

Chapter-13 : Why do we fall ill ?



Health and its failure : Health is a state of physical, mental and social well-being.

The conditions necessary for good health are :

1. Good physical and social environment.
 2. Good economic conditions.
 3. Social equality and harmony.
- Good physical and social environment includes clean surroundings, good sanitation, proper garbage disposal and clean drinking water.
 - A good economic condition includes job opportunities for all for earning to have nutritious food and to lead a healthy life.
 - Social equality and harmony are necessary for a healthy and peaceful life.

Differences between Healthy and Disease free :

| Sl. No. | Healthy | Disease free |
|---------|---|---|
| 1 | It is a state of physical, mental and social well-being. | It is a state of absence from diseases. |
| 2 | It refers to the individual, physical and social environment. | It refers only to the individual. |
| 3 | The individual has good health. | The individual may have good health or poor |

3. *What does disease look like ?*

When a person is affected by a disease either the normal functioning or the appearance of one or more systems of the body will change for the worse. These changes give rise to signs of the disease called symptoms.

- On the basis of the symptoms the physicians look for the signs of a particular disease and conduct tests to confirm the disease.

Types of diseases : Diseases are of different types.

- Acute diseases are a disease which last only for a short period of time and does not have long term effect on health. E.g.- cold, cough, typhoid, cholera etc.

Website :) "harsitbiowallah.github.io" :) youtube:) "harist bio wallah"

Full lecture video on youtube

- Chronic diseases are a disease which lasts for a long time and has long term drastic effect on health. E.g.- diabetes, tuberculosis, elephantiasis, arthritis, cancer etc.



- Infectious diseases (Communicable diseases) are diseases which spread from an infected person to a healthy person through air, water, food, vectors, physical contact or sexual contact. E.g.- common cold, chicken pox, mumps, measles, typhoid, cholera, tuberculosis, malaria, AIDS etc.
- Non-infectious diseases (Non-communicable diseases) are diseases which are not spread from an infected person to a healthy person. E.g.- beri-beri, rickets, scurvy, night blindness, diabetes, cancer, high blood pressure etc.



Causes of diseases : Diseases are caused by :

- Pathogens like virus, bacteria, fungi, protozoans or worms.
- Poor health and under nourishment.
- Malfunctioning of body parts.
- Environmental pollution.
- Genetic disorders.

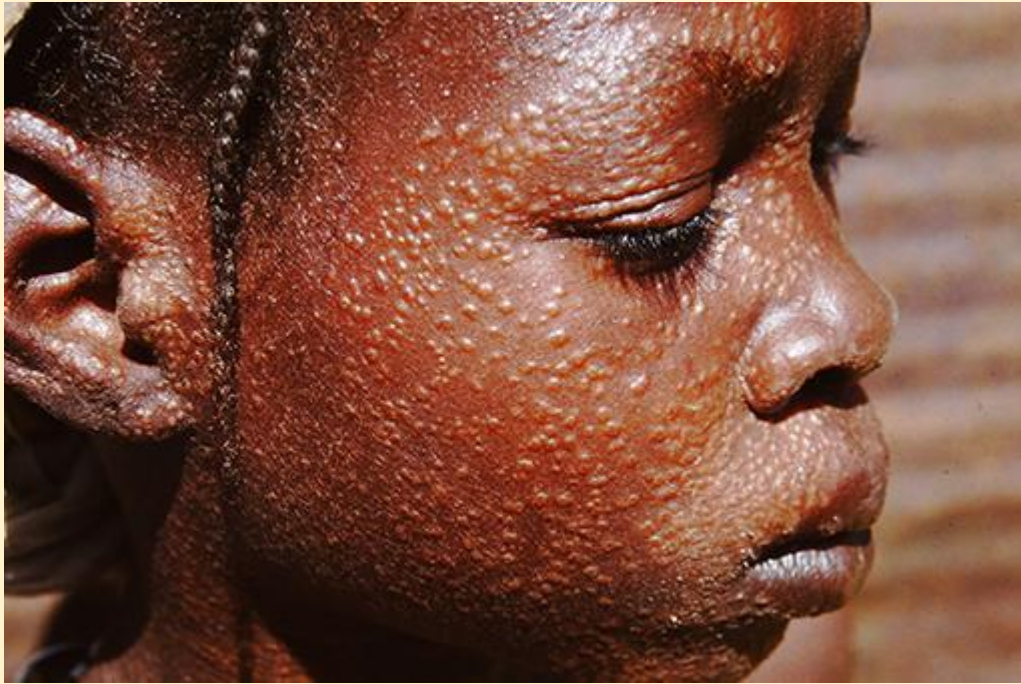
Infectious diseases :

Website :) "harsitbiowallah.github.io" :) youtube:) "harist bio wallah"

Full lecture video on youtube

- **Infectious agents** : The agents which cause infectious diseases are called pathogens. These are Viruses, Bacteria, Fungi, Protozoans and worms.

| Sl. No. | Infectious agents | Diseases |
|---------|-------------------|---|
| 1 | Viruses | Common cold, Influenza, Measles, Mumps, Chicken pox, AIDS, Hepatitis-B etc. |
| 2 | Bacteria | Cholera, Typhoid, Tuberculosis, Tetanus, Anthrax, Food poisoning etc. |
| 3 | Fungi | Skin infections |
| 4 | Protozoans | Malaria, Kala-azar, Amoebic dysentery, Sleeping sickness |
| 5 | Worms | Intestinal infections, Elephantiasis |



Means of spread of infectious diseases : Infectious diseases spread from an infected person to a healthy person through air, water, food, vectors, physical contact and sexual contact.

Through air : Common cold, Tuberculosis, Pneumonia etc.

Through water : Cholera, Amoebic dysentery etc.

Through vectors : Mosquitoes for Malaria, Dengue, Yellow fever etc. Flies for Typhoid, Tuberculosis, Diarrhoea, Dysentery etc.

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.

Organ-specific and tissue-specific manifestations : Disease causing microbes enter the body by different means and goes to different organs and tissues.

- Microbes which enter through the nose are likely to go to the lungs. (Bacteria which cause tuberculosis of lungs).

Website :) "harsitbiowallah.github.io" :) youtube:) "harist bio wallah"

Full lecture video on youtube

- 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 enters the body through sexual organs during sexual contact and spreads through the lymph to all parts of the body and damages the immune system.
- Virus which causes Japanese encephalitis (brain fever) enters the body through mosquito bite and enters into brain which infects the brain.

Principles of treatment : The treatment of infectious diseases consists of two steps. They are to reduce the effects of the disease (symptoms) and to kill the microbes which caused the disease.

- **To reduce the effects of the disease :** This can be done by taking medicines to bring down the effects of the disease like fever, pain or loose motions etc. and by taking bed rest to conserve our energy.
- **To kill the microbes :** This can be done by taking suitable antibiotics and drugs which kills the microbes and the disease is cured.
- **Principles of prevention :** There are two ways of prevention of infectious diseases which are general ways and specific ways.
- **General ways of prevention :** Public hygiene is most important for prevention of infectious diseases. Proper and sufficient food for everyone will make people healthy to resist infection. Air borne diseases can be prevented by living in conditions that are not crowded. Water borne diseases can be

Website :) "harsitbiowallah.github.io" :) youtube:) "harist bio wallah"

Full lecture video on youtube

prevented by providing safe drinking water. Vector borne diseases can be prevented by providing clean environment.

Specific ways of prevention : The specific ways to prevent infectious disease is immunization by taking vaccines. Vaccines provide immunity from infectious diseases like tetanus, diphtheria, whooping cough, measles, polio etc. Our body has an immune system which fights against microbial infection. When this system first sees an infectious microbe, it kills the microbe and remembers it. So, if the microbe enters the body the next time, it responds more vigorously. A vaccine mimics the infectious microbe and strengthens our immune system and protects the body from infectious diseases.

