

Tbilisi State Medical University

Faculty of Pharmacy

Second level of higher education / master
Educational program

„CLINICAL PHARMACY“

Academic degree awarded: Master of Clinical Pharmacy
Capacity of the program: 120 ECTS credits
Educational program

Name of the educational program: **Clinical Pharmacy**

Heads of Educational Program:

Professor TAMAZ TCHUMBURIDZE,

Assistant Professor NINO NEMSITSVERIDZE

Level of education: second level of higher education / master's degree Qualification / Awarding Academic Degree: Master of Clinical Pharmacy - 0916.06. Capacity: 120 (1 ECTS credit is equal to 30 hours)

Language of instruction: Georgian

Reality:

The modern approach of the World Health Organization involves pharmacist participation in patient care. In the EU and the USA this function is performed by clinical pharmacists. Georgia's integration with the European Union requires the transition to European standards, including pharmacy. Therefore, the preparation of a clinical pharmacist as a specialist and the existence of a relevant educational master program is really relevant.

The purpose of the educational program

The aim of the program is to prepare a specialist who takes care of the patient, which implies rational pharmacotherapy with the doctor. Effective, safe, available drug selection, taking into account the pharmacokinetic and pharmacodynamics factors of the medicines.

Program objectives can be formulated as follows:

- develop the ability to graduate with a doctor to engage in rational pharmacotherapy in the process and provide the physician with the latest and comprehensive information on drug pharmacokinetics and pharmacodynamics of the particular patient's age, sex, condition (pregnancy, lactation), basic and accompanying diseases, the elimination of the bodies involved in the function, drug interaction pharmacy network and the various forms of the bioavailability of the drug.
- To calculate the pharmacokinetics of drugs (concentration, bioavailability, distribution volume, clearance, maintenance dose, stationary concentration, half periodicity, etc.) and the use of these indicators for optimization of treatment.
- To develop pharmaceutical care (pharmaceutical consultation), taking into consideration the condition of an individual patient.

To obtain knowledge which are essential for the clinical application of drugs.

Prerequisite for admission to the Master Program

A person with a bachelor's degree or equivalent academic degree in pharmaceutical or medical education has the right to study at the master's program, which can be citizens of Georgia and foreign countries. (The rule of enrollment is determined by the Law of Georgia on Higher Education and the Regulation on TSMU Master's Program. 24.12.2010 N24/2.)

For obtaining the right to learn Master's degree, it is necessary to pass a Master's Degree and Internal University Examination in a specialty and foreign language. (24.12.2010 N24/2) Candidates who have successfully pass the minimum competency limit defined by the Georgian legislation have the right to participate in the university entrance exams.

Study at the Master's program for the applicants without passing the national master's exams is fulfilling by deadline period established by Ministry of Education and Science. For the applicants who were living abroad for the last 2 years and studied in their countries (legally recognized), at the master's or have higher education document certifying by their country. (TSMU Master Program amendment).

Material and technical provision of the educational process:

Teaching in the master's program will be carried out on the basis of the 4th educational building of the Faculty of Pharmacy (Vazha Pshavela #30-33), where specialized departments are located - with a library and computer equipment and lecture halls.

The program envisages clinical practice, which is carried out in the clinical skills center and clinics of TSSU:

- ❖ Central University Clinic, named by N. Kipshidze
- ❖ Heart center, named by G.Chafidze
- ❖ Clinic "Medula",
- ❖ Caucasus Medical Center,

Also in pharmacies of pharmaceutical companies, on the basis of signed agreements and memoranda.

Learning Outcomes

General / transferable competences

After completing the educational program, the clinic pharmacist has the following field competences:

Knowledge of drugs used during certain illnesses and pathological conditions. In the process of pharmaceutical care, it is possible to select appropriate drugs for treatment, possible combination of medicines, possible positive and negative effects related to treatment, possible monitoring and correction of treatment. Rational pharmacotherapy principles, taking into account the age groups and specific conditions.

Can participate in the clinical application of drugs.

Fields of employment –

It is advisable to employ masters of clinical pharmacy in pharmacies and clinics, where they will provide pharmaceutical care, independently in the pharmacy, and in close cooperation with nurses in the clinics.

Possibility of continuing

Studies Master of Clinical Pharmacy can continue studies at level III of education in doctorate.

Training plan - 120 credits

| N | Components | Number of credits | hours | | | | | | Distribution of credits according to semester | | | |
|---|--|-------------------|------------|---------|------------------|----------|---------|-------------------------|---|-------------|--------------|-------------|
| | | | among them | | | | | | I Semester. | II Semester | III Semester | IV Semester |
| | | | Contact | Lecture | Practical skills | Practice | Seminar | Independent work(study) | | | | |
| 1 | 120 credits | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 |
| 1 | Basic Module 1: Physiology, Biochemistry, Pathological Physiology | 15 | 180 | | | | | 270 | 15 | | | |
| 2 | Pharmacology | 5 | 60 | | | | | 90 | 5 | | | |
| 3 | Pharmacotherapy | 10 | 120 | | | | | 180 | 10 | | | |
| 4 | Private Purpose Module 2: Biopharmacy, pharmacokinetical analysis | 8 | 96 | | | | | 144 | | 8 | | |
| 5 | Regulation of pharmaceutical activities | 4 | 48 | | | | | 72 | | 4 | | |
| 6 | Pharmacoeconomics | 2 | 24 | | | | | 36 | | 2 | | |
| 7 | General Profile Module -3 Clinical pharmacy; Clinical pharmacokinetics; Applied Clinical pharmacy | 14 | 170 | | | | | 250 | | 14 | | |
| 8 | Elective Subjects Polypharmacy | 2 | 24 | | | | | 36 | | 2 | | |

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|----|--|----|-----|--|--|----|--|-----|---|---|----|----|
| | Organizational behavior and human resource management in pharmaceutical organizations | 2 | 24 | | | | | 36 | | 2 | | |
| | Principles of Ethics and Bioethics in the Management of the Pharmaceutical activity(in English) | 2 | 24 | | | | | 36 | | 2 | | |
| 9 | Clinical Psychology | 4 | 48 | | | | | 72 | | | 3 | |
| 10 | Professional English language | 4 | 48 | | | | | 72 | | | 3 | |
| 11 | Clinical Module 4: (Practice) | 5 | 180 | | | 15 | | 270 | | | 15 | |
| 12 | Information technologies in science (IT in Science) | 2 | 24 | | | | | 36 | | | 3 | |
| 13 | Statistics, quantitative and qualitative characteristics of a research | 3 | 36 | | | | | 54 | | | 3 | |
| 14 | Elective: Communication skills in the clinic | 2 | 24 | | | | | 90 | | | 2 | |
| | Elective: pharmaceutical market policy | 2 | 24 | | | | | | | | 2 | |
| | Elective: Basic English Terminology | 2 | 24 | | | | | | 2 | 2 | | |
| 14 | Master Thesis | 30 | 360 | | | | | 540 | | | | 30 |

| Elective Subjects | | | | | | | | | |
|--|--|---|----|----|---|---|---|--|--|
| Basic Pharmaceutical Terminology in English | | 2 | 24 | 36 | | 2 | 2 | | |
| Polypharmacy | | 2 | 24 | 36 | 2 | 2 | 2 | | |
| Organizational behavior and human resource management in pharmaceutical organizations | | 2 | 24 | 36 | | 2 | 2 | | |
| Principles of Ethics and Bioethics in the Management of the Pharmaceutical activity(in English) | | 2 | 24 | 36 | | 2 | 2 | | |
| Communication skills in clinics | | 2 | 24 | 36 | | | 2 | | |
| Pharmaceutical market policy | | 2 | 24 | 36 | | | 2 | | |

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| Pharmacoeconomics and the outcome research in Pharmacy(in English) | 2 | | 36 | | 2 | 2 | | | | |
|---|---|--|----|--|---|---|--|--|--|--|

Appendix 2.

Expanding modules into disciplines:

| Basic Module 1:; | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 |
|-------------------------|----------|----------|----------|----------|----------|----------|----------|-----------|-----------|-----------|-----------|
| 1. Physiology | 5 | 60 | | | | | 90 | 5 | | | |
| 2 Biochemistry, | 5 | 60 | | | | | 90 | 5 | | | |
| 3PathologicalPhysiology | 5 | 60 | | | | | 90 | 5 | | | |

2. General Purpose Module:

| 3: Private Purpose Module | | | | | | | | | | | |
|----------------------------------|---|----|--|--|--|--|----|--|---|--|--|
| 1.Biopharmacy | 4 | 50 | | | | | 70 | | 4 | | |
| 2.Pharmacokinetical analysis | 4 | 50 | | | | | 70 | | 4 | | |

3..Private Purpose Module:

| | | | | | | | | | | | |
|-----------------------------|---|----|--|--|--|--|----|--|---|--|--|
| 1 BasicClinical pharmacy | 5 | 60 | | | | | 90 | | 5 | | |
| 2Clinicalpharmacokinetics | 4 | 50 | | | | | 70 | | 4 | | |
| 3 Applied Clinical pharmacy | 5 | 60 | | | | | 90 | | 5 | | |

| Clinical Module 4: | | | | | | | | | | | |
|--|---|----|--|--|---|--|----|--|--|---|--|
| Pharmacotherapy Practice in the Clinic | 5 | 60 | | | 5 | | 90 | | | 5 | |

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|-------------------------|---|----|--|--|---|--|----|--|--|---|--|
| First aid in the Clinic | 5 | 60 | | | 5 | | 90 | | | 5 | |
| Clinical skills (OSCE) | 5 | 60 | | | 5 | | 90 | | | 5 | |