M E D I C A L U N I V E R S I T Y – P L O V D I V

FACULTY OF MEDICINE

P R O G R A M IN P H A R M A C O L O G Y

FOR DENTAL MEDICINE

PLOVDIV

2019

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M E D I C A L U N I V E R S I T Y – P L O V D I V

FACULTY OF MEDICINE

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Department of Pharmacology and Clinical Pharmacology

Head of Department: Prof. Ivanka Kostadinova, MD, PhD.

PROGRAM IN PHARMACOLOGY

PROGRAM BASICS

COURSE NAME
Pharmacology
TYPE OF COURSE ACCORDING TO THE UNIFORM STATE REQUIREMENTS
Mandatory
LEVEL OF EDUCATION:
Master's degree /M/
FORM OF EDUCATION:
Lecture courses, practical courses.
SEMESTERS OF EDUCATION:
6^{th} and 7^{th} semesters.
AUDITORIUM CLASSES:
45 hours of lecture courses, 45 hours of practical courses.
TECHNICAL EQUIPMENT APPLIED IN THE TRAINING:
Audiovisual equipment, tools and technical devices for illustration of mechanisms of action, pharmacological effects and adverse drug reactions of studied drugs, test books.
TRAINING METHODS:
Lecture courses, practical courses, seminars, individual work with excellent students.
CONTROL AND EVALUATION:
Ongoing evaluation – weekly tests, oral examinations, colloquia on different syllabus sections.
Final evaluation – entry test, written essays, oral examination.
Semester exam:
Yes /MCQs, written and oral examination/
State Exam
No
Lecturer
Professors and Associate Professors from the Department of Pharmacology and Clinical Pharmacology
Department:
Pharmacology and Clinical Pharmacology

ANNOTATION

The discipline Pharmacology allows students to acquire knowledge and skills in the following basic pharmacological concepts:

- *General Pharmacology* – pharmacokinetics and pharmacodynamics of drugs, drug interactions, adverse drug reactions, repeated drug administration, factors affecting drug action, drug administration in pregnancy, children and the elderly, patients with renal and liver failure; pharmacogenetics and chronopharmacology.
- *Special Pharmacology* – pharmacological characteristics of drug groups e.g. drugs affecting CNS, ANS, cardiovascular system, respiratory system, gastrointestinal system, urogenital tract; pharmacology of antimicrobials; vitamins and anticancer drugs, endocrine pharmacology, autacoids.

COURSE OBJECTIVES: The objective of the pharmacology course is to develop:

- ✓ Skills to characterize a group of drugs – pharmacokinetics, pharmacodynamics, adverse drug reactions, drug interactions, therapeutic uses, contraindications and application of this knowledge in clinical practice;
- ✓ Skills to use scientific literature concerning pharmacotherapy;
- ✓ Skills to prescribe drugs.

OBLIGATORY COMPETENCIES:

Theoretical knowledge – A thorough working knowledge of the pharmacokinetic and pharmacodynamic properties of drugs from different pharmacological groups.

Practical skills – The ability to prescribe drugs; knowledge of different methods employed in experimental pharmacology e.g. acute and chronic toxicity, analgesic activity, etc.

CURRICULUM

Type of courses	Academic Hours				ECTS
	Weekly	6th semester	7th semester	All	
Lectures	1/2	15	30	45	
Practicals	1/2	15	30	45	**6.6**
Total	**6 hours**	**30 hours**	**60 hours**	**90 hours**	

LECTURES PROGRAM

Lectures – 45 academic hours

LECTURE 1 – 2 hours

INTRODUCTION IN PHARMACOLOGY. SUBJECT OF PHARMACOLOGY. PHASES IN DRUG DISCOVERY. ROUTES OF DRUG ADMINISTRATION. PHARMACOKINETICS. TRANSMEMBRANE TRANSPORT OF DRUGS. DRUG DISTRIBUTION.

1. Subject and tasks of pharmacology.
2. Role of pharmacology.
3. Branches of pharmacology.
4. Drug definition. Phases of drug discovery.
5. Routes of drug administration. Clinical aspects.
6. Absorption, transmembrane transport and distribution of the drugs in the body. Binding to plasma proteins. Barrier systems.

LECTURE 2 – 2 hours

GENERAL PHARMACOLOGY. PHARMACOKINETICS: METABOLISM AND EXCRETION. PHARMACODYNAMICS – RECEPTOR AND NON-RECEPTOR MECHANISM OF DRUG ACTION.

1. Drug metabolism.
2. Elimination (routes of excretion). Clinical aspects
3. Mechanism of action and drug effects. Types of action. Drug receptors.

LECTURE 3 – 2 hours

GENERAL PHARMACOLOGY. FACTORS AFFECTING PHARMACOKINETICS AND PHARMACODYNAMICS OF DRUGS – FROM THE HUMAN BODY AND FROM THE DRUG. REPEATED DRUG ADMINISTRATION AND DRUG INTERACTIONS.

1. Factors of the drug– dose, physical and chemical properties, chemical structure, etc.
2. Factors of the patient - age, gender, physiological conditions, genetic factors etc.
3. Drug interactions – synergy, potentiation, antagonism.
4. Repeated drug administration – tolerance, drug dependence, allergy, accumulation.

LECTURE 4 – 2 hours

OPIOID ANALGESICS. ANALGETSIC- ANTIPYRETICS. NONSTEROIDAL ANTI-INFLAMMATORY DRUGS. PHARMACOTHERAPY OF URGENT INFLAMMATORY CONDITIONS IN DENTAL MEDICINE.

1. Opioid analgesics - definition, classification, mechanism of action, pharmacokinetics, pharmacological effects, therapeutic uses in dentistry, adverse drug reactions, drug interactions. Toxicity of opioids.
2. NSAIDs - definition, classification, mechanism of action, pharmacokinetics, pharmacological effects, therapeutic uses in dentistry, adverse drug reactions, drug interactions.
3. Analgesics-antipyretics - definition, classification, mechanism of action, pharmacokinetics, pharmacological effects, therapeutic uses in dentistry , adverse drug reactions, drug interactions.
4. Pharmacotherapy of urgent inflammatory conditions in dental medicine.

LECTURE 5 – 2 hours

DRUGS FOR ANEMIA. COAGULANTS. ANTIFIBRINOLYTIC DRUGS. ANTICOAGULANTS, FIBRINOLYTICS AND ANTIPLATELET AGENTS.

1. Agents used in anemias. Classification, mechanism of action, pharmacokinetics, adverse drug reactions, drug interactions, indications and contraindications.
2. Haemostatics with local and systemic action. Classification, mechanism of action, pharmacokinetics, adverse drug reactions, drug interactions, indications and contraindications.
3. Fibrinolytic inhibitors. Classification, mechanism of action, pharmacokinetics, adverse drug reactions, drug interactions, indications and contraindications.
4. Oral and injectable anticoagulants; Fibrinolytic agents; Antiplatelet drugs. Classification, mechanism of action, pharmacokinetics, adverse drug reactions, drug interactions, indications and contraindications.

LECTURE 6 – 2 hours

PRINCIPLES OF HORMONAL PHARMACOTHERAPY IN DENTAL MEDICINE. GLUCOCORTICOIDS. ANTIDIABETIC DRUGS.

1. Corticosteroids - classification, pharmacokinetics, mechanism of action, pharmacodynamics, therapeutic uses in dentistry, adverse drug reactions, drug interactions.
2. Insulin and oral antidiabetic drugs - classification, pharmacokinetics, mechanism of action, pharmacodynamics, adverse drug reactions, drug interactions.

LECTURE 7 – 2 hours

MALE AND FEMALE SEX HORMONES. CONTRACEPTIVES. VITAMINES.

1. Sex hormones - classification, pharmacokinetics, mechanism of action, pharmacodynamics, adverse drug reactions, drug interactions. Contraceptives.
2. Fat-soluble vitamins - classification, pharmacokinetics, mechanism of action, pharmacodynamics, adverse drug reactions, drug interactions.
3. Water-soluble vitamins - classification, pharmacokinetics, mechanism of action, pharmacodynamics, adverse drug reactions, drug interactions.

LECTURE 8 – 2 hours

LOCAL ANESTHETICS. ANTIHISTAMINES. PHARMACOTHERAPY OF SHOCK AND ALLERGIC CONDITIONS IN EMERGENCY DENTISTRY.

1. Histamine – types of histamine receptors, pharmacological effects of histamine.
2. Histamine antagonists - classification, mechanism of action, pharmacokinetics, pharmacodynamics, therapeutic uses in dentistry, drug interactions, adverse drug reactions.
3. Pharmacotherapy of anaphylactic shock and allergic conditions in emergency dentistry.
3. Types of local anesthesia.
4. Local anesthetics - classification, mechanism of action, pharmacokinetics, pharmacodynamics, therapeutic uses in dentistry, drug interactions, adverse drug reactions.

LECTURE 9 - 2 hours

PHARMACOLOGY OF AUTONOMIC NERVOUS SYSTEM. CHOLINERGIC NEUROTRANSMISSION. CHOLINOTROPIC DRUGS. NEUROMUSCULAR BLOCKING DRUGS.

1. Cholinergic mediation. Types and localization of cholinoceptors. Classification of cholinergic drugs.
2. Cholinomimetics with direct and indirect action. Classification, mechanism of action, pharmacokinetics, adverse drug reactions, drug interactions, indications and contraindications.

3. Antimuscarinic drugs. Classification, mechanism of action, pharmacokinetics, adverse drug reactions, drug interactions, indications and contraindications.
4. Neuromuscular blocking drugs (Skeletal muscle relaxants). Classification, mechanism of action, pharmacokinetics, adverse drug reactions, drug interactions, indications and contraindications.

LECTURE 10 - 2 hours
PHARMACOLOGY OF AUTONOMIC NERVOUS SYSTEM. ADRENERGIC NEUROTRANSMISSION. ADRENERGIC DRUGS – ADRENOMIMETICS AND ADRENOLYTICS.
1. Adrenergic mediation. Types and localization of adrenergic receptors.
2. Classification of adrenergic drugs.
3.Sympathomimetics with direct and indirect action. Classification, mechanism of action, pharmacokinetics, adverse drug reactions, drug interactions, indications and contraindications.
4. Agonists of presynaptic α_2 adrenergic receptors. Classification, mechanism of action, pharmacokinetics, adverse drug reactions, drug interactions, indications and contraindications.
5. Adrenergic antagonists (α and β blockers). Classification, mechanism of action, pharmacokinetics, adverse drug reactions, drug interactions, indications and contraindications.

LECTURE 11 - 2 hours
CARDIOVASCULAR DRUGS. CARDIAC GLYCOSIDES. ANTIARRHYTHMICS.
1. Cardiac glycosides. Classification, mechanism of action, pharmacokinetics, adverse drug reactions, drug interactions, indications and contraindications.
2. Antiarrhythmics. Classification, mechanism of action, pharmacokinetics, adverse drug reactions, drug interactions, indications and contraindications.

LECTURE 12 - 2 hours
CARDIOVASCULAR DRUGS. ANTIHYPERTENSIVE DRUGS. DIURETICS.
1. Antihypertensive drugs. Classification, mechanism of action, pharmacokinetics, adverse drug reactions, drug interactions, indications and contraindications.
2. Diuretics – classification, mechanism of action, pharmacokinetics, adverse drug reactions, drug interactions, indications and contraindications.

LECTURE 13 - 2 hours
CARDIOVASCULAR DRUGS. ANTIANGINAL DRUGS. PERIPHERAL VASODILATORS. ANTIDYSLIPIDEMIC DRUGS.
1. Antianginal drugs. Classification, mechanism of action, pharmacokinetics, adverse drug reactions, drug interactions, indications and contraindications.
2. Peripheral vasodilators. Classification, mechanism of action, pharmacokinetics, adverse drug reactions, drug interactions, indications and contraindications.
3. Antidyslipidemic drugs. Classification, mechanism of action, pharmacokinetics, adverse drug reactions, drug interactions, indications and contraindications.

LECTURE 14 - 2 hours
CNS DEPRESSANTS
1. Neuroleptics (antipsychotics) – definition, classification, mechanism of action, pharmacokinetics, pharmacological effects, adverse drug reactions, drug interactions.
2. Anxiolytics - definition, classification, mechanism of action, pharmacokinetics, pharmacological effects, adverse drug reactions, drug interactions.

3. Antiparkinsonian drugs - definition, classification, mechanism of action, pharmacokinetics, pharmacological effects, adverse drug reactions, drug interactions.

LECTURE 15 – 2 hours
CNS DEPRESSANTS – HYPNOTICS AND SEDATIVE DRUGS. ANTIEPILEPTIC DRUGS.
1. Sleep structure and sleep disorders.
2. Hypnotics - definition, classification, mechanism of action, pharmacokinetics, pharmacological effects, adverse drug reactions, drug interactions.
3. Sedatives - definition, classification, mechanism of action, pharmacokinetics, pharmacological effects, adverse drug reactions, drug interactions.
4. Antiepileptic drugs - classification, pharmacological effects, mechanism of action, adverse drug reactions, drug interactions.

LECTURE 16 – 2 hours
CNS STIMULANTS – PSYCHOSTIMULANTS, ANTIDEPRESSANTS AND NOOTROPIC DRUGS.
1. Psychostimulants – classification, mechanism of action, pharmacokinetics, pharmacodynamics, drug interactions, adverse drug reactions.
2. Antidepressants - classification, mechanism of action, pharmacokinetics, pharmacodynamics, drug interactions, adverse drug reactions.
3. Nootropic drugs - mechanism of action, pharmacokinetics, pharmacodynamics, drug interactions, adverse drug reactions.

LECTURE 17 - 2 hours
SULFONAMIDES AND TRIMETHOPRIM. QUINOLONES. ANTIFUNGAL AGENTS. ANTIVIRAL AGENTS.
1. Sulfonamides and trimethoprim – classification, mechanism of action, spectrum and type of action, resistance, pharmacokinetics, adverse drug reactions, drug interactions, dosing in children and adults.
2. Quinolones – classification, mechanism of action, spectrum and type of action, resistance, pharmacokinetics, adverse drug reactions, drug interactions, dosing in children and adults.
3. Antiviral agents – classification, mechanism of action, pharmacokinetics, adverse drug reactions, drug interactions.
4. Antifungal agents – classification, mechanism of action, pharmacokinetics, adverse drug reactions, drug interactions.

LECTURE 18 - 2 hours
PRINCIPLES OF TREATMENT WITH ANTIMICROBIAL DRUGS. BACTERICIDAL ANTIBIOTICS.
1. Principles of treatment with antibiotics and chemotherapeutics.
2. β- lactam antibiotics - penicillins. Classification, mechanism of action, spectrum and type of action, resistance, pharmacokinetics, adverse drug reactions, drug interactions, dosing in children and adults.
3. β- lactam antibiotics - cephalosporins. Classification, mechanism of action, spectrum and type of action, resistance, pharmacokinetics, adverse drug reactions, drug interactions, dosing in children and adults.
4. Carbapenems, monobactams and glycopeptides - classification, mechanism of action, spectrum and type of action, resistance, pharmacokinetics, adverse drug reactions, drug interactions, dosing in children and adults.

5. Aminoglycoside antibiotics - classification, mechanism of action, spectrum and type of action, resistance, pharmacokinetics, adverse drug reactions, drug interactions, dosing in children and adults.

LECTURE 19 - 2 hours
BACTERIOSTATIC ANTIBIOTICS.
1. Tetracyclines – classification, mechanism of action, spectrum and type of action, resistance, pharmacokinetics, adverse drug reactions, drug interactions.
2. Macrolides – classification, mechanism of action, spectrum and type of action, resistance, pharmacokinetics, adverse drug reactions, drug interactions, dosing in children and adults.
3. Chloramphenicol. Lincosamides – classification, mechanism of action, spectrum and type of action, resistance, pharmacokinetics, adverse drug reactions, drug interactions, dosing in children and adults.

LECTURE 20 - 2 hours
DRUGS AFFECTING THE GASTROINTESTINAL SYSTEM.
1. Drugs affecting appetite – stimulants and supressors. Classification, mechanism of action, pharmacokinetics, adverse drug reactions, drug interactions, contraindications.
2. Antiemetics. Classification, mechanism of action, pharmacokinetics, adverse drug reactions, drug interactions, contraindications.
3. Drugs used in acid- peptic diseases. Classification, mechanism of action, pharmacokinetics, adverse drug reactions, drug interactions, indications and contraindications.
4. Hepatoprotective drugs. Mechanism of action, adverse drug reactions.
5. Pancreatic enzyme supplements.
6. Laxatives and antidiarrheal agents. Classification, mechanism of action, adverse drug reactions, contraindications.

LECTURE 21 - 2 hours
DRUGS AFFECTING THE RESPIRATORY SYSTEM:
1. Antitussive agents. Classification, mechanism of action, pharmacokinetics, adverse drug reactions, drug interactions, indications and contraindications.
2. Drugs affecting the bronchial secretion. Mucolytics. Classification, mechanism of action, adverse drug reactions, indications and contraindications.
3. Drugs used in bronchial asthma. Classification, mechanism of action, pharmacokinetics, adverse drug reactions, drug interactions, contraindications.

LECTURE 22 – 2 hours
ANTISEPTICS AND DISINFECTANTS
1. Definition of antisepsis and disinfection.
2. Classification of antiseptics and disinfectants.
3. Oxidants, halogens, detergents – mechanism of action, application, toxicity, drug preparations.
4. Phenols, aldehydes, alcohols - mechanism of action, application, toxicity, drug preparations.
5. Dyes, essential oils, phytopreparations, salts of heavy metals and acids - mechanism of action, application, toxicity, drug preparations.
6. Preparations for oral hygiene and therapy.

PRACTICALS PROGRAM

PRACTICAL 1 – 2 hours
PRESCRIPTION. SOLID DOSAGE FORMS
1. Drug definition.
2. Drug sources.
3. Prescription - parts of the prescription, units of measurement.
4. Powders.
5. Tablets and lozenges.
6. Capsules.
7. Prescription rules of solid dosage forms.

PRACTICAL 2 – 2 hours
LIQUID DOSAGE FORMS. SEMI-SOLID DOSAGE FORMS. GASEOUS DOSAGE FORMS.
1. Solution and mixture.
2. Emulsions and suspensions.
3. Liquid drug forms for parenteral administration.
5. Prescription rules of liquid dosage forms.
6. Oinments and pastes.
7. Plasters.
8. Gels and creams.
9. Rectal suppositories and vaginal pessaries.
10. Prescription rules of semi-solid dosage forms.
11. Gaseous dosage forms.

PRACTICAL 3 – 2 hours
GENERAL PHARMACOLOGY
1. Test.
2. Discussion on routes of administration, absorption, transmembrane transport, drug distribution, metabolism, excretion.
3. Discussion on pharmacodynamics, factors affecting drug effect, repeated drug administration, drug interactions.

PRACTICAL 4 – 2 hours
COLLOQUIUM ON PRESCRIPTION AND GENERAL PHARMACOLOGY
1. Prescriptions.
2. Written examination.

PRACTICAL 5 – 2 hours
OPIOD ANALGESICS. ANALGESICS-ANTIPYRETICS. NON-STEROIDAL ANTI-INFLAMMATORY DRUGS
1. Test.
2. Discussion on opioid analgesics, analgesics-antipyretics and NSAIDs.
3. Prescriptions.

PRACTICAL 6 - 2 hours
DRUGS AFFECTING HEMOPOESIS AND COAGULATION.
1. Test.
2. Discussion on the topic.

3. Prescriptions.

PRACTICAL 7 – 2 hours
HORMONES – INSULIN, ORAL ANTIDIABETIC DRUGS, CORTICOSTEROIDS
1. Test.
2. Discussion on insulin, oral antidiabetic drugs and corticosteroids.
3. Prescriptions.

PRACTICAL 8 - 2 hours
ANTISEPTICS AND DISINFECTANTS.
1. Test.
2. Discussion on the topic.
3. Prescriptions.

PRACTICAL 9 – 2 hours
LOCAL ANESTHETICS. HISTAMINE AND HISTAMINE ANTAGONISTS.
1. Test.
2. Discussion on local anesthetics and autacoids.
3. Prescriptions.

PRACTICAL 10 - 2 hours
CHOLINOTROPIC DRUGS.
1. Test.
2. Discussion on the topic.
3. Prescriptions.

PRACTICAL 11 - 2 hours
ADRENOTROPIC DRUGS.
1. Test.
2. Discussion on the topic.
3. Prescriptions.

PRACTICAL 12 - 2 hours
COLLOQUIUM ON AUTONOMIC NERVOUS SYSTEM.
1. Written essay.
2. Prescriptions.

PRACTICAL 13 - 2 hours
CARDIAC GLYCOSIDES. ANTIARRHYTHMICS.
1. Test.
2. Discussion on the topic.
3. Prescriptions.

PRACTICAL 14 - 2 hours
ANTIHYPERTENSIVE DRUGS. DIURETICS.
1. Test.
2. Discussion on the topic.
3. Prescriptions.

PRACTICAL 15 - 2 hours

ANTIANGINAL DRUGS. PERIPHERAL VASODILATORS. ANTIDYSLIPIDEMIC DRUGS.
1. Test.
2. Discussion on the topic.
3. Prescriptions.

PRACTICAL 16 – 2 hours
NEUROLEPTICS AND ANXIOLYTICS. ANTIPARKINSONIAN DRUGS.
1. Test.
2. Discussion on neuroleptics, anxiolytics and antiparkinsonian drugs.
3. Prescriptions.

PRACTICAL 17 -2 hours
HYPNOTICS AND SEDATIVE DRUGS. ANTIEPILEPTIC DRUGS.
1. Test.
2. Discussion on hypnotics, sedatives and antiepileptic drugs.
3. Prescriptions.

PRACTICAL 18 - 2 hours
CHEMOTHERAPEUTICS. SULFONAMIDES AND TRIMETHOPRIM. QUINOLONES. ANTIFUNGAL AGENTS. ANTIVIRAL AGENTS.
1. Test.
2. Discussion on the topic.
3. Prescriptions.

PRACTICAL 19 - 2 hours
BACTERICIDAL ANTIBIOTICS.
1. Test.
2. Discussion on the topic.
3. Prescriptions.

PRACTICAL 20 - 2 hours
BACTERIOSTATIC ANTIBIOTICS.
1. Test.
2. Discussion on the topic.
3. Prescriptions.

PRACTICAL 21 - 2 hours
DRUGS AFFECTING THE GASTROINTESTINAL SYSTEM – ANTIEMETICS, ANTIULCER DRUGS, LAXATIVES.
1. Test.
2. Discussion on the topic.
3. Prescriptions.

PRACTICAL 22 - 2 hours
DRUGS AFFECTING THE RESPIRATORY SYSTEM – ANTITUSSIVE DRUGS, EXPECTORANTS, ANTIASTHMATIC DRUGS.
1. Test.
2. Discussion on the topic.
3. Prescriptions.

PHARMACOLOGY EXAM SYLLABUS
Dental Medicine Students IV course
(Examination during winter semester)

I. General pharmacology:

1. Routes of drug administration.
2. Absorption and transmembrane transport of drugs.
3. Drug biotransformation (metabolism) – organs, types and drug interactions.
4. Drug distribution. Plasma protein binding. Barrier systems. Examples.
5. Drug excretion - organs and drug examples.
6. Pharmacodynamics. Non-receptor and receptor mechanisms of action.
7. Levels and mechanism of drug interactions.
8. Factors of the drug affecting drug action – chemical structure, physical and chemical properties, physical state, dose, dosage form.
9. Dose - definition. Types of doses. Therapeutic window and therapeutic index.
10. Factors of the patient that affect drug action – drugs in pregnancy, breast-feeding, children, elderly, liver and kidney diseases. Genetic abnormalities and drug action.
11. Multiple drug administration phenomena: drug tolerance, tachyphylaxis; substances causing dependence and abuse; accumulation; drug allergy.
12. Antiseptics and disinfectants. Definition. Mechanism of action.
13. Antiseptics and disinfectants. Dyes and detergents.
14. Antiseptics and disinfectants. Salts of heavy metals. Phenol and phenolic derivatives.
15. Oxidants. Formaldehyde and alcohols. Essential oils.
16. Male sex hormones and their antagonists. Anabolic agents.
17. Female sex hormones and their antagonists. Contraceptive preparations.
18. Pharmacological effects of fat - soluble vitamins (Vitamins A, D, E and K).
19. Pharmacological effects of water – soluble vitamins (Vitamins of group B and C).
20. Drugs affecting the functions of the uterine muscle: uterokinetic, uterotonic and tocolytic agents.
21. Thyroid and antithyroid drugs.

II. Special systems pharmacology:

1. Hypnotics. Sedatives.
2. Antiepileptic drugs.
3. Antiparkinsonian drugs.
4. Opioid analgesics.
5. Analgesics-antipyretics. Non-steroidal anti-inflammatory drugs (NSAIDs).

6. Neuroleptics. Anxiolytic agents. Central muscle relaxants.

7. Psychostimulants. Nootropic drugs.

8. Antidepressants and antimanic drugs.

9. Cholinergic mediation. Types of cholinoceptors and their localization. Classification of cholinergic drugs.

10. Cholinomimetics with direct and indirect mechanism of action.

11. M-cholinolytics. Neuromuscular blocking drugs (Skeletal muscle relaxants).

12. Adrenergic mediation. Types of adrenoceptors and their localization. Classification of adrenergic drugs.

13. Adrenomimetics with direct and indirect mechanism of action.

14. Adrenolytics with presynaptic mechanism of action and adrenolytics with postsynaptic mechanism of action (α and β blockers).

15. Histamine and histamine antagonists.

16. Local anesthetics.

17. Cardiac glycosides.

18. Peripheral vasodilators.

19. Angioprotectors and venotonic agents. Antidyslipidemic drugs.

20. Antiarrhythmic drugs.

21. Antianginal drugs.

22. Antihypertensive drugs.

23. Agents used in anemias.

24. Drugs affecting coagulation.

25. Antitussive agents. Drugs affecting the bronchial secretion.

26. Drugs used in bronchial asthma.

27. Drugs affecting appetite – stimulants and suppressors. Antiemetics. Laxatives and antidiarrheal agents. Carminative agents.

28. Drugs used to treat peptic ulcer disease.

29. Hepatoprotective drugs. Pancreatic enzyme supplements. Choleretic and cholekinetic agents.

30. Insulin and oral antidiabetics.

31. Adrenocorticosteroids.

32. Anticancer drugs.

33. Principles of treatment with antimicrobial drugs. Sulfonamides. Antifungal agents.

34. Quinolones. Antiviral agents.

35. Tetracyclines. Macrolides. Chloramphenicol. Lincosamides. Antimycobacterial agents.

36. β- lactam antibiotics – penicillins, cephalosporins, carbapenems and monobactams. Glycopeptides. Aminoglycoside antibiotics.

37. Diuretics.

REFERENCES

1. Pharmacology handbook for medical and dental students. Eds. Assoc. Prof. Kostadinov and Assoc. Prof. Delev, Plovdiv, 2018.

2. Basic and Clinical Pharmacology 12th edition (LANGE Basic Science) by Katzung, Masters and Trevor, 2011.

3. Pharmacology (Lippincott's Illustrated Reviews Series) by Harvey, Clark, Finkel and Rey, BCPP, 2011.

4. Goodman and Gilman's The Pharmacological Basis of Therapeutics, 12th edition by Brunton, Chabner and Knollman, 2010.

5. Color Atlas of Pharmacology by Albrecht Ziegler, Mohr, Bieger and Lullmann, 2000.

Head of Department: ……..
(Prof. I. Kostadinova, MD, PhD)