



Orientation

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Definition of Pharmacy

- Pharmacy:
 - Derived from Greek word "pharmakon" means medicine or drug
- Pharmacy:
 - Means the art and science of preparing and dispensing medications and the provision of drug – related information to the public.

Pharmacy involves

1. Interpretation of prescription orders
2. Compounding
3. Labeling
4. Dispensing of drug and devices
5. Patient monitoring

Drugs:

- Is the material that has a pharmacological effect. This material may be:
- Natural in origin (plant – animal – mineral)
- Synthetic (e.g. aspirin)

Drug Classification:

- Prescribed drug: the drug dispensed only by prescription
- Non prescribed drug: OTC 'Over The Counter' drug that can be dispensed without prescription.

Name of the drug:

- **Chemical name:** indicating its chemical structure e.g. (N – para – aminophenol)
- **Generic name:** the name given to the compound during early investigation
- **Official name:** its name in pharmacopeia e.g. B.P.1998: Paracetamol and in U.S.P XXII: Acetaminophen
- **Brand name:** its trade name in the market. Abimol (Glaxo) , Pyral (Kahira) , Cetal (Epico)

Scope of Pharmacy

- Education
- Career

Education

- All faculties of pharmacy in Egypt adopt 5 years program to get B.Sc. pharm
- The courses of pharmacy education:
 1. Pharmaceutics, biopharmaceutics and clinical pharmacy
 2. Pharmacognosy
 3. Organic chemistry
 4. Analytical chemistry
 5. Pharmaceutical chemistry
 6. Biochemistry
 7. Microbiology and public health
 8. Pharmacology & toxicology
- Complementary studies include: Mathematics, management, pharmacy law

Types of education necessary for creating a pharmacist:

- Basic science (Chemistry, Biology, Physics)
- Technical Skills
- Drug information and scientific knowledge
- Economic knowledge
- Psychological and sociological understanding

Aims of Modern pharmaceutical education

- Provide scientific background
- Provide professional skills and knowledge
- Provide business training
- Provide broad general education

Under-graduated program and curriculums

1. Pharmaceutics: formulation of drug in dosage form
2. Pharmacognosy: pharmacognosy is the science deals with cultivation, collection transportation, quality control and preservation of plants

It includes phytochemistry a science deals with studying active ingredients of the plant and its clinical effectiveness

Under-graduated program and curriculums Cont...

3. Organic chemistry: is the science deals with the chemical structure and nomenclature of chemical compounds
4. Analytical chemistry: the science deals with the analysis of analytical reagents, raw materials and drug products
5. Pharmaceutical chemistry: is the science deals with the analysis and synthesis of raw materials, analytical reagents and final product
6. Biochemistry: biochemistry is the science deals with the chemistry and the biological importance of chemical agents found in diet and the body

Under-graduated program and curriculums Cont...

7. Microbiology and public health:

Microbiology: is the science deals with microscopic or ultramicroscopic structure, action of viable micro-organisms as bacteria, virus, fungi and parasites, also deals with infections, sterilization, antimicrobials and immunology

Public health: is the science deals with all measures needed to protect the health of community

8. Pharmacology and Toxicology:

Pharmacology: is the science deals with properties and effects of the drugs, interaction between the drug and the living system.

Toxicology: is the science deals with poisoning effect of drugs and other agents

Post-graduated Education

- **Diploma degree in:**

Pharmaceutics department:

- 1- Industrial pharmacy
- 2- Hospital pharmacy
- 3- Clinical Pharmacy
- 4- Quality Control
- 5- Cosmetics

Pharmacognosy department:

- 6- Medicinal plants

Pharmacology department:

- 7- Pharmacology
- 8- Biochemistry from Biochemistry department
- 9- Microbiology and public health from Microbiology department
- 10- Organic synthesis from Organic and pharmaceutical chemistry department

- **Master degree: e.g.** M.D. pharmaceutical science
- **PhD degree:** doctor of philosophy in pharmaceutical science