

OBJECTIVE

Upon completion of the course, the student shall be able to

1. Know various drug distribution methods in a hospital.
2. Appreciate the pharmacy stores management and inventory control.
3. Monitor drug therapy of patient through medication chart review and clinical review.
4. Obtain medication history interview and counsel the patients.
5. Identify drugs related problem.
6. Detect and assess adverse drug reaction.
7. Interpret selected laboratory results (as monitoring parameters in therapeutics) of specific disease states.
8. Know pharmaceutical care services.
9. Do patient counseling in community pharmacy.
10. Appreciate the concept of Rational drug therapy.

Syllabus Pharmacy Practice (Theory)

UNIT I	
a)	Hospital and it's organization Definition, Classification of Hospital- Primary, Secondary, and Tertiary hospitals, Classification based on clinical and non- clinical basic, Organization Structure of a Hospital, and Medical staffs involved in the hospital and their functions.
b)	Hospital pharmacy and its organization Definition, Function of Hospital pharmacy, Organization structure, Location, Layout and staff requirements, and Responsibilities and functions of hospital pharmacists.
c)	Adverse drug reaction Classification – Excessive pharmacological effects, secondary pharmacological effects, Idiosyncrasy, Allergic drug reactions, Genetically determined toxicity, Toxicity following sudden withdrawal of drugs, Drug interaction- Beneficial interactions, adverse interactions, and Pharmacokinetic drug interactions, Methods for Detection drug interactions, Spontaneous case reports and record linkage studies, and Adverse drug reaction reporting and management.

d)	Community Pharmacy Organization and structure of retail and wholesale drug store, types and design, Legal requirements for establishment and maintenances of a drug store, Dispensing of proprietary products, Maintenance of records of retail and wholesale drug store.
UNIT II	
a)	Drug Distribution system in a hospital Dispensing of drugs to inpatients, Types of drug distribution systems, Charging policy and labelling, Dispensing of Drug to ambulatory patients, and Dispensing of controlled drugs.
b)	Hospital formulary Definition, Contents of hospital formulary, Differentiation of hospital formulary and Drug list, Preparation and revision, and addition and deletion of drug from hospital formulary.
c)	Therapeutic drug Monitoring Need for Therapeutics Drug Monitoring, Factors to be considered during the Therapeutics Drug Monitoring and Indian scenario for Therapeutics Drug Monitoring.
d)	Medication Adherence Causes of medication non-adherence, Pharmacist role in the medication adherence, and monitoring of patient medication adherence.
e)	Patient medication history interview Need for the patient medication history interview, medication interview forms.
f)	Community pharmacy management Financial, Materials, Staff, and Infrastructure requirements.
UNIT III	
a)	Pharmacy and Therapeutic committee Organization, Function, Policies of the pharmacy and therapeutic committee in including drugs into formulary, Inpatient and Outpatient Prescription, Automatic stop order, and Emergency drug list preparation.
b)	Information Services Drug and Poison information centre, Sources of drug information, Computerised services, and Storage and Retrieval of information.
c)	Counselling Definition of Patient counseling; steps involved in patient counseling, and Special cases that require the pharmacist.
d)	Education and training program in the hospital Role of pharmacist in the education and training program, Internal and External training program, Services to the nursing homes/clinics, Code of ethics for community pharmacy, and Role of pharmacist in the interdepartmental communication and community health education.

e)	Prescription medication order and communication skills Prescribed medication order- Interpretation and legal requirements, and Communication skills – Communication with prescribers and Patients.
UNIT IV	
	Preparation and Implementation Budget Preparation and Implementation
b)	Clinical Pharmacy Introduction to Clinical Pharmacy, Concept of clinical pharmacy, Functions and Responsibilities of clinical pharmacist, Drug therapy monitoring – Medication chart review, Clinical review, Pharmacist intervention, Ward round participation, Medication history and Pharmaceutical care. Dosing pattern and drug therapy based on Pharmacokinetic and disease pattern.
c)	Over the counter (OTC) sales Introduction and sale of over the counter, and Rational use of common over the counter medications.
UNIT V	
a)	Drug store management and inventory control Organization of drug store, types of materials stocked and storage conditions, Purchase order, Procurement and Stocking, Economic order quantity, Recorded quantity level, and Methods used for the analysis of the drug expenditure.
b)	Investigational use of drugs Description, Principles involved, Classification, Control, Identification, Role of hospital pharmacists, Advisory committee.
c)	Interpretation of Clinical Laboratory Tests Blood Chemistry, Haematology, and Urinalysis.

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UNIT I

(A) Hospital and It's Organization

1.A INTRODUCTION

Hospital is an organization and institution of public health and welfare. It provides healthcare facilities to ensure the well-being of people through specialized equipment handled by a group of specially trained individuals. Contrary to the common perception, a hospital not only takes care of sick people, it is also responsible for keeping a check on the well-being and maintaining health standards of the people in general. In order to keep them disease-free and in good health, a hospital undertakes immunization, runs educational programs to spread information regarding personal and social hygienic practices.

1.1A Definition

HOSPITAL is defined as: “An INSTITUTION of COMMUNITY HEALTH/ a SPECIALIZED COMPLEX ORGANIZATION, that makes use of PHYSICIANS, SURGEONS & team of TECHNICAL STAFF, in order to provide facilities for DIAGNOSIS, THERAPY, REHABILITATION, PREVENTION, EDUCATION & RESEARCH.

OR

HOSPITAL is an organization that provides a special facility and working for care of the patient through the physicians, surgeons, and, team of technical staff. It also provides facilities for diagnosis, therapy, prevention, education, and research.

1.2A Functions of hospital

- ◆ It provides diagnosis and treatment of diseases to both inpatients and outpatients.
- ◆ Provides facilities for hospitalization.
- ◆ Act as immunization centre in the prevention of diseases.

- ◆ Provides advices on matters like family planning, STD (sexually transmitted drugs), AIDS for the improvement of social aspects and rehabilitation.
- ◆ Act as training medium for medical and allied health professional (nurses, pharmacists etc).
- ◆ Educate the people.
- ◆ By early detection, treatment and advice, lowers the incidence of diseases.
- ◆ Provides facilities for research.
- ◆ Co-ordinates various disciplines of medicines and improves the standards of medical practice.
- ◆ Take care of the community at large and contributes a lot in prevention of diseases.

1.3A Classification of hospital – primary, secondary, and tertiary hospitals

1. Primary hospital

- ◆ Primary hospital is typically a hospital that contains less than 100 beds. They are tasked with providing preventive care, minimal health care and rehabilitation services.
- ◆ They are a basic level of contact between individuals and families with the healthy system.
- ◆ They include general practitioners, family physicians and physiotherapist. The basic services provided by them are immunization, maternal and child health services, curative care services and prevention of diseases are provided by PHC.
- ◆ The staff in PHC includes a medical officer, a staff nurse and paramedical support staff.

2. Secondary hospital

- ◆ Secondary hospitals are preferred with a medium size city, country or district and contain more than 100 beds but less than 500.
- ◆ They are responsible for providing complete health services and medical education and conduct research on regional basis.
- ◆ These hospitals include cardiologists, urologists, dermatologist, and other such specialists. The services are provided by medical specialists.
- ◆ The services include acute care, short period stay in hospital emergency department for brief but serious illness.
- ◆ There may be providers who remain in contact but do not work in hospitals such as psychiatrists, physiotherapists, respiratory therapists etc.

- ◆ District hospitals and community health centres at the block level are the examples of secondary hospitals.

3. Tertiary hospitals

- ◆ These are comprehensive or general hospitals of the city at national or provincial level with the bed capacity exceeding 500.
- ◆ They are responsible for providing specialist health services and play a vital role about medical education and scientific research and they also serve as a medical hub providing care to multiple regions.
- ◆ The patients are admitted into these centres on a referral from primary or secondary health professionals.
- ◆ They offer personnel facility as well as facilities for advanced medical investigation and treatment.
- ◆ They provide advanced diagnostic support services, specialized intensive care, and special services such as neurosurgery, cancer management, cardiac surgery etc. that cannot be provide by primary and secondary health centres.
- ◆ The examples of tertiary hospitals include 3 medical colleges and advanced medical research institutes.

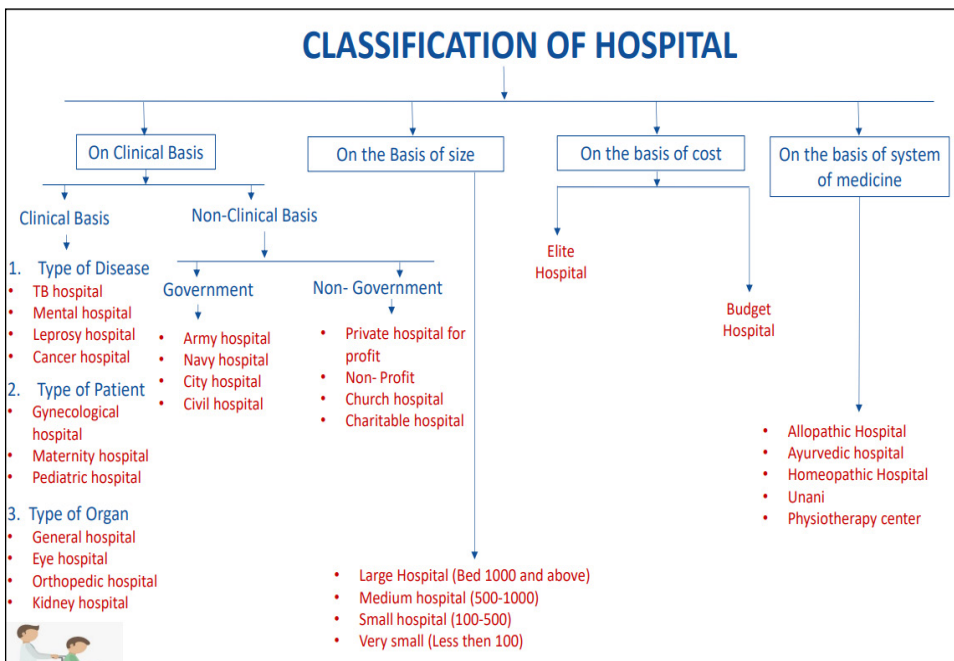


Fig. 1.1 A: Classification of Hospital

1.4A Classification based on clinical and non- clinical basis

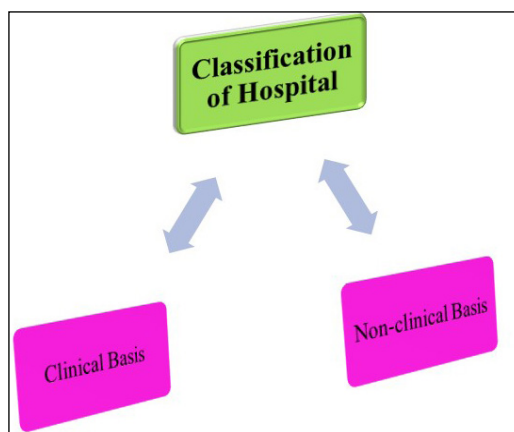


Table 1 A: Differences in classification of Hospitals on Clinical and Non-clinical Basis

Clinical basis (Based on system on medicines)	Non-clinical Basis (Based on ownership)
1. Allopathic hospitals 2. Ayurvedic hospitals 3. Siddha hospitals 4. Unani hospitals 5. Homeopathic hospitals 6. Physiotherapy hospitals	1. Government controlled <ul style="list-style-type: none"> • Central government controlled <ul style="list-style-type: none"> a. Military hospitals b. Railway hospitals c. JIPMER – Pondicherry d. AIIMS – New Delhi

- ◆ Based on diseases: 1. Tuberculosis hospitals, 2. Leprosy hospital, 3. Cancer hospitals, 4. Mental hospitals, 5. Diabetes hospitals, 6. Rehabilitation
- ◆ Based on anatomy /physiology: 1. ENT hospitals, 2. Eye hospitals, 3. Kidney hospitals, 4. Dental hospitals, 5. Heart hospitals, 6. Orthopaedic hospitals, 7. Neurological hospitals
- ◆ Based on type of patients: 1. Maternity hospitals, 2. Paediatric hospitals, 3. Gynaecological hospitals, 4. General hospitals
- ◆ State government controlled: (a) General hospitals, (b) ESI (employee state insurance), (c) Stanley hospitals – Chennai, (d) Osmania hospitals – Hyderabad, (e) Victoria hospitals – Bangalore
- ◆ Private trusts controlled: (a) Ramachandra hospitals – Chennai, (b) KMC hospitals – Udipi, and Mangalore, (c) Bombay hospitals – Bombay
- ◆ Municipality corporation panchayat controlled: (a) BMC hospitals – Bombay, (b) KEM hospitals – Bombay, (c) Madras corporation hospitals, (d) Non-government controlled