Clinical Pharmacy

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Definition

- Clinical Pharmacy is a branch of pharmacy where pharmacists provide patient care that optimizes medication therapy and promotes health, wellness, and disease prevention.
- Clinical pharmacists are actively involved in patient care, unlike traditional pharmacists who mostly focus on dispensing medications.

Key Elements in Definition:

- Patient-centered practice
- Direct interaction with healthcare teams (doctors, nurses)
- Medication management and safety
- Evidence-based practice

Scope of Clinical Pharmacy

The scope of clinical pharmacy is broad and includes multiple roles and responsibilities:

1. **Patient Care**
   - Providing advice to patients and healthcare professionals regarding drug therapy.
2. **Therapeutic Drug Monitoring (TDM)**
   - Monitoring blood levels of specific drugs to ensure safety and efficacy.
3. **Drug Interaction & ADR Management**
   - Identifying, managing, and preventing drug interactions and adverse drug reactions.
4. **Pharmacovigilance**
   - Ensuring the ongoing safety of medicines by monitoring and reporting adverse drug reactions (ADRs).
5. **Medication Review**
   - Systematic evaluation of a patient's medications to improve therapeutic outcomes.
6. **Health Promotion**
   - Educating patients about disease prevention, healthy living, and proper drug use.
7. **Drug Information Services**
   - Providing accurate and unbiased drug information to clinicians and patients.

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8. Clinical Research

- Participation in clinical trials and evidence-based practice development.

Development of Clinical Pharmacy in India and Other Countries

In India

- Clinical Pharmacy in India is still in the developing stage but has made significant progress over the past two decades.

Initial Phase

- The concept began to gain attention in the early 2000s.
- Introduction of the Pharm.D program in 2008 marked a key milestone in professionalizing clinical pharmacy education and practice.

Regulatory Support

- The Pharmacy Council of India (PCI) regulates and promotes the clinical role of pharmacists.
- PCI supports curriculum reforms and professional development aligned with patient-centered care.

Challenges

- Low awareness among other healthcare professionals regarding the role of clinical pharmacists.
- Limited job opportunities in hospitals for Pharm.D and clinical pharmacy graduates.
- Underutilization of clinical pharmacists in direct patient care settings.

Recent Developments

- Clinical pharmacists played a role in medication management during the COVID-19 pandemic.
- Establishment of clinical pharmacist roles in tertiary care hospitals.
- Expansion of opportunities in areas like pharmacovigilance, medical writing, and regulatory affairs.

In Other Countries

- In developed nations such as the USA, UK, and Australia, clinical pharmacy is an established and integrated part of healthcare systems.

United States (USA)

- Clinical pharmacists are integral members of healthcare teams in hospitals, clinics, and community settings.
- Pharm.D is the standard entry-level qualification for clinical practice.

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- Active roles in specialized clinics, including:
  - Oncology
  - Psychiatry
  - Cardiology
  - Infectious diseases

United Kingdom (UK)

- Clinical pharmacy services are provided in both hospital and primary care settings.
- Pharmacists can attain independent prescribing rights after completing accredited training programs.
- Involved in patient counseling, medication reconciliation, and chronic disease management.

Australia

- Clinical pharmacists are integrated into multidisciplinary healthcare teams.
- Participate in medication reviews, especially for:
- Elderly patients
- Chronic disease management
- Contribute significantly in aged care facilities and community health programs

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Technical definitions

Paediatrics

Definition:

- Paediatrics is the branch of medicine that deals with the medical care of infants, children, and adolescents, usually from birth up to 18 years of age.

Significance in Clinical Settings:

- **Drug Dosing**: Paediatric doses are based on body weight or surface area, not just age.
- **Formulations**: Requires palatable, liquid, or dispersible dosage forms.
- **Monitoring**: Children have immature organs, needing careful monitoring for adverse drug reactions (ADRs).
- **Immunization**: Essential in preventive care for this age group.

Geriatric

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Definition:

- Geriatrics is the branch of medicine focused on healthcare of elderly people, typically aged 65 years and above.

Significance in Clinical Settings:

- **Polypharmacy**: Elderly patients often take multiple medications; risk of drug interactions increases.
- **Pharmacokinetics Changes**: Altered drug absorption, distribution, metabolism, and excretion due to aging.
- **Comorbidities**: Common in elderly (e.g., diabetes, hypertension, arthritis).
- **Dosing Adjustments**: Required to avoid toxicity due to declining liver/kidney function.

Antenatal Care (ANC)

Definition:

- Antenatal care refers to the routine health control of presumed healthy pregnant women without symptoms (screening) to detect diseases or complicating obstetric conditions.

Significance in Clinical Settings:

- **Preventive Care**: Ensures maternal and fetal health through scheduled visits.
- **Screening**: For conditions like gestational diabetes, anemia, infections, etc.
- **Supplementation**: Iron, folic acid, calcium, and sometimes multivitamins.
- **Patient Education**: On nutrition, hygiene, danger signs, and labor preparation.

Postnatal Care (PNC)

Definition:

- Postnatal care is the care given to the mother and her newborn immediately after the birth and up to 6 weeks.

Significance in Clinical Settings:

- **Monitoring**: Mother for hemorrhage, infection, depression; baby for jaundice, feeding, and weight gain.
- **Lactation Support**: Education on breastfeeding and neonatal care.
- **Immunization**: Start of vaccination schedule (e.g., BCG, OPV).
- **Family Planning**: Counseling and contraception guidance post-delivery.

Neonatology

Definition:

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- A subspecialty of paediatrics focusing on the medical care of newborns, especially the ill or premature.

Significance:

- Neonatal Intensive Care Units (NICUs) manage critically ill neonates.
- Focus on respiratory support, infection control, and feeding.

Obstetrics

Definition:

- The field of medicine that deals with pregnancy, childbirth, and the postpartum period.

Significance:

- Obstetricians manage labor, delivery (normal or cesarean), and complications like preeclampsia or ectopic pregnancy.

Gynecology

Definition:

- Medical practice dealing with the health of the female reproductive system (uterus, ovaries, vagina).

Significance:

- Deals with menstruation issues, contraception, fertility, and menopause.
- Pharmacists often counsel on hormonal therapies or contraceptive use.

Daily activities of clinical pharmacists

Ward Round Participation

Definition:

- Participation of clinical pharmacists in multidisciplinary hospital ward rounds alongside physicians, nurses, and other healthcare providers.

Goal:

- To optimize pharmacotherapy.
- To detect and resolve drug-related problems (DRPs).
- To ensure safe, effective, and economical medication use.

Procedure:

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