

SUBJECT TEACHING GUIDE

G1021 - Pharmacology

Degree in Nursing

Academic year 2024-2025

1. IDENTIFYING DATA					
Degree	Degree in Nursing			Type and Year	Core. Year 2
Faculty	Faculty of Nursing				
Discipline	Subject Area: Basic Training Guidelines Module: Common Basic Training				
Course unit title and code	G1021 - Pharmacology				
Number of ECTS credits allocated	6	Term	Semester based (1)		
Web					
Language of instruction	Spanish	English Friendly	No	Mode of delivery	Face-to-face

Department	DPTO. FISILOGIA Y FARMACOLOGIA				
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3.1 LEARNING OUTCOMES

- Define the subject Pharmacology, the element that represents it, the Drug, and delimit its application in the field of the nursing profession
- Describe the interaction of the drug with the human organism and the management of the drug by the organism, considering the different stages of life.
- Name pharmacological effects of the drug by discriminating the therapeutic effect of adverse effects.
- Describe the rules of administration of the drug by the different routes of administration and apply the principles of safety for the patient and the professional in the administration of medicines.
- Interpret and comply with treatment orders ensuring that the patient receives the prescribed dose.
- Name the interactions with clinical repercussions and describe the prevention mechanisms that the nurse must apply.
- Describe and justify nursing activities motivated by the administration of pharmacological treatment for each of the drug groups and at different stages of life.
- Describe and justify the nursing activities derived from the effects of drugs in the context of the pathology for which they are being administered for each of the drug groups and at different stages of life .
- Know the role of medicines in the health system, and all related to the evaluation of efficacy and safety and delimit the role of the nurse taking in account the ethical aspects

4. OBJECTIVES

- To know the fundamental aspects of the main pharmacological groups: how they act in humans, what beneficial and harmful effects they have, what are their interactions
- Identify individual physiological and pathological factors that modulate response to drug treatment.
- Apply the principles governing the safe and effective administration of medicines
- Participate in the process of informing the patient and family about aspects related to pharmacological treatment
- Relate the effects, beneficial and adverse, that drugs produce in the patient with the care plan designed in patient's care.
- Describe the ways of participation and collaboration with the Health Administration in aspects related to medicines , in the notification of adverse effects and in participation in research projects with drugs
- Apply the regulations governing the relationship of the nursing professional with the prescription and administration of medications
- Place the knowledge of clinical pharmacology in nursing care management

6. SUBJECT PROGRAM	
CONTENTS	
1	<p>GENERAL PRINCIPLES Introduction to Pharmacology and its application in Nursing. Name of drugs, pharmaceutical forms. Pharmacodynamics: How drugs work. The dose-effect relationship. Conditioning factors. Pharmacokinetics: Access and distribution of the drug to the body, processing and excretion. Conditioning factors. Study of the efficacy of drugs, clinical trial, the Ethics Committee in clinical research. Adverse effects of medicinal products: types, detection and prevention of adverse consequences, reporting. Spanish Pharmacovigilance System. Drug Interactions: Mechanisms, determinants, clinical relevance, detection and prevention of adverse consequences. Medication registration. Spanish Agency for Medicines and Health Products, European Agency. Administration of medicines: prior assessment of the patient, principles of safety, detection and notification of errors. Nurse prescription: criteria of indication, responsibility, prescription guidelines. The current situation in Spain. PA-1 DOCUMENTATION PL-1 PROBLEMS: Calculations to prepare the prescribed doses PL-2 Assisted electronic prescription and administration of medicines PL-3 Infusion systems for the IV administration of drugs</p>
2	<p>PHARMACOTHERAPY OF PAIN AND INFLAMMATION Concept, classification, mechanism of action and pharmacological effects, pharmacokinetic characteristics relevant to nursing and their evolution at different stages of life, administration, adverse effects and clinically relevant interactions and safety of use in pregnant women of the following groups of drugs: Antipyretic analgesics Anti-inflammatory drugs Antirheumatics Analgesics opioids PL-4: Students will prepare DATA sheets of NURSING for the SAFE ADMINISTRATION OF ANALGESIC DRUGS AND NURSING CARE DERIVED FROM THEIR ADMINISTRATION.</p>
3	<p>NEUROPHARMACOLOGY AND PSYCHOPHARMACOLOGY Concept, classification, mechanism of action and pharmacological effects, pharmacokinetic characteristics relevant to nursing and its evolution at different stages of life, administration, adverse effects and clinically relevant interactions and safety of use in pregnant women of the following groups of drugs: Antiepileptics and antiparkinsonians Anxiolytics and hypnotics Neuroleptics Antidepressives and antimanics Anesthetics and miorelajantes PL-5: Students will prepare NURSING FILES for the SAFE ADMINISTRATION of NEURO-PSYCHOTROPIC DRUGS AND NURSING CARE DERIVED FROM THEIR ADMINISTRATION TO PATIENTS</p>
4	<p>CARDIO-RESPIRATORY THERAPEUTICS Concept, classification, mechanism of action and pharmacological effects, pharmacokinetic characteristics relevant to nursing and its evolution at different stages of life, administration, adverse effects and clinically relevant interactions and safety of use in pregnant women of the following groups of drugs: Antiasthmatics, antitussives, expectorants, mucolytics and nasal decongestants. Diuretics, cardiotonic glycosides, ACE inhibitors, other vasodilators, beta-blockers, other antihypertensives, antianginals, and antiarrhythmics. Hypocholesterolemic agents. Antiplatelets and anticoagulants. PL-6: Students will prepare NURSING SHEETS for the SAFE ADMINISTRATION of ANTI-ASTHMATIC AND/OR CARDIOVASCULAR MEDICATIONS, AND NURSING CARE DERIVED FROM ITS ADMINISTRATION TO PATIENTS WITH RESPIRATORY AND/OR CARDIOVASCULAR PATHOLOGY</p>
5	<p>ANTI-INFECTIVE THERAPY General concepts of anti-infectious therapy Concept, classification, mechanism of action and pharmacological effects, pharmacokinetic characteristics relevant to nursing and their evolution at different stages of life, administration, adverse effects and clinically relevant interactions and safety of use in pregnant women of the following groups of drugs: Beta-lactam antibiotics, Glycopeptides, Quinolones, Aminoglycosides, Macrolides and others antibiotics Antifungal Antivirals Antiseptics, disinfectants and antiparasitics PL-7: Students will prepare NURSING SHEETS for the SAFE ADMINISTRATION of ANTI-INFECTIVE DRUGS TO PATIENTS WITH INFECTION</p>
6	<p>CLINICAL PHARMACOLOGY OF THE DIGESTIVE SYSTEM Concept, classification, mechanism of action and pharmacological effects, pharmacokinetic characteristics relevant to nursing and its evolution at different stages of life, administration, adverse effects and clinically relevant interactions and safety of use in pregnant women of the following groups of drugs: Antiulcers and protectors of the gastric mucosa Prokinetics, antiemetics, antikinetics, antidiarrheals and laxatives PL-8: Students will prepare NURSING FILES for the SAFE ADMINISTRATION OF MEDICATIONS TO PATIENTS WITH PATHOLOGY OF THE DIGESTIVE TRACT.</p>

7	<p>CLINICAL PHARMACOLOGY OF THE ENDOCRINE SYSTEM AND METABOLISM Concept, classification, mechanism of action and pharmacological effects, pharmacokinetic characteristics relevant to nursing and its evolution at different stages of life, administration, adverse effects and clinically relevant interactions and safety of use in pregnant women of the following groups of drugs: Drugs that regulate glycemia. Cortical steroids. Thyroid hormones. Drugs regulating calcium metabolism Sexual hormones in infertility and contraception. Drugs that modify uterine motility. PL-9: Students will prepare NURSING SHEETS for the SAFE ADMINISTRATION OF ANTIDIABETIC DRUGS TO PATIENTS WITH DIABETES</p>
8	<p>NEOPLASTIC GROWTH AND IMMUNITY Concept, classification, mechanism of action and pharmacological effects, pharmacokinetic characteristics relevant to nursing and its evolution at different stages of life, administration, adverse effects and clinically relevant interactions and safety of use in pregnant women of immunosuppressive drugs. Antineoplastic drugs. PL-10: Students will prepare NURSING SHEETS for the SAFE ADMINISTRATION OF IMMUNOSUPPRESSIVE AND/OR ANTINEOPLASTIC DRUGS TO PATIENTS</p>
9	<p>PHARMACOLOGY OF PAIN AND INFLAMMATION Relevant aspects for nursing: antipyretic analgesics, NSAIDs, antirheumatics and opioid analgesics</p> <p>PL-9 Assessment, administration, therapeutic effect, most frequent adverse reactions and monitoring by nursing staff of analgesic drugs.</p>
10	<p>PHARMACOLOGY OF THE CENTRAL NERVOUS SYSTEM Antiepileptic and antiparkinsonian. Antipsychotics. Anxiolytics and hypnotics. Antidepressants. Drugs used in anesthesia.</p> <p>PL-10: Assessment, administration, therapeutic effect and monitoring by nursing staff of other drugs that act on the CNS.</p>

7. ASSESSMENT METHODS AND CRITERIA				
Description	Type	Final Eval.	Reassessn	%
Partial exam	Written exam	No	Yes	45,00
Work (written essay)	Work	No	No	10,00
Final exam	Written exam	Yes	Yes	45,00
TOTAL				100,00
Observations				
Observations for part-time students				
<p>The grade obtained in each of the sections will be computed in the final evaluation regardless of the moment in which they had been carried out.</p> <p>To benefit from this modality, the responsible teacher must be informed at the beginning of the course and must justify that he/she is enrolled in a part-time regime.</p> <p>When a student has not carried out evaluation activities whose weight exceeds 50% of the grade of the subject, it will appear in the academic records "not presented". When the student has taken exams that represent the aforementioned 50% or more, the corresponding grade will appear in the academic records.</p>				

8. BIBLIOGRAPHY AND TEACHING MATERIALS

BASIC

Adams, M., Holland, N. Farmacología para Enfermería: un enfoque fisiopatológico. 2ª edición. PEARSON, 2009.

Castells Molina, S., Hernández Pérez M. Farmacología en Enfermería, 3ª edición. ELSEVIER, 2012.

Principles of pharmacology : the pathophysiologic basis of drug therapy / David E. Golan, editor in chief ; Ehrin J. Armstrong, April W. Armstrong, associate editors. 4th ed. Wolters Kluwer, cop. 2017.

Boyer, Mary Jo. MATEMATICAS PARA ENFERMERAS. GUIA DE BOLSILLO PARA CALCULO DE DOSIS Y PREPARACION DE MEDICAMENTOS. 5ª edición. Wolters Kluwer, 2020.

Pharmacology for nursing care / Richard A. Lehne. In consultation with Linda A. Moore, Leanna J. Crosby, Diane B. Hamilton., 9th ed. Editorial St. Louis, Missouri : Saunders Elsevier, cop. 2016.

Guía farmacológica en tratamiento parenteral y cuidados de enfermería / Jorge Álvarez López, Jesús Flórez González, Íñigo Gredilla Zubiría. 2ª edición. Elsevier España, 2021.

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Nursing pharmacology made incredibly easy / [editors, Mary T. Durkin, Barbara E. Hodgson]. 3rd ed. Editorial Philadelphia [etc.] : Wolters Kluwer/Lippincott Williams & Wilkins, cop. 2013.