PHARMACY INDIA

MASTER NOTES FOR D.PHARMA

1st YEAR STUDENTS

SOCIAL PHARMACY

Subject Wise Notes

According To PCI Syllabus

Easy To Understand

Prepared By Experts

Learn With Flow Charts

Chapter 1

Introduction to Social Pharmacy

- Definition and Scope. Social Pharmacy as a discipline and its scope in improving public health.
- Role of Pharmacists in Public Health.
- Concept of Health -WHO Definition, various dimensions, determinants, and health indicators.
- National Health Policy – Indian perspective
- Public and Private Health Systems in India, National Health Mission
- Introduction to Millennium Development Goals, Sustainable Development Goals, FIP Development Goals

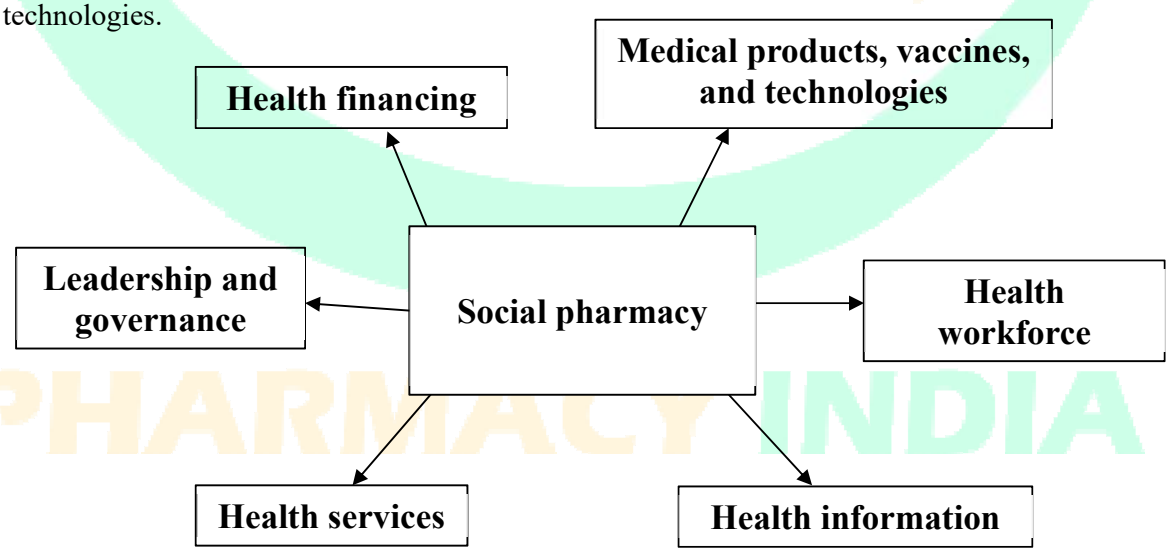
Definition

- A social pharmacy may be defined as the discipline dealing with the role of medicines from the social, scientific, and humanistic perspectives is called social pharmacy.
- "A science which deals with social aspects of the profession of pharmacy"
- Social pharmacy can be considered to consist of all the social factors that influence medicine use, such as medicine-related beliefs, regulations, policy, attitudes, medicine information, ethics, and behavior.

Scope of Social Pharmacy

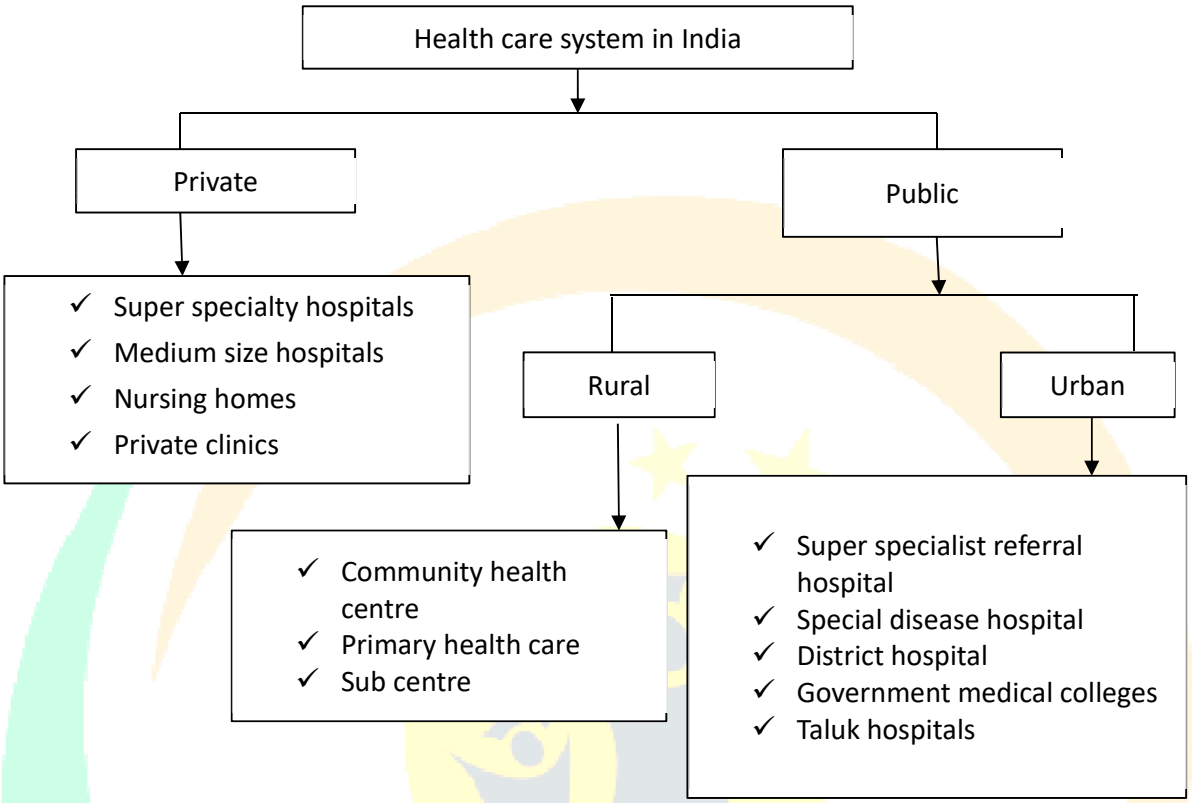
i. Health financing

- In an effort to protect vulnerable populations from financial hardships, pharmacists ensure the provision of cost-effective health care through the rational use of medical products and modern technologies.



ii. Medical products, vaccines, and technologies

- Wide range of new and analogous medical products, vaccines, and technologies, the complexity of pharmacy practice continues to broaden.



- Indian healthcare delivery system is categorized into two major components
  - i. Private healthcare
  - ii. Public health care

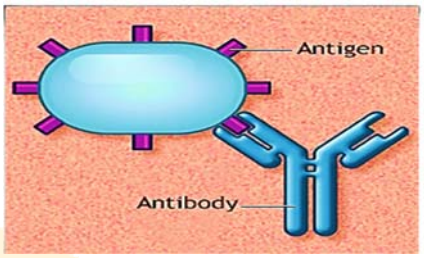
i. **Private healthcare**

- Private hospitals are not funded by government
- They are run by one for benefit and all to available services through direct payment
- Healthcare facilities in the private sector are much more expensive than those in the public sector.
- Private healthcare has the right to refuse treatment to people who they feel are in no position to fend for themselves, but they have to abide by the law of stabilizing anyone who has an emergency.
- The private sector provides the majority of secondary, tertiary and quaternary care institutions with a major concentration in metros, tier i and tier-ii cities.
- India's competitive advantage lies in its large pool of well-trained medical professionals.
- Due to a lack of proper infrastructure, people rather choose private rooms than multi-bed rooms.
- There is an urgent need for better means of noise cancellation and ventilation, improved quality of lighting, supportive workplaces and a developed layout.

  - ✓ Super specialty hospitals
  - ✓ Medium size hospitals
  - ✓ Nursing homes
  - ✓ Private clinic

ii. **Public healthcare**

Antibody



- Antibody is the proteinaceous protective modification produced by the immune system in response to the presence of the foreign substances like bacteria, viruses and neutralize their activities.
- It is also called immunoglobulin and each molecule contains four peptide chains, two small called light chains and two heavy chain/longer chain (H2L2).

Types of vaccine

- There are four types of vaccines, categorized by the antigen (inactive microbes, toxins, surface protein) used in their preparation.

i.Live attenuated vaccine (LAV)
ii. Inactivated vaccine (Killed vaccine)
iii. Subunit vaccine (Purified antigen)
iv. Toxoid vaccine (Inactivated Toxoid)

1. **Live attenuated vaccine (LAV)**

- Live attenuated vaccines (LAV) is prepared by pathogens (virus or bacteria) which causes the infections or disease.
- Live microorganisms provide continual antigenic stimulation giving sufficient time for memory cell production.
- Due to their weak activity it cause no or very mild disease.

2. Inactivated vaccine (Killed vaccine)

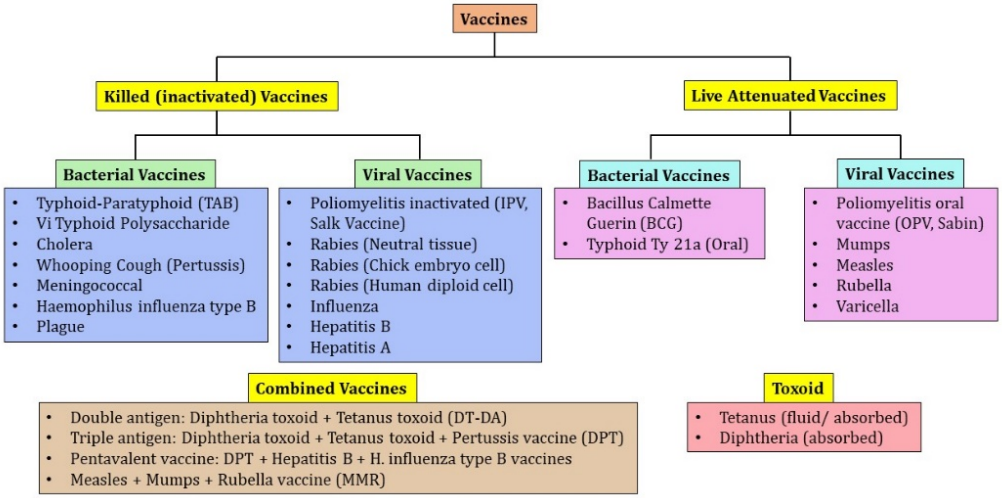
- Inactivated vaccines are prepared by the method of killing antigens through the physical or chemical processes.

3. Subunit vaccine (Purified antigen)

- Subunit vaccines contains the antigenic parts (disease causing portion) of antigen.
- Subunit vaccines, which contain only the purified, recombinant, or fragments of an antigen from a pathogen without any pathogenicity.

4. Toxoid vaccine (Inactivated Toxoid)

- Toxoid vaccines are based on the toxin produced by certain bacteria (e.g. tetanus or diphtheria).



- Released toxin is used to prepare the vaccine and these parts are necessary to elicit a protective immune response and produce antibody.

Immunity

Chapter 3

Nutrition and Health

- Basics of nutrition – Macronutrients and Micronutrients.
- Importance of water and fibres in diet.
- Balanced diet, Malnutrition, nutrition deficiency diseases, ill effects of junk foods, calorific and nutritive values of various foods, fortification of food.
- Introduction to food safety, adulteration of foods, effects of artificial ripening, use of pesticides, genetically modified foods.
- Dietary supplements, nutraceuticals, food supplements – indications, benefits, Drug-Food Interactions.

BASICS OF NUTRITION – MACRONUTRIENTS AND MICRONUTRIENTS

Introduction

- Nutrition is the biochemical and physiological processes by which an organism uses food support its life.
- It includes Ingestion, digestion, absorption, assimilation biosynthesis catabolism and excretion.
- Nutrition is about eating a healthy and balanced diet.
- Nutrition is a method in which the food is consumed by the organisms into the body and utilizing the nutrients from the food.

Health

- Health is a state of complete physical, mental and social well-being and absence of disease.
- The oldest definition of health is absence of disease.

Type of Health:

1. Physical Health
2. Mental Health
3. Social Health
4. Spiritual Health
5. Emotional Health
6. Enviornmental Health

1. Physical Health

- It is define as the state in which every cell and every organ is functioning at will the rest of the body.
- The physical health indicate that all optimum capacity and imperfect harmony l body organ are structurally and functionally in a normal state and their the organ and organ systems.

2. Mental health

- It is define as a state of balance between the individual and surrounding world including environment and a state of harmony between on self and other.
- **Type of mental health**
  - i. Neurosis
  - ii. Depression
  - iii. Schizophrenia

	Ex - urine, sweat.

Role of water

- Water transports nutrients in the digestive System the blood and inside cells.
- The organism needs water to eliminate waste in urine and feces (Stools).
- Water regulates the body temperature.
- The combination of water and fiber prevents constipation.
- A Minimum of 6 to 8 glasses of water per day.

Importance of Fibres

- Fibres are the essential substances needs for the digestion, excretion and proper function of the body.
- Generally, fibres are the made up of the cellulose or lignin of the plant parts.
- **Fibers are divided into two categories** –

Soluble fibres	In this fibres cellulosic components are less and it is easily digested by the proteolytic enzymes of the body and convert into gel form. It makes the digestion process slow. Ex-Seeds, beans, apples, nuts, and some citrus fruits.
Insoluble fibres	In this fibres cellulosic components are more and it not digested by proteolytic enzymes and it pass relatively unchanged through the stomach and give the support in digestion process. Ex- Grains, papaya, banana, vegetables.

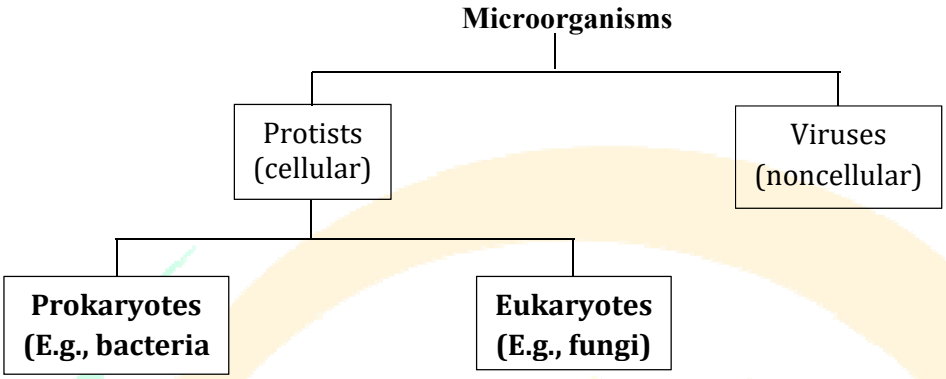
Importance of Fiber in Diet

- Fiber has many proven benefits to health which is the impact fibre has on our digestive health.

Digestion	Dietary fiber helps our digestive system as it increases the weight and size of our stools which makes them easier to pass, decreasing the risk of constipation.
Cardiovascular Health	The cardiovascular system comprises the intricate workings of the heart, blood and vessels that ensure all our cells receive the oxygen and nutrients we need to survive. In short, taking care of this system is crucial.
Cholesterol	Fiber is effective at reducing LDL cholesterol, which is often referred to as the 'bad' cholesterol.
Blood Sugar	High fiber foods are also commonly known to provide 'slow releasing energy'. Foods that have a high GI such as jelly sweets increase blood sugar rapidly, but this is often short-lived, as lulls in energy soon occur.
Obesity	Obesity is a leading cause of CVD independent of the negative effects it can have on CVD risk factors such as blood cholesterol, sugar and pressure.
Nutrient	Density High fiber foods are typically healthy not only because of their fiber content but due to their nutrient density also. Vitamins and minerals are known as micronutrients seeing as they only needed in small amounts.

Balanced Diet

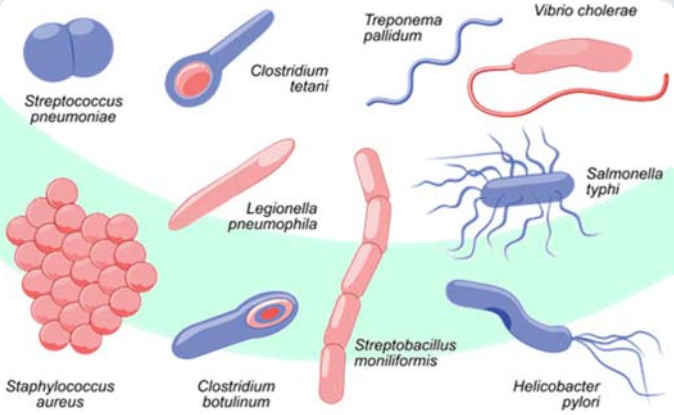
Common Microorganisms



- **Prokaryotes:** The prokaryotes are a group of organisms that lack a cell nucleus or any other membrane-bound organelles.
- **Eukaryotes:** Animals, plants, fungi and protists are eukaryotes organisms whose cells are organized into complex structures enclosed within membranes. The defining membrane-bound structure that differentiates eukaryotic cells from prokaryotic cells is the nucleus.

Bacteria

- The bacteria are a large group of unicellular micro-organisms.
- Typically a few micrometres in length, bacteria have a wide range of shapes, ranging from spheres to rods and spirals.
- Bacteria are ubiquitous in every habitat on Earth, growing in soil, acidic hot springs, radioactive waste, water and deep in the Earth's crust, as well as in organic matter and the live bodies of plants and animals.
- There are typically 40 million bacterial cells in a gram of soil and a million bacterial cells in a millilitre of fresh water.
- Bacteria are vital in recycling nutrients, with many important steps in nutrient cycles depending on these organisms, such as the fixation of nitrogen from the atmosphere and putrefaction.
- The study of bacteria is known as bacteriology, a branch of microbiology.



Fungi

- A fungus (Plural fungi) is a kind of living organism: yeasts, moulds and mushrooms are types of fungi. The fungi are separate kingdom of living things, different from animals and plants. They have cells with nuclei. Their cell walls contain chitin, unlike the cell walls of plants, which contain cellulose.
- Fungi are achlorophyllous, non-vascular. They do not have root, stem and leaves. Fungi are parasitic or saprophytic in Nature.

iii. Completes pharmacy operational requirements by organizing and directing technician's workflow, verifying their preparation and labelling of pharmaceuticals, and verifying order entries, charges, and inspections.
iv. Dispenses medications by compounding, packaging, and labelling pharmaceuticals.
v. Controls medications by monitoring drug therapies; advising interventions.
vi. Complies with state and federal drug laws as regulated by the state board of pharmacy, the drug enforcement administration, and the food and drug administration by monitoring nursing unit inspection.
vii. Well-performing pharmacists are responsive to patients' needs & preferences.
viii. Pharmacists are involved in health Screening and surveillance in health screening and surveillance programs are responsible for ensuring the efficacy, integrity, and security of medical products, devices, and vaccines to safeguard a patient's health.
ix. Pharmacists ensure the provision of cost effective health care through **rational** use of medical products.
x. Pharmacists take part in public health policy development. Pharmacists

➢ Role of pharmacist