

## Chapter 11

# WHY DO WE FALL ILL?

### Principles of treatment:

There are two ways to treat an infectious disease.

One is to **reduce the effects of the disease**.

We can provide treatment that will reduce the symptoms of disease. These symptoms are usually because of inflammation.

Ex.

We can take medicine to bring down fever or pain. We are also advised to take bed rest for proper healing.

The second option is to **kill the cause of disease**.

We can do this by using medicines that kills the microbes. As learnt before, viruses, bacteria, fungi and protozoa will have some essential biochemical process, which is unique to that group and not shared with others.

These processes maybe pathways for the synthesis of new substances or medication. So if the same pathway is not used by us, then we can specifically target that pathway to kill the microbe.

We have to find a drug that blocks the bacterial synthesis of pathway without affecting our own. This exactly is the principle behind the action of antibiotics. Not just antibiotics, we have drugs that can kill the protozoans such as the malarial parasite.

However, we often don't have drugs that can kill virus. This is due to the fact that virus have few biochemical pathways of their own. These viruses enter our cell and use our cellular machinery for their life processes. So there are relatively

few virus specific targets to aim at.

Despite these limitations, scientists have discovered anti-viral drugs for various diseases like AIDS to keep it under control.

### **Principles of prevention:**

You might have often heard the saying that – prevention is better than cure. This is because that, if we are infected with the disease.

- Our body functions are already damaged
  - Sometimes we may never recover completely.
- Treatment will take time.
  - You are likely to be bedridden till treatment is over.
- The infected person can become the super spreader of the disease.
  - This can lead to a pandemic outbreak, just like the covid-19.

Hence, prevention is always better than cure.

### **Ways to prevent infection:**

One general method and the other one is specific to each disease. The general way of preventing disease is by preventing the exposure to microbes and other non-infectious agents like tobacco and there should be proper agency to ensure public hygiene in your society.

**Ex:** Air borne disease can be prevented by providing proper living condition that are not over crowded.

Similarly, exposure to Water borne microbes can be prevented by providing safe supply of water. Finally, to limit the spread of vector borne diseases, we can provide a clean environment, which is free of breeding ground of infectious agents and their vectors.