

In the Name of God

Islamic Republic of Iran Ministry of Health and Medical Education Deputy Ministry for Education

Clinical Pharmacy **Degree: Clinical Specialty**

Total Course Credits

Core: 33

Thesis: 12

Total: 45

Program Description

Clinical Pharmacy or Pharmacotherapy is an area of Pharmacy practice which helps to develop Pharmacists' knowledge and skills in the area of pharmaceutical care. The obtained skills can systematically be helpful for clinical pharmacists to involve them in a wide spectrum of activities ranging from the level of a healthcare provider to the level of a policy maker.

In 1948, American College of Clinical Pharmacists (ACCP) established the standards of clinical pharmacy clerkship program which was revised by American Society of Hospital Pharmacy (ASHP). In Iran, the first clinical pharmacy department was established in 1991 in Pharmacy School of Tehran University of Medical Sciences. In 2003, the second clinical pharmacy department was established in Pharmacy School of Shahid Beheshti University of Medical Sciences which was followed by other Universities such as Sari, Isfahan and Shiraz University of Medical Sciences.

Clinical Pharmacy Residency program is an organized specialty training pharmacotherapy program in which the graduates gain competencies to provide a broad range of clinical and pharmaceutical care services. They are encouraged to provide their services in a multidisciplinary team in different areas including oncology, psychiatry, nutrition, pain management and critical care. They will also be able to develop rational drug use strategies via different committees who define drug utilization strategies such as pharmacy and therapeutics, mortality, infection control, and ethics in research committees.

The graduates will be able to become a member of research teams, drug information and pharmacovigilance centers and are qualified to provide services such as IV admixtures, Total Parenteral Nutrition (TPN) and Enteral Feeding (EF). They will be also qualified to design an individualized pharmacotherapy plan for patients and implement rational drug therapies.

Aims and Objectives

- To promote community oriented pharmacy educational system by training clinical pharmacists as academic members.
- To increase knowledge and clinical experience of undergraduate pharmacy students to meet the community needs.
- To design and provide clinical research projects for undergraduate students.
- Active participation in clinical rounds in order to promote rational use of drugs.
- To enable pharmacists to play an active role in hospitals and community pharmacies.
- To implement the spirit of collaboration between clinical pharmacists and other health care professionals.
- To promote greater participation in educational and investigational hospital programs.

Admission Requirements

Candidates having Doctorate of Pharmacy (PharmD) awarded by one of the domestic or overseas universities approved by the Ministry of Health and Medical Education are considered eligible to sit for the written entrance examination. Candidates must pass both written and oral entrance exam. They should also

demonstrate proficiency in verbal and written English. Successful candidates will enter the program according to the educational rules and regulations.* They should also not have any debilitating medical problems.

*Important note: These general conditions do not necessarily exclude specific conditions of each institute or university.

Expected competencies at the end of the program

General Competencies*

Specific Competencies and Skills

At the end of the program learners will be competent in the following skills:

- Design of the drug regimen for special populations (renal or hepatic insufficiency, obesity, shock,...) to improve their quality of healthcare
- Patient education.
- Training the undergraduate pharmacy students as a preceptor.
- Being able to design clinical trial studies based on country needs.
- Gain required knowledge and skills to teach undergraduate courses to pharmacy and medical students.
- Implement rational use of drugs as a policy maker.
- Recognize pharmacotherapy pitfalls and design proper strategies to avoid them.
- Design and implement drug and poison information services.
- Conduct drug utilization evaluation studies in hospitals.
- Active participation in grand rounds.
- Provide consultation on pharmacokinetics and dose adjustments.
- Apply for grants for educational and investigational research projects.
- Participate and give presentations in conferences.
- Supervise thesis.
- Review the patient charts to prevent medication errors, drug interactions and contraindications.
- Consider the pharmacoeconomics aspects in drug prescriptions.
- Provide consultation for pharmaceutical companies on conducting clinical trials for new drugs.
- Provide patient discharge instructions.
- Being a membership of hospital drug and therapeutics committee and contribution to compilation of hospital formulary.

Educational Strategies, Methods and Techniques*

Student Assessment

Residents will be evaluated by the following methods:

- Written exam at the end of didactic courses
- Assessments by preceptors at the end of each rotation according to their log books and presentations
- Scores obtained according to the case study presentations in case presenting conferences (CPCs)
- Two comprehensive examinations at the end of first year (minimum pass mark is 50% of total score) and second year (minimum pass mark is 60% of total score)
- Final comprehensive examination at the beginning of 7th semester; written (70% of total score) and verbal (30% of total score) exams, the minimum pass mark is 70% of total score in each part
- Completion of thesis with at least one accepted paper from the thesis research project

Ethical Issues*

*Note: The related document(s) can be found at <http://hcmep.behdasht.gov.ir>

Tables of the Courses

Table 1. Core courses

No	Title of the course	Number of credits		Total hours of the course		Prerequisite or concurrent courses
		Theoretical	Practical	Theoretical	Practical	
1	Advanced Clinical Pharmacokinetics	3	-	51	-	
2	Pathophysiology 1	4	-	238		
3	Pathophysiology 2	4	-	238		
4	Information Technology	-	2		68	
5	Advanced Statistics and Epidemiology	2		34		
6	Advanced Pharmacotherapy	6		102		2,7,9
7	Advanced Clinical Toxicology	3		51		
8	Semiology		2		68	
9	Clinical Toxicology Clerkship		2		102	
10	Advanced Pharmacology	3	1	51	34	
11	Advanced Hospital Pharmacy Clerkship	1	2	17	102	
12	Clinical Pharmacy Clerkship		12		3168	
13	Thesis (1)		4		136	
14	Thesis (2)		4		136	
15	Thesis (3)		4		136	

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