the rational basis for the use of drugs.			

		6.Recognize the rational and general guidelines of the use of drugs in the proper dose in special population and in cases of liver and renal impairment.			
			1.Analyze the mode and mechanism of action of drugs affecting the CNS and the endocrine system on various biological tissues and systems.		
			2. Calculate accurately drugs dosage, and other pharmacokinetic parameters in different patient population.		
			3. Combine clinical and investigational data with evidence based knowledge for clinical problem solving.		
			4.Describe a pharmacological plan for management of common diseases and emergencies affecting the CNS and the endocrine system.		
				1.Work out proper drugs and drugs dosage on patients criteria and health condition.	

				2. Describe appropriate and safe prescriptions for selected common and important diseases affecting the CNS and the endocrine system.	
				3. Design a rational therapeutic strategies for acute and chronic diseases that take into account the various variables that influence these strategies.	
				4.Respect the patient right to know and share in decision making as regards the choice of drugs.	
				5.Understand and respect the different cultural beliefs and values that affect the use of certain drug groups.	
				6. Respect ethics related to drug prescription and use particularly to drugs liable to produce abuse.	
					1. Find, understand, analyze, evaluate, and synthesize information about the different drugs or classes of drugs used in the treatment of diseases affecting the CNS and endocrine system.

					2. Make informed, rational, and responsible treatment decisions about different drugs affecting the CNS and the endocrine system related to the diseases affecting both systems.
					3. Communicate and discuss effectively with other members of the profession, doctors, patients, about drugs affecting the CNS and the endocrine system