

**MEDICAL UNIVERSITY – PLOVDIV**  
**FACULTY OF PHARMACY**

**SYLLABUS**  
**IN**  
**PHARMACEUTICAL CARE**

**Approved by the Department Council - Protocol №8/16.10.2024**

**Confirmed by the Faculty Council - Protocol № 09/13.11.2024**

## PHARMACEUTICAL CARE

### Syllabus

Discipline	Final exam/ semester	According to the Faculty of Pharmacy curriculum of MU-Plovdiv Academic hours				ECTS	Academic hours in semester	
		VIII semester						
		Auditorium	Lectures	Practices	Non-auditorium		L	P
Pharmaceutical care	VIII	60	30	30	60	4,0	30	30

**DISCIPLINE:**

Pharmaceutical care

**TYPE OF DISCIPLINE ACCORDING TO THE UNIFORM STATE REQUIREMENTS:**

Compulsory

**LEVEL OF QUALIFICATION:**

Master (M)

**FORMS OF TRAINING:**

Lectures, practical classes, self-training

**YEAR OF TRAINING:**

IV course

**DURATION OF TRAINING:**

One semester

**ACADEMIC HOURS:**

30 teaching hours of lectures, 30 teaching hours of practical classes

**TECHNICAL EQUIPMENT APPLIED IN THE TRAINING:**

Multimedia presentations, discussions, case studies.

**FORMS OF EVALUATION:**

1. Current assessment during the semesters:
  - colloquium – test examination and case study.
2. Semester exam (written and oral)

**EVALUATION CRITERIA:**

The grade is formed based on the examination and the colloquium results.

**ASPECTS OF EVALUATION CRITERIA:**

Participation in discussions, colloquium, case studies.

**SEMESTER EXAM:**

Yes (written examination)

**STATE EXAM:**

No

**LECTURER:**

Assoc. Prof. Stanislav Georgiev, PhD

Assoc. Prof. Daniela Grekova-Kafalova, PhD

Chief Assist. Prof. Radiana Staynova, PhD

**DEPARTMENT:**

Organisation and Economics of Pharmacy

**ANNOTATION**

We live in times, when patients show greater interest in receiving more information regarding the treatment of their disease. This phenomenon, called “ravenous appetite” for medicinal information, emerged at the same time as the professional and regulatory literature substantiated the necessity of pharmaceutical service, aimed at the patient, called “Pharmaceutical care”. The need of pharmaceutical care has been supported by the fact that more than 50% of prescribed medicines are taken incorrectly. Pharmaceutical care represents the new pharmaceutical service of patients in the pharmacies, based on the cost – effectiveness approach that includes as a mandatory element consulting of the patient. The mission of pharmaceutical practitioners today is to support patients in achieving better utilisation of prescribed medicines. According to MPHMA, as adopted in 1995, as amended and supplemented in 2000, the term “dispensing” of medicines now includes as a mandatory component consultation of patient. Thus, MPHMA stipulates that the pharmacist become more active when providing the patient with pharmaceuticals and guarantee that the patient has fully understood the medical treatment prescribed to him and is going to abide by the prescribed medicinal regime to achieve the desired therapeutic result. The pharmacists’ education enables them always to know what information to communicate to the patient. However, to be more convincing, to be able to provide the suitable feedback, to learn to listen efficiently and to convince the patient to confide in them, they must as well receive the necessary knowledge and skills for efficient communication.

The third section pays special attention to the strategies for improving of patients' compliance with their medication. Interviewing technique, communication needs of specific groups of patients and ethical patient care are offered to allow learning the skills that will guarantee better health for the people approaching for help their most trustworthy and dignified health specialist – their pharmacist.

The next several sections from the curriculum are dedicated to the essence of “Pharmaceutical care” concept and the main steps to be taken for developing of a good therapeutic plan for each patient, as well as for efficient monitoring. Since 1993, annually the International Pharmaceutical Federation has organized congresses and symposia through its communal pharmacies section in order to support the introduction of pharmaceutical care in pharmaceutical practice.

Since Prof. Linda Strand and Prof. Charles Hepler announced the pharmaceutical care concept, it has been embraced enthusiastically in many countries. Through introduction of pharmaceutical care, pharmacists realize something critical for the society – they assume their share of responsibility in solving the problems of medicinal therapy of patients in accordance with their professional expertise. Pharmaceutical care is not a field that can be monopolized by pharmacists. Medical practitioners, nurses and pharmaceutical technicians also have an important role. However, nothing could prevent pharmacists from assuming their responsibility and perform the leading function of coordinators in the cooperation with other specialists and patients for improving of medicinal therapy.

### **BASIC AIMS OF THE DISCIPLINE**

The main goal of this course of lectures is to acquaint the students with the essence of the good pharmaceutical practice and pharmaceutical care concepts, as well as to build-up habits in advising the patients with the most common slight indispositions and symptoms in case of self-medication and dispensing medicines without prescriptions.

### **EXPECTED RESULTS**

Upon completion of the course, the students should have acquired the following knowledge and skills:

- the essence of pharmaceutical care concept;

- main therapeutic behaviour algorithms in case of regular health problems requiring self-medication;
- orientation in case of work with patients with the studied health problems;
- individual development of therapeutic behaviour algorithm in case of dispensing of medicines without prescription.

## LECTURES

### Course IV, Semester VIII

№	TOPIC	HOURS
1.	Essence of the “Pharmaceutical care” concept. The Pharmacist and the process of drug use. Integration of pharmaceutical care in the pharmacy practice. Benefits for the patient provided in the pharmaceutical care process.	2
2.	Patient compliance, non-compliance and adherence to the medical therapy. Factors affecting adherence. Strategies to improve patient compliance.	2
3.	Marketing and financing of the Pharmaceutical care service.	2
4.	Communication in the context of patient education. Major principles and elements of the interpersonal relationships. Verbal and non-verbal messages. Communicating with specific groups of patients such as elderly and disabled people.	2
5.	Perception and communication. Barriers to effective communication in the pharmacy. Ethical aspects of Pharmaceutical care. Informed consent. Confidentiality Listening and understanding.	2
6.	The role of the pharmacist in the care for elderly patients. Polypharmacy and drug-related problems.	2
7.	Pharmaceutical care for patients with diabetes. The role of the pharmacist in patient outcomes improvement.	2
8.	Pharmaceutical care for patients with hypertension and CVDs. The role of the pharmacist in patient outcomes improvement.	2
9.	Pharmaceutical care for patients with chronic respiratory diseases –asthma and COPD. The role of the pharmacist in patient outcomes improvement.	2
10.	Pharmaceutical care for patients with osteoarthritis, rheumatoid arthritis and gout. The role of the pharmacist in patient outcomes improvement.	2
11.	Pharmaceutical care for patients with osteoporosis. The role of the pharmacist in patient outcomes improvement.	2

12.	Pharmaceutical care for patients with neurologic diseases-depression, insomnia and affective disorders. The role of the pharmacist in patient outcomes improvement.	2
13.	Pharmaceutical care for oncologic patients. The role of the pharmacist in patient outcomes improvement.	2
14.	The role of the pharmacist in self-treatment. Conditions amenable to self-treatment.Application of the WWHAM pathway.	2
15.	Pharmaceutical care for the pediatric patient. Counselling parents and care-givers.	2

## PRACTICES

### Course IV, Semester VIII

№	TOPIC	Hours
1.	“Pharmaceutical care” concept. Pharmaceutical care plan design. Documentation of the pharmaceutical care process.	2
2.	Patient compliance, non-compliance and adherence. Strategies for patient compliance improvement. Factors affecting adherence.	2
3.	Pharmaceutical care for diabetes patients. Information processing, evaluation of drug treatment, pharmaceutical care plan design, monitoring and control of the therapy, advising the patients.	2
4.	Pharmaceutical care for patients with hypertension. Information processing, evaluation of drug treatment, pharmaceutical care plan design, monitoring and control of the therapy, advising the patients.	2
5.	Pharmaceutical care for patients with CVD. Information processing, evaluation of drug treatment, designing a plan for pharmaceutical care, monitoring and control of the therapy, advising the patients.	2
6.	Pharmaceutical care for patients with asthma and COPD. Information processing, evaluation of drug treatment, pharmaceutical care plan design, monitoring and control of the therapy, advising the patients.	2
7.	Pharmaceutical care for patients with osteoarthritis, rheumatoid arthritis and gout. Information processing, evaluation of drug treatment, pharmaceutical care plan design, monitoring and control of the therapy, advising the patients.	2
8.	Pharmaceutical care for patients with osteoporosis. Information processing, evaluation of drug treatment, designing a plan for pharmaceutical care, monitoring and control of the therapy, advising the patients	2
9.	Pharmaceutical care for patients with oncologic diseases. Information processing, evaluation of drug treatment, pharmaceutical care plan design, monitoring and control of the therapy, advising the patients.	2
10.	Pharmaceutical care for elderly patients. Polypharmacy – practical guides. Information processing, evaluation of therapeutic treatment, pharmaceutical care plan design, monitoring and control of the therapy,	2

	advising the patients.	
11.	The role of the pharmacist in self-treatment. Application of the “WWHAM” pathway in patient assessment. Conditions amenable to self-treatment.	2
12.	The role of the pharmacist in self-treatment. Dispensing OTC medicinal products indicated to relief pain, temperature, cough, bronchitis and allergic rhinitis.	2
13.	The role of the pharmacist in self-treatment. Dispensing OTC medicinal products for nausea, vomiting diarrhea and constipation.	2
14.	Colloquium on Topics 1 – 13.	2
15.	Pharmaceutical care for newborns, children and pregnant women.	2

## **LECTURES - THESES**

### **LECTURE № 1 – 3 hours**

**Essence of the “Pharmaceutical care” concept. The Pharmacist and the process of drug use. Integration of pharmaceutical care in the pharmacy practice. Benefits for the patient provided in the pharmaceutical care process.**

1. Essence of the “Pharmaceutical care concept.
2. The Pharmacist and the process of drug use.
3. Safety and effectiveness of the process of drug use.
4. Major tasks, functions and stages of pharmaceutical care. Pharmaceutical care in pharmaceutical practice – monitoring of therapeutic results.

### **LECTURE № 2 – 3 hours**

**Patient compliance, non-compliance and adherence to the medical therapy. Factors affecting adherence. Strategies to improve patient compliance.**

1. Patient compliance.
2. Patient non-compliance.
3. Adherence assistance techniques.
4. Factors affecting compliance.

### **LECTURE № 3 – 3 hours**

**Marketing and financing of the Pharmaceutical care service.**

### **LECTURE № 4 – 3 hours**

**Communication in the context of patient education. Major principles and elements of the interpersonal relationships. Verbal and non-verbal messages. Communicating with specific groups of patients such as elderly and disabled people.**

1. Patient education.
2. Interpersonal relationships.
3. Non-verbal communications at the pharmacy. Verbal/non-verbal communication relationship. Elements of non-verbal communication.
4. Communication with elderly and disabled patients.

### **LECTURE № 5 – 3 hours**

**Perception and communication. Barriers to effective communication in the pharmacy.**

**Ethical aspects of Pharmaceutical care. Informed consent. Confidentiality Listening and understanding.**

1. Perception and communication.
2. Barriers to the pharmacist-patient communication.
3. Ethical aspects of Pharmaceutical care. Informed consent. Confidentiality.
4. Listening and compassionate reply. Ability of careful listening.
5. Ability of summarising the received information. Compassion and effective communication.

**LECTURE № 6 – 3 hours**

**The role of the pharmacist in the care for elderly patients. Polypharmacy and drug-related problems.**

1. Characteristics of elderly patients.
2. Polypharmacy in elderly patients – practical solutions.
3. Drug –related problems.
4. Compliance issues.

**LECTURE № 7 – 3 hours**

**Pharmaceutical care for patients with diabetes. The role of the pharmacist in patient outcomes improvement.**

1. Pharmaceutical care for patients with diabetes.
2. Pharmacological and non-pharmacological approaches to diabetes management.
3. Patient monitoring.

**LECTURE № 8 – 3 hours**

**Pharmaceutical care for patients with hypertension and CVDs. The role of the pharmacist in patient outcomes improvement.**

1. Pharmacological and non-pharmacological approaches to the management of hypertension.
2. Pharmacological and non-pharmacological approaches to the management of CVDs.
3. Patient education.

**LECTURE № 9 – 3 hours**

**Pharmaceutical care for patients with chronic respiratory diseases –asthma and COPD. The role of the pharmacist in patient outcomes improvement.**

1. Pharmaceutical care for patients with chronic respiratory diseases –asthma and COPD.
2. Pharmacological and non-pharmacological approaches to the management of asthma and COPD.
3. Patient education.

**LECTURE № 10 – 3 hours**

**Pharmaceutical care for patients with osteoarthritis, rheumatoid arthritis and gout. The role of the pharmacist in patient outcomes improvement.**

1. Skeleton-muscular diseases.
2. Pharmacological and non-pharmacological treatment of arthritis and gout.
3. Patient education.

**LECTURE № 11 – 3 hours**

**Pharmaceutical care for patients with osteoporosis. The role of the pharmacist in patient outcomes improvement.**

1. Osteoporosis.
2. Pharmacological and non-pharmacological treatment of arthritis and gout.
3. Patient education

**LECTURE № 12 – 3 hours**

**Pharmaceutical care for patients with neurologic diseases-depression, insomnia and affective disorders. The role of the pharmacist in patient outcomes improvement**

1. Pharmaceutical care for patients with depression.
2. Pharmacological and non-pharmacological treatment of insomnia.

**LECTURE № 13 – 3 hours**

**Pharmaceutical care for oncologic patients. The role of the pharmacist in patient outcomes improvement.**

1. Specific characteristics of the oncologic patients.
2. The role of the pharmacist in oncology.

**LECTURE № 14 – 3 hours**

**The role of the pharmacist in self-treatment. Conditions amenable to self-treatment. Application of the WWHAM pathway.**

1. Self-care and self-treatment.
2. WWHAM pathway.
3. Dispensing OTC medications.

**LECTURE № 15 – 3 hours**

**Pharmaceutical care for the pediatric patient. Counselling parents and care-givers.**

1. Characteristics of the pediatric patient.
2. Pharmaceutical care for children.
3. Counselling parents and caregivers.

**PRACTICAL CLASSES - THESES**

***Practical class № 1 – 1 hour***

**“Pharmaceutical care” concept. Pharmaceutical care plan design. Documentation of the pharmaceutical care process.**

1. The pharmacist and the process of drug use
2. Steps included in the pharmaceutical care process.

***Practical class № 2 – 1 hour***

**Patient compliance, non-compliance and adherence. Strategies for patient compliance improvement. Factors affecting adherence.**

1. Patient compliance, non-compliance and adherence.
2. Factors affecting adherence.
3. Examples for patient non-compliance.

***Practical class № 3 – 1 hour***

**Pharmaceutical care for diabetes patients. Information processing, evaluation of drug treatment, pharmaceutical care plan design, monitoring and control of the therapy, advising the patients.**

1. Diabetes –classification, treatment and lifestyle modifications required.
2. Pharmaceutical care plan for patients with diabetes.
3. Discussion of practical cases.

*Practical class № 4 – 1 hour*

**Pharmaceutical care for patients with hypertension. Information processing, evaluation of drug treatment, pharmaceutical care plan design, monitoring and control of the therapy, advising the patients.**

1. Information processing, evaluation of drug treatment.
2. Designing a plan for pharmaceutical care, monitoring and control of the therapy, advising the patients.
3. Discussion of practical cases.

*Practical class № 5 – 1 hour*

**Pharmaceutical care for patients with CVD. Information processing, evaluation of drug treatment, designing a plan for pharmaceutical care, monitoring and control of the therapy, advising the patients.**

1. Information processing, evaluation of drug treatment.
2. Designing a plan for pharmaceutical care, monitoring and control of the therapy, advising the patients.
3. Discussion of practical cases.

*Practical class № 6 – 1 hour*

**Pharmaceutical care for patients with asthma and COPD. Information processing, evaluation of drug treatment, pharmaceutical care plan design, monitoring and control of the therapy, advising the patients.**

1. Information processing, evaluation of drug treatment.
2. Designing a plan for pharmaceutical care, monitoring and control of the therapy, advising the patients.
3. Discussion of practical cases.

*Practical class № 7 – 1 hour*

**Pharmaceutical care for patients with osteoarthritis, reumatoid arthritis and gout. Information processing, evaluation of drug treatment, pharmaceutical care plan design, monitoring and control of the therapy, advising the patients.**

1. Information processing, evaluation of drug treatment.
2. Designing a plan for pharmaceutical care, monitoring and control of the therapy, advising the patients.
3. Discussion of practical cases.

*Practical class № 8 – 1 hour*

**Pharmaceutical care for patients with osteoporosis. Information processing, evaluation of drug treatment, designing a plan for pharmaceutical care, monitoring and control of the therapy, advising the patients.**

1. Information processing, evaluation of drug treatment.
2. Designing a plan for pharmaceutical care, monitoring and control of the therapy, advising the patients.
3. Discussion of practical cases.

***Practical class № 9 – 1 hour***

**Pharmaceutical care for patients with oncologic diseases. Information processing, evaluation of drug treatment, pharmaceutical care plan design, monitoring and control of the therapy, advising the patients.**

1. Information processing, evaluation of drug treatment.
2. Designing a plan for pharmaceutical care, monitoring and control of the therapy, advising the patients.
3. Discussion of practical cases.

***Practical class № 10 – 1 hour***

**Pharmaceutical care for elderly patients. Polypharmacy – practical guides. Information processing, evaluation of therapeutic treatment, pharmaceutical care plan design, monitoring and control of the therapy, advising the patients.**

1. Information processing, evaluation of drug treatment.
2. Designing a plan for pharmaceutical care, monitoring and control of the therapy, advising the patients.
3. Polypharmacy.
4. Discussion of practical cases.

***Practical class № 11 – 1 hour***

**The role of the pharmacist in self-treatment. Application of the “WWHAM” pathway in patient assessment. Conditions amenable to self-treatment.**

1. Self-care and self-treatment.
2. Application of the “WWHAM” pathway in patient assessment.
3. Conditions amenable to self-treatment.

***Practical class № 12 – 1 hour***

**The role of the pharmacist in self-treatment. Dispensing OTC medicinal products indicated to relief pain, temperature, cough, bronchitis and allergic rhinitis.**

1. OTC treatment.
2. Discussion of practical cases for pain relief, temperature, cough.
3. Patient education.

***Practical class № 13 – 1 hour***

**The role of the pharmacist in self-treatment. Dispensing OTC medicinal products for nausea, vomiting diarrhea and constipation.**

1. OTC treatment.
2. Discussion of practical cases for patients with nausea, vomiting, diarrhea and constipation.
3. Discussion of practical cases.

***Practical class № 14 – 1 hour***

**Colloquium on topics 1-13.**

***Practical class № 15 – 1 hour***

**Pharmaceutical care for newborns, children and pregnant women.**

1. Pharmaceutical care for children and pregnant women.
2. Discussion of practical cases.

## BIBLIOGRAPHY

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## CONSPECTUS

1. The Pharmaceutical care concept - introduction, basic goals and functions. Indicators for monitoring the effect of pharmaceutical care. Integration of pharmaceutical care and monitoring of therapeutic results. Benefits for the patient from his consultation with the pharmacist.
2. Compliance, non-compliance and adherence to drug therapy. Strategies to improve compliance. Factors influencing patient adherence.
3. Financing and marketing of pharmaceutical care.
4. Communication and perception in the context of patient care. Basic principles and elements of interpersonal relationships. Verbal (verbal) and nonverbal messages. Barriers to the effective communication in the pharmacy practice.
5. Communication in special cases - communication with elderly patients, patients with impaired hearing, vision and dementia.
6. Ethical care and informed consent. Listening and empathetic response.

7. Pharmaceutical care and the role of the pharmacist in improving the results of drug therapy in geriatric patients. Polypharmacy and drug-related issues.
8. Pharmaceutical care and the role of the pharmacist in improving the results of drug therapy in patients with diabetes mellitus.
9. Pharmaceutical care and the role of the pharmacist in improving the results of the medical therapy in patients with hypertension.
10. Pharmaceutical care and the role of the pharmacist in improving the results of the medical therapy in patients with cardiovascular disease -ischemic heart disease, heart failure, myocardial infarction and peripheral vascular disease.
11. Pharmaceutical care and the role of the pharmacist in improving the results of the medical therapy in patients with chronic respiratory diseases-asthma and chronic obstructive pulmonary disease (COPD).
12. Pharmaceutical care and the role of the pharmacist in improving the results of the medical therapy in patients suffering from osteoarthritis, rheumatoid arthritis and gout.
13. Pharmaceutical care and the role of the pharmacist in improving the results of the medical therapy in patients suffering from osteoporosis.
14. Pharmaceutical care and the role of the pharmacist in improving the results of the medical therapy in patients with mental disorders - depression, insomnia, affective disorders.
15. Pharmaceutical care and the role of the pharmacist in improving the results of the medical therapy in patients with cancer.
16. Pharmaceutical care and the role of the pharmacist in self-treatment. Conditions amenable to self-treatment. Risks and mistakes in self-treatment. The WHAM pathway.
17. Pharmaceutical care in self-medication with OTC-products for pain, fever, cough, bronchitis and allergic rhinitis.
18. Pharmaceutical care in self-medication with OTC products to treat nausea, vomiting, diarrhea and constipation.
19. Pharmaceutical care and the role of the pharmacist in improving the results of the medical therapy in children.
20. Pharmaceutical care and the role of the pharmacist in counseling pregnant and breastfeeding women.

**PREPARED BY: Assoc. Prof. D. Kafalova, PhD.....**

**Chief Assist. Prof. R. Staynova, PhD.....**