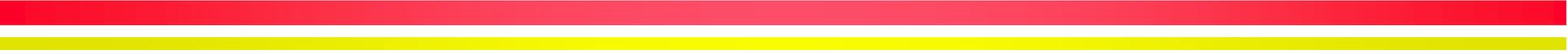


Practical Pharmacology





General Pharmacology

Pharmacology: It is a science dealing with drugs. The word “drug” is derived from the French word (Droque) which mean dry herb. A drug is defined as any substance used for the purpose diagnosis, prevention and cure of a disease in man or animals.

Pharmacognosy: It is a science of drugs identification. It includes the description of sources of crude drugs, their physical and chemical characters.

Pharmacodynamics: It is the science dealing with actions and mechanism of drug action.

Pharmacokinetics: It is the science dealing with the absorption, distribution, biotransformation and excretion of drugs.

Clinical Pharmacology: It is the study of the effects of drugs in the clinical situation.

Toxicology: It is a branch of pharmacology that deals with the adverse effects of the drugs and poisonous substance.

Official books of drugs

Information on drugs can be obtained from one of the official (standard) books. An "official drug" is the drug listed in one of these official books:

1- Pharmacopia: is an official book containing a selected list of the widely used drugs with description of their physical properties and tests for their identity, purity, doses and potency. Every Pharmacopia includes a list of drugs added in the edition and also a list of deleted drugs.

ex: British Pharmacopia (B.P.),

United states Pharmacopia (U.S.P.) and

Egyptian Pharmacopia (E.P.)

International Pharmacopoeia is published by
the World Health Organization (W.H.O.).

2- National formulary (N.F): it is published by the **American Pharmaceutical Association**. It includes many formulae for pharmaceutical preparations like solutions, powders, tinctures...etc which are in common use.

3- British Pharmaceutical codex (B.P.C.): It is the **British part of N.F** and is published by pharmaceutical society of Great Britain.

4- British Veterinary codex (B.V.C.): This book is published by the **Pharmaceutical society of British Veterinary Association**. It contains the medical substances and preparations used in Vet. practice.

5- New and Non-Official Remedies (N.N.R.): is an annual publication of **the Council of Pharmacy and Chemistry of the American Medical Association**. It contains descriptions of drugs which are marketed in an acceptable manner and which satisfy the standards of the council. In addition N.N.R. contains monographs on all the individually available new drugs.

monographs and thus provide information on appearance, ingredients, effects, side effects, indications, dosage, including details relating to medicinal areas of use of a **drug**

Sources of drugs

Drugs are obtained from various sources such as:

1. Mineral (inorganic) sources: as liquid paraffin,

magnesium sulphate,

sodium bicarbonate,

iron sulphate,

**zinc sulphate, and different salts of metalloids and
halogens.**

These are used in a pure form.

Sources of drugs

Drugs are obtained from various sources such as:

II-Organic sources:

A. Plants:

The pharmacological active principles extracted from plants are used since ancient times for curing of both man and animals. The active principles are found in a specific part of the plant e.g. leaves (digitalis and belladonna), seeds (*nux vomica*), bark (cinchona), and roots (ginger). These substances are used either in powdered crude form or preparation containing them (tincture or liquid extract) but mostly in a pure form of the desired active principle.

Organic sources:

B. Animals: Animal tissues and organs are still used for providing medicaments used in replacement therapy in patients suffering from its deficiency e.g. insulin, heparin, thyroid extract, gonadotrophins and antitoxin sera.

Organic sources:

C. Synthetic: By the rapid advancement of biochemical sciences, large number of drugs originated from both animal and plant sources, are prepared synthetically e.g. hormones as cortisone, ACTH and adrenaline. Great number of drugs prepared in the laboratory are introduced with great success to the field of therapy e.g. sulphonamides, aspirin, procaine, etc. The majority of drugs used in therapeutics are synthetic.

Organic sources:

D. Microorganisms: Bacteria and fungi isolated from soil are important sources of antibacterial substances such as antibiotics e.g. penicillin, bacitracin, etc. On the other hand, the antigens (which are substances when injected into the body induce formation of antibodies necessary for immunity against bacterial and viral diseases e.g. toxins, toxoids and vaccines) are also prepared from different pathogenic organisms.