

Chapter 13: - WHY DO WE FALL ILL

Health

Health is a state of complete physical, mental and social wellbeing.

Disease

Any disturbance in the structure or function of any organ or part of body.

It may be caused due to the attack of pathogens (virus, bacteria), lack of nutritious diet/balanced diet and lack of public health services.

Types of Disease

Diseases are basically of two types. They are:

(i) Acute Disease

The disease which lasts for only a short period of time is called Acute Disease.

For example: Influenza (Flu), Common cold, etc.

(ii) Chronic Disease: The disease which lasts for a long period of time is called Chronic Disease

For example: TB, Cancer, etc.

Difference between Acute Disease & Chronic Disease

S. No.	Acute Disease	Chronic Disease
1.	They are short duration diseases.	They are long lasting diseases.
2.	Patient recovers completely after the cure.	Patient does not recover completely.
3.	There is no loss of weight or feeling of tiredness afterward.	There is often loss of weight or feeling of tiredness.
4.	There is short-duration loss of work and efficiency.	There is a prolonged loss of work and efficiency.

Causes of Diseases:

Causes of diseases are explained below:

Immediate and Contributory Cause:-

- **Immediate cause:** The organisms that enter our body and cause the disease are termed as an immediate cause. For example, virus, bacteria, protozoa etc.
- **Contributory cause:** The secondary factors which led these organisms enter our body are termed as a contributory cause. For example, dirty water, contaminated food, improper nourishment, poor standard of living, etc.

Infectious and Non-infectious Cause:-

Infectious causes: They include the agents like microbes or micro-organisms as the immediate causes which spread the disease from an infected person to a healthy person.

Non-infectious causes: The disease which does not spread by contact between infected and healthy person through air and water, is called non-infectious disease.

Infectious and Non-infectious Diseases:-

Infectious Diseases: The diseases which spread due to infection by micro-organisms are called infectious diseases.

When a disease causing organism enters our body it causes infection, it multiplies and grows in the body called host and micro-organisms multiplies in the host body.

For example: Tuberculosis, tetanus, Common cold, AIDS, etc.

Non-infectious Diseases: The disease which does not spread by contact between infected and healthy person through air and water, is called non-infectious disease.

For example: Cancer, genetic abnormalities, high blood pressure, etc.

Means of Spreading Infectious Diseases:

S. No.	Type of Disease	Example
1.	Air born Diseases	Common cold, influenza, measles, tuberculosis.
2.	Water born diseases	Cholera, typhoid, hepatitis.
3.	Sexual Diseases	AIDS, Syphilis.
4.	Animal born Disease	Rabbis.

Antibiotics

These are the chemicals (medicine, drugs) that block biochemical pathways important for bacteria. They are used for diseases caused by bacteria.

Antibiotics do not work against viral infections as the viruses do not have their own biochemical mechanisms but depend upon that of the host.

Principles of treatment:-

1. To reduce the effects of the diseases

By taking medicines to bring down the effects of the disease like fever, pain, etc. and by taking complete rest to conserve the body's energy.

2. To kill the cause of the disease

By taking suitable antibiotics and drugs which kill the disease causing microbes.

Principles of Prevention

1. General method:

(a) Preventing exposure against microbes can be done in the following ways:

For air-born microbes we can prevent exposure by avoiding overcrowded places. For water-borne microbes we can prevent exposure by not using contaminated water.

For vector-borne infections we can prevent exposure by providing a clean environment.

(b) By boosting the immune system:

Our immune system plays an important role in fighting against the microbes that enter our body. strengthening the immune system can help in preventing many diseases.

So, proper nourishment or healthy diet that includes all the necessary nutrients as well as vitamins and minerals is necessary for better functioning of our immune system.

2. Specific method

It involves the prevention method directed against a particular disease. It is done by immunisation which is the process of introducing a weakened pathogen inside the body of the host to make his/her immune system to produce antibodies against that particular disease so that the next time even if the disease will strike the host's body with full vigour, the body will be able to protect itself with the help of these antibodies.

Try the following questions:

- Q1.** What is called vector. Give one example.
- Q2.** What is Vaccination? Give the details, how it works in human body.
- Q3.** State any two conditions essential for good health.
- Q4.** Differentiate between communicable and non-communicable diseases. Give one example of each.
- Q5.** Name the pathogens which can cause acne and sleeping sickness.
- Q7.** What are the different means by which infectious diseases are spread?
- Q8.** What do you mean by active and passive immunisation?
- Q9.** State two principles of treatment of a disease.
- Q10.** Why making anti-viral medicines is harder than making anti-bacterial medicines?