
CLINICAL PHARMACY

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ABSTRACT

Clinical pharmacy is the branch of pharmacy in which clinical pharmacists deliver direct patient care that enhances the use of rational medication and promotes health, wellness, and disease prevention. Clinical pharmacists care for patients in all health care sceneries but the clinical pharmacy movement initially commenced inside hospitals and clinics. Clinical pharmacists bridge the gap between patients and physicians. Clinical pharmacists often work in collaboration with physicians, physician assistants, nurse practitioners and other healthcare professionals. Clinical pharmacists can enter into a formal collective practice agreement with another healthcare provider, generally one or more physicians, that allows pharmacists to prescribe medications and order laboratory tests. Clinical pharmacy may be defined as the health science discipline in which pharmacists are more toward patient care rationalizing medication therapy promoting the health and wellness of people. It is the modern and extended field of pharmacy.

Keywords: Clinical pharmacists, Patient care

INTRODUCTION

The clinical pharmacy has spread out radically in terms of its professional services throughout the past few years. Now the clinical pharmacy profession has been renowned as an important profession in the multidisciplinary setup of health care. The clinical pharmacist becomes a crucial element of the healthcare team and promotes patient care by interacting with wphysicianscianpatientstient. As clinical pharmacists the precise knowledge about therapeutics and regular interaction with prescribers, they are ideally placed to bridge the gap between patients and physicians The Association of clinical pharmacistscist can provide a strong base for quality assured patient care. The presence of a clinical pharmacist on the ward was a revolutionary feature of developments in the pharmacy. The discipline that symbolizes the application and development by a pharmacist of scientific principles of pharmacology, toxicology, therapeutics and clinical pharmacokinetics, pharmacoconomics, pharmacogenomics and other allied sciences for the care of patients.

The American College of Clinical Pharmacy (ACCP) defines clinical pharmacy as an area of pharmacy concerned with the science unpracticed of rational meuse then use the term clinical pharmacy was first used in 1953. The concept of clinical pharmacology started in the n 1960s with two inside fences. First, in 1962 "The Thalidomide Tragedy", wherein it was found that consumption of popular sedative thalidomide resulted in the birth of babies with sealed limbs. Second, in 1968 Phenytoin toxicity was reported in Australia which was because of change in formulation i.e. switching over from calcium sulphate to lactose as an inert excipient in the tablets.

Clinical Pharmacy Practice Areas

- Ambulatory care
- Critical care
- Drug Information
- Geriatrics and long-term care
- Internalmedicine and subspecialties
- Cardiology
- Endocrinology
- Gastroenterology
- Infectious disease
- Neurology
- Nutrition Support
- ADR
- Transplant

- Investigational Drugs
- Pharmacoeconomics
- Nephrology
- Obstetrics and Gynecology
- Pulmonary disease
- Psychiatry
- Rheumatology
- Nuclear pharmacy
- Pediatrics
- Pharmacokinetics Surgery

Functions of Clinical Pharmacy

- Taking the medical history of the patient
- Patient Education
- Patient care
- Formulation and management of drug policies
- Drug information
- Teaching & training medical and paramedical staff
- Research and development
- Participation in drug utilization studies
- Patient counselling
- Therapeutic drug monitoring
- Drug interaction surveillance
- Adverse drug reaction reporting
- Safe use of drugs
- Disease management cases
- Pharmacoeconomics

Level of Action

Clinical Pharmacy activities may influence the appropriate and correct use of medicines at three different levels: before, during and after the prescription is written.

Responsibilities of Clinical Pharmacy Requirements ^[2, 3, 4]

Clinical pharmacy activities may influence the correct use of medicines at three different levels:



Before The Prescription

- Clinical trials on healthy volunteers.
- Formularies development.
- Drug information & surveys.
- Clinical Pharmacists have the potential to implement and influence drug-related information, i.e., making decisions on which drugs deserve to be marketed, which drugs should be included in national and local formularies and which prescribing trends and treatment guidelines should be implemented.

Clinical Pharmacists are also actively involved in clinical trials at different levels: participating in ethical committees; study monitoring; dispensation and preparation of investigational drugs.

- Drug related policies

During The Prescription

- Counseling activity.
- Clinical Pharmacists may follow the attitudes and priorities of prescribers in their choice of better and correct treatments.
- The Clinical Pharmacist monitors, detects and prevents harmful drug interaction, ADR (adverse drug reactions) additional medication errors through evaluation of prescriptions' profiles.
- The Clinical Pharmacist pays special attention to the dosage of drugs that need TDM (therapeutic drug monitoring).
- Community Pharmacists can also make prescription decisions directly; when OTC (over-the-counter) drugs are counselled.

After the Prescription

- Counseling to the patients.
- Preparation of the personalized formulation.
- Drug use evaluation as prescribed.
- Outcome of research conducted.
- Pharmaco-economic factors.
- After the prescription is written, Clinical Pharmacists play a key role in communicating and counselling patients.

Pharmacists can improve patients' awareness of their treatments, monitor treatment response, check and improve patients' compliance with their medications.

As members of a multidisciplinary team, Clinical Pharmacists also provide integrated patients care from 'hospital to the community and vice versa, assuring a continuity of information on risks and benefits of the drug treatment.

Future of Clinical Pharmacy

While clinical pharmacy programs are in various stages of development globally, the need for specialists with a broad focus on medications and their optimal use is universal. The American College of Clinical Pharmacists has supported these training programs and provided education to individuals and groups. Their publications are used for the preparation and maintenance of board certification by pharmacists worldwide. This outreach is expected of me to continue, as more partners are engaged and more pharmacists and their multi professional teams recognize the opportunities for clinical pharmacists to improve patients.

Scope of Clinical Pharmacy ^[5, 6, 7]**1. Preparation of Patient Medication Histories:**

In any hypersensitivity or allergies to specific drugs observed in the past, any particular drug or food habits, drug dependence or intoxication with chemicals due to occupational hazards, all of which are likely to interfere with the therapy.

This will help in saving physicians time and effort and thus will result in a faster and more accurate selection of drug therapy.

2. Rational Prescription

The clinical pharmacist can suggest the physician and help him in selecting the right drug. Some of the examples of irrational combinations identified by a pharmacists are:

Haloperidol + Diazepam + Amitriptyline

Reserpine + Sintamil

3. Bioequivalence and Generic Equivalence of Pharmaceutical Formulations

The number of factors influence the bioavailability of drugs from dosage forms. selection of proper drug therapy based on bioequivalenc different dosage forms of the same drug moiety.

Patient Monitoring

Observe the signs and symptoms that indicate the need for or reaction to drugs.

Clinical pharmacist who knows correct route of administration, the signs and symptoms of overdosages, contraindications, desired effects, undesired effects and side effects can help in monitoring the drug therapy for safety and efficiency, a necessity with the increasing applications of potent and toxic chemicals and drugs.

Drugs with narrow therapeutic index, or administered in patients who are critically ill or are suffering from chronic diseases.

5. Adverse Drug Reactions and Drug Interactions

The clinical pharmacist can compile and process data using computers and make it available to the medical staff. Identify drug effect modifications due to interactions with several foods, alcohol, smoking environmental chemical

6. Drug diagnostic test inferences**7. Intravenous admixtures:****8. Drug Information Specialist**

A clinical pharmacist being an expert on drugs may operate a drug information service.

9. Retail Pharmacy Stores

A clinical pharmacist at retail drug stores can maintain patient drug profiles, family drug profiles and family records based upon which the pharmacist can counsel the patient each time while filling the prescription.

10. Discharge Counselling and Patient Compliance

Compliance with drug therapy can be improved several times, by educating and counselling the patient at the time of discharge from the hospital or while dispensing the prescription at the retail counter.

11. Clinical Research and Continuing Education Program

The clinical pharmacist can participate in an evaluation program on investigational drugs. He can help in conducting clinical trials based on sound principles of biostatistical methods of evaluation. He can also develop training programs for pharmacists, nurses and interns.

12. Medical Audit

The medical audit is a logical and necessary procedure within organized teamwork. The clinical pharmacist is either the initiator or a very active member of a functioning committee.

CONCLUSION

Clinical pharmacy is a vital pillar of health care system clinical pharmacy has developed as one of the modern and uncharted discipline of pharmacy in the 21st century. Clinical pharmacy will emphasize to raise the standard of health care delivery to human life. It will promote the rationale use of medicine including allopathy and traditional medicine.

REFERENCES

1. American College of Clinical Pharmacy. The definition of clinical pharmacy. *Pharmacotherapy* 2008; 28:816-7.2.
2. en.wikipedia.org/wiki/Clinical_Pharmacy_and_Public_Health_Education
3. Kokate CK. Pharmaceutical Education in India Vision 2010. *Indian J Pharm Edu*; 1999; 77-33.
4. Society of Hospital Pharmacists of Australia Committee of Specialty Practice in Clinical Pharmacy,

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- Dooley M, Bogovic A, Carroll M, Cuell S, Galbraith K, Mathews H. SHPA standards of practice for clinical pharmacy. *J Pharm Pract Res* 2005;35:122-46.
5. Mangasuli S, Rajan S, Khan SA. A decade of pharmacy practice education in India. *Am J Pharm Educ* 2008; 72:16.
 6. Carter BL. Evolution of clinical pharmacy in the USA and future directions for patient care. *Drugs & aging*, 2016 Mar 1; 33(3): 169-77.
 7. Hawksworth GM, Chrystyn H. Clinical pharmacy in primary care. *British journal of clinical pharmacology*. 1998 Nov; 46(5): 415.
 8. Robbins CM, Stillwell T, Johnson D, Wilson S, Fitzgerald L. Integrating patient safety and clinical pharmacy services into the care of a high-risk, ambulatory population: a collaborative approach. *Journal of patient safety*, 2013 Jun 1; 9(2): 110-7.