

ODESSA NATIONAL MEDICAL UNIVERSITY

Pharmaceutical faculty

Department of General Pharmacy with the course of Clinical Pharmacology

Syllabus of the discipline

«CLINICAL PHARMACY AND PHARMACEUTICAL CARE»

Amount	Credits (ECTS) – 9,0	Total number of hours – 270
Year of study	4 and 5	
Semester	8 and 9	
Days, time, places	In accordance with the approved schedule	
Teachers	Nikohosyan L.R., the head of department, doctor of medical sciences, professor Strechen S.B., candidate of medical sciences, docent Vidavskaya A.G., candidate of medical sciences, docent Tregub T.V., candidate of medical sciences, docent Poludenko A.A., assistant	
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Consultation	According to the schedule of the department	

COMMUNICATION info.odmu.edu.ua/chair/general_pharmacy/

Microsoft Teams

COURSE SUMMARY

The subject of study of the discipline is the methodology of choosing the most effective and safe medicines for a specific patient, their combinations, taking into account the individual characteristics of the organism, clinical forms, severity of the disease, the presence of concomitant pathology; methodology of conducting, together with the doctor, clinical trials of new pharmacological agents.

Prerequisites and postrequisites of the course: medical biology, normal physiology, pathophysiology, microbiology, biochemistry, pharmacognosy and medical botany, pharmacology, laboratory and functional diagnostics, first aid, pharmacotherapy with pharmacokinetics; pharmaceutical care, pharmacoconomics.

The purpose of teaching the course "Clinical Pharmacy and Pharmaceutical Care" - is to acquire a sufficient amount of theoretical knowledge and practical skills to work with a doctor to ensure the most rational drug therapy for a particular patient; mastering the methodology of choosing the most effective and safe drugs, as well as

their combinations, taking into account the individual characteristics of the organism, clinical form, severity of the disease and the presence of concomitant pathology for recommendations to doctors; mastering the methodology of conducting, together with a doctor, clinical trials of drugs.

The main objectives of the discipline "Clinical Pharmacy and Pharmaceutical Care" is to acquire theoretical knowledge and practical skills for the most rational drug therapy in a particular patient, mastering the methodology of individual selection of effective and safe drugs based on pharmacokinetics, pharmacodynamics, possible manifestations of the disease, age of the patient, optimal dosage forms, compilation of rational combinations of drugs.

Expected results:

The student must know: - the main ways of pharmacological correction of diseases, disorders of organs and systems; - nomenclature and classification of medicines; - pharmacological and pharmacotherapeutic characteristics of the main groups of drugs; - indications and contraindications to the use of drugs; - manifestations of possible side effects of drugs, symptoms of overdose of potent and poisonous drugs, methods of their prevention and principles of treatment.

The student must be able to: - prescribe and analyze prescriptions for drugs in various dosage forms in accordance with modern legislation of Ukraine; - to determine the group affiliation of drugs according to modern classifications; - provide pharmacological and pharmacotherapeutic characteristics of drugs, logically link the mechanism of action with pharmacodynamics, pharmacodynamics with indications, and side effects with contraindications to their use; - calculate a single dose of the drug depending on age, body weight or body surface area of the patient; - to determine, depending on the pharmacokinetics of drugs, the frequency of administration of the drug, its daily, course dose in patients of different ages in accordance with comorbidities and the use of other drugs; - substantiate the adequate dosage form in accordance with the routes of administration; - predict the consequences of the interaction of drugs in their combined administration, drugs and food components, drugs and alcohol; - evaluate the benefit / risk ratio when using drugs; - to determine the manifestations of possible side effects of drugs, symptoms of overdose of potent and poisonous drugs, methods of their prevention and principles of treatment; - to analyze pharmacological information in modern reference books, scientific and professional periodicals.

COURSE DESCRIPTION

Forms and methods of teaching: the course of clinical pharmacy and pharmaceutical care provides and is taught in the form of lectures (30 hours), practical classes (120 hours) and independent work of students (120 hours).

Course content:

Topic 1. Introduction to clinical pharmacy. Subject, tasks, basic principles of clinical pharmacy.

Topic 2. Basic methods of clinical examination of patients. Types of medical documentation. Medical history.

Topic 3. Clinical pharmacology: basic principles and provisions of the discipline. Fundamentals of clinical biopharmacy. Side effects of drugs. Pharmaceutical supervision system in Ukraine for the safety of drugs.

Topic 4. Clinical and pharmaceutical principles of choice of bronchodilators.

Topic 5. Clinical and pharmaceutical features of the choice of antimicrobial drugs in pulmonology.

Topic 6. Clinical and pharmaceutical principles of selection of mucolytic, antihistamine, antitussive drugs.

Topic 7. Clinical and pharmaceutical principles of selection of antihypertensive drugs.

Topic 8. Clinical and pharmaceutical principles of selection of hypertensive drugs. Principles of treatment of hypertensive crises and acute hypotensive conditions.

Topic 9. Clinical and pharmaceutical approaches to the choice of antianginal and antiischemic drugs.

Topic 10. Clinical and pharmaceutical principles of choice of anticoagulants, antiplatelets, thrombolytics. Clinical and pharmaceutical approaches to the selection of lipid-lowering drugs.

Topic 11. Principles of treatment of angina pectoris, acute myocardial infarction.

Topics 12. Educational and research work of students: supervision of patients, work with medical documentation, consideration and discussion of prescriptions, clinical and pharmaceutical analysis.

Topic 13. Clinical and pharmaceutical principles of selection of cardiac glycosides and other positive cardiotonic drugs.

Topic 14. Clinical and pharmaceutical principles of selection of diuretics.

Topic 15. Clinical and pharmaceutical principles of choice of antiarrhythmic drugs.

Topic 16. Principles of treatment of cardiac asthma, pulmonary edema. Principles of treatment of urgent heart rhythm disorders.

Topic 17. Clinical and pharmaceutical principles of selection of nonsteroidal anti-inflammatory drugs.

Topic 18. Clinical and pharmaceutical principles of selection of steroidal anti-inflammatory drugs (glucocorticosteroids).

Topic 19. Side effects of anti-inflammatory drugs: their prevention and treatment.

Topic 20. Protection of educational and research work of students.

Topic 21. Clinical and pharmaceutical principles of choice of vitamins, drugs of metabolic type of action.

Topic 22. Clinical and pharmaceutical principles of selection of antianemic drugs. Clinical and pharmaceutical principles of choice of hemostatics.

Topic 23. Clinical and pharmaceutical principles of choice of antimicrobial drugs in urological practice.

Topic 24. Clinical and pharmaceutical principles of drug selection for the treatment of urolithiasis. Clinical and pharmaceutical principles of drug selection for the treatment of benign prostatic hyperplasia.

Topic 25. Clinical and pharmaceutical principles of selection of antisecretory drugs. Clinical and pharmaceutical principles of antacid selection.

Topic 26. Clinical and pharmaceutical principles of choice of hepatoprotectors. Clinical and pharmaceutical principles of choice of cholagogues, choleretics, cholekinetics.

Topic 27. Clinical and pharmaceutical principles of drug selection, which are prescribed for hypoacid conditions and intestinal dysbacteriosis. Clinical and pharmaceutical principles of selection of enzyme and anti-enzyme drugs.

Topic 28. Clinical and pharmaceutical principles of choice of insulin drugs. Clinical and pharmaceutical principles of selection of oral hypoglycemic drugs.

Topic 29. Pharmacotherapy of diabetic com.

Topic 30. Clinical and pharmaceutical principles of drug selection used for the treatment of thyroid disease.

Topic 31. Clinical and pharmaceutical principles of selection of antiallergic drugs.

Topic 32. Clinical and pharmaceutical principles of choice of immunotropic drugs.

Topic 33. Clinical and pharmaceutical principles of drug selection that suppress CNS functions.

Topic 34. Clinical and pharmaceutical principles of drug selection that stimulate CNS functions.

Topic 35. General principles of antibacterial therapy. Spectra of antimicrobial activity of drugs. Classification of antibacterial drugs.

Topic 36. Possible complications of antibacterial therapy, their prevention and treatment.

Topic 37. Clinical and pharmaceutical principles of antibiotic selection.

Topic 38. Clinical and pharmaceutical principles of selection of sulfonamides. Complications of sulfonamide therapy, their prevention and treatment.

Topic 39. Clinical and pharmaceutical principles of selection of oxyquinolines, fluoroquinolones.

Topic 40. Clinical and pharmaceutical principles of choice of nitrofurans, nitroimidazoles.

Topic 41. Clinical and pharmaceutical principles of selection of antiviral and antifungal drugs.

Topic 42. Principles of drug selection in anesthesiology and resuscitation.

Topic 43. General principles of treatment of drug poisoning. Antidote therapy.

Topic 44. Pharmaceutical care: general principles and provisions. Pharmaceutical care of patients with pathology of the cardiovascular system.

Topic 45. Pharmaceutical care of patients with respiratory pathology.

Topic 46. Pharmaceutical care of patients with pathology of the gastrointestinal tract.

Topic 47. Pharmaceutical care of patients with pathology of the urinary tract. Pharmaceutical care of patients with superficial injuries.

Topic 48. Final test control.

List of recommended literature:

1) Basic and clinical pharmacology. – 9-th edition / Edited by Bertram G. Katsung. – Medical Publishing Division. - 2004. – 1202 h.

2) Pharmacology in rehabilitation. – 4-th edition / Charles D. Ciccone, PT. – USA, 2007. – 653 p.

- 3) Clinical pharmacology: Manual for practical classes. – 2-nd edition / Edited by O.V.Kraydashenko. – Vinnytsya: Nova Khyzna Publishers, 2010. – 192 h.
- 4) Emergency management of internal diseases / Edited by O.Babak and O.Bilovol. – Kyiv: AUS Medicine Publishing, 2010. – 448 p.
- 5) Клініко-фармакологічний глосарій: навч.посібник / В.Й.Кресюн, В.В.Годован, С.Б.Стречень. – Одеса: ОНМедУ, 2015. – 328 с.
- 6) EDUCATIONAL AND METHODOICAL MANUAL to practical training in clinical pharmacy for the students of pharmaceutical faculty / Strechen S.B., Vidavskaya A.G., Tregub T.V., Bazalieieva I.V., Poludenko A.A., Rzhetskaya Yu.I. – Part 1. – Odessa, 2019. – 665 p.; Part 2. – Odessa, 2019. – 732 p.
- 7) Godovan V.V. Pharmacology in pictures and schemes. – Nova Knyha, 2021. - 464 p.

Internet resources:

1. State Expert Center of Ministry of Health of Ukraine <http://www.dec.gov.ua/index.php/ua/>
2. Ukrainian Scientific Pharmacopoeial Drug Quality Center <http://sphu.org>
3. National Scientific Medical Library of Ukraine <http://library.gov.ua>
4. Resources for predicting inter-drug interactions (based on FDA instructions, in English) URL: <http://www.drugs.com>
5. Interregional Society of Evidence-Based Medicine: <http://www.osdm.org/index.php>
6. European Society of Clinical Pharmacologists and Pharmacists: <http://www.eacpt.org>
7. Resources for drug interactions: <http://medicine.iupui.edu/flockart/>

EVALUATION

General evaluation system	Participation in the work during the cycle on a 200-point scale
Rating scales	Traditional 4-point scale, multi-point (200-point) scale, ECTS rating scale
Conditions of admission to the final control	Students who have attended all classes provided by the curriculum, performed all types of work provided by the program and received grades sufficient to convert to the minimum number of points (not less than 120 points for

	current performance) are allowed to the final control.	
Exam	It consists in assessing the student's mastery of educational material solely on the basis of the results of certain types of work in practical classes and during independent work, is carried out according to the schedule of the university during the winter session in the 5th year. The exam is graded on a 4-point (traditional) scale. The average score for the discipline (traditional grade) is calculated as the arithmetic mean of current performance and grades for the exam.	<i>Maximum number of points – 200.</i> <i>Minimal number of points – 120.</i>

INDEPENDENT WORK OF STUDENTS involves preparation for practical classes, test control and exam, writing teaching and research and term papers, is controlled during the test of current knowledge of students and the exam.

CLINICAL PHARMACY AND PHARMACEUTICAL CARE COURSE POLICY

Deadline and recompilation policy

Students who have completed all types of work provided for in the initial program, completed all training sessions and scored at least the minimum number of points during the study of the module are admitted to the final control.

Rehearsals of missed practical classes, regardless of the reason for admission, and consultations take place in accordance with the departmental schedule of rehearsals and consultations. The practice of missed practical classes is carried out with an entry in the journal of the department's work and a mark on the permit form from the dean's office. Rearrangement of the current and final modules in order to increase the assessment is not allowed, except for situations provided by the "Regulations on the diploma of the state standard with honors".

Academic Integrity Policy

Observance of academic integrity by students of education provides:

- independent performance of educational tasks, tasks of current and final control of learning outcomes (for persons with special educational needs this requirement is applied taking into account their individual needs and opportunities);

- links to sources of information in the case of the use of ideas, developments, statements, information;

- compliance with the legislation on copyright and related rights;

- providing reliable information about the results of their own (scientific, creative) activities, used research methods and sources of information.

Unacceptable in educational activities for participants in the educational process are:

- the use of family or business ties to obtain a positive or higher assessment in the implementation of any form of control over learning outcomes or advantages in scientific work;

- use of prohibited auxiliary materials or technical means (cheat sheets, abstracts, headphones, telephones, smartphones, tablets, etc.) during control measures;

- passing the procedures of control of learning outcomes by fictitious persons.

For violation of academic integrity, students may be held subject to the following academic liability:

- reduction of results of assessment of control work, examination, credit, etc.);

- re-assessment (test, exam, test, etc.);

- appointment of additional control measures (additional individual tasks, tests, tests, etc.);

- re-passing the relevant educational component of the educational program;

- conducting additional verification of other works by the infringer;

- deprivation of the right to participate in competitions for scholarships, grants, etc .;

- notification of the entity that finances the training (research), the institution that issued the grant for training (research), potential employers, parents of the applicant for higher education about the violation;

- exclusion from the rating of applicants for an academic scholarship or accrual of penalty points in such a rating;

- deprivation of an academic scholarship;

- deprivation of tuition benefits provided by the University;

- expulsions from the University.

Attendance and lateness policy: attendance at all classes: practical classes, current and final control is mandatory (exception: good reason). Delay of more than 5 minutes without good reason is not allowed. Within two days, in any form convenient for the student, inform the dean's office about the reasons that make it impossible to attend classes and perform other tasks provided by the curriculum.

Mobile devices: it is forbidden to write off during knowledge control (including the use of mobile technical means of information transfer).

Audience behavior:

- attend lectures, practical classes according to the schedule in bathrobes;
- do not be late for class;
- do not talk during classes;
- turn off your mobile phone.