

Dengue: Notes for UPSC Mains GS-III

Dengue fever is a tropical disease that is borne by mosquitoes. It is caused by the dengue virus. The symptoms of the disease will begin anywhere between three to fourteen days after the initial infection. Dengue fever is an important topic for the IAS Exam which is featured in UPSC Mains General Studies - III paper.

The article will talk in detail about Dengue fever and IAS aspirants should read the details carefully so as to score well in UPSC Prelims.

What are the Symptoms of Dengue Fever?

The symptoms include:

- High fever
- Headache
- Vomiting
- Muscle and joint pains
- Skin Rash

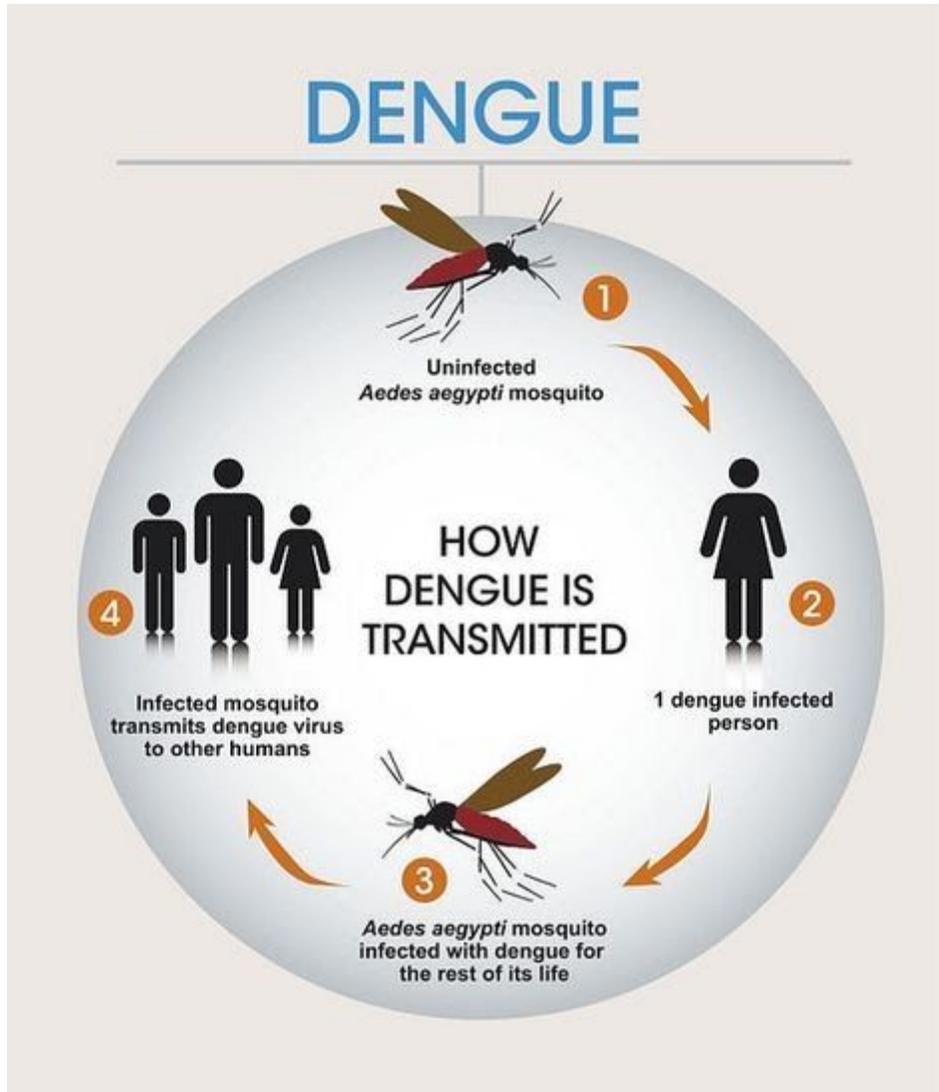
It takes about two to seven days to fully recover. In extreme cases, the disease can develop into severe dengue, known as dengue hemorrhagic fever that causes bleeding, low levels of blood platelets and blood plasma leakage.

What Causes Dengue Fever?

Dengue is spread by several species of female mosquitoes of the Aedes variety, specifically of the A.aegypti. The ideal conditions for this species of mosquitoes are usually between the latitudes of 35° North and 35° South with an elevation of 1000 metres (3300 ft). They usually bite during early morning and in the evening, though it does not mean that they will specifically bite at these hours.

Even though humans are the primary host of the virus, non-human primates are also carriers. A single bite is more than enough to be a cause for infection. A female mosquito that bites a person infected person with dengue becomes itself infected during the initial 2-10 day febrile period. After 8 - 10 days, the virus spreads to other tissues including the mosquito's salivary glands and is subsequently released into its saliva. As per the research conducted on this species, the mosquito remains infected.

The image below explains the life-cycle of the dengue fever:



What can be done to prevent the spread of Dengue Fever?

The spread of Dengue fever is largely dependent on the control of and protection from the bites of the mosquito that transmits it. The following five elements are the recommendation for an Integrated Vector Control by the World Health Organization:

1. Advocacy, social mobilization and legislation to ensure that public health bodies and communities are strengthened
2. Collaboration between the health and other sectors (public and private);
3. An integrated approach to disease control to maximize the use of resources;
4. Evidence-based decision making to ensure any interventions are targeted appropriately; and
5. Capacity-building to ensure an adequate response to the local situation.

The main method of controlling the breeding of *A. aegypti* is by destroying its habitats and breeding grounds. The primary method of controlling *A. aegypti* is by eliminating its habitats. This involves eliminating open sources of water. This is done by getting rid of open sources of water, or by adding insecticides or biological control agents to these areas.

The removal of open collection of water is far more effective and optimal removal of control as the application of insecticides may have adverse negative health effects on the local population, due to the risk they pose in contaminating local food sources and contaminating local food sources.

People can prevent mosquito bites by wearing clothing that fully covers the skin, using mosquito netting while resting, and/or the application of insect repellent (DEET being the most effective). While these measures can be an effective means of reducing an individual's risk of exposure, they do little in terms of mitigating the frequency of outbreaks, which appear to be on the rise in some areas, probably due to urbanization increasing the habitat of *A. aegypti*.