

Perspective

A brief note on pathogens and its types

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DESCRIPTION

A pathogen is simply defined as an organism that has the potential to cause infectious diseases in its pathogen. Many pathogens are able to avoid immune responses, resulting in associated diseases. The pathogen then utilizes the resources of the host body to replicate before it emerges and spreads to a new host (like a virus). Bacteria are of different kinds and can be spread in different ways usually by touching the skin, body fluids, or contact with a dirty area. Some germs exist as airborne particles. Common examples of viral infections include the common cold, yellow fever, flu, dengue etc.

Different types of pathogens

Bacteria: Bacteria and microorganisms are found almost everywhere. These are prokaryotes. Dimensions range from 0.15 μm to 700 μm . Although many germs are beneficial to us, some germs cause disease in plants and animals. They can produce toxins or get a strong immune response to damage the host cells. Some of the key features of the bacteria are as follows:

- The germs are members of the Monera state.
- They live freely with parasites.
- Based on their shape, they are divided into bacillus (rod-shaped), coccus (spherical), spirillum (spiral) and vibrium (comma-shaped).
- They are autotrophs and heterotrophs.

Viruses: Bacteria are not considered living organisms. They can only replicate within the host. They contain DNA or RNA as a genome, enclosed within a coat of proteins. They are very small in size and the diameter of the virus ranges from 20 nm to 300 nm. Some of the key features of the virus are the following:

- Bacteria parasites are bound. They do not work without a host cell.
- Genetic material is DNA or RNA. The genome can be circular or linear.
- Genetic material exists inside a protein coat called capsid.
- Most germs have an outer envelope made of lipids.
- A bacteriophage is a type of virus that infects bacteria.

Protozoans: Protozoans are non-unicellular eukaryotes. They lack the cell wall like animals. They are sometimes called “single-celled animals”. They are heterotrophs. They can live free or parasitic. They cause various diseases in humans. Some of the key features of protozoans are as follows:

- Eukaryotes have a single cell.
- Dimensions range from 1 micrometre to a few millimetres.
- They are heterotrophic. They show phagocytosis and pinocytosis.
- They have various organs of movement, such as flagella, pseudopodia and cilia.

Helminths: Helminth includes worms with multicellular parasitic worms, such as worms, flatworms, tapeworms, etc. They can be seen with the naked eye. Worms live in the host's body, e.g. in the gastrointestinal tract, lymphatic system, etc. They receive nutrition from the person in charge and find shelter inside the body. They can stay in the host body for years by managing the immune system. Parasitic worms cause various diseases in humans and other animals.

Fungi: Fungi are a group of eukaryotic species. They are heterotrophs. Particularly saprophytes absorb organic matter from dead and decaying substrates. Parasitic fungi get nutrients from living plants and animals. They have a cell wall made of

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chitin. They breed by breeding vegetables, asexual and sexual. Some of the common characteristics of the fungus are the following:

- Found in warm, humid climates. Fungi live free of parasites or parasites. They are found in soil, air and water.

- Fungi usually have fibers. The filamentous body is called the hyphae. Mycelium is a hyphae network.

- Some hyphae are non-septic and contain many nuclei. These are known as coenocyte hyphae.

- The fungal cell wall is made of chitin and other polysaccharides.