7/1/26

Ch-17 Aids to Health

Notes

Immunity: Immunity is the defence against disease. It is ability of the body to ~~resist~~ resist pathogens or antigens.
The The body works at two levels.

- Local defence system.
- Immune system.

Local Defence System

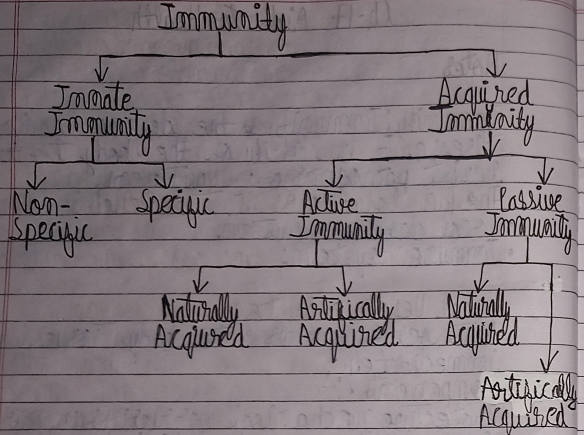
Acts before germs enter body tissues. Works immediately.
Components:-

- Protective mechanical barriers (Skin, hair, mucus).
- Germ-killing secretions (Saliva, sweat, tears, nasal secretion, hydrochloric acid).
- Germ-fighting WBCs.

Merits:-

- Works instantly.
- No need of prior exposure.
- Effective against many infectious agents.

Immune System: This system deals with the germs after they have entered the body tissues.
Antigens: They are ~~the~~ the large complex foreign molecules that active immunity in the body.



Immunity can be classified into two categories' Innate Immunity and Acquired Immunity.

Innate immunity: Innate immunity is present at the time of birth and it is non-specific. It is inherited from the parents.

Acquired immunity: Acquired immunity is acquired after birth and it is non-specific. It is ~~is inherited from~~
Acquired immunity: Acquired immunity is acquired after birth. It could be passive or active.

Active Immunity: It is the resistance developed by an individual due to a previous infection. It provides effective and long-lasting protection.

Passive Immunity: It is the immunity provided to an individual ~~not~~ not by his own body but from the an outside source in the form of an antibiotic. Its protection is less effective and does not ensure protection against subsequent infections.

Toxin: Any poisonous substance produced by an animal, plant or bacterium is known as Toxin. Example: Snake venom, sting poisons of insects.

Antibody: It is a blood serum protein produced in response to injected antigens. Example: Antivenom for snake venoms.

Characteristics of antibody:
- They belong to a ~~class~~ class of proteins called immunoglobulins (Igs).
- They are produced by lymphocytes.
- They are antigen-specific i.e. they can act only on a particular antigen.
- Our body can produce a variety of antibodies.

Vaccination: It may be defined as protection of the body from communicable diseases by the administration of some agents that mimic the microbe

The agent can be a suspension of killed or attenuated microbes, or a substance that mimics the disease-causing microbes. This is known as a vaccine.

Kinds of vaccines:
- Killed germs (TAB vaccine).
- Toxoids.
- Living weakened germs (BCG vaccine).
- Living fully poisonous germs (cowpox vaccine).

Immunisation: It is the process of developing resistance against disease producing germs or their toxins by introducing killed germs or germ substances so as to induce the production of specific antibodies.

Antitoxin: Any chemical substance produced inside the body in response to the entry of foreign poisonous substance.
Example: Botulinus, tetanus, etc.

Serum: The liquid part of blood that remains after blood cells and clotting proteins have been removed. This they help in transportation of fatty acids and thyroid hormones.

Antiseptics: Antiseptics are mild chemical substances that kill germs when applied to the body. Common examples are lysol, carbonic acid, benzoic

acid, boric acid, etc.

Disinfectants: Disinfectants are strong substances that are applied on the place where germs thrive and multiply. Commonly used disinfectants are cresol, phenol, lime, Bordeaux mixture, etc.

Antibiotic: The first antibiotic-penicillin-was discovered in 1929 by Alexander Fleming.
- It is obtained from a mould (fungus) Penicillium notatum.
- Antibiotics are the chemical substances derived from microbes (such as bacteria, yeast, moulds) which kill or prevent the growth of other microbes or pathogens.
- Streptomycin is one of the most widely used antibiotics.
- Antibiotics are used to fight various types of infections.
- Uses of antibiotics:-

(i) To fight infections.
(ii) As food preservations.
(iii) To control plant pathogens.
(iv) To treat animal feed.

Difference between Disinfectant and Antiseptics:

Disinfectant	Antiseptic
• Only destroy microbes.	• Destroy microbes or inhibit their growth.
• Cause harm to living tissues.	• Do not harm living tissues.
• To be used for surface cleaning.	• To be used on wounds or infected tissues.