



School of Pharmaceutical Sciences & Technology

Curriculum for
Fellowship Program in

CLINICAL PHARMACY



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Course Title: CLINICAL PHARMACY

Course Type: FELLOWSHIP

Duration: 360 Hours (can be structured as 24 Credits)

Mode: Lectures, Practicals/Hands-on, Project

Overview

The Fellowship in Clinical Pharmacy is an intensive, practice-oriented postgraduate professional program designed to develop competent clinical pharmacists capable of functioning effectively in tertiary care hospitals, specialty clinics, clinical research settings, and pharmaceutical care services. This fellowship bridges the gap between academic pharmacy education and real-world patient care by emphasizing evidence-based medication therapy management, direct patient interaction, interdisciplinary collaboration, and clinical decision-making. Fellows will gain hands-on experience in medication review, therapeutic drug monitoring, adverse drug reaction management, clinical documentation, and patient counseling under supervised clinical settings.

The program integrates theoretical foundations with extensive clinical rotations across medicine, surgery, critical care, and specialty departments, ensuring fellows acquire the competencies required for clinical pharmacy practice as outlined by international bodies and Indian regulatory frameworks.

Objectives:

Upon completion of the course, the fellow shall be able to:

- Apply pharmaceutical care principles in diverse clinical settings including general medicine, surgery, intensive care, and specialty departments
- Conduct comprehensive medication therapy reviews and identify drug-related problems using systematic approaches
- Monitor, document, and report adverse drug reactions and medication errors following pharmacovigilance protocols
- Perform therapeutic drug monitoring and interpret laboratory parameters for dose optimization
- Provide evidence-based drug information to healthcare teams and patients
- Participate effectively in multidisciplinary rounds and clinical decision-making
- Counsel patients on medication use, adherence, lifestyle modifications, and disease management
- Document clinical interventions using standardized formats and maintain pharmaceutical care records
- Critically appraise medical literature and apply evidence-based medicine principles
- Develop and implement pharmaceutical care plans for complex clinical scenarios



Course Outcome:

CO No.	Course Outcome
C01	Evaluate medication regimens in hospitalized patients and ambulatory settings using systematic pharmaceutical care processes, identifying drug therapy problems, and recommending evidence-based interventions.
C02	Perform clinical assessments including medication history taking, physical assessment relevant to drug therapy, interpretation of laboratory investigations, and therapeutic drug monitoring for dose individualization
C03	Demonstrate competency in pharmacovigilance including identification, documentation, causality assessment, severity grading, and reporting of adverse drug reactions and medication errors through national and institutional systems
C04	Design comprehensive pharmaceutical care plans for patients with chronic diseases (diabetes, hypertension, COPD, CKD, etc.) incorporating pharmacotherapy optimization, patient education, monitoring parameters, and follow-up strategies.
C05	Communicate effectively with healthcare professionals and patients through ward round participation, drug information provision, patient counseling, and clinical documentation using professional terminology and evidence-based resources

Teaching & Learning Methods:

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- Interactive Lectures with Case Integration: Theory sessions supplemented with real clinical cases
- Clinical Rotations: Supervised hospital rounds in Medicine, Surgery, ICU, Pediatrics, and specialty units
- Bedside Teaching: Direct patient interaction for medication history, counseling, and monitoring
- Case Discussions & Journal Clubs: Weekly case presentations and critical literature appraisal
- Hands-on Training: Prescription analysis, drug information queries, ADR documentation
- Simulation Sessions: Patient counseling scenarios, emergency drug management
- Multidisciplinary Team Meetings: Participation in clinical rounds and therapeutic decision-making
- Assignments & Assessments: Clinical case write-ups, patient care plans, medication review reports
- Expert Sessions: Guest lectures by clinical pharmacists, physicians, regulatory experts

Syllabus

Theory - 10 Credits (150 Lecture Hours)

Module I- Fundamentals of Clinical Pharmacy (35 Lecture Hours)



- Introduction to clinical pharmacy and pharmaceutical care
- Evolution of clinical pharmacy practice
- Roles and responsibilities of clinical pharmacists
- Interprofessional healthcare team approach
- Drug-related problems (DRPs)
- Rational use of medicines
- Evidence-based medicine and clinical guidelines
- Clinical documentation and SOAP notes

Module 2: Clinical Pharmacology & Pharmacotherapy (40 Lecture Hours)

- Principles of clinical pharmacokinetics and pharmacodynamics
- Individualized drug therapy
- Pharmacotherapy of cardiovascular disorders
- Pharmacotherapy of endocrine disorders
- Pharmacotherapy of respiratory diseases
- Pharmacotherapy of gastrointestinal disorders
- Pharmacotherapy of infectious diseases
- Drug interactions and contraindications

Module 3: Medication Safety & Clinical Practice (40 Lecture Hours)

- Adverse drug reactions (ADR) and management
- Medication errors and prevention strategies
- Therapeutic drug monitoring (TDM)
- Pharmacovigilance systems and reporting
- Medication reconciliation
- Drug use evaluation (DUE)
- Antimicrobial stewardship
- Ethics and legal aspects of clinical pharmacy

Module 4: Patient Care & Specialized Pharmacy Services (35 Lecture Hours)

- Patient counseling and communication skills
- Clinical nutrition and parenteral nutrition
- Geriatric and pediatric pharmacotherapy
- Oncology pharmacy basics
- Critical care pharmacy
- Renal and hepatic dose adjustments
- Vaccination and preventive healthcare
- Emerging roles and career opportunities in clinical

Practical/Hands-on Component: 8 Credits (120 Lab Hours)

1. Hospital & Ward-Based Clinical Training (30 hours):

- Participation in ward rounds
- Patient medication history interview



- Identification of drug-related problems
- Review of medication charts
- Clinical documentation practice

2. Pharmacotherapy Case Studies (30 hours):

- Case analysis for major disease conditions
- Development of pharmaceutical care plans
- Dosage individualization
- Drug interaction assessment
- Case presentations and discussions

3. Medication Safety & Pharmacovigilance (30 hours):

- ADR detection and reporting
- Filling ADR reporting forms (PvPI / WHO)
- Medication error analysis
- Drug use evaluation exercises
- Antimicrobial stewardship activities

4. Patient Counseling & Professional Skills (30 hours):

- Counseling for chronic diseases
- Demonstration of inhalers, insulin devices, and injectables
- Medication adherence assessment
- Lifestyle modification counseling
- Health education programs

Project: 6 Credits (90 Self Study/Research Hours)

The project for the Fellowship in Clinical Pharmacy involves clinical case analysis, pharmacotherapy evaluation, or medication safety assessment in a hospital or clinical setting. Fellows work on identifying drug-related problems, optimizing therapy, and improving patient outcomes through pharmaceutical care interventions. The project enhances clinical reasoning, communication, and professional competence.

References:

Textbooks & Handbooks

- Clinical Pharmacy and Therapeutics – Roger Walker & Cate Whittlesea
- Applied Therapeutics: The Clinical Use of Drugs – Koda-Kimble et al.
- Pharmacotherapy: A Pathophysiologic Approach – Joseph T. DiPiro et al.
- Handbook of Clinical Pharmacy – Glen Stokke & Jonathan Burton
- Textbook of Clinical Pharmacy Practice – G. Parthasarathi et al.

Regulations, Guidelines & Ethical Standards

- WHO Guidelines on Pharmaceutical Care
- ICMR Ethical Guidelines for Biomedical Research
- Pharmacy Council of India (PCI) – Clinical Pharmacy Guidelines
- National Formulary of India (NFI)
- WHO Pharmacovigilance Guidelines



- PvPI (Pharmacovigilance Programme of India)

Journals & Professional Resources

- American Journal of Health-System Pharmacy
- European Journal of Hospital Pharmacy
- Journal of Clinical Pharmacy and Therapeutics
- Annals of Pharmacotherapy
- International Journal of Clinical Pharmacy

