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STUDY NOTES

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CLASS- IX (All Section)

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BIOLOGY

LESSON-03

CHAPTER: Why do we fall ill?

Today's Topic: Antibiotics

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 kills the disease causing microbes.

Principles of Prevention:

1. General method:

They involve **(a)** Preventing exposure against microbes **(b)** By boosting the immune system

(a) Preventing exposure against microbes can be done in 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 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 vigor, the body will be able to protect itself with the help of these antibodies.

HOMEWORK (Based on Previous Study Notes)

Now answer 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.
- Q6.** What are the different means by which infectious diseases are spread?
- Q7.** What do you mean by active and passive immunisation?

Q8. State two principles of treatment of a disease.

Q9. Why making anti-viral medicines is harder than making anti-bacterial medicines?

