



SUBJECT- SCIENCE

CLASS - IX

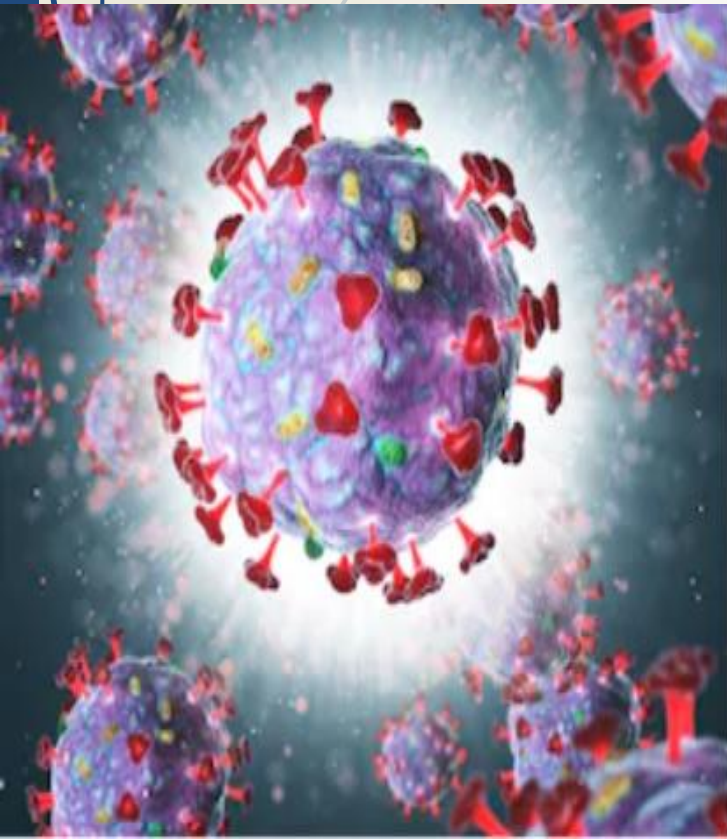
CHAPTER -13

WHY DO WE FALL ILL ?

MODULE 2/3

DISEASE AND ITS CAUSES

- **Microbes are the microscopic organisms such as virus, bacteria, some fungi and protozoans that are responsible for causing diseases in human beings.**
- **Cholera, tetanus, typhoid, diphtheria and pneumonia are some common diseases caused by bacteria.**
- **Polio, common cold, influenza, measles, chicken pox and AIDS are diseases caused by virus.**
- **Amoebic dysentery and malaria are caused by protozoans.**



MEANS OF SPREAD OF DISEASE

- Infectious diseases spread from an infected person to a healthy person through air, water, food, vectors, physical contact and sexual contact.
- **i) Through air :-** Common cold, Tuberculosis, Pneumonia etc.
- **ii) Through water :-** Cholera, Amoebic dysentery etc.
- **iii) Through vectors :-** Mosquitoes :- Malaria, Dengue, Yellow fever etc.
Flies :- Typhoid, Tuberculosis, Diarrhoea, Dysentery etc.
- **iv) Through sexual contact :-** Syphilis, AIDS.

AIDS virus can also spread through blood transfusion and from the mother to her child during pregnancy and through breast feeding.




Medium

Name of the disease

Air

Tuberculosis, pneumonia, diphtheria, influenza, measles and common cold

Food, water

Cholera, typhoid, dysentery and diarrhoea

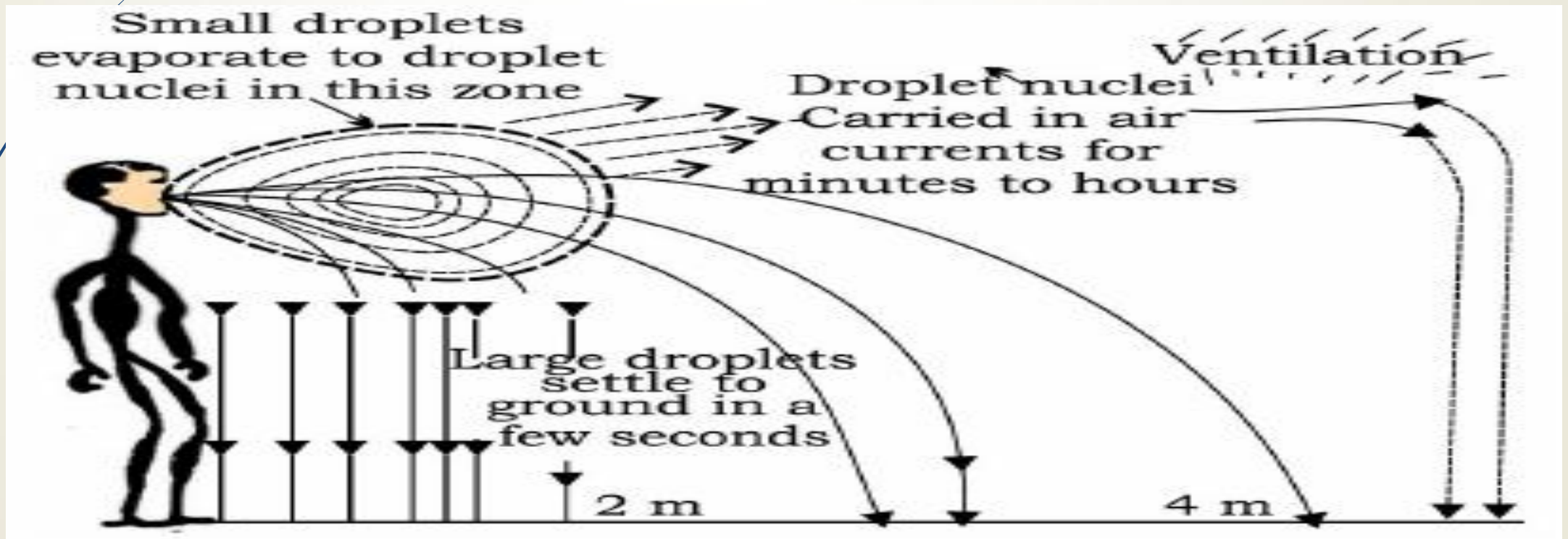
Skin contact

Leprosy, ringworm and scabies

Insects

Malaria, filarial and plague

The below figure shows how **Air-transmitted** diseases are easier to catch the closer we are to the infected person. However, in closed areas, the droplet nuclei recirculate and pose a risk to everybody. Overcrowded and poorly ventilated housing is therefore a major factor in the spread of airborne diseases.



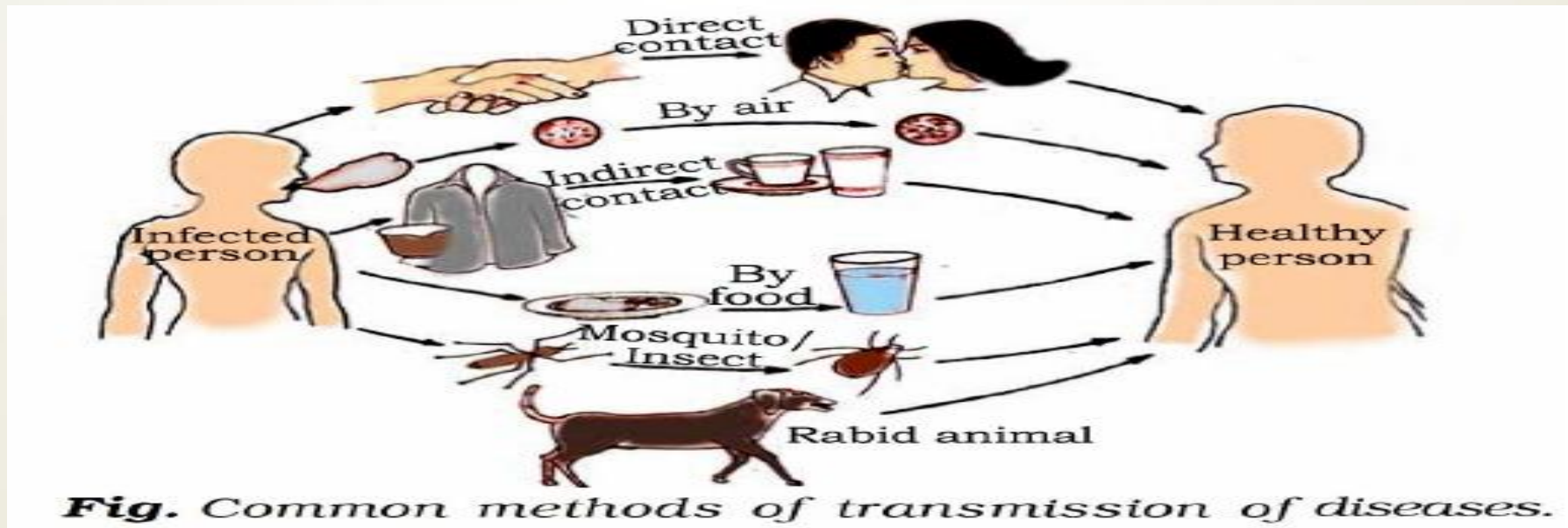
- Disease can also be spread **through water**. This occurs if the excreta from someone suffering from an infectious gut gets mixed with water.
- Eg cholera, gets mixed with the drinking water used by people living near by.
- The cholera causing microbes will enter new hosts through the water they drink and cause disease in them.
- Such diseases are much more likely to spread in the absence of safe supplies of drinking water



There are microbial diseases such as syphilis or AIDS that are transmitted by sexual contact from one infected partner to the other.

However, such sexually transmitted diseases are **not spread by casual physical contacts** include handshakes or hugs or sports, like wrestling, or by any of the other ways in which we touch each other socially.

Other than the sexual contact, the AIDS virus can also spread through blood to blood contact with infected people or from an infected mother to her baby during pregnancy or through breast feeding.



Diseases	Symptoms	Steps could be Taken by Local Authorities to Bring Down the Incidence
Typhoid	Headache and fever which remains high in the second week and then declines	<ul style="list-style-type: none"> * Proper hygiene in surrounding areas of living. * Safe disposal of excreta and other wastes. * Providing TAB and typhoid oral vaccine.
Cholera	Painless watery diarrhoea, effortless vomiting	<ul style="list-style-type: none"> * Good sanitary condition in community. * Provision of clean, purified drinking water. * Providing standard cholera vaccination in the locality.
Dengue fever	High fever with headache, weakness and joint pains	<ul style="list-style-type: none"> * Maintenance of hygienic conditions in community . * Preventing the mosquito breeding sites. * Public awareness programme against mosquito borne diseases

ORGAN-SPECIFIC AND TISSUE-SPECIFIC MANIFESTATIONS

Disease causing microbes enter the body by different means and goes to different organs and tissues.

- Microbes which enters through the nose are likely to go to the lungs.
(Bacteria which cause tuberculosis of lungs).
- Microbes which enter through the mouth are likely to stay in the **gut** (Bacteria which causes Typhoid) or **liver** (Bacteria which causes Jaundice).
- Virus which causes AIDS enter the body through sexual organs during sexual contact and spreads through the **lymph** to all parts of the body and damages the immune system.
- Malaria-causing microbes, entering through a mosquito bite, will go to the **liver**, and then to the **red blood cells**.
- The virus causing Japanese encephalitis, or **brain fever**, will similarly enter through a mosquito bite goes and infects the brain.



➤ **QUESTIONS**

➤ Name the target organs for the following diseases

(a) Hepatitis targets———.

(b) Fits or unconsciousness targets ———.

(c) Pneumonia targets ———.

(d) Fungal disease targets ———.

➤ 1. Which one of the following is not a viral disease?

(a) Dengue (b) AIDS (c) Typhoid (d) Influenza

➤ 2. Which one of the following is not a bacterial disease?

(a) Cholera (b) Tuberculosis (c) Anthrax (d) Influenza

➤ 3. Which one of the following disease is not transmitted by mosquito?

(a) Brain fever (b) Malaria (c) Typhoid (d) Dengue

➤ 4. Which one of the following disease is caused by bacteria?

(a) Typhoid (b) Anthrax (c) Tuberculosis (d) Malaria

➤ 5. Which one of the following diseases is caused by protozoans?

(a) Malaria (b) AIDS (c) Influenza (d) Cholera



THANK YOU