МІНІСТЕРСТВО ОХОРОНИ ЗДОРОВ'Я УКРАЇНИ
НАЦІОНАЛЬНИЙ ФАРМАЦЕВТИЧНИЙ УНІВЕРСИТЕТ
PHYSIOLOGY AND PATHOLOGICAL PHYSIOLOGY
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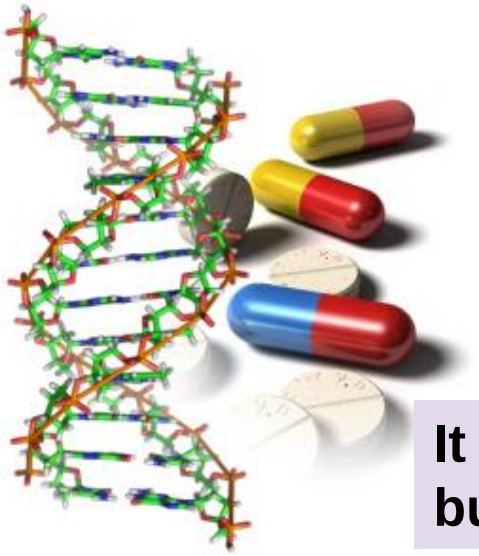
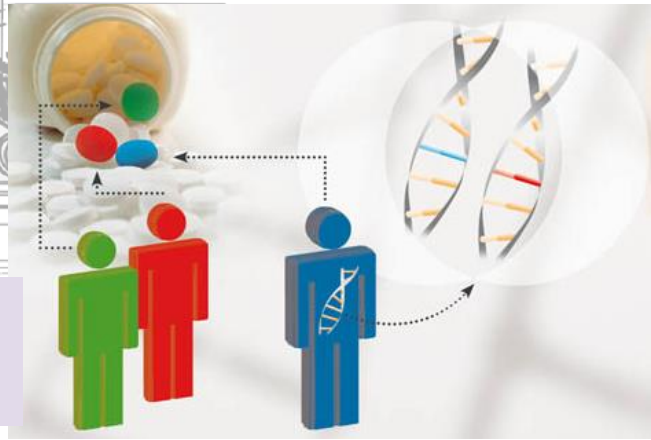
PHARMACOGENETICS

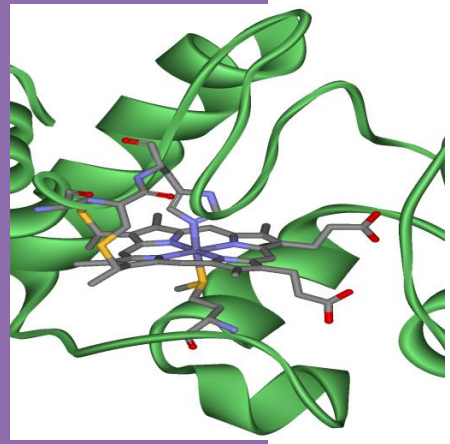


It is important to "treat not the disease by its name alone, but the patient himself". M.Y. Mudrov



PHARMACOGENETICS

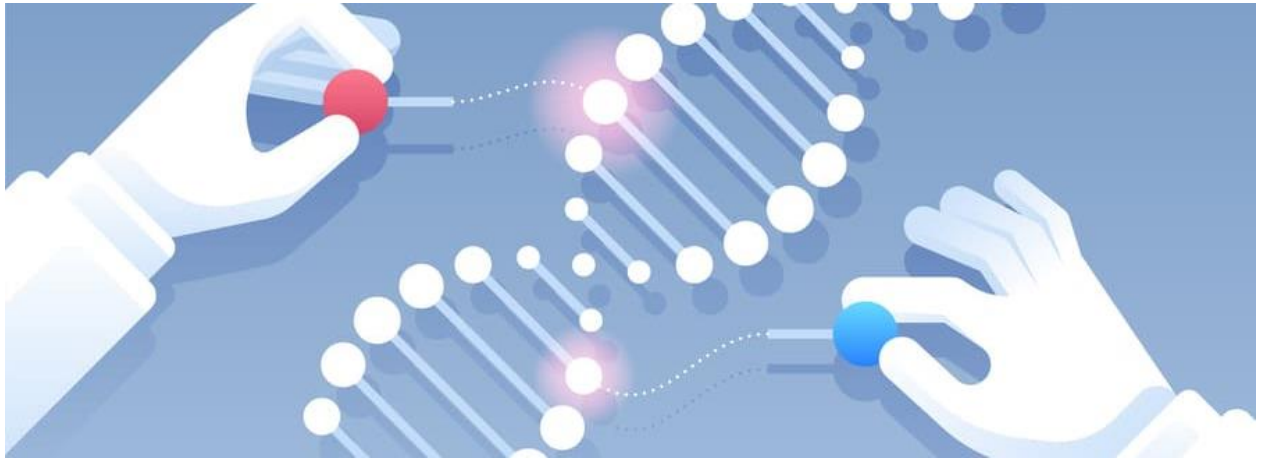
is a science that studies the role of genetic characteristics in shaping the pharmacological response of the human body to medicines



(Greek: pharmakon - medicine, poison + genesis - origin) is a section of medical genetics and pharmacology that studies the peculiarities of the body's reactions to drugs depending on its genetic characteristics.

Objective of the educational component "Pharmacogenetics"

formation of knowledge about the body's reactions to drugs depending on its genetic characteristics, development of methods for their diagnosis, correction and prevention



Pharmacogenetics provides theoretical knowledge on the following issues :

1. the main ways of metabolism of drugs in the human body;
2. main changes in pharmacological response depending on the patient's genetic individuality;
3. clarification of the consequences of enzyme dysfunction in drug metabolism and prevention of unusual reactions to drugs.

Prerequisites for the course:
Biology
Biological chemistry
Pharmacology

Pharmacogenetics is the basis of the study:
Clinical pharmacology
Pharmacotherapy
Pharmaceutical chemistry

RELEVANCE OF THE STUDY OF PHARMACOGENETICS

What factors determine the individual pharmacological response?

Individual response to medicines

Genetic features of the patient's organism

50%

50%

- Gender
- Age
- Severity of the underlying disease
- Concomitant diseases, especially of the liver and kidneys
- Medicines and dietary supplements used in combination
- Features of nutrition
- Bad habits: alcohol

The following hours are allocated for the study of the educational component 90 hours/3 ECTS credits

to know:

- ✓ predictions about the effectiveness of treatment tactics depending on the person's genotype;
- ✓ methods for diagnosing pharmacogenetic polymorphism;
- ✓ prediction of toxic effects of drugs in certain genotypes.

be able to:

- ✓ solve situational tasks that reveal the level of students' knowledge;
- ✓ be able to choose a test drug for the diagnosis of metabolic diseases;
- ✓ analyze the results of laboratory tests and recommend an individual treatment program.

STAFFING PROVISION

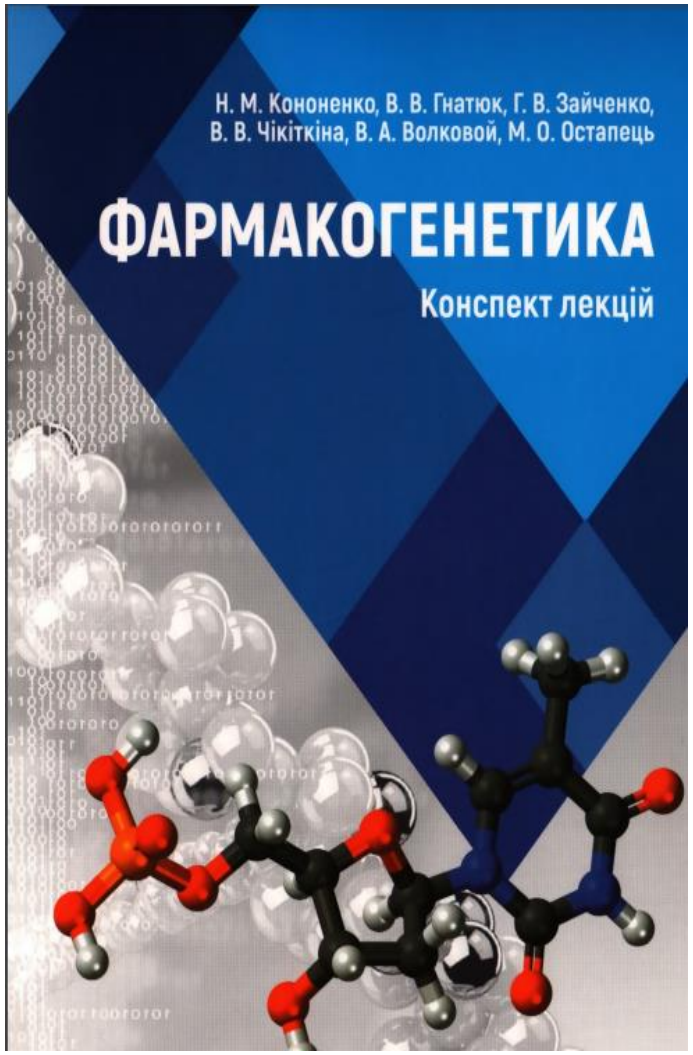
The Department of Normal and Pathological Physiology has sufficient conditions for conducting the educational process for the study of the educational component "Pharmacogenetics"

Kononenko Nadiia Mykolaivna
Doctor of Medical Sciences, Professor

Rybak Viktoriia Anatoliivna
Doctor of Biological Sciences, Professor

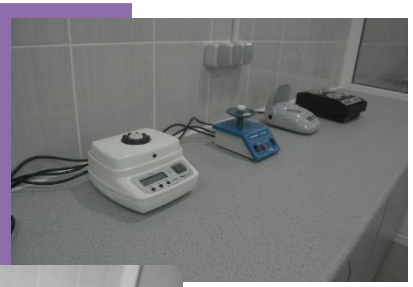
EDUCATIONAL AND METHODOLOGICAL SUPPORT

1. Educational program.
2. Work program.
3. Silabus.
4. Presentations of lectures.
5. List of theoretical questions for current control.
6. Package of tickets for controlling the mastery of the content.
7. Methodical recommendations for practical classes.
8. Methodical instructions for teachers.
9. Methodological recommendations for independent work.



MATERIAL AND TECHNICAL SUPPORT

PCR laboratory - for pharmacogenetic testing



1. STAT FAX 303 plus enzyme-linked immunosorbent microplate analyzer.
2. Shaker-thermostat ST-3.
3. Photometer photoelectric KFC-3.
4. Thermostat TS-80M-2.
5. Centrifuge SM-70.
6. Spectrophotometer LabAnalit SP-UV1000.
7. CO2 incubator CCL-170V.
8. Laminar flow box AC2-4E1.
9. Carbon dioxide cylinder with a two-stage gearbox.
10. Refrigerator "STINOL - 242Q" with a freezer.
11. Vortex/mini-centrifuge (Microspin FV-2400).
12. Programmable solid-state thermostat "Gnome" TT-1-DNA-Techn.
13. Fluorescent detector for polymerase chain reaction "Gene".
14. Multichannel programmable thermostat for PCR - TP4-PCR-01 "Tertsik".

THANK YOU FOR YOUR ATTENTION!

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