

## Pharmacy and Therapeutic Committee →

The pharmacy and therapeutic committee is the policy forming and recommending body to the medical staff and the administration of hospital on matter related to therapeutic use of drugs.

- #. The committee composed of physician, pharmacist and other health professionals selected with the includes with the medical staff.

## Objectives of Pharmacy and Therapeutic Committee →

The PTC has three major roles to play -

- 1) Advisory
- 2) Educational
- 3) Drug safety and Adverse Drug Monitoring

1) Advisory → The committee recommended the adaptation of policies or assist in the formulation of board professional policies regarding evaluation, selection and therapeutic use of drug in the hospital.

• The committee serve in an advisory capacity to medical staff and hospital administration in all matters pertaining the use of drugs, including the investigational drugs.

• It makes recommendation concerning the drug stock stocked in hospital's care areas.

• The committee advises the pharmacy in implementation of effective drug distribution and control procedure.

## 2) Educational →

The committee recommended or assist in the formulation of function, design to meet the needs of professional staff like the physicians, nurses, pharmacists and other healthcare practitioners, for the complete current

Knowledge matter related to the drug and their uses.

- The committee evaluated the problems related to the distribution and administrations of medications, including medication incidents.
- The committee should minimize duplication of the same basic drug, drug safety and cost.
- The committee develops and complies and formulation of drugs and prescription of formulation accepted because in hospitals.

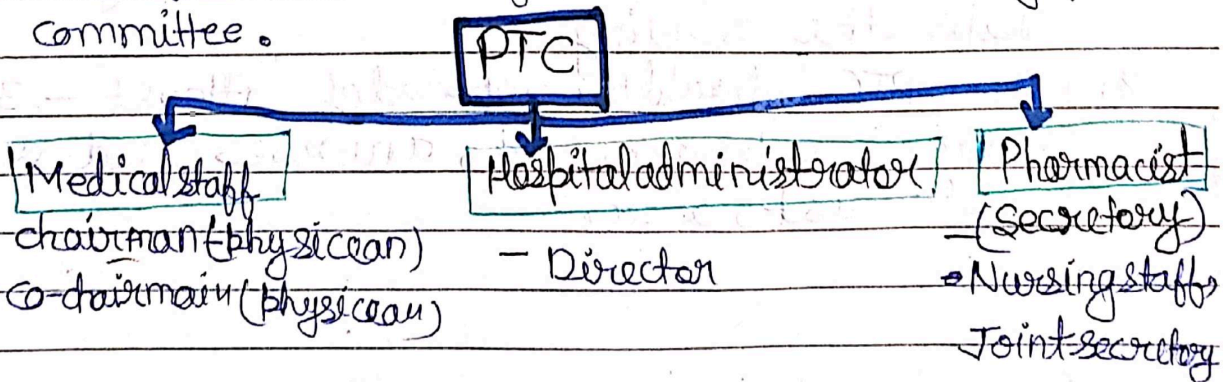
### 3) Drug Safety and Adverse Drug Monitoring →

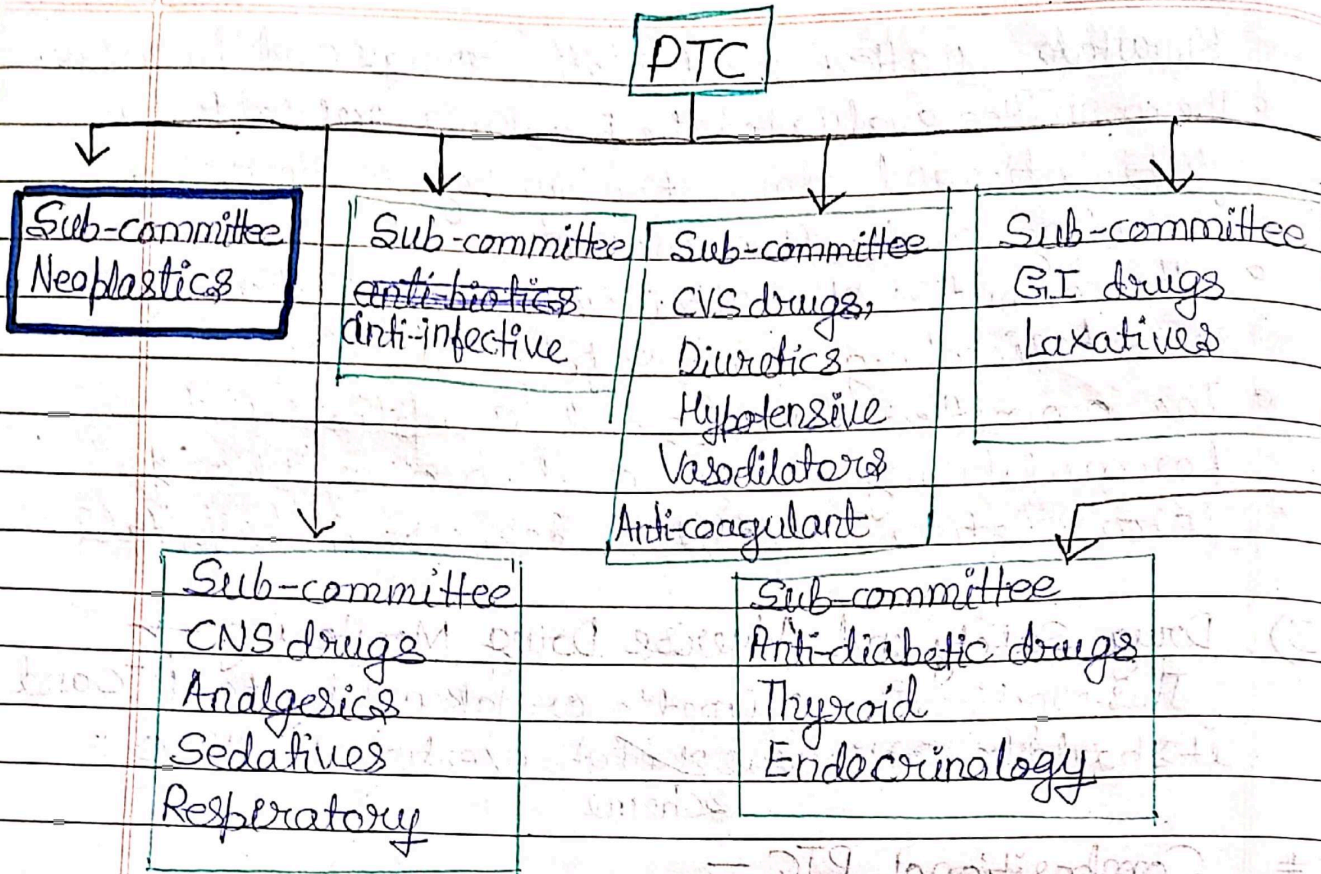
This function is assigned to or taken up by the PTC and it should be continuous skill of exerting vigilance scheme

### # Composition of PTC -

Composition of PTC might vary from hospital to hospital, it may composed of -

- 1) At least 3 physicians from the medical staff.
- 2) Pharmacist
- 3) A representative of the medical staff
- 4) A hospital administrator with his or her designated ex-officio members of the committee, one of the physician may be appointed as chairman of the PTC. The pharmacist function usually as the secretary, therefore, he is designated as the secretary of the committee.





Organisation and operation of PTC

- ① operation of PTC should meet regularly at least six times in an year and also as ~~when~~ necessary.
- ② The committee can invite its meeting and persons within or without side the hospital who can contribute specialized or unique knowledge and skilled judgement.
- ③ The agenda and the supplementary material should be prepared by the secretary and furnished to the committee members sufficiently in time before the meeting.
- ④ The PTC should be composed of at least - 3 physicians, a pharmacist, a nurses and an administrator.

### Committee Membership →

As to be approved by the American Hospital Association (AHA) and the American Society of Hospital Pharmacists provides for a membership not less than 3 physician and the pharmacist, the majority of the large hospitals list committees which often includes representation of the following group -

- (I) Surgery
- (II) Medicines
- (III) Pharmacist
- (IV) Administrative department
- (V) Nurses

### Committee Agenda →

- 1) Minutes of the previous meeting.
- 2) Review of a specialized / specified ~~for the formulary~~ for the loading and delation of product.
- 3) New drugs which have become commercially available
- 4) Investigational use of drugs currently in use of the hospital.
- 5) Review of adverse drug reactions reported in the hospital since in the last meeting.
- 6) Drug safety in the hospital.
- 7) Slow moving medication

### Role of PTC In Drug Safety →

- ① Drug safety is the moral, legal, professional obligation of pharmacist.
- ② It includes responsibilities from dispensing of drugs to drugs administrations.
- ③ The hospital must employ a qualified at least a registered pharmacist with at least B.Pharm degree as

Chief pharmacist and the rest are maybe at least diploma holder in pharmacist.

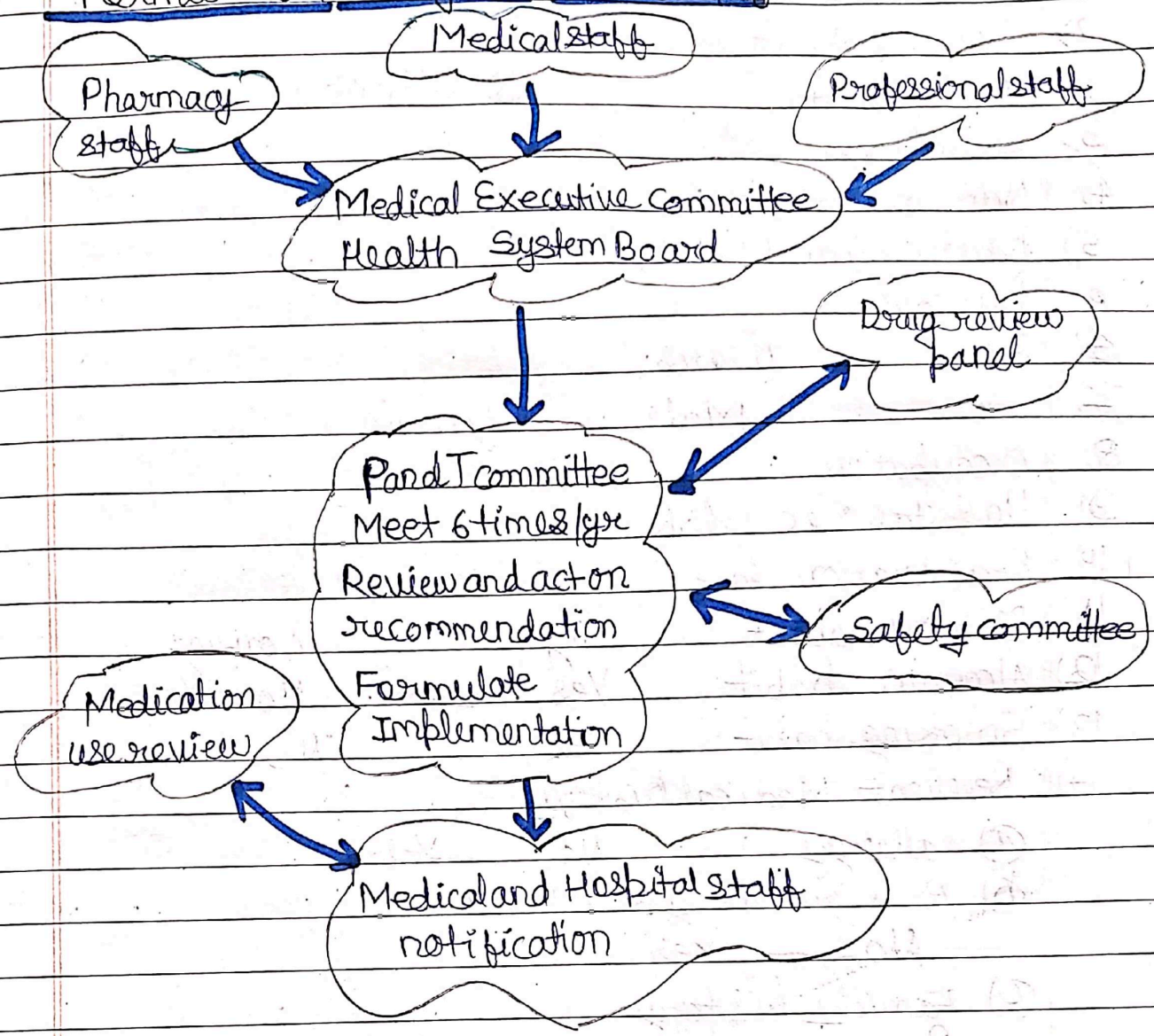
### Functions of PTC →

- 1) Preparation of hospital drug formulary
- 2) Selection of manufacture and supplier, mode of procurement.
- 3) Addition of new drugs, deletion of old drugs.
- 4) Drugs to be supplied in OPD.
- 5) Policy formulation for pharmacy and monitoring
- 6) Budget demand for pharmacy
- 7) Developing drug information system
- 8) checking of pharmacy record and drug quality
- 9) Maintenance of drug standard and quality control
- 10) Disposal of expiry drugs

### Responsibilities of PTC →

- 1) Ensure safety medication to the patient
- 2) The preparation of hospital formulary system,
- 3) The publishing of a pharmacy educational bulletin.
- 4) The supervision of investigational use of drugs.
- 5) The development of a program for reporting and investigating adverse drug reactions
- 6) Assisting in the preparation of emergency kits or cards for medical emergency.

## #. Formulation Management Process →



## #. Role of PTC in Adverse drug Monitoring :

An ADR is defined as any unusual or unexpected reactions including acute poisoning by narcotics, barbiturates, Amphetamines as well as industrial poisoning.

## #. Proforma for Monitoring of ADR in India -

- 1) Do not leave any item blank.  
Mark the appropriate boxes tick in
- 2) Type or write in Block letters.



• Every case of ADR must be first reported by the attending physician to the chairman of the PTC or clinical pharmacologists.

Drug for Emergency Lists / Boxes →

- 1) Atropine sulphate (0.4 mg/ml)
- 2) Calcium gluconate (1 gm/10 ml)
- 3) Digoxin (0.5 mg/ml)
- 4) Aminophylline (0.25 g/ml)
- 5) Caffeine Sod. benzoate (0.5 g/2 ml)
- 6) Amyl nitrate glass capsules for injection
- 7) Ephedrine HCl (1 mg/ml)
- 8) Heparin (10 units/ml)
- 9) Mannitol inj (25%)
- 10) Norepinephrine inj (0.2%)
- 11) Neostigmine methyl sulphate (0.25 mg/ml)
- 12) Hydrocortisone (100 mg)
- 13) Magnesium sulphate inj (10 or 50%)
- 14) Pentazocin
- 15) Pentobarbitone (50 mg/ml)
- 16) Procainamide (100 mg/ml)
- 17) Prothamine sulphate (20 mg/ml)
- 18) Sod. molar lactate solution
- 19) Water for inj (20 ml)
- 20) Saline for inj (9% in 30 ml)
- 21) Picrotoxin inj (3 mg/ml)
- 22) Pheomethazone inj
- 23) Phe:



### List of emergency instrument boxes)

- Syringe of various ranges two each of each ranges  
Tuberculin or insulin syringe - 2ml, syringe, 5, 10, 20 ml.
- Needles 16, 18, 20, 21, 23 and 26 gauge
- Vampules  
sites for breaking the
- Airway equipment
- Ryles tube
- 

### Supply for Cabinet Utility room

- Sterile suction, catheters, razor & blades.
- Oxygen catheters
- Packaged sterile gelatin sponge
- Reccesitation tube
- oxygen equipments
- Tracheotomy sets
- Burn sheet
- Dextan (40mg/ml)

##

### Drug Information Services →

- Provides in depth, unbiased (error free) source of crucial drug information to meet needs of the practicing physicians, pharmacists and other health care professionals.
- It's current, relevant, critically exam data about drug and drug used for given patient or situation.
- Many institute run Drug Information Center (DIC) for the provision of drug information to every group kind of people from any place / phase.

### # Mission →

To increase the community knowledge and awareness about drug and drug uses.

## History

First DIC was developed in University of Kentucky in 1960. In United States 80% of the hospitals have the DIC. India infancy stage with a few centres.

## # Needs of Drug Information

- The no. of drugs in the International market has increased very much.
- The newer drugs are generally more potent and selective and formulation becoming increasingly complex.
- The literature on drug has also expanded and covers a wide range of information.
- To introduce a new drug into the practice, the professional needs to evaluate the given information.
- A simple quick reference to a pharmacopoeia or formulation is no longer sufficient.

## # Aim and objective of Drug Information Services

- The provision of information to health professionals on specific problem related to the use of drugs in particular patients.
- The provision of information to officials in govt. agencies to optimize the decision making processes.
- The preparation & development of guidelines and formulation.
- To improve patient compliance and to provide a guide to responsible self medication.
- To develop and participate in continuous education program.
- To participate in undergraduate and graduate teaching program.
- To develop educational activities regarding the appropriate use of drugs for patient in the community.

To develop and participate in research program.

## The Sources of Information

Primary sources

Secondary "

Tertiary "

### Primary Source —

- original information
- Scientific Journals
- Thesis
- Proceeding of conferences
- Secondary Sources

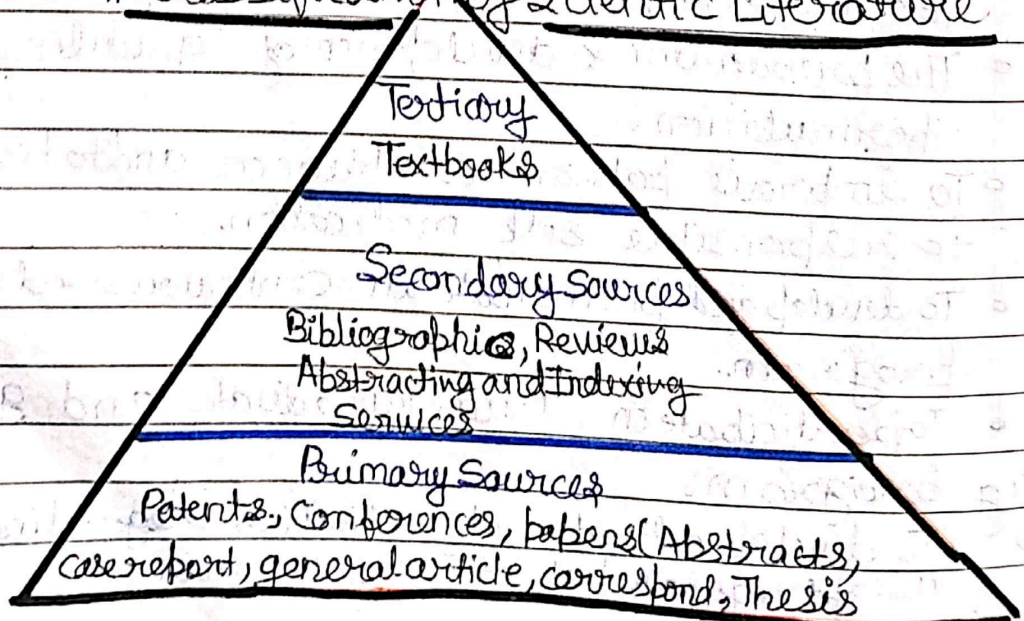
Data base (Pubmed, Science direct, Web of Sciences, Scopus indexing, Embase, National library of medicine gateway)

- Low drug information
- Review article

### Tertiary Sources —

- Text book on drugs or disease topic
- Pharmacopoeias (I.P., B.P., U.S.P. etc)
- Encyclopedia
- Dictionaries or some guides.

## # Classification of Scientific Literature



### Other sources →

- Public and hospitals about the AE of any drugs.
- Local drug list
- National formulary or hospital formularies.
- Internet
- Phone calls to manufacturers, government & non-government organization and to other DIC

### # DIC (Drug Information Centres)

- DIC in general are service providers, which provides drug information relating to therapies, pharmacoeconomics, education and research program.
- It provides unbiased information to healthcare professionals and — or patient and consumers.
- Many centers also provides workshop or other forms of training to enhance the skills of health care professionals

### Available information in DIC

- General information
- Pharmacological information
- Toxicity
- Formulation/ composition
- Pharmacokinetic information
- Adverse effect
- Side effects.

### # Staffing → (in PCC) (Part of the poison information)

- Pharmacy team — pharmacist, pharmacy technician & students
- Medical team — Toxicologist clinical pharmacologists,
- Supporting team — people trained in library sciences with computer knowledge.

## Poison Information →

History The first centers were instituted in North America and Europe during the 1950s,

- The International program on chemical safety (IPCS) were established in 1980s as a collaborative program of the International labour organisation (ILO), the National United environment program (UNEP) and the WHO in order to provide assessment of the risk to human health and the environment posed by the chemicals
- IPCS provides guidance on the use of such assessment and seeks to strengthen the capacity of each country to prevent and treat the harmful effect of chemicals and to manage emergency involve chemicals.
- The aim of European commission (EC) in the field of poison control are similar to those of the IPCS and many activities are undertaken jointly by the two bodies

### (A) Poison Control Center (PCC) :-

- For the provision of survice regarding poison and related danger and to manage with the poisoning cases.

### (B) Concept initiated in cikago in 1953.

- # PCC were established for two reasons -
  - To provide rapid access to information valuable in treating poisoning.
  - To assist in poisoning prevention.

(C) Staffing - ① Pharmacy team ② Medical team ③ Supporting team

(D) Teaching and Training (e) Toxicovigilance

(F) Environmental toxicity (G) Contingency Planning For Chemical Incidents

(H) Benefits (I)

## #. Computers in pharmacy Education →

Computer and information technology have become essential to pharmacy field education and teaching.

Various methods getting integrated in teaching processes.

- Use of multimedia packages, hypertext video that, web based education, multimedia based education, intelligence tutoring system, digital library, laboratories, tele education are finding place in normal teaching processes at post graduate as well as undergraduate level and it is increasing day by day.

- Computer science and science technology is deeply utilized in pharmacy field everywhere like pharmacy colleges, pharmaceutical industry, research center, hospital pharmacy and many more.

Computer significantly reduced the time, expenditures and manpower required for any kind of work.

- Computers are playing critical role in pharmacy field, without computer pharmacy research will be long lasting and expensive.

- Pharmacy field plays a crucial role in patient health care, it is a huge field which is present worldwide.

- Computers are almost related to every corner of pharmacy field, these are utilized in the drug design technique, drug retail shop, clinical research center, crude drug identification, drug storage and business management, hospital and clinical pharmacy.

### Use of internet in pharmacy -

Internet is collection of huge data, and this data is available for us in just a one click -

There are no. of web-sites which are related to pharmacy field. Some of these websites are as follows -

- 1) [www.pharma.org](http://www.pharma.org)
- 2) [www.healthcareforum.com](http://www.healthcareforum.com)
- 3) [www.extra.com](http://www.extra.com)
- 4) [www.biogen.com](http://www.biogen.com)
- 5) [www.gene.com](http://www.gene.com)
- 6) [www.Pfizer.com](http://www.Pfizer.com)
- 7) [www.Genzyme.com](http://www.Genzyme.com)
- 8) [www.pharmweb.net](http://www.pharmweb.net)

## Patient Counselling

Patient counselling is defined as providing medication information orally or in written form to the patient or their representatives on directions of use, advice on side effects, precautions, storage, diet and lifestyles modification.

### ### What is patient counselling?

- # Two way process
- # Exchange of information
- # Vital information about medicines
- # Verbal and written

### Objectives of patient Counselling

- Better patient understanding to their illness and role of medication.
- Improve medication adherence.
- Improve dosages regimen adherence.
- More effective drug treatment.
- Reduce incidence of ADR and unnecessary health care costs.
- ADR reporting
- Improve quality of life for patients

### Role of Pharmacist in patient Counselling System

#### Pharmacist role-

- Knowledge and skills to provide effective and accurate patient education and counselling.
- Should be aware of patient ethnicity and health condition.
- Should have active communication skills listening skill as well.
- Seek ways to motivate patients
- Necessary to clarify for patient the importance of pharmacist.



- To adhere to their pharmacotherapeutic regimen.
- Monitor drug effects
- Report their experience to pharmacists.

### Documentations

#### Ⓐ Medical records -

Pharmacist should document patient's education & counselling in medical records as constituents with -

- Patient care plan
- The health system policies and procedure.

#### Ⓑ Pharmacist register -

- Pharmacist should maintain a register which is highly confidential.
- Contains -
  - Patient detail
  - Date & time
  - Disease council
  - Patient feedback and follow

### # Steps in Patient Counselling →

The structure of the counselling session is divided into four groups -

- 1) Introduction of the session
- 2) Content of the session
- 3) Processes followed
- 4) Conclusion of the session

#### Introduction of the session -

- Review the patient record prior to the counselling
- Explain the purpose of counselling session.
- Conduct and appropriate patient counselling introduction by self and patients.

Obtain initial drug-related information (drug allergy and other medication),

- warn the patient about taking other medications including OTC drugs, herbal or botanicals drugs and alcohols which could inhibit or intrapped into the prescribed medications.

## ② Content of the Session →

- Patient counselling should include information on WHO, What, where, When & How.
- Patient → Who is the patient?
- Drug → What is the name of medication?  
What is the strength and dosage form?  
What is the purpose of medication?
- Direction → How should the medication be taken (including duration, frequency and route of administration) where to store the medication?  
What to do in the event of missed doses?
- Precautions → What are potential adverse drug effects? What are potential food/drug interactions and contraindications.
- Monitoring → What are the expected outcomes?  
How to monitor if treatment is effective?  
• What to do if there are unwanted outcomes?  
• When to seek medical attention?

## ③ Processes followed → Provide accurate information

- Use language that the patient is likely to understand.
- Use the appropriate counselling aids to support counselling.
- Present the fact and order in a logical order.
- Maintain control and direction of the counselling session.

o Analyse for additional information

④ Conclusion of the session →

- ① Verify the patient understanding via feedback.
- ② Summarised by acknowledge or some important key information.
- ③ Provide an opportunity for final concern or questions
- ④ Help the patient to plan and follow some important next steps.

Communication skills for effective counselling  
 Communication skills are subdivided into two types -

- a) Verbal communication
- b) Non verbal communication

① Verbal Communication -

- language, tone, speed, volume
- A key component of interactive communication open-ended questions.
- Open ended questions are questions that start with Who, What, Where, When, How and Why?

② Non-verbal communication

- Body language,
- Eye contact
- Facial expressions
- Appropriate non-verbal Cues →
- Friendly and smiling facial expression
- Professional appearance
- Relax, warm and comfortable posture
- Attentive body posture
- Appropriate personal space (18-48 inches)

## Barrier of Effective Communication :-

- a) Environmental barrier
- b) Negative attitude
- c) Negative postures

## Education and Training Program in the Hospital :-

### Education/ Training/ Research -

- ① Offering continuous education (CE) programs to pharmacist, physicians, nurses.
- ② Training pharmacy students
- ③ Hospital pharmacist may participate in research conducted in the hospital.

Published news letter, or research paper.

### Content of pharmaceutical Education ->

- Pharmacy profession must serve needs of society and individual through the world.  
patients
- Pharmacy profession main role in discovery, development, production and distribution of drug product.
- In addition pharmacist are involved in direct patient care and are taking responsibilities for the resolution of the drug therapy problem of individual.

## # Education and Training Division :-

- coordinate programs of undergraduate and graduate pharmacy students, doctors, nurses, etc.
- Participate in, wide educational programs involving Hospital -
- Train newly employed pharmacy department
- Providing education about the core principles of primary care to all health care providers & create a

Foundations of values open which to develop a positive safety culture.

- Having an adequate and well trained primary care health work forces is essential for providing safe, high quality care.
- Education the workforce about safety skills has the potential to further improve patient outcome.

### # Code of Ethics for Community Pharmacy →

Elements of the code - The code contain different elements designed to help units interpretation. They establish correct directions for pharmacy practice. In the absence of a conflict of ethics the facts that a particular actions promotes a value of pharmacy practice maybe decisive in some specific instance.

### Code of Ethics principle →

- ① Pharmacist respect the professional relationship with the patient and act with the honesty, integrity and compassion.

Honesty

Integrity

Compassion

- ② Pharmacist own the individual needs, values and dignity of the patient.
- ③ Pharmacist support the right of patients to make personal choice.
  - The pharmacist has the primary responsibilities to inform the patient about available pharmacy care.
  - A pharmacist own a duty to disclose material risk associated with medication therapy.
  - A pharmacist should aid patient in becoming an active participant in their care to maximum extent.

that circumstances permit

• A pharmacist to provide information to the patient in understandable in sensitive way.

④ Pharmacist provide a complete care to the patient and actively support the patient right to receive competent and ethical care.

• A pharmacist commit to life long learning design to maintain relevant knowledge and skill.

• A pharmacist place concern for the well being for the patient at the center of professional practice, provide best care that circumstances, experience & education permit.

⑤ Pharmacist respect the values and abilities of the patient and other healthcare professionals.

• Pharmacist accept responsibilities to work with colleagues and other health care professionals and with public interest pharmacy organization & patient advocacy groups to promote safe & effective pharmacy care

⑥ Pharmacist endeavor to ensure that the practice environment contribute to safe and effective pharmacy care.

## # Prescribed medication order and Communication skills

Prescription - Drug prescription - a written or verbal order for a medication by a licensed individual (physician, dentist etc).

### History →

Prescription have been in use since ancient times. Latin adopted as standard language.

- Rx - prescription
- Sig - direction

### Prescription of medication -

- Medication must be prescribed by a registered medical practitioner.
- Should be clearly written, typed or computer generated.
- If a drug replaces a previously prescribed drug then the outdated one must be cancelled, sign and dated.
- Information regarding change in medication must be communicated to all who need to know -
- nursing staff and patients.

### Four common types of prescription →

- ① Prescriptions in general practice
- ② Hospital practitioner for Inpatient
- ③ Hospital practitioner for non-hospital pharmacy
- ④ Private practitioner.

Prescription for medication in hospital must include the following information

- clear identification of the patients -

- Name, D.O.B, (Age)
- Registration number
- Address ( ) # Gender
- Date.

- No. of doses & length of treatment
- Length of courses

### Interpretation of the prescription or medication order →

Abbreviation commonly used in medication and prescription order

| Abbreviation | Meaning             |
|--------------|---------------------|
| a.c.         | before meal         |
| a.d.         | Right ear           |
| ad           | upto                |
| am           | morning             |
| Amp          | Ampoule             |
| aq.          | Aqueous (water)     |
| a.s.         | left ear            |
| a.u.         | each ear            |
| b.i.d.       | twice in a day      |
| bsa          | body surface area   |
| cap          | capsules            |
| dil.         | dilute              |
| D.W          | distilled water     |
| P.O.         | Per oral            |
| P.R.N.       | when required       |
| disp.        | dispence            |
| q.d.         | everyday            |
| q.h.         | everyhour           |
| q.i.d.       | Four time a day     |
| q.s.         | quantity sufficient |
| q.o.d.       | everyother day      |
| rc.          | rectal              |
| Sig          | Right or label      |
| Syr          | Syrup.              |



## Objective of the patient counselling -

- ① Communication
- ② guide to patient counselling
- ③ Interpersonal communication
- ④ Listening technique for the interview process
- ⑤ Non-verbal aspects of communication
- ⑥ Barriers to effective communication
- ⑦ Communication with special patients and children
- ⑧ Ethical principle

#. Communication - communication is the transfer of meaningful to those involved.

It is the process in which messages are generated and sent by one person and received and translated by another person.

“The goal of communication is understanding”

• In fact, a message is successful only when both the sender and the receiver perceives it in the same way.

• Three parts of communication process -

sender -

message

and receiver

# Rights and Responsibilities →

Each of us has the rights and responsibilities

- ① Proper listening
- ② Acknowledge the concern of others
- ③ Say what we will think
- ④ Say 'No' to something we don't want to do or don't believe in, without feeling guilty.
- ⑤ Say 'I need time to think about'

## Pharmacist responsibilities in patient care →

### (I) Patient centered care (PCC) -

The five dimensions of PCC -

The pharmacist must be able to -

- # Understand the illness experience of the patients.
- # Perceive each patients each experiences as unique.
- # Foster a more equal relationship with patients
- # Build a therapeutic alliances with patients to meet mutually understood goals of therapy.
- # Develop self awareness of personal effect on patient.

### (II) Guide to patient counselling →

• Communication during the drug therapy -

- Purpose of medication
- How medication work
- Dose and duration of therapy
- Goals of therapy
- How effectiveness will be monitored.
- Adverse effects and how to deal with them.

• Drug specific issues

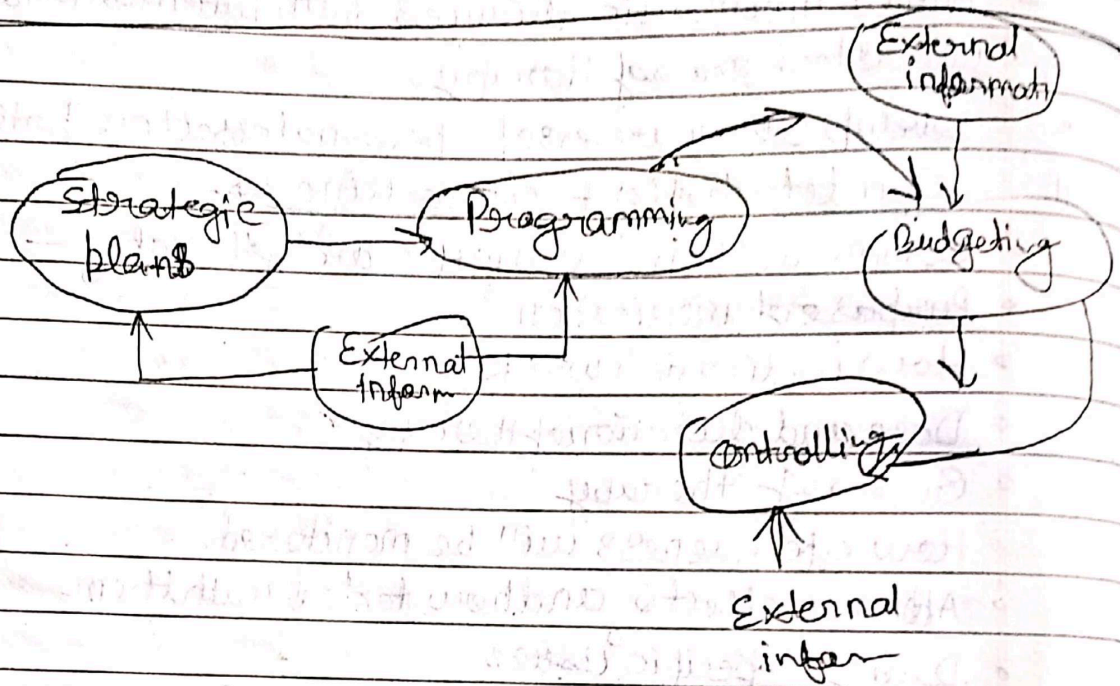
#### Advantages →

- An effective communication process can optimised the chance that patient will make inform decision, use medications properly and meet therapeutic goals.

#### Strategies to improve communication →

- (I) Explain things clearly in plain language.
- (II) Focus on key messages and repeat.
- (III) Effective solicit questions
- (IV) Use patient friendly educational material to enhance interactions
- (V) Slow down the pitch of your speech  
pace
- (VI) use plain non-medical language

- (vi) Given the limited information.
- (vii) Develops short explanation base common medical condition and side effects
- (ix) Discuss specific behaviours rather than general concepts.



Types of Budget

- ① A/c to time
  - (a) Long
  - (b) Short term
  - (c) Current budget
  - (d) Rolling budget
- ② A/c to function—
  - (a) Sales budget
  - (b) Production budget
  - (c) Cost of production budget
  - (d) Purchase budget
  - (e) Research and development
  - (f) Capital expending budget
  - (g) Cash budget
  - (h) Master budget
- ③ A/c to flexibility →
  - (a) Fixed budget
  - (b) flexible budget