

**MINISTRY OF HEALTH OF THE REPUBLIC OF BELARUS
EDUCATIONAL INSTITUTION
BELARUSIAN STATE MEDICAL UNIVERSITY**

**Контрольный
экземпляр**



APPROVED

by First Vice-Rector, Professor

I.N.Moroz

29.06.2020

Reg. # UD-L.615/2021/edu.

PHARMACEUTICAL CARE

**Curriculum of higher educational institution
in the educational discipline for the specialty:**

1-79 01 08 «Pharmacy»

Curriculum is based on the educational program «Pharmaceutical care», approved 10.11.2017, registration # УД-Л.615/1718/уч.

COMPILERS:

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RECOMMENDED FOR APPROVAL:

by the Department of Pharmacy Organization of the Educational Institution «Belarusian State Medical University»
(protocol # 10 of 11.05.2020);

by the Scientific Methodical Council of the Educational Institution «Belarusian State Medical University»
(protocol # 10 of 26.06.2020)

EXPLANATORY NOTE

«Pharmaceutical care» is the educational discipline containing systematized scientific knowledge and techniques in the field of on the organization in pharmacies of the process of providing the population with a complex of pharmaceutical services for drug and information and counseling support, aimed at improving or maintaining the patient's quality of life.

The aim of teaching and learning the discipline «Pharmaceutical care» is to provide the students with the scientific knowledge necessary for the qualified counseling of the population on the rational use of medicines, medical products, pharmacy goods, a comprehensive solution to the problems of optimization of drug supply and the development of pharmaceutical services.

The tasks of teaching and learning the discipline include the formation of students' academic, social, personal and professional competences, based on the knowledge and application of:

- sources of information about medicines, medical devices, pharmacy goods, including instructions for the medical use of the medicinal product and leaflet;
- the procedure for pharmaceutical advice to customers to pharmacies in the sale of prescription and over-the-counter medicines, medical products, pharmacy goods;
- protocols of pharmaceutical counseling ;
- ethical standards in the provision of pharmaceutical care;
- forms and methods of working with the population to form a healthy lifestyle and prevent diseases;
- computer software for pharmaceutical care.

Teaching and successful learning of the discipline «Pharmaceutical care» is carried out on the basis of the knowledge and skills previously acquired by the students in the following disciplines:

General and inorganic chemistry. The biological role of elements and the use of their compounds in pharmacy.

Biological chemistry. The main chemical components of human body tissues. Enzymes. Vitamins, their biological role. Hormones, molecular mechanisms of metabolic regulation. Functional biochemistry. Metabolic pathways, interrelation of metabolic features with the function of organs and tissues of the human body. Ways of enzymatic transformation of medicinal substances.

Human anatomy and physiology. Blood circulation, hemodynamics. Regulation of the activity of the cardiovascular system. The structure and function of the respiratory system. Digestion. Metabolism and energy. The principles of compiling a diet. Thermoregulation. Methods for the study of arterial pulse and blood pressure measurement.

Pharmaceutical Latin. Clinical terminology. Latin names of medicines and dosage forms in the doctor's prescription.

History of Pharmacy. History of Pharmaceutical Ethics and Deontology.

Microbiology. Methods of immunodiagnostics, immunoprophylaxis, immunotherapy.

Pharmaceutical hygiene. Influence of human environment factors on health. The importance of nutrition for human health.

Pharmacognosy. Medicinal plants and medicinal plant raw materials containing the main groups of active substances: polysaccharides, vitamins, essential oils, iridoids, cardiac glycosides, saponins, simple phenolic glycosides and lignans, coumarins and chromones, flavonoids, tannins, alkaloids and various groups of biologically active substances.

Pharmacology. Classification of medicines. Medicines affecting the central and peripheral nervous system, cardiovascular system, respiratory, digestive, urinary and urinary tract functions, metabolic processes, inflammation and immunity. Chemotherapeutic drugs. Principles of treatment of acute drug poisoning.

Pharmaceutical chemistry. Chemical structure, classification, relationship between structure and action, physicochemical properties of drugs of various pharmacotherapeutic groups.

Organization and economics of pharmacy. Regulatory legal support, state policy in the field of health care and pharmacy. Organization of work of pharmacies. Ethics and deontology in pharmacy. Organization of pharmacy abroad. Organization of the work of the pharmacy for the prevention of diseases and the promotion of a healthy lifestyle.

Pathological physiology. General concept of the disease. Disease classification principles. Causes and risk factors for the development of the disease. The main links of pathogenesis. Typical pathological processes. General patterns of violations of various organs and systems of the human body. Protective and compensatory reactions.

Differentiation of symptoms requiring immediate medical attention from the patient or allowing the use of over-the-counter medicines.

Industrial technology of drugs. Dosage forms of industrial production.

Clinical pharmacology, pharmacological therapy. The main symptoms and syndromes of the most common diseases of internal organs. Dosage, mechanisms, types of action and drug interactions. Types of pharmacological therapy. Unwanted reactions to drugs. Features of pharmacological therapy in pediatrics, geriatrics, pregnant and lactating women. Informational and counseling activities of a specialist pharmacist in hospital, outpatient clinics and pharmacy organizations.

Pharmaceutical development with the fundamentals of biopharmaceutics. Pharmaceutical, biological and therapeutic equivalence of drugs. Pharmaceutical factors, their content and influence on the bioavailability of drugs. Biopharmaceutical Drug Classification System. Influence of endo- and exogenous factors on the bioavailability of drugs.

Medical and Pharmaceutical Merchandising. Merchandising of pharmacy goods. Promotion of medicines in the pharmaceutical market.

As a result of studying the discipline «Pharmaceutical care» the student should

know:

- the goals and objectives of pharmaceutical care;
- the main directions of pharmaceutical care;

– standards of service for pharmacy customers;

be able to:

– use the protocols of pharmaceutical counseling when selling medicines in a pharmacy;

– interact with a specialist doctor on pharmaceutical counseling ;

– form a pharmaceutical dossier;

– comply with ethical standards in the provision of pharmaceutical care;

master:

– the skills of pharmaceutical counseling of pharmacy visitors on healthy lifestyles, disease prevention, in the sale of prescription and over-the-counter medicines, medical products, pharmacy products;

– the skills of using the instructions for the medical use of the medicinal product and leaflet in work.

Total number of hours for the study of the discipline is 72 academic hours. Classroom hours according to the types of studies: lectures – 10 hours, laboratory studies (practical) classes – 38 hours; student independent work (self-study) – 24 hours.

Current assessment is carried out according to the syllabus of the specialty in the form of a credit (9 semester).

Form of higher education – full-time.

ALLOCATION OF ACADEMIC TIME ACCORDING TO SEMESTERS OF STUDY

Code, name of the specialty	semester	Number of academic hours					Form of current assessment
		total	in-class	including		out-of-class self-studies	
				lectures	laboratory studies (practical classes and seminars)		
1-79 01 08 «Pharmacy»	9	72	48	10	38	24	credit

THEMATIC PLAN

Section (topic) name	Number of class hours	
	lectures	practical
1. Introduction to the academic discipline «Pharmaceutical care». The role of a pharmacist in the system of drug supply to the population. Pharmaceutical counseling in the sale of medicines without a prescription for colds	2	4
2. The concept of rational use of medicines. Pharmaceutical dossier and the procedure for its formation	-	4
3. Information support of pharmaceutical care. Pharmaceutical counseling in the sale of drugs without a prescription for pain	-	
4. Pharmaceutical counseling in the sale of prescription drugs. Pharmaceutical counseling in the sale of drugs without a doctor's prescription for venous circulation disorders and hemorrhoids	-	4
5. Pharmaceutical counseling in the sale of drugs without prescription. Pharmaceutical Counseling Protocols for Certain Symptoms	6	12
6. Pharmaceutical counseling in the sale of medical products, pharmacy goods. Pharmaceutical care in dermatology	2	4
7. Pharmaceutical counseling of the population on a healthy lifestyle and disease prevention	-	4
8. Ethics of pharmaceutical counseling. Specifics of providing pharmaceutical care to certain categories of the population	-	
9. Monitoring results, evaluation effectiveness, prospects for the development of pharmaceutical care	-	6
Total hours	10	38

CONTENT OF THE EDUCATIONAL MATERIAL

1. Introduction to the academic discipline «Pharmaceutical care». The role of a pharmacist in the system of drug supply to the population. Pharmaceutical counseling in the sale of medicines without a prescription for colds

Purpose, objectives and object of study of the academic discipline «Pharmaceutical care», integration with other academic disciplines.

Responsible self-treating, self-care and self-prophylaxis concepts. The history of the development of pharmaceutical care.

World Health Organization (WHO) Principles of Pharmaceutical Care. Papers of WHO and the International Pharmaceutical Federation in the development of pharmaceutical care. The role of a pharmacist in the drug supply system for the population.

Legal aspects of providing pharmaceutical care. The right of citizens to receive information from a pharmacist of a pharmacy on the medical use of medicines, the use of pharmaceutical products. Population demand for information and counseling services.

Pharmaceutical care methods. Factors affecting the quality and timeliness of pharmaceutical care.

2. The concept of rational use of medicines. Pharmaceutical dossier and the procedure for its formation

The concept of rational use of medicines, its implementation in pharmaceutical counseling of pharmacy customers. Ensuring the effectiveness, safety, availability, continuity of pharmacotherapy. Types of irrational use of medicines.

Individual approach to the patient. Collection and analysis of medical information in relation to a particular patient. Pharmaceutical dossier as a complex of information about a patient, structure (blocks) of a pharmaceutical dossier.

Interaction of a pharmacist with a patient and his attending physician during the pharmacotherapy of a specific disease. Monitoring the safety of medicines in solving the problem of their rational use.

Warning of patients about the need to inform the pharmacist in case of suspicion and complaints about the presence of symptoms of an untoward reaction (adverse reaction), the indication of which is not included in the instructions for medical use and (or) leaflet.

Formation of adherence to treatment (compliance) in the patient.

3. Information support of pharmaceutical care. Pharmaceutical counseling in the sale of drugs without a prescription for pain

Special medical and pharmaceutical information in the pharmaceutical care system.

Sources and means (information carriers) of information about medicines, medical devices, pharmaceutical goods. Information on medicinal products in the instructions for medical use, leaflets, on the primary and secondary packaging.

Requirements for written information for a patient about an over-the-counter medicinal product applied by the member states of the Eurasian Economic Union.

Requirements for information in case of violation (opening) of the primary factory packaging of a medicinal product.

Symptoms and disorders of the general condition, allowing the possibility of providing pharmaceutical care.

Non-drug methods of self-help and self-prevention.

Computer software for pharmaceutical care.

Sore throat with various infections. Tension headache and migraine. Painkillers in the pharmacy: the safety of choosing NSAIDs. Deforming arthrosis: symptoms and treatment

4. Pharmaceutical counseling in the sale of prescription drugs. Pharmaceutical counseling in the sale of drugs without a doctor's prescription for venous circulation disorders and hemorrhoids

General algorithm (scheme) of pharmaceutical consultation when selling a drug in a pharmacy on a prescription. Self-monitoring methods of treatment.

Informing the patient when replacing the dosage of a drug indicated in the doctor's prescription, generically replacing drugs that are not available in the pharmacy.

Specifics of providing the population with information about particularities of manufactured in pharmacies medicines.

Informing about the organization of proper storage of medicines at home. Warning about the prohibition of the use of the medicinal product after the expiration date. Disposal of unused medicinal product at the end of the course of treatment or after the expiration date.

5. Pharmaceutical counseling in the sale of drugs without prescription. Pharmaceutical Counseling Protocols for Certain Symptoms

The list of medicines sold without a doctor's prescription, the procedure for its formation. The rules for determining the categories of medicines sold without a prescription and by prescription, applied by the member states of the Eurasian Economic Union.

General algorithm (scheme) of pharmaceutical consultation when choosing a drug without a doctor's prescription. Clarification of customer complaints about health problems. Identification of emergency conditions and symptoms threaten the patient's life, required immediate doctor's care. The choice of an over-the-counter drug taking into account groups at increased risk of adverse reactions, specific drug use, assortment and consumer preferences. Pharmaceutical care for pregnancy and breastfeeding.

6. Pharmaceutical counseling in the sale of medical products, pharmacy goods. Pharmaceutical care in dermatology

Providing the public with information about children's household items, cosmetic products, oral care products, personal hygiene items, special-purpose products, mineral waters, biologically active food additives, specialized food products, tea drinks based on plant materials, disinfection and disinsection products.

Providing the population with information on the use of various groups of medical products.

Informing about the complete set of first aid kits: universal, mother and child, first aid, first aid «AntiAIDS», automobile, for travel.

Informing about the procedure for storage, disposal of unused medical devices, pharmaceutical goods after the expiration date.

Pharmaceutical assistance in dermatology (herpetic lesions of the lips, acne, skin microtrauma, burns and frostbite, fungal skin diseases, seborrhea and dandruff).

Pharmaceutical help for tick bites.

7. Pharmaceutical counseling of the population on a healthy lifestyle and disease prevention

A healthy lifestyle, its main components. Primary, secondary and tertiary disease prevention.

The role of the pharmacy in informing the population and in the implementation of state and regional programs on the formation of a healthy lifestyle, including on counteracting tobacco smoking, the use of alcoholic, low-alcohol drinks, beer, the use of narcotic drugs, psychotropic substances, their analogues, toxic or other intoxicating substances. Prevention of drug abuse.

Forms of work with the population on the formation of a healthy lifestyle and disease prevention. Informing the population about the sanitary and epidemiological situation, the state of the human environment, balanced and rational nutrition.

Formation of the population's skills for a healthy lifestyle, responsibility for their own health and the health of others.

Management of the patient's condition in chronic diseases: arterial hypertension, bronchial asthma, diabetes mellitus. Health programs for children, elderly and senile people.

8. Ethics of pharmaceutical counseling. Specifics of providing pharmaceutical care to certain categories of the population

Ethical principles, norms and rules of conduct for pharmaceutical workers in the provision of pharmaceutical care. Pharmacy Customer Service Standards.

Differentiation of pharmacy customers according to various criteria and specifics of providing pharmaceutical care to certain categories of the population. Overcoming discrimination based on age

Getting advice from a pharmacist in confidentiality. The role of the electronic queue in the sale of medicines, medical products, pharmacy goods.

Ethical principles of relationships in the system doctor - pharmacist - patient.

9. Monitoring results, evaluating effectiveness, prospects for the development of pharmaceutical care

Active and passive monitoring of the effectiveness and quality of pharmaceutical care.

Remote pharmaceutical counseling through telecommunication channels: telephone lines, internet, VPN (virtual private network), video conferencing, mobile communications.

Informing about the availability of medicines by placing information kiosks in the salesrooms of pharmacies, layouts of stickers with a QR code.

Development of protocols for pharmaceutical counseling for certain symptoms and syndromes.

EDUCATIONAL DISCIPLINE CURRICULAR CHART

Section, topic #	Section (topic) name; list of issues understudy	number of hours			Self-studies	Form of control
		lectures	practical (laboratory or seminars)			
1	Introduction to the academic discipline «Pharmaceutical care». The role of a pharmacist in the system of drug supply to the population. Pharmaceutical counseling in the sale of medicines without a prescription for colds	2	4	2	frontal, individual and combined surveys; interviews	
2	The concept of rational use of medicines. Pharmaceutical dossier and the procedure for its formation	-	4	2	frontal, individual and combined surveys; interviews; tests; assessment based on a business game	
3	Information support of pharmaceutical care. Pharmaceutical counseling in the sale of drugs without a prescription for pain	-		2	frontal, individual and combined surveys; interviews; tests; assessment based on a business game	
4	Pharmaceutical counseling in the sale of prescription drugs. Pharmaceutical counseling in the sale of drugs without a doctor's prescription for venous circulation disorders and hemorrhoids	-	4	2	frontal, individual and combined surveys; interviews; tests; assessment based on the design method	
5	Pharmaceutical counseling in the sale of drugs without prescription. Pharmaceutical Counseling Protocols for Certain Symptoms	6	12	8		
5.1	Protocols for pharmaceutical counseling for colds (sore throat, rhinitis, cough, fever)	2	3	2	frontal, individual and combined surveys; interviews; tests; assessment based on a business game; solving situational problems; assessment based on the design method, computer testing	

5.2	Pharmaceutical consultation protocols for symptomatic treatment of impaired gastrointestinal tract function (diarrhea, constipation, heartburn, flatulence, dysbiosis, functional dyspepsia)	2	3	2	frontal, individual and combined surveys; interviews; tests; assessment based on a business game; solving situational problems; assessment based on the design method, computer testing
5.3	Pharmaceutical counseling protocols for symptomatic treatment of nervous system disorders (headache, stress, insomnia)	-	3	2	frontal, individual and combined surveys; interviews; tests; assessment based on a business game; solving situational problems; assessment based on the design method, computer testing
5.4	Pharmaceutical care in dermatology (herpetic lesions of the lips, acne, skin microtrauma, burns and frostbite, fungal skin diseases, seborrhea and dandruff). Pharmaceutical help for tick bites	2	3	2	frontal, individual and combined surveys; interviews; tests; assessment based on a business game; solving situational problems; assessment based on the design method, computer testing, computer testing
6	Pharmaceutical counseling in the sale of medical products, pharmacy goods. Pharmaceutical care in dermatology	2	4	2	frontal, individual and combined surveys; interviews; tests; assessment based on a business game; solving situational problems; assessment based on the design method, computer testing
7	Pharmaceutical counseling of the population on a healthy lifestyle and disease prevention	-	4	2	frontal, individual and combined surveys; assessment based on a business game; assessment based on the design method
8	Ethics of pharmaceutical counseling. Specifics of providing pharmaceutical care to certain categories of the population	-		2	frontal, individual and combined surveys; interviews; solving situational problems, computer testing

9	Monitoring results, evaluating effectiveness, prospects for the development of pharmaceutical care	-	6	2	frontal, individual and combined surveys; solving situational problems; credit, computer testing
Total		10	38	24	

INFORMATION AND INSTRUCTIONAL UNIT

LITERATURE

Basic (relevant):

1. The Pharmacist Guide to Implementing Pharmaceutical Care / F.A. da Costa, J.W.Foppe van Mil, A.Alvarez-Risco. – Springer, Cham, 2019. – 502 p.

Additional:

2. Pharmaceutical Care / Z.Bezverhni [et al.]. – Council of Europe, 2012. – 58 p.

3. Pharmaceutical Care Practice – Drug-related Problems and Opportunities for New Services / P.M.Eichenberge. – Basel, 2010. – 261 p.

LIST OF AVAILABLE DIAGNOSTIC TOOLS

The following forms are used for competences assessment:

1. Oral forms:

- frontal, individual and combined surveys;
- interviews.

2. Written form:

- tests;
- assessment based on a business game;
- assessment based on the design method.

3. Oral-written form:

- credit;
- assessment based on the case method (solving situational problems).

4. Technical form:

- computer testing.

LIST OF PRACTICAL SKILLS

1. Use of electronic prescription technology.
2. Compliance with ethical standards in the provision of pharmaceutical care.
3. Compliance with the standards of service for customers to pharmacies.
4. Use of protocols of pharmaceutical counseling in the sale of drugs from pharmacies.
5. Pharmaceutical counseling of visitors to pharmacies on a healthy lifestyle.
6. Pharmaceutical counseling of visitors to pharmacies on disease prevention.
7. Pharmaceutical counseling of pharmacy customers in the sale of prescription and over-the-counter medicines.
8. Use in work of the Instructions for the medical use of the medicinal product and the leaflet.

LIST OF LABORATORY STUDIES

1. Introduction to the discipline «Pharmaceutical Care». The role of a pharmaceutical worker in a pharmacy in the system of drug supply to the population. Pharmaceutical counseling of patients with cough.

2. The concept of the rational use of medicines. Pharmaceutical dossier and the procedure for its formation. Pharmaceutical consulting in the sale of medicines without a prescription for colds.

3. Information support for pharmaceutical care. Pharmaceutical consulting in the sale of medicines without a prescription for pain.

4. Pharmaceutical consulting in the sale of medicines by prescription. Pharmaceutical consulting in the sale of medicines without a doctor's prescription for venous circulation disorders and hemorrhoids.

5. Pharmaceutical consulting in the sale of medicines without a doctor's prescription. Pharmaceutical consulting in the sale of medicines without a prescription for the symptomatic treatment of disorders of the nervous system.

6. Pharmaceutical consulting in the sale of medical products, pharmaceutical goods. Protocols for pharmaceutical counseling for liver and gastrointestinal diseases.

7. Pharmaceutical consulting of the population on a healthy lifestyle and disease prevention. Pharmaceutical consulting in the sale of medicines without a doctor's prescription for allergic reactions.

8. Ethics of Pharmaceutical Consulting. Specifics of providing pharmaceutical care to certain categories of the population. Pharmaceutical consulting in the sale of over-the-counter medicines used in dermatology.

9. Monitoring results, evaluating effectiveness, prospects for the development of pharmaceutical care. Pharmaceutical consulting in the sale of medicines without a doctor's prescription, used in dermatology for parasitic diseases. Pharmaceutical consulting for insect bites (ticks).

LIST OF LECTURES

1. Introduction to the discipline «Pharmaceutical Care». The role of a pharmaceutical worker in a pharmacy in the system of drug supply to the population. The concept of the rational use of medicines. Pharmaceutical dossier and the procedure for its formation. Information support for pharmaceutical care. Pharmaceutical counseling for patients with colds.

2. Pharmaceutical consulting in the sale of medicines without a doctor's prescription for venous circulation disorders and hemorrhoids. Pharmaceutical consulting in the sale of medicines without a prescription for pain.

3. Pharmaceutical consulting in the sale of medicines by prescription. Pharmaceutical consulting in the sale of medicines without a prescription for the symptomatic treatment of disorders of the nervous system. Pharmaceutical consulting in the sale of medicines without a doctor's prescription. Protocols for pharmaceutical counseling for liver and gastrointestinal diseases.

4. Pharmaceutical consulting in the sale of medical products, pharmaceutical goods. Pharmaceutical consulting in the sale of medicines without a doctor's prescription for allergic reactions. Pharmaceutical consulting of the population on a healthy lifestyle and disease prevention. Pharmaceutical consulting in the sale of medicines without a doctor's prescription, used in dermatology.

5. Ethics of Pharmaceutical Consulting. Features of the provision of pharmaceutical care to certain categories of the population. Pharmaceutical consulting in the sale of drugs without a doctor's prescription, used in dermatology for parasitic diseases. Monitoring results, evaluating effectiveness, prospects for the development of pharmaceutical care. Pharmaceutical counseling for insect bites (ticks).

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Curriculum content, composition and accompanying documents comply with established requirements.

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26.06. 2020

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